Box A2.4B: expenditure that can be incurred before royal assent

- pilot studies informing the choice of the policy option (because this process is part of designing, modifying or even deciding to abandon the policy);
- scoping studies designed to identify in detail the implications of a proposal in terms of staff numbers, accommodation costs and other expenditure to inform the legislative process;
- in-house project teams and/or project management boards;
- use of private sector consultants to help identify the chosen policy option, assist with scoping studies or other work informing the legislative process;
- work on the legislative process associated with the new service.

A2.4.5 Departments may be able to finance activities such as those in box A2.4B out of their existing resources. When this happens, departments should make sure that the ambit[2] of the relevant Estimate covers the planned expenditure.

A2.4.6 It is also important to understand in which areas of new business parliament *does* expect the normal rigour for authorisation (box 2.1) to apply. For the avoidance of doubt, some examples are shown in box A2.4C.

Box A2.4C: expenditure which may not normally incurred before royal assent

- significant work associated with preparing for or implementing the new task enabled by a bill, eg renting offices hiring expert consultants or designing or purchasing significant IT equipment;
- recruitment of chief executives and board members of a new public sector organisation;
- recruitment of staff for a new public sector organisation.

Providing for a new service

A2.4.7 Some new services go well beyond the examples in box A2.4B. They include such things as paying a new grant, providing a new registration service, transforming the delivery of existing service or setting up a new public sector organisation. Even if a bill providing for a new service is before parliament, the activity the bill provides for cannot normally go ahead before royal assent. It is therefore good practice to plan the timetable for achieving the new service so that it is compatible with the bill timetable.

A2.4.8 Sometimes it is convenient to use a paving bill to provide the necessary powers to get a new service under way quickly. A paving bill can provide powers to allow expenditure which would be nugatory if the subsequent detailed legislation for the new service does not proceed, eg employing consultants to design a significant IT or regulatory system. Paving bills are usually short, though they may be contentious (and time consuming) as they can prompt parliamentary discussion of the underlying substance of the measure.

[2] See paragraph 3.9 of the Estimates' Manual

A2.4.9 Departments which do not use paving bills may want to make an early start on legislation contained in a bill during its passage through parliament. Usually the spending in question lacks both adequate statutory underpinning and authorisation in Estimates.

A2.4.10 In these circumstances there is a risk that allowing the spending to proceed might be wasteful if royal assent is not achieve as expected. So it is good practice to try to find other ways of making progress with the policy without anticipating royal assent.

A2.4.11 If, nevertheless. a department wants to spend early on matters to be empowered by a bill before parliament, it may make a claim for an advance from the Contingencies Fund with a plan to repay it out of the next Estimate when agreed[3]. The spending must meet the conditions in box A2.4D.

Box A2.4D: Criteria for drawings on the Contingencies Fund

- the bill in question must have reached second reading in the Commons; and
- the bill must be virtually certain to achieve royal assent with minimal change, preferably within a year; and
- genuine urgency in the public interest, ie where postponing expenditure until after royal assent would:
- cause additional wasteful expenditure or
- lose (not just defer) efficiency savings; or
- cause other damage or public detriment.

A2.4.12 The Treasury judges applications for access to the Contingencies Fund cautiously and on their merits. It is important to note that neither political imperative nor ministerial preference is relevant to making this assessment.

A2.4.13 In rare circumstances a Contingencies Fund advance may be awarded to make senior appointments to a new public sector body being set up under a bill. When this is allowed, the people appointed must be clear that if for any reason the legislation fails, the provisional appointments would have to be cancelled.

Notifying parliament

A2.4.14 The instances described in this annex all mean that parliament has less control over certain items of public expenditure than it would normally expect. Departments should therefore take great care to keep parliament informed of what is happening and why.

A2.4.15 A timely written ministerial statement giving the amounts involved and their timing is the essential minimum before Contingencies Fund resources can be released. If possible an oral explanation at second reading, or a separate oral statement, is desirable. In addition there should be:

- notes in the explanatory memorandum and impact assessment to the relevant bill; and

[3] See section 5..8 of the Estimates Manual

- notes in the relevant Estimate - especially important if a department wants to anticipate secondary legislation which a bill will empower.

A2.4.16 If the effect of the measure changes significantly, parliament should be given timely information to keep it abreast of developments.

A2.4.17 It is good practice to keep the Treasury informed of the disclosure intended. The Treasury pulls all information about anticipation of parliamentary agreement together and publishes it annually at the close of each session.

Directions

A2.4.18 The exceptions in this annex to the requirements of box 2.1 provide a lot of scope for pragmatic progress of essential government business. The advice in this annex may be regarded as judicious extensions of the requirements of propriety, and acceptable only if parliament is not misled.

A2.4.19 But sometimes even these easements are not enough. If the Accounting Officer is unable to design the minister's policy to fit within the standards in this annex, he or she will need to seek a ministerial direction (see section 3.4). The usual rules about disclosure of course apply.

Annex 3.1

The Governance Statement

It is fundamental to each accounting officer's responsibilities to manage and control the resources used in his or her organisation. The governance statement, a key feature of the organisation's annual report and accounts, manifests how these duties have been carried out in the course of the year. It has three components: corporate governance, risk management and, in the case of some departments, oversight of certain local responsibilities.

Purpose

A3.1.1 Each accounting officer (AO) delegates responsibilities within his or her organisation so as to control its business and meet the standards set out in box 3.1 (see chapter 3). The systems used to do this should give adequate insight into the business of the organisation and its use of resources to allow the AO to make informed decisions about progress against business plans and if necessary steer performance back on track. In doing this the AO is usually supported by a board.

A3.1.2 These responsibilities are central to the AO's duties. To carry them out the AO needs to develop a keen sense of the risks and opportunities the organisation faces. In the light of the board's assessment of the organisation's appetite for risk, the AO needs to decide how to respond to the evolving perceived risks.

A3.1.3 The governance statement, for which the AO takes personal responsibility, brings together all these judgements about use of public resources as part of the annual report and accounts. It should give the reader a clear understanding of the dynamics and control structure of the business. Essentially, it records the stewardship of the organisation. Supplementing the accounts, it should provide a sense of the organisation's vulnerabilities and resilience to challenges.

Preparing the governance statement

A3.1.4 The governance statement is published in each organisation's annual report and accounts. It should be assembled from work through the year to gain assurance about performance and insight into the organisation's risk profile, its responses to the identified and emerging risks and its success in tackling them.

A3.1.5 There is no set template for the governance statement.

A3.1.6 The AO and the board have a number of inputs into this process:

- the board's annual review of its own processes and practices, informed by the views of its audit committee on the organisation's assurance arrangements;

- insight into the organisation's performance from internal audit, including an audit opinion on the quality of the systems of governance, management and risk control;
- feedback from the delegation chain(s) within the organisation about its business, its use of resources, its responses to risks, the extent to which in year budgets and other targets have been met, and any other internal accountability mechanisms; including:
  - bottom-up information and assessments to generate a full appreciation of performance and risks as they are perceived from within the organisation;
  - end-to-end assessments of processes, since it is possible to neglect interdependent and compounded risks if only the components are considered;
  - a high level overview of the organisation's business so that systemic risks can be considered in the round;
  - any evidence from internal control failures or poor risk management;
  - potentially, information from whistleblowers;
  - material from any arm's length bodies (ALBs) connected with the organisation which may shed light on the performance of the organisation or its board.

A3.1.7 It is important that the governance statement covers the material factors affecting the organisation in the round, not neglecting the more serious (if remote) risks[1], emerging technology and other cutting edge developments. It should also mention any protective security concerns in suitably careful terms[2], with details reported to the external auditor.

Content of governance statement

A3.1.8 With the board's support, it is for the AO to decide how to:

- organise the governance statement;
- take account of input from within the organisation and from the board and its committees;
- where relevant, integrate information about the organisation's ALBs, some of which may be material to the consolidated organisation;
- provide an explanation of how the department ensures that use of any resources granted to certain locally governed organisations (including the NHS) is satisfactory. See A3.1.12.

A3.1.9 Box A3.1A summarises subjects that should always be covered.

[1] Including the external risks identified in the National Risk Assessment

[2] As set out in the Security Policy Framework

A3.1.10 All the items in this box are important. The risk assessment is critical. This is where the AO, supported by the board, should discuss how the organisation's risk management and internal control mechanism work, and why they were chosen to deliver reasonable assurance about prevention, deterrent or other appropriate action to manage the actual and potential problems or opportunities facing the organisation. Avoiding lengthy description of process, it should assess the evidence about the effectiveness in practice of the risk management processes in place. In doing so it should face frankly up to any revealed deficiencies as risks have materialised.

Box A3.1A: essential features of the governance statement

- the governance framework of the organisation, including information about the board's committee structure, its attendance records, and the coverage of its work;
- the board's performance, including its assessment of its own effectiveness;
- highlights of board committee reports, notably by the audit and nomination committees;
- an account of corporate governance, including the board's assessment of its compliance with the *Corporate Governance Code*, with explanations of any departures;
- information about the quality of the data used by the board, and why the board finds it acceptable;
- where relevant (for certain central government departments), an account of how resources made available to certain locally governed organisations are distributed and how the department gains assurance about their satisfactory use;
- a risk assessment (see annex 4.3), including the organisation's risk profile, and how it is managed, including, subject to a public interest test:
  - any newly identified risk
  - a record of any ministerial directions given
  - a summary of any significant lapses of protective security (eg data losses).

A3.1.11 In putting together the governance statement, the AO needs to take a view on the extent to which items are significant enough to the welfare of the organisation as a whole to be worth recording. There are no hard and fast rules about this. Some factors to take into account are suggested in box A3.1B.

Box A3.1B: deciding what to include in the governance statement

- might the issue prejudice achievement of the business plan? – or other priorities?
- could the issue undermine the integrity or reputation of the organisation?
- what view does the board's audit committee take on the point?
- what advice or opinions have internal audit and/or external audit given?
- could delivery of the standards expected of the AO (box3.1) be at risk?
- might the issue increase the risk of fraud or other misuse of resources?
- does the issue put a significant programme or project at risk?
- could the issue divert resources from another significant aspect of the business?

- could the issue have a material impact on the accounts?
- might national security or data integrity be put at risk?

Accounting Officer System Statements

A3.1.12 Government departments should include in their governance statements a summary account of how they achieve accountability for the grants they distribute to local government, schools, similar local government organisations and/or the NHS. It should cover:

- an account of how resources are distributed, eg in response to needs or desired change;
- how the AO gains assurance about probity in the use of public funds;
- how the AO achieves or encourages value for money in the local use of grants, eg through local arrangements which provide incentives to achieve good value;
- the use the AO makes of disaggregated information about performance, including investigating apparent outliers and/or requiring those responsible locally to explain their results.

A3.1.13 This part of the governance statement should usually be backed by an accounting officer systems statement, which are published on gov.uk.[3] Guidance on accounting officer system statements can be found online. The system statement must be clear on the core data and information flows that the system will rely on. An understanding of these core data requirements should be developed collaboratively with the entities to be included within the system statement and with users to meet the need for effective accountability locally and nationally.

A3.1.14 Accounting officer system statements should evolve to reflect improving practice. Where a Department proposes making major changes, it should contact Treasury and also consider consulting the relevant Parliamentary committees by providing them with a draft and the opportunity to comment.

External audit

A3.1.15 The organisation's external auditor will review the governance statement for its consistency with the audited financial statement. The external auditor may report on:

- any inconsistency between evidence collected in the course of the audit and the discussion of the governance statement; and/or;
- any failure to meet the requirement to comply with or explain departures from the *Corporate Governance Code* or any other authoritative guidance.

[3] See, https://www.gov.uk/government/collections/accounting-officer-system-statements

Annex 4.1

Finance Directors

It is government policy that all departments should have professional finance directors reporting to the permanent secretary with a seat on the departmental board, at a level equivalent to other board members. It is good practice for all other public sector organisations to do the same, and to operate to the same standards. This annex sets out the main duties and responsibilities of finance directors.

The finance function

A4.1.1 The finance director of a public sector organisation should:

- be professionally qualified[1];
- have board status equivalent to other board members;
- report directly to the permanent head of the organisation;
- be a member of the senior leadership team, the management board and the executive committee (and/or equivalent bodies), and of the cross-government Finance Function.

A4.1.2 This demanding leadership role requires a persuasive and confident communicator with the stature and credibility to command respect and influence at all levels through the organisation. Its main features are described in box A4.1A. Many of the day-to-day responsibilities may in practice be delegated, but the finance director should maintain oversight and control. In large part these duties consist of ensuring that the financial aspects of the accounting officer's responsibilities are carried through to the organisation and its arm's length bodies (ALBs) in depth.

Box A4.1A: the role of the finance director

governance

- financial leadership, both within the organisation and to its ALBs, at both a strategic and operational level
- ensuring sound and appropriate financial governance and risk management

[1] The term professional finance director in this context means both being a qualified member of one of the five bodies comprising the Consultative Committee of Accounting Bodies (CCAB) in the UK and Ireland, ie the Chartered Institute of Public Finance and Accountancy, the Institute of Chartered Accountants in England and Wales, the Institute of Chartered Accountants of Scotland, the Institute of Chartered Accountants in Ireland, the Association of Chartered Certified Accountants, or having equivalent professional skills and/or qualifications; and having relevant prior experience of financial management in either the private or the public sector.

- leading, motivating and developing the finance function, establishing its full commercial contribution to the business
- planning and delivering the financial framework agreed with the Treasury or sponsoring organisation against the defined strategic and operational criteria
- challenging and supporting decision makers, especially on affordability and value for money, by ensuring policy and operational proposals with a significant financial implication are signed-off by the finance function

internal controls

- co-ordinating the planning and budgeting processes
- applying discipline in financial management, including managing banking, debt and cash flow, with appropriate segregation of duties
- preparation of timely and meaningful management information
- ensuring that delegated financial authorities are respected
- selection, planning and oversight of any capital projects
- ensuring efficiency and value for money in the organisation's activities
- provision of information and advice to the Audit Committee
- leading or promoting change programmes both within the organisation and its ALBs

external links

- preparing Estimates, annual accounts and consolidation data for whole of government accounts
- liaison with the external auditor
- liaison with PAC and the relevant Select Committee(s)
- liaison with cross-government Finance Function
- embedding of functional standards

A4.1.3 finance function should maintain a firm grasp of the organisation's financial position and performance. Supporting the accounting officer, the finance director should ensure that there is sufficient expertise in depth, supported by effective systems, to discharge this responsibility and challenge those responsible for the organisation's activities to account for their financial performance. It is important that financial management is taken seriously throughout each public sector organisation.

Financial leadership

A4.1.4 The finance director is responsible for leadership of financial responsibilities within the organisation and its ALBs. He or she should ensure that the information on which decisions about the use of resources are based is reliable. Box A4.2B explains some specific responsibilities of the role.

Box A4.1B: financial management leadership

- providing professional advice and meaningful financial analysis enabling decision makers to take timely and informed business decisions

- maintaining a long term financial strategy to underpin the organisation's financial viability within the agreed framework
- developing and maintaining an effective resource allocation model to optimise outputs
- ensuring financial probity, regularity and value for money
- developing and maintaining appropriate asset management and procurement strategies
- reporting accurate and meaningful financial information about the organisation's performance to ONS, parliament, the Treasury and the general public
- setting the strategic direction for any commercial activities
- acting as head of profession in the organisation

Internal financial discipline

A4.1.5 The finance director should maintain strong and effective policies to control and manage use of resources in the organisation's activities. This includes improving the financial literacy of budget holders in the organisation. Similarly, he or she should ensure that there are similar disciplines in the organisation's ALBs. These should all draw on best practice in accounting and respect the Treasury's requirements, including, where relevant, accounts directions. These responsibilities are described in box A4.1C.

Box A4.1C: Financial control

- enforcing financial compliance across the organisation while guarding against fraud and delivering continuous improvement in financial control
- applying strong internal controls in all areas of financial management, risk management and asset control
- establishing budgets, financial targets and performance indicators to help assess delivery
- reporting performance of both the organisation and its ALBs to the board, the Treasury and other parties as required
- value management of long term commercial contracts
- ensuring that the organisation's capital projects are chosen after appropriate value for money analysis and evaluation using the Green Book

A4.1.6 Individual finance director posts will of course have duties specific to their organisations and contexts in addition to those set out in this annex. But all finance director posts should seek to operate to these standards as an essential minimum.

Annex 4.2

Use of models

In modern government modelling is important. It can guide policy development; help determine implementation plans; and suggest how policies may evolve. Models should be controlled and understood in their proper context, with effective quality assurance, so that they can be used to good effect.

Control and governance

A4.2.1 Supported by the board, the accounting officer of a central government organisation should oversee the use and quality assurance (QA) of models within the organisation. There should be sufficient feedback for the accounting officer to be able to track progress and adjust the process.

A4.2.2 Each business critical model should be managed by a senior responsible officer (SRO) of sufficient seniority and experience, supported by experts and specialists, to understand the use of the model in context. Project and programme management techniques can be useful. It is good practice to avoid changing the SRO frequently.

A4.2.3 Each model is limited by the quality of its input data and founding assumptions. So the results of any model need to be treated with a degree of scepticism. It is vital to build sufficient governance into each model to help its users understand the value and weaknesses of its results. The apparent precision of mathematical models should not mislead uses into putting more weight on them than can be justified. Transparency should be the norm in the development and use of all models.

Quality assurance

A4.2.4 Whatever the complexity of the model, its governance should include an element of structured critical challenge to provide a sense check. It can take a number of forms: for example a steering group, a project board or outside assessment. New or untried models tend to require more QA than those using recognised techniques.

A4.2.5 In an organisation using a great deal of modelling, it is good practice for the accounting officer to appoint a QA champion. Effective QA demands dispassionate scrutiny by people disengaged with the project but with sufficient knowledge and experience to help steer the model into a successful approach. There may be a case for ensuring that different models in different parts of the organisation use consistent approaches.

A4.2.6 It is always good practice to evaluate the risks associated with any model so that the ultimate users of the model can appreciate what it can and cannot deliver. Sophisticated models may demand specialist expertise and leadership but the vital element of constructive lay oversight should never be skimped. Otherwise there can be a danger that flaws are overlooked because the experts concentrate on the technical complexities.

A4.2.7 In managing a model, the SRO should consciously decide how it can provide good value for money. There is no point, for instance, in data collection to a high degree of accuracy if the assumptions used in the model cannot be exact. Similarly, there is a stronger case for investing in a model if it forms a central part of a decision making process.

A4.2.8 References:

QA of government models: https://www.gov.uk/government/publications/review-of-quality-assurance-of-government-models

Guidance on long term financial modelling: https://www.gov.uk/government/publications/gad-services/government-actuarys-department-services#actuarial-modelling

Following the report by Sir Nicholas Macpherson into the quality assurance of analytical models that inform government policy, a cross-departmental working group on analytical quality assurance was established. The Aqua Book (at the following link) is one of their key products, and provides a good practice guide for those working with analysis and analytical models. The landing webpage also links to a number of other associated resources on quality assurance and modelling. https://www.gov.uk/government/publications/the-aqua-book-guidance-on-producing-quality-analysis-for-government:

Annex 4.3

Risk

Each public sector organisation should have systems for identifying and managing risk – both opportunities and threats – suited to its business, circumstances and risk appetite. The board should lead the assessment and management of risk, and support the accounting officer in drawing up the governance statements (see annex 3.1).

The case for managing risk

A4.3.1 Every public sector organisations faces a variety of uncertainties, both positive and negative, which can affect its success in delivering its objectives, budget and value for money. So the board of each public sector organisation should actively seek to recognise both threats and opportunities, and to decide how to respond to them, including how to set internal controls.

A4.3.2 Managing risk should be integrated into the normal management systems of each public sector organisation so that it can achieve its goals and maintain a reputation of credibility and reliability. It is for each accounting officer (AO), supported by the board, to decide how.

A4.3.3 The board should make a strategic choice about the style, shape and quality of risk management within each organisation. This is risk tolerance, ie the extent to which the organisation is willing to accept loss or detriment either in the performance of its regular services or in order to secure better outcomes. Different risk tolerances will apply to different circumstances, eg mission critical programmes or policies might find service failure scarcely tolerable, whereas investment bodies may care more about achieving financial success even at the price of some failures. Boards should be willing to take a proportionate approach so that less important risks do not crowd out the vital ones.

Risk management in practice

A4.3.4 The board's strategic guidance on risk appetite should permeate each organisation's programmes, policies, processes and projects. It should determine how delegations and reporting arrangements work so that departures from plan can be picked up and dealt with promptly.

A4.3.5 Feedback from working level should also inform each board reassessment of risk. Thus risk management should be a continuous cycle of assessment and feedback, responding to new information and developments. The essentials of the process are summarised in box A4.3A.

A4.3.6 Each organisation should decide how this cycle should work, in line with its circumstances, priorities and working practices. The final word must always be for

the AO supported by the board, taking a broad and connected view across the whole organisation.

Box A4.3A: Outline of the risk management cycle

1 The board defines the organisation's risk tolerance.

2 The organisation identifies and categorises its risks.

3 The organisation assesses the risks identified: how likely their possible impact, identifying which are beyond tolerance and when.

4 The board scans the horizon for any remote overlooked risks.

5 The board decides which risks matter and what action should be taken, if any.

6 Downward delegation of management, coupled with upward reporting of risks through the organisation enables the board to track performance

7 Using this feedback, the board takes a rounded overview, and may adjust decisions eg on tolerance or on response.

8 Back to step 1 and iterate as the board chooses.

Identifying risks

A4.3.7 It is important to capture all the organisation's risks so that they can be evaluated properly in context.

A4.3.8 There is value in getting each part of the organisation to think through its own risks. At working level operational risks may loom large. It may only be at board level that it is really possible to scan the horizon for emerging trends, problems or opportunities that might change the organisation's working environment. Some of the critical risks that are easily overlooked are shown in box 4.3B.

Box A4.3B: Examples of risk which are easily missed

- **Information security** risks: unsecured digital information can be misplaced or copied.
- **High impact low probability** risks: remote risks with serious effect if they happen.
- **Opportunity** risks: where some choices may close off other alternatives;.
- **End to end** risks: which emerge when an operational chain fails simultaneously in several places in a linked set of processes.
- **Inter-organisational** risks; which can cause failure of the organisation's business because of links to partners, suppliers and other stakeholders.
- **Cumulative** risks: which happen if several risks precipitate at once, eg in response to the same trigger.

A4.3.9 As well as drawing on risk assessment from within the organisation, it may be valuable to use an external source to make sure that nothing important has been overlooked. Sometimes different public sector organisations can help each other out in this way, to their mutual advantage. And it can be useful to get staff to work together to consider the subject, eg in facilitated groups.

A4.3.10 Once the organisation's risks have been identified, it is possible to draw up a risk register. This is a list of recognised risks which can be kept up to date and which the board can review regularly. Each organisation needs to decide how to

prioritise its total risk exposure so that the board can take an informed strategic approach to risk for the organisation as whole.

Responding to risk

A4.3.11 Each organisation needs to decide whether, and if so how, to respond to its identified risks. Some standard responses are listed in box A4.3C.

Box A4.3C: Some standard responses to risk

Treat: a common response. Treatment can mean imposing controls so that the organisation can continue to operate; or setting up prevention techniques. See box 4.3D for possible treatments.

Transfer: another organisation might carry out an activity in which it is more expert. Insurance is not usually open to public sector organisations (see annex 4.4) but other forms of transfer are, eg using a payroll bureau. Some risks cannot be transferred, especially reputational risk. So delegating organisations should retain oversight of their agents, with scope for remedial action when necessary.

Terminate: it may be best to stop (or not to start) activities which involve intolerable risks or those where no response can bring the residual risk to a tolerable level, eg failing projects where it is cheaper to start again. This option is not always available in the public sector, which sometimes has to shoulder difficult risks – typically remote but potentially serious ones – which the private sector can choose to avoid.

Tolerate: for risks where the downside is containable with appropriate contingency plans; for some where the possible controls cannot be justified (eg because they would be disproportionate); and for unavoidable risks, eg terrorism.

Take the opportunity: boards may embrace some risks, accepting their downside perhaps with controls or preventative action, in the expectation of beneficial outcomes. Avoiding all risk can be as irresponsible as disregarding risk.

A4.3.12 In choosing responses, the acid test is whether the residual risk can be made acceptable after action. All controls should be realistic, proportionate to the intended reduction of risk, and offer good value for money. The more common types are listed in box A4.3D.

Box A4.3D: Common controls

Preventive action: measures to eliminate or limit undesirable outcomes, eg improving training or risk awareness; or stopping transfer of digital information using datasticks. Beware of imposing unnecessary costs or damaging innovation.

Corrective controls: measures to deal with damaging aspects of realised risks, eg clauses to recover the cost of failure of a contract. Includes contingency planning.

Directive controls: measures designed to specify the way in which a process is carried out to rule out some obvious potential damage, eg hygiene requirements.

Detective controls: measures to identify damage so that it can be remedied quickly. Especially useful where prevention is not appropriate, but can be a useful cross check elsewhere, eg stock controls.

A4.3.13 However it is treated, it is usually impossible to eliminate all risk. It would often be poor value for money to do so were it possible. So it is good practice to associate application of controls with contingency planning to cope with resolution of damage when risks precipitate. Many organisations find it useful to dry run these plans: first to check that they work, second to make sure they are proportionate and third to boil out any unnecessary features they may have.

The Board

A4.3.14 Risk management is a key governance task for the board. It should take a strategic view of risk in the organisation in the round, factoring together all the relevant input it can reasonably use. For example, it may consider to what extent risks interact, cumulate or cancel each other out. And consideration of risk should feature in all the board's significant decisions.

A4.3.15 It is good practice for the board to consider risk regularly as part of its normal flow of management information about the organisation's activities. It is good practice for each layer of management to give upward assurance about its performance, so reinforcing responsibility through the structure.

A4.3.16 It is up to each board to decide how frequently it wants to consider risk. Some set regular timetables to consider the whole risk register, while some choose to look at parts of the risk register in a regular sequence. Scrutiny of this kind enables the board to assess developments in context and make confident decisions about their relevance and significance.

A4.3.17 It is good practice for the board to make these assessments on the advice of its Audit Committee, though it should form its own view. Audit committees can also add value by chasing up implementation of the organisation's responses to PAC reports. Each Audit Committee should be chaired by a non- executive board member, drawing on input from the organisation's internal reporting and internal audit functions.

A4.3.18 Having weighed the identified risks, the board should also seek to distinguish unidentified risks, some of which may be remote. Box 4.3B offers some possibilities though it is not exhaustive. This process may lead the board to reconsider its strategy on risk tolerance.

A4.3.19 A useful focus of board risk work is supporting the AO in preparation of the governance statement for publication in its annual report (se annex 3.1). It should include an account of how the organisation has responded to risk and what it is doing both to contain and manage risk; and also to rise to opportunities.

A4.3.20 More generally, the board should make sure that lessons are learned from the organisation's experience. This applies particularly to perceived failures, eg an unforeseen risk or a crystallised risk which turned out more damaging than expected. But it is equally true of successes, especially those where risk was managed well, to see whether there is anything to be gained by repeating effective techniques elsewhere.

A4.3.21 Finally, the board should consider whether the organisation's risks are being treated appropriately. If damage has been prevented, it may be possible to adjust the existing response to risk to achieve equally successful results by less expensive or less invasive techniques, eg replacing physical controls with security cameras.

Departmental Groups

A4.3.22 Nearly all government departments sponsor one or more arm's length bodies (ALBs) for which they take ultimate responsibility while allowing them a degree of (or sometimes considerable) independence (see chapter 7). The accounts

of these ALBs are consolidated with their sponsor department's accounts, emphasising that the sponsor stands behind them.

A4.3.23 It follows that each department board should consider the group's risk profile including the businesses of its ALBs. The potential liabilities of some ALBs (eg in the nuclear field) can be so great that they may overshadow the department's own, so this is essential hygiene.

A4.3.24 References:

The Orange Book: https://www.gov.uk/government/publications/orange-book

Other Treasury risk guidance:
http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/psr_governance_risk_riskguidance.htm

NAO report on Managing risks in government:
http://www.nao.org.uk/report/managing-risks-in-government/

GAD's practical guide to strategic risk management:
https://www.gov.uk/government/publications/strategic-risk-management

Annex 4.4

Insurance

Central government organisations should not generally take out commercial insurance because it is better value for money for the taxpayer to cover its own risks. However, there are some circumstances where commercial insurance is appropriate. This annex sets out the issues to be considered. This guidance applies to departments and their arms-length bodies.

A4.4.1 Central government organisations should not normally buy commercial insurance to protect against risk. Since the government can pool and spread its own risks, there is little need to pay the private sector to provide this service. In general it is cheaper for the government to cover its own risks.

A4.4.2 However, in certain circumstances, as part of forming a risk management strategy, the accounting officer in a public sector organisation may choose to purchase commercial insurance to protect certain parts of the organisation's portfolio. Such decisions should always be made after a cost benefit analysis in order to secure value for money for the Exchequer as a whole. Some acceptable reasons for using insurance are set out in box A4.4A.

Box A4.4A: Where commercial insurance may provide value for money

- **Building insurance as a condition of the lease** and where the lessor will not accept an indemnity: commercial insurance may be taken out where the cost of accommodation, together with the cost of insurance, is more cost effective than other accommodation options.
- **Overall site insurance**: private sector contractors and developers usually take out a single-site insurance policy because it is cheaper than each individual party insuring themselves separately. So a client organisation may be able to cover its risks at little or no extra cost.
- **Insurance of boilers and lifts**: which may be a condition of taking out a lease, and typically involves periodic expert inspection designed to reduce the risk of loss or damage.
- **Commercial initiatives**: because these activities are outside the government's core responsibilities, losses on a department's discretionary commercial activities could reduce resources available for its core activities (see chapter 7). It will usually therefore make sense to insure them. Any goods used for services sold to other parts of central government should not, however, be insured.
- **Where commercial insurance is integral to a project**: eg, where private contractors insist, it may be appropriate to purchase insurance even if the net benefit is negative. But this may be a sign that the project needs restructuring to avoid any requirement to buy

commercial insurance, perhaps through letters of comfort or statements of support. The costs and benefits of taking out insurance should be included in the appraisal of the project as a whole.

A4.4.3 Some ALBs may be in a slightly different position to central government departments. Box A4.4B gives examples of some items they may choose to insure commercially.

Box A4.4B: Items ALBs may insure

- items the ALB is required to insure, eg vehicles where the Road Traffic Acts require it.
- physical assets where a cost benefit analysis supports the case for insurance and the sponsor department agrees.
- goods owned by ALBs receiving less than 50% of their income from the Exchequer (through grant-in-aid or fees and charges). Commercial insurance protects the risk to the Exchequer from claims from third parties.
- items used by an ALB for income generation schemes to supplement the approved level of public spending. Commercial insurance is appropriate to cover the risks lest costs or losses could not be met out of receipts.

Appraising the options

A4.4.4 Decisions on whether to buy insurance should be based on objective cost-benefit analysis, using guidance in the *Green Book*[1]. Box A4.4C outlines some factors which are often worth considering in such assessments.

Box A4.4C: Costs and benefits which could be included in assessments

Costs:

- the insurance premium which may be paid
- the administrative cost of managing claims with the insurance company

Benefits:

- transfer of risk, valued at the expected compensation for the insured losses
- claims handling, where the insurance company will manage claims against third parties
- the value of guaranteed business recovery: the potential reduction in the time taken to reinstate losses, reducing business interruption

Setting fees and charges

A4.4.5 If a central government organisation insures risks arising in supplying a service for which a fee or charge is levied, the actual premium payments should be included in the calculation of costs when deciding the fee or charge. Similarly, where a central government organisation self-insures, the notional cost of premium payments should be taken into account. See Chapter 6 for further details.

[1] https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

Claims administration

A4.4.6 Managing claims against third parties can be time-consuming and require expert attention. Insurance companies may be better placed than public sector organisations to deal with claims economically and efficiently. So contracting-out claims administration to an insurance company might be more cost-effective than retaining the work in-house.

Reporting

A4.4.7 Departments should inform their Treasury spending team of:

- any decision to use the services of commercial insurance companies
- any reviews of insurance, or alternatives to insurance, that might contain lessons of wider application.

A4.4.8 In turn ALBs should consult their sponsor departments in similar circumstances.

Dealing with losses

Uninsured losses (except traffic accidents)

A4.4.9 Where a loss occurs or a third-party claim is received, public sector organisations should initially consider whether the loss should be made good or the claim accepted. Thus:

- loss of or damage to assets: the question of repair or replacement should always be carefully considered, taking account of the need for the asset and current policies. This decision is, in effect, a new investment decision and should be appraised accordingly;
- third-party claims: the justification for the claim should be carefully considered with appropriate legal advice.

A4.4.10 If the organisation decides to repair or replace an asset, or meet a third party claim, it should normally expect to meet the cost from within its existing allocations. The Treasury does not routinely entertain bids for additional resources in such cases. If a bid did arise the Treasury would consider it on its merits and in the light of the resources available, in the same way as other bids for increases in provision. Similarly, ALBs should not normally expect their sponsor departments to meet claims for reimbursement of loss.

Insured losses

A4.4.11 Public sector organisations should make insurance claims in accordance with the terms of the policy.

A4.4.12 ALBs may retain amounts paid under commercial insurance policies to meet expenditure resulting from losses or third-party claims. If it is decided not to replace or to repair an insured asset, the sponsor department may reduce any grant in aid payable to the ALB.

Claims between public sector organisations

A4.4.13 If two uninsured departments are involved in an incident causing loss to one or other, it is immaterial to the Exchequer whether one claims on the other for the damage. For small claims it would not be value for money for the Exchequer to make interdepartmental adjustments in the case of minor damage. Similar waiver arrangements should apply up to mutually agreed limits between other public sector organisations. But waiver arrangements of this kind are not appropriate where there are rights of claim against third parties. It will always be regarded as novel, contentious, or repercussive for one central government organisation to seek legal redress from another central government organisation through the courts, meaning that Treasury consent is always required.

A4.4.14 Box A4.4D shows how to proceed when one central government organisation makes a larger claim against one or more others.

Box A4.4D: Handling claims between public sector organisations

Insurance status	Settlement of claims
All insured	Insurers settle claims
All uninsured	Organisation(s) at fault negotiate about whether to reimburse the other(s)
Organisation at fault uninsured, other organisation(s) insured	Insured organisation claims on its insurance policy. Uninsured organisation(s) deal with claims from the insurers on the basis of strict legal liability
Organisation at fault insured, other organisation(s) uninsured	Uninsured organisation(s) seek financial satisfaction through the insurers of the organisation(s) at fault

Vehicles

A4.4.15 Most ALBs insure third-party vehicle claims to comply with the Road Traffic Acts. Public sector organisations that are not insured for traffic accidents should refer any third-party claims, either for or against, to the Treasury Solicitor who acts on behalf of the government.

A4.4.16 Many claims between public sector organisations involving damage to, or loss caused by, vehicles, can be handled using the arrangements in paragraph A4.4.13.

A4.4.17 Vehicles travelling in EU countries must comply with Directives. These require vehicles operating in another's territory to be covered by insurance to the extent required by the legislation in territory of the journey, unless there are acceptable alternative arrangements, eg indemnities.

Loans

A4.4.18 When government assets are loaned to a body other than a public sector organisation which does not insure, it is important to protect the interests of the lending organisation. So the borrower should insure against damage or loss of the

assets from the time of receipt and against claims by third parties including its own employees. An indemnity by the borrower is an acceptable substitute if the lender is satisfied that the borrower could and would meet any damage or other loss.

A4.4.19 Public sector organisations are usually expected to meet the cost of insuring any government assets (eg. equipment or stores) held by a contractor in the normal course of business. The cost of any insurance against risks arising from negligence or wilful misconduct by the contractor's employees should be borne by the contractor. These arrangements should be explicitly set out in the relevant contract.

A4.4.20 Public sector organisations which borrow objects of value from a non-government body should normally offer the owner an indemnity against damage or loss. Such indemnities should leave no doubt as to the extent and duration of the borrowing organisation's liability. And they may need to be reported if they fall within the parliamentary reporting requirements (see annex 5.4).

A4.4.21 Borrowers should only take out commercial insurance for loaned items of value if the owner insists upon it, or if the borrower has reason to believe that commercial insurance would be more cost effective than giving an indemnity.

Employers' liability

A4.4.22 The Crown is not bound by the Employers' Liability (Compulsory Insurance) Act 1969. So departments need not insure the risks outlined in the Act. Decisions on whether to insure should be taken on value for money grounds after an appraisal. Similarly, parliamentary bodies such as the National Audit Office, the Parliamentary Commissioner (Ombudsman) and the Independent Parliamentary Standards Authority need not insure against employers' liability risks as they are exempted under the Employers' Liability (Compulsory Insurance) (Amendment) Regulations 2011 (SI 2011/686).

A4.4.23 A body funded by grant in aid need not insure against employers' liability risks. This is because the Employers' Liability (Compulsory Insurance) Regulations 1998 (SI 1998/2573) provide exemption for any body (or person who may be an employer) holding a certificate issued by a government department. Again, the decision on whether to insure will depend on a value for money assessment. If the organisation chooses not to insure, responsibility for the issue of certificates in accordance with the Act rests with the department responsible for paying grant in aid, provided that it is satisfied that this is the appropriate course.

A4.4.24 The scope of the certificate should be strictly confined to the risks with which the Employers' Liability (Compulsory Insurance) Act 1969 is concerned, and may not be extended to any other risks. It should be in the form set out in Box A4.4E. Departments should ensure that the circumstances in which certificates have been issued are reviewed from time to time, so that certificates may be revoked if circumstances change.

Box: 4.4.E: form of exemption certificate

In accordance with the provisions of paragraph 1 of Schedule 2 of the Employers' Liability (Compulsory Insurance) Regulations 1998 (SI 1998/2573), the Minister of ...../Secretary of State for..... hereby certifies that any claim established against [here specify the body or person] in respect of any liability to [here specify the employees involved] of the kind mentioned in section

1(1) of the Employers' Liability (Compulsory Insurance) Act 1969 will, to any extent to which it is otherwise incapable of being satisfied by the aforementioned employer, be satisfied out of moneys provided by parliament.

Annex 4.5

Senior Responsible Owner Accountability

A4.5.1 Senior Responsible Owners (SRO) for Major Projects (as defined in the Government's Major Project Portfolio) are in a special position in that they are expected to account for and explain the decisions and actions they have taken to deliver the projects for which they have personal responsibility. This line of accountability should be made clear to SROs in their appointment letter which is published on GOV.UK.

A4.5.2 The Government publishes on an annual basis a list of the SROs for the Government's Major Project Portfolio (as defined by the Infrastructure and Projects Authority).

A4.5.3 Where a Committee wishes to take evidence from an SRO of one of these major projects it will be on the understanding that the SRO will be expected to account for the implementation and delivery of the project and for their own actions. Appointment letters will make clear the point at which an SRO becomes directly accountable for the implementation of the project in question. The SRO will also be able to disclose to the Committee where a Minister or official has intervened to change the project during the implementation phase in a way which has implications for cost and/or timeline of implementation. In this respect the SRO should also be able to disclose their advice about any such changes.

A4.5.4 Accounting Officers are ultimately accountable for the performance of all the business under their control, including major projects for which an individual SRO has direct accountability and responsibility. And in this respect, if a Select Committee calls for evidence from an SRO, the Accounting Officer of the department may also be called to support the SRO at a hearing.

A4.5.5 This line of direct accountability for SROs does not alter the special position and relationship of Accounting Officers with the PAC.

A4.5.6 The Government Functional Standard GovS 002: Project Delivery sets the expectations for the direction and management of portfolios, programmes and projects for all government departments and arm's length bodies. An SRO should refer to this standard to ensure the breadth of practices required for successful delivery are used. https://www.gov.uk/government/publications/project-delivery-functional-standard

A4.5.7 Further information on the accountability, relationship to other key leadership roles in project delivery and the selection and appointment of an SRO is available in Infrastructure and Project Authority guidance on the role of the senior responsible owner. https://www.gov.uk/government/publications/the-role-of-the-senior-responsible-owner

A4.5.8 Further information is available in Cabinet Office guidance for officials from departments and agencies on giving evidence to Parliamentary Select Committees (the Osmotherly Rules).

Annex 4.6

Procurement

It is important to secure value for money in asset management through sound procurement. Public sector organisations should normally acquire goods and services through fair and open competition, acting on Cabinet Office advice. This annex provides an overview of the policy framework for public procurement.

A4.6.1 Good procurement practice demands that public sector organisations buy the goods, works and services they need using fair and open procurement processes, guarding against corruption and meeting the standards in MPM. World Trade Organisation (WTO) agreements and many of the UK's trade deals underpin these principles. The specific responsibilities are set out in box A4.6A.

Box A4.6A: checklist of key purchasing responsibilities

General

- value for money, normally through competition;
- compliance with legal obligations including those imposed by international agreements;
- follow Government Procurement Service[1] policies and standards on public procurement.

Management approach

- leadership on the importance of procurement in delivering objectives;
- define roles and responsibilities of key staff, with adequate separation of duties;
- promote awareness (including in ALBs) of the importance of procurement policy and the GPS guidance.

Planning and engagement

- clarify objectives of procurement from the start
- consider how the procurement strategy could attract a diverse range of suppliers including SMEs and civil society organisations;
- consider collaborative or shared procurement with other organisations to maximise purchasing power;
- design procurement strategy and engage with the market early and well before competition starts;
- consult GPS on any difficult legal issues.

Skills

- use procurement professionals throughout;

[1] https://www.gov.uk/government/organisations/crown-commercial-service

- ensure that there is sufficient skills capacity in undertaking and managing procurements and projects.

Review

- apply the Gateway™ review process;
- draw issues which may have wider implications to the Cabinet Office's attention.

A4.6.2 This guidance is intended to be fully consistent with the UK's international obligations. It does not create any rights or legal obligations.

Value for money

A4.6.3 Value for money is a key concept (see paragraph 3.3.3 and box A4.6B). It means securing the best mix of quality and effectiveness for the least outlay over the period of use of the goods or services bought. It is not about minimising up front prices. Whether in conventional procurement, market testing, private finance or some other form of public private partnership, finding value for money involves an appropriate allocation of risk.

Box A4.6B: securing value for money

Cost: the key factor is whole life cost, not lowest purchase price. Whole life cost takes into account the cost over time, including capital, maintenance, management, operating and disposal costs. For complex procurements, whole-life cost can be very different from initial price.

Quality: paying more for higher quality may be justified if the whole life cost is better, for example, taking into account maintenance costs, useful life and residual value. The purchaser should determine whether increased benefits justify higher costs.

Perspective: each public sector organisation's procurement strategy should seek to achieve the best value outcome for the Exchequer as a whole, not just for the organisation itself. This should be designed in before the invitation to tender is published.

Collaborative procurement: in the vast majority of cases, standardising and aggregating procurement requirements will deliver better value for money. Public sector organisations, including smaller ones, should therefore collaborate as far as possible on procurement in line with GPS practice.

A4.6.4 Purchasers need to develop clear strategies for continuing improvement in the procedures for acquisition of goods, works and services. Public sector organisations should collaborate with each other, following guidance, in order to secure economies of scale, unless they can achieve better value for the Exchequer as a whole some other way. Smaller suppliers should have fair access to see if they able to deliver better value for money.

Legal framework

A4.6.5 Public sector organisations are responsible for ensuring that they comply with the law on procurement (see box A4.6C) taking account of Cabinet Office guidance[2].

The user's requirement

A4.6.6 Procurement should help deliver relevant departmental and government-wide strategies and policies. The procuring organisation should establish that the supply sought is really needed, is likely to be cost effective and affordable. And the published specification should explain clearly what outcomes are required, since this is crucial to obtaining the supply required. Once it is decided that third party procurement appears better value for money than provision in-house, a

2 Cabinet Office guidance: https://www.gov.uk/government/organisations/crown-commercial-service

range of models should be considered, for example employee-led mutuals and joint ventures as well as more traditional outsourcing.

Box A4.6C: the legal framework for public procurement

- international obligations, notably WTO agreements
- domestic legislation, including subordinate legislation implementing directives;
- contract and commercial law in general
- domestic case law

The procurement process and suppliers

A4.6.7 Competition promotes economy, efficiency and effectiveness in public expenditure. Works, goods and services should be acquired through competition unless there are convincing reasons to the contrary, and where appropriate should comply with domestic advertising rules and policy as well as relevant obligations imposed on the UK by its international agreements. The form of competition chosen should be appropriate to the value and complexity of the goods or services to be acquired.

A4.6.8 Public sector organisations should aim to treat suppliers responsibly to maintain good reputations as purchasers (see box A4.6D), taking account of the government's Procurement pledge to help stimulate economic growth[3].

Box A4.6D: relationships with suppliers

- high professional standards in the award of contracts
- clear procurement contact points
- adequate information for suppliers to respond to the bidding process
- the outcome of bids announced promptly
- feedback to winners and losers on request on the outcome of the bidding process
- high professional standards in the management of contracts
- prompt, courteous and efficient responses to suggestions, enquiries and complaints

A4.6.9 In carrying out efficient sourcing projects, central government should follow best practice.

A4.6.10 One such approach is LEAN approach[4] whose principles are designed to make doing business with government more efficient and cost-effective (for both buyers and suppliers) to support economic growth.

A4.6.11 During the evaluation stage of sourcing, it is important to for public sector procuring organisations to:

- establish the propriety of candidate suppliers – taking account of the requirement to exclude those convicted of, for example, fraud, theft, fraudulent trading or cheating HMRC;

3 *Procurement Pledge* (http://www.cabinetoffice.gov.uk/resource-library/our-procurement-pledge)

4 https://www.gov.uk/government/publications/lean-sourcing-guidance-for-public-sector-buyers

- assess suppliers' economic and financial standing to gain confidence of their capacity to carry out fully what the buyer requires within the pre-determined timescale and deliver value for money;
- secure value for money (see box A.4.6B), using relevant and consistent criteria for evaluating the key factors (cost, size, sustainability, design etc).

Contracts

A4.6.12 In drawing up contracts, purchasers should, where possible:

- use model terms and conditions developed in the light of collective experience and which may help avoid prejudicing the position of others using the same supplier;
- avoid variation of price clauses in contracts of less than two years' duration; and
- Include prompt payment clauses.

A4.6.13 Purchasers cannot enter into contracts with other parts of the legal entity to which they belong, so different parts of the Crown cannot contract with each other. Instead internal agreements which fall short of being contracts are used (typically service level agreements). These may have all the hallmarks of contracts other than scope for legal enforcement.

Central purchasing bodies and agencies

A4.6.14 Central government organisations are required to use the services and collaborative procurement deals managed by the Government Procurement Service on behalf of government[5].

A4.6.15 If public sector purchasers employ private sector agents to undertake procurement on their behalf they should:

- require compliance with the law (see box A4.6C);
- ensure clear allocation of responsibilities; and
- where appropriate, obtain the agent's indemnity against any costs incurred as a result of its failure to comply with the legal framework on its behalf.

Taxation

A4.6.16 Central government bodies should:

- base procurement decisions independent of any tax advantages that may arise from a particular bid;
- avoid contractors using offshore jurisdictions, consistent with international obligations and the government's stated objectives on tax transparency and openness;
- be vigilant in not facilitating tax arrangements with suppliers or their agents that are detrimental or disadvantageous to the Exchequer. Public sector organisations need to take special care in relation to the tax arrangements of public appointees (see Cabinet Office guidance[6]);

5 *Cabinet Office guidance*: https://www.gov.uk/government/organisations/crown-commercial-service

6 *Cabinet Office guidance*: Procurement Policy Note – Tax arrangements of Public Appointees

- employ internal management processes to ensure that transactions that give rise to questions of propriety of tax arrangements are brought to the accounting officer's or, if necessary, ministers' attention.

A4.6.17 In the case of bids under the Private Finance (PF2), it is particularly important to ensure that comparisons of competing bids take account of any tax planning by bidders. The Treasury's *Green Book* provides for a tax adjusted Public Sector Comparator to allow for the (usually) material tax difference between a PF2 option and the wholly public sector alternative. It would be inappropriate to apply this to bids where tax planning has cancelled out this effect.

A4.6.18 Public procurement projects involving the transfer of real estate or assets that are likely to appreciate in value can often give rise to specific tax issues, in particular liability to capital gains tax. If public sector organisations are negotiating with bodies that wish to structure procurement proposals in this way, they should consult the Treasury and HMRC at an early stage to identify the likely tax implications and assess the proposal for propriety generally.

Further guidance

A4.6.19 Central sources of guidance on procurement and related issues include:

- the Government Commercial Function (https://www.gov.uk/government/organisations/government-commercial-function)
- the Treasury's Green Book on project appraisal and evaluation in central government (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/179349/green_book_complete.pdf.pdf);
- Department for Business, Energy and Industrial Strategy guidance on compliance with the subsidy obligations arising from the UK's international agreements (https://www.gov.uk/government/publications/complying-with-the-uks-international-obligations-on-subsidy-control-guidance-for-public-authorities)
- Procurement Policy Notes (https://www.gov.uk/government/collections/procurement-policy-notes);
- The Crown Commercial Service (https://www.crowncommercial.gov.uk/);
- Cartels and bid-rigging (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284413/oft435.pdf); and
- HM Revenue and Customs on tax avoidance issues (http://www.hmrc.gov.uk/avoidance/).

Annex 4.7

Subsidies

A4.7.1 The transition period which followed the UK's departure from the European Union ended on 31 December 2020, and EU law ceased to have any force in the UK (save in those areas provided for by the Withdrawal Agreement).[1] UK public bodies must continue ensure compliance with all relevant domestic and international subsidies rules, including World Trade Organisation commitments and commitments the UK has entered into under bilateral Trade Agreements.

A4.7.2 In certain areas the government has published updated guidance, which can be found on gov.uk. Accounting Officers should be aware that obligations arising from domestic and international law are binding for the whole public sector and assist their partner organisations in complying where new obligations have arisen.

Box A4.7A: further guidance

BEIS guidance on complying with international obligations on subsidy control – https://www.gov.uk/government/publications/complying-with-the-uks-international-obligations-on-subsidy-control-guidance-for-public-authorities

[1] This annex has been retitled 'Subsidies' from 'State aids' to reflect this.

Annex 4.8

Expenditure and payments

As part of the process of authorising and controlling commitments and expenditure of public funds, public sector organisations should time their expenditure and payments to provide good value for public money.

A4.8.1 Public sector organisations should use good commercial practice in managing the flows of expenditure and commitments they deal with. Box 4.3 has some sound high level principles. These need to be interpreted in the context of each organisation's business, in line with current legislation and using modern commercial practice. The actual techniques used may thus change from time to time and from place to place.

A4.8.2 In particular, public sector organisations should;

- explain payment procedures to suppliers;
- agree payment terms at the outset and stick to them;
- pay bills in accordance with agreed terms, or as required by law;
- tell suppliers without delay when an invoice is contested; and
- settle quickly when a contested invoice gets a satisfactory response.

A4.8.3 Public sector organisations are also bound by legislation[1] aiming to ensure that in commercial transactions, the payment period does not exceed 30 calendar days after the debtor receives an invoice. Further advice is available from the Cabinet Office and BEIS.

A4.8.4 However, the Government recognises that the public sector should set a strong example by paying promptly. Central government departments should aim to pay 80% of undisputed invoices within 5 days. They should also include a clause in their contracts requiring prime contractors to pay their suppliers within 30 days. The principles in Box 4.4 must still be applied to all payments. Further guidance is available[2] .

[1] The Late Payment of Commercial Debts (Interest) Act 1998 (as amended by The Late Payment of Commercial Debt Regulations 2002 (SI 1674) and the Late Payment of Commercial Debt Regulations 2013).

[2] The Prompt Payment Code http://www.promptpaymentcode.org.uk./

Payments outside the normal pattern

A4.8.5 Payments in advance of need should be exceptional, and should only be considered if a good value for money case for the Exchequer can be made. Even then, as advance payments lead to higher Exchequer financing costs, such payments are novel and contentious and require specific Treasury approval. Advance payment should never be used to circumvent expenditure controls or budgetary limits.

A4.8.6 In particular, it is not good value for money for public sector organisations to act as a source of finance to contractors who have access to other forms of loan finance. So advance payments to contractors (ie payments made before equivalent value is received in return) should only be considered if, for example, a price discount commensurate with the time value of the funds in question can provide a good value for money case. Exceptions to these guidelines, which would not normally require specific Treasury approval, include:

- service and maintenance contracts which require payment when the contract commences, provided that the service is available and can be called on from the date of payment;
- grants to small voluntary or community bodies where the recipient needs working capital to carry out the commitment for which the grant is paid and private sector finance would reduce value for money;
- minor services such as training courses, conference bookings or magazine subscriptions, where local discretion is acceptable; and
- prepayments up to a modest limit agreed with the Treasury, where a value for money assessment demonstrates clear advantage in early payment.

A4.8.7 Interim payments may have an element of prepayment and so public sector organisations should consider them carefully before agreeing to them. However, if they are genuinely linked to work completed or physical progress satisfactorily achieved, preferably as defined under a contract, they may represent acceptable value for public funds. Taking legal advice as necessary, organisations should, however, consider whether:

- the contractor's reduced need for working capital should be reflected in reduced prices;
- the contractor should provide a performance bond in the form of a bank guarantee to deal with possible breach of contract.

A4.8.8 Public sector organisations should not, however, use interim payments to circumvent public spending controls. For example, it is not acceptable to make payments where value has not been received, simply to avoid underspending.

A4.8.9 Deferred payments are generally not good practice. They normally mean paying more to compensate the contractor for higher financing costs and are thus poor value for money (at the margin the Exchequer can always borrow more cheaply than the private sector). So any proposal for deliberate late payment is potentially novel and contentious. Any central government organisation considering deferred payments must thus seek Treasury approval before proceeding.

Annex 4.9

Fraud

Governance in public sector organisations includes arrangements for preventing, countering and dealing with fraud. This annex provides further detail.

A4.9.1 Accounting officers are responsible for managing public sector organisations' risks, including fraud. Each organisation faces a range of fraud risks specific to its business, from internal and external sources. The Fraud Act 2006 recognises that a criminal offence of fraud arises from causing a loss to an individual or legal entity through the intentional misdeclaration of information; knowingly withholding information; or through an abuse of position. The risk of a given fraud is usually measured by the probability of its occurring and its impact in monetary and reputational terms should it occur. Fraud can also have other impacts including undermining the delivery of government policy objectives and outcomes and physical or societal harm.

A4.9.2 In broad terms, managing the risk of fraud involves:

- assessing the organisation's overall vulnerability to fraud;
- identifying the areas most vulnerable to fraud risk;
- evaluating the scale of fraud risk;
- responding to fraud risk;
- detecting fraud;
- measuring the effectiveness of the fraud risk strategy; and
- reporting fraud.

A4.9.3 The most effective way to manage the risk of fraud is to prevent it from happening by developing an effective anti-fraud culture.

For guidance on all these areas, see Tackling Internal Fraud[1] and Tackling External Fraud[2].

[1] http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/psr_managing_risk_of_fraud.htm

[2] http://www.nao.org.uk/report/good-practice-in-tackling-external-fraud-2/

Assessing vulnerability to fraud

A4.9.4 Each organisation should identify and assess at different levels how it might be vulnerable to fraud with reference to the HMG standards for Fraud Risk Assessment. Fraud should be always considered as a risk for the departments' risk register.

Evaluating the scale of fraud risk

A4.9.5 Public sector organisations should evaluate the possible impact and likelihood of the specific fraud risks it has identified. These should be reviewed regularly. From this, each organisation should deduce a priority order for managing its fraud risks and target its interventions accordingly. This will inform decisions about the actions to be taken to manage fraud risk effectively.

Responding to fraud risk

A4.9.6 The organisation's response to fraud risk should be customised to the risks it faces. Typically it will involve some or all of the following.

- Developing a Fraud Policy Statement, a Fraud Risk Strategy and a Fraud Response Plan (key documents that every organisation should have).
- Developing and promoting an anti-fraud culture, maybe through a clear statement of commitment to ethical behaviour to promote awareness of fraud. Recruitment screening, training and maintaining good staff morale can also be important.
- Allocating responsibilities for the overall and specific management of fraud risk so that these processes are integrated into management.
- Establishing cost-effective internal systems of control to prevent and detect fraud.
- Developing the skills and expertise to manage fraud risk effectively and to respond to fraud effectively when it arises.
- Establishing well publicised avenues for staff and members of the public to report suspicions of fraud.
- Responding quickly and effectively to fraud when it arises.
- Establishing systems for investigations into allegations of fraud.
- Using the government's Counter Fraud Function and/or Internal Audit to advise on fraud risk and drawing on their experience to strengthen control.
- Taking appropriate action (criminal, disciplinary) against fraudsters and seeking to recover losses.
- Continuously evaluating the effectiveness of anti-fraud measures in reducing fraud.
- Working with stakeholders to tackle fraud through intelligence sharing, joint investigations, etc.

- Having a programme of fraud risk assessment, and fraud measurement.
- Having systems to report to the centre all instances and values of prevented and detected fraud from across the organisation.
- Having metrics with a financial impact based upon prevented and/or detected fraud against a baseline.
- Have a programme to test for, and measure, previously undetected and unreported fraud

A4.9.7 It is good practice to measure the effectiveness of actions taken to reduce the risk of fraud. Assurances about these measures can be obtained from Internal Audit fraud loss measurement exercises, stewardship reporting, monitoring, or from other review bodies.

Reporting fraud

A4.9.8 Public sector organisations should retain records of internal and external frauds discovered and actions taken, including an assessment of the value of any losses. They may need to contribute to occasional reports and analysis of frauds. These should be reported to the centre of the government's Counter Fraud Function via the Consolidated Data Return.

A4.9.9 Public sector organisations should also provide the Counter Fraud Function's Centre of Expertise with details, of any novel or unusual frauds (or attempted frauds) so that this information can be shared more widely. Public sector organisations should also consider reporting frauds and suspected fraud to the NAO.

Annex 4.10

Losses and write offs

This annex sets out what is expected when departments and their arms length bodies (ALBs) incur losses or write off the values of assets, including details of when to notify parliament.

A4.10.1 As parliament does not agree or approve advance provision for potential future losses when voting money or passing specific legislation, such transactions when they arise are subject to greater scrutiny and control than other payments. Public sector organisations should only consider accepting losses and write-offs after careful appraisal of the facts (including whether all reasonable action has been taken to effect recovery – see Annex 4.11), and should be satisfied that there is no feasible alternative. In dealing with individual cases, departments must always consider the soundness of their internal control systems, the efficiency with which they have been operated, and take any necessary steps to put failings right.

A4.10.2 The guidance in this chapter relates to cash and fiscal losses. It is not intended for losses that do not impact on the fiscal position. For example, erroneous debit balances that result in an accounting adjustment but not a cash loss should not be disclosed in the losses statement.

Levels of delegation

A4.10.3 Departments have delegated authority to deal with all losses, unless there are specific delegations put in place, subject to paragraph A4.10.4. Box A4.10A provides examples of the different categories of loss.

Box A4.10A: examples of losses

Losses

- cash losses: physical losses of cash and its equivalents (eg credit cards, electronic transfers)
- realised exchange rate and hedging losses: losses due to fluctuations in exchange rates or hedging instruments
- losses of pay, allowances and superannuation benefits paid to civil servants, members of the armed forces and ALB employees: including overpayments due to miscalculation, misinterpretation, or missing information; unauthorised issues; and other causes
- losses arising from overpayments: of social security benefits, grants, subsidies etc
- losses arising from failure to make adequate charges: eg for the use of public property.

Losses of accountable stores

- losses through fraud, theft, arson or any other deliberate act
- losses arising from other causes.

Fruitless payments and constructive losses

Claims waived or abandoned

Consulting the Treasury

A4.10.4 When departments identify losses and write-offs, they should consult the Treasury, using the guidance in Box A4.10B, irrespective of the amount of money concerned, if they:

- involve important questions of principle;
- raise doubts about the effectiveness of existing systems;
- contain lessons which might be of wider interest;
- are novel or contentious;
- might create a precedent for other departments in similar circumstances;
- arise because of obscure or ambiguous instructions issued centrally.

A4.10.5 Similarly, ALBs should consult their sponsor departments about similar cases. In turn departments may need to consult the Treasury.

BoxA4.10B: consulting the Treasury on losses

Departments should consult the Treasury as soon as possible, outlining:

- the nature of the case, the amount involved and the circumstances in which it arose;
- the reasons for the proposed write-off, including any legal advice;
- the reason for consulting the Treasury;
- whether fraud (suspected or proven) is involved;
- whether the case resulted from dereliction of duty;
- whether failure of supervision is involved;
- whether appropriate legal and/or disciplinary action has been taken against those involved including supervisors, and, if not, why not;
- whether those primarily involved will be required to bear any part of the loss; and
- whether the investigation has shown any defects in the existing systems of control and,
- if so, what action will be taken.

