Lot 2 – Renewable Energy Planning Database

Proposal to the Department of Energy and Climate Change (Tender Ref: 830/06/2014)

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Proposal for:

Alan Brown, Department of Energy and Climate Change

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Executive Summary

Eunomia Research and Consulting Ltd ('Eunomia') and sub-contractor for Lot 2 Redweb Ltd ('Redweb') are pleased to present this proposal to the Department of Energy and Climate Change ('DECC').

We believe that the combination of technical and analytical skills offered by Eunomia (and Redweb) across both Lot 1 and Lot 2 is such that we can deliver an improved service, offering greater value for money (VfM) to DECC than is provided by either the current contractor or the wider market.

Our expertise across the two Lots can be summarised as follows:

1. We will bring a new, fresh approach to a service which has been delivered by an incumbent for around 20 years. Our capacity to innovate is demonstrated across a range of work delivered for both public and private sector clients (see Section 0);
2. Our Service Manager for Lot 1 (Ian Cessford) comes with significant experience of developing process-oriented services, having previously spent 13 years employed as Business Process Manager with PricewaterhouseCoopers (PwC);
3. Our Service Manager for Lot 2 (Chris Cullen) has spent the last three years running a subscription based service, which provides planning and development status data, GIS outputs, and infrastructure deployment forecasts for the energy from waste (EfW) sector;[1]
4. Our Service Director (Adam Baddeley) has directed six recent projects on behalf of different departments within DECC, including an ongoing full 18-month evaluation of the Renewable Heat Incentive (RHI). This strategic overview will not only enable identification of wider datasets held within DECC, but also provide greater insights to all outputs produced under both Lots;
5. We have wide experience of gathering and presenting detailed statistical data in a simple, digestible format on behalf of Government, for example, having delivered WRAP's 'gate fee' survey for six consecutive years;[2] Our Project Team also brings significant experience of management of statistical data, with one core Team Member for Lot 1 (Harriet Parke) previously being employed as a statistician by the Office for National Statistics (ONS);[3]
6. Eunomia has provided services to Eurostat on two recent major projects. We are therefore very familiar with the issues of 'consistency' faced by EU Member States when developing and submitting information to the European Commission, which will draw upon that developed under this contract;

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[1] Eunomia (2014) *Residual Waste Infrastructure Review – Issue 6*, May 2014. http://www.eunomia.co.uk/product.php/113

[2] WRAP (2013) Comparing the cost of alternative waste treatment options, Eunomia on behalf of WRAP, August 2013

[3] See http://www.ons.gov.uk/

7. We have technical and commercial expertise in a range of renewable energy technologies. Not only are we advisors to both DECC and Ofgem on the Renewable Heat Incentive (see Section 6.8 for project information), but we have undertaken due diligence on tidal, solar PV, anaerobic digestion and solid biomass projects. This is such that we are able to:
    a. Intuitively and quickly judge whether both individual data points or aggregated data 'makes sense' (or not);
    b. Provide robust estimates for datapoints between surveys, where collection of annual data cannot be justified (i.e. for technologies only have a small overall contribution to renewable output);
8. We have recently produced a series of high-quality reports published by DECC in line with its reporting guidelines.[4] We also have proven project management methods of working with DECC staff to minimise the number of report iterations, thus reducing resource requirements for both parties; and
9. We have a comprehensive approach to quality control and review procedures as set out in Section 0, alongside how we intend to manage and mitigate the specific risks associated with the contract. Our approach to risk and quality management has been proven in project delivery on behalf a range of Government departments, including DECC;
10. Finally, our recent experience in undertaking an evaluation of the Renewable Heat Incentive (RHI) on behalf of DECC is such that we are comfortable in both signing up to a data sharing agreement and protocol with Ofgem and putting in place the required levels of information security and transfer to enable analysis of 'returns' by a third party installations.

Our understanding of the requirements and how we intend to add value is described in Section0, whilst our detailed methodology for delivering the services set out in the Invitation to Tender (ITT) is provided in Section0. Section 0 provides information as to how we intend to manage challenges associated with the contract, whilst Section 0 provides a detailed delivery plan.

Our proposed cost and charging arrangements are detailed in Section 0. The total proposed annual fees for the core elements of Lot 2 are [redacted] (following year 1, for which costs are higher due to set-up costs) whilst those for Lot 1 are [redacted]. It should be noted that this leaves significant budget available to undertake the various further areas of work, our methodologies for which are described in Section 0. [redacted].

[4] DECC (2014) *Evidence Review of the Impact of Central and Public Disclosure Methods for Reporting Energy Use and Energy Efficiency*, Eunomia on behalf of DECC, June 2014. https://www.gov.uk/government/consultations/energy-savings-opportunity-scheme

DECC (2014) *Impacts of Leakage from Refrigerants in Heat Pumps, Eunomia on behalf of DECC*, March 2014. https