Notification to parliament

A4.10.6 Losses should be brought to parliament's attention at the earliest opportunity, normally by noting the department's annual accounts, whether or not they may be reduced by subsequent recoveries. For serious losses, departments

should also consider the case for a written statement to parliament. Departments should not hesitate to notify parliament of any losses which it would be proper to bring to their attention.

Losses and claims records

A4.10.7 Public sector organisations should maintain an up to date record of losses. The record should show:

- the nature, gross amount (or estimate where an accurate value is unavailable), and cause of each loss;
- the action taken, total recoveries and date of write-off where appropriate; and
- the annual accounts in which each loss is to be noted.

A4.10.8 A losses statement is required in annual accounts where total losses exceed £300,000. Individual losses of more than £300,000 should be noted separately. Losses should be reported on an accruals basis.

A4.10.9 Where efforts are still being made to secure recovery of cash losses formally written off, charged to the accounts and noted, public sector organisations should consider including them in a record of claims to ensure that recovery is not overlooked.

Accounting for cash losses

A4.10.10 Cash losses may initially be accounted for as debtors in annual accounts pending recovery or write-off.

A4.10.11 When a department incurs a cash loss it should charge it to the appropriate budget subhead in the Estimate, and for accounts recognise the cost in accordance with the FReM.

A4.10.12 Where a cash loss is wholly or partly recovered by reducing the amounts of pay or pension[1] which would otherwise be due, or under statutory or other specific powers[2], only the resulting outstanding balance is treated as a loss to be written off. The sum(s) are charged to the relevant budget boundary as if they had been paid to the individual concerned who then used the money to pay the claim.

A4.10.13 Similarly, where the loss is wholly or partly met by voluntary payments by the person responsible or by a payment from an insurance company or other non-public source, only the net loss is written off. If, however, there are no powers to apply the sums withheld by non-issue of pay etc, the gross amount of the loss is written off.

A4.10.14 Generally, no note is necessary if the net loss is nil by the time the annual accounts are finalised. There may, however, be exceptions (eg losses arising from culpable causes) where the circumstances of the loss are such as to make it proper to bring them to the notice of parliament by inclusion in the Losses Statement.

[1] Tax must be deducted from pay or pension subject to PAYE withheld in settlement of a loss, to arrive at the amount attributed to debt repayment.

[2] For example, Queen's Regulations

Stores losses

A4.10.15 Stores losses are, in effect, money spent without the authority of parliament. In establishing the amount of the loss, and hence whether the annual account should be noted, the net value of the loss after crediting any sums recovered will be the determining factor.

A4.10.16 Losses of stores arising from culpable causes should be noted in departmental records, in accordance with normal practice. Such losses should also be noted in the annual account, to ensure that such losses are brought to the attention of parliament in the appropriate manner, and to aid departmental management in managing and accounting for stores.

A4.10.17 Where there is an identifiable claim against some person, the loss need not be noted immediately. However, if the department subsequently decides to waive the claim, or finds that it cannot be presented or enforced, the loss should be treated as an abandoned claim (see paragraph A.4.10.24) and noted accordingly.

A4.10.18 Any loss recoverable from a third party, where a decision is taken to waive recovery because of a knock for knock agreement, should be noted as a stores loss.

A4.10.19 Where stores are to be written off, gifted, or transferred to other departments, they should be valued in accordance with the FReM, unless circumstances justify exceptional treatment, or other arrangements have been agreed[3].

Fruitless payments

A4.10.20 A fruitless payment is a payment which cannot be avoided because the recipient is entitled to it even though nothing of use to the department will be received in return. Some examples are in box A4.10C.

A4.10.21 As fruitless payments will be legally due to the recipient, they are not regarded as special payments. However, as due benefit has not been received in return, they should be treated as losses, and brought to the attention of parliament in the same way as stores losses.

Box A4.10C: examples of fruitless payments

A fruitless payment is a payment for which liability ought not to have been incurred, or where the demand for the goods and services in question could have been cancelled in time to avoid liability, for example:

- forfeitures under contracts as a result of some error or negligence by the department;
- payment for travel tickets or hotel accommodation wrongly booked or no longer needed, or for goods wrongly ordered or accepted;
- the cost of rectifying design faults caused by a lack of diligence or defective professional practices; and
- extra costs arising from failure to allow for foreseeable changes in circumstances.

[3] Stores held by the Ministry of Defence may be valued according to their estimated supply price.

Constructive losses

A4.10.22 A constructive loss is a similar form of payment to stores losses and fruitless payments, but one where procurement action itself caused the loss. For example, stores or services might be correctly ordered, delivered or provided, then paid for as correct; but later, perhaps because of a change of policy, they might prove not to be needed or to be less useful than when the order was placed.

A4.10.23 Constructive losses need not be noted in the Losses Statement in the annual accounts unless they are significant.

Claims waived or abandoned

A4.10.24 Losses may arise if claims are waived or abandoned because, though properly made, it is decided not to present or pursue them. Some examples are in box A4.10D.

A4.10.25 The following should not be treated as claims waived or abandoned.

- any claims wrongly identified or presented, whether in error or otherwise. A claim should not, however, be regarded as withdrawn where there is doubt as to whether it would succeed if pursued in a court of law, or if the liability of the debtor has not or cannot be accurately assessed;
- waivers or remission of tax. HMRC have special rules about remissions of tax. Departments should consult the Treasury about treatment when a case arises; or
- a claim for a refund of an overpayment which fails or is waived. This should be regarded as a cash loss.

Box A4.10D: examples of waived and abandoned claims

- where it is decided to reduce the rate of interest on a loan, and therefore to waive the right to receive the amount of the reduction
- claims actually made and then reduced in negotiations or for policy reasons
- claims which a department intended to make, but which could not be enforced, or were never presented
- failure to make claims or to pursue them to finality, e.g. owing to procedural delays allowing the Limitations Acts (annex 4.11.11) to become applicable
- claims arising from actual or believed contractual or other legal obligations which are not met (whether or not pursued), e.g. under default or liquidated damages clauses of contracts
- amounts by which claims are reduced by compositions in insolvency cases, or in out-of-court settlements, other than reductions arising from corrections of facts
- claims dropped on legal advice, or because the amounts of liabilities could not be determined
- remission of interest on voted loans.

A4.10.26 Waivers should be noted in annual accounts in accordance with the FReM. In addition:

- a claim not presented should normally be noted at its original figure;
- where more than one department is involved, each should note its records to the extent of its interest, without attempting spurious accuracy.

There is no need to note annual accounts if claims between departments are waived or abandoned. These are domestic matters.

Annex 4.11

Overpayments

This annex discusses how, and how far, public sector organisations should seek to recover overpayments – one case of special payments outside normal parliamentary process (section 4.7). In difficult cases it is important to act on legal advice.

A4.11.1 Even good payment systems sometimes go wrong. Most organisations responsible for making payments will sometimes discover that they have made overpayments in error.In principle public sector organisations should always pursue recovery of overpayments, irrespective of how they came to be made. In practice, however, there will be both practical and legal limits to how cases should be handled. So each case should be dealt with on its merits. Some overpayment scenarios are outlined in box A4.11A. Where recovery of overpayments is not pursued the guidance in annex A4.10 should be followed.

Box A4.11A: possible reasons for overpayment

Contractors and suppliers

Overpayments in business transactions should always be pursued, irrespective of cause. It is acceptable to recover by abating future payments if this approach offers value for money and helps preserve goodwill. If the contractor resists, the overpaying organisation should consider taking legal action, taking account of the strength of the case, and of legal advice.

Grants and subsidies

Overpayments to persons or corporate bodies should be treated as business transactions and a full refund sought. The overpaying organisation should ask recipients to acknowledge the amount of the debt in writing.

Pay, allowances, pensions

Overpayments to:

- civil servants
- members of the armed forces
- employees of NDPBs
- retired teachers and NHS employees
- and the dependants of any of these

should be pursued, taking proper account of how far recipients have acted in good faith. Similar cases should be treated consistently. After warning recipients, recovery through deduction from future salary or pension is often convenient. Legal advice is often wise to make sure that proper account has been taken of any valid defence against recovery recipients may have.

A4.11.3 When deciding on appropriate action, taking legal advice, organisations should consider:

- the type of overpayment;
- whether the recipient accepted the money in good or bad faith;
- the cost-effectiveness of recovery action (either in house or using external companies). Advice that a particular course of action appears to offer good value may not be conclusive since it may not take account of the wider public interest;
- any relevant personal circumstances of the payee, including defences against recovery;
- the length of time since the payment in question was made; and
- the need to deal equitably with overpayments to a group of people in similar circumstances.

A4.11.4 It is good practice to consider routinely whether particular cases reveal concerns about the soundness of the control systems and their operation. It is important to put failings right.

Payments made with parliamentary authority

A4.11.5 Sometimes overpayments are made using specific legal powers but making mistakes of fact or law. These are legally recoverable, subject to the provisions of the Limitation Acts and other defences against recovery (see below). The presumption should always be that recovery should be pursued, irrespective of the circumstances in which it arose.

Good faith

A4.11.6 The decision on how far recovery of an overpayment should be pursued in a particular case will be influenced by whether the recipient has acted in good or bad faith:

- where recipients of overpayments have acted in good faith, eg genuinely believing that the payment was right, they may be able to use this as a defence (though good faith alone is not a sufficient defence);
- where recipients of overpayments have acted in bad faith, recovery of the full amount overpaid should always be sought.

A4.11.7 Recipients may be inferred to have acted in bad faith if they have wilfully suppressed material facts or otherwise failed to give timely, accurate and complete information affecting the amount payable. Other cases, eg those involving recipients' carelessness, may require judgement. And some cases may involve such obvious error, eg where an amount stated is very different from that paid, that no recipient could reasonably claim to have acted in good faith.

A4.11.8 In forming a judgement about whether payments have been received in good faith, due allowance should be made for:

- the complexity of some entitlements, eg to pay or benefits;

- how far the payment depended on changes in the recipient's circumstances of which he or she was obliged to tell the payer;
- the extent to which generic information was readily available to help recipients understand what was likely to be due.

Fraud

A4.11.9 If a public sector organisation is satisfied that the circumstances of an overpayment involved bad faith on the part of the recipient, it should automatically consider the possibility of fraud in addition to recovery action. For example, the recipient may have dishonestly given false information or knowingly failed to disclose information. If there is evidence of fraudulent intent, prosecution or disciplinary action should be undertaken where appropriate and practicable. A criminal conviction in such a case will not eliminate the public debt which had resulted from the overpayment, and so recovery of the debt should also be pursued by any available means.

Cost-effectiveness

A4.11.10 Public sector organisations should take decisions about their tactics in seeking recovery in particular cases on the strength of cost benefit analysis of the options. Decisions not to pursue recovery should be exceptional and taken only after careful appraisal of the relevant facts, taking into account the legal position. The option of abating future payments to the recipient should always be considered.

Defences against recovery

A4.11.11 Defences which may be claimed against recovery include:

- the length of time since the overpayment was made
- change of position
- estoppel
- good consideration
- hardship.

Lapse of time

A4.11.12 There can be time limitations on recovery. In England and Wales, a recipient might plead that a claim is time-barred under the provisions of the Limitation Acts. Proceedings to recover overpayments must generally be instituted within six years (twelve years if the claim is against the personal estate of a deceased person) of discovery of the mistake or the time when the claimant could, with reasonable diligence, have discovered it.

A4.11.13 When public sector organisations claim against a private sector organisation or people who ignore or dispute the claim, the organisation should take legal advice about proceeding with the claim in good time so that it does not become time barred.

A4.11.14 If someone claims that they have overpaid a public sector organisation, they should be told promptly if the claim is time barred. But if, on its merits, the

recipient organisation decides that there is a case for an ex gratia payment, it should obtain Treasury consent if the amount involved is outside the organisation's delegated powers. Similarly, there may be a case for ex gratia payments to make good underpayments to government employees unless they were dilatory in making their claims.

Change of position

A4.11.15 The recipient of an overpayment may seek to rely on change of position if he or she has in good faith reacted to the overpayment by relying on it to change their lifestyle. It might then be inequitable to seek to recover the full amount of the overpayment. The paying organisation's reaction should depend on the facts of the case. The onus is on the recipient to show that it would be unfair to repay the money. This defence is difficult to demonstrate.

Estoppel

A4.11.16 A recipient who has changed his or her position may also be able to rely on the rule of evidence estoppel if the paying organisation misled the recipient about his or her entitlement, even if the overpayment was caused by a fault on the part of the recipient. However, a mistaken payment will not normally of itself constitute a representation that the payee can keep it. There must normally be some further indication of the recipient's supposed title other than the mere fact of payment.

A4.11.17 The paying organisation can be prevented from recovery even where it has made no positive statement to the payee that the latter is entitled to the money received. If, following a demand for repayment, the recipient can give reasons why repayment should not be made, then silence from paying organisation would almost certainly entitle the recipient to conclude that the reply was satisfactory and that he or she could keep the money.

A4.11.18 It is essential for public sector organisations to seek legal advice where change of position or estoppel is offered as defence against recovery.

Good consideration

A4.11.19 Another possible defence against recovery is where someone makes a payment for good consideration, i.e. where the recipient gives something in return for the payment. For example, payment might be made to discharge a debt; or where the payment is part of a compromise to deal with an honest claim. If such payments are later found to be more than was strictly due, the extent to which the paying organisation was acting in good faith should be taken into account.

Hardship

A4.11.20 Public sector organisations may waive recovery of overpayments where it is demonstrated that recovery would cause hardship. But hardship should not be confused with inconvenience. Where the recipient has no entitlement, repayment does not in itself amount to hardship, especially if the overpayment was discovered quickly. Acceptable pleas of hardship should be supported by reasonable evidence that the recovery action proposed by the paying organisation would be detrimental to the welfare of the debtor or the debtor's family. Hardship is not necessarily limited to financial hardship; public sector organisations may waive recovery of

overpayments where recovery would be detrimental to the mental welfare of the debtor or the debtor's family. Again, such hardship must be demonstrated by evidence.

Collective overpayments

A4.11.21 If a group of people have all been overpaid as a result of the same mistake, the recipients should be treated in the same way. However, that does not mean that recovery of all such overpayments should be automatically written off. For example, it may be legitimate to continue to effect recovery from those who have offered to repay, or some may not be subject to the same level of hardship.

A4.11.22 Public sector organisations should decide how best to handle collective overpayments so that they do not inhibit the maximum recovery possible. If it is deemed impractical to pursue recovery from some members of an equivalent group, there should be no inhibition on pursuing others who may be able to pay. There is no obligation to inform the group generally about what action is being taken against particular members since all have the same legal obligation. Any differential treatment should be based on advice.

A4.11.23 If a public sector organisation is minded to forgo recovery of the whole or any part of a collective overpayment, it should consult the Treasury (or its sponsor department, as the case may be) before telling the recipients of the overpayments. The Treasury will need to be satisfied that a collective waiver is defensible in the public interest or as value for money. And any such waivers should be exceptional.

Annex 4.12

Gifts

This annex explains how departments should notify parliament of gifts, both given and received. It is important to assure parliament that propriety has been respected through transparent reporting

A4.12.1 A gift is something voluntarily donated, with no preconditions and without the expectation of any return. In this document, the term gift includes all transactions which are economically indistinguishable from gifts: see box A4.12A.It is also important to be clear about transactions which do not score as gifts. For example:

- transfers of assets between government departments should generally be at full current market value; assets transferred under a transfer of functions order to implement a machinery of government change are generally made at no charge. In neither case are such transfers regarded as gifts;
- grants and grants-in-aid are not gifts as they are made under legislation, subject to conditions, with some expectation that the government will receive value through the furtherance of its policy objectives.
- grants in kind that are part of a planned programme of HMG support for an organisation or third country (for example, the provision of equipment in official development assistance projects). Again, there is an expectation that the government will receive value through the furtherance of its policy objectives in precisely the same way as with financial support to a partner organisation or the direct delivery of projects by government. Such grants in kind will normally be made under the same legislation that supports other parts of the programme concerned and the purchase of the equipment concerned will typically have been financed through provision in the department's Estimate

Box A4.12A: definition of gifts

Gifts include all transactions economically equivalent to free and unremunerated transfers from departments to others, such as:

- loan of an asset for its expected useful life
- sale or lease of assets at below market value (the difference between the amount received and the market value is the value of the gift)

- donations by departments
- transfers of land and buildings, or assignment of leases, to private sector bodies at less than market price (the gift is valued at the difference between the price agreed and the market price).

Approval

A4.12.3 Treasury approval is needed for all gifts valued at more than £300,000, and any other gifts not covered by a department's or ALB's delegated authorities. ALBs should consult their sponsor departments about gifts.

A4.12.4 The WMS and minute must then be laid before the House of Commons, on the same day, at least fourteen parliamentary sitting days before the department proposes to make the gift. In cases of special urgency, it is permissible, exceptionally, for all or part of the fourteen day notice period to fall during an adjournment or recess, or for a shorter notice period to be given. In such cases, with Treasury approval, the reasons for urgency should be explained.

A4.12.5 The WMS and minute must contain the standard opening and closing paragraphs in box A4.12B. These terms have the PAC's endorsement and can be changed only with Treasury approval.

Box A4.12B: standard paragraphs for written ministerial statement and departmental minute

Opening paragraph:

It is the normal practice when a government department proposes to make a gift of a value exceeding £300,000, for the department concerned to present to the House of Commons a minute giving particulars of the gift and explaining the circumstances; and to refrain from making the gift until fourteen parliamentary sitting days after the issue of the minute, except in cases of special urgency.

Closing paragraph:

The Treasury has approved the proposal in principle. If, during the period of fourteen parliamentary sitting days beginning on the date on which this minute was laid before the House of Commons, a Member signifies an objection by giving notice of a Parliamentary Question or a Motion relating to the minute, or by otherwise raising the matter in the House, final approval of the gift will be withheld pending an examination of the objection.

A4.12.6 The WMS and minute should also set out briefly the nature of the gift, its value, the circumstances in which it is being given, and the recipient. Where the gift is to be replaced, information about the cost and nature of the replacement, when it is expected to be acquired, and the Estimate to which the expenditure will be charged should be included. In the case of non-voted expenditure, the account to which the replacement cost will be charged should be quoted.

Parliamentary objections

A4.12.7 Members of Parliament may object to gifts by letter, Parliamentary Question or through an Early Day Motion. In such cases, departments may wish to advise their ministers to take the initiative by making contact with the MP concerned. This

may be particularly appropriate if it is proposed to make the gift urgently or promptly on expiry of the waiting period.

A4.12.8 Where an objection is raised, the gift should not normally be made until the objection has been answered. In the case of an Early Day Motion, the MP should be given an opportunity to make a direct personal representation to the Minister. The Treasury should be notified of the outcome of any representations made by MPs.

Noting annual accounts

A4.12.9 Annual accounts should include a note on gifts made by departments if their total value exceeds £300,000. Gifts with a value of more than £300,000 should be noted individually, with a reference to the appropriate WMS and departmental minute. Exceptionally, where gifts are made between government departments, the receiving department should notate its accounts, not the donor.

Gifts received

A4.12.10 Departments should maintain a register detailing gifts they have received, their estimated value and what happened to them (whether they were retained, disposed of, etc). Gifts received need not be noted in accounts unless the Treasury or department concerned considers there is a special need for them to be brought to parliament's attention.

A4.12.11 Donations, sponsorship or contributions, eg from developers should also be treated as gifts.

A4.12.12 Guidance on gifts made to individual civil servants is in the Civil Service Management Code[1].

[1] https://www.gov.uk/government/publications/civil-servants-terms-and-conditions

Annex 4.13

Special payments

This annex explains how public sector organisations should approach current transactions outside the usual planned range. It is often right, or essential, to consult the Treasury beforehand. In some cases, it is also important to notify parliament.

A4.13.1 In voting money or passing specific legislation, parliament does not and cannot approve special payments outside the normal range of departmental activity. Such transactions are therefore subject to greater control than other payments.

A4.13.2 Departments should authorise special payments only after careful appraisal of the facts and when satisfied that the best course has been identified. It is good practice to consider routinely whether particular cases reveal concerns about the soundness of the control systems; and whether they have been respected as expected. It is also important to take any necessary steps to put failings right.

A4.13.3 Arm's length bodies should operate to similar standards as departments unless there are good reasons to the contrary, eg overriding requirements of the statutory framework for Companies Act companies. Departments should ensure that their oversight arrangements (see chapter 7) enable them to be satisfied that their arm's length bodies observe the standards.

Dealing with special payments

A4.13.4 Departments should always consult the Treasury about special payments unless there are specific agreed delegation arrangements in place (See Annex 2.2). So a department should seek Treasury approval, in advance, for any special payment for which it has no delegated authority, or which exceeds its authority. Similarly, ALBs should consult their sponsor departments in comparable circumstances. In turn, the department may need to consult the Treasury.

A4.13.5 The special payments on which the Treasury may need to be consulted are summarised in box A4.13A. The list is not exclusive. If a department is in doubt, it is usually better to consult the Treasury.

A4.13.6 In particular, it is important to consult the Treasury about any cases, irrespective of delegations, which:

- involve important questions of principle;
- raise doubts about the effectiveness of existing systems;
- contain lessons which might be of wider interest;

- might create a precedent for other departments;
- may be deemed novel, contentious, or repercussive; or
- arise because of obscure or ambiguous instructions issued centrally.

Box A4.13A: special payments

- **extra-contractual payments**: payments which, though not legally due under contract, appear to place an obligation on a public sector organisation which the courts might uphold. Typically these arise from the organisation's action or inaction in relation to a contract. Payments may be extra-contractual even where there is some doubt about the organisation's liability to pay, eg where the contract provides for arbitration but a settlement is reached without it. (A payment made as a result of an arbitration award is contractual.)
- **extra-statutory and extra-regulatory payments** are within the broad intention of the statute or regulation, respectively, but go beyond a strict interpretation of its terms.
- **compensation payments** are made to provide redress for personal injuries (except for payments under the Civil Service Injury Benefits Scheme), traffic accidents, damage to property etc, suffered by civil servants or others. They include other payments to those in the public service outside statutory schemes or outside contracts.
- **special severance payments** are paid to employees, contractors and others outside of normal statutory or contractual requirements when leaving employment in public service whether they resign, are dismissed or reach an agreed termination of contract.
- **ex gratia payments** go beyond statutory cover, legal liability, or administrative rules, including:

  payments made to meet hardship caused by official failure or delay
  - out of court settlements to avoid legal action on grounds of official inadequacy
  - payments to contractors outside a binding contract, eg on grounds of hardship.

A4.13.7 The Treasury does not condemn all special payments out of hand. Each needs to be justified properly in the public interest against the key public sector principles set out in Chapter 1, box 1.1, with particular emphasis on value for money since there is no legal liability. Any proposal to keep a special payment confidential must be justified especially carefully since confidentiality could appear to mask underhand dealing. Also financial reporting requirements and Freedom of Information legislation should be complied with. The Treasury's bottom line is usually to ask the department to establish that the responsible accounting officer(s) would feel able to justify the proposed payment in parliament if challenged.

A4.13.8 Departments should also consult the Treasury about proposals for special payments above the relevant delegated limits. They should explain:

- the nature and circumstances of the case;
- the amount involved;
- the legal advice, where appropriate;
- the management procedures followed;

- an assessment of the value for money of the case
- any non-financial aspects;
- whether the case in question could have wider impact.

Severance Payments

A4.13.9 Special severance payments when staff leave public service employment should be exceptional. They always require Treasury approval because they are usually novel, contentious and potentially repercussive. So departments should always consult the Treasury in advance when considering a special severance payment.

A4.13.10 The Treasury adopts a sceptical approach to proposals for special severance settlements, in particular:

- precedents from other parts of the public sector may not be a reliable guide in any given case;
- legal advice that a particular severance payment appears to offer good value for the employer may not be conclusive since such advice may not take account of the wider public interest;
- even if the cost of defeating an apparently frivolous or vexatious appeal will exceed the likely cost of that particular settlement to the employer, it may still be desirable to take the case to formal proceeding;
- winning such cases demonstrates that the government does not reward failure and should enhance the employer's reputation for prudent use of public funds.

Severance payments will only be approved where they provide value for money for the Exchequer as a whole, rather than simply for the body concerned.

A4.13.11 Departments should not treat special severance as a soft option, eg to avoid management action, disciplinary processes, unwelcome publicity or reputational damage. Box A4.13B sets out the factors the Treasury needs to evaluate in dealing with special severance cases.

A4.13.12 It is important to ensure that Treasury approval is sought before any offers, whether oral or in writing, are made. A proforma for seeking Treasury approval is available[1].

A4.13.13 Departments and their ALBs are also required to seek ministerial approval (including the approval of the Minister for the Cabinet Office) of confidentiality clauses in certain circumstances. Cabinet Office guidance on the use and approval of such agreements is also available[2].

[1] https://www.gov.uk/government/publications/managing-public-money

[2] https://www.gov.uk/government/publications/civil-service-settlement-agreements-special-severance-payments-and-confidentiality-clauses

Box A4.13B: factors to consider in special severance cases

Any case for special severance put to the treasury should explain:

- the circumstances of the case
- any scope for reference to a tribunal with its potential consequences, including the legal assessment of the organisation's chances of winning or losing the case and likely scale of any award
- the management procedures followed
- the value for money offered by the possible settlement
- any non-financial considerations, eg where it is desirable to end someone's employment without dismissal, perhaps because of restructuring
- whether the case could have wider impact, eg for a group of potential tribunal cases

A4.13.14 Particular care should be taken to:

- avoid unnecessary delays which might lead to greater severance payments than might otherwise be merited;
- avoid offering the employee concerned consultancy work after severance unless best value for money can be demonstrated and the proposal is in line with Cabinet Office approvals and controls[3];
- ensure any undertakings about confidentiality leave severance transactions open to adequate public scrutiny, including by the NAO and the PAC;
- ensure special severance payments to senior staff are transparent and negotiated avoiding conflicts of interest.

A4.13.15 Organisations seeking retrospective Treasury approval for special severance payments should not take it for granted that approval will be provided, since such payments usually appear to reward failure and set a poor example for the public sector generally. Requests for retrospective approval will be considered as if the request had been made at the proper time and should contain the same level of detail as if the case had been brought to the Treasury in advance.

Retention Payments

A4.13.16 Retention payments, designed to encourage staff to delay their departures, particularly where transformations of ALBs are being negotiated, are also classified as novel and contentious. Such payments always require explicit Treasury approval, whether proposed in individual cases or in groups. Treasury approval must be obtained before any commitment, whether oral or in writing, is made.

A4.13.17 Organisations considering proposals for retention payments should subject them to strict value for money analysis. Sponsor departments should submit a business case to the Treasury, supported by market evidence, together with an

[3] https://www.gov.uk/government/publications/cabinet-office-controls

evaluation of the risks and costs of alternative options. The Treasury will always be sceptical of whether they are necessary.

Reporting

A4.13.18 As parliament does not provide for special payments when voting Estimates or passing specific legislation, special payments should be brought to parliament's attention, usually through a note in the organisation's account. Any special severance payments for senior staff will in any case be itemised in annual accounts.

A4.13.19 Notification is separate from accounting treatment, which will depend on the nature of the special payment. Special payments should be noted in the accounts even if they may be reduced by subsequent recoveries.

A4.13.20 Special payments should be noted in annual accounts where the total value exceeds £300,000. Individual payments of more than £300,000 should be noted separately.

Reporting to Cabinet Office

A4.13.21 Departments and their ALBs are required to report to the Minister for the Cabinet Office on a quarterly basis any special severance payment made in connection with the termination of employment. These returns will enable Cabinet Office to provide assurance on whether the use of special severance payments across the Civil Service is both proportionate and appropriate, including the use of any confidentiality clauses alongside such payments. A pro forma is available[4]

Civil Service-wide data on special severance payments will be published annually by the Cabinet Office.

[4] https://www.gov.uk/government/publications/civil-service-settlement-agreements-special-severance-payments-and-confidentiality-clauses

Annex 4.14

Remedy

Prompt and efficient complaint handling is an important way of ensuring customers receive the service to which they are entitled and may save public sector organisations time and money by preventing a complaint escalating unnecessarily.

If their services have been found deficient, public sector organisations should consider whether to provide remedies to people or firms who complain. This is separate from administering statutory rights or other legal obligations, eg to make payments to compensate. Remedies may take several different forms and should be proportionate and appropriate.

Dealing with complaints

A4.14.1 Public sector organisations should operate clear accessible complaints procedures. They are a valuable source of feedback which can help shed light on the quality of service provided, and in particular how well it matches up to policy intentions. So all complaints should be investigated. The Parliamentary and Health Service Ombudsman (PHSO) has published Principles of good complaint handling[1] to help public bodies when dealing with complaints.Systems for dealing with complaints should operate promptly and consistently. Those making complaints should be told how quickly their complaints can be processed. Where groups of complaints raise common issues, the remedies offered should be fair, consistent and proportionate.

A4.14.3 Public sector organisations should seek to learn from their complaints. If an internal or external review, or a PHSO investigation, shows there are systemic faults, defective systems or procedures should be overhauled and corrected.

Remedies

A4.14.4 As section 4.11 explains, when public sector organisations have caused injustice or hardship because of maladministration or service failure, they should consider:

- providing remedies so that, as far as reasonably possible, they restore the wronged party to the position that they would be in had things been done correctly, and
- whether policies and procedures need change, to prevent the failure reoccurring.

[1] http://www.ombudsman.org.uk/improving-public-service/ombudsmansprinciples/principles-of-good-complaint-handling-full

The remedies available

A4.14.5 Remedies can take a variety of forms, including (alone or in combination):

- an apology;
- an explanation;
- correction of the error or other remedial action;
- an undertaking to improve procedures or systems; or
- financial payments, eg one off or as part of a structured settlement.

A4.14.6 Financial remedies for individual cases are normally ex gratia payments. Where a pattern develops, and a number of cases raising similar points need to be dealt with, it may make sense to develop an extra statutory scheme (see annex 4.13). If any such scheme seems likely to persist, the organisation concerned should consider whether to bring forward legislation to set it on a statutory footing (see sections 2.5 and 2.6).

Designing remedies

A4.14.7 The normal approach to complaints where no financial payment is called for is to offer an apology and an explanation. This may be a sufficient and appropriate response in itself. People complaining may also want reassurance that mistakes will not be repeated.

A4.14.8 It may be more difficult to judge whether financial compensation is called for, and if so how much, especially if there is no measurable financial detriment. Great care should be taken in designing financial compensation schemes since they may set expensive precedents.

A4.14.9 Where financial remedies are identified as the right approach to service failure, they should be fair, reasonable and proportionate to the damage suffered by those complaining. Financial remedies should not, however, allow recipients to gain a financial advantage compared to what would have happened with no service failure. Consideration should always be given by the public sector organisation that the circumstances of a complaint do not involve bad faith on the part of the complainant, and the possibility of fraudulent intent.

A4.14.10 Public sector organisations deciding on financial remedies should take into account all the relevant factors. Some which are often worth considering are outlined in box A4.14A. The list may not be exhaustive.

Box A4.14A: factors to consider in deciding whether financial compensation is appropriate

- Whether a loss has been caused by failure to pay an entitlement, eg to a grant or benefit.
- Whether someone has faced any additional costs as a result of the action or inaction of a public sector organisation, eg because of delay.
- Whether the process of making the complaint has imposed costs on the person complaining, eg lost earnings or costs of pursuing the complaint.

- The circumstances of the person complaining, eg whether the action or inaction of the public sector organisation has caused knock on effects or hardship.
- Whether the damage is likely to persist for some time.
- Whether any financial remedy would be taxable when paid to the person complaining.
- Any advice from the PHSO.

A4.14.11 If a compensation payment includes an element because the person complaining has had to wait for their award, it should be calculated as simple interest. The interest rate to be applied should be appropriate to the circumstances and defensible against the facts. Some rates worth considering are the rate HMRC pays on tax repayments and the rate used in court settlements.

A4.14.12 When a public sector organisation recognises that it needs a scheme for a set of similar or connected claims after maladministration or service failure, it should ensure that the arrangements chosen deal with all potential claimants equitably. It is important that such schemes take into account the PHSO's Principles of good administration[2]. They must be well designed since costs can escalate if a problem turns out to be more extensive than initially expected.

A4.14.13 If those seeking compensation have suffered injustice or hardship in a way which is likely to persist, it may not be appropriate to pay compensation as a lump sum. Instead it may make sense to award a structured settlement with periodic (eg monthly or annual) payments. Public sector organisations considering such settlements should seek both legal and actuarial advice in drawing them up.

A4.14.14 Essentially, designing a compensation scheme is no different from designing other services. Good management, efficiency, effectiveness and value for money are key goals (see Chapter 4). Some specific issues which may require special care for compensation schemes are outlined in box A4.14B.

Box A4.14B: Issues to consider in designing compensation schemes

- Clarify the coverage of the scheme.
- Set clear scheme rules, with supporting guidance, to implement the policy intention.
- Make the remedies fair and proportionate, avoiding bias, discrimination or prejudice.
- Ensure the scheme's systems work, eg through pilot testing.
- Design in sufficient flexibility to cope with the characteristics of the claimant population.
- Check that the administration cost is not excessive – or simplify the scheme.
- If the scheme sets a precedent, make sure that it is acceptable generally.
- Inform parliament appropriately, eg through a written statement and/or in the estimates / annual accounts.
- Plan to evaluate the scheme at suitable point(s).
- Provide for closure of the scheme, unless there is good reason not to.

[2] http://www.ombudsman.org.uk/improving-public-service/ombudsmansprinciples/principles-of-good-administration

Consulting the Treasury

A4.14.15 When considering making individual remedy payments, departments need to consult the Treasury (and sponsored bodies need to consult their sponsor departments) about cases which:

- fall outside their delegated authorities; or
- raise novel or contentious issues; or
- could set a potentially expensive precedent or cause repercussions for other public sector organisations.

A4.14.16 Public sector organisations developing schemes to pay remedies should consult the Treasury before finalising them. Proposed schemes drawn up in response to a PHSO recommendation also require Cabinet Office approval. Once a scheme is agreed, it is only necessary to consult the Treasury further about cases outside the agreed boundaries for the scheme, or the delegated authority applying to it.

Reporting ex gratia payments

A4.14.17 Departments should ensure that ex gratia payments have Estimate cover, and that the ambit of the vote concerned is wide enough for the purpose. Ex gratia payments score as special payments in departments' accounts. Departments and agencies should include summary information on compensation payments arising from maladministration in their annual reports.

Annex 4.15

Asset management

Each public sector organisation is expected to develop and operate an asset management strategy underpinned by a reliable and up to date asset register. The board should review the strategy annually as part of the corporate or business plan.

A4.15.1 A4.15.1 Accounting officers of public sector organisations are responsible for managing their assets. This aspect of financial management covers the acquisition, use, maintenance, and disposal of assets for the benefit of the organisations and indeed for the Exchequer as whole.

A4.15.2 Each organisation needs to have a clear grasp of:

- the content of its current assets base;
- the assets it needs to deliver efficient, cost effective public services;
- what this means for asset acquisition, use, maintenance, renewal, upgrade and disposal;
- whether any gains could be achieved by working with other public sector organisations;
- how use of assets fits within the corporate plan.

A4.15.3 A4.15.3 Normally, these responsibilities will be dispersed in an organisation through a system of delegations with appropriate reporting arrangements. Similarly, departments should ensure that each of their sponsored organisations has equivalent arrangements.

Asset registers

A4.15.4 A4.15.4 It is good practice for each organisation to draw up, and keep up to date, a register of all the assets it owns and uses. This will usually be needed for preparation of its financial accounts. It is also essential to undertake regular stock taking of the organisation's current assets base and thus for planning change.

A4.15.5 The assets on an organisation's register should include both tangible and intangible assets, covering both owned assets and assets under its legal control such as leased or private finance assets. Box A.4.15A lists the main groups of assets but is not exhaustive. Each organisation should decide on a meaningful valuation threshold in line with best practice.

A4.15.6 In drawing up the asset register, particular care should be taken with two sorts of asset:

- attractive items, such as works of art and items similarly susceptible to theft. These may be included even if they are below the valuation threshold, in line with guidance provided by the Government Art Collection; and

investments in the form of debentures and shares in commercial companies. These should be checked at least annually.

Box A4.15A: main categories of public sector assets

tangible assets

- wholly owned land and buildings
- leased fixed assets (including those acquired through private finance)
- raw materials
- stocks and stores
- plant, machinery, equipment, tools
- furniture and fittings
- assets under construction
- donated physical assets
- heritage assets
- antiques and works of art
- economic infrastructure assets (including highways, railways, airports, utilities communication networks and power generation and transmission)

intangible assets

- copyrights, including Crown copyright
- trademarks
- franchises
- patents and other intellectual property rights, including in house software
- goodwill
- data and information
- knowledge and know-how
- software licences
- public dividend capital
- loans and deposits
- investments including shares and debentures in companies

Asset management strategies

A4.15.7 The asset management strategy of a public sector organisation should be integrated into its corporate and annual business plans. It should thus be possible to help plan change in asset use or deployment when necessary. Box A.4.15B suggests some key steps. The organisation's board should take stock of progress in delivering its asset management strategy from time to time, and at least annually.

Box A4.15B: steps for developing asset management plans

- Review the asset register to assess its adequacy for the organisation's objectives and functions.
- Plan how retained assets will be used efficiently for the organisation's core functions.
- Plan asset acquisitions, e.g. to extend, modify or replace the existing asset base.
- Identify disposals, and plan to use the proceeds. Once decided upon, disposals should be as swift as the market will allow with reasonable value for money). Treasury approval is required for spending or retaining receipts.
- Plan any loans of assets, with charges and conditions for their return, liability, damage.

- Consider whether any retained assets have potential to generate revenue through commercial services.

A4.15.8 Assets should be managed like other parts of organisation's business, with up to date and reliable information systems to provide feedback on performance, efficiency and value for money. The organisation is expected to:

- view value for money from the asset from the perspective of the whole Exchequer, taking account of opportunities to work with other public sector organisations to minimise the government's overall required asset base;
- manage the assets in a way which aims to optimise cost sustainability through their effective lives;
- use commercial terms for the delivery and support of assets;
- incorporate adequate flexibility to cope with the organisation's future change programme.

Efficiency improvements

A4.15.9 Efficiency in the use of workspace may make it possible for a public sector organisation to occupy less space. It is good practice to dispose of surplus property, or to share accommodation on the civil estate with other public sector organisations where this is practicable. It may be necessary to consider a budget transfer between organisations, with Treasury consent, to help meet the initial relocation costs.

A4.15.10 Prior to marketing any land or building asset, public sector organisations should also make use of the following:

- "Disposal of Surplus Public Sector Land and Buildings – Protocols for Land holding Departments"[1] which describes the procedures to be followed to dispose of land with development potential;
- The Cabinet Office's National Property Controls which detail the rules on lease extensions, lease renewals, acquisitions, disposals as well as required space standards associated with major refurbishments of buildings;
- The Register of Surplus Land, part of ePIMS (electronic Property Management Information Mapping Service), a mandatory central database recording information on the civil estate. The data base does not cover leasehold property with less than 99 years outstanding;
- the Civil Estate Occupancy Agreement governing relationships among Crown bodies sharing accommodation and the Civil Estate Coordination Protocol which is designed to improve the planning, acquisition, management, rationalisation and disposal of property and other workspace on the civil estate;
- latest guidance and advice available from the Government Property Unit.

[1] https://www.gov.uk/government/publications/disposal-of-surplus-public-sector-land-and-buildings-protocol-for-land-holding-departments

Asset Sales

A4.15.11 When undertaking an asset sale, departments should follow the Asset Sales Disclosure Guidance. The guidance requires government departments to disclose the impacts of an asset sale on Public Sector Net Borrowing (PSNB), Public Sector Net Debt (PSND), Public Sector Net Financial Liabilities (PSNFL) and Public Sector Net Liabilities (PSNL), as well as disclosing the proceeds and whether the sale was above, within or below the retention value range. Departments should also include a rationale for the sale, as well as justification for its format and timing, and include these alongside the impacts in a Written Ministerial Statement laid in Parliament after the sale.

Transfer of property

A4.15.12 Public sector organisations may transfer property among themselves without placing the asset on the open market, provided they do so at market prices and in appropriate circumstances. They should follow the guidelines in box A4.15C.

Box A4.15C: protocol for transfers of assets

- Consult ePIMS to see if properties on the civil estate can be used.
- Value assets at market prices using Royal Institute Chartered Surveyors' Red Book (www.rics.org).
- The original and prospective owners should work collaboratively to agree a price. It is good practice to commission a single independent valuation to settle the price to be paid.
- The organisations should take legal advice, especially where sponsored organisations are involved as these may have specific legal requirements.
- There is no need for full investigation of legal title since full transfer is rarely necessary because of the indivisibility of the Crown.
- Consult the Government Property Unit of the Cabinet Office, who may be able to help with coordination.
- The terms of transfer should not normally involve neither clawback (rights to share disposal proceeds) or overage (rights to share future profits on disposal) though see A4.15.13 below.

A4.15.13 Sometimes transfers of assets result from machinery of government changes. The relevant legislation (eg a transfer of functions order) should prescribe the terms of any such transfers.

A4.15.14 In certain limited circumstances overage provisions can be considered. The circumstances where overage is acceptable are:

- where the property is sold to a private developer for housing development;
- there is a realistic prospect that selling will improve the outcome for housing policy, e.g. by creating an aggregated composite site;
- the accounting officers of the relevant public sector organisations are convinced that, in this transaction, overage offers value for money for the Exchequer as a whole; and
- the Treasury agrees (these transaction are always novel and contentious).

A4.15.15 In addition, the overage provisions may be agreed by a central government purchaser of property where it is a condition of the sale of that property by a local government or devolved administration body. In all cases the purchase must represent value for money for the Exchequer as a whole and Treasury consent should be sought.

Disposals of property and land assets

A4.15.16 Public sector organisations should take professional advice when disposing of land and property assets. Some key guidelines are in box A4.15D.

Box A4.15D: protocol for disposal of land, property and other assets

- Value assets at market prices using Royal Institute of Chartered Surveyors' Red Book (www.rics.org).
- Dispose of surplus land property within three years.
- Dispose of surplus residential property within six months.
- Sell plant, machinery, office equipment, furniture and consumable stores by public auction as seen; or by open tender. Obtain payment before releasing the goods.
- If an asset is sold or leased at a loss, the proceeds forgone (compared to market value) should be treated as a gift, and the routine in annex 4.12 should be followed.

A4.15.17 Sometimes private finance projects involve disposals. Each such case should be evaluated as part of the private finance project, with due attention to the need to secure good value for money. Further guidance is an annex 7.4.

A4.15.18 Public sector organisations which make grants to third parties for the acquisition of assets should normally include a clawback condition under which they can recoup the proceeds if the recipient of the grant later sells the asset. There is some scope for flexibility in this discipline: see annex 5.2.

A4.15.19 Disposals to charities require particular care. Their trust deeds sometimes place restrictions on how they may use their assets. It is good practice to consider the possible disposal of assets by such recipients before making gifts to them.

Economic infrastructure assets

A4.15.20 Managing economic infrastructure affects the quality of delivery of services. It is also central to achievement of the national infrastructure goals detailed in the National Infrastructure Plan. These factors need to be incorporated into the business plans and objectives of public sector organisations which hold, use and manage such assets.

A4.15.21 Good asset management of economic infrastructure thus calls for the responsible organisations to coordinate their own and their stakeholders' objectives. Sometimes securing value for money for the taxpayer means compromise between cost, risks, opportunities and performance. Finding the right solution can affect organisations' long-term plans, their prioritisation of resources and work to achieve realism in stakeholder expectations, as set out in the National Infrastructure Plan.

Central asset registers

A4.15.22 From time to time government gathers information in order to publish a national assets register. Central government organisations and NHS bodies should supply the information on their assets when requested.

A4.15.23 Under Crown copyright policy, certain public sector organisations are required to supply details for the official bibliographic database. See annex 6.2 for further details.

Digest of guidance

- Office of Government Property (Cabinet Office) - https://www.gov.uk/government/policy-teams/government-property-unit-ogp
- Government's Estate Strategy: delivering a modern estate – https://www.gov.uk/government/publications/government-estate-strategy-2018
- Common Minimum Standards for Construction https://www.gov.uk/government/publications/common-minimum-standards-for-construction
- recording property details on the government's ePIMS (electronic Property Information System) https://www.epims.ogc.gov.uk/ProgrammeHub/public/DAO%20Letter%20Mandating%20e-PIMS.pdf?id=258687de-b5ce-4d28-9430-1e259c56897b
- Property disposal - https://www.gov.uk/government/publications/guide-for-the-disposal-of-surplus-government-land
- Crichel Down rules – offering land and property acquired by the public sector back for former owners - https://www.gov.uk/government/publications/compulsory-purchase-process-and-the-crichel-down-rules-guidance#historyC
- Disposal of Heritage Assets https://historicengland.org.uk/images-books/publications/disposal-heritage-assets/guidance-disposals-final-jun-10/

Annex 5.1

Grants

This annex sets out how government departments should arrange and control grants, including to arm's length bodies such as NDPBs.

A5.1.1 Central government departments normally offer two kinds of financial support to third parties, using statutory powers:

- grants: made for specific purposes, under statute, and satisfying specific conditions eg about project terms, or with other detailed control;
- grants in aid: providing more general support, usually for an NDPB, with fewer specific, but more general controls on the body, and less oversight by the funder.

A5.1.2 Grants should not be confused with contracts. A public sector organisation funds by grant as a matter of policy, not in return for services provided under contract.

Payment

A5.1.3 Grants should be paid on evidence of need or qualification, depending on the terms of the grant scheme. For example:

- the recipient may need to demonstrate financial viability and delivery capability;
- the recipient may need to submit a claim with evidence of eligibility;
- the recipient may need to show that it meets the conditions of the scheme, eg a farmer may need to disclose details of his or her business;
- there may be a timing condition;
- small third sector organisations may need to demonstrate a clear operational requirement for project funding to be made before grant is paid.

A5.1.4 Grants in aid should also match the recipient's need. Significant sums should be phased through the year in instalments designed to echo the recipient's expenditure pattern. In this way the recipient organisation need not carry significant cash balances, which would be an inefficient use of public money.

Control

A5.1.5 Payment of both grants and grants in aid normally requires specific empowering legislation as well as cover in Estimates. There is scope for temporary ex

gratia grant schemes to be financed on the authority of the Appropriation Act alone provided that the scheme meets the standard conditions (see section 2.5).

A5.1.6 The accounting officer of the funding organisation is responsible for ensuring that grant recipients are eligible and use the grant in the way envisaged in the founding legislation, with terms and conditions set out in a grant funding agreement. For grants in aid, it is usual to arrange this by setting out terms and conditions in a framework document sent to recipients to explain their responsibilities. Such framework documents should strike an appropriate balance among:

- ensuring prudent management of grant in aid funds;
- achieving value for money;
- assuring funders that grants are used as envisaged; while
- allowing recipients reasonable freedom to take their own decisions.

However, care needs to be taken as general and wide ranging conditions attached to grant in aid can transfer control of a body to a funder for public sector classification purposes.

A5.1.7 Accounting Officers should ensure that all grants issued comply with the Government Functional Standard for grants. [1]

A5.1.8 Departments should understand enough about the other sources of a grant recipient's income to be satisfied that the same need is not funded twice, this should include an internal and cross-government check of grant funding awards. It is usually essential to segregate inflows from different recipients since they are usually intended for different purposes.

A5.1.9 Departments which provide grants of either kind to an arm's length body should document how the recipient is expected to handle the funds. See annex 7.2 for more.

A5.1.10 Departments should ensure that they have adequate assurance arrangements in place, which take account of an assessment of fraud risk, and that the Comptroller and Auditor General has adequate access rights to grant recipients.

A5.1.11 A department asked by another part of government to pay a grant to an external organisation, such as a charity, from its own resources should ensure that its own accounting officer gives due consideration to the proposal before funding is committed.

Protecting the Exchequer

A5.1.12 If public sector organisations provide grants to private sector organisations to acquire or develop assets, suitable and proportionate steps should be taken to safeguard both their financial interests and those of the Exchequer. Donors should consider setting grant conditions designed to ensure that the Exchequer's interest is not overlooked if the asset is not used as expected (see annex 5.2).

[1] https://www.gov.uk/government/publications/grants-standards

Endowments

A5.1.13 Grants and grants in aid are normally paid to meet the needs of the recipients. Exceptionally, there may be a case for funding by way of endowment or dowry, ie a modest one-off grant to enable the recipient to set up a fund from which to draw down over several years. The recipient should then be able to make a clean break with the need for support.

A5.1.14 A5.1.14 Departments contemplating such funding arrangements should consult the relevant Treasury spending team (and in turn arm's length bodies should consult their sponsor departments) as this form of funding is always novel and contentious. The Treasury will need to consider the value for money case for this form of funding, including:

- the opportunity cost of locking public funds into a particular endowment, using investment appraisal techniques;
- the value of the particular programme or project against others. The Treasury will need to be satisfied that such funding would not protect any low-value projects or programmes from proper expenditure scrutiny;
- the sustainability of the funded body and whether such funding will remove future reliance on public funding;
- whether there are clear objectives, outputs and outcomes of the funding; and
- the risk of further call on public funds.

A5.1.15 Any such endowment should:

- reflect genuine need for capital funding that could not be raised through other methods;
- be made only to recipients with the competence to manage the endowment over time; and
- avoid skewing public funding away from other projects that have genuine cash needs.

A5.1.16 The terms of an endowment should:

- be clear that the funded body should not subsequently approach the donor for annual funding;
- maintain clear boundaries between the funder and recipient.

A5.1.17 Endowments should never be used as a way of bringing expenditure forward to avoid an underspend. Nor is it acceptable to make a string of endowment payments to a single recipient instead of taking specific provision in legislation to pay grants.

A5.1.18 Endowments are intended for situations where a clear financial break will be advantageous to both recipient and donor. Normally the recipient will be a civil society body or equivalent status.

Annex 5.2

Protecting the Exchequer interest (clawback)

This annex discusses how public sector organisations which provide grants to the private sector and others should protect their investments where grants are used to buy or improve assets.

Clawback

A5.2.1 Public sector organisations providing funds to others to acquire or develop assets should take steps to make sure that public sector funds are used for the intended purposes for which the grant is made. It is usual to consider setting conditions on such grants, taking into account the value of the grant, the use of the asset to be funded and its future value.A standard grant condition is clawback. This is achieved by setting a condition on the grant that gives the funding body a charge over the asset so that, if the recipient proposes to sell or change the use of the asset acquired with the grant, it must:

- consult the funder;
- return the grant to the funder; or
- yield the proceeds of sale (or a specified proportion) to the funder.

A5.2.3 However, a charge over the asset is not always essential. Some ground rules are suggested in box A5.2A.

Box A5.2A: when to consider clawback

clawback desirable

- tangible or tangible or intangible assets, including intellectual property rights, crown copyright, patents, designs and database rights, financed directly, whether wholly or partly by grants or grants in aid;
- tangible or intangible assets developed by the funded body itself, financed indirectly by a grant for a related purpose or by grant in aid

clawback not always necessary

- procurement of goods and services, where any liability is adequately discharged once the goods and services have been provided
- where a grant has been provided for research and not specifically for the creation of physical asset, the successful conclusion of the research might be adequate return

A5.2.4 Because funders, recipients and circumstances can vary so much, there is no single model for clawback. Bespoke terms are often desirable. They should allow as much flexibility as seems sensible. The aim should be to help recipients develop and provide services over the longer term while securing value for public funds. Drawing on the ideas in box 7.2, funders should always settle the terms of each grant with its recipient at the start of the relationship, consistent with its objectives.

Designing clawback conditions

A5.2.5 The design of clawback conditions for a grant should take account of its circumstances, the underlying policy objective(s) and the funder's approach to risk. A checklist of some common factors to consider is in box A5.2B. Using this tailored approach can mean different organisations take very different approaches to the same risks.

Box A5.2B: factors to consider in designing clawback terms

- the nature and purpose of the grant
- how the asset will help secure the policy objectives behind the grant
- the expected life of the asset
- the extent to which the recipient is financed out of public funds
- how the asset will be used by the recipient, eg scope for appreciation or generating profit
- how long the funder should retain an interest in the asset
- whether the asset may be sold, with any restrictions on disposal, eg as to price or purchaser
- whether there is sense in reassessing after a certain period or on a given trigger
- whether the terms of clawback should vary according to a factor such as the asset value (in which case the terms may need to provide for periodic valuations)
- when the policy objectives should be delivered
- the funder's legal powers and the recipient's legal position (eg as a company or charity)
- any other relevant legal factors

A5.2.6 In setting terms and conditions for grants, funders should consider what could happen if things do not proceed as intended, notably what should happen if:

- the recipient does not behave as expected; or
- external conditions are very different to plans; or
- the recipient goes into liquidation (eg should the funder take priority over unsecured creditors).

Duration of charge

A5.2.7 It can make sense to relate the funder's right to clawback to the policy objectives of making the grant rather than allowing it to persist indefinitely unchanged. Some policy options are outlined in box A5.2C. If the clawback is linked to the value of an asset which is likely to appreciate, there is a risk that the recipient may face a disincentive to participate, so care and sensitivity may be needed.

A5.2.8 However, it can also make sense to moderate grants conditions by using terms such as:

- a break clause allowing the funder and recipient to consider whether the objectives of the funding have been achieved, triggering the end or reduction of the funder's interest in the asset;
- a review clause allowing scope to retain the charge and review the clawback period if the project has not met the agreed objectives;
- releasing the funder's interest in the asset (and so permitting its disposal or use as collateral) at the end of the agreed charge or clawback period.

Box A5.2C: options for clawback duration or assets as collateral

- keying it to the objectives of the grant
- relating it to the period over which the intended benefits are to be delivered
- settling clawback rights on a declining scale, eg falling to zero by the end of an agreed period, or the asset's useful life, or by when the policy objectives are deemed delivered
- allowing the recipient to use as collateral the difference between the market value of the asset and the original grant

A5.2.9 It is common to prohibit recipients from using the assets they acquire or improve using grants as collateral in borrowing transactions. This is because the public sector funder might be forced to take up the recipient's legal liability to service debt should it fail. However, if a funder agrees that a recipient may use assets acquired or developed with grants as collateral, it should consider carefully what conditions it should apply. Some freedom of this kind may help the recipient make the transition to viability or independence. For example, a funder might allow a recipient to retain income generated by using spare capacity in the funded asset.

A5.2.10 But normally it is important for the funder to retain some control over any use of the funded asset outside the grant conditions. Typically the funder will require the recipient to obtain the funder's consent before raising funds on any part of a funded asset so long as the clawback period continues. Any further conditions should be proportionate, striking a proper balance between encouraging the recipient to be self-supporting and allowing the recipient to use public funds for its own purpose.

Enforcing a claim on a funded asset

A5.2.11 Where appropriate, funders should secure a formal legal charge on funded assets. This may be particularly important for high risk projects or to prevent the

funder becoming exposed to assuming the recipient's debts. It is usual to take a registered charge on land under the Land Registration Act 2002 and its Rules. If the recipient is a Companies Act company, it may make sense to secure a registered charge on the company's book debts.

A5.2.12 The form and intended duration of any charge should be recorded in the founding documents charting the relationship between the funder and recipient. Both parties will need legal advice, eg covering the statutory background) and on how the charge would be enforceable. Both parties should also keep track of their outstanding charges. It is good practice to register a land charge, so that it will automatically be taken into account during any sale process.

A5.2.13 Sometimes a funder may decide not to enforce clawback when a funded asset is sold, even though the agreed clawback period is still in force. Funders should take any such decision consciously on its merits, not letting it go by default. Reasons why a funder might take this approach include:

- the objectives of the grant may have been achieved;
- the recipient may propose to use the funded asset in an acceptable way different from the original purpose;
- the recipient may intend to finance an alternative asset or project within the objectives of the grant scheme out of the proceeds of the sale;
- the funder might agree to abate future grants to the recipient instead of taking the proceeds of sale.

A5.2.14 If a department decides to waive a clawback condition, it should consider whether it needs to report that waiver as a gift. If so, it should follow the gift reporting requirements in annex 4.12.

A5.2.15 If it is proposed to sell a grant recipient with a live charge, the funder should take legal advice on whether it can enforce the charge on the proceeds of the sale. The funder should consider the legal position of the proposed purchaser of the grant recipient, and in particular whether its objectives (eg charitable or as a social enterprise) are in line with the original grant conditions. If the funder becomes aware that such a sale is possible at the time the grant is awarded, it would usually be appropriate to require the recipient to obtain its consent before proceeding. And any request for endorsement of a sale should be evaluated objectively.

Annex 5.3

Treatment of income and receipts

The rules on use of income and receipts are designed to control the circumstances in which they can finance use of public resources.

A5.3.1 Parliament controls departments' use of income and receipts, just as it controls the raising of tax, since both may finance use of public resources. Departments should ensure that all income and associated cash is recorded in full and collected promptly.

A5.3.2 Unless otherwise authorised, cash receipts must be paid into the Consolidated Fund. Sometimes specific legislation requires this for certain income streams; for many others the Civil List Act 1952 classifies them as hereditary revenues to be paid into the Consolidated Fund.

A5.3.3 Hereditary revenue is:

- virtually all non-statutory receipts;
- cash receipts received by virtue of specific statutory authority; and
- receipts where statute does not say otherwise.

Unless it can be established that a particular type of receipt or surplus cash is not hereditary revenue, the default position is that it is, and that the Civil List Act 1952 requires it to be paid into the Consolidated Fund.

A5.3.4 The main categories of income and associated receipts are shown in Box A.5.3A.

Box A5.3A: the different kinds of central government income

- the proceeds of taxation: paid into the Consolidated Fund
- repayment of principal and interest on NLF loans: paid direct to the NLF

- sums due under bespoke legislation: paid as specified, eg the proceeds of national insurance contributions paid into the National Insurance Fund
- receipts of trading funds: treated as specified in the founding legislation
- sums due to departments financed through Estimates:
  - either paid into the Consolidated Fund as CFERs
  - or applied to support spending in the Estimate if the Treasury agrees.

A5.3.5 Specific legislation, with Treasury approval, is normally required to authorise use of income directly to meet resource consumption ie to offset current or capital expenditure. In effect this process means that the department seeks less finance through Estimates because part of the cost of the service is met from income. Parliament has an interest because otherwise resource consumption would require specific approval through the Estimates process.

A5.3.6 Following the Clear Line of Sight reforms, there is no longer a specific control over the amount of income that can be retained by departments and used to offset spending. However controls over income remain.

A5.3.7 In order for a department to retain income to offset against spending within the Estimate it must be within the budget boundary (i.e. classed by the Treasury as negative DEL or departmental AME) and be properly described in the Estimate. There must also be a direct relationship between the income and the spending and departments may not use additional income on one part of the Estimate to offset shortfalls of income (or overspends) in another part of the Estimates without Treasury approval. Such approval will only be given where the additional income has an appropriate relationship to the expenditure it is being used to cover.

Authority to retain and use income

A5.3.8 The Treasury has powers to direct that income included in a departmental Estimate and approved by Parliament may be retained and used by the department. This Treasury direction is included within the introductory text to the Main Supply Estimates publication[1]. The direction provides that the income in the relevant Estimate may be applied against resources (current or capital) within that Estimate. Without such authority the cash must be surrendered to the Consolidated Fund as extra receipts (CFERs).

A5.3.9 Sometimes departments have excess income, ie income is anticipated to be higher than the expenditure stream it matches, or more income than was anticipated in the Estimate. When income is anticipated to be higher than the expenditure stream it matches departments may present an Estimate with a negative budgetary limit at the start of the financial year, although this is relatively rare. When more income is received than was anticipated in the Estimate, departments are allowed to treat the income as negative DEL as long as it is no more than 10% above the level envisaged for that year as part of the Spending Review settlement[2]. Any income in excess of this will normally be treated as non-budget and will need to be surrendered as a CFER.

[1] (see *Estimates Manual* https://www.gov.uk/government/publications/supply-estimates-guidance-manual

[2] https://www.gov.uk/government/collections/consolidated-budgeting-guidance

Annex 5.4

Contingent liabilities

Parliament expects advance notice of any commitments to future use of public funds for which there is no active request for resources through Estimates. This annex discusses how a number of different kinds of liability should be dealt with.

A5.4.1 As with expenditure, ministers may enter into liabilities – in effect, commitments to future expenditure – without explicit parliamentary authority. But parliament expects to be notified of the existence of these commitments when they are undertaken. Should they eventually give rise to the need for public expenditure, they will require the authority of an Appropriation Act and frequently also specific enabling legislation.

A5.4.2 Because the Crown is indivisible, ministers (and their departments) cannot give guarantees to each other. They can, however, enter into commitments to conditional support with the same effect – though this is rare.

A5.4.3 Some liabilities are uncertain. These contingent liabilities recognise that future expenditure may arise if certain conditions are met or certain events happen. That is, the risk of a call on Exchequer funds in the future will depend on whether or not certain events occur. In taking on such liabilities departments must be sure to consult the Treasury.

A5.4.4 Arm's length bodies (ALBs) sponsored by departments do not generally have powers to take on liabilities, because these would in effect bind their sponsoring departments. So the documentation governing the relationship between a department and an ALB (see chapter 7 and annex 7.4) should require the ALB to gain the sponsor department's agreement to any commitment, including borrowing, into which it proposes to enter. Departments should ensure that ALBs have systems to appraise and manage liabilities to the standards in this annex, so that they can report to parliament any liabilities assumed by ALBs in the same way as they would their own.

Need for statutory powers

A5.4.5 It is good practice to enter into liabilities on the strength of specific statutory powers – as with items of expenditure. This is essential if a regular scheme of loan guarantees or other support is intended. Departments should consult the Treasury about proposals for such legislation, which should include arrangements for reporting new liabilities to parliament. It is usual to put a statement to both Houses when statutory liabilities are undertaken. Provision in budgets and Estimates should

be scored as the department's best assessment of the need to pay out in support of the liabilities.

A5.4.6 In the nature of giving liabilities, many will arise with little notice. Departments should report these to parliament at the earliest opportunity. There is a standard procedure for doing this: see paragraphs A.5.5.22 to A.5.5.36 of this annex.

A5.4.7 If a liability taken on in this way seems likely to persist, the department concerned should consider backing it with statutory cover. This is because any expenditure which arises because of it is subject to the same parliamentary expectations about statutory powers as any other expenditure (see section 2.1). If a contingent liability could give rise to a loan, the organisation should ensure that there is reasonable likelihood of the loan being serviced and repaid (see section 5.6).

A5.4.8 There is an exception to the need for statutory powers for accepting liabilities. Commitments taken on in the normal course of business do not need specific cover, just as routine administrative expenditure does not (see para 2.3.2). The standard conditions for treating liabilities as undertaken in the normal course of business are set out in box A.5.4A, with some common examples. What may be the normal course of business for one department may not be the normal course of business for another.

Box A5.4A: Liabilities arising in the normal course of business

In order to treat a liability as arising in the normal course of business, the organisation concerned should be able to show that:

- the activity is an unavoidable part of its business and/or
- parliament could reasonably be assumed to have accepted that such liabilities can rest on the sole authority of the Supply and Appropriation Act, based on the activities it has previously authorised.

Examples of common liabilities arising in the normal course of business include:

- liabilities arising in the course of the purchase or supply of goods and services in the discharge of the department's business
- contractual commitments to make payments in future years arising under long-term contracts, eg major building works
- commitments to pay grants in future years under a statutory grant scheme
- contingent liabilities resulting from non-insurance (see annex 4.4).

A5.4.9 If procurement in the normal course of business gives rise to proposals for liabilities outside the normal range (eg a cap on the contractor's liabilities), the public sector organisation should consider renegotiating. The acid test is whether two private sector bodies would use the same terms. In cases of doubt, the Treasury should be consulted.

A5.4.10 PFI contracts are a special case of procurement and so can cause departments to take on liabilities. There is no need to notify use of standard PFI terms to parliament, but any use of non-standard terms should be reported like any other.

A5.4.11 There are additional conditions for taking on non-standard conditions, namely:

- the need must be urgent and unlikely to be repeated; and
- it would be in the national interest to act even though there is no statutory authority.

Taking on liabilities

A5.4.12 Before accepting any liability, the organisation should appraise the proposal using the *Green Book*[1], to secure value for money, just like a proposal to undertake any other project. The liability should be designed to restrict exposure to the minimum, eg by imposing conditions about duration. Other possible features to limit liabilities might include:

- a commitment fee from the beneficiary (though this does not remove the need for appraisal of the proposition) and/or
- arrangements to lift the liability if the beneficiary no longer needs it.

A5.4.13 Providing indemnities to contractors or limiting their liability in the event of their own negligence, or that of a sub-contractor, should only be undertaken following an assessment of the best value for money option for the exchequer as a whole. Assessment of VFM should include consideration of the fact that requiring excessive liability caps, beyond what would be reasonable given the size and scope of the contract, is likely to result in potential contractors including pricing for excessive risk or choosing not to bid, thus reducing competition. The extreme case of unlimited liability should be used very sparingly and only after discussion with the Commercial Function.

A5.4.14 When considering the use of unlimited liability clauses departments should consider whether the contractor could bear such losses without being rendered insolvent, resulting in the risk being passed back to the department. The Outsourcing Playbook gives further advice on identifying when to use liability caps and how to set the level of those caps and support should be sought from the Commercial Function. Where the quantum or scope of the cap is a departure from normal commercial practice, or will give rise to a contingent liability, Treasury consent should be sought in the usual way for novel contentious and repercussive spend. For the avoidance of doubt limitations of liability that are prohibited or unenforceable in UK law, for example death or personal injury caused by negligence, fraud, or fraudulent misrepresentation or breach of any obligation as to title implied by section 12 of the Sale of Goods Act 1979 or section 2 of the Supply of Goods and Services Act 1982, are not permitted.

A5.4.15 Subject to the statutory powers of the public sector organisation and its delegated authorities, it is important for an organisation contemplating assuming a

[1] https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

new liability to consult the Treasury (or the sponsor department, as the case may be) before assuming it. Departments' delegated authorities for incurring liabilities should include the liabilities of any sponsored bodies.

A5.4.16 HM Treasury approval must be sought for all contingent liabilities that are novel, contentious or repercussive. In addition, a completed Contingent Liability approval framework checklist must be submitted to HM Treasury before entering into a contingent liability with a maximum exposure of £3m or more. This process is also required for remote contingent liabilities.

Types of liability

A5.4.17 Public sector organisations may take on liabilities by:

- issuing specific guarantees, usually of loans;
- writing a letter or statement of comfort; or
- providing indemnities.

A5.4.18 It is important to remember that any of these instruments issued by a minister may be legally enforceable.

A5.4.19 Guarantees should normally arise using statutory powers. They typically involve guarantees against non-payment of debts to third parties.

A5.4.20 Letters of comfort, however vague, give rise to moral and sometimes legal obligations. They should therefore be treated in the same way as any other proposal for a liability. Great care should be taken with proposals to offer general statements of awareness of a third party's position, or oral statements with equivalent effect. Creditors could easily take these to mean more than intended and threats of legal action could result. Treasury approval is essential.

A5.4.21 It is common to give certain kinds of indemnity to members of boards of central government departments or of NDPBs; or to civil servants involved in legal proceedings or formal enquiries as a consequence of their employment, perhaps by acting as a board member of a company. The standard form is set out in box A.5.4B, in line with the Civil Service Management Code[2]. This cover is comparable to what is obtainable on the commercial insurance market. So it excludes personal criminal liability, reckless acts or business done in bad faith.

A5.4.22 Liabilities of this kind to individuals do not normally need to be reported to parliament unless they go beyond the standard form or are particularly large or risky.

Box A5.4B: standard indemnity for board members

The government has indicated that an individual board member who has acted honestly and in good faith will not have to meet out of his or her personal resources any personal civil liability, including costs, which is incurred in the execution or the purported execution of his or her board functions, save where the board member has acted recklessly.

2 https://www.gov.uk/government/publications/civil-servants-terms-and-conditionshttps://www.gov.uk/government/publications/civil-servants-terms-and-conditions

Notifying liabilities to parliament

A5.4.23 The rules for notifying parliament of liabilities are very similar to those for public expenditure. Generally speaking there is no requirement to inform parliament about any liability which:

- arises in the normal course of business;
- arises under statutory powers (subject to third bullet point of paragraph A5.4.23); or,
- would normally require notification (i.e. neither arising in the normal course of business nor under statutory powers) but is under £300,000 in value.

A5.4.24 There are some exceptions to this general rule. Parliament should be notified of any liability, even if it meets one or more of the criteria given in paragraph A5.4.22, which:

- arises as a result of a specific guarantee, indemnity or letter of comfort where the guarantee is not of a type routinely used in commercial business dealings;
- is of such a size, relative to the department's total budget, that parliament should be given notice;
- arises under specific statutory powers which require parliament to be notified; or,
- is novel, contentious or potentially repercussive

A5.4.25 It is important to note that undertakings in the normal course of business should be judged against the department's normal business pattern authorised by parliament. So what may be normal for some departments may not be normal for others. In cases of doubt it is best to report.

A5.4.26 Non-statutory liabilities which need to be reported to parliament should be notified by Written Ministerial Statement and accompanying departmental Minute (see box A5.4C). Treasury approval is required before going ahead. It is sometimes necessary, with Treasury agreement, to adapt the form of wording, eg if the liability arises immediately.

A5.4.27 Written Ministerial Statements and departmental Minutes should be laid in the House of Commons, on the same day, and should briefly outline the nature of the contingent liability and confirm that a departmental Minute providing full details has been laid in the House of Commons.

A5.4.28 Departmental Minutes should:

- use the standard wording for the opening and closing passages, which has been agreed with the PAC (box A.5.4C);
- describe the amount and expected duration of the proposed liability, giving an estimate if precision is impossible;
- explain which bodies are expected to benefit, and why;

- if applicable, explain why the matter is urgent and cannot observe the normal deadlines (paragraph A5.4.26_);
- explain that authority for any expenditure required under the liability will be sought through the normal Supply procedure;
- be copied to the chairs of both the PAC and departmental committee.

A5.4.29 The indemnity should not go live until 14 parliamentary sitting days, after the Minute has been laid. Every effort should be made to ensure that the full waiting period falls while parliament is in session.

A5.4.30 If an MP objects by letter, Parliamentary Question or Early Day Motion, the indemnity should not normally go live until the objection has been answered. In the case of an Early Day Motion, the Member(s) should be given an opportunity to make direct personal representations to the minister, eg proactively arranging a meeting with them. The Treasury should be kept in touch with representations made by MPs and of the outcome.

A5.4.31 If, exceptionally, the guarantee or indemnity would give rise to an actual liability, the department should consult the Treasury about the wording of the Minute. The department should discuss the implications for the actual liability on its budget, Estimate and accounts.

A5.4.32 There is not usually a requirement to notify parliament in instances where a contingent liability arises due to events outside a department or ALB's control rather than through an active policy decision. An example of something that would be outside a department or ALB's control would be legal proceedings being brought against them. Events of this nature should still be disclosed in the entity's Annual Report and Accounts in line with the requirements of the Government Financial Reporting Manual (FReM).

Box A5.4C: standard text for departmental Minutes on liabilities

Opening passage

It is normal practice, when a government department proposes to undertake a contingent liability in excess of £300,000 for which there is no specific statutory authority, for the Minister concerned to present a departmental Minute to parliament a giving particulars of the liability created and explaining the circumstances; and to refrain from incurring the liability until fourteen parliamentary sitting days after the issue of the Minute, except in cases of special urgency.

The **body of the Minute** should include:

If the liability is called, provision for any payment will be sought through the normal Supply procedure.

Closing passage

The Treasury has approved the proposal in principle. If, during the period of fourteen parliamentary sitting days beginning on the date on which this Minute was laid before parliament, a member signifies an objection by giving notice of a Parliamentary Question or by otherwise raising the matter in parliament, final approval to proceed with incurring the liability will be withheld pending an examination of the objection.

Non-standard notification

A5.4.33 Sometimes it is not possible to give details of a contingent liability with full transparency. In such cases the department should write to the chairs of both the PAC and departmental committee to provide the same details as those outlined in paragraph A5.4.24, with the same notice period. The letters should explain the need for confidentiality. Any objection by either chair should be approached in the same way as MPs' objections (paragraph A.5.4.27). If departments continue to have concerns about writing to parliament, in particularly sensitive or confidential cases, they should seek advice from the Treasury.

A5.4.34 Sometimes departments want to report an urgent contingent liability providing less than the required 14 days notice. In such cases, the department should follow the procedure in paragraph A.5.4.24 and explain the need for urgency, agreeing revised wording to the final standard paragraph with the Treasury.

A5.4.35 Departments may also want to report a contingent liability at short notice, ie less than 14 days before the end of the session. In such cases the contingent liability should only go live after lying before parliament during 14 sitting days, ie some days after the start of the next session. If the proposal is more urgent than this rule would allow, the department should write to the chairs of the PAC and the departmental committee, giving the information in paragraph A.5.4.24 and explaining the need for urgency. As a matter of record, when parliament reconvenes, a Written Ministerial Statement and departmental Minute should be laid explaining what has happened, including any liabilities undertaken.

A5.4.36 The same procedure as in paragraph A.5.4.29 should be used to report liabilities during a parliamentary recess. In such cases the notice period should be 14 working days notice, ie excluding weekends and bank holidays.

A5.4.37 Similarly, it is possible that a department might want to undertake a non-statutory contingent liability when parliament is dissolved. Every effort should be made to avoid this, since members cease to be MPs on dissolution, and committees will be reconstituted in the new parliament. If the department nonetheless considers the proposed liability to be essential, it should consult the Treasury. When parliament reconvenes a Written Ministerial Statement should be laid explaining what has happened, including any liabilities undertaken.

Reporting liabilities publicly

A5.4.38 Any changes to existing liabilities should be reported in the same way as they were originally notified to parliament, explaining the reasons for the changes. If an originally confidential liability (see paragraph A5.4.29) can be reported transparently, the standard Minute (paragraph A.5.4.24) should be laid.

A5.4.39 Departments should report all outstanding single liabilities, or schemes of liabilities, in their accounts unless they are confidential. Any which would fall as a direct charge on the Consolidated Fund should be reported in the Consolidated Fund accounts. The conventions in the FreM should be used.

A5.4.40 Estimates should similarly be noted with amounts of any contingent or actual liabilities. The figures quoted should be the best assessments possible at the

time of publication. Actual liabilities should appear as provisions. The rubric should refer back to notification of parliament.

A5.4.41 When the conditional features of contingent liabilities are met, it is good practice to wait until parliament has approved the relevant Estimate before providing the necessary resources. But if providing support is more urgent, departments should apply for an advance from the Contingencies Fund (see Annex 2.4 and the Estimates Manual[3] under the usual conditions). If an advance is approved, a statement to parliament should explain what is happening, and in particular how the crystallised liability is to be met.

International agreements

A5.4.42 International treaties, agreements or commercial commitments which mean the UK incurring specific contingent liabilities should follow the parliamentary reporting procedures as far as possible whether or not the agreement is covered by legislation. Even if an international agreement does not require legislation for ratification, it should nevertheless be laid before parliament, accompanied by an explanatory memorandum, for 21 sitting days before it is ratified (the Ponsonby rule).

[3] https://www.gov.uk/government/publications/supply-estimates-guidance-manualhttps://www.gov.uk/government/publications/supply-estimates-guidance-manual

Annex 5.5

Lending

Government departments may borrow from the Estimate or NLF and then on-lend to third parties. There are some key disciplines required to protect the Exchequer from loss. It is also important to keep parliament informed, especially about risk exposures.

A5.5.1 The government provides loan finance to public sector organisations through departmental Estimates and the National Loans Fund (NLF). The broad principles of this annex also apply to Public Dividend Capital (PDC) and government loan guarantees.

Statutory authority

A5.5.2 The NLF needs specific statutory authority to lend to each of its borrowers, normally found in the enabling legislation of the borrower. Similarly, departments must normally have specific statutory authority to make voted loans. Box A5.5A identifies the provisions which should be specified in the enabling legislation. Departments setting up new powers should consult their Treasury spending team early in the drafting process. If NLF lending is intended, they should also consult the Exchequer Funds and Accounts team (EFA) in the Treasury.

Loans from the NLF

A5.5.3 The Treasury is accountable for the management of the NLF. In turn departments responsible for on-lending are accountable for the specific advances they make. So they should ensure that the conditions for their loans are satisfied and that repayments of interest and principal are received on time.

A5.5.4 The NLF cannot lend at a loss[1]. Interest on NLF loans must therefore be sufficient to cover the cost of government borrowing, on the same terms and for the same period. This makes sure that lending is unsubsidised and that no final charge rests on the NLF.

A5.5.5 Because the government's credit rating is better than commercial borrowers' the NLF can both borrow and lend at fine rates. NLF lending is not available to commercial entities in the private sector.

A5.5.6 Similarly, NLF loans can only be made where there is a reasonable expectation that they will be serviced and repaid on the due dates. Lending departments should consider whether to take security in order to fully protect the NLF's position. And if a lending department becomes concerned about the security of any of its loans to third parties, it should discuss them with the Treasury at an early stage. Departments automatically stand behind all NLF loans to arm's length bodies (ALBs) and should agree this with them, formally in writing.is intended, they should also consult the Treasury's Exchequer Funds and Accounts team (EFA).

[1] S5, NLF Act 1968

Box A5.5A: powers in legislation enabling lending

NLF loans

- the Secretary of State or Minister may lend to relevant bodies;
- the Treasury may issue funds from the NLF to the Secretary of State;
- the purpose for which loans may be made;
- a limit on total lending outstanding;
- (sometimes) a power to raise this limit by order within a further absolute ceiling;
- a requirement for interest and principal repayments collected by departments to be surrendered to the NLF;
- a requirement to present an annual account to parliament, prepared by the sponsor department, of loans made and repaid.

voted loans

- the circumstances in which loans may be made;
- repayment of principal and interest should be made to the Consolidated Fund.
- conditionality associated with the loans;
- a borrowing limit, sometimes including a power to raise this limit by order within a further absolute ceiling specified in the primary legislation;
- the terms and conditions to be attached to loans and how interest rates are to be determined;

Interest on NLF loans

A5.5.7 Interest on temporary NLF loans of up to 6 months is fixed and repayable with the principal on maturity.

A5.5.8 Long-term NLF loans may be issued at fixed or variable rates. Fixed rate loans may be repaid by:

- equal instalments of principal (EIP) throughout the life of the loan, normally twice a year; or
- equal repayments (ER) comprising varying proportions of interest and principal over the life of the loan, normally twice a year; or
- exceptionally, interest over the life of the loan with repayment of principal in full at maturity.

A5.5.9 The length and type of loan should be matched to the type of asset being acquired and the expected payback period. Variable rate loans can be rolled over at one, three, or six monthly intervals. Penalty interest may be charged if a payment of interest or principal is not received on time. EFA can advise on the details of the terms and conditions.

A5.5.10 The Treasury sets all NLF interest rates (including on appropriate rollover dates for variable rate loans) for the different maturities available in the light of prevailing interest rates. Interest rates for long-term loans are set out on the website of the Public Works Loan Board[2] (PWLB).

[2] The PWLB is an NDPB which lends NLF funds to local authorities and others www.pwlb.gov.uk

Early repayment of NLF loans

A5.5.11 As the government lends at very competitive rates, it is not usually possible for borrowers to repay loans early in order to refinance on more advantageous terms. If this were possible, any savings the borrower might make would be at the expense of the NLF, leaving the Exchequer as a whole worse off. However, there may be a case for early repayment (other than for temporary loans) where there are genuinely surplus funds (eg from the sale of assets or trading activities). Similarly, it may also be possible to refinance existing loans where material, demonstrable and sustained changes (eg in asset life or technology) make a different maturity period more appropriate.

A5.5.12 Any proposals for early repayment must be agreed with the Treasury beforehand. If agreed, the borrower pays:

- interest up to the day before the loan is prematurely repaid; plus
- a sum, calculated by the Treasury, equal to the present value of all future repayments of principal and interest on the original schedule. This sum is designed to leave the Exchequer no worse off. It may be higher or lower than the total of the sums due on the loan for the outstanding period under the original schedule. The difference (ie the discount or premium) then scores as an adjustment to interest in the accounts.

Write off or repayment of NLF loans by grant

A5.5.13 Departments should consult the Treasury about any proposals for a capital reconstruction involving repayment or write off of NLF loans. It requires primary legislation to write off NLF loans. Interest remains payable on debts up to the day before repayment or write off.

A5.5.14 Capital reconstruction of the debts of an organisation which will remain in the public sector also requires specific statutory powers. Typically the legislation achieves capital reconstruction of its assets and liabilities by issuing it with voted grants to repay its NLF debt.

A5.5.15 Change of status and capital reconstruction ahead of privatisation is different. When the borrower's status changes from public to private sector, it is no longer appropriate for it to enjoy the fine rates the NLF achieves. So all NLF loans must be repaid. Departments should agree the approach with the Treasury.

Accounting for NLF loans

A5.5.16 Legislation authorising an ALB to borrow from the NLF normally specifies that its sponsor department should prepare its annual accounts. Sponsor departments should also account for NLF transactions in their accounts in accordance with the FReM.

Voted loans

A5.5.17 Like NLF loans, voted loans should only be made where there is a reasonable expectation of their being properly serviced and repaid. Departments making voted loans should ensure that the conditions in the enabling legislation are met and that the Estimate provides for advances of principal. If the legislation leaves the lending department with discretion over terms and conditions, interest rates should be set to reflect the cost to the government of borrowing. Otherwise the same disciplines apply to voted loans as to NLF loans (paragraphs A.5.5.3-10).

A5.5.18 Voted loans are technically assets of the Consolidated Fund. So payments of interest and principal should normally be surrendered to the Consolidated Fund. However if there is

related expenditure within the same budget boundary as the receipt, such payments may be retained if the Treasury agrees.

Repaying early and writing off voted loans

A5.5.19 The Treasury should be consulted about any proposals for the early repayment of voted loans. The rules applying to early repayment of NLF loans (A.5.5.11) normally apply.

A5.5.20 Treasury approval is required to write off loans of more than £20m. The department concerned should notify parliament in a Treasury Minute using the standard opening and closing paragraphs in box A.5.5B. If it is not possible for the Minute to be laid allowing fourteen days of parliamentary time, the Minute should explain why.

A5.5.21 Should a Member of Parliament object to the write-off, the minister responsible should give the MP the opportunity to make a personal representation about his or her objections. Only when this dialogue has been concluded will the Treasury be able to give consent to the write-off.

A5.5.22 Treasury agreement is also required for smaller write offs unless specific delegations have been agreed. Departments writing off loans should follow the procedure in annex 4.10 to notify parliament.

Box A5.5B: Treasury Minute on loan write-offs: standard paragraphs

Opening paragraph:

When a government department proposes to write off the repayment of an Exchequer loan whose principal outstanding exceeds £20 million, it is the normal practice for the Treasury to present to the House of Commons a Minute explaining the circumstances and giving particulars of the write-off. Except in cases of special urgency, Treasury consent is withheld until fourteen parliamentary sitting days after the issue of the Minute.

Closing paragraph:

The Treasury has approved the proposal in principle. If, during the period of fourteen parliamentary sitting days beginning on the date on which this Minute was laid before the House of Commons, a Member signifies an objection (for example by giving notice of a Parliamentary Question or of a Motion relating to the Minute), final Treasury approval of the remission will be withheld pending an examination of the objection.

Lending to competitive organisations

A5.5.23 The requirements described above always apply to NLF and voted loans. Some additional disciplines apply to loans to public sector organisations which operate in commercial markets. These disciplines are justified by the need to:

- avoid distorting competition in the markets in which these organisations operate;
- deliver vfm for the Exchequer as a whole by maximising the efficiency of the pooled borrowing approach and minimising subsequent cost of funds.

A5.5.24 The competitive organisations and transactions in the public sector to which these disciplines apply are:

- those organisations that compete with the private sector for more than 75% of their business;
- many organisations that compete for between 20% and 75% of their business, considered case by case;

- usually organisations using loan finance for a particular discrete activity that would compete with the private sector.

A5.5.25 The disciplines required are all intended to ensure that the public sector organisations concerned do not exploit any competitive advantage they might otherwise enjoy through access to cheaper finance. They are set out in box A5.5C.

Box A5.5C: Disciplines for commercial lending

- All borrowing must be agreed with the Treasury spending team.
- The borrower, or its sponsor department, should obtain a credit rating, using independent financial advice and excluding any implicit or explicit government guarantees.
- Any guarantee of an organisation's borrowing should rest on explicit statutory powers. There may be terms and conditions, eg a cap on the amount.
- The borrower organisation should satisfy the Treasury that the proposed transactions are justified within its corporate plan; or for large singleton transaction that it delivers value for money.
- Short term finance ie less than seven days, should be obtained from commercial providers, eg through overdrafts.
- Longer term borrowing, whether from the NLF or through voted loans, should be at interest rates comparable to what similar competitor firms in the private sector would pay, and must as a minimum cover the government's cost of borrowing . The Treasury will determine the interest rate to be applied.

External borrowing and government guarantees

A5.5.26 Public sector organisations sometimes undertake limited, short-term borrowing from the private sector, for example through a bank overdraft, in order to meet very short term requirements not available through public sector lenders. Such borrowing should be explicitly guaranteed by the government to secure the finest terms unless there are good policy reasons otherwise.

A5.5.27 Guarantees should normally only be given with an explicit statutory power, which should specify:

- the circumstances in which guarantees may be given and the terms and conditions to be attached;
- a limit on the total sum which may be covered by guarantees at any one time, which may include power to raise the limit by order within a further absolute ceiling specified in the primary legislation;
- a requirement for parliament to be notified once the guarantee has been given; and
- authority for any costs resulting from the guarantee to be met from Estimates.

A5.5.28 Even if the enabling legislation does not require the sponsor department to notify parliament of new guarantees, the department should follow the standard procedure for notifying parliament of contingent liabilities (annex 5.4).

A5.5.29 In principle government guarantees may also be given for longer term borrowing, including in foreign currencies. Such guarantees will only be considered where the guaranteed borrowing is on terms at least as fine as the government could obtain in its own name. This is a

stringent test. Private sector borrowers cannot often meet it. Departments should therefore ensure that all their sponsored bodies consult them in advance about the terms of any proposed private sector or overseas borrowing. In no circumstances should any central government organisation borrow on terms more costly than those available to the government without Treasury approval.

A5.5.30 As foreign borrowing may also have implications for the credit standing on the international money markets of the UK public sector, proposals for such borrowing must be cleared with the Treasury in advance. This applies to all ALBs.

A5.5.31 It is good practice to keep parliament informed when guarantees are first used, or varied significantly.

Annex 5.6

Banking and managing cash

Public sector organisations should run their cash management processes to provide good value for the Exchequer as a whole. This means using the Government Banking Service, limiting use of commercial banking (with Treasury consent in each instance), and providing the Treasury with accurate forecasts of cashflows. Any use of non-standard techniques should be kept within defined bounds and controlled carefully.

A5.6.1 Together public sector organisations process large volumes of cash each day in order to carry out their functions. It is important that the cashflows involved achieve good value for the Exchequer as a whole by minimising the government's borrowing at the end of each working day. So as much as possible of the government's cashflow should be contained within the Exchequer pyramid.

A5.6.2 Public sector organisations must maximise the use of publicly procured banking services (accounts with commercial banks managed centrally by Government Banking), unless there is a clear business case to do otherwise. This ensures effective aggregate control and provides the opportunity for central consolidation of cash resources to minimise government's financing arrangements. Other arrangements lead to increased government borrowing increasing costs and credit risk to the Exchequer.

A5.6.3 When assessing the government's cash position, the Debt Management Office (DMO) relies in part on the Treasury's cash flow forecasts, which in turn rely on department's own forecasts. For this reason, it is important for departments and their ALBs to provide accurate cash flow forecasts to the Treasury.

A5.6.4 Accounting officers are responsible for managing the risks inherent in this process actively, including any credit exposures of funds held in commercial banks outside the Exchequer pyramid. Each public sector organisation should establish a banking policy in order to carry out this task.

Cash management

A5.6.5 Good cash management means having the right amount of cash available when needed, without inefficient unused surpluses. Each public sector organisation should plan its own cash management efficiently, following the guidelines in box A5.6A. It is usually convenient for sponsor departments to include their ALBs' flows with their own for this purpose. With this information Exchequer Funds and Accounts (EFA) in the Treasury can enable departments to draw cash as they need it within their voted provisions in Estimates.

A5.6.6 EFA need to understand the dynamics of public sector organisations' demands for cash and similarly the income they may generate. With this information they can identify peaks and troughs in the public sector's overall need for cash so that the DMO can plan its debt management activity. For this purpose EFA need to know the annual, monthly and daily sequences of cash flow, including any major one-off items.

A5.6.7 As a matter of good financial management, public sector organisations should never go overdrawn. Exchequer costs rise if unplanned large payments are not forecast in advance. The Treasury will normally charge penalty interest at current base rate plus 2% on overdrawn positions on Government Banking accounts. Particular care should be given to ensure the nominated supply estimate account and the account group as a whole remain in credit.

A5.6.8 The Treasury may waive or vary such a penalty interest charge, normally if the circumstances which led to the overdraft are outside the department's control, or if the overdraft does not incur additional costs to the Exchequer.

Box A5.6A: planning cash management

- Forecast cash flows and provide EFA with detail within agreed timescales.[1]
- Tell EFA of the major cash flows even if a definite transaction date has not been agreed.
- Keep EFA advised if payment or receipt dates are moved even if this is outside normal deadlines.
- Negotiate payment dates, put them in contracts with counterparties and stick to them.
- Transact substantive payments (above £5m) by 12pm (noon) each weekday.
- Negotiate the main inflows to take place on specific dates, and specify receipt in the morning as late receipts (after 3pm) may not be swept into the Exchequer pyramid that day.
- Departments should keep commercial accounts at minimum levels and ensure they are not funded in advance of need. Departments should notify EFA each quarter of any balances held in a commercial account.

Banking

A5.6.9 Each public sector organisation should establish a banking policy for control of its working balances and its transmission of funds. Its centrepiece should be use of Government Banking accounra, which sit within the Exchequer pyramid. Departments should only hold funds outside of the Exchequer where a good business case can be made for doing so, e.g. if Government Banking cannot provide a necessary service or legislation requires it.

A5.6.10 Specific Treasury agreement to each commercial account is required before it is established. Once this approval has been received, departments (and their ALBs) should gain the Crown Commercial Representative for Banking's (CR) approval before setting up, or altering, any commercial accounts The CR has responsibility for

[1] Treasury can financially penalise poor forecasting and reward good forecasting. Further details on the cashflow management scheme is available from the Treasury EFA team, at cashman@hmtreasury.gov.uk

the strategic management of banking services and their suppliers across the whole of the Exchequer.

A5.6.11 A banking policy should cover at least the features outlined in box A5.6B. Once settled, the policy should be reviewed regularly to make sure that it remains appropriate and up to date.

Box A5.6B: an organisation's banking policy

- The Government Banking bank accounts to be operated, with reference to their purposes (e.g. to contain income from different sources)..
- Any commercial accounts, how they should operate, and why they are justified.
- How and where working overnight balances required for day to day operation are to be held.
- How the risks of fraud and overpayments are to be prevented, countered systemically and managed when discovered.
- How any non-Exchequer funds should be managed and kept separate from public money.
- The organisation's cut off times for processing payments (in line with the Exchequer's core banking hours; authorising payments on their banking platforms by 12pm for high value payments and no later than 3pm for others).
- When and how payment by cheque, credit card or direct debit is acceptable (see guidelines in Box A5.6D).
- Any use of non- standard financial instruments, e.g. agreeing foreign exchange hedging contracts with commercial banks (see paragraph A5.6.22).
- Record keeping, including frequent bank statement reconciliations.

A5.6.12 Where a public sector organisation plans to use commercial bank account(s), it should follow the guidelines in box A5.6C. Only commercial banks which are members of the relevant UK clearing bodies should be considered for this purpose[2].

Box A5.6C: guidelines for using commercial bank accounts

- Only hold funds outside of the Exchequer where there is a clear basis to do so (legal, value for money for the Exchequer as a whole) and with the agreement of the Treasury.
- Consult the CR to agree the approach to negotiations with potential suppliers and to ensure leverage of government's relationship with key banking suppliers.
- Ensure that cleared funds will reach accounts as early as possible in the relevant clearing cycle.

[2] http://www.accesstopaymentsystems.co.uk/introduction-payment-systems/what-payment-scheme

- Obtain specific charges for money transmission and other services so that costs are transparent and comparable.
- Obtain gross interest on cleared credit balances, at rates as close as possible to the Bank of England's interbank rate or better (subject to credit risk and other liquidity considerations).
- Refuse arrangements that involve maintaining minimum balances as this increases Exchequer debt and raises Exchequer costs, even if the offer appears superficially attractive because of reduced charges.
- Negotiate with care any indemnities that commercial banks may seek to replace their normal arrangements (e.g. to protect the bank from incorrect BACS debits), after taking legal advice and obtaining clearance from the Treasury.
- Surrender interest receipts as Consolidated Fund Extra Receipts.
- Minimise balances in commercial accounts without going overdrawn, holding only enough for immediate needs.

Money transmission

A5.6.13 Public sector organisations should generally use the cheapest, safest and quickest means of moving public funds, depending on the context. Generally this means adopting the hierarchy in box A.5.6D. Sometimes it is necessary to strike a balance among these desirable features to achieve the best outcome.

A5.6.14 For payments to counterparties outside the Exchequer, it is good practice for public sector organisations to use BACS[3] Grade 3 (Government Grade) where possible. This is a safe and cost effective payment method, allowing for settlement directly at the Bank of England which reduces exposure to commercial banks. Use of a government grade Bacs SUN means public sector organisations are not limited to the standards BACS payment limit. For inward payments, it may be appropriate to apply credit controls or other safeguards.

A5.6.15 Public sector organisations should ensure their finance operations provide timely payment of all intra-day outflows. Payments made late during the working day increase intraday volatility, causing disruption to payee's and the wider Exchequer's cash management activities which may lead to increased cost.

Box A5.6D: Money transmission services ranked in order of preference

1 Internal transfers. Use to move funds between accounts held within the same bank as they are free. You can move funds between your organisation's accounts as well as to accounts held by other public sector organisations who use Government Banking's contract with the same bank.

2 Government BACS grade 3. This can be used for payments external to the Exchequer boundary, for example to suppliers and for salaries, and when moving funds to public sector organisations who use different commercial banking service providers.

3 Faster payments and CHAPS. These should only be used for transactions with entities external to the Exchequer. Where used for:

[3] BACS (formerly the Bankers' Automated Clearing Service) is the commonly used three-day electronic payments and receipts system

- making payments, this should be in a controlled manner with appropriate safeguards to prevent damage to the Exchequer; or,
- receipts, arrangements should be made for the payer to make payments as early as possible in the day.

4 Credit and other payment cards. When accepting credit and other payment cards to receive payments the fees and additional risks involved need to be understood. Paying and receiving funds in this way needs to represent value for money for the Exchequer.

5 Payable orders and cheques, should be used by exception and only when other methods are not available.

6 Cash, uncrossed cheques, order books or any methods carrying similar security risks should not usually be used.

Borrowing

A5.6.16 Public sector organisations should not normally rely on obtaining finance by borrowing from commercial banks as it is almost always more expensive than relying on the government's credit rating. Any expenditure financed by such borrowing without explicit Treasury consent would be considered irregular.

A5.6.17 Certain arm's length bodies, such as public corporations, trading funds and NHS Foundation Trusts may, however, borrow from commercial banks for short term needs. This is only possible if it has been agreed in the founding documentation for the body (see chapter 7).

Exotic transactions

A5.6.18 Sometimes public sector organisations face financial risks which they find uncomfortable. In these circumstances they may consider hedging using commercial financial instruments. Speculation is never acceptable.

A5.6.19 In principle risks of this kind are no different to the other risks with which public sector organisations grapple. They should be managed in a similar way, balancing the scale and likelihood of the risk against the cost of purchasing protection or taking other mitigating action.

A5.6.20 When considering use of financial instruments, it is important to remember that:

- their use may entail taking on new risks, which themselves must be managed. It is therefore necessary for any organisation using them to ensure that it has sufficient expertise in depth for this task;
- those selling financial instruments do so for profit so their customers should be confident that the risk avoided is worth the additional cost they incur. As with insurance (see annex 4.4), the cost of this sort of protection is not always worthwhile;
- provisions for their use should be contained in the organisation's banking policy (box A5.6B).

A5.6.21 Any decision to use financial instruments is automatically novel and contentious and should be cleared with the Treasury accordingly. The Treasury will normally be sceptical because, like insurance, financial hedging incurs costs in circumstances where the government may in principle be able to bear the risks and could usually do so more cheaply. It is also important to bear in mind that there are some risks that only the government can bear, and that these may be impossible to hedge at tolerable cost.

A5.6.22 If an organisation considers using financial instruments to hedge, its accounting officer will need to be satisfied that the cost and management effort of operating the hedging policy offers value for money. The organisation should clear its strategy with the Treasury and draw up a bespoke section of its banking policy for the purpose. An outline is shown at box A5.6E.

Box A5.6E: Outline management policy for using financial instruments

- Define the risks to be controlled, their volume, frequency and the rationale for control.
- Governance of and accountability for the various elements of the organisation's hedging policy, both at working level and on the board.
- List of acceptable counterparties (after assessing their credit risks and competence), with exposure limits (which may differ for different financial instruments).
- Arrangements for defining acceptable risk, differentiated as necessary among the different methods of dealing with them.
- Arrangements for monitoring and reporting exposures and forecasts.

Foreign exchange

A5.6.23 The most powerful case for hedging arises when a public sector organisation must make regular and predictable transactions in foreign currencies whose scale is material to the organisation's business. The standard advice about operating a forex hedging strategy is set out in box A5.6F. When drawing up the strategy It is important to remember that:

- the costs of hedging are certain though the benefits are not;
- commercial advisers on hedging often have an interest in selling relatively complicated instruments when simpler approaches might suffice.

Box A5.6F: standard practice for managing risk relating to foreign exchange

- Foreign Currency balances: should be minimised.
- Spot trades: use the Bank of England for transactions above £2m (approaching Government Banking in the first instance)
- Forward transactions: use the Bank of England (again approaching Government Banking in the first instance), unless specific Treasury agreement is given to do otherwise
- Options: better avoided since they usually involve a measure of speculation.
- Currencies: plan to use sterling, US dollars or Euros where possible as markets in other currencies are less liquid.

- Exposures: avoid taking long term positions which are usually expensive.
- Value for money: the essential test for all strategies.
- Foreign exchange hedging: as with financial instruments, must be cleared with the Treasury.

Annex 6.1

How to calculate charges

This annex discusses how to calculate the cost of public services for which a fee is charged.

Introducing a new or updated charge bearing service

A6.1.1 Public sector organisations planning to set up or update a service for which a fee may be charged should ensure early engagement with Treasury. Advice should be sought at the earliest opportunity if there are any variations on the standard model. Proposed variations may be agreed in certain instances, considering each on its merits. Each will need to be justified in the public interest and on value for money grounds.

A6.1.2 Practical issues which organisations will need to consider when setting up or refreshing a charge bearing service include: the definition of the service and its rationale; the proposed financial objective (for instance, full cost recovery; 70% of full cost plus a 30% public subsidy); how the service is to be delivered and which organisation is to deliver it; whether the provider should retain any income from charges; the proposed charging structure (for instance, a single service or several sub-services). Organisations will also need to refer to the checklist in box 4.9 of factors to consider when planning policies and projects.

Measuring the full cost of a service

A6.1.3 With agreed exceptions, fees for services should generally be charged at cost, sometimes with an explicit additional element to match the returns of commercial competitors. So to set fees for public services it is essential to calculate the cost of providing them accurately.

A6.1.4 The main features to be taken into account in measuring the annual cost of a service are set out in box A6.1A. Not everything in the list will apply to every service and the list may not be exhaustive. It is important that the calculation is comprehensive, including all relevant overheads and non-cash items.

A6.1.5 So far as possible the calculation should use actual costs, where they are known. For services just starting, there may be no alternative to using best estimates, geared to estimated consumption patterns.

A6.1.6 Start up costs which are capitalised in the accounts and the cost of fixed capital items are scored in the accounts in full. These costs should be attributed to the cost of the service as the depreciated value each year.

A6.1.7 Start up costs which cannot be capitalised in the accounts are scored as they are incurred. Such costs may be recovered through fees and charges by spreading

them over the first few years of service provision. It is also good practice to set fees to recover costs which cannot be capitalised in the accounts and which have been incurred to improve efficiency and effectiveness so that charges are lower or offer better value. This needs explicit Treasury agreement and may require statutory backing.

A6.1.8 For services which are charged at different rates, the same procedure should be used to set the different rates. That is, the cost of any premium service should be objectively justifiable by its additional cost (eg where faster shipping is offered); or conversely any discount should be justifiable by saving to the supplier (eg using the internet rather than over the counter). Note, however, that sometimes the legislation permits differential pricing unrelated to the relative underlying costs – though even then there should be good policy reason for the difference.

Box A6.1A: elements to cost in measuring fees

- Accommodation, including capital charges for freehold properties
- Fixtures and fittings
- Maintenance, including cleaning
- Utilities
- Office equipment, including it systems
- Postage, printing, telecommunications
- Total employment costs of those providing the service, including training
- Overheads, eg (shares of) payroll, audit, top management costs, legal services, etc
- Raw materials and stocks
- Research and development
- Depreciation of start up and one-off capital items
- Taxes: vat, council tax, stamp duty, etc
- Capital charges
- Notional or actual insurance premiums
- Fees to sub-contractors
- Distribution costs, including transport
- Advertising
- Bad debts
- Compliance and monitoring[1] costs
- Provisions

but not

- Externalities imposed on society (eg costs from pollution and crime)
- Costs of policy work (other than policy on the executive delivery of the service)
- Enforcement costs[1]
- Replacement costs of items notionally insured

[1] See the HM Treasury publication on receipts https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/226421/PU1548_final.pdf

- Start up costs (those which are capitalised in the accounts) and one-off capital items

Financial objectives

A6.1.9 The standard approach to setting charges for public services (including services supplied by one public sector organisation to another) is full cost recovery. It normally means recovering the standard cost of capital, currently 3.5% in real terms. Some exceptions are noted in section 6.4.

A6.1.10 One other exception is commercial services, ie those services which compete or may compete with private sector suppliers of similar services. These should aim to recover full costs including a real rate of return in line with the rates achieved by comparable businesses facing a similar level of risk. The normal range of rates is 5-10% but rates as high as 15% may be appropriate for the very highest risk businesses.

A6.1.11 Great care should be taken in pricing commercial services where public sector suppliers have a natural dominant position. The market prices of competitors will often be a good guide to the appropriate rate of return if there is genuine competition in the market. Where there are limited numbers of buyers and sellers in a market, it may be better to take other factors into account as well. These might include past performance, the degree of risk in the underlying activity and issues bearing on future performance.

Accidental surpluses and deficits

A6.1.12 Despite every effort to measure and forecast costs, surpluses and deficits are bound to arise from time to time. Causes may include variations in demand, in year cost changes, and so on. It is good practice to consider mid-year adjustment to fee levels if this is feasible.

A6.1.13 It is also good practice to set fees to recover accumulated past deficits. This may require statutory backing through a s102 order (see paragraph 6.3.3).

Annex 6.2

Charging for information

This annex discusses how public sector organisations should charge for the use and re-use of information, including data, text, images or sound recordings. Much information about public services is available for free. However, when charging for information, it is generally at full cost although there are exceptions.

A6.2.1 The policy is that much information about public services should be made available either free or at low cost, in the public interest. Most public organisations freely post information about their activities and services on the internet. There should be no additional charge for material made available to meet the needs of particular groups of people e.g. Braille or other language versions. More extensive paper or digital versions of information may carry a charge to cover the costs of production.

A6.2.2 Information products have an unusual combination of properties: typically, high cost of production combined with low cost or reproduction. They are frequently licensed for the use of many customers simultaneously rather than being sold or otherwise transferred. This can make for complex charging arrangements to recover costs accurately.

A6.2.3 It is good practice to make available sufficient recent legislation, public policy announcements, consultation documents and supporting material to understand the business of each public sector organisation.

A6.2.4 Anything originating in Crown bodies, including many public sector organisations, has the protection of Crown copyright. Most Crown copyright information is made available at no charge under Open Government Licence terms.

A6.2.5 Public sector organisations should maintain information asset registers as part of their asset management strategy[1].

Rights to access

A6.2.6 The terms on which information is made available should be made clear at the point of sale or licensing. There is a clear public interest in maximising access to much public sector material, and this should be borne in mind when deciding what charges should be levied. For this reason many publications can be re-used by others

[1] For further information see http://www.nationalarchives.gov.uk/information-management/manage-information/policy-process/digital-continuity/step-by-step-guidance/step-2/

free of charge. However, public sector organisations should take account of copyright issues, using legal advice as necessary.

A6.2.7 Most public sector organisations choose, as a matter of policy, to make available on the internet information disclosed in response to requests under the Freedom of Information Act 2000 and Environment Information Regulations 2004. Public sector bodies should also note the provisions of the amendments (introduced by the Protection of Freedoms Act 2012) to sections 11-11B and 19 of the Freedom of Information Act 2000[2] in respect of relevant datasets, where there are statutory duties relating to the format and supply of requested datasets and to their listing in publication schemes, and to charges under a specified licence.

Information carrying charges

A6.2.8 Whilst the majority of information is free to access, a number of public sector organisations supply information for which charges are made to cover the associated costs. These include:

- services commissioned in response to particular requests;
- services where there are statutory powers to charge;
- information sold or licensed by trading funds (although they must comply with the rules set out by the re-use regulations – see below);
- publications processing publicly gathered data for the convenience of the public, through editing, reclassification or other analysis;
- retrieval software, e.g. published as a key to using compiled data.

A6.2.9 Public sector organisations can also charge for supplying some information which recipients intend to process, e.g. for publication in another format. Licences supplied in this way may take a number of forms, including royalties on each additional copy sold in the case of the most commercial applications. The norm is:

- Raw data: license and charge at marginal cost;
- Value added data and information supplied by trading funds: charge at full cost including an appropriate rate of return where this is permitted under the re-use regulations (see paragraph A6.2.10).

The Re-use of Public Sector Information Regulations 2015

A6.2.10 The Re-use of Public Sector Information Regulations 2015[3] set out the circumstances where public sector bodies may charge above marginal cost for licensing the re-use of information. Where it is intended to charge for the re-use of information within the scope of the regulations, it is important to comply with those regulations, paying attention to the clauses that cover requirements to generate revenue.

[2] Freedom of Information Act 2000 revised - https://www.legislation.gov.uk/ukpga/2000/36/contents

[3] SI 2015/1415 - http://www.legislation.gov.uk/uksi/2015/1415/contents/made

A6.2.11 Trading funds, for example, may charge for information where the customer intends to duplicate or process (re-use) such material for profit. In such cases, Crown bodies need to apply for a delegation of authority from the Keeper of Public Records[4] to license the information.

A6.2.12 The regulations set out that "charges for re-use must, so far as is reasonably practicable, be calculated in accordance with the accounting principles applicable to the public sector body". See Annex 6.3 for further detail on marginal cost pricing.

[4] http://www.nationalarchives.gov.uk/information-management/re-using-public-sector-information/uk-government-licensing-framework/crown-copyright/delegations-of-authority/

Annex 6.3

Competition law

Public sector organisations need to take care if they provide services which compete with private sector suppliers of similar services, or may do so. It is important that they respect the requirements of competition law.

A6.3.1 UK competition law is founded on the Competition Act 1998 which prohibits business agreements that prevent, restrict or distort competition in trade in the UK. They also disallow market abuse on the part of any business in a dominant[1] in a market.

A6.3.2 In particular, the following kinds of unfair competition are not allowed:

- very high prices that may exploit market power;
- very low prices that may exclude competitors;
- differential prices (or other terms and conditions of service) for the same product to different customers (except for objective reasons such as differences in quality or quantity) that distort competition; or
- refusing to supply competitors without objective justification such as poor customer credit worthiness.

Pricing in competitive markets

A6.3.3 Services should be costed in line with the normal rules for full cost recovery. Charges should be set to achieve the appropriate financial objective, normally at least recovering full costs.

A6.3.4 Some public sector organisations both supply data for use in providing public services and sell services using their data in competition with commercial firms. Such organisations need to take particular care not to abuse their competitive position in the market, especially if it is dominant. This could happen if a dominant supplier organisation allocated its costs in such a way that an efficient competitor could not operate profitably.

A6.3.5 There can be circumstances which merit departing from the normal principle of full cost recovery. The justification is normally to achieve greater efficiency and sensitivity in responding to patterns of demand or cost, e.g.:

[1] A business is deemed to be in a dominant position if it can generally behave independently of competitive pressures in its field.

- if the service cannot be expanded, but customers are willing to pay more, there may be a case for increasing the price;
- if there is excess capacity and customers are not willing to pay the current charge, there may be a case for reducing the charge or reducing output;
- incentive charging, i.e. charging below cost to encourage demand, or above cost to discourage it.

A6.3.6 If a public sector organisation decides not to recover full costs for a while, it should take care that:

- its prices are not reduced in such a way as to stifle competition (a rapid cut in prices could be unfair to private sector competitors);
- its products and services are not charged at less than their average variable costs or short run marginal costs (though this does not preclude charging at less than break even for a short period, e.g. to match competition);
- the charging strategy is compatible with full cost recovery over the medium term. This may mean ceasing to offer a service which has become unviable against the competition;
- any cross subsidies between services should not drive prices below average variable cost or short run marginal cost;
- if, exceptionally, a supplier charges below full cost because it has surplus capacity, there must be broader benefits and prices should not fall below average variable or short run marginal cost.

Delivering financial objectives

A6.3.7 Public sector organisations should normally plan to achieve their financial objectives. If necessary this may mean adjusting prices or managing the cost structure of the supply to deliver adequate efficiency. In particular, if a public sector supplier forecasts a deficit, it should take remedial action promptly.

A6.3.8 If a public sector supplier moves away from full cost charging, there may be a case for reviewing its financial objective. Normally any such change needs the agreement of both the responsible minister and the Treasury.

Taking things further

A6.3.9 The following may be particularly useful:

- the Competition Act and public bodies at http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.oft.gov.uk/OFTwork/publications/publication-categories/guidance/competition-act/
- agreements and concerted practices at http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.oft.gov.uk/shared_oft/business_leaflets/ca98_mini_guides/oft443.pdf

- abuse of a dominant position https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284422/oft402.pdf .

A6.3.10 More generally, it is good practice for bodies supplying goods or services into competitive markets to seek legal advice on the application of competition law at an early stage.

Annex 7.1

Forming and reforming ALBs

This annex covers the processes of setting up new arm's length bodies and reshaping existing ones, either by merger, dissolution or other transformation. While the processes are flexible, there are some common themes centring on accountability and streamlining government processes.

Rationale for ALBs

A7.1.1 The government works through ALBs when there is a good reason to do so, usually when it is helpful for a specialist body to carry out a function where independence is important. Each ALB has its own bespoke reason for existing and many are established under specific legislation determining their form, functions and powers.

A7.1.2 The three main kinds of ALBs are agencies, non departmental public bodies (NDPBs) and non-ministerial departments (NMDs). Each has its strengths and is appropriate for a range of functions. The three are compared in box A7.1A.

Setting up a new ALB

A7.1.3 It is good practice to decide early which kind of body is most appropriate when setting up a new ALB (sources of guidance on setting up ALBs are in box A7.1B). Parliament is concerned that hiving off functions into an ALB should not diminish accountability. For that reason NMDs are rarely the right solution.

A7.1.4 It is important to remember that effective functional independence does not necessarily require a specific structure. Ministers can choose to stand back from the decisions made or opinions published by any ALB while maintaining financial control and oversight, eg ministers never interfere with HMRC's decisions on individual taxpayers' affairs.

A7.1.5 The next step is to develop a memorandum of understanding (or equivalent) setting out the relationship between the new ALB and its parent department. Advice on this is in annex 7.2. These should be periodically reviewed to keep abreast of experience and the changing context[1].

A7.1.6 Decisions on the form of any particular ALB must ultimately be for ministers. They will depend in part on perceptions of the function in question, and on the extent to which ministers think it right to take a day to day interest in its affairs. Generally, the closer the ALB's functions are to the centre of government, the more likely it is to be an agency; while NMD status is appropriate for organisations of

[1] See the Cabinet Office *Guidance on Reviews of Non Departmental Public Bodies* which is available on the Cabinet Office website http://www.civilservice.gov.uk/wp-content/uploads/2011/09/triennial-reviews-guidance-2011_tcm6-38900.pdf

some size carrying out professional functions. The form and structure of the NDPB is very flexible, suiting specific and technical functions.

A7.1.7 When an ALB is planned, it is essential to consult both the Treasury and the Cabinet Office about its powers, status and funding[2]. Departments should also seek advice from UK Government Investments (UKGI), the government's centre of excellence in corporate finance and corporate governance, when establishing central government companies, public corporations or ALB's which have a significant commercial element, significant private sector interface and/or whose governance is of material complexity. In the case of such organisations, departments should also consider whether UKGI is best placed to deliver the shareholder function itself on behalf of the department or, if not, seek the advice and use the expertise of UKGI during the life of such arm's length bodies.

Box A7.1A: comparison of the three main kinds of ALB in central government

Feature	agency	non-departmental public body (NDPB)	non-ministerial department (NMD)
Status	Part of a department	Independent organisation. May be a company and/ or a charity	Department in its own right
Crown body	Yes	Not usually	Yes
Established by	Administrative action (usually quick and easy)	Usually bespoke primary legislation (may take time).	Administrative action, often supplemented by primary legislation (if needed, may take time)
Governance	CEO supported by a board	Independent board led by non-executive Chair	Permanent Secretary supported by a board
Ministerial accountability	A minister in the parent department makes key decisions on the agency's affairs	A minister in the sponsor department decides key matters, eg whether to adjust functions, whether to wind up or replace	Rarely needed, but when necessary, a minister in the parent department decides
Parent department	Has direct control	Subject to formally agreed memorandum, may be light touch	Remote
Funding	Estimates and/or fee income	Grant(s) from department(s), and / or income from fees or levies	Estimates and/or fee income

[2] See for example: Executive Agencies: A guide for Departments and Public Bodies: A Guide for Departments - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80076/exec_agencies_guidance_oct06_0.pdf

Employees	Civil servants	Not usually civil servants	Civil servants
Accounts etc	Publishes plans and accounts as part of parent department's central accounts	Publishes own plans and accounts; also consolidated into sponsor department's accounts	Publishes own plans and accounts
Parliamentary	CEO is Agency Accounting Officer, oversight by departmental PAO	CEO is normally the Accounting Officer, oversight by departmental PAO	Permanent Secretary is Accounting Officer, sponsor department's PAO could step in if required

A7.1.8 It is worth remembering that the three kinds of ALB in box A7.1A are only the most common. Others are possible. Cabinet Office guidance on the categories of Public Bodies[3] explains in more detail. They include public corporations and various kinds of cooperative arrangements with the private or voluntary sector, some fairly loose. And there is scope to establish one-off arrangements for special bodies where circumstances demand something different. Special structures must of course be evaluated carefully, on the strength of a comparative business case, to make sure that they will deliver value for money to the public purse.

A7.1.9 Whatever the legal status of an ALB, its sponsor department should have a mechanism for asserting an appropriate degree of control over it, especially in financial matters and in relation to issues of ethics in the use of public funds. In general, the greater the extent of public funding, the greater the degree of control called for.[4]

A7.1.10 If legislation is required to set up an ALB, it is important to observe the new services rules (Section 2.6). Strictly this means that royal assent is required before resources can be committed to getting the organisation on its feet. In some urgent cases it may be possible to make a claim on the Reserve to make an earlier start, but even so only after second reading in the Commons to an uncontroversial bill and with safeguards to allow commitments to be unwound if the bill does not pass.

A7.1.11 Whatever the approach taken to setting up the new organisation, it is often desirable to operate a period of shadow running before it starts in earnest. And do be aware that the process of preparation can take time – eg often a couple of years or more for an NDPB.

Box A7.1B: sources of guidance

Guide to the Establishment and Operation of Trading Funds

http://webarchive.nationalarchives.gov.uk/20130129110402/http:/www.hm-treasury.gov.uk/psr_reporting_centralgovernment.htm

[3] Categories of Public Bodies: A Guide for Departments and is available on the Cabinet Office website https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80075/Categories_of_public_bodies_Dec12.pdf

[4] For further guidance in relation to this please consult the Cabinet Office Public Bodies Governance Team and UKGI guidance. https://www.ukgi.org.uk/wp-content/uploads/2020/03/UK-Government-Arms-Length-Bodies-A-View-from-Practitioners-January-2020_WEB.pdf

Making and Managing Public Appointments

http://publicappointmentscommissioner.independent.gov.uk/publications/guidance/

Corporate Governance in Central Government Departments: Code of Good Practice includes references to NDPBs and Agencies

https://www.gov.uk/government/publications/corporate-governance-code-for-central-government-departments

Financial Reporting Manual – includes guidance for NDPBs and Agencies, including form of Annual Reports

https://www.gov.uk/government/publications/government-financial-reporting-manual

Consolidated Budgeting Guidance – includes guidance in relation to NDPBs and public corporations

https://www.gov.uk/government/publications/consolidated-budgeting-guidance

Reforming ALBs

A7.1.12 Valuable as they can be, proliferation of ALBs is not good practice. It adds to administrative costs generally and can fragment accountability. So it can be necessary or desirable to wind up or merge ALBs in the light of experience.

A7.1.13 The process of decision making is similar to that for setting up a new ALB if there is to be a successor organisation. It is good practice to decide on a suitable shape for the new organisation and then plan legislation, if necessary, to achieve it.

A7.1.14 The predecessor organisation(s) must be wound up in an orderly fashion, with final accounts to close its affairs (including a comprehensive list of assets and liabilities). If a closing organisation has no staff by the time the final accounts are draw up, it is usual for the accounting officer of the successor organisation, if there is one, to take responsibility for signing them off. If this is not possible, for example if there is no successor, the PAO of the parent department should sign them off.

A7.1.15 When staff are to be migrated into a new organisation, it is important to respect their statutory employment rights. Planning for this should form a key part of the transition preparations. Mistakes can be costly.

Annex 7.2

Framework documents

Departments need arrangements to monitor and understand their arms-length bodies' strategy, performance and delivery. These should be set out in a framework document. This annex sets out the process and clearances required, with links to specimen documents tailored to the nature of various public sector organisations. Whilst details will be tailored to individual circumstances, the expectation is that framework documents should follow the appropriate template as closely as practicable, and departures from the specimen templates should be clearly signposted, explained and justified, and those departures cleared with HMT spending teams.

A7.2.1 This annex provides guidance on the framework documents for:

- non-departmental public bodies (NDPBs),
- executive agencies;
- statutory office holders;
- central government companies (including those classified as NDPBs);
- non-Ministerial Departments; and
- public corporations.

A7.2.2 Terminology may differ and it may be these documents are referred to as a memorandum of understanding, management agreements or partnership agreements in some cases depending on historical or departmental practice. The content of documents should, however, follow the specimen framework document templates. The process set out below applies irrespective of the name of the document.

A7.2.3 The framework document sets out the ALBs purpose, describes the governance and accountability framework that applies between the roles of the body and its sponsor Department (and with any other departments with an interest in the ALB's business), reflecting the specific structures, roles and responsibilities in each case, and sets out how the day-to-day relationship works in practice, including in relation to governance and financial matters. They are public documents and should be published online and deposited in the Libraries of both Houses of Parliament in line with Parliamentary Guidance[1].

A7.2.4 Specimen framework documents for each of the six broad types of ALB as set out above are published alongside Managing Public Money on gov.uk and will be updated from time to time. These templates are broadly similar representing consistent standards of accountability and governance, with relatively few differences where needed to reflect the circumstances of a type of body (e.g. where an NDPB is also established under the Companies Act).

A7.2.5 When considering the appropriate specimen template to use the classification of the body should be considered. This should first be the formal statistical classification by the Office of National Statistics followed by classification by the Cabinet Office. Where the body has not been classified or there is uncertainty as to classification, please consult the Treasury as to the appropriate template to use. It is important that the FDs are fit for the purpose of the individual body. It may, therefore, be appropriate for teams to consider using a different template to that prescribed by classification if the individual circumstances of the body mean that another of the templates would be more appropriate, in whole or part, from an operational or policy perspective (e.g. it may be appropriate for an NDPB with a Board responsible for complex commercial operations to use the Government Companies template.) Where departments are of the view that departures from the specimen templates are necessary or there is a policy reason why an alternative template from the bodies statistical classification should be used these departure should be clearly signposted, and policy arguments explained and justified. Such departures will also require HMT consent.

A7.2.6 New framework documents must be cleared first with the Sponsor department Corporate Governance Team or Financial Governance Team or equivalent, before clearance with relevant HMT spending team and the Treasury Officer of Accounts. It may also be appropriate to share the framework documents for new public bodies or where there are complex governance arrangements with the Cabinet Office Public Bodies Governance Team for their views.

A7.2.7 Departments should also seek advice from UK Government Investments

[1] https://www.parliament.uk/globalassets/documents/commons-library/deposited-papers-guidelines-for-departments.pdf

(UKGI), the government's centre of excellence in corporate finance and corporate governance, when establishing central government companies, public corporations or ALB's which have a significant commercial element, significant private sector interface and/or whose governance is of material complexity. In the case of such organisations, departments should also consider whether UKGI is best placed to deliver the shareholder function itself on behalf of the department or, if not, seek the advice and use the expertise of UKGI during the life of such arm's length bodies.

A7.2.8 Where a framework document is amended or departs from the cross-government templates, the changes must be cleared by the Sponsor department's Corporate Governance Team or Financial Governance Team or equivalent, before seeking Treasury consent. Framework documents should be sent to the spending team and to TOAEnquiries@hmtreasury.gov.uk Treasury will aim to clear framework documents within 28 days.

A7.2.9 Framework documents should be reviewed and updated at least every 3 years unless there are exceptional reasons that render this inappropriate that have been agreed with HMT and the Principal Accounting Officer of the sponsor department. Upon review, where there are departures from the currently published templates or where the existing framework documents are no longer in compliance with those templates frameworks documents should be re-cleared via TOA and the spending team. It may be appropriate to update a framework document sooner if there are significant changes to the ALB, e.g. reclassification, or the body taking on additional functions or being subject to a machinery of government change.

A7.2.10 Framework documents constitute a core constitutional document of the Arm's Length Body and it is imperative that Accounting Officers, Board members and senior officials are familiar with them, ensure they are kept up to date and use them as guide to govern the collaborative relationship between the Arm's Length Body, the Sponsor Department and the rest of Government.

Annex 7.3

Government Companies, Public Corporations, and Trading Funds

Companies are used across government as a way of delivering on government objectives which are better met by a more discrete legal entity with a clear accountability and governance structure. Government companies' objectives are diverse and as such their characteristics are equally diverse. The risk of such diversity is that it can lead to inconsistency in spending controls, governance arrangements and accountability. This annex is intended to consolidate existing guidance in relation to their responsibilities for public money and to provide some advice on common issues that arise.

What is a government company?

7.3.1 A Government Company (often informally referred to as a "GovCo") is one in which the Government is the majority or only shareholder. It can include situations both where the government has purposely set up the company up as a GovCo or where the government has acquired majority shareholder status of an existing company.

7.3.2 Government may also have interests in companies where it does not hold majority shareholder status. This may be where Government is the sole or majority customer, where it holds preference shares, where the company is closely governed by a regulatory regime or where the company is provided [what kind of] support by the Government such that government is deemed to hold significant control. Given this diversity, it is helpful to consider companies through more clearly defined criteria than the high-level label of "GovCo".

Classification of Government companies – public or private sector?

7.3.3 The initial question for determining what kind of controls and governance apply is whether the company is formally classified as public or private sector. Most GovCos will be public sector but government also has interests in private sector companies.

7.3.4 Companies are classified to the public or private sector based on ONS criteria. The 'public sector' is defined by the Office of National Statistics ('ONS') with reference to the European System of Accounts 2010 in accordance with EU requirements for Governments to produce accurate public sector finances and national accounts. The National Accounts (or Sectoral) classification of entities as public or private depends on the level of government control over the general corporate policy of the entity being classified. This can be direct or indirect and may be evidenced by indicators that include:

- The ability to appoint those in control, or those who determine the policy of the entity; and / or
- A right to be consulted over such appointments, or to have a veto over appointments; and / or
- The provision of funding accompanied by rights of control over how that funding is spent; and / or
- A general right to control the day-to-day running of the body.[1]

7.3.5 ONS decisions on classification are definitive and are informed by common European standards. These classifications are published2. ONS may take some time to consider the classification of a particular government entity, in the meantime advice should be sought from the Treasury classifications team. Pending review by the ONS, the Treasury view of classification should be regarded as definitive and should inform the body's governance, reporting and accountability structures.

Classification of Government companies – central, local or public corporation?

7.3.6 Once the ONS has classified a body as public sector it is classified to a sub-sector based on its characteristics. These sub-sectors in respect of companies are:

- Central Government Company (CGC)
- Local Government Company (LGC)
- Public Corporation (PC)

Central and Local Government Companies

7.3.7 Government companies which are classified by the Office of National Statistics (ONS) for the purposes of National Accounts as 'central government' are usually then administratively classified by Cabinet Office as NDPBs.

7.3.8 CGCs receive income wholly or in the majority from central government via grants or contracts, or receive the majority of their income by virtue of levies or taxation or funded by the recovery of their costs through the charging of fees.

7.3.9 Central Government Companies should:

- Be subject to Managing Public Money.
- Have an accounting officer appointed by the Principal Accounting Officer of the sponsor department
- Have clear delegated spending authorities from the department agreed by HM Treasury and subject to Cabinet Office spending control

[1] Taken from Classification of Public Bodies Guidance for Departments https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/519571/Classification-of-Public_Bodies-Guidance-for-Departments.pdf

[2] Public Sector Classification Guide https://www.ons.gov.uk/methodology/classificationsandstandards/economicstatisticsclassifications/introductiontoeconomicstatisticsclassifications

- Follow government standards in governance, recruitment, procurement and transparency for NDPBs.
- Appropriate board make-up and the balance of executive and non-executive functions
- Have consolidated financial reporting

7.3.10 It is important to ensure that provisions in the Framework Document for any government company are consistent with the company's Articles of Association. If there are obligations that need to be legally imposed on the company (e.g. matter reserved for the Shareholder), these need to be included in the Articles (which are legally binding on the Company).

7.3.11 Local Government Companies are outside the scope of Managing Public Money.

Public Corporations

7.3.12 Companies established by Government that meet the "market body test" are classified by the ONS as Public Corporations. The "market body test" requires that the company derives more than 50 per cent of its production cost from the sale of goods or services at economically significant prices (that is, prices that have a substantial influence on the amounts of products that producers are willing to supply and on the amounts of products that purchasers wish to acquire) for all or most of the goods and services they produce. Note that classification tests above refer primarily to Non-Financial Corporations. The classification rules for Financial Corporations are complex

7.3.13 Public Corporations' powers are usually defined in statute, but otherwise all the disciplines of corporate legislation apply. Sponsor departments should define any contractual relationship with a corporate in a Framework Document (or equitant document), adapted to suit the corporate context while delivering public sector disciplines. Public Corporations do not have accounting officers and are not subject to Managing Public Money as a matter of course.

7.3.14 They should instead be subject to levels of control and governance that are deemed appropriate by the sponsor department and agreed in the context of the Framework Document and approved by HM Treasury. It may be the nature of the body is such that it would be appropriate to consider if that a requirement for compliance with the principles of Managing Public Money should be imposed. This should be achieved through the exercise of shareholder rights and is not the default position. If this outcome is sought it may be appropriate to appoint the Chief Executive as an Accountable person mirroring the role of the Accounting Officer for central government bodies to ensure the Shareholder expectations in this regard are met.

7.3.15 Public Corporations are subject to Consolidated Budgeting Guidance[3] and in in particular are expected to provide a return to government in respect of capital employed. In the case of PCs performing essentially government-type functions, 3.5% real will normally be appropriate. A PC competing in the market should typically be expected to return a higher rate to reflect the prevailing market rate.

[3] https://www.gov.uk/government/collections/consolidated-budgeting-guidance

Trading Funds

7.3.16 Trading Funds are established under the Trading Funds Act 1973. Most trading funds are public corporations, but some may be central government companies. It is rare for new trading funds to be created and requires Treasury consent. Unlike Public Corporations in general trading funds have accounting officers appointed by HM Treasury and are subject to Managing Public Money by default. In addition, Departments should have careful regard to Consolidated Budgeting Guidance particularly regarding expected rates of return from trading funds.

7.3.17 Further guidance may be found in the Treasury's *Guide to the Establishment and Operation of Trading Funds* (www.hm-treasury.gov.uk/mediastore/otherfiles/guideto_tradingfunds.PDF).

Legal Status of Companies

7.3.18 In addition to the classification decisions above, companies can be constituted either as companies limited by shares or as companies limited by guarantee. When planning on setting up a government company, officials should discuss with their legal advisors and with HM Treasury the appropriate legal status for incorporation.

7.3.19 A profit-making company will generally be better incorporated by shares and non-profit by guarantee. A company limited by shares may also be preferable in joint ventures where there is significant disparity between the capital contributed or the support provided through income or otherwise. Different levels of share capital can reflect such variation and further provide flexibility in the levels of control exercised by shareholders.

7.3.20 Alternate legal structures are also available such as charities, community interest companies and mutual. The Commercial Models Team in Cabinet Office can provide support and advice. It is important that the model used follows the policy objective rather than seeking to force policy objectives to fit a model.

Framework documents

7.3.21 It is important to ensure that provisions in the Framework Document for any government company are consistent with the company's Articles of Association. If there are obligations that need to be legally imposed on the company (e.g. matter reserved for the Shareholder), these may need to be included in the Articles (which are legally binding on the Company).

7.3.22 For further guidance in relation to framework documents for government companies see Annex 7.2 and published specimen templates.

Creation of new companies

7.3.23 Companies are relatively easy to create by government departments through simple incorporation under existing legislation. However, departments should be wary of falling foul of the new services rules (see MPM 2.6). This is particularly likely to be the case if the company is due to perform functions that are not already part of the department's ambit of activity. Even where the new company performs pre-existing functions, it may that the new delivery mechanism for that service is such that the new services rules may be engaged. This should be considered on a case by case basis. Creating a new company will generally be novel and as such will require HMT consent. It will also be appropriate to share framework agreements with HMT to set out

proposed governance arrangements. If the new company is likely to be classified as a central government body consent will also need to be obtained from Cabinet Office for the creation of a new public body[4].

7.3.24 As with the creation of all ALBs, departments should consider the guidance as set out in Annex 7.1 and in particular the requirements and guidance as set out in 7.1.7.

Audit

7.3.25 Companies in general are required by statute to have their accounts audited.[5] It is expected that companies classified as NDPBs will be audited by the Comptroller and Auditor General.[6] If the company is not for profit and the C&AG is appointed as Auditor by an order under the Government Resources and Accounts Act then the company is exempted from the requirement for a Companies Act audit.[7] If the C&AG is appointed as auditor of the company by agreement between the company and Minister of the Crown or by virtue of statute[8] then any Audit must also fulfil the requirements of a Companies Act audit.

7.3.26 Audit arrangements for Public Corporations, companies not classified as NDPBs or companies where the auditor is not appointed automatically by statute should be agreed with HMT. It will generally be good practice for the sponsor department to seek the views of the NAO as to whether they think it appropriate to take on the role of auditor. It should be noted that where a body is consolidated into a department's group accounts all elements of the group will be subject to the C&AG's opinion on regularity.

[4] https://www.gov.uk/government/publications/the-approvals-process-for-the-creation-of-new-arms-length-bodies

[5] https://www.legislation.gov.uk/ukpga/2006/46/section/475

[6] https://webarchive.nationalarchives.gov.uk/20130102193106/http://www.hm-treasury.gov.uk/d/dao0108.pdf

[7] https://www.legislation.gov.uk/ukpga/2006/46/section/482

[8] https://www.legislation.gov.uk/ukpga/1983/44/section/6

Annex 7.4

Using private finance

Some public services are delivered in partnership with private sector providers, using some carefully controlled private finance. Because the private sector contractor puts its own funds at risk, it can incentivise delivery of assets and services to time and cost, and can offer value for money where the benefits of risk transfer and private sector delivery offset the additional cost of private finance. Such deals are not appropriate for every project.

A7.4.1 Although the use of private finance in the delivery of public sector assets and services is one method of procurement, it is not suited to all types. Where it is used effectively it can offer a number of strengths in delivering public assets (see box A7.4A). These stem from:

- sharing risk in delivering public projects within a structure in which the private sector contractor puts its own capital at risk;
- payment to the private sector being structured in such a way as to ensure the private sector is incentivised to deliver the required services or obligations under the arrangement; and
- the private sector being incentivised to grow market share in the joint delivery of services, or to grow the value in the joint management of assets.

A7.4.2 Contracts using private finance may include the ongoing maintenance and operation of the asset and the delivery of associated services to outcome specifications set by the public sector. Generally they are long term arrangement between the parties.

Box A7.4A: strengths of using private finance to deliver public sector assets and services

- Getting projects built to time and to budget
- Improving whole-of-life risk allocation and management, creating disciplines and incentives on the private sector to manage risk effectively
- Securing a greater focus on due diligence
- Securing better integration of design, construction and operational skills
- Securing a greater focus on growing market share or value of a joint asset or business

A7.4.3 Private finance does not suit every project. It should only be used after the rigorous scrutiny of all alternative procurement options, where:

- the use of private finance offers better value for money for the public sector compared with other forms of procurement. Annex 4.6 gives additional guidance on the value for money analysis that is required alongside the assurance and approval process;
- the structure of the project allows the public sector to define its needs after construction as service outputs that can be adequately contracted for in a way that ensures an effective and accountable delivery of long-term public services;
- the public sector partner is able to predict the nature and level of its long term service requirements with a reasonable degree of certainty.

A7.4.4 Conversely, private finance is not usually suitable for:

- individual projects too small to justify the transaction costs; or
- large innovative IT projects, or other services where it is not practical to specify the requirements sufficiently firmly in advance or over the long time-frame of the prospective contract life.

A7.4.5 The main procurement principles continue to apply when using private finance. It is important that the output to be achieved is clearly specified rather than the method to be used in carrying out the contract, so that the supplier can innovate and manage risk effectively. However, it is sensible to clarify key areas of design early on, to prevent false starts and later misunderstandings.

A7.4.6 Public sector organisations should not, however, use standard contracts automatically. They should be intelligent customers, providing incentives to stimulate enough competition to achieve good value in procurement costs. They should also be aware that their own reputations may be at risk when privately financed contracts are carried out. Where contracts include the ongoing maintenance and operation of assets, public sector organisations need to commit sufficient resource to effective long term contract management, including monitoring performance and managing any service variation requirements or other contract delivery issues over the project life.

A7.4.7 Once a major asset has been constructed, it may be possible for the private sector partner to refinance the project debt on more favourable terms than achieved at financial close. The contract should specify how the financial benefit of any refinancing should be shared with the public sector purchaser. The Treasury has produced a standard refinancing protocol to achieve this.

Glossary

Name	Definition
Accounting officer	A person appointed by the Treasury or designated by a department to be accountable for the operations of an organisation and the preparation of its accounts. The appointee is the head of a department or other organisation or the Chief Executive of a non-departmental public body (NDPB) or other arms-length-body. See chapter 3.
Accounts direction	A direction issued setting out the accounts which a body must prepare, and the form and content of those accounts.
Affirmative resolution	A parliamentary procedure exercising control over secondary legislation (ie, a Statutory Instrument in the form of an order or regulation). Parliament's positive approval is required before the instrument can take effect.
Annually Managed Expenditure, AME	Spending included in Total Managed Expenditure (TME), which does not fall within Departmental Expenditure Limits (DELs). Expenditure in AME is generally less predictable and controllable than expenditure in DEL.
Arm's length bodies, ALBs	Central government bodies that carry out discrete functions on behalf of departments, but which are controlled or owned by them. They include executive agencies, NDPBs and government-owned companies.
Capital spending	Spending on the purchase of assets (including buildings, equipment and land), above a certain threshold (set by the body concerned), which are expected to be used for a period of at least one year. Items valued below it are not counted as capital assets, even where they have a productive life of more than one year.
Central government bodies	Departments and departmental executive agencies, NDPBs, and NHS health authorities and boards. The Office for National Statistics determines which bodies are classified to central government.
Chief executive	Title for the head of an arm's length body, normally appointed as accounting officer.
Civil Service Code	A concise statement issued by the Cabinet Office setting out the framework within which all civil servants work, and the core values and standards they are expected to hold.
Clawback	The concept that where an asset financed by public money is sold, all or part of the proceeds of the sales should be returned to the Exchequer.
Commercial banks	Bodies other than the Government Banking Service which provide banking services, including private sector banks and building societies.
Committee of Public Accounts	A committee of the House of Commons which examines the accounting for, and the regularity and propriety of, government expenditure. It also examines the economy, efficiency and effectiveness, and feasibility of expenditure. Commonly known as the Public Accounts Committee (PAC).
Common law	One of the historical sources of law in the United Kingdom. Often used to distinguish judge-made case-law and longstanding legal principles from legislation which has been made by parliament.

Comptroller and Auditor General, C&AG	The chief executive of the National Audit Office, appointed by the Crown, and an Officer of the House of Commons. As Comptroller, the C&AG's duties are to authorise the issue by the Treasury of public funds from the Consolidated Fund and the National Loans Fund to government departments and others: As Auditor General, the C&AG certifies the accounts of all government departments and some other public bodies, and carries out value-for-money examinations. See annex 1.1.
Concordat	A long-standing agreement between the Treasury and the Public Accounts Committee that continuing functions of government should be defined in specific statute. See annex 2.3.
Consolidated Fund, CF	The government's current account, operated by the Treasury, through which most government payments and receipts pass.
Consolidated Fund standing services	Payments for services which Parliament has decided by statute should be met directly from the Consolidated Fund, rather than financed annually by voted money.
Consolidated Fund extra receipt (CFER)	Income, or related cash, that passes through a department's accounts but may not be retained by the department and is surrendered to the Consolidated Fund.
Contingencies Fund	A government fund, controlled by the Treasury, which, subject to certain criteria, can provide repayable advances to finance urgent expenditure in anticipation of parliamentary approval of legislation or Estimates, or used to finance expenditure in advance of receipts. See annex 2.4.
Contingent liabilities	Potential liabilities that are uncertain but recognise that future expenditure may arise if certain conditions are met or certain events happen.
Corporate governance	The system and principles by which organisations are directed and controlled.
Cost of capital	The cost to the government of financing investment, ie the rate at which it borrows. This is included in the calculation when setting fees and charges and is calculated as a percentage of the net asset value.
Data Protection Act	Legislation (1998) which governs how organisations can use personal information which they hold.
Delegated authority	A standing authorisation by the Treasury under which a body may commit resources or incur expenditure from money voted by Parliament without specific prior approval from the Treasury. Delegated authorities may also authorise commitments to spend (including the acceptance of contingent liabilities) and to deal with special transactions (such as write-offs) without prior approval.
Depreciation	A measure of the wearing out, consumption or other reduction in the useful life of a fixed asset whether arising from use, passage of time or obsolescence through technological or market changes.
Derivative	A financial instrument derived from another, usually sold singly or in packages to promote hedging, eg, interest rate and exchange rate options.
Detective controls	Controls designed to detect error, fraud, irregularity or inefficiency.

Devolved administrations	The administrations established in Scotland, Wales and Northern Ireland under the Scotland Act 1998, the Government of Wales Act 1998 and the Northern Ireland Act 1998.
Discretionary services	Services that are not required by statute but are provided, often into competitive markets.
Efficiency and Reform Group	A part of the Cabinet Office, which works closely with the Treasury to tackle waste and improve accountability across Whitehall.
Estimate Manual	A practical reference guide issued by the Treasury which provides detailed information on the Supply Estimates policy and process.
Estimates Memorandum	An explanation of how provision sought in the Estimate is intended to be used and the relationship with other spending controls. Primarily provided for the departmental select committee but made freely available online.
Excess Vote	The means by which excess expenditure, or otherwise unauthorised expenditure, of cash, capital or resources, is regularised through an additional vote by Parliament. See section 5.4.
Exchequer	Central government's central financing arrangements, based on the Consolidated Fund and National Loans Fund, and managed by the Treasury and the Bank of England.
Exchequer Pyramid	A serious of accounts held at the Bank of England through which the overnight sweep and funding flows.
Feasibility	The principle that proposals with public expenditure implications should be implemented accurately, sustainable and to the intended timetable.
Finance Act	The legislation through which Parliament agrees the government's tax decisions. Normally passed in the summer after the spring budget.
Framework document	A document setting out the accountabilities and relationships of arms-length-bodies with their sponsor departments – see annex 7.2
Freedom of Information	Legislation designed to promote public access to a wide range of public sector data and information (but not personal data).
Full cost	The total cost of all the resources used in providing a good or service in any accounting period (usually one year). This includes all direct and indirect costs of producing the output (cash and non-cash costs) including a full proportional share of overhead costs and any selling and distribution costs, insurance, depreciation, and the cost of capital, including any appropriate adjustment for expected cost increases.
Funding	Transferring monies to an account, so that they are available when needed for payments.
Generally accepted accounting practice in the UK, UK GAAP	The accounting and disclosure requirements of the Companies Act and pronouncements by the Financial Reporting Council (principally accounting standards and Urgent Issues Task Force abstracts), supplemented by accumulated professional judgements.
Governance Statement	An annual statement that accounting officers are required to make as part of the accounts on a range of risk and control issues.

Grant	Payments made by departments to outside bodies to reimburse expenditure on agreed items or functions, and often paid only on statutory conditions.
Grant in aid	Regular payments by departments to outside bodies (usually NDPBs) to finance their operating expenditure.
Hedging	Transaction(s) designed to reduce or eliminate financial risk, eg, because of interest rate or exchange rate fluctuations.
International Financial Reporting Standards (IFRS)	International accounting standards reflected in UK GAAP. Adapted by government for the public sector.
Irregular expenditure outside the ambit of a vote	Expenditure outside the ambit of a vote, ie resources spent on matters which were not included in the relevant ambit in the departmental Estimate and therefore Parliament has not authorised. See section 5.4.
Joined-up government	Arrangements under which policy-making and service delivery are unhindered by departmental boundaries.
Judicial review	A procedure by which the courts can review the legality of decisions and actions of public authorities, including the government. Judicial review looks at the fairness of the decision-making process rather than the merits of the decision itself.
Levies	Licences to operate public goods, often set to recover associated costs such as supervision by a regulator.
Misstatement	A statement which is untrue. The maker of a misstatement can be sued for damages by those who have relied on the misstatement, but only if in the circumstances it was reasonable to rely on it.
National Accounts	Accounts produced by the Office for National Statistics in accordance with the European System of Accounts 1995, which promotes standardisation in the way in which public sector income and expenditure is measured.
National Audit Office, NAO	A corporate Parliamentary body set up to provide resources, support and constructive challenge to the C&AG. See annex 1.1.
National Insurance Fund, NIF	A government fund used to meet the cost of contribution-based benefits, financed mainly by contributions paid by employers and individuals.
National Loans Fund, NLF	The fund through which passes most of the government's borrowing transactions and some domestic transactions.
Non-departmental public body, NDPB	A body with a role in the processes of government, but not a government department or part of one. NDPBs accordingly operate at arm's length from Ministers.
Notional costs of insurance	A cost which is taken into account in setting fees and charges to improve comparability with private sector service providers. The charge takes account of the fact that public bodies do not generally pay an insurance premium to a commercial insurer.
Office for National Statistics, ONS	The independent body responsible for collecting and publishing official statistics about the UK's society and economy.
Office of the Paymaster General, OPG	Now incorporated within the Government Banking Service, it has statutory responsibilities to hold accounts and make payment for government departments and other public bodies.

Orange book	The informal title for *Management of Risks: Principles and Concepts*, guidance published by the Treasury for public sector bodies.
Overdraft	An account with a negative balance.
Parliamentary authority	Parliament's formal agreement to authorise an activity or expenditure.
Prerogative powers	Powers exercisable under the Royal Prerogative, ie, powers which are unique to the Crown, as contrasted with common-law powers which may be available to the Crown on the same basis as to natural persons.
Primary legislation	Acts which have been passed by the Westminster Parliament and, where they have appropriate powers, the Scottish Parliament and the Northern Ireland Assembly. Begin as Bills until they have received Royal Assent.
Propriety	The principle that patterns of resource consumption should meet high standards of public conduct, and robust governance and respect Parliament's intentions, conventions and control procedures, including any laid down by the PAC. See box 2.4.
Public Accounts Committee	See Committee of Public Accounts.
Public Accounts Commission	A Select Committee of the House of Commons set up under the National Audit Act 1983 to regulate the National Audit Office.
Public corporation	A trading body controlled by central government, local authority or other public corporation that has substantial day to day operating independence. See section 7.7.
Public Dividend Capital, PDC	Finance provided by government to public sector bodies as an equity stake; an alternative to loan finance.
Public Private partnership, PPP	A structured arrangement between a public sector and a private sector organisation to secure an outcome delivering good value for money for the public sector. It is classified to the public or private sector according to which has more control.
Rate of return	The financial remuneration delivered by a particular project or enterprise, expressed as a percentage of the net assets employed.
Regularity	The principle that resource consumption should be compliant with the relevant legislation and wider legal principles such as subsidy control and procurement law, delegated authorities and following the guidance in this document. See box 2.4.
Restitution	A legal concept which allows money and property to be returned to its rightful owner. It typically operates where another person can be said to have been unjustly enriched by receiving such monies.
Return on capital employed, ROCE	The ratio of profit to capital employed of an accounting entity during an identified period. Various measures of profit and of capital employed may be used in calculating the ratio.
Royal charter	The document setting out the powers and constitution of a corporation established under prerogative power of the monarch acting on Privy Council advice.

Second reading	The second formal time that a House of Parliament may debate a bill, although in practice the first substantive debate on its content. If successful, it is deemed to denote parliamentary approval of the principle of the proposed legislation.
Secondary legislation	Laws, including orders and regulations, which are made using powers in primary legislation. Normally used to set out technical and administrative provision in greater detail than primary legislation, they are subject to a less intense level of scrutiny in Parliament.
Section	An 'Estimate line' within the Part II: Subhead detail table in an Estimate.
Select Committee	Both Houses of Parliament have select committees that scrutinise the work and expenditure of government. In the House of Commons, responsibilities of departmental select committees include oversight of the policies, administration and spending of particular government departments.
Service-level agreement	Agreement between parties, setting out in detail the level of service to be performed. Where agreements are between central government bodies, they are not legally a contract but have a similar function.
Shareholder Executive	A body created to improve the government's performance as a shareholder in businesses.
Spending review	A cross-government review of departmental aims and objectives and analysis of spending programmes. Results in the allocation of multi-year budgetary limits.
Statement of Excesses	A formal statement detailing departments' overspends and irregular spending as identified by the Comptroller and Auditor General as a result of undertaking annual audits.
Supply	Resources voted by Parliament in response to Estimates, for expenditure by government departments.
Supply and Appropriation Acts	Acts of Parliament, which give formal approval to departmental Supply Estimates. The Main Estimates are approved by a Supply and Appropriation (Main Estimates) Act and the Supplementary Estimates by a Supply and Appropriation (Anticipation and Adjustments) Act.
Supplementary Estimate	The means by which departments seek to amend parliamentary authority provided through Main Estimates by altering the limits on resources, capital and/or cash or varying the way in which provision is allocated. Normally presented in February each year.
Target rate of return	The rate of return required of a project or enterprise over a given period, usually at least a year.
Trading fund	Public sector organisation that has a financing framework allowing it to meet outgoings from commercial revenues. In national accounts they are normally classified as public corporations.
UK Government Investments	A company owned by HMT, established in 2016 through the merger of the Shareholder Executive and UK Financial Investments. Its overarching governance objective is to promote the organisational performance of the UK government's ALBs from the perspective of government as owner.

Value for money	The process under which organisation's procurement, projects and processes are systematically evaluated and assessed to provide confidence about suitability, effectiveness, prudence, quality, value and avoidance of error and other waste, judged for the Exchequer as a whole.
Virement	The use of savings on one or more sections (Estimate lines) or subheads to meet excesses on another section or subhead within the same voted limit in an Estimate.
Vote	The process by which Parliament approves funds in response to supply Estimates.
Voted expenditure	Provision for expenditure that has been authorised by Parliament. Parliament 'votes' authority for public expenditure through the Supply Estimates process. Most expenditure by central government departments is authorised in this way.
Windfall	Monies received by a department which were not anticipated in the spending review.

Annex 23: Her Majesty's Treasury's Orange Book

HM Government

The Orange Book

Management of Risk – Principles and Concepts

Term	Intention
shall	denotes a requirement: a mandatory element
should	denotes a recommendation: an advisory element
may	denotes approval
might	denotes a possibility
can	denotes both capability and possibility
is/are	denotes a description

References are shown in square brackets [] and listed in Annex 6.

The meaning of words is as defined in the Shorter Oxford English Dictionary, except where defined in Annex 5. It is assumed that legal and regulatory requirements shall always be met.

Produced by Mark Ripley, Government Finance Function

Alternative format versions of this report are available on request from GovFinance@hmtreasury.gov.uk

Contents

Introduction

In successful organisations, risk management enhances strategic planning and prioritisation, assists in achieving objectives and strengthens the ability to be agile to respond to the challenges faced. If we are serious about meeting objectives successfully, improving service delivery and achieving value for money, risk management must be an essential and integral part of planning and decision-making. While risk practices have improved over time across government, the volatility, complexity and ambiguity of our operating environment has increased, as have demands for greater transparency and accountability for managing the impact of risks. This updated guidance builds on the previous Orange Book to help improve risk management further and to embed this as a routine part of how we operate.

Public sector organisations cannot be risk averse and be successful. Risk is inherent in everything we do to deliver high-quality services. Effective and meaningful risk management in government remains as important as ever in taking a balanced view to managing opportunity and risk. It must be an integral part of informed decision-making; from policy or project inception through implementation to the everyday delivery of public services. At its most effective, risk management is as much about evaluating the uncertainties and implications within options as it is about managing impacts once choices are made. It is about being realistic in the assessment of the risks to projects and programmes and in the consideration of the effectiveness of the actions taken to manage these risks.

This isn't about adding new processes; it is about ensuring that effective risk management is integrated in the way we lead, direct, manage and operate. As an integrated part of our management systems, and through the normal flow of information, an organisation's risk management framework harnesses the activities that identify and manage the uncertainties faced and systematically anticipate and prepare successful responses. Its importance and value to success should not be underestimated.

As with all aspects of good governance, the effectiveness of risk management depends on the individuals responsible for operating the systems put in place. Our risk culture must embrace openness, support transparency, welcome constructive challenge and promote collaboration, consultation and co-operation. We must invite scrutiny and embrace expertise to inform decision-making. We must also invest in the necessary capabilities and seek to continually learn from experience.

This updated guidance has benefited from discussions with stakeholders and practitioners across the public sector and with colleagues from the private sector. We are grateful for their time and their valuable insights.

Scope

The document updates the version published in 2004. Like the original, it sets out the main principles underlying effective risk management in all government departments and arm's length public bodies[1] with responsibility derived from central government for public funds.

This document may be useful to all parts of the UK public sector, as the same principles generally apply, with adjustments for context.

Purpose

This document is intended for use by everyone involved in the design, operation and delivery of efficient, trusted public services. Its primary audience is likely to be:

- executive and non-executive members of the board;
- Audit and Risk Assurance Committee members;
- risk practitioners;
- senior leadership;
- policy leads; and
- programme and project Senior Responsible Officers (SROs).

The board of each public sector organisation should actively seek to recognise risks and direct the response to these risks. It is for each accounting officer, supported by the board, to decide how. The board and accounting officer should be supported by an Audit and Risk Assurance Committee, who should provide proactive support in advising on and scrutinising the management of key risks and the operation of efficient and effective internal controls.

Attempting to define a one-size-fits-all approach to managing risks, or to standardise risk management practices, would be misguided because public sector organisations are different sizes, are structured differently and have different needs.

This document does not set out the procedure by which an organisation should design and operate risk management. It sets out a principles-based approach that provides flexibility and judgement in the design, implementation and operation of risk management, informed by relevant standards[1] and good practice. Where relevant, the reader is directed to other standards and guidance, including related functional and professional standards and codes of practice (see Annex 6). References throughout the document are shown in square brackets [].

The Management of Risk framework is available through AXELOS[2], who manage guides that comprise the recommended best practice for government project delivery and provide advice on their application.

Comply or Explain

The document sets out main and supporting principles for risk management in government. In considering the effectiveness of risk management arrangements, assessing compliance with *Corporate Governance Code*[2] requirements, and overseeing the preparation of the governance

1 Executive Agencies, Non Departmental Public Bodies and Non Ministerial Departments.

2 AXELOS is a company part owned by the UK government. Their guides are available by subscription or individual purchase.

statement, the board shall consider adherence with the main principles, which are mandatory requirements. The supporting principles, which are advisory, should inform their judgements. Departures may be justified if good risk management can be achieved by other means.

The main principles are the core of the document. The way in which they are applied should be the central question for a board as it determines how it is to operate in accordance with the Corporate Governance Code. Each government organisation is required either to disclose compliance or to explain their reasons for departure clearly and carefully in the governance statement accompanying their annual resource accounts. The requirement for an explanation allows flexibility, but also ensures that the process is transparent, allowing stakeholders to hold organisations and their leadership to account.

Structure

The core document is structured around Sections (A-E), based on principles that are designed to provide the "what" and the "why", not the "how", for the design, operation and maintenance of an effective risk management framework.

The principles can be applied within and across departments, arm's length bodies and organisations with linked objectives, and to activity at any level of decision-making.

The principles should be used to inform an organisation's approach to risk management and its own more detailed policies, processes and procedures – the "how". Implementing and improving the risk management framework should support an incremental approach to enhancing risk management culture, processes and capabilities over time, building on what already exists to achieve improved outcomes.

The primary roles and responsibilities for the risk management framework are set out in each Section. The responsibilities and expectations of the board, the accounting officer and the Audit and Risk Assurance Committee are also summarised at Annex 1.

Some explanation of, and guiding principles on, the design and operation of the "three lines of defence" model are provided in Annex 2.

Annex 3 contains questions that may assist in assessing how the principles are applied in defining clear responsibilities, promoting the risk culture, developing capabilities and supporting the effectiveness of the risk management framework.

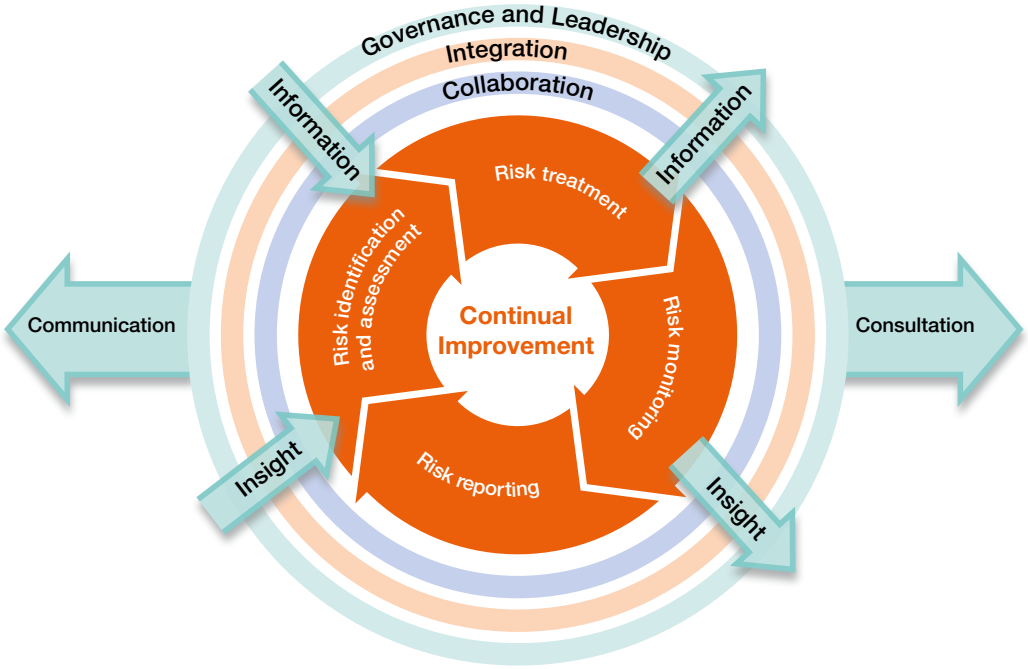
Some common categories or groupings of sources of risk are provided at Annex 4. These may help consider the range of potential risks that may arise; they are not intended to be comprehensive.

Definitions and supportive concepts are provided at Annex 5 of some terms used throughout this document to explain the scope and intended meaning behind the language used.

Annex 6 contains further details of other standards and guidance referenced throughout the document.

Risk Management Principles

Risk Management Framework



The risk management framework supports the consistent and robust identification and management of opportunities and risks within desired levels across an organisation, supporting openness, challenge, innovation and excellence in the achievement of objectives. For the risk management framework to be considered effective, the following principles shall be applied:

A. Risk management shall be an essential part of **governance and leadership**, and fundamental to how the organisation is directed, managed and controlled at all levels.

B. Risk management shall be an **integral** part of all organisational activities to support decision-making in achieving objectives.

C. Risk management shall be **collaborative and informed** by the best available information and expertise.

D. Risk management processes shall be **structured** to include:

   a. **risk identification and assessment** to determine and prioritise how the risks should be managed;

   b. the selection, design and implementation of **risk treatment** options that support achievement of intended outcomes and manage risks to an acceptable level;

   c. the design and operation of integrated, insightful and informative **risk monitoring**; and

   d. timely, accurate and useful **risk reporting** to enhance the quality of decision-making and to support management and oversight bodies in meeting their responsibilities.

E. Risk management shall be **continually improved** through learning and experience.

Section A: Governance and Leadership

Main Principle

A Risk management shall be an essential part of governance and leadership, and fundamental to how the organisation is directed, managed and controlled at all levels.

Supporting Principles

A1 Each public sector organisation should establish governance arrangements appropriate to its business, scale and culture[3]. Human behaviour and culture significantly influence all aspects of risk management at each level and stage. To support the appropriate risk culture, the accounting officer should ensure that expected values and behaviours are communicated and embedded at all levels.

A2 The accounting officer, supported by the board, should periodically assess whether the leadership style, opportunities for debate and human resource policies support the desired risk culture, incentivise expected behaviours and sanction inappropriate behaviours. Where they are not satisfied, they should direct and manage corrective actions and seek assurances that the desired risk culture and behaviours are promoted.

CS Code/Brilliant CS values

Brilliant CS

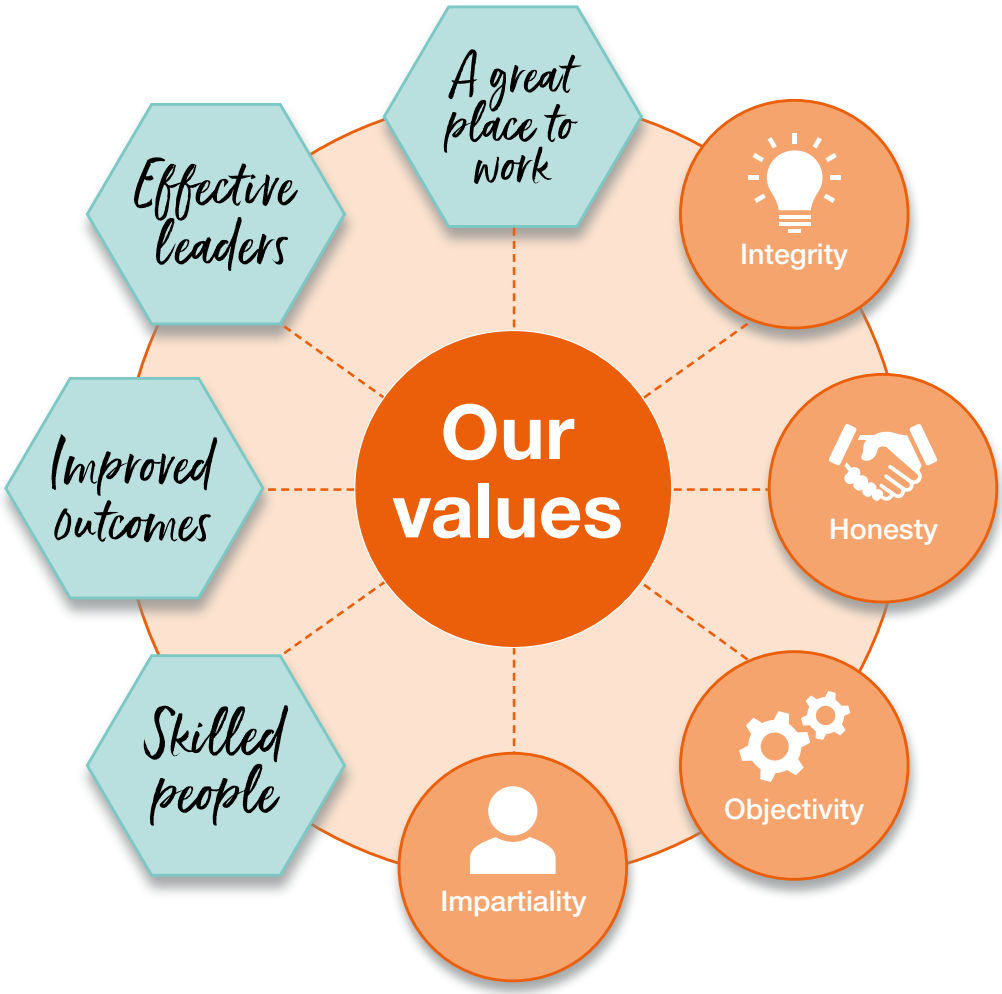
CS Code

'integrity' is putting the obligations of public service above your own personal interests

'honesty' is being truthful and open

'objectivity' is basing your advice and decisions on rigorous analysis of the evidence

'impartiality' is acting solely according to the merits of the case and serving equally well governments of different political persuasions



A3 The board should make a strategic choice about the style, shape and quality of risk management[4] and should lead the assessment and management of opportunity and risk. The board should determine and continuously assess the nature and extent of the principal risks[3] that the organisation is exposed to and is willing to take to achieve its objectives - its risk appetite – and ensure that planning and decision-making reflects this assessment. Effective risk management should support informed decision-making in line with this risk appetite, ensure confidence in the response to risks and ensure transparency over the principal risks faced and how these are managed.

3 A principal risk is a risk or combination of risks that can seriously affect the performance or reputation of the organisation.

A4 The board should ensure that roles and responsibilities for risk management are clear, to support effective governance and decision-making at each level with appropriate escalation, aggregation and delegation. The accounting officer should ensure that roles and responsibilities are communicated, understood and embedded at all levels. The "three lines of defence model" provides a systematic approach that may be used to help clarify the specific roles and responsibilities that are necessary for the effective management of risks within an organisation (see Annex 2).

A5 The board should agree the frequency and scope of its discussions to review how management is responding to the principal risks and how this is integrated with other matters, including planning and performance management processes. Risk should be considered regularly as part of the normal flow of management information about the organisation's activities and in significant decisions on strategy, major new projects and other prioritisation and resource allocation commitments. Risk management should anticipate, detect, acknowledge and respond to changes and events in an appropriate and timely manner. Risks can crystallise quickly; the board and Audit and Risk Assurance Committee should ensure that there are clear processes for bringing significant issues to its attention more rapidly when required, with agreed triggers for doing so as a part of risk reporting (see Section D).

A6 Regular reports to the board should provide a balanced assessment of the principal risks and the effectiveness of risk management. The accounting officer, supported by the Audit and Risk Assurance Committee, should monitor the quality of the information they receive and ensure that it is sufficient to allow effective decision-making.

A7 The accounting officer, supported by the Audit and Risk Assurance Committee, should establish the organisation's overall approach to risk management. An effective risk management framework will differ between organisations depending on their purpose, objectives, context and complexity. The risk management framework should be periodically reviewed to ensure it remains appropriate (see Section E).

A8 The accounting officer should designate an individual to be responsible for leading the organisation's overall approach to risk management, who should be of sufficient seniority and should report to a level within the organisation that allows them to influence effective decision-making. They should be proactively involved with and influence governance and decision-making forums and should establish, and be supported through, effective communication and engagement with the accounting officer, senior management, the board and the chair of the Audit and Risk Assurance Committee. They should also exhibit a high level of objectivity in gathering, evaluating and communicating information and should not be unduly influenced by their own interests or by others in forming and expressing their judgements.

A9 The accounting officer should ensure the allocation of appropriate resources for risk management, which can include, but is not limited to, people, skills, experience and competence.

A10 The accounting officer, supported by senior management, must demonstrate leadership and articulate their continual commitment to, and the value of, risk management through developing and communicating a policy or statement to the organisation and other stakeholders, which should be periodically reviewed.

Section B: Integration

Main Principle

B Risk management shall be an integral part of all organisational activities to support decision-making in achieving objectives.

Supporting Principles

B1 The assessment and management of opportunity and risk should be an embedded part of, and not separate from:

- setting strategy and plans;
- evaluating options and delivering programmes, projects or policy initiatives;
- prioritising resources;
- supporting efficient and effective operations;
- managing performance;
- managing tangible and intangible assets;[5] and
- delivering improved outcomes.

The accounting officer, supported by senior management, should ensure that risks are transparent and considered as an integral part of appraising options, evaluating alternatives and making informed decisions.

B2 Effective appraisal supports the assessment of the costs, benefits and risks of alternative ways to meet objectives.[6] When conducting an appraisal, consideration should be given to the identification and analysis of risks in the design and implementation of options, including: analysis of varying scenarios, sensitivity in forecasts, the objective or subjective basis of assumptions, optimism or status quo bias, dependencies and the inter-relationships between risks. This analysis and evaluation should provide the foundation to understand the risks arising through chosen options and how these will be managed, including how these will be subject to effective and on-going monitoring (see Section D).

B3 Delivery confidence should be supported through the transparent identification of the principal risks faced and how those risks will be managed within business and financial plans.

B4 The board, and those setting strategy and policy, should use horizon scanning and scenario planning collectively and collaboratively to identify and consider the nature of emerging risks, threats and trends. The Government Office for Science ensures that government policies and decisions are informed by the best scientific evidence and strategic long-term thinking.[7] Some other common horizon scanning issues are informed by the Civil Contingencies Secretariat through the National Risk Assessment (NRA).[8]

B5 Government has an inherent role in protecting and assuring the public, which includes taking cost-effective action to reduce risk to a tolerable level and providing accurate and timely information about risks to the public.[9] Policy leads should take explicit steps to involve the public, understand what they are concerned about and why and communicate good information about risk that is targeted to the needs of the audiences involved. Government will:

- be open and transparent about its understanding of the nature of risks to the public and about the process it is following in handling them;
- seek wide involvement of those concerned in decision-making processes;
- act proportionately and consistently in dealing with risks to the public;
- base decisions for intervention on relevant evidence, including expert risk assessment; and
- place responsibility for managing risks to those best able to control them.

Section C: Collaboration and Best Information

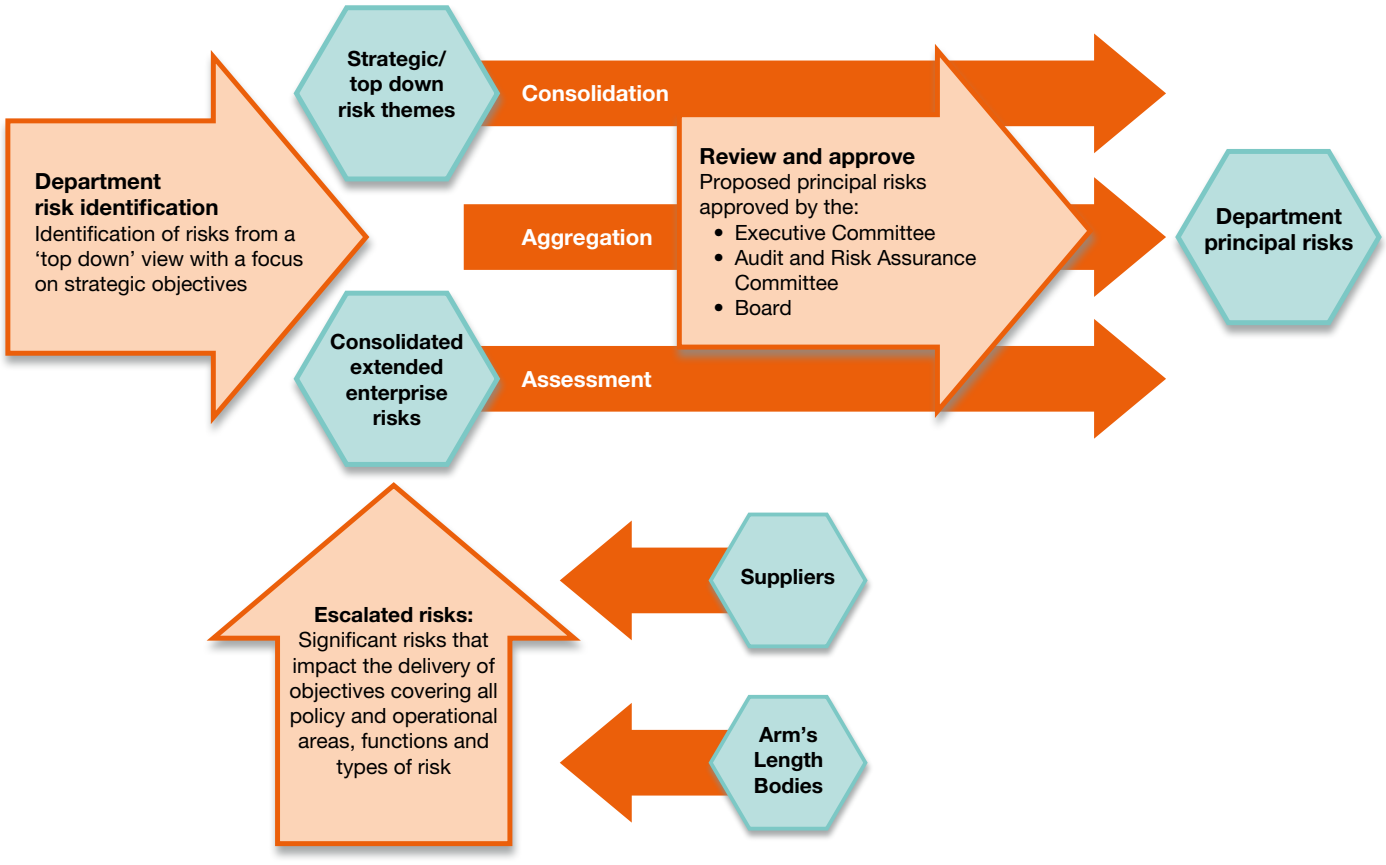
Main Principle

C Risk management shall be collaborative and informed by the best available information and expertise.

Supporting Principles

C1 The accounting officer, supported by the Audit and Risk Assurance Committee, should establish risk management activities that cover all types and source of risk (see Annex 4). There may be many different, but aligned, risk management processes that are applied at different levels within an organisation and across those involved in the end to end delivery of public services. The management of risks and the operation and oversight of internal control should be considered and aligned across this extended enterprise. This requires collaboration and cross-organisational working through a range of public sector, private sector and third-sector partnerships. The risk management framework should be designed to support a comprehensive view of the risk profile, aggregated where appropriate, in support of governance and decision-making requirements.

Risk escalation, consolidation and aggregation



C2 Nearly all government departments sponsor arm's length bodies for which they take ultimate responsibility, while allowing a degree of (or sometimes considerable) independence. Effective relationships and partnership working between departments and arm's length bodies, a mutual understanding of risk, and a proportionate approach to monitoring and reporting are critical. The principal accounting officer[4] should consider the organisation's overall risk profile, including the risk management within arm's length bodies, who should have their own robust and aligned arrangements in place. Informative and transparent management information should enable departments and arm's length bodies to promote transparency and understanding in achieving the effective management of risks, including the timely escalation of risks, as necessary, based on agreed criteria.

C3 Risk management processes (see Section D) should be conducted systematically, iteratively and collaboratively, drawing on the knowledge and views of experts and stakeholders. Information and perspectives should be supplemented by further enquiry as necessary, should reflect changes over time and should be appropriately evidenced. Expert risk assessment methodologies may be highly specialised and may vary depending on the context.

C4 Those assessing and managing risks should consult with appropriate external and internal stakeholders to facilitate the factual, timely, relevant, accurate and understandable exchange of information and evidence, while considering the confidentiality and integrity of this information. Communication should be continual and iterative in supporting dialogue, providing and sharing information and promoting awareness and understanding of risks.

C5 Communication and consultation should also assist relevant stakeholders in understanding the risks faced, the basis on which decisions are made and the reasons why particular actions are required and taken. Communication and consultation should:

- bring together different functions and areas of professional expertise in the management of risks;
- ensure that different views are appropriately considered when defining risk criteria and when analysing risks (see Section D);
- provide sufficient information and evidence to facilitate risk oversight and decision making; and
- build a sense of inclusiveness and ownership among those affected by risk.

Complicated and ambiguous risk scenarios are inherent given the dynamic and/or behavioural complexity in public service delivery, often with no simple, definitive solutions. These risks require whole-system-thinking, aligned incentives, positive relationships and collaboration, alongside relevant technical knowledge, to support multi-disciplinary approaches to their effective management.

4 The Treasury appoints the permanent head of each central government department to be its accounting officer. Where there are several accounting officers in a department, the permanent head is the principal accounting officer.

C6 Functions[5] within and across organisations should play an integral part in identifying, assessing and managing the range of risks than can arise and threaten successful delivery against objectives. Function leads should provide expert judgement to advise the accounting officer to:

- set feasible and affordable strategies and plans;
- evaluate and develop realistic programmes, projects and policy initiatives;
- prioritise and direct resources and the development of capabilities;
- identify and assess risks that can arise and impact the successful achievement of objectives;
- determine the nature and extent of the risks that the organisation is willing to take to achieve its objectives;
- design and operate internal controls in line with good practice; and
- drive innovation and incremental improvements.

5 Functions are embedded in government departments and arm's length bodies, helping to deliver departmental objectives and better outcomes across government.

Section D: Risk Management Processes

Main Principle

D **Risk management processes shall be structured to include:**

a. **risk identification and assessment to determine and prioritise how the risks should be managed;**

b. **the selection, design and implementation of risk treatment options that support achievement of intended outcomes and manage risks to an acceptable level;**

c. **the design and operation of integrated, insightful and informative risk monitoring; and**

d. **timely, accurate and useful risk reporting to enhance the quality of decision-making and to support management and oversight bodies in meeting their responsibilities.**

Risk Management Processes

Supporting Principles

D1 The accounting officer, supported by their nominated individual responsible for leading the organisation's overall approach to risk management, should ensure the adequate design and systematic implementation of policies, procedures and practices for risk identification and assessment, treatment, monitoring and reporting. Although risk management processes are often presented as sequential, in practice they are iterative.

Risk identification and assessment

D2 Risk identification activities should produce an integrated and holistic view of risks, often organised by taxonomies or categories of risk (see Annex 4). The aim is to understand the organisation's overall risk profile. The organisation can use a range of techniques for identifying specific *risks* that may potentially impact on one or more objectives. The following factors, and the relationship between these factors, should also be considered:

- tangible and intangible sources of risk;
- changes in the external and internal context;
- uncertainties and assumptions within options, strategies, plans, etc;
- indicators of emerging risks;
- limitations of knowledge and reliability of information; and
- any potential biases and beliefs of those involved.

Risks should be identified whether or not their sources are under the organisation's direct control. Even seemingly insignificant risks on their own have the potential, as they interact with other events and conditions, to cause great damage or create significant opportunity.

D3 While each risk identified may be important, some form of measurement is necessary to evaluate their significance to support decision-making. Without a standard for comparison, it is not possible to compare and aggregate risks across the organisation and its extended enterprise. This prioritisation is supported by risk assessment[10], which incorporates risk analysis and risk evaluation.

D4 The purpose of risk analysis is to support a detailed consideration of the nature and level of risk. The risk analysis process should use a common set of risk criteria to foster consistent interpretation and application in defining the level of risk, based on the assessment of the *likelihood* of the risk occurring and the *consequences* should the *event* happen (see Annex 5).

D5 Risk analysis can be undertaken with varying degrees of detail and complexity, depending on the purpose of the analysis, the availability and reliability of evidence and the resources available. Analysis techniques can be qualitative, quantitative or a combination of these, depending on the circumstances and intended use. Limitations and influences associated with the information and evidence bases used, and/or the analysis techniques executed, should be explicitly considered. These should be correctly sourced, appraised and referenced within risk reporting to decision-makers. All business critical analytical models in government should be managed within a framework that ensures appropriately specialist staff are responsible for developing and using the models as well as their quality assurance[11].

D6 Risk evaluation should involve comparing the results of the risk analysis with the nature and extent of risks that the organisation is willing to take - its risk appetite - to determine where and what additional action is required. Options may involve one or more of the following:

- avoiding the risk, if feasible, by deciding not to start or continue with the activity that gives rise to the risk;
- taking or increasing the risk in order to pursue an opportunity;
- retaining the risk by informed decision;
- changing the likelihood, where possible;
- changing the consequences, including planning contingency activities;
- sharing the risk (e.g. through commercial contracts[12]).

The outcome of risk evaluation should be recorded, communicated and validated at appropriate levels of the organisation. It should be regularly reviewed and revised based on the dynamic nature and level of the risks faced.

Risk treatment

D7 Selecting the most appropriate risk treatment option(s) involves balancing the potential benefits derived in enhancing the achievement of objectives against the costs, efforts or disadvantages of proposed actions. Justification for the design of risk treatments and the operation of *internal control* is broader than solely economic considerations and should take into account all of the organisation's obligations, commitments and stakeholder views.

D8 As part of the selection and development of risk treatments, the organisation should specify how the chosen option(s) will be implemented, so that arrangements are understood by those involved and effectiveness can be monitored. This should include:

- the rationale for selection of the option(s), including the expected benefits to be gained;
- the proposed actions;
- those accountable and responsible for approving and implementing the option(s);
- the resources required, including contingencies;
- the key performance measures and control indicators, including early warning indicators;
- the constraints;
- when action(s) are expected to be undertaken and completed; and
- the basis for routine reporting and monitoring.

D9 Where appropriate, contingency, containment, crisis, incident and continuity management arrangements should be developed and communicated to support resilience and recovery if risks crystallise.

Risk monitoring

D10 Monitoring should play a role before, during and after implementation of risk treatment. Ongoing and continuous monitoring should support understanding of whether and how the risk profile is changing and the extent to which internal controls are operating as intended to provide reasonable assurance over the management of risks to an acceptable level in the achievement of organisational objectives.

D11 The results of monitoring and review should be incorporated throughout the organisation's wider performance management, measurement and reporting activities. Recording and reporting aims to:

- transparently communicate risk management activities and outcomes across the organisation;
- provide information for decision-making;

- improve risk management activities; and
- assist interaction with stakeholders, including those with responsibility and accountability for risk management activities.

D12 The "three lines of defence" model sets out how these aspects should operate in an integrated way to manage risks, design and implement internal control and provide *assurance* through ongoing, regular, periodic and ad-hoc monitoring and review (see Annex 2). When an organisation has properly structured the "lines of defence", and they operate effectively, it should understand how each of the lines contributes to the overall assurance required and how those involved can best be integrated and mutually supportive. There should be no gaps in coverage and no unnecessary duplication of effort. Importantly, the accounting officer and the board should receive unbiased information about the organisation's principal risks and how management is responding to those risks.

Risk reporting

D13 The board, supported by the Audit and Risk Assurance Committee, should specify the nature, source, format and frequency of the information that it requires. It should ensure that the assumptions and models underlying this information are clear so that they can be understood and, if necessary, challenged. Factors to consider for reporting include, but are not limited to:

- differing stakeholders and their specific information needs and requirements;
- cost, frequency and timeliness of reporting;
- method of reporting; and
- relevance of information to organisational objectives and decision-making.

D14 The information should support the board to assess whether decisions are being made within its risk appetite to successfully achieve objectives, to review the adequacy and effectiveness of internal controls, and to decide whether any changes are required to re-assess strategy and objectives, revisit or change policies, reprioritise resources, improve controls, and/or alter their risk appetite.

D15 Clear, informative and useful reports or dashboards should promote key information for each principal risk to provide visibility over the risk, compare results against key performance/risk indicators, indicate whether these are within risk appetite, assess the effectiveness of key management actions and summarise the assurance information available. Reports should include qualitative and quantitative information, where appropriate, show trends and support early warning indicators. Understanding and decision-making should be supported through the presentation of information in summary form and the use of graphics and visualisation.

D16 Principal risks should be subject to “deep dive” reviews by the board and Audit and Risk Assurance Committee, with those responsible for the management of risks and with appropriate expertise present at an appropriate frequency depending on the nature of the risk and the performance reported.

Section E: Continual Improvement

Main Principle

E Risk management shall be continually improved through learning and experience

Supporting Principles

E1 The organisation should continually monitor and adapt the risk management framework to address external and internal changes. The organisation should also continually improve the suitability, adequacy and effectiveness of the risk management framework. This should be supported by the consideration of lessons based on experience and, at least annually, review of the risk management framework and the performance outcomes achieved. Annex 3 contains questions that may assist in assessing the efficient and effective operation of the risk management framework.

E2 All strategies, policies, programmes and projects should be subject to comprehensive but proportionate evaluation[13], where practicable to do so. Learning from experience helps to avoid repeating the same mistakes and helps spread improved practices to benefit current and future work, outputs and outcomes. At the commencement, those involved and key stakeholders should identify and apply relevant lessons from previous experience when planning interventions and the design and implementation of services and activities. Lessons should be continually captured, evaluated and action should be taken to manage delivery risk and facilitate continual improvement of the outputs and outcomes. Organisation leaders and owners of standards, processes, methods, guidance, tools and training, should update their knowledge sources and communicate learning as appropriate.

E3 Process/capability maturity models or continuum may be used to support a structured assessment of how well the behaviours, practices and processes of an organisation can reliably and sustainably produce required outcomes. These models may be used as a benchmark for comparison and to inform improvement opportunities and priorities.

E4 As relevant gaps or improvement opportunities are identified, the organisation should develop plans and tasks and assign them to those accountable for implementation.

Annex 1 – Roles and Responsibilities - Board, Accounting Officer and Audit and Risk Assurance Committee

Board

The board of each public sector organisation, informed and advised by their Audit and Risk Assurance Committee, should:

- lead the assessment and management of risk and take a strategic view of risks in the organisation.
- ensure that there are clear accountabilities for managing risks and that officials are equipped with the relevant skills and guidance to perform their assigned roles effectively and efficiently.
- ensure that roles and responsibilities for risk management are clear to support effective governance and decision-making at each level with appropriate escalation, aggregation and delegation.
- determine and continuously assess the nature and extent of the principal risks that the organisation is willing to take to achieve its objectives - its "risk appetite" - and ensure that planning and decision-making appropriately reflect this assessment.
- agree the frequency and scope of its discussions on risk to review how management is responding to the principal risks and how this is integrated with other matters considered by the board, including business planning and performance management processes.
- specify the nature, source, format and frequency of the information that it requires.
- ensure that there are clear processes for bringing significant issues to its attention more rapidly when required, with agreed triggers for doing so.
- use horizon scanning to identify emerging sources of uncertainty, threats and trends.
- assure itself of the effectiveness of the organisation's risk management framework.
- assess compliance with the Corporate Governance Code[2] and include explanations of any departures within the governance statement of the organisation's annual report and accounts.

Accounting Officer

The accounting officer of each public sector organisation, supported by the Audit and Risk Assurance Committee, should:

- periodically assess whether the organisational values, leadership style, opportunities for debate and learning, and human resource policies support the desired risk culture, incentivise expected behaviours and sanction inappropriate behaviours.
- ensure that expected values and behaviours are communicated and embedded at all levels to support the appropriate risk culture.
- designate an individual to be responsible for leading the organisation's overall approach to risk management, who should be of sufficient seniority and should report to a level within the organisation that allows them to influence effective decision-making.
- establish the organisation's overall approach to risk management
- establish risk management activities that cover all types of risk and processes that are applied at different organisational levels.
- ensure the design and systematic implementation of policies, procedures and practices for risk identification, assessment, treatment, monitoring and reporting.
- consider the organisation's overall risk profile, including risk management within arm's length bodies and the extended enterprise.
- demonstrate leadership and articulate their continual commitment to and the value of risk management through developing and communicating a policy or statement to the organisation and other stakeholders, which should be periodically reviewed.
- ensure the allocation of appropriate resources for risk management, which can include, but is not limited to people, skills, experience and competence.

- monitor the quality of the information received and ensure that it is of a sufficient quality to allow effective decision-making.
- ensure that risk is considered as an integral part of appraising option choices, evaluating alternatives and making informed decisions.
- be provided with expert judgements through functions to advise on:
  - the feasibility and affordability of strategies and plans;
  - the evaluation and development of realistic programmes, projects and policy initiatives;
  - prioritisation of resources and the development of capabilities;
  - the design and operation of internal control in line with good practice and the nature and extent of the risks that the organisation is willing to take to achieve its objectives; and
  - driving innovation and incremental improvements.
- clearly communicate their expectation that risk management activities are coordinated and that information is shared among across the 'lines of defence' where this supports the overall effectiveness of the effort and does not diminish any of the 'lines' key functions.

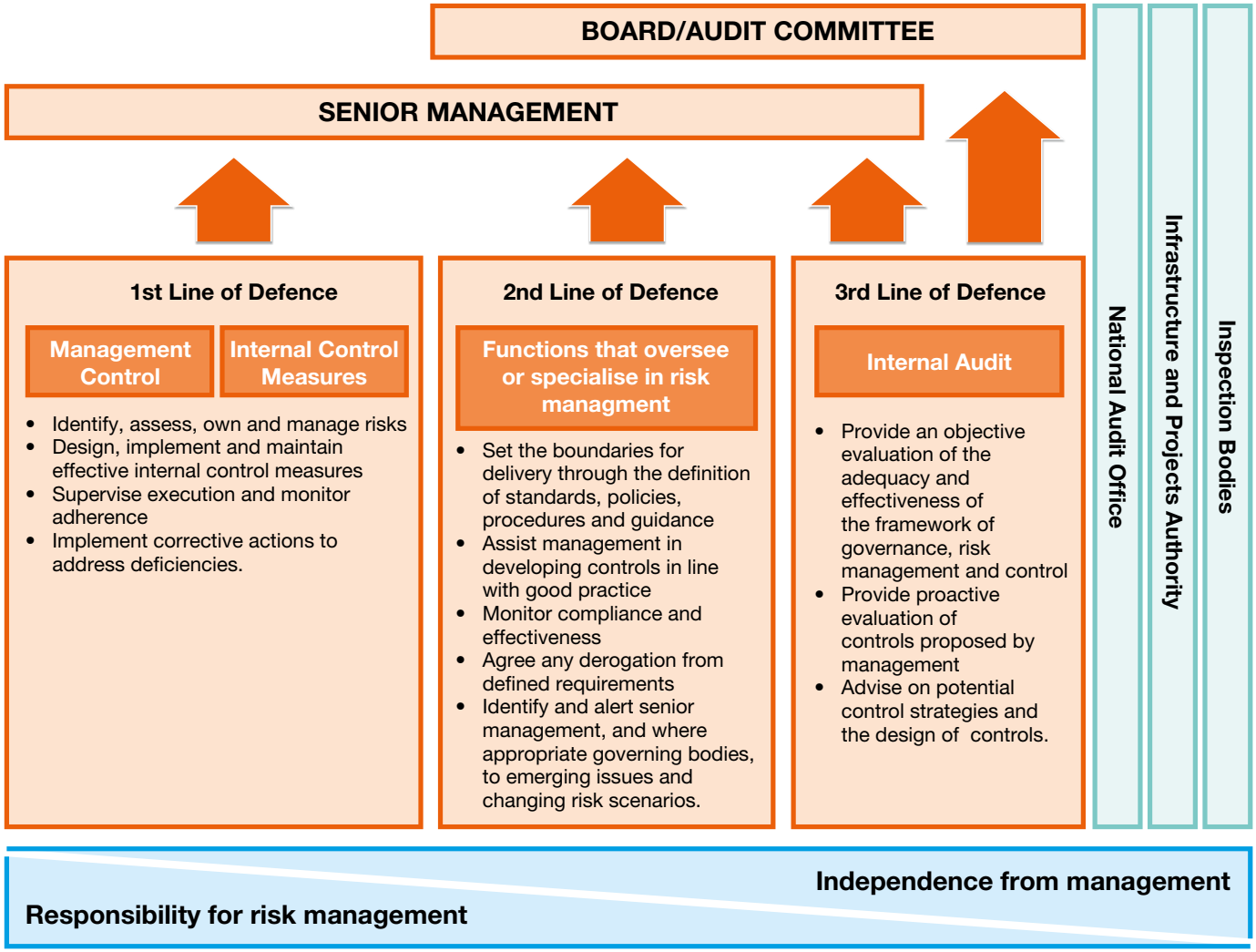
Audit and Risk Assurance Committee[14]

Leading the assessment and management of risk is a role for the board. The Audit and Risk Assurance Committee should support the board in this role. It is essential that the Audit and Risk Assurance Committee:

- understands the organisation's business strategy, operating environment and the associated risks, taking into account all key elements of the organisation as parts of an "extended enterprise";
- understands the role and activities of the board (or equivalent senior governance body) in relation to managing risk;
- discusses with the board its policies, attitude to and appetite for risk to ensure these are appropriately defined and communicated so that management understands these parameters and expectations;
- understands the risk management framework and the assignment of responsibilities;
- critically challenges and reviews the risk management framework, without second guessing management, to evaluate how well the arrangements are actively working in the organisation; and
- critically challenges and reviews the adequacy and effectiveness of control processes in responding to risks within the organisation's governance, operations, compliance and information systems.

Assurance should be obtained on risks across the departmental group. The group should focus on assurances over the management of cross organisational governance, risk and control arrangements to supplement departmental or entity level assurances. Similarly, assurance over the risk and control environment should also encompass services outsourced to external providers, including shared service arrangements, and risks that cross organisational boundaries, for example, in major projects.

Annex 2 – The Three Lines of Defence



Everyone in an organisation has some responsibility for risk management. The "three lines of defence" model provides a simple and effective way to help delegate and coordinate risk management roles and responsibilities within and across the organisation.

The model is not intended as a blueprint or organisational design, but may provide a flexible structure that can be implemented in support of the risk management framework. Functions within each of the "lines of defence" may vary from organisation to organisation and may operate differently.

Neither governance bodies nor senior management are considered to be among the "lines" in this model. They are the primary stakeholders served by the "lines of defence", as they collectively have responsibility and accountability for setting the organisation's objectives, defining strategies to achieve those objectives, and establishing roles, structures and processes to best manage the risks in achieving those objectives successfully.

First line of defence

Under the "first line of defence", management have primary ownership, responsibility and accountability for identifying, assessing and managing risks. Their activities create and/or manage the risks that can facilitate or prevent an organisation's objectives from being achieved.

The first line 'own' the risks, and are responsible for execution of the organisation's response to those risks through executing internal controls on a day-to-day basis and for implementing corrective actions to address deficiencies. Through a cascading responsibility structure, managers design, operate and improve processes, policies, procedures, activities, devices, practices, or other conditions and/or actions that maintain and/or modify risks and supervise effective execution. There should be adequate managerial and supervisory controls in place to ensure compliance and to highlight control breakdown, variations in or inadequate processes and unexpected events, supported by routine performance and compliance information.

Second line of defence

The second line of defence consists of functions and activities that monitor and facilitate the implementation of effective risk management practices and facilitate the reporting of adequate risk related information up and down the organisation. The second line should support management by bringing expertise, process excellence, and monitoring alongside the first line to help ensure that risk are effectively managed.

The second line should have a defined and proportionate approach to ensure requirements are applied effectively and appropriately. This would typically include compliance assessments or reviews carried out to determine that standards[6], expectations, policy and/or regulatory considerations are being met in line with expectations across the organisation.

Third line of defence

Internal audit form the organisation's "third line of defence". An independent internal audit function[15] will, through a risk-based approach to its work, provide an objective evaluation of how effectively the organisation assesses and manages its risks, including the design and operation of the "first and second lines of defence". It should encompass all elements of the risk management framework and should include in its potential scope all risk and control activities. Internal audit may also provide assurance over the management of cross-organisational risks and support the sharing of good practice between organisations, subject to considering the privacy and confidentiality of information.

External assurance

Sitting outside of the organisation's own risk management framework and the three lines of defence, are a range of other sources of assurance that support an organisation's understanding and assessment of its management of risks and its operation of controls, including:

6 In addition to professional standards, functional standards guide people working in and with the UK government. They exist to create a coherent and mutually understood way of doing business across organisational boundaries, and to provide a stable basis for assurance, risk management, and capability improvement.

- external auditors, chiefly the National Audit Office (NAO)[7], who have a statutory responsibility for certification audit of the financial statements;
- value for money studies undertaken by the NAO, which Parliament use to hold government to account for how it spends public money; and
- the Infrastructure and Projects Authority (IPA), who arrange and manage independent expert assurance reviews of major government projects that provide critical input to HM Treasury business case appraisal and financial approval points.

Other sources of independent external assurance may include independent inspection bodies, external system accreditation reviews/certification (e.g. ISO), and HM Treasury/Cabinet Office/ Parliamentary activities that support scrutiny and approval processes.

Coordination, cooperation and communication

The lines of defence have a common objective: to help the organisation achieve its objectives with effective management of risks. They often deal with the same risk and control issues. The accounting officer and the board should clearly communicate their expectation that information be shared and activities co-ordinated across each of the 'lines' where this does not diminish the effectiveness or objectivity of any of those involved.

Careful coordination is necessary to avoid unnecessary duplication of efforts, while assuring that all significant risks are addressed appropriately. Coordination may take a variety of forms depending on the nature of the organisation and the specific work done by each party. It is likely to be helpful to adopt a common 'language' or set of definitions across the 'lines of defence' to ease understanding, for example, in defining risk categories, risk criteria and what is an acceptance level of control or a significant control weakness.

Internal audit and external audit should work effectively together to the maximum benefit of the organisation and in line with international[16] and public sector standards.[17]

7 Some executive NDPBs may have private sector external auditors (either appointed by the relevant Secretary of State or by the Body's Executive) with a reporting line directly to the Secretary of State or to the body rather than through NAO to Parliament.

Annex 3 – Questions to Ask

These questions may assist in assessing how the risk management principles are applied to support the efficient and effective operation of the risk management framework. They should be read in conjunction with the principles set out in this document. The questions are not intended to be exhaustive and not all will be applicable in all circumstances. If the answers to the questions raise concerns, consideration should be given to whether action is needed to address possible areas for improvement.

Governance and Leadership

1. How is the desired risk culture defined, communicated, and promoted? How is this periodically assessed?

2. How do human resource policies and performance systems encourage and support desired risk behaviours and discourage inappropriate risk behaviours?

3. How has the nature and extent of the principal risks that the organisation is willing to take in achieving its objectives been determined and used to inform decision-making? Is this risk appetite tailored and proportionate to the organisation?

4. How are the board and other governance forums supported to consider the management of risks, and how is this integrated with discussion on other matters?

5. How effective are risk information and insights in supporting decision-making, in terms of the focus and quality of information, its source, its format and its frequency?

6. How are authority, responsibility and accountability for risk management and internal control defined, co-ordinated and documented throughout the organisation?

7. How is the designated individual responsible for leading the overall approach to risk management positioned and supported to allow them to exercise their objectivity and influence effective decision-making?

8. How are the necessary skills, knowledge and experience of the organisation's risk practitioners assessed and supported?

9. How has the necessary commitment to risk management been demonstrated?

Integration

10. How are risks considered when setting and changing strategy and priorities?

11. How are risks transparently assessed within the appraisal of options for policies, programmes and projects or other significant commitments?

12. How are emerging risks identified and considered?

13. How are risks to the public assessed and reflected within policy development and implementation?

14. How are National Risk Register risks, that are particularly pertinent to the organisation, recognised in risk assessments and discussions?

Collaboration and Best Information

15. How is an aggregated view of the risk profile informed across the organisation, arm's length bodies and the extended enterprise supporting the delivery of services?

16. How are the views of external stakeholders gathered and included within risk considerations?

17. How does communication and consultation assist stakeholders to understand the risks faced and the organisation's response?

18. How is function and professional expertise used to inform strategies, plans, programmes, projects and policies?

19. How do expert functions and professions inform the identification, assessment and management of risks and the design and implementation of controls?

20. How are functional standards communicated and their adherence monitored across the organisation?

Risk Management Processes

21. How are risk taxonomies or categories used to facilitate the identification of risks within the overall risk profile?

22. How are risk criteria set to support consistent interpretation and application in assessing the level of risk? How effective are these in supporting the understanding and consideration of the likelihood and consequences of risks?

23. How are limitations and influences associated with the information and evidence used with risk assessments highlighted?

24. How are interdependencies between risks or possible combinations of events ('domino' risks) identified and assessed?

25. How dynamic is the assessment of risks and the consideration of mitigating actions to reflect new or changing risks or operational eficiencies?

26. How are exposures to each principal risk assessed against the nature and extent of risks that the organisation is willing to take in achieving its objectives – its risk appetite – to inform options for the selection and development of internal controls?

27. How are decisions made in balancing the potential benefits of the design and implementation of new or additional controls with the costs, efforts and any disadvantages of different control options?

28. How are contingency arrangements for high impact risks designed and tested to support continuity, incident and crisis management and resilience?

29. How is the nature, source, format and frequency of the information required to support monitoring of risk management and internal control defined and communicated?

30. How are new and changing principal risks highlighted and escalated clearly, easily and more rapidly when required?

31. How comprehensive, informative and coordinated are assurance activities in helping achieve objectives and in supporting the effective management of risks?

32. How do disclosures on risk management and internal control contribute to the annual report being fair, balanced and understandable?

Continual Improvement

33. How are policies, programmes and projects evaluated to inform learning from experience? How are lessons systematically learned from past events?

34. How is risk management maturity periodically assessed to identify areas for improvement? Is the view consistent across differing parts or levels of the organisation?

35. How are improvement opportunities identified, prioritised, implemented and monitored?

Annex 4 – Example Risk Categories

Strategy risks – Risks arising from identifying and pursuing a strategy, which is poorly defined, is based on flawed or inaccurate data or fails to support the delivery of commitments, plans or objectives due to a changing macro-environment (e.g. political, economic, social, technological, environment and legislative change).

Governance risks – Risks arising from unclear plans, priorities, authorities and accountabilities, and/or ineffective or disproportionate oversight of decision-making and/or performance.

Operations risks – Risks arising from inadequate, poorly designed or ineffective/inefficient internal processes resulting in fraud, error, impaired customer service (quality and/or quantity of service), non-compliance and/or poor value for money.

Legal risks – Risks arising from a defective transaction, a claim being made (including a defence to a claim or a counterclaim) or some other legal event occurring that results in a liability or other loss, or a failure to take appropriate measures to meet legal or regulatory requirements or to protect assets (for example, intellectual property).

Property risks – Risks arising from property deficiencies or poorly designed or ineffective/inefficient safety management resulting in non-compliance and/or harm and suffering to employees, contractors, service users or the public.

Financial risks – Risks arising from not managing finances in accordance with requirements and financial constraints resulting in poor returns from investments, failure to manage assets/liabilities or to obtain value for money from the resources deployed, and/or non-compliant financial reporting.

Commercial risks – Risks arising from weaknesses in the management of commercial partnerships, supply chains and contractual requirements, resulting in poor performance, inefficiency, poor value for money, fraud, and /or failure to meet business requirements/objectives.

People risks – Risks arising from ineffective leadership and engagement, suboptimal culture, inappropriate behaviours, the unavailability of sufficient capacity and capability, industrial action and/or non-compliance with relevant employment legislation/HR policies resulting in negative impact on performance.

Technology risks – Risks arising from technology not delivering the expected services due to inadequate or deficient system/process development and performance or inadequate resilience.

Information risks – Risks arising from a failure to produce robust, suitable and appropriate data/information and to exploit data/information to its full potential.

Security risks – Risks arising from a failure to prevent unauthorised and/or inappropriate access to the estate and information, including cyber security and non-compliance with General Data Protection Regulation requirements.

Project/Programme risks – Risks that change programmes and projects are not aligned with strategic priorities and do not successfully and safely deliver requirements and intended benefits to time, cost and quality.

Reputational risks – Risks arising from adverse events, including ethical violations, a lack of sustainability, systemic or repeated failures or poor quality or a lack of innovation, leading to damages to reputation and or destruction of trust and relations.

Failure to manage risks in any of these categories may lead to financial, reputational, legal, regulatory, safety, security, environmental, employee, customer and operational consequences.

Annex 5 – Definitions and Supportive Concepts

Governance[2] is the system by which organisations are directed and controlled. It defines accountabilities, relationships and the distribution of rights and responsibilities among those who work with and in the organisation, determines the rules and procedures through which the organisation's objectives[8] are set, and provides the means of attaining those objectives and monitoring performance. This includes establishing, supporting and overseeing the risk management framework.

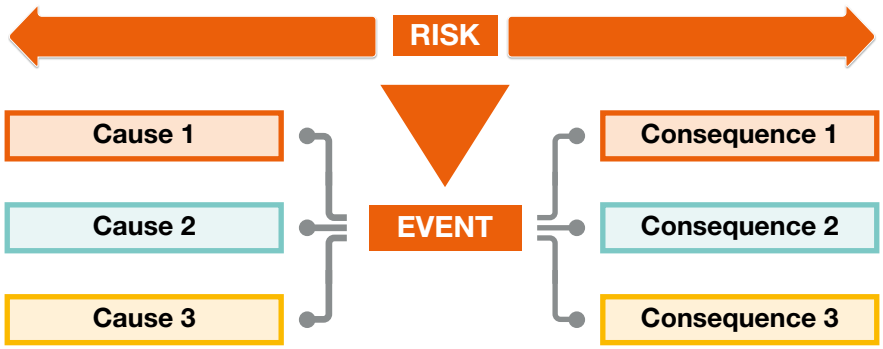
Risk Management is the co-ordinated activities designed and operated to manage risk and exercise internal control within an organisation.

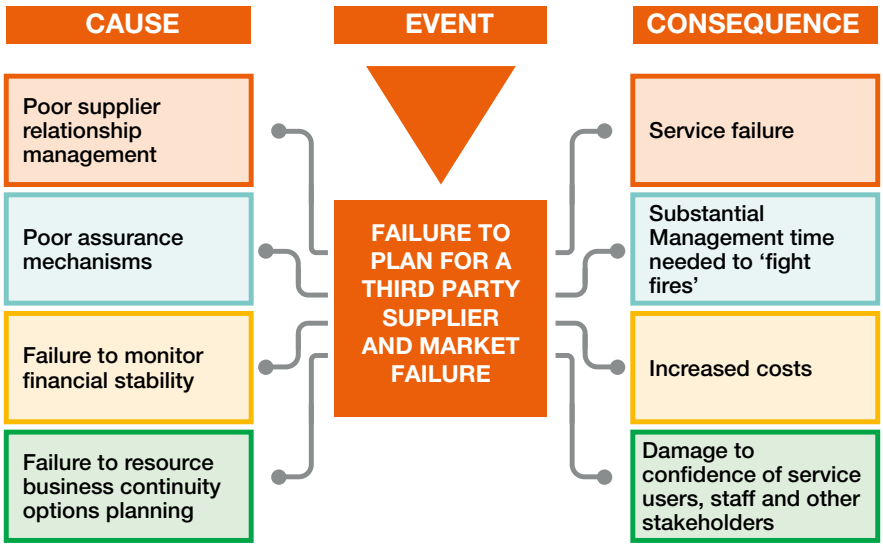
Risk is the effect of uncertainty on objectives. Risk is usually expressed in terms of causes, potential events, and their consequences:

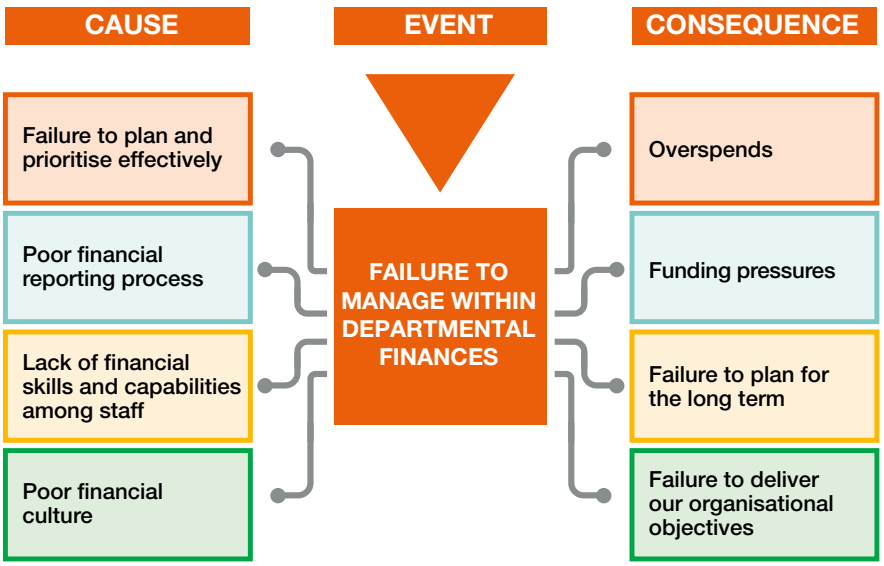
- A *cause* is an element which alone or in combination has the potential to give rise to risk;
- An *event* is an occurrence or change of a set of circumstances and can be something that is expected which does not happen or something that is not expected which does happen. Events can have multiple causes and consequences and can affect multiple objectives;
- the *consequences* should the event happen – consequences are the outcome of an event affecting objectives, which can be certain or uncertain, can have positive or negative direct or indirect effects on objectives, can be expressed qualitatively or quantitatively, and can escalate through cascading and cumulative effects.

8 Objectives can have different aspects and categories – covering efficient and effective operations, financial and non-financial reporting, and compliance with laws and regulations - and can be applied at different levels.

Stating risks: causes, events and consequences







In stating risks, care should be taken to avoid stating consequences that may arise as being the risks themselves, i.e. identifying the symptoms without their cause(s). Equally, care should be taken to avoid defining risks with statements that are simply the converse of the objectives, i.e. failure to achieve the intended output/outcome.

Organisations typically assess consequences using a combination of criteria, which commonly include financial, reputational, legal, regulatory, safety, security, environmental, employee, customer and operational effects. The criteria used should be dynamic and should be periodically reviewed and amended, as necessary. Scales should allow meaningful differentiation for ranking and prioritisation purposes based on assigning values to each risk using the defined criteria.

When assigning a consequence rating to a risk, the rating for the highest, most credible worst-case scenario should be assigned.

The risk analysis process defines the level of risk, based on the assessment of the ***likelihood*** of the risk occurring and the consequences should the event happen. Likelihood is the assessment of something happening, whether defined, measured or determined objectively or subjectively, qualitatively or quantitatively, and described using general terms or mathematically (such as a probability or a frequency over a given time period).

Risk analysis should also consider:

- sensitivity and confidence levels, based on the information available;
- complexity and connectivity;
- time-related factors and volatility; and
- the effectiveness of existing internal control.

Internal Control is the dynamic and iterative framework of processes, policies, procedures, activities, devices, practices, or other conditions and/or actions that maintain and/or modify risk. Internal controls permeate and are inherent in the way the organisation operates and are affected by cultural and behavioural factors.

Where additional action is required to bring the levels of risk within the nature and extent that the organisation is willing to take to achieve its objectives, the organisation should select, develop and implement options for addressing risk through preventive, directive, detective, and/or corrective controls that manage risks to an acceptable level. These might be manual or automated. This involves an iterative process of:

- planning and implementing internal control;
- assessing the effectiveness of internal control;
- deciding whether the nature and extent of the remaining risk after the implementation of internal controls is acceptable; and
- if not acceptable, reassessing options and taking further action where appropriate.

Internal control, even if carefully designed and implemented, might not produce the intended or expected outcomes. Internal control can also introduce new risks that need to be managed.

Assurance is a general term for the confidence that can be derived from objective information over the successful conduct of activities, the efficient and effective design and operation of internal control, compliance with internal and external requirements, and the production of insightful and credible information to support decision-making. Confidence diminishes when there are uncertainties around the integrity of information or of underlying processes.

Annex 6 – References

ID	Description
1	BS ISO 31000:2018(E) - Risk management – Guidelines
2	Corporate governance code for central government departments https://www.gov.uk/government/publications/corporate-governance-code-for-central-government-departments
3	Managing Public Money – Section 4 Governance and Management https://www.gov.uk/government/publications/managing-public-money
4	Managing Public Money – Annex 4.3 Risk
5	Budget 2018: 2.18 The Balance Sheet Review – https://www.gov.uk/government/publications/budget-2018-documents/budget-2018 and Getting smart about intellectual property and intangible assets https://www.gov.uk/government/publications/getting-smart-about-intellectual-property-and-intangible-assets
6	Central Government Guidance on Appraisal and Evaluation - The Green Book https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf
7	The Future Toolkit provides guidance on horizon scanning and outlines how scenarios can be used to further investigate emerging risks https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf
8	The National Risk Assessment (NRA) - a strategic medium-term planning tool that captures examples of civil emergencies that could plausibly affect the UK within its territorial boundaries and should be used to inform integrated emergency management decisions
9	The Principles of Managing Risks to the Public https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191518/Managing_risks_to_the_public_appraisal_guidance.pdf
10	ISO 31010:2009 is a supporting standard for BS ISO 31000 and provides guidance on selection and application of systematic techniques for risk assessment
11	Guidance on producing quality analysis for government – The Aqua Book https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416478/aqua_book_final_web.pdf
12	The Outsourcing Playbook - Central Government Guidance on Outsourcing Decisions and Contracting https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/780361/20190220_OutsourcingPlaybook_6.5212.pdf
13	Guidance for evaluation – The Magenta Book https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/220542/magenta_book_combined.pdf
14	HM Treasury Audit and Risk Assurance Committee Handbook, March 2016 https://www.gov.uk/government/publications/audit-committee-handbook
15	Public Sector Internal Audit Standards https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/641252/PSAIS_1_April_2017.pdf
16	International Standards on Auditing - ISA 315 and 610

Annex 24 ICF KPIs

<table>
<tr><td>Short title</td><td>ICF KPI 1: Number of people supported by DFID programmes to cope with the effects of climate change

Please note that this methodology had substantial changes made to it in March of 2013. Please re-read, especially the technical definition/methodological summary and data disaggregation sections.</td></tr>
<tr><td>Type of Indicator</td><td>Cumulative (individual years summed to total): report annual in-year totals only against each milestone. These annual in-year totals should then be summed at the end of the results template to give a cumulative total for the current spending review period (2011/15), the life of the programme and where results will occur outside the life of the programme for total programme benefits.</td></tr>
<tr><td>Key reporting requirements</td><td>Below is a list of key reporting requirements to keep in mind when making your returns. Further details are available in the text below:

<table>
<tr><th>Requirement</th><th>Summary</th></tr>
<tr><td>Is this a DRF indicator?</td><td>Yes</td></tr>
<tr><td>Available for reporting?</td><td>Yes</td></tr>
<tr><td>Methodology changes?</td><td>Yes - substantial</td></tr>
<tr><td>Units</td><td>Absolute number of people</td></tr>
<tr><td>Attribution</td><td>Pro-rata share of public funding</td></tr>
<tr><td>Disaggregation to be reported in results templates</td><td>• Direct vs. Indirect
• Gender</td></tr>
</table>
</td></tr>
<tr><td>Technical definition/ Methodological summary</td><td>Identifying the target number of beneficiaries is now an essential step in the business planning process, and will be a key output/outcome indicator for any programme DFID supports.

<u>Definitions</u>

‘Support’ is defined as direct assistance from the programme in question, with the explicit intention of helping people deal with climate change impacts. It could include for example financial resources, assets, agricultural inputs, training, communications (e.g. early warning systems) or information (e.g. weather forecasting). Whilst almost any development intervention that has the outcome of reducing poverty and therefore vulnerability could be described as supporting people to cope with the effects of climate change, the definition here requires the effects of climate change to be explicitly recognised and targeted by the programme in question[1].

‘People supported’ should relate to populations or households[2] identified by the programme in question with a direct relationship to it.

‘Effects of climate change’ are defined here as the effects of both existing climate variability and the magnified impacts of future climate change. Normally resulting from the primary consequences of climate change of: changes to precipitation, temperature and sea level rise, these may be sudden onset or gradual, and can include floods, droughts, storms, landslides, salination, coastal inundation, heat or cold waves and biodiversity loss.</td></tr>
</table>

[1] At a minimum all programmes with a ‘Departmental Strategic Objective’ (DSO) on climate change and/or a primary or secondary component Input Sector Code on climate change should be included in this indicator, though others may also be eligible.
[2] If the data collected is by household then this figure should be converted into a number of people indicator – see data calculation section

	Application This indicator relates to the UK International Climate Fund (ICF) impact statement from the theory of change[3] for adaptation to climate change: *'Vulnerable people in poor countries are prepared and equipped to respond effectively to existing climate variability and the magnified impacts of climate change'.* This indicator seeks to measure the numbers of people who have received an input of support as a proxy for preparing and equipping them, but does not seek to measure the output of whether this support was successful in reducing the impacts of climate change events or effects on these people, or the outcome of increasing their resilience or reducing their vulnerability to climate change. For the ICF we will seek to capture this outcome of improved resilience to climate change through evaluation and other indicators where possible. It is desirable to distinguish between numbers of poor people and numbers of vulnerable people, as not all vulnerable people are poor, and it is not always the poorest that are vulnerable, but this methodology does not encompass this definition yet. Future methodological work is planned to provide a more robust and multi-dimensional definition, and to deepen our understanding of who is vulnerable to climate change. Neither does this methodology specify that people supported should be located in poor countries or define which are poor, although it is expected that all interventions will be in developing countries. This indicator should only cover bilateral spend at this stage. Multilateral and other support (e.g. direct to NGOs), will be collected and calculated separately, to ensure the same individuals aren't double counted, e.g. if supported in different ways (or even the same way) by geographically overlapping programmes. There are two dimensions of 'support': 1) *Targeted:* defined as whether people (or households) can be identified by the programme as receiving direct support, can be counted individually and are aware they are receiving support in some form. This implies a high degree of attribution to the programme. 2) *Intensity*: defined as the level of support/effort provided per person, on a continuum but broad levels may be defined as: a. Low: e.g. people falling within an administrative area of an institution (e.g. Ministry or local authority) receiving capacity building support or people within a catchment area of a river basin subject to a water resources management plan. b. Medium :e.g. people receiving information services such as a flood warning or weather forecast by text, people within catchment area of structural flood defences, people living in a community where other members have been trained in emergency flood response. c. High: e.g. houses raised on plinths, cash transfers, agricultural extension services, training of individuals in communities to develop emergency plans These dimensions are not completely exclusive, medium intensity support may be either targeted (e.g. early warning text messages) or not targeted (catchment

[3] See ICF thematic paper on adaptation May 2011 for details on the TOC (Quest number 3721477)

area of a flood defence system). **However high intensity support should always be targeted, and low intensity support cannot normally be considered targeted. Low intensity support *should <u>not</u> be reported* for this indicator**

<u>Categories</u>

There are therefore **<u>2 categories for reporting:</u>**

A) **Direct:** Targeted & High intensity. Must fulfil both criteria e.g. people receiving social protection cash transfers, houses raised on plinths, agricultural extension services, training of individuals in communities to develop emergency plans and use early warning systems.

B) **Indirect:** which covers:
   i) Targeted & Medium intensity: e.g. people receiving weather information and text message early warnings.
   ii) Not targeted & Medium intensity: e.g. people within the coverage of an early warning system, or catchment area of a large infrastructure project (e.g. flood defences), or living in a discrete community in which others have been trained in emergency response

Programmes are **only** required to distinguish direct and indirect support (and not the sub-categories of 'indirect' above – e.g. whether targeted or not)

A third category does not need to be reported at all:

C) **Not Reported:** Indirect and Low intensity: e.g. people benefiting from falling within an administrative area of an institution receiving capacity building support, or catchment area of a Water Resources Management plan or strategy (these numbers can be captured through the programme's own monitoring, and for the ICF the interventions under the 'institutional development' scorecard KPIs).

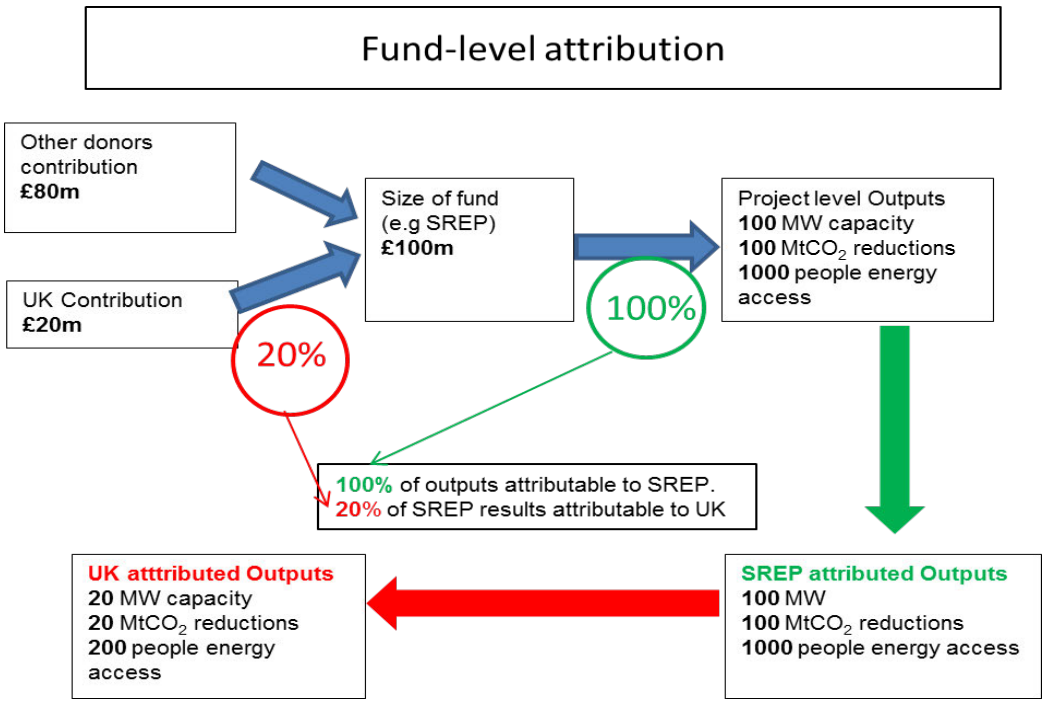
If you are unsure how to break down the number of people your programme supports into these categories please contact the adaptation and water resource management team leads as listed at the end of this document.

Gender:
Reporting by gender has been marked as mandatory. If you are unable to disaggregate by gender please see the additional guidance in the data disaggregation section below.

A single programme may include interventions which are direct and indirect (e.g. a programme which has activities including social protection and early warning

	systems). A single *intervention* may also include people supported directly and people supported indirectly, e.g. individuals trained to develop community emergency plans and use early warning systems would be supported directly, whereas people living in the same community and benefiting from those plans would be supported indirectly *Further information* 2 further optional labels can then be applied within the above categories: 1. The first label is simply: Does this programme fit under any of the sectors prioritised in the ICF adaptation thematic paper? That is: (a) access to social protection (if the programme is defined as an 'adaptation' intervention) including micro-finance and broader social protection/insurance mechanisms; (b) support to water shed and water basin management (both the construction of small-scale infrastructure at household or community level and large-scale support for watershed and water basin management activities; (c) support with urban resilience including resilient infrastructure; (d) support to any community and/or national level disaster risk reduction activities; (e) support for resilient agriculture programmes; (f) support for eco-systems development and coastal zone management programmes; and (g) support for health programmes which are primarily tackling climate change risks. 2. The second label considers the proportion that are poor: What proportion of the beneficiaries are poor? Numbers of poor people could be determined by numbers below a country specific poverty line rather than the international $1.25/day definition. For programmes which have indirect beneficiaries, proportions of poor could be estimated from social vulnerability analyses commissioned as part of the programme preparation or any prior Climate Change Strategic Programme Reviews. *Methodological points to note:* 1. Numbers of people supported through multilateral multi-sector adaptation programmes where UK is major funder will also be included in this indicator. We will be working with the multilateral partners to ensure this headline indicator can be gathered in future. 2. With multi-sectoral support there is scope for double-counting of results, we will therefore ensure that targeted interventions are tagged against one or another sector. 3. Finally, both household and individual data can be collected as part of this exercise. Data on household size should be determined from the most recent national census data or from a nationally representative household survey. If data is collected at the household level, the country office will need to multiply the number of households by the average household size.
Rationale	This is a new area of programming. At a minimum, an overall numbers of people

	supported by climate change support will help demonstrate our impact statement in the Theory of Change for adaptation. Although we are not envisaging all programmes to be able to gather all of the disaggregated levels of data, what is collected will strengthen the story on our adaptation portfolio and strengthen our evidence base. This indicator links clearly to policy priorities around climate adaptation as articulated by the International Climate Fund Board. With limited international consensus on measuring successful adaptation, HMG's development of these and other indicators will be leading the way in the international community.
Country office role	Country offices will be required to report on target beneficiaries, and numbers reached throughout implementation of each programme. This and other ICF indicators should be built into Annual Review progress reports. Progress has already been made with multilateral partners in making their M&E systems more focused on aggregating results. The Pilot Programme for Climate Resilience (one of the CIFs) Adaptation Fund and Least Developed Countries Fund for example have their own results frameworks, will generate results information on a regular basis, there may be a role for country offices in quality assuring the information when it is collected.
Data source	The indicator will be measured through the monitoring and, to some extent, evaluation of DFID bilateral climate adaptation programmes and multilateral programmes, particularly those financed by the UK's International Climate Fund (ICF). In some cases (e.g. on-going programmes in Bangladesh) the data will be generated through project-specific surveys. Where DFID programmes are operated through government (e.g. the Ethiopia PSNP), the data will come from separate commissions. Similarly, data on proportions of poor will be undertaken through individual surveys at project level and then attributed to the programme. Perhaps at a later stage, household level surveys will begin to gather this data more readily. The aggregation for this indicator will be undertaken by CED across all projects/programmes.
Data included	**DRF:** At a minimum all DFID programmes with an explicit climate change purpose are should report on this indicator (primary or secondary input sector code on ARIES).
Formula/Data calculation (including attribution rule)	The indicator is expressed in absolute numbers, so not relevant. However, the data will be aggregated by CED using the numbers provided against sector interventions summed across to arrive at a total figure. It is possible that some of the disaggregated levels of data are provided as percentages. These will then be converted as appropriate into absolute numbers. Where HMG are only funding part of the project, benefits (number of people) should be calculated as a pro-rata share of public funding. For example, if we are funding 10% of a project with 100 beneficiaries, we should claim that 10 of these beneficiaries are attributable to DFID. It is possible for a single programme to reach both direct (targeted and high intensity) and indirect (targeted or not targeted and medium intensity) beneficiaries in which case these should be reported separately. **Fund-level attribution** (i.e. at point of UK investment) should be applied for reporting expected and actual results and headline results/figures used in

	Business Cases (to ensure all projects can report on a consistent basis). This method involves sharing results across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. For example, if the UK invests £25m into a fund that totals £100m of public money, the UK would claim 25% of the results from that investment. This applies to all results. The long term ambition is to develop the data availability to enable all projects to use the lowest/most direct level of attribution possible in the future (i.e. project level). Therefore, advisers should be working to develop sufficient data to calculate project level results reports, and where possible, provide this information now alongside headline Fund level results. To note, the distinction between attribution at the project level and at the Fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels. 
Most recent baseline	By nature of the indicator the baseline for the programme in question will normally be zero for number of people supported *by DFID*. The possible exception being where the programme is an extension of an existing DFID programme that preceded the current Comprehensive Spending Review. *[For the aggregated total for DFID overall the baseline will be zero at the start of the Comprehensive Spending Review period]*.
Good performanc	The public should be looking for an increase in the absolute numbers receiving support. Through a complimentary ICF evaluation an assessment will also be made of how far people's resilience to climate change has been improved.
Return format	Absolute numbers of beneficiaries only, disaggregated by direct/indirect and gender. Please see Data dis-aggregation section below.
Data dis-aggregation	<u>Data to be disaggregated and reported in the ICF results template:</u>

	- Number of direct or indirect beneficiaries - Gender: • Reporting by gender has been marked as mandatory. If you are unable to report by gender please explain why in the metadata columns of the results template. • We would expect gender disaggregation to be possible for all programmes in the direct category. Where possible gender disaggregation should also be given for the indirect category. • We acknowledge that gender disaggregation will not be possible if household level data are used. If local gender disaggregation data is not available but you have target population data that allows you to give an estimated number then please report this. If an estimate is used then please state this clearly in the metadata column. • It is not intended to present gender disaggregated figures by country/programme but as an aggregated total across programmes. <u>Data to be disaggregated as part of workings and Quest number provided:</u> Disaggregation of the following variables will not be collected as part of the ICF results template. Please include disaggregated data in your working documents and record the Quest number for these documents in the ICF results template. - Thematic sector of programme - Proportion of beneficiaries who are poor
Data availability	It should be possible for country offices (and eventually multilateral partners) to report on beneficiary numbers at least annually (to inform Annual Reviews). CED will collate this information annually. Robust data from programmes already in implementation may be difficult to gather as baselines are unlikely to have been developed in all cases. Therefore we expect the routine M&E of these programmes to be able to generate this information.
Time period/ lag	This will have to be worked through with country offices and multilateral partners, but a 6-9 month lag may be necessary.
Quality assurance measures	We will identify mechanisms for data QA with multilateral partners (possibly using the OECD as an independent arbiter) by June 2013. In DFID, we anticipate that there will be 3 layers of QA: country offices, CED and FCPD. Country offices will need to estimate country-level aggregation, where separate programmes may support the same people in different ways. COs will be in the best position to do this analysis on geographic overlap. CED will need to centrally estimate aggregation between bilateral country programmes and multilateral support, to identify where this overlaps in terms of i) same people in different ways or ii) same people in the same ways e.g. through core support to two multilateral agencies co-financing the same programme. If reporting officers have any concerns about the quality of data or any points that they think CED should be made aware of, then please note this in the ICF (and DRF) results templates. Any comments can usually be added into the free text columns on the far right of each template. Further guidance should be available in the commissioning note.
Data issues	Quality of data will vary, particularly where it is necessary to rely on

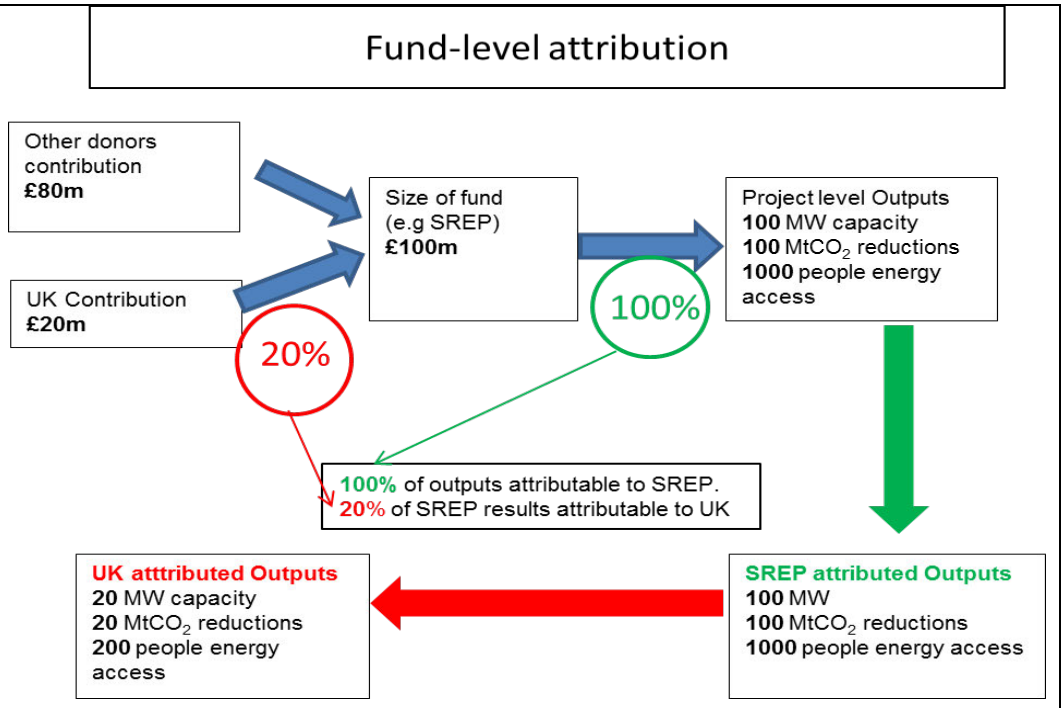
	implementing partners collection of government data systems. We might be able to use different sources of data to triangulate results and strengthen our interpretation of the data. A further assumption is made that the data collected on the 'indirect' category (targeted or not targeted and medium intensity) can still be attributable. As there is no guidance on acceptable attribution proportions for indirect beneficiaries, we are proposing that these are captured in full and no discounting is made. FCPD guidance only exists on targeted attribution.
Additional comments	CED also plans to undertake more methodological work on definitions of vulnerability and will aim to do an evaluation on the impact of the ICF programmes on resilience. At some future date, these indicators can be used in conjunction with the indicator above to strengthen its impact focus. The number of people supported to cope with climate change indicator is new and attempts to measure a new area in development of common international interest. We have shared this methodology with a number of international partners including the MDBs and other donors and a number of these partners have chosen to replicate this methodology in their own reporting.
Lead	Statistical advisor: Alex Feuchtwanger (DFID) a-feuchtwanger@dfid.gsx.gov.uk Subject matter lead: Juliet Field (DFID) j-field@dfid.gov.uk

<table>
<tr><td>Short title</td><td>ICF KPI 2: Number of people with improved access to clean energy as a result of ICF projects</td></tr>
<tr><td>Type of indicator</td><td>Cumulative (individual years summed to total): report annual in-year totals only against each milestone. These annual in-year totals should then be summed at the end of the results template to give a cumulative total for the current spending review period (2011/16), the life of the programme and where results will occur outside the life of the programme for total programme benefits.</td></tr>
<tr><td>Key reporting requirements</td><td>Below is a list of key reporting requirements to keep in mind when making your returns. Further details are available in the text below:

<table>
<tr><th>Requirement</th><th>Summary</th></tr>
<tr><td>Is this a DRF indicator?</td><td>Yes</td></tr>
<tr><td>Available for reporting?</td><td>Yes</td></tr>
<tr><td>Methodology changes?</td><td>No – however clarification on attribution</td></tr>
<tr><td>Units</td><td>Absolute number of people</td></tr>
<tr><td>Attribution</td><td>Pro-rata share of public funding</td></tr>
<tr><td>Disaggregation to be reported in results templates</td><td>• Gender</td></tr>
<tr><td>Key point</td><td>Only include results from off-grid connections, <u>do not</u> include results from on-grid access.</td></tr>
</table>
</td></tr>
<tr><td>Technical Definition / Methodological summary</td><td>Clean energy access refers to:
- New household connections to off-grid renewable energy sources. (To note, on-grid access cannot be included in these figures because once on-grid, it is impossible to determine the energy source).
- Households with more efficient cook stoves, solar lanterns or other clean technologies which generate energy.

Clean energy is generated from both combustible and non-combustible renewables. Non-combustible renewables include geothermal, solar, wind, hydro, tide and wave energy. Combustible renewables and waste include biofuels (biogas, ethanol, biodiesel); biomass products (fuelwood, vegetal waste, pulp and paper waste, animal waste, bagasse), municipal waste (waste produced by the residential, commercial and public service sectors that are collected by the local authorities for disposal) and industrial waste; all for the production of power.</td></tr>
<tr><td>Rationale</td><td>Energy access is crucial to development; other services such as education, communication, refrigeration and better access to information are contingent on, or enhanced by, energy access. More efficient cook stoves etc also have health and time co-benefits. This is particularly the case for women/children who often suffer more from the negative impact of indoor air pollution and have to spend time collecting fuel wood. Clean energy should also partly displace fossil fuels resulting in lower carbon emissions.</td></tr>
<tr><td>Country office role</td><td>For each of their climate change programmes, country offices will need to assess the number of additional people given access to clean energy as a result of their projects and supply this information to FCPD. Collated data will be quality assured and finalised by DFID’s Climate and Environment Department and FCPD.</td></tr>
<tr><td>Data sources</td><td>Use of project level M&E (e.g. household surveys, project reporting) enables the tracking of clean energy access for ICF funded projects.</td></tr>
</table>

	Data on household size should be determined from the most recent national census data or from a nationally representative household survey.
Reporting organisation	DFID internal
Data included	Number of households with improved access to clean energy, based on average number of people in a household.
Formula/Data calculation (including attribution rule)	If data is collected at the household level, the country office will need to convert the number of households into the number of people. The country office will need to multiply by the average household size. Where HMG are only funding part of the project, benefits (number of people) should be calculated as a pro-rata share of public funding. For example, if we are funding 10% of a project with 100 beneficiaries, we should claim that 10 of these beneficiaries are attributable to DFID. If several donors are active in the same region only those beneficiaries which are directly and closely linked to the ICF activities should be counted. If this is difficult to determine, all beneficiaries should be counted and the numbers proportioned according to the contribution by different donors. **Fund-level attribution** (i.e. at point of UK investment) should be applied for reporting expected and actual results and headline results/figures used in Business Cases (to ensure all projects can report on a consistent basis). This method involves sharing results across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. For example, if the UK invests £25m into a fund that totals £100m of public money, the UK would claim 25% of the results from that investment. This applies to all results. The long term ambition is to develop the data availability to enable all projects to use the lowest/most direct level of attribution possible in the future (i.e. project level). Therefore, advisers should be working to develop sufficient data to calculate project level results reports, and where possible, provide this information now alongside headline Fund level results. To note, the distinction between attribution at the project level and at the Fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels.

	
Worked example	DFID provides X number of households with solar lanterns. Household surveys through project M&E will identify the number of new households who have access to clean energy due to the ICF project compared to the initial baseline and forecast of those who would have bought solar lanterns anyway. Ideally the project level data will also be disaggregated by income level. X is then multiplied by the average household size as set out in the census or national household survey. Results are attributed at the point of UK investment (Fund level) and shared across all donors that contribute to a fund.
Most recent baseline	The baseline should reflect the situation prior to ICF funding being provided and anticipated projections of what would happen without the ICF. For long running programmes the baseline should be taken as 2010 unless otherwise stated. The baseline should align with the economic appraisal in the project design.
Good performance	An increase in the number of people with improved access to clean energy.
Return format	Number of people with improved access to clean energy due to the ICF project. Where the data exists, number of poor people with improved access to energy due to the ICF project should be reported. This could be determined by numbers below a country level poverty line rather than the international $1.25/day definition. This can be done using country level data or more subnational level data. See data dis-aggregation section below for where these figures should be reported.
Data dis-aggregation	<u>Data to be disaggregated and reported in the ICF results template:</u> - Gender: • Reporting by gender has been marked as mandatory. If you are unable to report by gender please explain why in the metadata columns of the results template.

	• We acknowledge that gender disaggregation will not be possible if household level data are used. If local gender disaggregation data is not available but you have target population data that allows you to give an estimated number then please report this. If an estimate is used then please state this clearly in the metadata column. • It is not intended to present gender disaggregated figures by country/programme but as an aggregated total across programmes. <u>Data to be disaggregated as part of workings and Quest number provided:</u> Disaggregation of the following variables will not be collected as part of the ICF results template. Please include disaggregated data in your working documents and record the Quest number for these documents in the ICF results template. - Income levels - urban/rural - source of improved energy access (e.g. off-grid connection; more efficient cook stove; solar lantern; etc)
Data availability	Will vary by source. Likely to be a few months if using routine project reporting data, longer if using household surveys.
Time period/ lag	Annual review and project completion reports should be aligned with data availability.
Quality assurance measures	It is recommended that, where possible, data collection is undertaken by a third party that is not directly involved with implementing the project. If reporting officers have any concerns about the quality of data or any points that they think CED should be made aware of, then please note this in the ICF (and DRF) results templates. Any comments can usually be added into the free text columns on the far right of each results template. Further guidance should be available in the commissioning note.
Data issues	**Poor people** Ideally, the indicator 'number of poor people with improved access to clean energy as a result of ICF projects' should be reported. Where viable, this should be incorporated into the M&E design of the project. However, this data may not be available for all projects. Where poverty data is available, numbers of poor people should be determined by a poverty metric relevant to that country (e.g. numbers below a country's national poverty line, community poverty assessment, first quintile income levels) rather than necessarily the international $1.25/day definition. This could be gathered using country level data or more sub-national level data. Whichever metric is used in the project should be stated in the return. Given all ICF projects happen in developing countries, this is used as a proxy that we are reaching the poor. There are limitations to this proxy as many countries in which the ICF works are unequal. **Children** The total number of individuals as calculated includes children. Children benefit from clean energy access at the household level as it enables them to e.g. do their homework. The other benefit from clean energy is in terms of health - indoor air pollution from cook stoves using dirty fuel is responsible for the

	deaths of 2 million women, girls and children under 5 (WHO/UNDP methodology, 2009). Women and children often suffer disproportionately from the effects of indoor air pollution and spend more time collecting fire wood. **On-grid** It is not possible to disaggregate grid electricity by source (clean vs. fossil). Furthermore, providing energy to the grid does not necessarily translate into access as new connections would need to be established simultaneously. This indicator therefore excludes on-grid energy. Any measurements of energy access are likely to be conservative and be a subset of results as improved access to the grid cannot be measured. Instead, the indicator to be examined should be 'installed capacity of clean energy' which is also a priority indicator for the ICF.
Additional comments	N/A
Lead official	Statistical advisor: Alex Feuchtwanger (DFID) a-feuchtwanger@dfid.gsx.gov.uk Subject matter lead: Steven Hunt (DFID) s-hunt@dfid.gov.uk

Methodology for reporting against KPI4 – Number of people whose resilience has been improved as a result of project support

Background

KPI4 is a Key Performance Indicator (KPI) in the DFID-funded International Climate Fund (ICF). However, the indicator can be used for any project for which increased resilience is an objective. It is an outcome indicator in DFID's **Building Resilience and Adaptation to Climate Extremes and Disasters** (BRACED) portfolio log-frame.

KPI4 measures the number of people with **improved resilience due to a project intervention.** This means:

(a) KPI4 measures number of people with a **change** in resilience;
(b) KPI4 focuses on change in **those attributes of resilience affected by the project** in question;
(c) KPI4 is **not** a measure of absolute resilience.

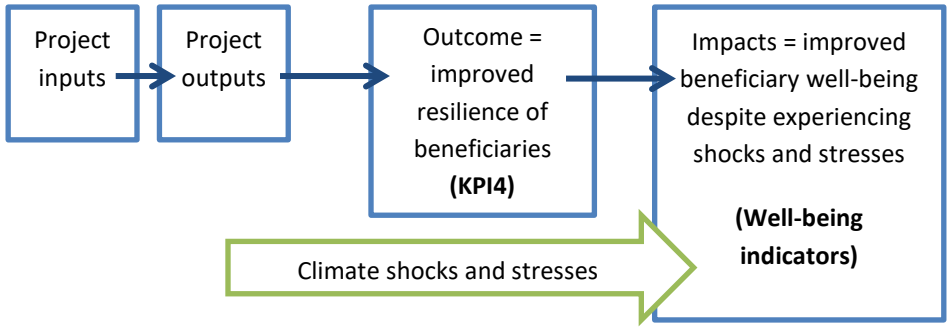
This guidance outlines a step-by-step methodology to help ICF and BRACED projects (i) identify context-specific resilience indicators, (ii) use these indicators to track changes in resilience resulting from project activities, and (iii) use the indicators to report against ICF KPI4. Some of these steps are associated with a range of methods and approaches that involve varying levels of complexity and rigour. For each of these steps, a table is provided illustrating what is required for three different standards: bronze, silver and gold. The bronze standard describes minimum standards for measurement, analysis and reporting as required by DFID. The silver and gold standards describe optional additional measures that may enhance the rigour of resilience monitoring and evaluation (M&E), that can be taken where circumstances allow and where this will add value to a project M&E system in terms of reporting and learning. Where a step is not associated with a table of criteria for bronze, silver and gold standards, a project is expected to follow the recommendations in that step.

Here, resilience to climate shocks and stresses (that may be intensifying as a result of climate change) is considered to be a composite attribute possessed by each individual that represents their **ability to anticipate, avoid, plan for, cope with, recover from and adapt to (climate related) shocks and stresses**. Improved resilience means that an individual is better able to maintain or improve their well-being despite being exposed to shocks and stresses. KPI4 measures how many people have experienced improvements in this attribute as a result of the project that is being monitored.

KPI4 is applicable to projects that target (directly or indirectly) individuals and households. In these contexts KPI4 will be derived from context-specific indicators of resilience at the individual or household level. However, it is also possible to apply KPI4 to resilience projects aimed at institutional capacity building or policy change. This means answering the question 'How many people have had their resilience improved through this increased institutional capacity' or 'how many people have had their resilience improved through this change in policy?'.

At what level in the log-frame/theory of change should KPI4 be measured?

KPI4 will normally be an **Outcome Indicator.** This is because project related change in resilience to climate shocks and stresses is usually an outcome of one or more project activities and outputs. Increased resilience should mean that people are less likely to suffer losses, damages, and declines in their well-being when they encounter a shock or stress. Improved human well-being and a reduction in losses and damages resulting from climate shocks and stresses is the ultimate purpose of climate change adaptation programmes, as measured by the programme impact indicators and shown in Figure 1.



Theory of change (ToC): without the project, beneficiaries would have been less resilient to climate related shocks and stresses and therefore performance of well-being indicators (e.g. income, deaths) would be worse than in the 'with project' scenario

Figure 1. General theory of change for resilience.

Normally, at the start of a project, the indicators from which KPI4 is to be derived represent certain attributes that the project's Theory of Change **predicts** will make individuals less vulnerable to climate related shocks and stresses. Later, if the project monitoring system is sufficiently robust, it should be possible, after the project's outputs have affected a sufficient number of people and if climate related shocks and stresses have occurred, to correlate KPI4 components with actual well-being impacts. At this stage KPI4 can be adjusted to be closer to a proven indicator of resilience. This is an important learning process. Good resilience indicators – measured before a shock or stress occurs - should be significantly correlated with indicators that capture losses, damages and changes in well-being associated with that shock or stress, measured after it has occurred. In other words, resilience indicators should be **predictive** of future changes in well-being resulting from shocks and stresses.

KPI4 measures the resilience of INDIVIDUALS

Resilience as a concept can apply to individuals, households, communities, systems, ecosystems, etc. **KPI4 is concerned specifically with the change in resilience of individuals.** However, it is recognised that the resilience of an individual also depends on the resilience of the household, community, systems and ecosystems in which they live – therefore the context in which the individual lives is very much part of the resilience story we are trying to understand and to measure.

This means that if a project improves the resilience of all members of a household – then all members of the household would be counted. KPI4 counts the resilience of individuals because

there can be large differences, even within the same household, in how individuals are affected by either a project intervention or by a climate related shock or a stress.[1] We are very interested in these differences, and also in the differential outcomes of any project intervention on different categories of individual. As a result of these intra-household differences in resilience and project impacts, KPI4 should always be disaggregated by gender. Disaggregation based on other categories of beneficiary may also be desirable.

KPI4 units, attribution, and dealing with a changing context

There are no agreed units in which 'resilience' is measured. This is because resilience is extremely context specific. Therefore resilience is dealt with as a relative attribute in each specific local context. Individuals can be considered 'more' or 'less' resilient to climate related shocks and stresses as a result of the context in which they live, and of their gender, age, poverty level, type of livelihood, geographical location etc.

A project intervention may make individuals more or less resilient to shocks and stresses. KPI4 is defined in such a way as to take into account the change specifically due to a project intervention:

KPI4 - Number of people whose resilience has been improved as a result of project support

Therefore, we are not measuring the absolute level of resilience – but rather the relative change in resilience due to the project intervention – and specifically the number for whom this change is positive. This means that KPI4 may not necessarily show the trend in overall resilience[2] (whether it is getting better or worse) – because it focuses on the change that can reasonably be attributed to the project.[3] This focus is achieved by choosing to measure specific aspects of resilience that the project targets or is expected to affect (see example in Table 1).

Table 1. Example – choosing aspects of resilience that reflect the project intervention

Project intervention	Possible aspect of resilience to measure[4]
Improved flood early warning systems	Number of men/women using improved flood early warning systems to reduce risks to their lives and/or property
Labour based safety net	Number of men/women accessing the safety net system (or planning to access it if the measurement takes place in advance of the shock)
Drought resistant agricultural techniques	Number of men/women with sustained adoption of the crops/techniques promoted by the project (e.g. exhibiting a sustained behaviour change)

[1] In Bangladesh, for example, of the 140,000 people who died from the flood-related effects of Cyclone Gorky in 1991, women outnumbered men by 14:1.
[2] By overall resilience we mean resilience due to all possible factors – whether they are relevant to the project intervention or not.
[3] Of course the overall trend is very important in the overall project design, and is an important part of the context against which KPI4 should be reported.
[4] In each case the aspect of resilience being measured would be based on the project theory of change backed-up by evidence as described in Steps 2 and 3.

STEP BY STEP GUIDE TO DEFINING AND MEASURING KPI4

1. Identify beneficiaries, shocks and stresses, and their consequences

Describe the resilience context using the DFID Resilience Framework (Figure 2). This is usually done as part of the project design, and should involve a combination of methods including participatory assessments.

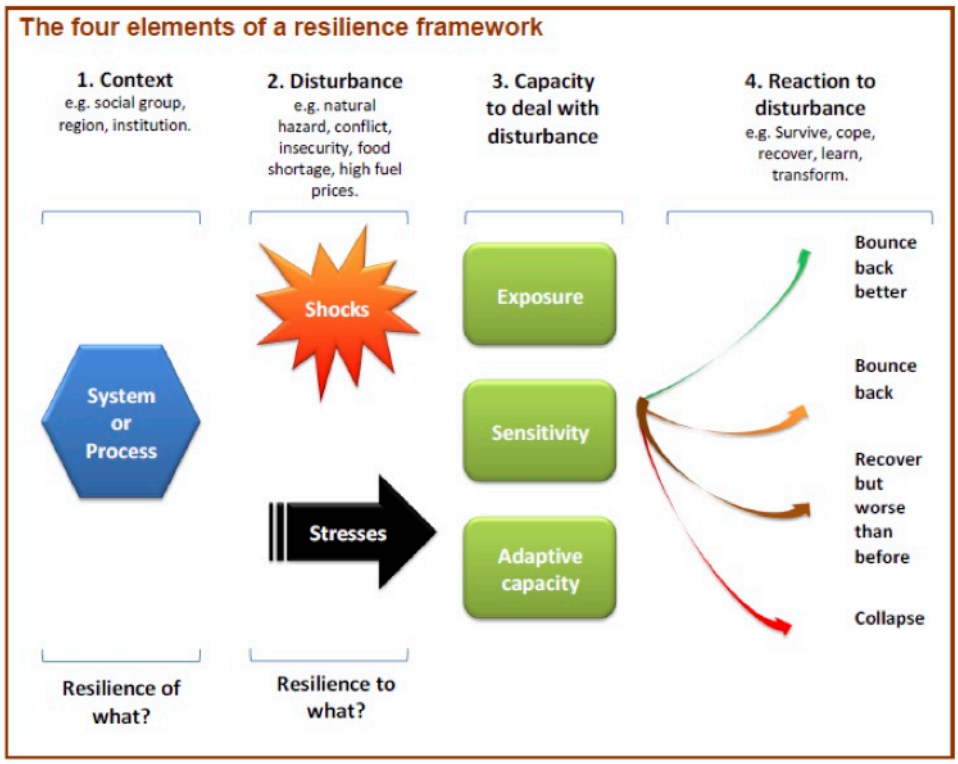


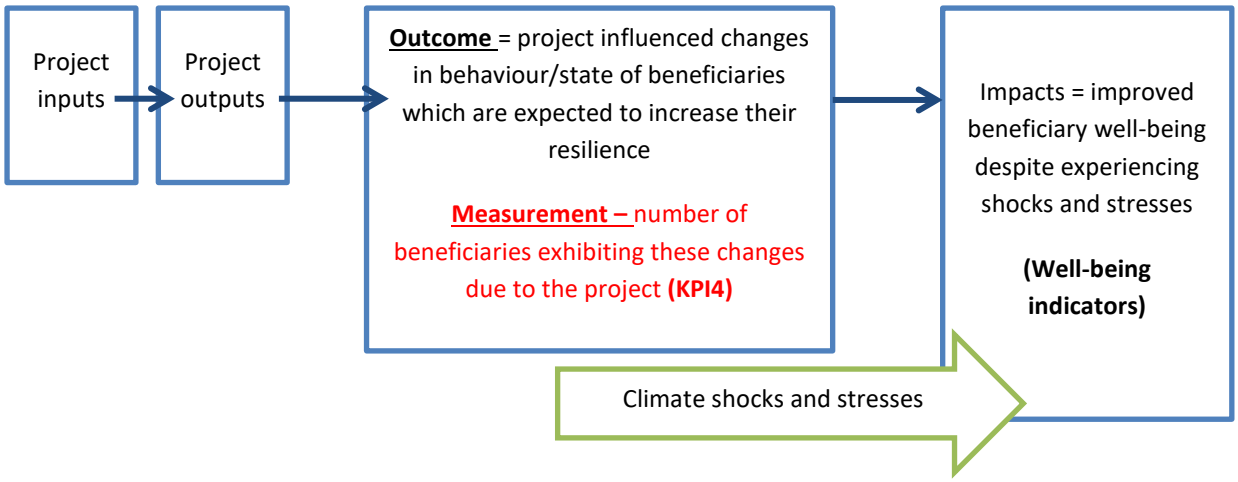
Figure 2. The DFID Resilience Framework.

a. Identify key climate shocks and stresses to which people need to be more resilient (Element 2). This should include existing shocks and stresses and potential future shocks and stresses over timescales relevant to the project. A project may develop indicators to track changes and variations in shocks and stresses, to provide a context for the interpretation of project results. However, such indicators are outside the scope of this guidance on KPI4.
b. Identify key consequences of climate shocks and stresses such as losses, damages and negative effects on human well-being (e.g. increased poverty, worse health outcomes, etc.) (Element 4). The long-term impacts to which the project contributes will be the amelioration of these consequences, represented by indicators that measure changes in human well-being and changes in losses from shocks and stresses. These indicators will be developed and measured as part of the wider project M&E system and are outside the scope of this guidance on KPI4.
c. Identify the key systems and processes (Element 1) on which individuals and households depend, and that influence their resilience to climate related shocks and stresses.

2. Develop a project theory of change

A theory of change should have been developed during the project design phase. If your project doesn't have a ToC you will need to develop one.[5] The theory of change describes the links between project outputs and outcomes, and between outcomes and impacts. It makes explicit the assumptions behind project design. The theory of change should articulate how project outputs will improve resilience, and with what changes (e.g. in behaviour, assets, access to certain resources, etc.). These are the changes that will need to be measured so that a project can report against KPI4, as in Figure 3.

Figure 3 – Illustration of where KPI4 fits in the ToC



A theory of change may be revised throughout the lifetime of a project as new information and learning about resilience becomes available. The theory of change developed during the project design phase therefore might be updated based on the results of any participatory assessments conducted to identify factors important for resilience that will be measured in order to report against KPI4 (see Steps 3 and 4 below).

The next five steps explain how we identify and measure the changes expected to increase resilience. Step 8 explains how we assess the attribution of any change to our project, and Step 9 addresses how to report the results for KPI4.

3. Identify factors affecting resilience that the project is expected to influence

A project's theory of change and/or log-frame should describe the factors that affect the resilience of beneficiaries, and how the project will influence these factors to improve resilience. These will be factors that affect people's ability to anticipate, avoid, plan for, cope with, recover from, and adapt to climate shocks and stresses. These factors, and the actions required to improve resilience, can be identified using a combination of methods, including surveys, questionnaires, interviews, and

[5] Guidance on developing Theories of Change is available here:
http://r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf
http://zunia.org/post/sea-change-cop-ukcip-guidance-note-3-theory-of-change-approach-to-climate-change-adaptation-pro

participatory assessment (Box 1). This should be done during the project design phase. However, this may result in a quite superficial characterisation of resilience (for example based on the understanding of project staff rather than beneficiaries), in which case a more detailed assessment of the factors affecting resilience might be appropriate as part of the development of an M&E system. For example, this might be appropriate where a project indicates that specific outputs will enhance 'coping capacity' or 'adaptive capacity' (see Box 2 for an exploration of the difference between coping capacity and adaptive capacity). In such cases, further participatory assessment of the factors that help people to cope or adapt might be required early during project implementation, so that these factors can be represented by indicators (Step 4) that tell us whether coping or adaptive capacity has improved as a result of the project's intervention.

Participatory assessments might provide information that can be used to refine a project's theory of change, by identifying previously neglected factors influencing resilience, by providing more nuanced narratives about how different aspects of resilience interact, and by providing further detail about the mechanisms that determine who is least/most affected by climate shocks and stresses, and why.

When considering the factors that are important for resilience, that a project will seek to influence, it may be helpful to consider the **dimensions** of resilience (Box 2).This is a way of checking whether all the relevant aspects of resilience that might link project outputs to intended project impacts have been considered. Not all of these dimensions will be relevant in a specific project context, and this procedure is intended to provide some light-touch quality assurance rather than to be prescriptive.

At the end of this step, project M&E staff should have identified a set of factors that are important for resilience, and that are expected to be influenced by the project.

It is also useful to list any factors affecting resilience that the project is unlikely to influence. Changes in these factors might act to increase or reduce resilience in general, and such changes need to be understood to provide context for the interpretation of project results. A discussion of how to interpret project results in the light of wider trends towards reduced or increased resilience is outside the scope of this guidance. However, it is important to identify such trends where possible.

Box 1. Using participatory methods to identify determinants of resilience

Participatory assessment can be used to identify factors that influence resilience, and to prioritise these factors in order of importance. Focus groups, consultations using H-forms (see below) and participatory resilience rankings can be used to understand the 'resilience context' of a project, to identify factors and processes to be targeted by a project, to identify factors and processes that can be measured to determine whether resilience has increased or decreased, and to prioritise these factors in order of importance.

1. Characterisation of Resilience using Focus Groups

(a) Organise a representative series of focus groups covering different respondent types (women, men, youth etc.), livelihood types and geographical spread.
(b) Discuss emerging climate shocks and stresses, and what elements makes some people or households more 'able to cope' than others? While the group should lead the discussion with people making their own suggestions, some prompting may be required to ensure all elements are covered here, it might be useful to use a checklist based on the 'dimensions' of resilience detailed in Step 2.
(c) Discuss the capacity of local institutions to provide support in times of emergency.
(d) Prioritise the elements of resilience (this can be done by drawing each 'element' on a card – and getting

the group to arrange the cards in order of priority on the ground).

(e) For each 'element', get the group to characterise what different levels of 'ability to cope' look like (e.g. use a three point scale of high, medium and low ability). Where different 'dimensions' of resilience are defined, this process might be repeated for each dimension, for example: ability to cope in the short term, ability to adapt in the longer term, ability to access a key resource, etc.

(f) Get the group to consider what the key things that individuals, the community and outside organisations can do to enhance 'the ability to cope/adapt' for each element – this should provide the link between interventions and elements of resilience (it is also an important reality check to ensure the proposed project interventions are relevant to the resilience elements prioritised by the community).

(g) Across a number of such FGs, the results from step (d), combined with information from key informants and past locally relevant experience, and knowledge of the proposed intervention, should be used to identify the elements of resilience to be used to measure KPI4, and to construct appropriate context-specific indicators (Step 3).

(h) Baseline and monitoring data might be collected by getting focus groups to identify how many people in their community are in each level of 'ability to cope'. Alternatively, beneficiaries might be sampled by getting individuals to estimate which level they are in.

2. Use of scale or H-forms

Another way of approaching the gathering of baseline and monitoring data, without the need to define levels in advance, is to use an scale or H-form. This is a form with a horizontal axis running between two extremes (e.g. very low ability to cope and very high ability to cope), which forms the 'H'. Respondents place a cross at a position along the horizontal axis to indicate their own situation. Responses can be converted into categories or scores based on the position of the cross along the horizontal axis. Changes in positions along the axis over time can be assessed to monitor how resilience is changing. Reasons for a low or high score for a particular individual, or general factors that determine whether a score is low or high, can be noted at the appropriate extremes of the 'H', e.g. using cards or post-it notes. These can provide similar information to that generated in activities (b) and (c) above (the latter if people are asked to arrange answers in order of importance). Information similar to that in activity (g) might also be recorded as part of an H-form exercise.

3. Participatory resilience rankings

Well-being ranking is an established technique for enabling a group of key informants to rank the 'well-being' of households in a specific community. It should be possible to use a similar methodology to rank households according to 'ability to cope with climate change'. Such an approach can be used:

(i) To monitor change over time, and interrogate reasons for changes in resilience, thus also providing information on attribution/contribution.

(j) As a starting point for discussion of components of resilience and associated indicators (why are these households at the bottom? What are their key characteristics?, etc.), and thus as an aid to the definition of resilience indicators.

Improved resilience is viewed as an outcome, and improved well-being as an impact, in the resilience theory of change (as shown in Figure 1 above). Participatory well-being rankings are also useful for tracking changes in well-being over time that can be linked (or not) with changes in resilience over time. Well-being rankings therefore complement resilience rankings by allowing us to test (i) a project's theory of change (ii) the appropriateness of the resilience indicators selected, and (iii) the extent to which improved resilience results in improved well-being in the longer term.

Box 2. Dimensions of resilience

A number of studies define 'dimensions' of resilience, which have similarities to the five dimensions or 'capitals' defined in earlier livelihood frameworks. For example, a study by Oxfam GB defines five dimensions of resilience which were applied to a study of disaster risk reduction in Ethiopia's Somali region[6]. A study commissioned by DFID and undertaken by the authors of this guidance reviewed a number of methodologies for measuring resilience, and identified nine, very broadly defined, 'dimensions' of resilience based on these methodologies[7]. These are listed below. Dimensions 1-5 were common to all the methodologies reviewed that defined dimensions of resilience. Dimensions 6-9 represent factors that were identified by a subset of the methodologies reviewed. It is not recommended that these dimensions are used in a prescriptive manner. However, they may be useful as a loose framework for guiding the process of identifying contextual factors that are important in influencing resilience.

1. **Assets,** including physical and financial assets, food and seed reserves, and other assets that can be deployed or realised during times of hardship to help people absorb losses, and recover from stresses and shocks. Debt could be considered as a negative asset.
2. **Access to services**, including water, electricity, early warning systems, public transport, and knowledge and information that helps people plan for, cope with and recover from stresses and shocks, and how vulnerable these services are themselves to shocks and stresses.
3. **Adaptive capacity**, including factors that specifically enable people to anticipate, plan for and respond to changes (for example by modifying or changing current practices and investing in new livelihood strategies). The ability to adapt to changes in any of the other dimensions listed here might also be included.
4. **Income and food access**, including the vulnerability to shocks and stresses of income sources and food supplies (including food prices/ability to purchase or otherwise access food, and the vulnerability of food supply chains to local and remote shocks and stresses).
5. **Safety nets**, including access to formal and informal support networks, emergency relief, and financial mechanisms such as insurance.
6. **Livelihood viability**, in terms of the extent to which an individual's livelihood can be sustained in the face of a shock or stress, or the magnitude of shock or stress that can be accommodated before a livelihood ceases to be viable.
7. **Institutional and governance contexts**, including extent to which governance processes, institutional mechanisms, policy environments, conflict, and insecurity constrain or enable coping and adaptation. It can include community level capacity to cope with and adapt to shocks and stresses and to support those living within it.
8. **Natural and built infrastructural contexts**, including extent to which coping and adaptation is facilitated or constrained by the quality of built infrastructure (e.g. roads), the quality/functioning of environmental systems/natural resources (e.g. health of ecosystems providing livelihoods), and geographical factors (e.g. remoteness) and the vulnerability of the infrastructure to shocks and stresses.
9. **Personal circumstances**, including any factors not covered by other dimensions that might make an individual more or less able to anticipate, plan for, cope with, recover from, or adapt to changes in stresses and shocks. These might include psychological resilience, past experience of coping, personal connections (social capital), health, socio-economic status, etc.

Coping capacity versus adaptive capacity

A commonly used dimension of resilience is 'adaptive capacity', which addresses people's ability to modify their behaviour and (e.g. livelihood) practices to respond to longer-term changes in climate and other phenomena. It is important to consider the relative importance of factors that affect people's ability to cope in the short term, and factors that affect their ability to adapt in the longer term. This will depend on the nature

[6] Hughes, K. 2013. A Multidimensional Approach for Measuring Resilience. Oxfam GB Working Paper. Paper presented at the Expert Consultation on Resilience Measurement Related to Food Security sponsored by the Food and Agricultural Organization and World Food Program, Rome, Italy, February 19-21, 2013

[7] Brooks, N., Aure, E. and Whiteside, M. 2014. Assessing the impact of ICF programmes on household and community resilience to climate variability and climate change. Evidence on Demand for DFID.

of the stresses and shocks faced, and the timescales with which a project is concerned. Coping capacity should not be built at the expense of adaptive capacity where this risks locking people into systems or behaviour that may be more resilient to some shocks (e.g. those faced in the near term) but at greater risk of catastrophic collapse from others (e.g. those to which populations might be exposed in the medium to long term). While participatory assessments may be very effective at identifying factors important for coping capacity (based on recent historical experience), they may be less useful in identifying factors that can help people adapt, due to a lack of historical precedent on which to base such identification. Nonetheless, where climate trends are already well established, factors that have enabled people to adapt to recent changes might be identified.

4. Develop indicators of resilience

Develop indicators that capture the aspects of resilience identified in Step 3 **that the project seeks to address or is likely to influence**. These indicators need to link project outputs with intended project impacts in a way consistent with a project's theory of change and with the overall resilience theory of change (Figure 1). Resilience indicators track the changes that are expected to occur at the outcome level, as a result of project interventions.

Beneficiaries should have a role in the selection and verification of indicators, which will be highly context-specific, and this can be via an extension of the participatory processes associated with Step 3 above. Resilience indicators should clearly link project outputs (the mechanisms through which the project seeks to increase resilience/reduce vulnerability) with the factors that make people resilient, based on the findings of participatory surveys and other methods as detailed in Step 3.

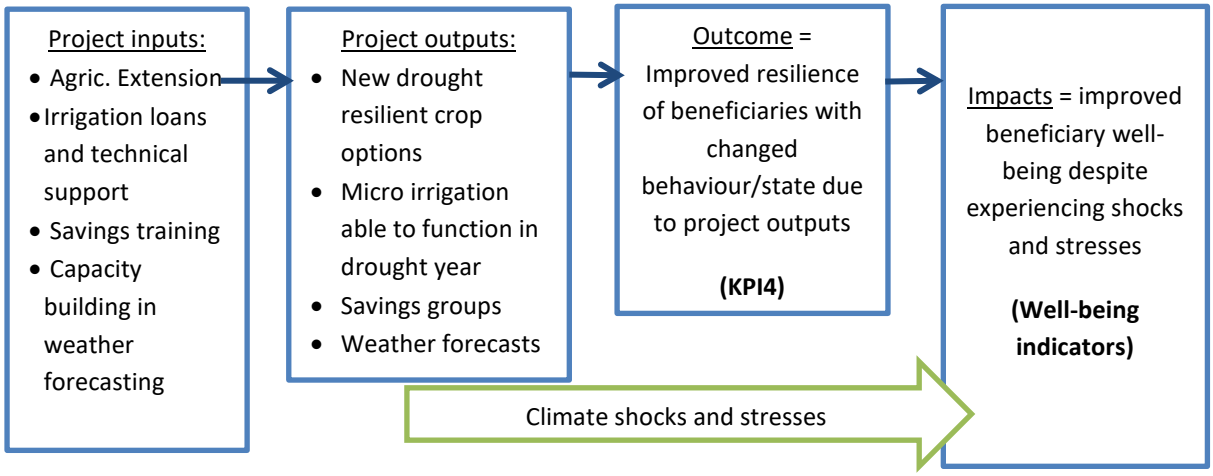
Resilience indicators and their relation to project outputs

Resilience indicators should seek to capture changes in people's behaviour or circumstances that will make them better able to anticipate, avoid, plan for, cope with, recover from, and adapt to the shocks and stresses that they are likely to face in the foreseeable future. As projects will be designed to deliver outputs that (it is assumed) will deliver such changes, measures of resilience might be based on the uptake of project outputs. Such indicators would seek to measure how many beneficiaries (i.e. people receiving support from a project) actually translate that support into the changes in practices or circumstances in which it is intended to result. These indicators might also seek to measure the sustainability of such changes (e.g. will they persist after the project ends?). Box 3 provides an example of the measurement of resilience attributes for a project that promotes the adoption of drought resistance crops and the use of micro-irrigation, and supports the development and dissemination of seasonal or shorter-term forecasts and savings schemes. These measurements are combined into a single indicator of resilience (see also discussion below).

In the example in Box 3, indicators 1-4 effectively measure changes in behaviour to which project outputs are thought to have contributed, and which the research conducted as part of the project design process has indicated should increase the resilience of beneficiaries to climate shocks and stresses. Indicator 5 (current savings) measures a change in circumstances that may be due to a number of project outputs (i.e. participation in the savings groups and income from the micro-irrigation), and which is also expected to contribute to increased resilience in its own right.

Box 3. Example: Project X develops project related resilience measure

Project X has used existing experience and a series of structured qualitative enquiries to identify a Theory of Change. They have identified increasing unpredictability of rain as a major cause of shock and stress. A combination of project inputs have been designed to address this :



Theory of change (ToC): a combination of adopting a drought resilient crop, using micro-irrigation, family membership of a saving group and making use of weather forecasting for deciding when to plant constitutes improved resilience due to the project, which will enable well-being to be maintained in a drought year.

Building on focus group discussions and pilot experience with the project activities, Project X decides to use five resilience indicators that are closely linked to the outputs of the project and can be easily surveyed by asking 'yes/no' questions of beneficiaries. It can therefore count the number of beneficiaries that are:

1. Growing one or more drought resistant crop on > ¼ ha for > 2 years
2. Using micro-irrigation on > 1/10 ha
3. Have used a weather forecast in last 2 years to decide when to plant
4. A family member in a savings group
5. Current savings > $20

Focus group discussions by Project X suggest that the combination of indicators may be important in conferring resilience. It also wants to avoid the possibility of double counting if the same beneficiary fulfils more than one indicator. Project X therefore decides to create a project specific composite resilience index, and as it doesn't have information on which is most important in conferring resilience it decides to weight each equally. It therefore assigns a score of one to each indicator satisfied and zero to any not satisfied and adds these together:

Indicator	Yes	No
1. Adopted one drought resistant crop on > ¼ ha	1	0
2. Using micro-irrigation > 1/10 ha	1	0
3. Have used a weather forecast in last 2 years to decide when to plant	1	0
4. A family member in a savings group	1	0
5. Current savings > $20	1	0
Total project attributable[8] resilience score	**0-5**	

Project X has therefore produced a single measure of predicted resilience, with a range of 0-5, that is closely

[8] Assigning the degree of attribution is discussed in section 8

linked to the changes it is promoting as a project. How this resilience score is used to calculate KPI 4 will be explained in following sections.

Different types of indicators

Indicators are often considered to be either qualitative or quantitative. However, in practice this distinction may be somewhat artificial. Household surveys or focus groups may ask questions that seek to elicit perceptions/opinions from beneficiaries. These are usually considered as generating qualitative data/information. However, a project might convert the qualitative responses to such questions into quantitative data for analysis. For example, beneficiaries may be asked whether they think their new crop combination is significantly more, slightly more, the same, slightly less or significantly less drought resistant than the traditional combination. These answers can be used to assign scores (e.g. from 1-5) to beneficiaries, which can be manipulated quantitatively.

Quantitative indicators, whether measured directly or derived from qualitative information, can be of three types:

1. **Binary,** usually where the answer is yes or no, and a score of 0 or 1 is assigned according to whether or not a beneficiary meets a particular criterion.
2. **Categorical or score based**, based on assigning a beneficiary a score (e.g. 0-3 or 0-5) representing a category or level of resilience (e.g. low, moderate, high). Score-based indicators are discussed in more detail below.
3. **Continuous**, based on measurement of a continuous variable such as household income, time to recover from a previous shock, etc.

All of the above types of indicator can be used to track changes in resilience. In practice, a project may use a diverse mixture of these indicators, all of which can be used to indicate whether an individual has become more or less resilient over time. However, if a project seeks to combine different indicators into one or more composite indices, there are a number of issues that need to be considered, as discussed below.

Individual indicators versus composite indices

A project will need to decide whether it will use composite indices, constructed by aggregating individual indicators, or use individual, disaggregated indicators. The options with respect to aggregation are as follows:

A. **Do not aggregate, and use a number of individual indicators**, each representing a different aspect of resilience that is relevant to the project, which are measured and recorded separately for each individual sampled.

B. **Develop several composite indices**, each perhaps representing a different ***dimension*** of resilience that is relevant to the project, e.g. income & food access, safety nets, access to services, adaptive capacity, etc. (Box 3). See Box 4 for a discussion of the construction of composite indices.

C. **Develop a single composite index**, combining all the elements of resilience that are relevant to the project. This may involve combining individual indicators or a number of already composite indicators. See Box 4 for a discussion of the construction of composite indices.

Where a project employs one or more composite indices, it is strongly recommended that the disaggregated data representing the individual constituent indicators are preserved. This enables the relative importance of individual indicators and the factors they represent to be interrogated, which is important for understanding how and why resilience has changed. This is vital both for learning and for assessing the contribution of the project to individual measured changes in resilience.

Box 4. Constructing and using composite indices

Where a project uses one or more composite indices it may be necessary to aggregate a number of different types of indicator (e.g. qualitative, quantitative, continuous, binary, etc.). This will require the conversion of all the indicators to be aggregated into a common format. This may be achieved in either of the following ways:

1. Convert to scores, e.g. 1-3 or 1-5

Conversion of indicators into discreet scores means that a composite index can be constructed by adding or averaging scores across its constituent indicators. Conversion to scores can be carried out as follows for different types of indicators:

- **Categorical indicators** can be created from qualitative information by associating different answers to survey questions with different scores. For example, a survey might ask beneficiaries how well they think they would cope with a drought of a particular severity if it occurred within the next few months, and score them from 1-5 based on which of 5 options they gave as an answer. The horizontal axis on an H-form can be divided into a number of equal divisions, and scores assigned based on the division into which a beneficiary's answer falls.
- **Binary indicators** can be given a score of 1 or 0 and combined into composite indices as in the Project X example in Box 3 above.
- **Continuous variables** can be converted into scores by dividing the actual or possible range of a variable into a number of divisions (e.g. 5). A beneficiary will then be assigned a score (e.g. 1-5) based on the value of the variable they report (e.g. household or individual income, value of certain assets, time spent collecting water etc.). The divisions used for a continuous variable should be the same for baseline and subsequent sampling.

The above techniques mean that qualitative, binary and continuous indicators can all be converted into scores (essentially becoming categorical indicators) that can be summed or averaged to create the composite index. Depending on the nature of the individual indicators used to construct the index, the resulting scores might be associated with levels of resilience (e.g. very low, low, moderate, high, very high). **However if all the indicators that make up the composite indicator are considered to have the same weight – then they should be converted to the same range before they are added or averaged (i.e all with range 0-1, or all with range 1-3 or all with range 1-5).**

2. Convert into a value within a continuous range, e.g. 0-1

Another way of harmonizing different indicators is to standardize them so that they all represent a range of values from, for example, 0-1 or 0-100. This can be done by dividing indicator values (as associated with different beneficiaries) by the maximum value in the range (to yield a range from 0-1). This maximum value might be a maximum possible value (e.g. number of days in a year or season when a beneficiary had two meals), or a subjective reference value (e.g. income of wealthiest household). This technique works well for continuous variables and can also be applied to categorical or score based indicators or composite indices constructed from these categorical indicators.

Once all the relevant indicators have been standardized to the same range, they can be summed or averaged. Depending on the nature of the individual indicators, thresholds might be defined above or below which beneficiaries are assessed as resilient.

Weighting indicators within a composite index

If composite indices are to be used, project staff will need to determine how their constituent indicators should be weighted, based on their relative importance. This identification of weights might involve statistical assessment, based on the strength of the correlation between individual resilience indicators and the impact indicators that are relevant to the project. However, weights are more usually assigned on a subjective basis according to the perceptions of beneficiaries, project staff, or other stakeholders or experts. No/equal weighting might be applied where there are no strong grounds for judging some indicators to be more important than others. Multiple indicators that are strongly related to each other will represent a de facto weighting in favour of the factor(s) they measure: in the example in Box 3 all five indicators are given equal weights, but there are two indicators related to savings, meaning that savings will be weighted as more important than the factors represented by the other indicators.

General considerations when developing indicators

The following general points should be kept in mind when developing indicators:

a. For the purposes of reporting against KPI4 the indicators need to focus on those aspects of resilience **influenced by the project**, and not all the possible factors that might affect resilience. However, monitoring other aspects or dimensions of resilience not directly targeted by the project might be useful for understanding unexpected results (Step 5), and for understanding changes to the wider resilience context.

b. For formal reporting, KPI4 only requires that indicators measure whether resilience has improved. Normally projects will have to decide what change in indicator score constitutes sufficient improvement to report against KPI4 (i.e. to say that resilience has increased) for a given indicator in a given context. This may involve estimating the change in numbers exceeding a specific threshold before and after the project. However, while collecting data for reporting against KPI4, projects may collect data that can be analysed in a range of ways for additional learning. For example, Project X counts the numbers crossing different resilience thresholds, but could also calculate average resilience scores before and after the project, and the (different) percentage improvements for males and females or for other types of beneficiary (see Box 6 below). All this information can be helpful for learning about project outcomes, in addition to reporting against KPI4.

c. Different indicators might be appropriate for measuring changes in resilience for different groups of beneficiaries (e.g. differentiated by gender, livelihood, etc.). This does not preclude later aggregation to calculate overall numbers with improved resilience, or aggregation of numbers moving from one resilience category to another (e.g. medium to high).

d. When aggregating numbers with improved resilience due to different overlapping components of a project, some thought is needed to avoid double counting.

e. In the case of indicators based on continuous variables or categories, the crossing of a particular threshold may be required in order to say that resilience has actually improved. For example, a small increase in water availability may be insufficient to improve the resilience of cropping systems if it means that critical deficits are still experienced during critical periods. In this example, resilience might be said to have improved only if water availability exceeds a certain threshold, which might be measured in terms of quantity (e.g. if water is stored locally for irrigation) or duration (e.g. where water is made available during certain periods of deficit by releasing it from regional storage facilities such as dams).

Table 2 sets out the criteria for meeting Bronze, Silver and Gold standards in indicator development.

Table 2. Different standards for the identification and construction of indicators.

	Bronze	Silver	Gold
Type of indicator and evidence base	Indicators based on ToC informed by key informants with limited empirical evidence or participatory information from a representative sample of potential beneficiaries. Indicators may measure direction of travel only (e.g. subjective indicators that ask beneficiaries whether they are more or less vulnerable with respect to different factors).	Indicators based on a ToC informed by either empirical evidence (e.g. previous experience in a similar context of the resilience outcome indicators being correlated with well-being impact) **OR** informed by robust participatory inquiry with representative samples of future beneficiaries.	As Silver, with indicators informed by a combination of empirical and participatory evidence.
Weighting of indicators	All indicators given equal weights (composite indices) or treated as equally important (individual, disaggregated indicators).	Relative importance of indicators considered, with weights or importance assigned based on subjective criteria.	More quantitative approach to assigning of weights, e.g. through statistical assessment of proportion of impacts (reduced losses, improved well-being) predicted by each indicator and/or robust evidence from participatory enquiry.
Thresh-olds and relation-ships between indicators	Indicators are assumed to be independent and incremental (i.e. higher score means more resilience; improvement in larger number of indicators means bigger improvement in resilience).	Evidence that project has considered importance of thresholds and coupling between indicators (e.g. improvement required in multiple related indicators for resilience to be said to have improved).	As Silver, with empirical evidence used to identify thresholds and sets of coupled indicators.

5. Establish how to identify unexpected consequences

Project M&E systems should include mechanisms for identifying and tracking potential 'unintended consequences' of the project on resilience (Box 5). At the very least these should include provision for open-ended qualitative questioning of beneficiaries at regular intervals, e.g. using key informants to ask if any unintended consequences have been noticed.

Unintended consequences are often discovered at the evaluation stage. However it is far preferable to identify, mitigate and monitor any unintended consequences from early on.

If some **potential unintended consequences** are identified in advance these might be tracked using additional indicators. For a project to demonstrate increased resilience as required by KPI4, improvements in indicators associated with targeted aspects of resilience would need to be accompanied by evidence that the project had not resulted in a deterioration in other aspects of resilience due to 'unintended consequences'. This might be achieved by using 'unintended consequences' indicators or by obtaining beneficiary feedback on the presence or absence, nature and extent of any unintended consequences (or a combination of both).

Box 5. Example – potential unintended consequence of Project X

Project X is promoting both more resilient food crop production and participation in savings groups. A potential unintended consequence was identified in project planning, namely that households might sell small amounts of stored crops on a fortnightly basis in order to meet the savings requirements of the savings groups, leading to a reduction in level of crop stored, and therefore undermine resilience.

Therefore Project X introduced an additional factor into its monitoring – the amount of crop remaining in storage at the start of the hungry period. This enables Project X to track whether saving groups participants end up with less grain in store and factor in this potential unintended consequence into its programming.

Treatment of unintended consequences for bronze, silver and gold standards is summarised in Table 3.

Table 3. Different standards for addressing unexpected consequences and confounding factors

	Bronze	Silver	Gold
Unintended consequences	Evidence that unintended consequences have been considered, e.g. at start of project with follow up qualitative assessments	Clear mechanism for tracking unintended consequences with regular review	Tracking unintended consequences using indicators developed for this purpose

6. Develop a sampling methodology

Most projects have identified beneficiaries – these may be people living in the geographical area covered by the project, particular types of individual or household, or people involved in one or specific project activities. Projects need to know the number of their target beneficiaries and they will need to identify a sample of their beneficiaries at intervals in order to measure changes in resilience indicators over time.

Projects do not need to survey every individual, but need to make sure the sample chosen is representative and of sufficient size that results may be scaled up to the beneficiary population as a whole with the required level of confidence. Projects should seek statistical advice on sample frames and sample numbers, as well as on the use of different sampling techniques used for large-scale household or individual surveys, panel surveys that track the same individuals over time, and/or focus group approaches that collect more qualitative data. The sampling approach selected,

including the sample size calculation will have implications for how the number of people with improved resilience is counted, as discussed below in Step 8.

Projects will need to identify how frequently they will sample beneficiaries to measure changes in resilience using the indicators developed under Step 4. At the very least, projects will need to gather baseline data before or very close to the start of the project, and a further set of data at the end of the project for comparison with the baseline data. However, more frequent sampling during a project's lifetime may be desirable, where resilience indicators are expected to exhibit changes on sufficiently rapid timescales. Such sampling might be done annually.

Continuing to monitor beneficiaries after the project has ended (ex-post) is useful to test whether any improvements in resilience have been sustained, and to examine the longer-term influence of a project. It is conceivable that some changes in resilience may not be apparent until after a project has ended, making ex-post monitoring and evaluation essential.

Where resilience indicators are to be compared with impact indicators (an issue that is outside the scope of this guidance), the latter might need to be measured after a project has ended because of the timescales associated with the evolution and impact periods of some climate stresses and shocks. Table 3 provides guidance on sampling intervals for different measurement standards.

Quantitative measurement of KPI4 should be complemented by some qualitative explanatory inquiry on stakeholder perceptions - to understand the reasons why changes in the predicted elements of resilience did or did not actually contribute to improved well-being and why.

Measurement of resilience indicators should ensure that data can be disaggregated so that results may be examined for different beneficiary categories. At the very least data should be disaggregated by gender. However, there may be systematic differences in resilience, and in the extent to which a project improves resilience, between other categories of beneficiary. These categories might be based on age, location, livelihood, or other social, economic or cultural differences (Table 4). However projects should note that if they wish to analyse and present data disaggregated beyond gender, this is likely to require significantly larger sample sizes. Statistical advice should be sought on sample sizes.

Table 4. Different standards for sampling

	Bronze	Silver	Gold
Timing	Baseline and end	Include an ex-post measurement	Include one or more ex-post measurements
Disaggregation[9]	Gender	Gender + other pre-determined classes	A range treated as independent 'explanatory' variables

[9] With a greater level of disaggregation the survey sample size will need to be larger – statistical advice should be sought.

Counter-factual	Before/after	Use of some mechanism to compare 'with/without' such as a phased intervention approach (e.g. where some beneficiaries start receiving project inputs at an earlier stage than others)	Some experimental or quasi-experimental design.

7. Calculate numbers of individuals with improved resilience as measured by indicators relevant to project activities and outputs

This step describes a number of approaches for calculating the numbers of people with improved resilience as measured by project-relevant indicators. These indicators measure changes in aspects of resilience targeted by or potentially influenced by the project (these aspects of resilience may also be influenced by factors outside the project). They will include indicators intended to capture unexpected consequences as described in Step 5. The resilience of some individuals may increase, while that of others decreases. What is being reported in KPI4 is the net change (i.e. numbers with improved resilience minus numbers with worsened resilience).

The approach selected for calculating the numbers of people with improved resilience will depend on the sampling methods and types of indicators used. Different ways of calculating numbers with improved resilience will be needed depending on whether data are collected using panel/ longitudinal studies that sample the same individuals over time, or random sampling that involves different individuals for each sampling time. The method of calculation will need to be modified further depending on whether the project employs multiple indicators, multiple composite indices, or a single composite index. The calculation of numbers with improved resilience for different sampling methods, and different approaches to aggregation, is discussed below.

This step does not address the extent to which the measured changes can be attributed to the project; this issue is addressed below in Step 9.

1. Panel data / longitudinal studies that sample the same individuals

Where the same individuals are sampled over time, it is possible to look at how the resilience of these 'representative' individuals changes between two sampling period. Given a sufficient sample size, the proportion of sampled individuals with improved resilience can be assumed to represent the proportion of beneficiaries with improved resilience, allowing absolute numbers with improved resilience to be estimated. This process can be repeated for different groups of beneficiaries such as men, women, different livelihood groups or age cohorts, etc. As indicated in Step 7 above, statistical advice should be sought on appropriate sample sizes, with larger samples being required where data are to be disaggregated.

Different approaches will be required for the analysis of panel data depending on the nature of the indicators used, as discussed below.

A. Single indicator or composite index

Where a single composite index is used to measure resilience, KPI4 is calculated from the number or people in the sample showing a sufficient change in indicator value or index score in the desired direction, minus the number showing a change in score in the opposite direction.

B. Multiple composite indices or small number of individual indicators

Where more than one composite index or a small number (e.g. <5) of individual indicators is used, the number of people in the sample with improved resilience might be the number showing an improvement in one or more index/indicator and no deterioration in the others, minus the number showing a deterioration in one or more index/indicator and no improvement in the others. Individuals who show a mixture of improvement in some indices/indicators and deterioration in others should be viewed as having neither improved or reduced their resilience, and should not be included in the calculation. However, their numbers should be recorded.

This methodology might be refined where there are grounds for arguing that deterioration in some indicators/indices is outweighed by an improvement in others. This might be based on the numbers of indicators showing improvement/deterioration, or on the relative importance of different indices/indicators. These grounds will depend strongly on context and the nature of the indicators used.

C. Multiple disaggregated indicators (large number)

Where a large number (e.g. ≥5) of individual indicators is used, a practical approach to establishing whether resilience has improved for a beneficiary is to examine whether improvements are seen in a minimum number of indicators X, with deterioration in a maximum number of indicators Y. The values of X and Y should be set by project staff, based on their understanding of the aspects of resilience represented by the indicators. If the factors represented by the indicators are such that resilience improves incrementally for each indicator that shows an improvement, then (project-relevant) resilience may be said to have improved as long as X is greater than Y.

However, the different factors that contribute to resilience might interact in a non-linear manner, meaning that indicators do not represent incremental improvements in resilience. In such cases, X might be significantly greater than Y, and a necessary condition for improved resilience might be that a set of 'core' indicators show an improvement or remain stable. These core indicators might be related to each other in such a way that an improvement in one indicator only translates into improved resilience if it is paired with improvement or stability in one or more other indicators. For example, an improvement in a beneficiary's access to a certain resource (e.g. grazing land) might only improve their resilience if the quality of that resource is maintained (e.g. sufficient pasture is available) and their access does not bring them into conflict with other users (e.g. conflicts over access/use are rare).

Whether indicators can be treated as demonstrating incremental improvements in resilience, or whether more complex relationships between indicators mean that improvements must be seen in a core group of indicators, must be judged by project M&E staff. Once staff have considered these context-specific factors to determine how to define improvements and deteriorations in resilience,

they can calculate the net number of beneficiaries with improved resilience in a similar manner to A and B.

2. Periodic surveys

A succession of random representative surveys, collecting resilience indicator information from different people/households at different points in the project cycle, can tell us how many people are at a certain level of resilience or within a certain resilience category (e.g. low, moderate, high) at a given point in time, and therefore how overall numbers in these categories change over time. However, they do not allow us to track changes in the resilience of particular individuals over time as we would in a longitudinal study. Neither can we add changes in the numbers of people in different categories to calculate numbers with increased or decreased resilience across the entire range of categories, due to uncertainties about the way people move between categories. For example, if the number of people in the low resilience category decreases by 100 and the number of people in the high resilience category increases by 100, is this the result of 100 people moving directly from the low to high category, or of 100 people moving from the low to moderate category, and a further 100 moving from the moderate to high category? Numbers with increased resilience would be twice as great in the latter case.

The most practical way of measuring numbers with improved resilience through the use of periodic random sampling is to define a single threshold and estimate the net change in numbers above this threshold between two sampling periods. This will be the number with improved resilience that can be used for reporting against KPI4. This approach is illustrated for Project X in Box 6.

This 'net change' in resilience may mask significant changes in individual resilience:

- If some beneficiaries fall below the threshold as others rise above it, project staff may want to estimate how many beneficiaries have crossed the threshold in each direction – not just the 'net' number;
- Project staff may want to know by how much individual beneficiaries have improved (or reduced) their resilience, not just whether, and many, beneficiaries have crossed a single, fixed threshold.[10]

Beneficiaries may experience improvement or deterioration in resilience without crossing the threshold, meaning that the use of a single threshold is likely to underestimate changes in resilience. Longitudinal studies are much better at revealing nuances of change over time for different categories of beneficiary.

3. Measuring 'direction of travel' in a sample survey

Within a survey, in addition to collecting data representing the values of resilience indicators in a particular point in time, it is possible to ask supplementary questions regarding whether a particular indicator is increasing, staying the same or decreasing (e.g. has the amount of money you have saved increased, decreased or stayed the same since this time last year?). This type of question is particularly useful for KPI4, as it provides direct information on the numbers who report

[10] There may also be a danger of concentrating on the 'quick wins' just below the threshold, which are easy to get above it, rather than the more intractable vulnerable categorise.

improvements in resilience and in resilience indicators. This 'direction of travel' information can be used to show perceived changes in resilience in a single survey, or to triangulate resilience indicator data from a series of surveys at different times – perhaps providing an indication of how many beneficiaries are becoming more resilient, staying the same, or becoming less resilient, to help explain the net number crossing a threshold as described above.

Results from 'direction of travel' questions can also be used to estimate KPI4 directly. However, project staff will have greater confidence in their measurement of resilience where questions on the 'direction of travel' are used to complement quantitative indicators such as those described above. Used in isolation, 'direction of travel' information would qualify a project for the bronze rating in terms of calculating changes in resilience. If used in isolation, a context specific decision would need to be made on how many indicators would need to move in the 'right' direction to indicate an improvement in resilience as relevant to the project, and thus be counted for KPI4.

Box 6. Example - Project X calculates numbers of individuals with improved resilience as measured by indicators relevant to project activities and outputs, represented by a scoring system

We saw in Box 3 how Project X had constructed an individual's resilience score ranging from 0-5. Project X, following statistical advice, conducted a representative sample survey at the beginning and end of the project of its 10,000 beneficiaries. From these surveys it was able to estimate the number of its beneficiaries in each resilience score category at the baseline and end of the project:

Resilience score	Number of individuals			
	Baseline		End line	
	Female	Male	Female	Male
0	2,000	1,000	500	500
1	2,000	1,000	500	500
2	1,000	1,000	1,000	1,000
3	250	750	2,000	1,000
4	250	750	1,000	1,000
5			500	500
Total	**5,500**	**4,500**	**5,500**	**4,500**

Project X decides that to be considered significantly resilient an individual should have a resilience score of three or more. It therefore calculates that at the baseline only 500 females and 1,500 males of its 10,000 beneficiaries were above this threshold. However by the end of the project 3,500 females and 2,500 males are above the threshold. Therefore Project X estimates that 3,000 females and 1,000 males had improved resilience from below to above the threshold measured by its resilience score. Estimates of attribution of this change to Project X are discussed in the next section.

Note: In addition to just counting the numbers crossing a resilience threshold, the figures can tell us much other interesting information. For instance the average scores at the baseline and end line can be calculated and the percentage increase for females and males calculated.

4. Estimating number of individuals from household surveys

An issue for many projects will be how to calculate KPI4 resilience data for individuals using data from surveys conducted at the level of the household.

There will usually need to be a number of context specific assumptions made when estimating individual numbers from household survey data. Some of these assumptions can be informed by questions in the household survey – such as the numbers in the family, ages, sexes etc. Some other assumptions will require qualitative enquiry and perhaps some detailed intra-household investigation.

At the most basic (bronze) level, if a household reports a change in resilience, information on household size and composition can be used to estimate numbers with improved resilience. It is important to estimate numbers and sexes from the actual sample households showing improved resilience – rather than multiplying up from the average household composition across the whole area – as households with increased resilience could be bigger or smaller, or with more or fewer beneficiaries of a particular type (e.g. female) than the average.

At the next level (silver), the calculations for bronze would be complemented with qualitative information on how different resilience indicators affect different household members. For example, it might be found that only women are involved in savings groups, and the resilience benefits from their participation only benefit the woman involved and their pre-school aged children. Therefore only these would be counted in relation to this indicator. In another example, a safety net might comprise a school feeding programme for children at primary school in times of shock. Qualitative inquiry might be required to assess whether the benefits from this also extended to other family members (more family food for everyone else) or not – and the calculation done accordingly. In yet another context it might be found that improved household level resilience indicators affect all household members more or less equally, and therefore the estimates made at the bronze level still hold true – but with stronger supporting evidence).

At the gold level some additional intra-household individual quantitative data collection and analysis would be used to track actual expression of resilience indicators at the individual level – preferably in relation to actual shocks and stresses.

Table 5. Different standards for calculation of numbers with improved resilience

	Bronze	Silver	Gold
Survey type	Simple direction of travel survey showing numbers with resilience indicators improving, staying the same, deteriorating	Combination of change in numbers exceeding a threshold and direction of travel survey information Or, panel/longitudinal tracking of resilience indicator change.	As silver but within an experimental or quasi-experimental design
Calculation of individual numbers from	Simple multiplication from numbers and sexes in households exhibiting	As bronze, but numbers adjusted or ratified by qualitative intra-household	Intra-household data either tracked individually (e.g. in panel survey) or overall

household survey data	increased resilience indicators	information	numbers adjusted through quantitative intra-household data collection and analysis.

8. Attribution - estimate numbers with improved resilience as a result of the project

Once the number of people[11] with improved resilience based on project-relevant indicators has been calculated (Step 7), the extent to which such improvements can be attributed to the project – directly or indirectly - needs to be addressed. At the very least this should consist of a convincing narrative that links measured changes in resilience to a project's theory of change. This should be based at least in part on participatory methods using beneficiary perceptions and feedback that address why measured changes in resilience as represented by the indicators developed under Step 3 did or did not occur.

A (hypothetical) **counterfactual scenario** could be presented describing the situation that would be expected to pertain if the project had not been implemented. This might simply compare the situation before and after project intervention(s), with the situation before the project representing the counterfactual. However, this needs very careful interpretation – as so many other elements are likely to be changing (including the presence or absence of climate shocks over a particular period), and so it is difficult to attribute differences in resilience as represented by relevant indicators purely to project interventions. In such a case, an argument should be presented as to why resilience would not have improved anyway, for example due to other factors or processes outside of the project context (e.g. government investment, changes in the wide economic context, and improvement in climatic conditions, etc.).

When a project is introduced in stages across an area it may be possible to compare the situation (and the resilience as represented by relevant indicators) of beneficiaries at different stages of intervention. Comparisons can be made between beneficiaries at earlier stages and those at later stages, with the former representing a type of counterfactual.

Some projects might employ a more experimental approach such as that of a randomised control trial (RCT). Control groups should have similar characteristics to beneficiaries and be exposed to the same stresses and shocks. Assessment of the resilience of control groups might involve qualitative narratives bolstered by secondary data/evidence, or the tracking of resilience among control groups using similar indicators to those applied to the beneficiaries (although this might present practical and ethical challenges). Panel surveys might also be employed, but specialised advice should be sought on how to conduct these for such a purpose. The instances in which rigorous comparisons based on randomised control trial methodologies are applicable are expected to be rare. Stern et al. (2012) conclude that only some 5% of development programmes are suitable for RCTs, although such approaches are increasingly popular in the field of development (see Box 7 for some key references on the use of control groups and RCTs). It should be stressed that most projects are not expected to use control groups. Rather, this is an option whose feasibility can be explored if it is viewed by project staff as potentially realistic and useful.

[11] Disaggregated by gender and possibly other categories

Box 7. Key references on the use of control groups and randomised control trials

Barahona, C. 2010. *Randomised Control Trials for the Impact Evaluation of Development Initiatives: A Statistician's Point of View*. ILAC Working Paper 13.

Gilbert, N. 2013. International aid projects come under the microscope: Clinical-research techniques deployed to assess effectiveness of aid initiatives. *Nature* 493, 462-463.

Humphreys, M., de la Sierra, R. S. and van der Windt, P. 2012. *Social and Economic Impacts of Tuungane: Final Report on the Effects of a Community Driven Reconstruction Program in Eastern Democratic Republic of Congo*. Columbia University.

Stern, E., Stame, N., Mayne, J., Forss, K., Davies, R. and Befani, B. 2012. *Broadening the Range of Designs and Methods for Impact Evaluations: Report of a study commissioned by the Department for International Monitoring & Evaluation.* DFID Working Paper 38.

Using some or all of the above methods, project staff should estimate what proportion of the people with improved resilience (as measured by the project-relevant indicators) can be said to have experienced improved resilience ***as a result of the project*.** For example, what is the difference in the percentage of people with improved resilience based on these indicators in target and comparison groups? What proportion of people providing feedback attribute improved resilience (partly or wholly) to assistance provided by the project? Some projects might choose to survey beneficiaries to calculate the level of contribution from a project. This might be done by asking beneficiaries whether the project contributed 'not at all', 'a little', 'somewhat', 'a lot', or 'exclusively' to any measured improvements in resilience. Other projects might seek to express the contribution of a project in percentage terms, as illustrated in the example Box 8 below.

Attribution-related questions such as those identified above should be built into any relevant questionnaires, survey forms and reporting templates. There may need to be some intra-household adjustment (or verification) of household survey data as described in the preceding section and illustrated in the example in Box 8.

Of course, any deterioration in resilience resulting from the project should also be addressed in a similar manner, based on the main project-relevant indicators and any indicators designed to capture unintended outcomes.

The information derived from such questions, or from comparisons with control groups, can be used to adjust the overall number with increased resilience as calculated in Step 7, to provide a figure for numbers with increased resilience that can be attributed in whole or in part to the project.

Box 8. Example – Project X looks at attribution

Project X has already calculated that a net figure of 3,000 females and 1,000 males have increased resilience as measured by its project specific index. However it is aware that other NGOs and the government are also working on similar activities in the same area (introducing drought resistant crops, savings groups etc.). Project X estimates that it is the biggest intervention in these sectors and that about 50% of the change might be attributable to them, and 50% to interventions by other organisations. To check this it also organises a number of focus groups in the area to discuss the changes (e.g. crop adoption, saving group participation etc.) and what has motivated individuals to change their behaviour. The focus groups confirm that in about 50% of cases, Project X was the main or only instigator of change, whereas in the remaining 50% other organisations could claim the credit. The focus groups also concluded that, although female resilience had generally benefitted more from the interventions, this hadn't been disproportionately due to the activities of Project X than the other actors, and therefore the same attribution % should apply to both males and females.

Therefore project X decided that it could claim 50% of the credit for increased resilience for both the females and males. It therefore reported that while 3,000 females and 1,000 males had increased measured resilience, of these, 1,500 of the females and 500 of the males were estimated to be mainly due to its project activities.

Table 6 details the different standards for addressing project contribution to improved resilience.

Table 6. Different standards for addressing attribution.

	Bronze	Silver	Gold
Attribution narrative	Simple explanation of how & why resilience has changed by project staff	Participatory enquiry based explanation of how and why resilience has changed. Include those who failed to benefit.	Participatory enquiry based explanation complemented by other evidence, e.g. timing of changes in factors/processes represented by indicators in relation to project activities/ outputs. Include those who failed to benefit
Assessment of contribution	Project 'contributed to' improved resilience of X number of people	Qualitative description of extent to which project contributed, e.g. significantly contribution, one of several factors, resilience would not have been improved without project; describe for different groups of beneficiaries	Quantitative characterisation that indicates the % of the total numbers with improved resilience that can be attributed to the project and/or the degree of change that can be attributed to the project.
Counter-factual	Before/after	Use of phased intervention approach to examine differences in resilience (and if possible impacts) across groups at different levels of intervention for different sampling periods.	Some experimental or quasi-experimental design (e.g. use of control groups, areas or populations).

9. Report numbers with improved resilience as a result of project support (KPI4)

To report against KPI4 a project needs to provide a figure for the **number of people whose resilience has been improved as a result of project support (disaggregated by gender).**

The number reported is the number with improved resilience linked to the project (numbers calculated in Step 7 and adjusted as described in Step 8) minus the number with reduced resilience linked to the project as a result of unintended consequences (Step 5).

Along with this headline number, it may be useful (for evaluation and learning at both the project and programme level) to report other information. Some projects might disaggregate their numbers based on categories other than gender (e.g. age, livelihood, location, etc.[12]), and add comparative information on which categories have changed most or least. This could be backed-up by explanatory information from qualitative methods.

Where a project has developed methods for measuring the degree of change in resilience (e.g. based on a simple or more complex scale), numbers of people moving from one category of resilience to another, or whose resilience has changed by more than X points, might be reported. It may also be interesting to look at the individual indicators that make up any composite indices. For example, which indicators have contributed most and least to the measured changes in resilience? This may yield information on which component of a complex project has been most effective in building resilience.

A description might also be given of those in the target area who failed to benefit from the project, with an explanation as to why this was the case.

Reporting of KPI4 should also be accompanied by some contextual information detailing how factors driving resilience that are not related to the project are changing.

Table 7 summarises the KPI4 reporting requirements for bronze, silver and gold standards.

Table 7. Different standards for reporting against KPI4

	Bronze	Silver	Gold
Headline indicator	Number	Number	Number
Categories of resilience	Improved, same, deteriorated	A simple scale	A more complex scale with the ability to divide into explanatory variables
Disaggregation	Gender	Gender + number of pre-determined categories	Gender + other categories that have been found to be associated with, systematic, statistically significant differences in indicators/ scores, based on quantitative

[12] However it should be noted that this may require increased sample size.

			assessment of indicator data
Those failing to benefit	Not required	Identify those unable to benefit from the project in area housing target population.	Quantify those unable to benefit from the project (i.e. how many people); how has their resilience changed (qualitative description or tracking using equivalent/ comparable indicators to those used for beneficiaries)
Characterisation of wider resilience context	Simple description by project staff of process and trends influencing resilience at large (i.e. outside of project context)	Estimate direction of change for processes and trends influencing resilience at large (i.e. outside project context)	Quantitative description of processes and trends influencing resilience at large (i.e. outside project context) with narrative of how beneficiaries' experiences differ from wider context

Contacts

Statistical advisor: Alex Feuchtwanger (DFID) a-feuchtwanger@dfid.gsx.gov.uk

<table>
<tr><td>Short title</td><td>ICF KPI 5: Number of direct jobs created as a result of ICF support</td></tr>
<tr><td>Type of indicator</td><td>Cumulative (individual years summed to total): report annual in-year totals only against each milestone. These annual in-year totals should then be summed across milestones to give a cumulative total for the current spending review period (2011/16).</td></tr>
<tr><td>Key reporting requirements</td><td>Below is a list of key reporting requirements to keep in mind when making your returns. Further details are available in the text below:

<table>
<tr><th>Requirement</th><th>Summary</th></tr>
<tr><td>Is this a DRF indicator?</td><td>No</td></tr>
<tr><td>Available for reporting?</td><td>Yes</td></tr>
<tr><td>Methodology changes?</td><td>No – however clarification on attribution</td></tr>
<tr><td>Units</td><td>Absolute number of direct jobs</td></tr>
<tr><td>Attribution</td><td>Pro-rata share of public funding</td></tr>
<tr><td>Disaggregation to be reported in Knowledge Platform</td><td>• Gender</td></tr>
<tr><td>Disaggregation not reported in Knowledge Platform</td><td>• Skill level (skilled unskilled)
• Contracts (have contract/don’t have contract)</td></tr>
</table></td></tr>
<tr><td>Technical Definition / Methodological summary</td><td>This indicator aims to measure jobs created directly by ICF funded projects and programmes, disaggregated by men/women, skill level and whether employees have contracts.

The creation of unskilled jobs will be used as a proxy for employment which is accessible to the poor, who by definition have less access to education and opportunities. This will be distinguished by level of education of the employee (i.e. jobs which do not require graduation from primary school will be classified as unskilled employment, those jobs which require graduation from secondary school, or some on the job apprenticeship will be regarded as skilled). Contractual as well as non-contractual employment will be counted as a measure of formal/informal employment, and to ensure situations such as self-employment by women in the solar industry are included.

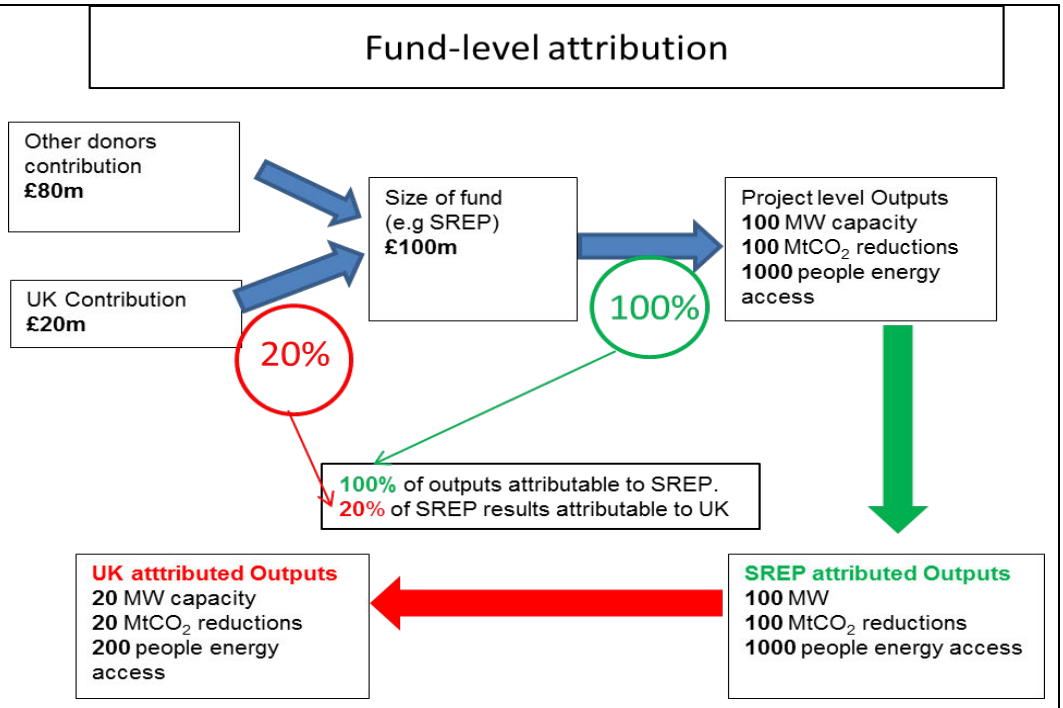
The number of new jobs created as a direct result of ICF support will be reported as annual totals and summed to give a cumulative total for the life of ICF funding.

The International Labour Organisation (ILO) and United Nations Energy Programme (UNEP) define green jobs as ‘any decent job that contributes to preserving or restoring the quality of the environment, including employment in green industries, in green occupations, and in environmental jobs.

1. Employment in green industries: Jobs in low carbon development focus on employment in green industries, defined as all jobs in green sector enterprises, or all persons who were employed in at least one green enterprise, whether it was their main or secondary job. Green industries are those enterprises where all or the majority of goods and services produced are green, as well as those industries handling and selling green goods and services. (This would include India’s barefoot female engineers who have new jobs and training to maintain small scale solar installations). For Low Carbon Development (LCD) goods or services supported for implementing or maintaining a low carbon pathway, and jobs arising through improving access to energy would be</td></tr>
</table>

	included. The indicator *will not measure jobs in agriculture for LCD* unless the programme is explicitly involved in the supply and use of clean fuels or resource efficiency processes. As many developing economies are agriculture-based, the penetration of LCD risks over exaggeration if the definition is expanded to include agriculture. 2. **Green occupations** are defined as those in green or non-green enterprises associated with greening production processes, in their own place of employment. This might best cover the definitions of green jobs associated with agriculture – and could potentially be used by the adaptation and forestry themes. 3. **Environmental jobs** are defined as those which have a direct link to protecting or enhancing environmental quality. These activities typically provide public goods where no private markets exist eg in national parks. The ICF will also measure the proportion of the workforce in the environmental goods and services sector at the country level. Environmental goods and services (EGS) refers to those involved in the 'deployment of clean energy, and in the support of environmental and emerging low carbon activities', as defined (in the UK context) by a report for BIS (Innovas solutions, 2009). This excludes agriculture.
Rationale	An intended outcome of greater investment in LCD, adaptation and forestry is the increased prosperity of people in developing countries, and increased resilience of the poor. Jobs and employment are a critical co-benefit of low carbon development, and vital in creating a supportive political economy environment, not least amongst domestic constituencies, in persuading low and middle income countries to adopt low carbon pathways. Research by ILO and UNEP indicates that green investment can contribute positively to job creation. This indicator will provide data which contributes to and deepens that analysis. Jobs created through forest plantations, smallholder agricultural schemes, and outgrower schemes are also highly significant for the broader rural economy. However, the distinction between adaptation, agriculture and low carbon themes is not entirely mutually exclusive. The creation of green jobs in the low carbon sector will contribute to resilience, through offering alternative or additional livelihoods strategies. And the use of agricultural products such as *bagasse* for energy production, for example, has positive impacts on employment at the farm level, in terms of creating new jobs and distribution networks. The ILO have provided comments on the use and definition of this indicator, and aim to use all relevant data and research at the 2013 International Conference of Labour Statisticians to further develop statistical standards and internationally harmonised statistical indicators for the employment impacts of greening the economy. We are working closely with the ILO, and with colleagues in the CIF admin unit and the multilateral development banks, who have committed to using a jobs indicator in response to requests from bilateral donors. There will also be scope for programmes to coordinate with representatives in country offices.
Country office role	Indicator (i) for each of their climate change programmes country offices will need to work with partners and other stakeholders to track this indicator. We envisage that where possible, staff will coordinate with local ILO offices; (ii) no

	role – will be calculated by desk based research at central level, supported by staff in country offices as and when appropriate. This has already been budgeted for in the concept approved under ICF financing.
Data sources	(i) Project level M&E. Discussions with partners in the Climate Investment Funds suggest that many private sector investment programmes are already beginning to measure this indicator (eg Asian Development Bank CTF programmes). (ii) Country level data available from business/commerce Ministries (where possible). The overall proportion should be a weighted average (by population) of the individual proportions in each country. Data from labour force surveys and on Small and Medium Enterprises (SMEs) will be used to triangulate data, where available.
Reporting organisation	DFID internal
Data included	
Formula/Data calculation (including attribution rule)	(i) Direct jobs created by ICF funded projects. (ii) The proportion of the workforce working in the environmental goods and services sector (i.e. number of people in the environmental goods and services industry/ total number of people in the workforce). Where HMG are only funding part of the project, benefits (number of people) should be calculated as a pro-rata share of public funding. For example, if we are funding 10% of a project that creates 100 jobs, we should claim that 10 of these jobs are attributable to DFID. **Fund-level attribution** (i.e. at point of UK investment) should be applied for reporting expected and actual results and headline results/figures used in Business Cases (to ensure all projects can report on a consistent basis). This method involves sharing results across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. For example, if the UK invests £25m into a fund that totals £100m of public money, the UK would claim 25% of the results from that investment. This applies to all results. The long term ambition is to develop the data availability to enable all projects to use the lowest/most direct level of attribution possible in the future (i.e. project level). Therefore, advisers should be working to develop sufficient data to calculate project level results reports, and where possible, provide this information now alongside headline Fund level results. To note, the distinction between attribution at the project level and at the Fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels.

	
Worked example	a. Project works in urban areas to use waste for energy. Waste pickers are included in the programme design, and x will be engaged in collecting and sorting waste for power generation, of which x% will have formal contracts. Currently y% of z waste pickers are women, and that will be equalled or exceeded as employment becomes available. b. Solar installation projects train x women as engineers, resulting in a new livelihoods stream available to women who previously had no access to skilled employment. Results are attributed at the point of UK investment (Fund level) and shared across all donors that contribute to a fund.
Most recent baseline	(i) Assuming the investments are new, the baseline will be zero; (ii) Needs to be calculated. The baseline should reflect the situation prior to ICF funding being provided and anticipated projections of what would happen without the ICF. For long running programmes the baseline should be taken as 2010 unless otherwise stated. The baseline should align with the economic appraisal in the project design.
Good performance	Increased net jobs will result in more prosperity, and greater **security** of employment. It will help create new jobs in rural areas as eg decentralised power products are rolled out. It will also create a new potential work-stream for **women**, as the sector will be less bound by traditional concepts of male/female roles. Such jobs will also improve resilience, as **poor people** have access to alternative forms of livelihoods.
Return format	Absolute number of direct jobs created.
Data dis-aggregation	<u>Data to be disaggregated and reported in the ICF results template:</u> - Gender: • Reporting by gender has been marked as mandatory. If you are unable to

	report by gender please explain why in the metadata columns of the results template. • We acknowledge that gender disaggregation will not be possible if household level data are used. If local gender disaggregation data is not available but you have target population data that allows you to give an estimated number then please report this. If an estimate is used then please state this clearly in the metadata column. • It is not intended to present gender disaggregated figures by country/programme but as an aggregated total across programmes <u>Data to be disaggregated as part of workings and Quest number provided:</u> Disaggregation of the following variables will not be collected as part of the ICF results template. Please include disaggregated data in your working documents and record the Quest number for these documents in the ICF results template. - Skill level - Contracted or not
Data availability	Annually
Time period/ lag	Data should be available annually after programme reviews.
Quality assurance measures	If reporting officers have any concerns about the quality of data or any points that they think CED should be made aware of, then please note this in the ICF results template. Any comments can usually be added into the free text columns on the far right of each ICF results template. Further guidance should be available in the commissioning note. Labour and employment statistics are complex yet essential. The choice of two indicators will help us to triangulate data in-country, and provide a greater depth of analysis of changes and their impact. This work will be linked to and influence a broader international process on the defining and measurement of green jobs. It will also be included in evaluations and reviews, where more scope will exist to link with economy-wide analyses and input-output tables defining green economy issues (led by and currently being piloted by ILO), as well as used alongside case studies which will investigate the extent to which employment is 'decent' i.e. constitutes an improvement in standard and quality of living. Triangulation could also take place using national labour and SME surveys.
Data issues/ risks and challenges	The distinction between adaptation, agriculture and low carbon themes is not mutually exclusive. The creation of green jobs in the low carbon sector will contribute to resilience, through offering alternative or additional livelihoods strategies. The use of agricultural products such as *bagasse* for energy production, also has positive impacts on employment at the farm level, in terms of creating new jobs and distribution networks. These are all issues which would be analysed and assessed as part of a good social impact analysis for new programmes anyway, and the impact and implications of such programmes could be regularly monitored to ensure positive impacts were supported, and the risk of negative impacts minimised. The indicator will also measure only the creation of direct gross jobs, rather than consider whether jobs are additional or displaced from other industries. This will be an area for analysis during evaluations of ICF investments. The ILO is developing input-output tables to measure net job creation in pilot countries,

	with the aim of rolling out the methodology with partner countries. Some basic methodologies and analyses have already been piloted, which indicate that net job creation is positive for green investments. Direct creation of jobs is also a first order indicator, measurement of related jobs which, for example, depend on forest resources could also be assessed as part of a more in-depth evaluation exercise. Likewise for 'decent' employment. Contracted work is measured as a proxy for this, though we do not want to exclude informal or self-employment, which can still have a significant impact on key issues such as women's empowerment, or household incomes. The extent to which work is 'decent' could also be the subject of a more in-depth evaluation exercise.
Additional comments	
Lead	Statistical advisor: Alex Feuchtwanger (DFID) a-feuchtwanger@dfid.gsx.gov.uk

Climate Change Compass helps the UK Government monitor, evaluate and learn from UK International Climate Finance

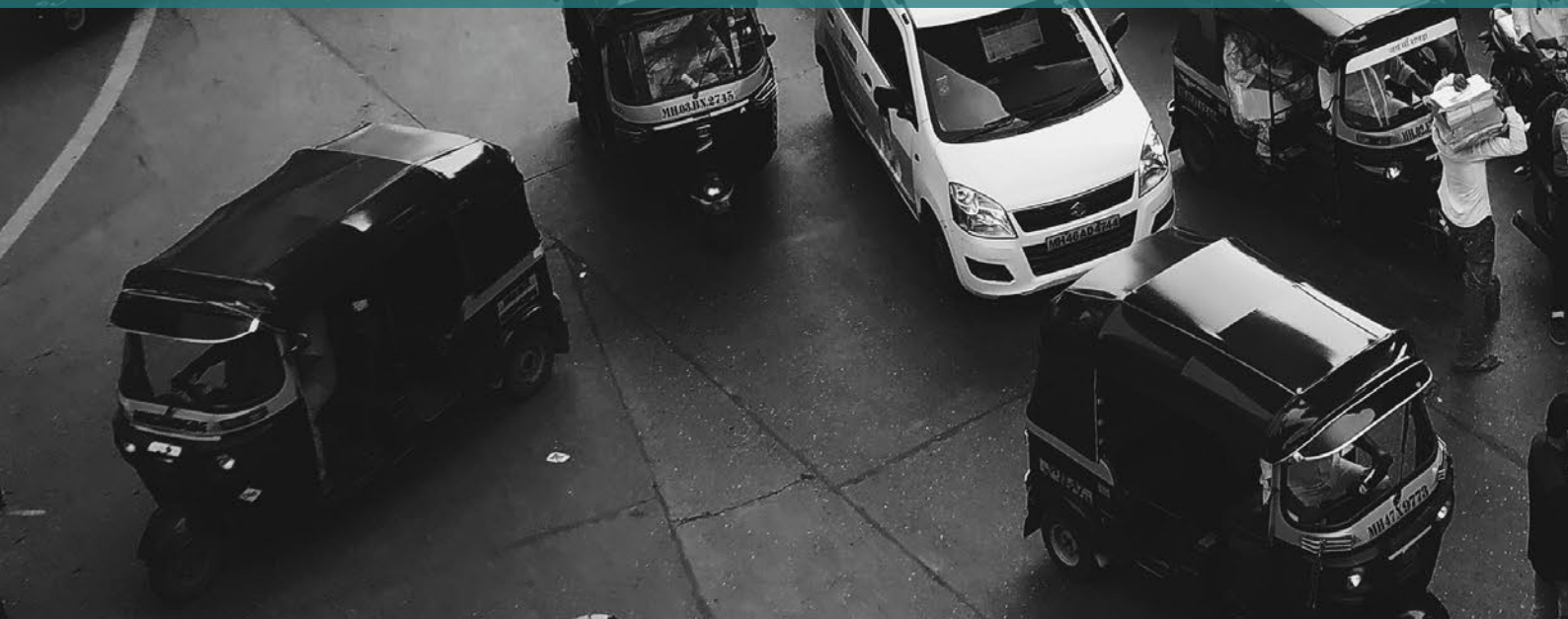
CLIMATE CHANGE COMPASS
BETTER CLIMATE FINANCE IMPACTS

HM Government

Net Change in Greenhouse Gas Emissions (tCO2e) – tonnes of GHG emissions reduced or avoided as a result of ICF

KPI 6 Methodology Note

November 2018



*Click on page numbers above to navigate direct to specific sections

About Climate Change Compass
The UK government has committed to provide at least £5.8 billion of International Climate Finance between 2016 and 2020 to help developing countries respond to the challenges and opportunities of climate change.

Visit **www.gov.uk/guidance/international-climate-finance** to learn more about UK International Climate Finance, its results and read case studies. Visit **www.climatechangecompass.org** to learn more about how Climate Change Compass is supporting the UK Government to monitor, evaluate, and learn from the UK International Climate Finance portfolio.

Acronyms

BAU	Business as Usual
BM	Build Margin
CDM	Clean Development Mechanism
CO_2	Carbon Dioxide
CH_4	Methane
CM	Combined Margin
CNG	Compressed Natural Gas
CSP	Concentrated Solar Power
DFID	Department for International Development
EF	Emissions Factor
EU	European Union
gCO_2e/km	Grams of Carbon Dioxide Equivalent per Kilometre
GHG	Greenhouse Gas
HAC	High Activity Clay (soil)
HFCs	Hydrofluorocarbons
ICF	International Climate Finance
IGES	Institute of Global Environmental Strategies
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Association
KPI	Key Performance Indicator
kWh	Kilowatt Hour
LCD	Low Carbon Development
LED	Light Emitting Diode
LUC	Land Use Change
LULUCF	Land-Use, Land-Use Change and Forestry
MDB	Multilateral Development Banks
MWh	Megawatt Hour
N2O	Nitrous Oxide
ODA	Official Development Assistance
OM	Operating Margin
PFCs	Perfluorinated Compounds
PV	Photovoltaic
QA	Quality Assurance
RE	Renewable Energy
REDD+	Reduced Emissions from Deforestation and Degradation
MSME	Micro, Small & Medium Enterprises
SF_6	Sulphur hexafluoride
SREP	Scaling Up Renewable Energy Program
tCO_2e	Tonnes of Carbon Dioxide Equivalent
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
W	Watt

***PLEASE NOTE: This document provides a simplified but reasonable estimate of emissions reductions to report against KPI 6. It also provides links to more complex and more accurate approaches. The more complex approaches are expected in a small number of ICF projects where additional resources may be required for KPI 6 reporting.*

Net Change in Greenhouse Gas Emissions (tCO2e) – tonnes of GHG emissions reduced or avoided as a result of ICF

Rationale

A key priority of International Climate Finance (ICF) is to demonstrate low carbon development is feasible and to achieve emission reductions. Monitoring the level of emissions abated from ICF projects is a key indicator of progress and results of direct action on the ground.

Summary table

Table 1: KPI 6 Summary Table

Units	Tonnes of Carbon Dioxide Equivalent (tCO_2e)
Disaggregation Summary (click for more info)	Results will be disaggregated by each sector, allocated by source and defined by the United Nations Framework Convention on Climate Change (UNFCCC) Inventory Categories. Please report if carbon credits have been obtained or not, and if these have been sold.
Headline Data To Be Reported	Absolute mass of greenhouse gas emissions reduced or avoided (tCO_2e)
Latest revision	September 2018. The main revisions to this Methodology Note are: • Guidance on converting KPI 7 into KPI 6 • List of appropriate Clean Development Mechanism (CDM) Methodologies • Step-by-step methodological guidance for GHG reductions from electricity generation, electricity energy efficiency savings, energy efficiency from other sources, forestry and transport.
Timing issues	*When to report:* ICF programmes will be required to report ICF results once each year in March. Please bear in mind how much time is needed to collect data required to report ICF results and plan accordingly. *Reporting lags*: Your programme may have produced results estimates earlier in the year, for example during your programme's Annual Review. It is acceptable to provide these results as long as they were produced in the 12 months preceding the March results commission. In some cases data required for producing results estimates will be available after the results were achieved – if it is the case that because of this, results estimates are only available more than a year away from when a results estimate is produced it should be noted in the results return that this is the case.
Links across the KPI portfolio	The LCD indicators, KPIs 2 (no. of people with improved access to clean energy), 7 (clean energy installed), 9 (number of domestic low carbon technology units delivered), 16 (net change in energy consumption), and forestry

	indicator KPI 8 (hectares of deforestation avoided), are all output/outcome precedents to KPI 6 (impact). Each is a potential contributor to KPI6 by means of a conversion factor or other methodology. Some programmes reporting on KPI 6 may have been instrumental in driving markets, leverage and driving down technology costs for renewable and low carbon technologies. There is transformational potential through these effects, and hence a link to KPI 15.

Technical Definition

This indicator will report on the net change in greenhouse gas (GHG) emissions measured in tCO_2e, estimated relative to the assumed *business as usual* emissions trajectory, and will reflect abatement results directly attributable to ICF mitigation and forestry projects over the lifetime of the projects.

GHG emissions refers to the 'Kyoto basket' of GHGs which includes:

- Carbon Dioxide (CO_2)
- Methane (CH_4)
- Nitrous Oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur Hexafluoride (SF_6)

This indicator will report on GHG emission impacts from all activities within an ICF project or programme area. This is consistent with the methodology used by the Intergovernmental Panel on Climate Change (IPCC) to estimate national GHG emissions.

This will not capture life-cycle impacts or consumption emissions that fall outside the individual country. In this regard, we recognise that this indicator may not comprehensively capture the full emissions impact.

This indicator will cover all sectors of the economy, including changes in net emissions from Land-Use, Land-Use Change and Forestry (LULUCF) – and results will be disaggregated by each sector, allocated by source and defined by the UNFCCC Inventory Categories:

- Energy supply
- Industrial processes
- Business
- Public
- Residential
- Transport
- Agriculture
- Waste Management
- Land Use, Land Use Change and Forestry (LULUCF)

For the Low Carbon Development (LCD) theme, results will predominately be reported under the energy supply sector from: changes in power generation and electrical energy efficiency improvements; or emission savings from energy efficiency measures in the industrial, business, residential or transport sectors.

For the Forestry theme, results will be reported under the LULUCF and Agriculture sector and will estimate changes in emissions from deforestation and forest degradation, forest conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+).

Methodological Summary

The net change in GHG emissions is estimated through a simple calculation – it is not a directly observable result. This calculation varies by project type, with the main project types being:

1) Electricity generation
2) Electricity energy efficiency savings
3) Energy efficiency savings from other sources
4) Forestry
5) Transport

The calculation steps are similar for each project type (detailed in worked examples), and are set out as follows:

This indicator will report realised net changes in GHG emissions from the project, reporting progress by each year of the project and providing an estimate for the total expected emissions reductions over the installation's lifetime.

For example:

- Project year 1 results = tCO_2e avoided in year 1 from clean capacity or energy efficient technologies installed in first year of project
- Project year 2 results = tCO_2e avoided in year 2 from clean capacity or energy efficient technologies installed in first and second year of project.
- Project year 5 results = tCO_2e avoided in year 5 from clean capacity or energy efficient technologies installed in first and second year of project.
- Total lifetime expected results = expected tCO_2e avoided from clean capacity or energy efficient technologies installed over lifetime of project.

Similarly, for forestry projects, this indicator will report on annual reductions and the total expected lifetime tCO_2e avoided, including through GHG sequestration. The lifetime for a forestry project is more difficult to establish than for some LCD projects, as there is a greater risk of non-permanence. For example, a forest preserved through an HMG intervention in year 1 may be cut down in year 3.

The lifetime of a project should be estimated in the business case appraisal and, if necessary, be re-assessed during project implementation. Any increases in emissions (e.g. reversals), should be recorded in the evaluation, whether they are natural (e.g. forest fire) or anthropogenic (e.g. poor forest management, or abandonment of project commitments).

The target results for the indicator will be based on the business case project appraisal, developed in consultation with the delivery partner, but may then be subsequently updated. The business case is likely an early estimate, and they might be updated when we have a fixed pipeline of projects.

Net change takes into account the emissions increases, as well as reductions owing to an intervention - capturing direct rebound effects (which may occur when people use some of the financial savings they have gained from improved energy efficiency to purchase more energy, or when people increase forest clearance because of an increase in the return to alternative land uses, for example). Indirect rebound effects from an intervention may also arise – however the ability for individual projects to capture this impact will be limited. Thus, this indicator will not aim to capture these indirect rebound impacts.

Figure 1: KPI 6 Methodological Summary

KPI 6: Net Change in Greenhouse Gas Emissions (tCO2e) – tonnes of GHG emissions reduced or avoided

1. Determination of the baseline counterfactual
2. Estimating the change in activity of fuel consumption owing to the ICF intervention relative to the baseline counterfactual
3. Estimating the net change in GHG emissions through the application of an emissions intensity factor to the activity level data
4. Taking into account carbon market interactions
5. Calculate pro-rata share where HMG only funded part of a project / programme
6. Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

**Additional step (between steps 3 and 4) for energy efficiency projects: "Account for the rebound effect if applicable"*
*** Additional step (between steps 3 and 4) for anti-degradation forestry projects: "Factor in the change in degradation multiplier"*

Methodology

Below are high-level methodologies to calculate the net positive change in GHG emissions due to ICF funding. These methodologies are split between the following energy intervention types:

1) Electricity generation
2) Electricity energy efficiency savings
3) Energy efficiency savings from other sources
4) Forestry
5) Transport

When to use more complex methodologies
More complex approaches may be required for a small number of ICF projects, where a very high degree of reporting accuracy is necessary. In these instances, methodologies can be drawn upon from the UNFCCC Clean Development Mechanism (CDM), included in Annex 6. Alternate 'voluntary standard' project-level emissions reductions quantification methodologies are available with the Gold Standard (https://www.goldstandard.org/) and Verra (http://verra.org/). Additional resources may be required for this more in-depth approach.

The approaches set out below are sufficient for most ICF project reporting, and are consistent with, but not as comprehensive as the CDM methodologies. Projects that MUST apply more comprehensive approaches include:

- Projects that expect to sell carbon credits during the ICF funding period[1]. This includes cases where ICF does not intend to sell credits, but implementing partners or other funding agencies intend to sell carbon credits. Such projects can use CDM, Gold Standard or Verra methodologies, depending on the market credits intend to be sold to. Implementing partners, or external service providers typically undertake project monitoring, reporting, and facilitation of

[1] From ICF Appraisal Guidance: It is often not appropriate for the UK to fund programmes that receive or expect to receive revenues from carbon credits, and therefore advice should be sought on a case by case basis'

verification. Note that any such projects must transparently report any carbon credits bought or sold.

- Projects that expect quantified emissions reductions to be included in any international transfers of credits under Article 8 of the Paris Agreement, in the context of host government Nationally Determined Contributions (NDCs). No ICF projects are currently in this situation, but future projects (post-2020) may be. In these cases, the agreed quantification approach must be agreed with the host government. The CDM methodologies are considered best practice, so is a likely set of approaches, but other approaches may also be used. The simplified methodologies described below are unlikely to be sufficient.

Projects that SHOULD apply more comprehensive approaches include:

- Projects that have a 'Results Based Payment', 'Results Based Finance', or other 'pay for performance' approaches, where the primary 'result' or performance indicator sought is emissions reductions (tCO_2e). Such projects need not use the entire CDM methodology (for instance, they may not use the 'Demonstration of Additionality' section), but may wish to refer to parts of the methodology, particularly the quantification of emissions reductions.
- Projects that are a demonstration of concepts or technologies, and include as part of the project exit strategy, a plan for a funding stream for the project to be generated from carbon credits, or monetising the emissions reductions in some way. In these projects, it is not necessary for CDM methodologies to be used for ICF reporting, but is recommended to be used to ensure any monitoring and reporting challenges are addressed, such that the subsequent (i.e. post-ICF funding) projects can readily be scaled-up.

Steps for Each Intervention Type

1) ELECTRICITY GENERATION

1.1) MAIN METHODOLOGY

To calculate GHG emissions savings from switching electricity generation, the following equation should be used in concert with the steps below:

Emissions reduced/avoided (tCO_2e) = [MWh or kWh of conventional generation avoided or displaced x Emission factor]

1.1.1 Determination of the baseline counterfactual

To compare results to the counterfactual and account for additionality, the projected level of GHG emissions avoided without the ICF intervention should be determined (E.g. it could be judged that 80% of the intervention is additional). If no baseline data is available, consider reducing the total number of GHG emissions avoided by a factor of 50%.

1.1.2 Estimate the change in fuel consumption due to ICF activity relative to the baseline counterfactual

Obtain data on the change in fuel consumption due to ICF activity from individual project level reporting (e.g. 10,000 MWh of clean energy generated, to displace conventional energy). Multiply this by the additionality factor (e.g. 10,000 x 0.8 = 8,000). If you are not able to estimate what the counterfactual is, it is suggested to use an 'adjustment factor', which should be high (e.g. 95%) if you are confident your results are additional, and your data quality is good. A lower 'adjustment factor' (e.g. 50%) should be used if there is significant uncertainty, and there are other partners in the area undertaking similar activities.

1.1.3 Estimate the net positive change in GHG emissions using an *emissions intensity factor* to the activity level data

An *emissions intensity factor* should be used to calculate the net positive change in GHG emissions (e.g. 8,000MWh x 0.479tCO_2e/MWh = 3,832 tCO_2e/year. Country specific emission factors can be found in Annex 5.

A more accurate emissions reductions estimate should be obtained where data is available, by reflecting the time and type of conventional energy generation displaced from the grid using the project's renewable energy. This is reflected in the *Operating Margin* (when reducing the generation of operating plants) and the *Build Margin* (when the construction of newly built plants is avoided or postponed). See Annex 5 for full definitions of Operating Margin (OM) and Build Margin (BM).

This more accurate emissions reduction estimate is based on a more accurate Grid Emissions Factor, and should be calculated using the CDM Methodological Tool[2] to calculate the emissions factor for an electricity system:

- Variable Generation (Solar and wind): Combined Margin (CM) = [0.75 x Operating Margin (OM)] + [0.25 x Build Margin (BM)]. Solar and wind have this ratio due to their intermittent and non-dispatchable nature.
- Firm Generation (other Renewable Energy projects such as hydro, geothermal, biomass): Combined Margin (CM) = [0.50 x OM] + [0.50 x BM] - balancing current operating margins and estimated built margins.

Where project specific information is not available, use country or regional average capacity factors and an average Combined Margin (at 50/50 OM/BM) Emissions Factor. These can be found in Annex 2.

Exceptions to using country/regional average factors are listed, as follows:

- When a Renewable Energy (RE) project has a particular "generation profile", and it has a specific impact on the grid, a different Emissions Factor (EF) from average may be warranted. For example: a wind project that benefits from afternoon on-shore winds (often seen in oceanic islands or continental coastal contexts), and that runs at high capacity in the late afternoon/early evening, but with low output during the rest of the day or night.

  In this case, the 'wind project Megawatt hours (MWhs) produced' will very likely replace the peak generation capacity. In many developing countries this will be diesel (Emissions Factors typically ranging between 0.5-0.7tCO_2e/MWh) or gas-fired (Emissions Factors typically ranging between 0.4 to 0.6tCO_2e/MWh) plants. These emissions factors may be substantially higher than the average emission factor if the grid has a large amount of hydro or wind installed, such as in Ethiopia, Ghana or Brazil.

- For projects that include battery storage [such as Photovoltaic (PV) + battery back-up residential or MSME systems], the battery typically will be 'filled' by Renewable Energy (usually PV), and 'emptied' or discharged when the grid falters (black-out or brown-out[3]). The most common type of back-up generator in the development context is diesel, and therefore these types of projects should use a diesel EF.

[2] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v4.0.pdf

[3] A black-out is a complete interruption of power in a given service area. A brownout is a partial, temporary reduction in system voltage of total system capacity

Where these projects are new, and are alternatives to what would otherwise be built (e.g. a hotel includes PV and batteries rather than a diesel 'genset'), then a new and appropriately sized diesel genset should be assumed, with an EF of typically 0.5tCO_2e/MWh. Where the project is on an existing structure, with one or more diesel gensets (which are old, or typically over-sized), but are expected to be removed or mothballed due to the battery back-up, a higher diesel EF should be selected, typically 0.7tCO_2e/MWh.

- Note that for off-grid projects where a mini-grid exists, the generator of the mini-grid should be used – which is typically diesel (EF's above), but sometimes hydro (where an EF of zero must be assumed).

- For off-grid projects where no mini-grid exists, the theoretical assumption is that the installation (i.e. household or business) would eventually be connected to the grid, and therefore the logic of grid emission factors (above) should be applied.

1.1.4 Take into account carbon market interactions

State whether tonnes of reduced or avoided CO_2e has been sold on the carbon market. This amount must be deducted from total emissions reductions to avoid double-counting[4].

1.1.5 Calculate pro-rata share where HMG only funded part of a project/programme (attribution)

See attribution section below.

1.1.6 Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

Sum all recorded emissions reduced/avoided (e.g. from year 1, year 2, etc.), and add an estimate for total expected emissions reduced/avoided over the installation's lifetime.

1.2) CALCULATING EMISSIONS REDUCED/AVOIDED WHERE ONLY INSTALLED CAPACITY IS KNOWN (I.E. CONVERTING KPI 7 INTO KPI 6)

To convert a nameplate capacity of project installation into expected annual emission reductions, or to convert results reported against KPI 7 [level of installed capacity (MW) of clean energy generated as a result of ICF support] to KPI 6, the following equation should be used in concert with the steps below:

Emissions reduced/avoided (tCO2e) = Installed capacity of renewable energy x Technology Capacity Factor x Grid Emissions Factor x 24 x 365

1.2.1 Determination of the baseline counterfactual

To compare results to the counterfactual and account for additionality, the projected level of GHG emissions reduced or avoided without the ICF intervention should be determined (E.g. it could be judged that 80% of the intervention is additional). If you are not able to estimate what the counterfactual is, it is suggested to use an 'adjustment factor', which should be high (e.g. 95%) if you are confident your results are additional, and your data quality is good. A lower 'adjustment factor' (e.g. 50%) should be used if there is significant uncertainty and there are other partners in the area undertaking similar activities.

1.2.2 Estimate the change in fuel consumption due to ICF activity relative to the baseline counterfactual

[4] if an Implementing Partner decides to sell or transfer part or all of their emissions reductions, after, or separate from HMG's legitimate project impact, these emissions reductions should NOT be deducted from HMG share of impact

Multiply the installed capacity of renewable energy (e.g. 100MW of wind power in East Africa) by a factor to account for the counterfactual (e.g. 0.8) and then by the technology capacity factor, which represents the annual generation time (e.g. 0.37 for East Africa, which means the wind turbines are generating power 37% of the time, net of operating and maintenance). See Annex 4 for a full list of technology capacity factors. Multiply this figure by 24 and 365 for annual hours.

*100*0.8*0.37*24*365 = 259,256 MWh per year*

1.2.3 Estimate the net change in GHG emissions using an emissions intensity factor to the activity level data

An emissions intensity factor (e.g. 0.603) should be used to calculate the net change in GHG emissions. See Annex 5 for a full list of grid emissions factors.

*259,256 * 0.603 = 156,355 tCO_2e/year*

1.2.4 Take into account carbon market interactions

State whether tonnes of reduced or avoided CO_2e has been sold on the carbon market. This amount must be deducted from total emissions reductions to avoid double-counting[5].

1.2.5 Calculate pro-rata share where HMG only funded part of a project/programme (attribution)

See attribution section below.

1.2.6 Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

Sum all recorded emissions reduced/avoided (e.g. from year 1, year 2, etc.), and add an estimate for total expected emissions reduced/avoided over the installation's lifetime.

When converting KPI 7 into KPI 6, projects should also take account of other circumstances, in particular at major project milestones such as commissioning. Partial year estimates (i.e. replace 365 with the number of days the project operates during the year in the above calculation) should be used. Where projects are uncertain when the clean energy capacity was installed in a given year, they should assume that in the first year, projects generated reduced/avoided emissions for half a year.

Where unplanned or unexpected maintenance/downtime has occurred during a year, projects should deduct that proportion of the year from the electricity generated. It should be noted that the International Renewable Energy Association (IRENA) Capacity Factor data referenced in Annex 4 is net of regular maintenance, and that unplanned / unexpected maintenance is on top of regular maintenance impact.

2) ELECTRICITY ENERGY EFFICIENCY SAVINGS

For electricity energy efficiency related emissions savings, the net change in GHG emissions is calculated from net changes electricity consumption relative to the baseline. Electricity use is converted into amount of CO_2e by multiplying by the emissions factor (in MWh or kWh) as described for electricity generation in A) above.

[5] if an Implementing Partner decides to sell or transfer part or all of their emissions reductions, after, or separate from HMG's legitimate project impact, these emissions reductions should NOT be deducted from HMG share of impact

The follow equation should be used in collaboration with the steps below:

Emissions avoided (tCO_2e) = [MWh or kWh of conventional generation avoided or displaced x Emission factor]

2.1 Determine the baseline counterfactual

To compare results to the counterfactual and account for additionality, the projected level of GHG emissions avoided without the ICF intervention should be determined (E.g. it could be judged that 80% of the intervention is additional). If you are not able to estimate what the counterfactual it is suggested to use an 'adjustment factor', which should be high (e.g. 95%) if you are confident your results are additional, and your data quality is good. Note that outside of 'First of its kind' type technologies, it is rare to consider a project 100% additional, since technological and development progress occurs without development assistance (albeit more slowly). For example, most end-use energy efficiency applications (such as household appliances), see an efficiency gain of 1-2% per year through incremental improvements is typical.

A lower 'adjustment factor' (e.g. 50%) should be used if you have a lot of uncertainty and there are other partners in the area undertaking similar activities.

2.2 Estimate the change in electricity consumption due to ICF activity relative to the baseline counterfactual

Obtain data on the change in electricity consumption due to ICF activity from individual project level reporting. For most demand side projects, the simplest approach is to calculate the 'per unit' saving, and multiply by the number of units in the project. For each unit (lamp, refrigerator, air conditioner, pump, electric motor, etc) that is replaced[6], take the rated capacity of the unit (in Watts (W), or kilowatts (kW)), and estimate the annual usage (in hours per day x number of days used per year) for the baseline (replaced unit), and the project (new unit). Often the usage times will be the same (such as in lighting applications), and in others, the new unit may be more effective as well as more efficient (such as in DC solar pumps) and may run for fewer hours per day or per year.

For example, an energy efficient lighting project in Kenya replaces 15,000 incandescent globes with LEDs. Take a default of 3.5 hours per day of use[7] (a higher number of hours can be used if justified). The electricity use of the 60W baseline incandescent lamps is then 3.5 hours/day x 365 days x 60W = 76,650Wh/year = 76.7kWh/year. The replacement LED lamp uses 8.5W to provide equivalent (or better) lighting. Annual use is then: 3.5hours x 365 x 8.5W = 10,860Wh/year = 10.9kWh/year. Each lamp saves 76.7-10.9 = 65.8kWh/year.

The project overall therefore saves 15,000 lamps x 65.8kWh/year = 987,000 kWh of electricity through energy efficient lighting per year. Multiply this by the additionality factor, for a lighting project, taken as 10%: 987,000 x 0.9 = 888,300kWh saved/year).

For projects that involve holistic changes (such as insulating building envelopes combined with upgraded AC systems and efficient lighting), to capture the electricity savings from synergies between interventions, it is appropriate to determine the average total energy use (for example of the building envelope, or industrial process) over the previous three years[8], and compare to the total energy usage after the project, to obtain energy savings.

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[6] Note that 'replaced' refers to removing existing (old) units, such as incandescent lamps, OR providing an alternate (more efficient) product or service instead of continuing with the Business as Usual approach. That is, providing LEDs in a new building that would otherwise have used incandescent lamps (as the common practice, or cheapest available) should also be included.

[7] See Annex 6, under Energy Efficiency, Small Scale, (10) AMS-II.J.: Demand-side activities for efficient lighting technologies --- Version 7.0

[8] Note – three years is suggested as a default to establish a representative data set, and data should be available from annual electricity billing. However, longer or shorter periods may be used to accommodate data availability, provided the historic data are representative.

Where the use of the installation changes (for example higher occupancy or greater product throughput), the energy usage should be normalised to the functionally equivalent unit such as kWh per building occupant per year, or kWh per product or service per year.

For example, in the baseline, a building has 300 occupants, and uses 400kWh per person per year, for a total of 120,000kWh/year. In the project, the building has 400 occupants, that use 250kWh/person/year, for a total of 100,000kWh/year. The energy savings should be calculated as:

400 occupants x occupant savings (400-250) = 400 x 150 = 60,000kWh per year.

This reflects the greater service provided, rather than the simple difference in electricity use (120,000kWh/year – 100,000kWh/year = 20,000kWh/year).

Each of these calculation approaches should multiply the energy saving by the additionality factor, as above.

2.3 Estimate the net change in GHG emissions through the application of an emissions intensity factor to the activity data

An emissions intensity factor should be used to calculate the net change in GHG emissions. This is the same approach as described above for electricity generation (section A):

Emissions avoided (tCO_2e) = [MWh or kWh of electricity generation avoided x Emissions factor]

Where data is available, a more accurate emissions reductions estimate should be obtained by reflecting the time and type of generation avoided from the grid due to the efficiency project (see Operating Margin and Build Margin discussion on p7 above).

Where project specific information is not available, use country or regional average emissions factors and an average Combined Margin (at 50/50 OM/BM) Emissions Factor. These can be found in the Annex 5.

For the example lighting project in Kenya, using the default Emissions Factor of 0.603tCO_2e/MWh for Kenya from Annex 5:

888,300kWh saved per year x 0.603tCO_2e/MWh = 888.3MWh x 0.603tCO_2e/MWh
= 536tCO_2e/year.

The exceptions to this are listed below:

- For off-grid projects where a mini-grid exists, the generator of the mini-grid should be used - typically diesel (see p8 for diesel Emissions Factor).
- For off-grid projects where no mini-grid exists (i.e. energy access projects), the theoretical assumption is that the installation (i.e. household or business) would eventually be connected to the grid, and therefore the logic of grid emission factors (above) should be applied. Where lighting projects explicitly target eliminating or reducing household kerosene usage, a default factor of 0.09tCO_2e/lamp replaced/year can be used[9]. If the Kenya example above were replacing kerosene lamps, it would result in 15,000 lamps x 0.09tCO_2e/year = 1,350tCO_2e/year. This figure is significantly higher than calculated above, since the emissions factor from inefficient kerosene burning in household lamps is higher than from Kenyan grid electricity.
- On-grid household lighting projects – typically household lighting coincides with peak grid loads (morning and early evening), and so result in 'peak shaving', and the Megawatt hours (MWhs)

[9] Taken from CDM methodology, referred in Annex 6: (10) AMS-II.J.: Demand-side activities for efficient lighting technologies --- Version 7.0

saved very likely avoid peak generation capacity. As discussed above, in many developing countries peak load generation will be diesel (Emissions Factors typically 0.5-0.7tCO_2e/MWh). These emissions factors may be substantially higher than the average emission factor if the grid has a large amount of hydro or wind installed, such as in Ethiopia, Ghana or Brazil.

2.4 Account for the rebound effect

In some cases, users of a more efficient appliance or installation are aware it is more efficient, and therefore use it for longer periods, or more often. For example, people may reduce the habit of 'turn the light off when you leave the room', if they know less energy is used due to efficient LED lights. Conversely, some installations result in multiplier effects: for example, more efficient, brighter lights (such as LEDs) result in turning on fewer lamps. This 'rebound effect' is widely recognised but difficult to accurately capture. For electricity energy savings projects where no rebound information is available, a default of 20% for residential customers should be applied and 10% for commercial or industrial consumer electricity use in middle and low income countries. This is based on HMG Appraisal guidance text, which should be referred to for the most up to date approach

For the example lighting project in Kenya, the rebound effect is taken as 5%. Thus emissions reductions = 536tCO_2e/year x 0.95 = 509tCO_2e/year.

2.5 Take into account carbon market interactions

State whether tonnes of reduced or avoided CO_2e has been sold on the carbon market. This amount must be deducted from total emissions reductions to avoid double-counting[10].

2.6 Calculate pro-rata share where HMG only funded part of a project/programme (attribution)

See attribution section below.

2.7 Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

Sum all recorded emissions reduced/avoided (e.g. from year 1, year 2, etc.), and add an estimate for total expected emissions reduced/avoided over the installation's lifetime.

For the example lighting project in Kenya, assuming 100% ICF funded, and all lamp replacements occur in year 1 of a 5 year project. All lamps are not replaced on 1 January, and the default assumption of half of the year emissions reductions for year 1 is applied. Thus emissions reductions for each year of the project = 516tCO_2e/year, except the first year which is 258tCO_2e/year.

The LED lamps are estimated to last for 20 years and therefore the total expected emissions reductions over the installation's lifetime are 516 tCO_2e/year x 19.5 years = 10,062 tCO_2e.

3) NON-ELECTRICITY RELATED ENERGY EFFICIENCY SAVINGS

For energy efficiency projects not related to electricity, emissions savings are calculated from net changes in fossil fuel consumption relative to the baseline. The reduction in fossil fuel consumption is converted into tonnes of CO_2e by multiplying fuel use (in litres, cubic meters or tonnes) by a fuel-specific (and unit specific) emission factor.

[10] if an Implementing Partner decides to sell or transfer part or all of their emissions reductions, after, or separate from HMG's legitimate project impact, these emissions reductions should NOT be deducted from HMG share of impact

Non-electricity related energy efficiency savings mainly relates to industrial energy efficiency includes the following examples: heat recovery and/or insulation of boilers and steam generation systems; insulation of buildings to reduce heating requirements; improvements in process efficiencies (pipework, machinery, etc) to reduce heat loss from steam or heat; upgraded turbine blades, injectors, or other efficiencies (including upstream improvements such as reduction in moisture content of coal, or refinement of liquid fuels to burn more efficiently) in fossil fuel generators of heat, steam, motive power or electricity; changes in behaviour or management systems (e.g. lower thermostat levels in buildings) to reduce heating oil use; or any other projects that directly reduces the use of fossil fuels.

Projects that replace or partly replace fossil fuel use may also use this approach to estimate emissions reductions. For instance, blending fly ash in cement production; or reducing coal use by replacement with biomass, such as sawmill waste wood or agricultural waste (bagasse, chaff, rice husks, etc). In the latter cases, care must be taken to ensure that biomass sources are sustainable, and do not deplete soil carbon, or risk displacing food production.

Projects that replace the service provided by fossil fuel use (such as using timber rather than concrete or steel in construction; or passive heating building design) can calculate the emissions reductions using this approach but must demonstrate that the projects provides the equivalent service as the fossil fuel-based products or services. Transport projects that may fit this project type are discussed separately below.

For all of these project types, the following general equation should be used in collaboration with the steps below:

Emissions avoided (tCO_2e) = [volume or mass of fuel x Emission factor (defined by fuel)]

3.1 Determine the baseline counterfactual

To compare results to the counterfactual and account for additionality, the projected level of GHG emissions avoided without the ICF intervention should be determined (E.g. it could be judged that 80% of the intervention is additional). If you are not able to estimate what the counterfactual it is suggested to use an 'adjustment factor', which should be high (e.g. 95%) if you are confident your results are additional, and your data quality is good. A lower 'adjustment factor' (e.g. 50%) should be used if you have a lot of uncertainty and there are other partners in the area undertaking similar activities.

3.2 Estimate the change in fuel consumption due to ICF activity relative to the baseline counterfactual

Obtain data on the change in fuel consumption due to ICF activity from individual project level reporting. Typically, this will be obtained from historical data of fossil fuel use, compared to fossil fuel use after project implementation.

For example, a project in Nigeria installs heat recovery systems on boilers, and steam piping insulation in a food processing factory that uses mineral diesel for heat and steam production. In the previous three years, the site used an average of 50,000 litres of diesel per month, or 600,000l/year. After the project, the site uses 40,000l/month, or 480,000l/year, for a 120,000l/year saving.

In instances where production levels vary significantly, or change over time, it may be necessary to normalise fuel savings against production levels. That is, comparing litres of diesel used per kg of food product before and after the project.

Multiply the fuel savings by the additionality factor (e.g. 120,000 x 0.8 = 96,000l/year).

3.3 Estimate the net change in GHG emissions through the application of an emissions intensity factor to the fuel savings data

An emissions factor should be used to calculate the net change in GHG emissions.

GHG emissions factors represent values that relate the quantity GHG released into the atmosphere with an activity. These factors are usually expressed as the mass of GHG divided by a unit mass or volume of fossil fuel.

For direct fossil fuel reductions the emissions factors are scientific, related to the carbon content of the fuel. A summary of common fuels and their emissions factors can be found in Table 1 below[11]. This should be used for known fuel types reduced. If the fuel type displaced in the project is not listed below, refer to the link in the footnote for other fuel types. For household kerosene (typically used for lighting and sometimes cooking in developing countries), not listed in the Table, use an emissions factor of 2.4 $kgCO_2e$/litre.

Table 2: Common Fuels and their emissions factors

Fuel Type	Fuel	Emissions Factor (kgCO2e / litre)	Emissions Factor (kgCO2e / cubic metres)	Emissions Factor (kgCO2e / tonne)
Gaseous Fuels	Liquefied Petroleum Gas (LPG)	1.51906	N/A	N/A
	Natural Gas	N/A	2.04652	N/A
Liquid Fuels	Diesel (100% mineral diesel)	2.68779	N/A	N/A
	Marine Fuel Oil (Heavy Fuel Oil)	3.10973	N/A	N/A
	Petrol (100% mineral petrol)	2.30531	N/A	N/A
Solid Fuels	Coal (industrial)	N/A	N/A	2452.29
	Coal (electricity generation)	N/A	N/A	2261.32

For the example industrial efficiency project in Nigeria, using the default Emissions Factor of 2.68779 $kgCO_2e$/litre from the Table above:
96,000 litres diesel saved per year x 2.68779 $kgCO_2e$/l = 258,028$kgCO_2e$ saved/year
= 258tCO_2e/year.

3.4 Account for the rebound effect

See above for introduction to the rebound effect.

In larger scale or industrial applications, the rebound effect is less pronounced, or even eliminated as commercial imperatives seek to maximise financial gains from efficiency measures. There may be 'negative rebound', where production is preferentially shifted to more efficient units, and away from older, less efficient units. Nonetheless, a rebound factor is recommended to ensure conservative emissions

[11] These emissions factors are based on 2018 UK conversion rates https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018. Fossil fuel conversion rates do not vary significantly internationally for all fuels except coal. For coal, country specific figures should be sought. Where these are not available, use the UK values as a default.

reductions claims. Where no rebound information is available, a default of 10%[12] should be used for non-electricity related energy savings projects.

For the example project in Nigeria, the rebound effect is taken as 10%. Thus emissions reductions = 258tCO_2e/year x 0.90 = 232tCO_2e/year.

3.5 Take into account carbon market interactions

State whether tonnes of reduced or avoided CO_2e has been sold on the carbon market. This amount must be deducted from total emissions reductions to avoid double-counting[13].

3.6 Calculate pro-rata share where HMG only funded part of a project/programme (attribution)

See attribution section below.

3.7 Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

Sum all recorded emissions reduced/avoided (e.g. from year 1, year 2, etc.), and add an estimate for total expected emissions reduced/avoided over the installation's lifetime.

4) FORESTRY

For forest and Land Use Change (LUC) related emissions savings: the net change in GHG emissions is calculated from net changes in land use relative to the baseline. Land use is converted into a corresponding amount of CO_2e by multiplying land use (in hectares) by a specific emission factor.

To calculate emissions savings from forestry projects, the following equations should be used in collaboration with the steps below:

Where the forest type remains the same, but its quantity has changed e.g. in an afforestation project:
Emissions avoided (tCO_2e) = [Δ forest land area x emission factor]

Where the quantity of forest remains the same, but its condition has changed e.g. in an anti-degradation project:
Emissions avoided (tCO_2e) = [forest land area x emission factor x Δ degradation multiplier]

4.1 Determination of the baseline counterfactual

To compare results to the counterfactual and account for additionality, the projected level of GHG emissions avoided without the ICF intervention should be determined (E.g. it could be judged that 80% of the intervention is additional). Where the counterfactual case is not clear, use an 'adjustment factor', which should be high (e.g. 95%) if you are confident your results are additional, and your data quality is good. A lower 'adjustment factor' (e.g. 50%) should be used if you have a lot of uncertainty and there are other partners in the area undertaking similar activities.

4.2 Estimate the change in land use due to ICF activity relative to the baseline counterfactual

[12] The assumption differs from that of electricity energy efficiency savings as for industrial processes we assume rebound effect is likely to be less pronounced, or even eliminated as commercial imperatives seek to maximise financial gains from efficiency measures. If non-commercial, this should be reviewed.

[13] if an Implementing Partner decides to sell or transfer part or all of their emissions reductions, after, or separate from HMG's legitimate project impact, these emissions reductions should NOT be deducted from HMG share of impact

Obtain data on the change in land use area due to ICF activity from individual project level reporting (e.g. 10,000 hectares of deforestation avoided). Multiply this by the additionality factor (e.g. 10,000 x 0.8 = 8,000).

4.3 Estimate the net change in GHG emissions through the application of an emissions intensity factor to the activity level data

Land use emissions factors (in tCO_2e per hectare) vary by vegetation type (e.g. dry forest), climate (e.g. tropical), soil type (e.g. acidic) and forest condition (e.g. no degradation, low degradation). The latter is important for measuring the impact of projects that reduce forest degradation. Note the emission factors are often negative because forests are generally a sink of GHGs. See step 7 below.

To capture the change in emissions from a project that addresses illegal logging, wood-balance and import-source analyses should both be used.

In addition, the method of land use change should be taken into account. For example, deforestation through fire releases more GHGs than deforestation through felling.

4.4 For anti-degradation projects, factor in the change in degradation multiplier

Factor in the change in degradation multiplier for anti-degradation projects (e.g. 0.9-0.2). Descriptors of degradation include: none; very low; low; moderate; large; and extreme. Degradation is ranked between 0 and 1, reflecting the carbon storage per hectare. Zero degradation (i.e. pristine forest) is very rare in practice, and extreme degradation (clear felling and erosion) still ranks at 0.2. Thus, the practical range is 0.9 to 0.2. See also the worked example.

4.5 Take into account carbon market interactions

State whether tonnes of reduced or avoided CO_2e has been sold on the carbon market. This amount must be deducted from total emissions reductions to avoid double-counting[14].

4.6 Calculate pro-rata share where HMG only funded part of a project/programme (attribution)

See attribution section below.

4.7 Calculate annual net change in GHG emissions and total expected emissions reductions

Sum all recorded emissions reduced/avoided (e.g. from year 1, year 2, etc.), and add an estimate for total expected emissions reduced/avoided.

FAO EX-ACT Tool

The UN maintains a spreadsheet tool that may be used for these calculations. It is freely available online at: http://www.fao.org/tc/exact/ex-act-tool/en/. The tool is based on IPCC tier 1 'emissions factors' and can be used to complete step 3 of the above methodology.

The process is explained within the spreadsheet[15], and requires input on Tab 1 of:

- **Continent**

[14] if an Implementing Partner decides to sell or transfer part or all of their emissions reductions, after, or separate from HMG's legitimate project impact, these emissions reductions should NOT be deducted from HMG share of impact

[15] With further guidance available at: http://www.fao.org/tc/exact/user-guidelines/en/

- **Climate**: where not known, climate type can be determined by clicking on the link in the question mark icon (?) which gives a map of IPCC climate zones, or refer to tab 10 ('help') of the spreadsheet.
- **Moisture regime**: where not known, moisture regime can be determined by clicking on the (?) icon, or referring to tab 10 ('help') of the spreadsheet
- **Soil**: where not known, soil type can be determined by clicking on the (?) icon, or referring to tab 10 ('help') which gives a map of IPCC soil classifications
- **Project Duration**: the 'implementation' (when actions are taken) and 'capitalisation' (monitoring and maintenance of actions) times should add to the total project reporting period (e.g. 5 years).

After entering the project details on Tab 1, users can calculate first estimates for changes in GHG emissions from deforestation, afforestation/reforestation and other land use change projects in Tab 2.

The process requires inputs of:

- **Type of vegetation to be deforested:** this is defined in row 8 (just above where you select vegetation type and get the choice of zone 1, zone 2 etc) and if further clarification is required click on (?) icon, or refer to tab 10 ('help') of the spreadsheet
- **Type of land use after deforestation:** such as annual crops or grassland.
- **Areas:** the 'start' refers to the baseline, and 'without' refers to the expected land use change if no project is implemented. 'With' refers to the forested area remaining after project implementation. For example, a 10,000ha target area (start) is expected to be deforested to leave only 1000ha of forest remaining. If all forest is protected by the project, the 'with' will be 10,000ha.

The results (for the project duration specified) are automatically calculated in column T, 'balance'. The result should appear as a negative amount (that is, negative emissions, or emissions avoided). To see annual results, refer to tab 9 'Results' in column Q.

More detail can be input to the model in tabs 3 to 8, but these tabs require more detailed baseline and project implementation data. For a first estimate, tabs 1 and 2 only are needed. Where more accurate estimates are required, it is recommended that external support (consultants, or implementing partners) are engaged.

5) TRANSPORT

Transport projects can be complex and multifaceted, making the estimation of emissions reductions difficult. Currently the ICF portfolio has very few transport projects but given the transport sector's prominence (around 15% of global emissions), transport projects may be undertaken in future.

Transport projects can be considered in three broad types:

a. *Efficiency*: for example, introducing and enforcing vehicle efficiency standards on a gCO_2e/km basis[16];
b. *Modal Shift*: for example, improving bus services to encourage people to take public transport and discourage individual vehicle use;
c. *Systematic/planning*: for example, changing zoning laws and providing for public transport hubs, bicycle lanes and walkable cities.

Most successful projects[17] combine these approaches to at least some extent, for example by providing efficient buses (A), with prioritised routes and upgraded bus stations (C), along with awareness raising and incentives for public transport use (B).

[16] Such as is done in the EU: https://ec.europa.eu/growth/sectors/automotive/environment-protection/emissions_en

[17] Such as the highly successful TransMilenio project in Bogata, https://cdm.unfccc.int/Projects/DB/DNV-CUK1159192623.07/view

This guidance note does not provide simplified emissions reductions calculations in transport projects but outlines the types of quantification that can be undertaken and references other applicable methodologies.

a) Efficiency projects

For projects where there is a direct and comparable efficiency improvement, emissions reductions calculation can be straightforward and a simplified approach used.

For example, a replacement or upgrade of a city bus fleet from diesel to CNG, the baseline (diesel) and project (CNG) are directly comparable – assuming the same bus routes, frequency, etc. In such a case, the simplified approach of Section 3 (non-electricity related energy efficiency savings) above can be used. That is, determine the fuel use emissions in the baseline (litres of diesel per year x emissions factor) and the fuel use emissions in the project (litres (or m^3) of CNG per year x emissions factor). The difference between these numbers is the annual emissions reductions, after addressing additionality.

The difficulty arises in assessing additionality. Since fuel efficiency improvements rarely justify the early retirement of transport stock (i.e. buses, cars, trucks etc), there early replacements *are* additional. On the other hand, the transport stock has a finite life, and will eventually be replaced. Replacement vehicles are typically considerably more efficient than older, worn-out vehicles. Considering additionality in the bus fleet example, the baseline should be a combination of the time of early replacement (i.e. some years in which the old diesel bus would have run, replaced with new CNG), and the expected BAU replacement (likely a new diesel bus). This considerably adds to complexity, and in the development context vehicles are often run until they break down, and the idea of 'planned replacement' is difficult to apply.

Where data availability or complexity limits prevail, a simplified approach may still be used, by either:

- using the BAU replacement baseline (i.e. assume all buses would be replaced by new diesel rather than CNG) and a high additionality factor (i.e. 0.9, if CNG use is not yet common in the local context); or
- use a sufficiently conservative additionality factor, such as 0.5, to account for estimation uncertainty.

Note that a new, quieter, faster and more efficient transport system (e.g. the CNG bus) is likely to attract greater ridership/usage (i.e. (B) modal shift). This simplified efficiency calculation would not include any emissions reductions benefits from the modal shift.

If more detailed calculation of transport efficiency improvements are sought (see note in the introduction of 'Methodology' Section above) for specific vehicle fleets (e.g. a bus company) or jurisdictions (e.g. public transport in a state), relevant approaches and data can be found in CDM methodologies in Annex 6 (for example AMS-III.AK, and AMS-III-AY for vehicle fleet improvements).

b) Modal Shift

While direct efficiency projects may achieve reductions in the order of 10-30%, a modal shift (e.g. from car to train, or from air to train) can reduce emissions from 70% to more than 90%[18].

The key to estimating emissions reductions is to ensure functional equivalence of service. This is typically defined in emissions per passenger or cargo kilometre (gCO_2e/passenger km, or gCO_2e/kg or t of cargo km)[19]. The challenge is in obtaining sufficient data on service rates in the baseline and project. It can be

[18] See for example, European modal shift emissions: https://www.eea.europa.eu/data-and-maps/daviz/specific-co2-emissions-per-passenger-3#tab-chart_1

[19] Note these metrics typically use grams of CO2 rather than tonnes of CO2 per kilometre.

relatively straightforward to monitor the increase in ridership after an upgrade of an existing public transport system that is more attractive to users, such as the diesel-CNG bus replacement example above. However, the baseline of the new users is more difficult to establish. Were they driving a car? Was this alone, or in a car-share? Were they using train, mini-bus, bicycle or walking? Or were they taking this trip less frequently or not at all?

Establishing a reliable emissions reduction estimate requires at least a reasonable overview of transport use in the project area (city, region or country), including:

- assessment of share of movements by mode (car, bus, train, air, non-motorised);
- load factor (for cargo – full or partially loaded; cars - single drivers or shared; public transport – how many riders per vehicle (e.g. bus or train)); and
- their relative distances.

In many development contexts, particularly in rapid, unplanned development and urbanisation, this information is not available. A significant amount of work will be required to establish baseline conditions.

A more narrowly defined intervention may be possible, for example a Bus Rapid Transit (BRT) system[20] that aims to directly reduce traffic congestion on a particular route. In this case, a baseline road use traffic count (i.e. number of vehicles passing start and end points of the route), with survey of vehicle types and occupancy, combined with an 'after project implementation' count and survey can be undertaken. Combining the road use data with before and after bus ridership numbers, an estimate of modal shift can be made. An estimate of emissions reductions can then be obtained from the difference in passenger kilometres between modes (that is, gCO_2e/passenger km by car, compared to gCO_2e/passenger km by bus). Given that UK per vehicle fleet emissions are significantly lower than most development contexts, average modal emissions published by HMG[21] can be used to obtain a conservative estimate.

Where a more accurate emissions reduction estimate is required, and/or the project determines that more detailed transport data is needed to optimise project design (such as sizing of buses) in addition to seeking emissions estimates, it is recommended that the relevant CDM methodologies are used in full or in part – noting that some aspects such as project boundary and additionality may not be required. Transport CDM methodologies are listed in Annex 6.

c) Systematic/planning

To achieve near 100% emissions reductions from transport, a holistic and systematic approach to urban development is required. This includes zoning to plan for mixed commercial/residential areas, walkable cities, public transport hubs at key destinations, safe and effective cycle paths, and prioritisation of human movement over vehicle movement. This makes walking, cycling and public transport the preference and the norm for the vast majority of journeys.

This is, of course, rare globally, and virtually unheard of in the development context. Nonetheless, ICF projects seeking transformational change (see KPI 15 Guidance Note) in transport will target some of these aspects. Establishing credible emissions reductions estimates requires determining the 'transport not taken' through an understanding of the BAU baseline development. This is highly location-specific, and there are no applicable CDM methodologies.

To establish a reductions estimate, a bespoke analysis is needed. This should establish relevant local baseline conditions, and draw on elements of CDM methodologies as needed (such as AM0031: Bus rapid transit projects, see Annex 6).

[20] This typically involves a dedicated bus lane, that may be partly or fully separated from the main road, with improved bus stops and priority signals at traffic lights.

[21] See for example the 19th tab 'Business travel - land' for data on kgCO2e/passenger km on the excel sheet at: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018

Attribution

If HMG is the sole investor in a project or programme, it should assume all responsibility for any results (where the results are assessed to be additional and where HMG has a causal role).

In many instances HMG may be acting alongside one or more other development partners or multilateral bodies that also provide funding or support for projects or programmes – and where each partner has played a role towards the results. In these cases, HMG should only claim responsibility for the portion of results that can be attributed to its support.

If HMG is only funding part of a project/programme, reporters should calculate results as a pro-rata attributable share based on the value of all public co-financing towards the project.
In instances where ICF programmes leverage (public or private) finance that helps to deliver programme results, please contact your central ICF teams on how to address attribution of results delivered. See methodology notes for KPI 11 and 12 for definitions (of public, private, and leveraged finance and co-finance).

If HMG is contributing to a fund

'First best' approach: use project/programme level attribution (as above)
In this approach, reporters calculate results attributable to the UK for each project/programme implemented by the fund using the project/programme level attribution approach, and then sum results across all projects/programmes in the fund to reach total UK attributable results.

This approach allows for recognition of other co-finance contributions at the project/programme level. However, this approach may be complicated or not always possible in practice as it relies on (i) full information about project/programme level inputs, (ii) additional work to calculate results at the project/programme level.

'Second best' approach: use fund-level attribution

Reporters apply fund-level attribution (i.e. at point of UK investment) for reporting results. I.e. results should be shared across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. This approach assumes that any further finance towards the project is counted as leveraged. Where this is known to not be the case, a more conservative approach to attribution may be appropriate, please contact your central ICF teams on further guidance.

While this is the less preferred approach as it does not recognise additional contributions at the project/programme level, it may be more practical to implement where full data on project/programme level inputs is not available.

Note: The distinction between attribution at the project/programme level and at the fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels.

Worked Example

Worked example 1: Increase in uptake of energy efficient appliances[22]

Based on fictious programme where HMG funds an energy efficient lighting project in Kenya replaces 15,000 incandescent globes with LEDs

Step 1: Determine baseline counterfactual:

The baseline is incandescent globes used for a default of 3.5 hours per day of use[23] (a higher number of hours can be used if justified). The replaced lamps are 60W incandescents. This is the predominant lighting on-grid in Kenya, and the adjustment/adjustment factor is taken as 90%.

Step 2: Estimate change in electricity consumption

The electricity use of the 60W baseline incandescent lamps is then 3.5 hours/day x 365 days x 60W = 76,650Wh/year = 76.7kWh/year. The replacement LED lamp uses 8.5W to provide equivalent (or better) lighting. Annual use is then: 3.5hours x 365 x 8.5W = 10,860Wh/year = 10.9kWh/year. Each lamp saves 76.7-10.9 = 65.8kWh/year.

The project overall therefore saves 15,000 lamps x 65.8kWh/year = 987,000 kWh of electricity through energy efficient lighting per year. Multiply this by the additionality factor, for a lighting project, taken as 10%: 987,000 x 0.9 = 888,300kWh saved/year).

Step 3: Net change in emissions through emissions intensity factor

Emissions avoided (tCO_2e) = [MWh or kWh of electricity generation avoided x Emissions factor]

Using the default Emissions Factor of 0.603tCO_2e/MWh for Kenya from Annex 5:

888,300kWh saved per year x 0.603tCO_2e/MWh = 888.3MWh x 0.603tCO_2e/MWh

= 536tCO_2e/year.

Step 4: Account for rebound effect

For Kenya, the rebound effect is taken as 20%. Thus emissions reductions = 536tCO_2e/year x 0.80

= 429tCO_2e/year.

Step 5: Take into account carbon market

No carbon credits were sold from the project, thus: = 429tCO_2e/year.

Step 6: pro-rata HMG attribution

The project is 100% IFC funded, thus = 429tCO_2e/year.

Step 7: Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

All lamp replacements occur in year 1 of a 5-year project. All lamps are not replaced on 1 January, and the default assumption of half of the year emissions reductions for year 1 is applied. Thus emissions reductions for each year of the project = 429tCO_2e/year, except the first year which is 215tCO_2e/year.

The LED lamps are estimated to last for 20 years and therefore the total expected emissions reductions over the installation's lifetime are 429 tCO_2e/year x 19.5 years = 8,366 tCO_2e.

[22] Worked examples for New Power generation & Forestry can be found in Annex 1.

[23] See Annex 6, under Energy Efficiency, Small Scale, (10) AMS-II.J.: Demand-side activities for efficient lighting technologies --- Version 7.0

Data Management

Data Sources
Some data will be available directly from programmes, for example from project-level M&E. Ideally, the duty to collect data should be the responsibility of recipients of ICF funding, or a third-party auditing entity. This information will need to be kept up to date by liaising with programme managers.

Most Recent Baseline
The baseline should reflect the situation prior to ICF funding being provided, and anticipated projections of what would happen without the ICF. For long running programmes, the baseline should be taken as 2015 unless otherwise stated. The baseline should align with the economic appraisal in the project/programme design.

Data Issues / Risks and Challenges
There may be varying degrees of quality of data, from data generated by large DFID projects with good quality, to that produced by multilateral partners with their origin in government partners' data systems, which may be of lower quality.

For forest projects, the high cost of monitoring can pose a constraint on data collection. Satellites and remote sensing technologies are not always available, and forest surveying is highly labour intensive. As a result, detailed data may be unavailable for projects covering large or hard-to-access areas. It may also be difficult to assess and capture the full extent of spill over effects and leakage of emissions outside the scope of a project or country boundaries.

Quality Assurance
All results estimates should be quality assured before they are submitted during the annual ICF results return, ideally at each stage data is received or manipulated. For example, if data is provided by partners, this data should be interrogated by the ICF programme team for accuracy, or are the very least data should be sense checked for plausibility. When converting any provided data into KPI results data, quality assurance should be undertaken by someone suitable and not directly involved in the reporting programme. Suitable persons vary by department; this could be an analyst, a results / stats / climate and environment adviser / economist.

Central ICF analysts will quality assure results that are submitted and this may lead to follow up requests during this stage.

To avoid inherent reporting biases, it is strongly recommended that, where possible, data collection is undertaken by a third party that is not directly involved with implementing the project. Where not possible, consider using independent evaluations or alternative means to periodically check the validity of results claims.

Any concerns about data quality or other concerns should be raised with your departmental ICF analysts and recorded in documentation related to your results return.

Data Disaggregation

Results will be disaggregated by each sector, allocated by source and defined by the UNFCCC Inventory Categories, as follows:

UNFCC Categories:

1) Energy supply
2) Industrial processes
3) Business
4) Public
5) Residential
6) Transport

7) Agriculture
8) Waste Management
9) Land Use, Land Use Change and Forestry (LULUCF)

For the *Low Carbon Development* theme, results will predominately be reported under the energy supply sector from: changes in power generation and electrical energy efficiency improvements; or from emission savings from energy efficiency measures in the industrial, business, and residential or transport sectors.

For the *Forestry* theme, results will be reported under the LULUCF and Agriculture sector and will capture changes in emissions from deforestation and forest degradation, forest conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+).

Please report if carbon credits have been obtained or not, and if these have been sold.

Annex 1: Further Worked Examples

Worked Example 2: New Power Generation

Based on fictitious programme where HMG funds 10 MW of new solar capacity in a single year in Ghana

Emissions reduced/avoided (tCO_2e) = [MWh or kWh of conventional generation avoided or displaced x Emission factor]

Step 1: Determination of the baseline counterfactual

The solar plant will be grid connected, and the baseline supply of electricity is the grid mix. This is the first scale solar plant in the country, so can be confident of it's additionality, take a factor of 95%.

Step 2: Estimate the change in fuel consumption due to ICF activity relative to the baseline counterfactual

The fuel consumption for the solar plant is zero, thus the change in consumption is the total MWh fed into the grid by the solar plant.
Ghana solar has a capacity factor of 0.2 (for Africa, see Annex 4). The total solar electricity generated per year is simply: 10MW *0.2*24*365 = 17,520MWh.

Multiply this by the additionality factor: = 17,520 x 0.95 = 16,644MWh.

Step 3: Estimate the net positive change in GHG emissions using an *emissions intensity factor* to the activity level data

Since Ghana has electricity demand that frequently exceeds supply (as seen by recurrence of blackouts), a reduction in peak load would mean the baseline generation would still be fully operational, so a Build Margin should be selected (or a Combined Margin with a higher BM component). If data is not available to establish the BM, the default from Annex 5 should be used. For Ghana, this is 0.479tCO_2e/MWh.

Thus, the annual emissions reductions is: 16,644MWh x 0.479tCO_2e/MWh = 7,972tCO_2e/year.

Step 4: Take into account carbon market interactions

No carbon offsets or emissions reductions were sold from the project, thus no adjustment is made.

Step 5: Calculate pro-rata share where HMG only funded part of a project/programme (attribution)

The project is 60% funded by ICF, and 40% by host government. Thus, the HMG attribution is 60%. Thus: 7,972tCO_2e/year x 0.6 = 4,783tCO_2e/year.

Step 6: Calculate annual net change in GHG emissions and total expected emissions reductions over the installation's lifetime

The annual emissions reduction is 4,783tCO_2e/year when fully operational. However, the 5-year project included siting and design, and the plant began operation after 2 years. That is, zero emissions reductions in year 1 and year 2, and 4,783tCO_2e in years 3, 4 and 5.

The solar plant has a design life of 25 years, therefore a further 4,783tCO_2e/year x 22 years = 105,225tCO_2e of emissions reductions is expected over the installation life.

Worked Example 3: Forestry

Based on fictitious programme where HMG funds reducing forest degradation in the Congo Basin. The programme reduces degradation on 10,000 hectares of forestland. It is assumed that the project has a permanent effect.

Step1: Determine the baseline counterfactual
An adjustment factor of 95% was selected as there is confidence that the results are additional, and data quality is good.

Step 2: Estimate the change in land use due to ICF activity relative to the baseline counterfactual
10,000 ha x 0.95 = 9,500 ha

Step 3: Calculate net change in GHG emissions through the application of an emissions intensity factor to the activity level and
In this example, the project is working with type 1 forest, in a tropical humid climate in Africa, with High Activity Clay (HAC) soils. The emission factors are:

- biomass (below and above ground) - 745tCO_2/hectare
- soils - 240tCO_2e/hectare
- total -985tCO_2e/hectare

Note - the emission factors in this example are negative because forests are generally a natural carbon sink for GHGs.

Δ Emissions = [forest land area x emission factor]
Δ Emissions = 9,500ha x (- 985tCO_2/ha)
Δ Emissions = -9,357,500tCO_2e/year

Step 4: Factor in degradation multiplier

In this example, a qualitative assessment is made that there would have been 'extreme' degradation without the project. The associated degradation multiplier is 0.2. After the project, there is 'very low' degradation. The associated degradation multiplier is 0.9.

Δ Emissions = [forest land area x emission factor x Δ degradation multiplier]
Δ Emissions = 9,500 ha x (- 985tCO_2/ha) x (0.9-0.2)
Δ Emissions = -6,550,250tCO_2e/year

Step 5: Take into account carbon market interactions
No carbon credits sold.

Step 6: Calculate pro-rata share where HMG only funded part of a project / programme (attribution)

The project is 100% IFC funded, thus = -6,550,250tCO_2e/year

Step 7: Calculate annual net change in GHG emissions and total expected emissions reductions.

Annual net change in GHG emissions = -6,550,250tCO_2e/year

With regards to total expected emissions reductions, this emissions outcome assumes the land use change (i.e. extreme degradation avoided) is effectively permanent (i.e. -6,8950,000tCO_2e/year every year) and that degradation does not occur in the years after project implementation. The IPCC defines the atmospheric lifetime of carbon dioxide as 100 years. Practically, a project claiming this emissions impact must have compelling mechanisms to ensure the long-term forest protection. While 100 years is impractical, governance mechanisms (such as declaration as National Park, with enforcement provisions in place) that credibly provide assurance of longevity of protection (at least 30 years) must be included. The treatment of time is not straightforward for forest projects, as the rate of forest growth and decay is non-linear, and varies by forest type. This has an impact on emissions. Hence it is best to use the UN spreadsheet tool described above, as the tool is programmed to take account of varying rates of growth and decay.

Annex 2: Comparability and synergies with other external indicators

The KPI 6 unit - tCO_2e - is a global standardised unit, and is consistent with the UNFCCC and Paris Agreements on GHG emissions reductions. This unit is assessed scientifically through an exhaustive peer-review process within the IPCC. ICF uses this base unit, as do the MDBs and all key players within the low-carbon development community.

Annex 3: Definitions of key methodological terms used across Methodology Notes

As different HMG departments may use the same terminology to refer to different concepts, this section sets out definitions for key terms used across Methodology Notes for ICF KPIs. The terms used in these notes refer to the concepts as defined below, rather than to alternative, department-specific usages of these terms.

Counterfactual: The situation one might expect to have prevailed at the point in time in which a programme is providing results, under different conditions. Commonly, this is used to refer to a 'business as usual' (BAU) counterfactual case that would have been observed if the ICF-supported intervention had not taken place.

Additionality: Impacts or results are additional if they are beyond the results that would have occurred in the absence of the ICF-supported intervention. That is, results are additional if they go beyond what would have been expected under a BAU counterfactual.

Causality: Causality refers to the assessment that one or more actors bear responsibility for additional results or impacts, because of funding provided though the ICF or actions taken under an ICF programme. Multiple development partners may be assessed to have played a causal role in delivering results.

Attribution: Attribution refers to allocating responsibility for impacts or results among all actors that have played a causal role in programmes that deliver additional results. Results are commonly attributed to causal actors based on their financial contributions to programmes (though there may be cases where greater nuance is needed, as with KPI 11 and KPI 12).

Annex 4: Renewable Energy Capacity Factors

The Table below *[Renewable Energy Capacity Factors (RE Technology by Country/Region)]* shows capacity factors[24] across a range of renewable energy technologies, including: bioenergy for power, geothermal, hydro, solar photovoltaic (PV), Concentrating Solar Power (CSP), onshore wind and offshore wind. These capacity factor figures are the most current (2017), and are sourced from the International Renewable Energy Association[25] (IRENA) *Renewables 2017: Global Status Report*.[26]

All data comes from IRENA's robust Renewable Cost Database of 15,000 utility-scale renewable power generation projects, and 1 million small-scale solar PV systems. Where project level capacity factors are available, these should be used rather than the regional and country-level defaults given here. Generally, Capacity factors do not vary widely between ODA countries within the same geographical region. Whereas, they vary widely by project location and are based on technology variations. For this reason, country level metrics are generally not more useful than regional level metrics, and furthermore, these are capacity factor estimates intended to provide a broad-based reporting outcome.

Wherever possible, project location and technology specific factors should be used. The Capacity Factor figures in the following Table serve as a first order estimate to provide a reasonable assessment of project outcomes:

Table 3: Renewable Energy Capacity Factors

Technology	Country	Capacity factors	Minimum	Maximum
Bioenergy for power	Africa	0.62	0.46	0.9
	Asia	0.71	0.14	0.93
	Central America and the Caribbean	0.6	0.27	0.8
	Eurasia	0.83	No data	Not available
	Europe	0.84	0.18	0.98
	Middle East	0.64	0.46	0.92
	North America	0.84	0.16	0.96
	Oceania	No data	No data	Not available
	South America	0.64	0.2	0.96
	China	0.64	0.33	0.93
	India	0.73	0.63	0.9
	United States	0.94	0.93	0.96
Geothermal	Africa	0.87	0.8	0.92
	Asia	0.85	0.41	0.9
	Central America and the Caribbean	0.57	No data	Not available

[24] Capacity Factor: is a unitless ratio of actual electrical energy output over a given period of time to the maximum possible electrical energy output over that period.

[25] International Renewable Energy Association (IRENA) is an intergovernmental organisation supporting countries in their transition to a sustainable energy future. IRENA is the premiere global organization dedicated to the promotion of 100% renewable energy worldwide, and is the world's largest repository of free information on renewable energy. IRENA is an official United Nations observer, and boasts membership of 153 states and the European Union (with a further 26 in the process of accession). Note that CDM Executive Board figures not used on a per project basis. There is no other relevant international database to rely upon for Capacity Factors.

[26] REN 21: *Renewables 2018 Global Status Report*: http://www.ren21.net/status-of-renewables/global-status-report/
Capacity Factors are unlikely to vary widely from year-to-year, and data is updated on an ad-hoc basis by IRENA from multiple sources. Moreover, specific methodologies are individually modified based on emerging technologies. Nonetheless, to maintain methodological relevancy it is recommended to use the most up to date capacity factors from the most recent IRENA publication (IRENA's publication cycle for Methodologies is annual). Note this information on capacity is the most up to date (from 2017), with all data coming from IRENA's Renewable Cost Database of 15,000 utility-scale renewable power generation projects and 1 million small-scale solar PV systems.

Technology	Country	Capacity factors	Minimum	Maximum
	Eurasia	0.8	No data	Not available
	Europe	0.66	0.6	0.8
	Middle East	No data	No data	Not available
	North America	0.87	0.8	0.924
	Oceania	0.8	0.8	0.8
	South America	0.83	0.8	0.95
	China	No data	No data	Not available
	India	No data	No data	Not available
	United States	0.8	0.8	0.8
Hydro Power	Africa	0.59	0.3	0.86
	Asia	0.46	0.16	0.82
	Central America and the Caribbean	0.53	0.32	0.55
	Eurasia	0.5	0.32	0.72
	Europe	0.29	0.16	0.58
	Middle East	0.34	0.31	0.53
	North America	0.49	0.31	0.68
	Oceania	0.45	0.31	0.5
	South America	0.61	0.34	0.81
	China	0.51	0.42	0.53
	India	0.41	0.16	0.75
	United States	0.37	0.31	0.5
Solar Photovoltaic	Africa	0.18	0.14	0.28
	Asia	0.17	0.1	0.23
	Central America and the Caribbean	0.17	0.16	0.19
	Eurasia	0.14	0.1	0.18
	Europe	0.12	0.11	0.18
	Middle East	0.22	0.18	0.35
	North America	0.2	0.2	0.32
	Oceania	0.22	0.2	0.26
	South America	0.2	0.12	0.34
	China	0.17	0.1	0.19
	India	0.19	0.15	0.22
	United States	0.2	0.14	0.32
Concentrating Solar Power	Africa	0.39	0.36	0.53
	Asia	0.28	0.21	0.54
	Central America and the Caribbean	No data	No data	Not available
	Eurasia	No data	No data	Not available
	Europe	0.32	0.23	0.41
	Middle East	0.29	0.24	0.39
	North America	0.35	0.27	0.39
	Oceania	0.12	0.11	0.12
	South America	No data	No data	No data
	China	0.28	0.28	0.29
	India	0.28	0.21	0.54
	United States	0.35	0.27	0.52
Onshore Wind	Africa	0.37	0.19	0.48
	Asia	0.25	0.18	0.46

Technology	Country	Capacity factors	Minimum	Maximum
	Central America and the Caribbean	0.33	0.24	0.54
	Eurasia	0.37	0.24	0.49
	Europe	0.29	0.14	0.51
	Middle East	0.2	0.14	0.29
	North America	0.4	0.22	0.51
	Oceania	0.33	0.23	0.43
	South America	0.4	0.26	0.55
	China	0.25	0.23	0.29
	India	0.24	0.19	0.33
	United States	0.41	0.23	0.44
Offshore Wind Power	Africa	No data	No data	No data
	Asia	0.28	0.23	0.29
	Central America and the Caribbean	No data	No data	No data
	Eurasia	No data	No data	No data
	Europe	0.38	0.27	0.55
	Middle East	No data	No data	No data
	North America	0.48	No data	No data
	Oceania	No data	No data	No data
	South America	No data	No data	No data
	China	0.28	0.23	0.29
	India	No data	No data	No data
	United States	0.48	No data	No data

Annex 5: Grid Emissions Factors

The table below shows grid emissions factors[27] for countries in Asia, Latin America, Africa and the Middle East. Data is sourced from IGES (Institute of Global Environmental Strategies),[28] based on publicly available sources on the UNFCCC website.[29] Where more recent or more accurate emission factors are available, they should be used[30].

When using Operating, Build and/or Combined Margins, refer to the CDM Executive Board *Tool to Calculate Emission Factors for Electricity Systems*:

https://cdm.unfccc.int/Reference/tools/ls/meth_tool07_v01_1.pdf – for guidance on how to establish the emission factor;

and to: https://cdm.unfccc.int/Panels/meth/meeting/05/Meth18_repan8_OMBM.pdf[31] – on how it is applied to the most common CDM methodologies.

[27] CO_2 emission factor (tCO_2e/MWh) associated with each unit of electricity provided by an electricity system.
[28] IGES is an internationally recognized public interest foundation, with: an IPCC Inventory Task Force Technical Support Unit (TSU); holds United Nations Economic and Social Council (UN / ECOSOC) special consultative status; and, houses the Asia-Pacific Global Change Research Network (APN) Secretariat.
[29] Individual data sources available in country tabs of IGES Grid Emissions Factors spreadsheet (available at https://pub.iges.or.jp/pub/iges-list-grid-emission-factors), April 2018 update. Note that CDM Executive Board figures are not used on a per project basis.
[30] Data from April 2018. Emissions factors should be updated annually.
[31] UNFCCC CDM Meth Panel: *Annex 8 Preliminary Guidance For Om/Bm Weighting In ACM0002 & Other Approved Methodologies That Use The Combined Margin Approach.*

Table 4: Grid Emissions Factors (50/50 OM/BM)

Country	Combined Margin EF (average)(tCO_2e/MWh)	Operating Margin (average) (tCO_2e/MWh)	Built Margin (average) (tCO_2e/MWh)
Asia			
Bangladesh	0.644	0.641	0.647
Bhutan	0.892	1.080	0.702
Cambodia	0.665	0.628	0.702
China	0.874	1.044	0.626
Democratic People's Republic of Korea	0.912	0.912	0.000
India	0.903	0.993	0.751
Indonesia	0.761	0.817	0.692
Lao People's Democratic Republic	0.565	0.560	0.298
Malaysia	0.668	0.618	0.697
Mongolia	1.061	1.121	0.885
Pakistan	0.543	0.685	0.302
Panama	0.461	0.677	0.244
Philippines	0.508	0.630	0.380
Republic of Korea	0.631	0.701	0.499
Singapore	0.486	0.516	0.456
Sri Lanka	0.674	0.699	0.646
Thailand	0.547	0.572	0.508
Vietnam	0.564	0.636	0.491
Latin America			
Argentina	0.518	0.598	0.407
Bahamas	0.723	0.749	0.697
Belize	0.152	0.304	0.000
Bolivia	0.589	0.630	0.575
Brazil	0.298	0.433	0.141
Chile	0.614	0.721	0.480
Colombia	0.335	0.446	0.218
Costa Rica	0.274	0.341	0.139
Cuba	0.874	0.871	0.877
Dominican Republic	0.654	0.727	0.492
Ecuador	0.576	0.735	0.423
El Salvador	0.682	0.716	0.662
Guatemala	0.587	0.764	0.447
Guyana	0.948	0.948	
Honduras	0.643	0.655	0.640
Jamaica	0.732	0.772	0.613
Mexico	0.528	0.647	0.378

Country	Combined Margin EF (average)(tCO_2e/MWh)	Operating Margin (average) (tCO_2e/MWh)	Built Margin (average) (tCO_2e/MWh)
Nicaragua	0.679	0.738	0.585
Panama	0.591	0.733	0.460
Peru	0.598	0.700	0.487
Uruguay	0.574	0.585	0.499
Africa			
Angola	0.841	0.794	0.887
Burkina Faso	0.368	0.279	0.637
Cote d Ivoire	0.649	0.687	0.611
Egypt	0.533	0.583	0.470
Ethiopia	0.000	0.000	0.000
Ghana	0.479	0.248	0.866
Kenya	0.603	0.657	0.516
Libya	0.794	0.823	0.730
Madagascar	0.552	0.498	0.607
Mali	0.614	0.581	0.639
Mauritius	0.972	0.990	0.892
Morocco	0.652	0.693	0.533
Mozambique	0.964	0.996	0.934
Namibia	0.920	0.950	0.870
Nigeria	0.573	0.601	0.543
Rwanda	0.654	0.661	0.647
Senegal	0.681	0.690	0.663
Sierra Leone	0.402	0.402	0.000
South Africa	0.953	0.949	0.922
Sudan	0.305	0.231	0.529
Tunisia	0.554	0.571	0.521
Uganda	0.532	0.506	0.529
United Republic of Tanzania	0.529	0.539	0.519
Zambia	0.964	0.996	0.933
Middle East			
Iran (Islamic Republic of)	0.669	0.692	0.646
Israel	0.705	0.792	0.564
Jordan	0.584	0.646	0.522
Kuwait	0.780	0.750	0.810
Lebanon	0.650	0.672	0.628
Saudi Arabia	0.654	0.654	0.000
United Arab Emirates	0.676	0.639	0.530

Others

Albania	0.393	0.056	0.506
Armenia	0.436	0.514	0.397
Azerbaijan	0.590	0.637	0.531
Bosnia and Herzegovina	0.973	1.081	0.865
Cyprus	0.798	0.827	0.711
Fiji	0.567	0.448	0.686
Georgia	0.402	0.459	0.501
Montenegro	0.984	0.880	1.226
Papua New Guinea	0.679	0.722	0.636
Serbia	1.099	1.128	1.001
The former Yugoslav Republic of Macedonia	0.861	0.819	0.903
Uzbekistan	0.593	0.584	0.602

Annex 6: Applicable CDM Methodologies

CDM Methodologies are needed to calculate total emissions reductions from clean energy/clean technology projects towards carbon credit eligibility. The United Nations Framework Convention on Climate Change (UNFCCC) 2017 Methodology Booklet states: *The Clean Development Mechanism (CDM) requires the application of a baseline and monitoring methodology … to determine the amount of Certified Emission Reductions (CERs) generated by a mitigation CDM project activity in a host country.*[32]

The determination of the usage of the appropriate UNFCCC CDM Methodology is normally undertaken by the delivery partners, or by a third party GHG/CDM Accountant. The level of rigour and accuracy of CDM reporting is substantially higher than the simplified approach outlined above. This is typically outsourced to a professional, such as an international consulting firm.

The CDM is the largest database of emissions reduction projects, and has a comprehensive set of methodologies unmatched elsewhere. Therefore, these should be considered best practices. For ICF reporting, the most relevant sections from the most commonly used CDM Methodologies have been identified in the Table (Applicable CDM Methodologies) below.

This table outlines the most common International Climate Finance (ICF) intervention types, with links to applicable UNFCCC CDM methodologies.[33] These referenced clean energy technologies cover 80%[34] of CDM methodologies from ICF programmes reporting against KPI 6 – where CDM methodologies exist (i.e. not REDD & Transport).[35]

This Table contains notes on which methodology version to select (where more than one choice is available for any given clean energy technology type); and the most relevant sections of the source reference are highlighted.

Steps to Identify CDM Methodology
Step 1: Identify/Determine your Project's/Programme's Target Technology in the Table below.
Step 2: Select the applicable CDM Methodology hyperlink associated with that project's renewable energy technology. Ensure you select the appropriate CDM Methodology version (e.g. grid-connected or mini-grid).
Step 3: A typical CDM Methodology is 25-30 pages, most of which is irrelevant and can be ignored by going to the pages set-out in Column 4 of the Table. Proceed to the pages referenced for "Applicability," to check that this Methodology is applicable to your specific Project/Programme.
Step 4: Proceed to the pages referenced for "Baseline Methodology (identified in Column 4)," to calculate emissions avoided due to the RE Project/Programme.
Step 5: Establish the "Project Boundary" in accordance with the CDM Baseline Methodology.
Step 6: For most RE CDM Project's supported by ICF (eg. solar, wind & biogas), leakage is immaterial and Project emissions are insignificant.[36] Where these emissions factors are not calculated according to the CDM methodology, we use a 5% reduction in reported emissions to ensure a conservative outcome.

[32] UNFCCC CDM Methodology Booklet, Ninth Edition (updated as of EB 97 November 2017)
[33] Table requires annual or 2-year update, as methodologies will be periodically amended or replaced with the introduction of new technologies. Default numbers or country-specific data are not available, as Renewable Energy CDM methodologies/modalities are technology & project-specific and can be quite complex, and generally not governed by geographical conditions/factors.
[34] Calculated by dividing the sum of ICF programmes with GHG reducing interventions with a CDM Methodology (e.g. solar) by the total number of programmes reporting against KPI 6.
[35] Transport and energy efficiency interventions are not included, as they only cover a small proportion of ICF programmes reporting against KPI 6 (3 out of 31; and 5 out of 31 respectively). CDM methodologies not included in this document can be found here https://cdm.unfccc.int/methodologies/PAmethodologies/approved.
[36] *IFC GHG Reduction Accounting Guidance, May 2017:* Leakage is a change in GHG emissions beyond the project boundary, and can result from displacing a source of GHG emissions off-site or causing an unrelated increase in GHG emissions at a third party operation. For the most part, leakage is negligible unless otherwise described in specific project-type methodologies.

Note: If the Methodology process cannot be practically followed, a simplified estimate of project outcomes can be obtained by multiplying the annual RE production from the Project in MWh by the Emissions Factor (given per country in Annex 5 above).

Table 5: Applicable CDM Methodologies

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
Hydro (large scale)	ACM0002: Grid-connected electricity generation from renewable sources --- Version 17.0 https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN	Only one choice	P4: Applicability P9-25: Baseline Methodology
Hydro (small scale)	(1) AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK	(1) Grid connected	P3: Applicability P6-12: Baseline Methodology
	(2) AMS-I.F.: Renewable electricity generation for captive use and mini-grid --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/9KJWQ1G0WEG6LKHX21MLPS8BQR7242	(2) Mini grid	P3: Applicability P5-8: Baseline Methodology
Wind (large scale)	ACM0002: Grid-connected electricity generation from renewable sources --- Version 17.0 https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN	Only one choice	P4: Applicability P9-25: Baseline Methodology
Wind (small scale)	AMS-I.A.: Electricity generation by the user --- Version 16.0 https://cdm.unfccc.int/methodologies/DB/8FKZFJ7SG551TS2C4MPK78G12LSTW3	Only one choice	P: Applicability P: Baseline Methodology
Geothermal (large scale)	ACM0002: Grid-connected electricity generation from renewable sources --- Version 17.0 https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN	Only one choice	P4: Applicability P9-25: Baseline Methodology
Geothermal (small scale)	(1) AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK	(1) Grid connected	P3: Applicability P6-12: Baseline Methodology
	(2) AMS-I.F.: Renewable electricity generation for captive use and mini-grid --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/9KJWQ1G0WEG6LKHX21MLPS8BQR7242	(2) Mini grid	P3: Applicability P5-8: Baseline Methodology
Solar Power Plant (large scale)	ACM0002: Grid-connected electricity generation from renewable sources --- Version 17.0	Only one choice	P4: Applicability P9-25: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN		
Solar PV (small scale)	(1) AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK	(1) Grid connected	P3: Applicability P6-12: Baseline Methodology
	(2) AMS-I.F.: Renewable electricity generation for captive use and mini-grid --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/9KJWQ1G0WEG6LKHX21MLPS8BQR7242	(2) Mini grid	P3: Applicability P5-8: Baseline Methodology
	(3) AMS-I.L.: Electrification of rural communities using renewable energy --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/CCZKY3FSL1T28BNEGDRSCKS0CY0WVA	(3) Mini grid and household level	P3: Applicability P6-12: Baseline Methodology
	(4) AMS-I.A.: Electricity generation by the user --- Version 16.0 https://cdm.unfccc.int/methodologies/DB/8FKZFJ7SG551TS2C4MPK78G12LSTW3	(4) Household	P1: Technology / measure P2-6: Boundary, Baseline, Project Emissions and Leakage
	(5) AMS-I.J.: Solar water heating systems (SWH) --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/GX9DV8QFP9X8BNR5G11UUJD55EJ03A	(5) Solar water heating	P1-2: Technology / measure P2-6: Boundary, Baseline, Emissions Reductions and Leakage
Wave/Tidal (large scale)	ACM0002: Grid-connected electricity generation from renewable sources --- Version 17.0 https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN	Only one choice	P4: Applicability P9-25: Baseline Methodology
Wave/Tidal (small scale)	(1) AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK	(1) grid connected	P3: Applicability P6-12: Baseline Methodology
	(2) AMS-I.F.: Renewable electricity generation for captive use and mini-grid --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/9KJWQ1G0WEG6LKHX21MLPS8BQR7242	(2) Mini grid	P3: Applicability P5-8: Baseline Methodology
Biomass (large scale)	(1) ACM0006: Electricity and heat generation from biomass --- Version 13.1 https://cdm.unfccc.int/methodologies/DB/SZBV79HP36KDU7RQI5HFCZJB6OC597	(1) See if directly relevant from project title	P4: Applicability P9-57: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	(2) ACM0018: Electricity generation from biomass residues in power-only plants --- Version 4.0 https://cdm.unfccc.int/methodologies/DB/XCP9MV7PKIEXYW7WCT8U5UYNRK7IJR	(2) See if directly relevant from project title	P3-5: Applicability P8-47: Baseline Methodology
	(3) ACM0020: Co-firing of biomass residues for heat generation and/or electricity generation in grid connected power plants --- Version 1.0.0 https://cdm.unfccc.int/methodologies/DB/EPA4CIV61YIQ7EHB8C1T41SRJ5NMGK	(3) See if directly relevant from project title	P3-4: Applicability P4-16: Baseline Methodology
Biomass (small scale)	(1) AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK	(1) Grid connected	P3: Applicability P6-12: Baseline Methodology
	(2) AMS-I.F.: Renewable electricity generation for captive use and mini-grid --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/9KJWQ1G0WEG6LKHX21MLPS8BQR7242	(2) Mini grid	P3: Applicability P5-8: Baseline Methodology
	(3) AMS-I.A.: Electricity generation by the user --- Version 16.0 https://cdm.unfccc.int/methodologies/DB/8FKZFJ7SG551TS2C4MPK78G12LSTW3	(3) Household level	P1: Technology / measure P2-6: Boundary, Baseline, Project Emissions and Leakage
Biofuels (large scale)	ACM0017: Production of biofuel --- Version 3.1 https://cdm.unfccc.int/methodologies/DB/ZNCG27VU8E0ABXO6GHGKTR75U0MIWL	Only one choice	P4: Applicability P9-25: Baseline Methodology
Biofuels (small scale)	AMS-I.I.: Biogas/biomass thermal applications for households/small users --- Version 4.0 https://cdm.unfccc.int/methodologies/DB/3WJ6C7R0JFA62VYA2Z2K6WE1RK1PXI	Only one choice	P1-2: Technology / measure P2-6: Boundary, baseline emissions, emissions reductions, leakage
Cookstoves (small scale)	(1) AMS-I.C.: Thermal energy production with or without electricity --- Version 20.0 https://cdm.unfccc.int/methodologies/DB/JSEM51TG3UVKADPA25IPUHXJ85HE8A	(1) E.g. solar thermal water heaters and dryers, solar cookers, energy derived from renewable biomass[37].	P4: Applicability P8-24: Baseline Methodology
	(2) AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 9.0 https://cdm.unfccc.int/methodologies/DB/DP2BYDIV6RTMZPEZ2EDLYGLJDPSSU3	(2) E.g. replacement of existing biomass fired cookstoves or ovens or dryers with	P3: Applicability P5-11: Baseline Methodology

[37] http://carbonfinanceforcookstoves.org/implementation/certification-process/carbon-methodologies/

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
		more efficient devices[38].	
	(3) AMS-I.I.: Biogas/biomass thermal applications for households/small users --- Version 4.0 https://cdm.unfccc.int/methodologies/DB/3WJ6C7R0JFA62VYA2Z2K6WE1RK1PXI	(3) E.g. biogas cookstoves, biomass briquette cookstoves, small scale baking and drying systems, water heating, or space heating systems[39]	P1-2: Technology / measure P2-6: Boundary, baseline emissions, emissions reductions, leakage
	(4) AMS-I.E.: Switch from non-renewable biomass for thermal applications by the user --- Version 8.0 https://cdm.unfccc.int/methodologies/DB/SO8OOGYGWHMXM287RBNKEYAMN9EUN0	(4) E.g. biogas cookstoves, solar cookers, and water boiling using renewable biomass[40]	P3: Applicability P4-9: Baseline Methodology
	(5) AMS-I.K.: Solar cookers for households --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/5EUY1AEXAX0RKWNJ6INHVROP71DD8R	(5) Solar cookers	P1-2: Technology / measure P2-5: Boundary, baseline emissions, emissions reductions, leakage
Waste to Energy (large scale)	ACM0012: Waste energy recovery --- Version 6.0 https://cdm.unfccc.int/methodologies/DB/FXBXLVGFF4DLI5WC1PKFW7KBRW62QB	Only one choice	P4: Applicability P10-57: Baseline Methodology
Waste to Energy (small scale)	AMS-III.Q.: Waste energy recovery --- Version 6.1 https://cdm.unfccc.int/methodologies/DB/RGPW18XV4FJH1FTTGS2LSD3BWNKNAA	Only one choice	P3: Applicability P7-16: Baseline Methodology
Low Carbon Agriculture (large scale)	(1) AM0073: GHG emission reductions through multi-site manure collection and treatment in a central plant --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/2N19WQ6DCXNYRNJVZQQOHG7TK0Q2D8	(1) See if directly relevant from project title	P1-2: Applicability P2-30: Baseline Methodology
	(2) ACM0010: GHG emission reductions from manure management systems --- Version 8.0 https://cdm.unfccc.int/methodologies/DB/99QRTE6N5QJEBOV2XP374B25SSIXBB	(2) See if directly relevant from project title	P4: Applicability P6-31: Baseline Methodology

[38] http://carbonfinanceforcookstoves.org/implementation/certification-process/carbon-methodologies/
[39] http://carbonfinanceforcookstoves.org/implementation/certification-process/carbon-methodologies/
[40] http://carbonfinanceforcookstoves.org/implementation/certification-process/carbon-methodologies/

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
Low Carbon Agriculture (small scale)	(1) AMS-III.D.: Methane recovery in animal manure management systems --- Version 21.0 https://cdm.unfccc.int/methodologies/DB/H9DVSB24O7GEZQYLYNWUX23YS6G4RC	(1) See if directly relevant from project title	P3-5: Applicability P6-14: Baseline Methodology
	(2) AMS-III.R.: Methane recovery in agricultural activities at household/small farm level --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/JQHRMGL23TWZ081T6G7G1RZ63GM1BZ	(2) See if directly relevant from project title	P1: Technology / measure P1-3: Boundary, baseline emissions, emissions reductions, leakage
	(3) AMS-III.A.: Offsetting of synthetic nitrogen fertilizers by inoculant application in legumes-grass rotations on acidic soils on existing cropland --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/5G3VVUHIXHA0OYIBYJKX7JV02LEUHH	(3) See if directly relevant from project title	P3: Applicability P6-9: Baseline Methodology
	(4) AMS-III.AU.: Methane emission reduction by adjusted water management practice in rice cultivation --- Version 4.0 https://cdm.unfccc.int/methodologies/DB/D14KAKRJEW4OTHEA4YJICOHM26M6BM	(4) See if directly relevant from project title	P3: Applicability P6-13: Baseline Methodology
	(5) AMS-III.BE.: Avoidance of methane and nitrous oxide emissions from sugarcane pre-harvest open burning through mulching --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/EO0133GH79SZ4W9DNZK3E34ZTABRRD	(5) See if directly relevant from project title	P3: Applicability P5-8: Baseline Methodology
	(6) AMS-III.BF.: Reduction of N2O emissions from use of Nitrogen Use Efficient (NUE) seeds that require less fertilizer application --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/OTVXR8XN35SRHTBO426YXJ140MTKXZ	(6) See if directly relevant from project title	P3: Applicability P5-12: Baseline Methodology
	(7) AMS-III.BK: Strategic feed supplementation in smallholder dairy sector to increase productivity --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/XI8MS5YYSGRSISWLADHND28QPJN6YA	(7) See if directly relevant from project title	P3: Applicability P5-13: Baseline Methodology
Afforestation and Reforestation (large scale)	(1) AR-AM0014: Afforestation and reforestation of degraded mangrove habitats --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/KMH6O8T6RL3P5XKNBQE2N359QG7KOE	(1) Afforestation and reforestation on mangrove	P3: Applicability P5-9: Baseline Methodology
	(2) AR-ACM0003: Afforestation and reforestation of lands except wetlands --- Version 2.0	(2) Afforestation and reforestation on dry land	P3: Applicability P3-8: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	https://cdm.unfccc.int/methodologies/DB/C9QS5G3CS8FW04MYYXDFOQDPXWM4OE		
Afforestation and Reforestation (small scale)	(1) AR-AMS0003: Afforestation and reforestation project activities implemented on wetlands --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/808WOYH6FWAXP3CQR4PXOLORGZBVRG	(1) Afforestation and reforestation on wetlands	P3: Applicability P5-9: Baseline Methodology
	(2) AR-AMS0007: Afforestation and reforestation project activities implemented on lands other than wetlands --- Version 3.1 https://cdm.unfccc.int/methodologies/DB/J6ZHLX1C3AEMSZ52PWIII6D2AOJZUB	(2) Afforestation and reforestation on dry land	P3-4: Applicability P5-9: Baseline Methodology
Energy Efficiency (large scale)	(1) AM0017: Steam system efficiency improvements by replacing steam traps and returning condensate --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/E8B6YV4LXC0UFS254Q070PF37XPTNG	(1) See if directly relevant from project title	P1: Applicability P2-11: Baseline Methodology
	(2) AM0018: Baseline methodology for steam optimization systems --- Version 4.0 https://cdm.unfccc.int/methodologies/DB/7JODLE9VO380HKU4MYXUJ6D4TMG746	(2) See if directly relevant from project title	P4: Applicability P5-17: Baseline Methodology
	(3) AM0020: Baseline methodology for water pumping efficiency improvements --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/TH0MTJC0KYJYYMQLL9B71Q9QJHOPZ9	(3) See if directly relevant from project title	P1: Applicability P2-4: Baseline Methodology
	(4) AM0038: Methodology for improved electrical energy efficiency of an existing submerged electric arc furnace used for the production of silicon and ferro alloys --- Version 3.0.0 https://cdm.unfccc.int/methodologies/DB/0BTZ9QTVHLGOI61SIJ3ESTZVOSWJLO	(4) See if directly relevant from project title	P1-2: Applicability P2-23: Baseline Methodology
	(5) AM0044: Energy efficiency improvement projects - boiler rehabilitation or replacement in industrial and district heating sectors --- Version 2.0.0 https://cdm.unfccc.int/methodologies/DB/3HZ4USHZ2W449HMAXZN420E5PJB1QF	(5) See if directly relevant from project title	P4-5: Applicability P6-15: Methodology
	(6) AM0046: Distribution of efficient light bulbs to households --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/5SI1IXDIZBL6OAKIB3JFUFAQ86MBEE	(6) See if directly relevant from project title	P3-4: Applicability P4-23: Baseline Methodology
	(7) AM0056: Efficiency improvement by boiler replacement or rehabilitation and optional fuel switch in fossil fuel-fired steam boiler systems --- Version 1.0	(7) See if directly relevant from project title	P1-2: Applicability P2-18: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	https://cdm.unfccc.int/methodologies/DB/YB7UE3UB2II2INU9Y1CBJYRANZRXER		
	(8) AM0058: Introduction of a district heating system --- Version 5.0 https://cdm.unfccc.int/methodologies/DB/QEI1HZXZDIUXMM1JQDY1P9RVSOQ2Q3	(8) See if directly relevant from project title	P4-5: Applicability P6-14: Baseline Methodology
	(9) AM0060: Power saving through replacement by energy efficient chillers --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/VL1F8D744ZJO9R1DGM2K0S4CRTRMEF	(9) See if directly relevant from project title	P3-4: Applicability P8-15: Baseline Methodology
	(10) AM0061: Methodology for rehabilitation and/or energy efficiency improvement in existing power plants --- Version 2.1 https://cdm.unfccc.int/methodologies/DB/U5APNKUZPGKRON461OMSR9PZU613GA	(10) See if directly relevant from project title	P2: Applicability P3-13: Methodology
	(11) AM0062: Energy efficiency improvements of a power plant through retrofitting turbines --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/YB7UE3UB2II2INU9Y1CBJYRANZRXER	(11) See if directly relevant from project title	P2: Applicability P3-13: Methodology
	(12): AM0067: Methodology for installation of energy efficient transformers in a power distribution grid --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/3P4KSNGR9R7JBH49M2WF9QJUBZ0ZM9	(12) See if directly relevant from project title	P2-3: Applicability P4-9: Baseline Methodology
	(13) AM0068: Methodology for improved energy efficiency by modifying ferroalloy production facility --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/VUJ7B2WM7G0VJADXC5G9QMAE9QW1Q8	(13) See if directly relevant from project title	P1-2: Applicability P3-18: Baseline Methodology
	(14) AM0070: Manufacturing of energy efficient domestic refrigerators --- Version 3.1.0 https://cdm.unfccc.int/methodologies/DB/R66P8LFQUC30O9F2GX9Z9CTMN9B8W5	(14) See if directly relevant from project title	P2-3: Applicability P3-28: Baseline Methodology
	(15) AM0084: Installation of cogeneration system supplying electricity and chilled water to new and existing consumers --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/AHSSRS41KEYKYZREKDOVBINMR0NEQC	(15) See if directly relevant from project title	P4-5: Applicability P7-29: Baseline Methodology
	(16) AM0086: Distribution of zero energy water purification systems for safe drinking water --- Version 4.0	(16) See if directly relevant from project title	P3-4: Applicability P5-10: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	https://cdm.unfccc.int/methodologies/DB/RWE3YCC2OXI2Z1O2BK9CRPNX0YZRU5		
	(17) AM0091: Energy efficiency technologies and fuel switching in new and existing buildings --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/32WXA1F47YA70KZTNCXN88W1UUFQTZ	(17) See if directly relevant from project title	P4: Applicability P9-69: Baseline Methodology
	(18) AM0104: Interconnection of electricity grids in countries with economic merit order dispatch --- Version 2.0.0 https://cdm.unfccc.int/methodologies/DB/OEZDV2912B4QUOOC5W7RC2JDP9BQTD	(18) See if directly relevant from project title	P4: Applicability P6-21: Baseline Methodology
	(19) AM0105: Energy efficiency in data centres through dynamic power management --- Version 1.0.0 https://cdm.unfccc.int/methodologies/DB/OW112TO5AHFG51U75LG7ZT1C3BHD7P	(19) See if directly relevant from project title	P2-3: Applicability P3-8: Baseline Methodology
	(20) AM0106: Energy efficiency improvements of a lime production facility through installation of new kilns --- Version 2.0.0 https://cdm.unfccc.int/methodologies/DB/PGRZYPRG0A4MOLYYFV8632P1KUALC9	(20) See if directly relevant from project title	P2-3: Applicability P3-12: Baseline Methodology
	(21) AM0113: Distribution of compact fluorescent lamps (CFL) and light-emitting diode (LED) lamps to households --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/MW18NEOFU1PBMYXECFT1RBYPS0VWVL	(21) See if directly relevant from project title	P4: Applicability P6-11: Baseline Methodology
	(22) AM0114: Shift from electrolytic to catalytic process for recycling of chlorine from hydrogen chloride gas in isocyanate plants --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/2OB1K4PY36P8EE0DN0CKLQXRFDZT2U	(22) See if directly relevant from project title	P4: Applicability P6-18: Baseline Methodology
	(23) AM0116: Electric taxiing systems for airplanes --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/DH4MT0YS5TCNEZIO1UO61M0Q5OLHU2	(23) See if directly relevant from project title	P3: Applicability P5-9: Baseline Methodology
	(24) AM0118: Introduction of low resistivity power transmission line --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/N9E22N1BAGRH3Y3KQY26F3JBXAKRIS	(24) See if directly relevant from project title	P4: Applicability P6-14: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	(25) AM0120: Energy-efficient refrigerators and air-conditioners --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/3USXGBI5RRLI5FXVG90SIYCOD9W9P1	(25) See if directly relevant from project title	P4: Applicability P5-11: Baseline Methodology
	(26) ACM0023: Introduction of an efficiency improvement technology in a boiler --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/JW18PCU5MLZGRQB5QYE6JOM2EUOUDR	(26) See if directly relevant from project title	P3: Applicability P5-11: Baseline Methodology
Energy efficiency (small scale)	(1) AMS-II.A.: Supply side energy efficiency improvements – transmission and distribution --- Version 10.0 https://cdm.unfccc.int/methodologies/DB/1UOYHYF4NZL03NMG817XUSTLK88HKM	(1) See if directly relevant from project title	P1: Applicability P1-3: Baseline Methodology
	(2) AMS-II.B.: Supply side energy efficiency improvements – generation --- Version 9.0 https://cdm.unfccc.int/methodologies/DB/69MEFLV8HH6LBRAFQRAZ3XEF2BYTMG	(2) See if directly relevant from project title	P1: Applicability P1: Baseline Methodology
	(3) AMS-II.C.: Demand-side energy efficiency activities for specific technologies --- Version 15 https://cdm.unfccc.int/methodologies/DB/7Y44EN2RTD02AJ78JVWCGARE8W64KP	(3) See if directly relevant from project title	P3: Applicability P5-12: Baseline Methodology
	(4) AMS-II.D.: Energy efficiency and fuel switching measures for industrial facilities --- Version 13.0 https://cdm.unfccc.int/methodologies/DB/M4LINVAO7Y1OZBCUWFBVZBXT3546LM	(4) See if directly relevant from project title	P4: Applicability P7-17: Baseline Methodology
	(5) AMS-II.E.: Energy efficiency and fuel switching measures for buildings --- Version 10.0 https://cdm.unfccc.int/methodologies/DB/9QDGY435JDVTB8HN3VMI61K9XBWY30	(5) See if directly relevant from project title	P1: Applicability P1: Baseline Methodology
	(6) AMS-II.F.: Energy efficiency and fuel switching measures for agricultural facilities and activities --- Version 10.0 https://cdm.unfccc.int/methodologies/DB/JBIGP7UXNB82DGLWTKENW64LZ5D8HD	(6) See if directly relevant from project title	P1: Applicability P1-2: Baseline Methodology
	(7) AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 9.0 https://cdm.unfccc.int/methodologies/DB/DP2BYDIV6RTMZPEZ2EDLYGLJDPSSU3	(7) See if directly relevant from project title	P3: Applicability P5-12: Baseline Methodology
	(8) AMS-II.H.: Energy efficiency measures through centralization of utility provisions of an industrial facility --- Version 3.0	(8) See if directly relevant from project title	P1-3: Applicability P3-12: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	https://cdm.unfccc.int/methodologies/DB/LM7W0MFKXMP1F31EWWVUQMGZ73MNKN		
	(9) AMS-II.I.: Efficient utilization of waste energy in industrial facilities --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/OBBCTATQZSQA6UUSYIVAVJ3GZY8W2Y	(9) See if directly relevant from project title	P1-2: Applicability P2-4: Baseline Methodology
	(10) AMS-II.J.: Demand-side activities for efficient lighting technologies --- Version 7.0 https://cdm.unfccc.int/methodologies/DB/GIIF3094709KR4YEEJXX72UY39L6Y4 This methodology is complemented by AMS-III.AR: Substituting fossil-fuel based lighting with LED/CFL lighting systems Version 06.0 https://cdm.unfccc.int/filestorage/O/2/H/O2HGLE9V8CFPA07I6YT3XZNSUK1BDM/EB100_repan13_AMS-III.AR.pdf?t=c3R8cGZlbHkzfDACPR5PRL38XihdiBPZeXfq	(10) See if directly relevant from project title Kerosene replacement with clean energy lighting.	P3: Applicability P6-11: Baseline Methodology Section 5.3, pg 10-11.
	(11) AMS-II.K.: Installation of co-generation or tri-generation systems supplying energy to commercial building --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/B5PBIP57SKC8VG133CZ3JG7B6J4WHY	(11) See if directly relevant from project title	P1-2: Applicability P2-10: Baseline Methodology
	(12) AMS-II.L.: Demand-side activities for efficient outdoor and street lighting technologies --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/JXH8OI21V4PIQTL2WJLG6KJP5BTY3H	(12) See if directly relevant from project title	P3: Applicability P9-13: Baseline Methodology
	(13) AMS-II.M.: Demand-side energy efficiency activities for installation of low-flow hot water savings devices --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/748XBKQYSN13E836NPOU9IS4BHOSSJ	(13) See if directly relevant from project title	P3: Applicability P5-7: Baseline Methodology
	(14) AMS-II.N. Demand-side energy efficiency activities for installation of energy efficient lighting and/or controls in buildings --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/5Z3FA8WFAPJFEXH9X0TDO8EL93W9Y0	(14) See if directly relevant from project title	P3: Applicability P6-11: Baseline Methodology
	(15) AMS-II.O. Dissemination of energy efficient household appliances --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/OE502PQ0NA9ETZ5IB6HL0ZT2BBKZ35	(15) See if directly relevant from project title	P1-2: Applicability P2-4: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	(16) AMS-II.P. Energy efficient pump-set for agriculture use --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/RHKFUJR4R2RPM0ZI9K6K01GUTZ9XAK	(16) See if directly relevant from project title	P1-3: Applicability P3-7: Baseline Methodology
	(17) AMS-II.Q. Energy efficiency and/or energy supply projects in commercial buildings --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/YCL1T3NURPHKSHBSR8TIHC2T543HTQ	(17) See if directly relevant from project title	P1: Applicability P4-11: Baseline Methodology
	(18) AMS-II.R. Energy efficiency space heating measures for residential buildings --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/9SD9B6O4446YU1PEV624CYUO5RF3QU	(18) See if directly relevant from project title	P3: Applicability P4-8: Baseline Methodology
	(19) AMS-II.S. Energy efficiency in motor systems --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/F5Z29X6OE65C3D2QWXDZ5AYCCBQ8UL	(19) See if directly relevant from project title	P5: Applicability P6-17: Baseline Methodology
	(20) AMS-III.X. Energy Efficiency and HFC-134a Recovery in Residential Refrigerators --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/983EQY2RSIYT5Q1KN4FIWHU2FL3MHP	(20) See if directly relevant from project title	P1-3: Applicability P4-7: Baseline Methodology
	(21) AMS-III.Z. Fuel Switch, process improvement and energy efficiency in brick manufacture --- Version 6.0 https://cdm.unfccc.int/methodologies/DB/VLZZ1DVT1QI3KHZKSM6QECOAKNSCXZ	(21) See if directly relevant from project title	P3: Applicability P7-11: Baseline Methodology
	(22) AMS-III.AA.: Transportation Energy Efficiency Activities using Retrofit Technologies --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/4N6Q5WI36PVIUDBJT6M7DBM4I6R5D6	(22) See if directly relevant from project title	P1: Applicability P2-4: Baseline Methodology
	(23) AMS-III.AE. Energy efficiency and renewable energy measures in new residential buildings --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/AWRS1U9S13QBGT2FX236Z2CVTMH44A	(23) See if directly relevant from project title	P1-2: Applicability P2-6: Baseline Methodology
Transport (large scale)	(1) AM0031: Bus rapid transit projects --- Version 6.0 https://cdm.unfccc.int/methodologies/DB/V9E3KQAI5433N8ZF5N7SNKIXE79JTL	(1) See if directly relevant from project title	P4: Applicability P7-29: Baseline Methodology
	(2) AM0090: Modal shift in transportation of cargo from road transportation to water or rail transportation --- Version 1.1.0 https://cdm.unfccc.int/methodologies/DB/4DOIK2WYP8P3AGAVJKT0CHY1NXJ4QP	(2) See if directly relevant from project title	P1-3: Applicability P3-16: Baseline Methodology

ICF Intervention Type	Applicable CDM Methodologies	Notes on Which to Select	Most Relevant Sections
	(3) AM0101: High speed passenger rail systems --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/0U42CLZRFTEERYLAB4SZ87ERW84ZUT	(3) See if directly relevant from project title	P4: Applicability P6-30: Baseline Methodology
	(4) AM0110: Modal shift in transportation of liquid fuels --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/0LZLK5MAYJGJO4DWV531WVV59GDK53	(4) See if directly relevant from project title	P4: Applicability P7-20: Baseline Methodology
Transport (small scale)	(1) AMS-III.U. Cable Cars for Mass Rapid Transit System (MRTS) --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/I7O8EX3R0PA22GNGBJMH2FHCOIL03L	(1) See if directly relevant from project title	P3: Applicability P3-12: Baseline Methodology
	(2) AMS-III.AK.: Biodiesel production and use for transport applications --- Version 3.0 https://cdm.unfccc.int/methodologies/DB/LNFDO5DUYAJHKH8DJCRNHTZB9E7P1C	(2) See if directly relevant from project title	P3: Applicability P6-12: Baseline Methodology
	(3) AMS-III.AY. Introduction of LNG buses to existing and new bus routes --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/LNSTE8UK3HYYUUZRRHK4JXOAJZCY31	(3) See if directly relevant from project title	P1-2: Applicability P2-5: Baseline Methodology
	(4) AMS-III.BC. Emission reductions through improved efficiency of vehicle fleets --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/I3LQNV5A5EKORXUG3607N7ROBX6J6K	(4) See if directly relevant from project title	P4: Applicability P7-11: Baseline Methodology
	(5) AMS-III.BM. Lightweight two and three wheeled personal transportation --- Version 1.0 https://cdm.unfccc.int/methodologies/DB/TL5P7I2HGUB6O14AZUJC7S341Q34P5	(5) See if directly relevant from project title	P3: Applicability P6-13: Baseline Methodology
Transport / Energy Efficiency (small scale)	(1) AMS-III.AP.: Transport energy efficiency activities using post - fit Idling Stop device --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/O9M70WPT45KZ55V39IW0BLMGE1ZEP T	(1) See if directly relevant from project title	P1-2: Applicability P3-5: Baseline Methodology
	(2) AMS-III.AT.: Transportation energy efficiency activities installing digital tachograph systems to commercial freight transport fleets --- Version 2.0 https://cdm.unfccc.int/methodologies/DB/I7N1Y6OK4U68VD89IPLPXT8WEBTAFH	(2) See if directly relevant from project title	P1-3: Applicability P3-6: Baseline Methodology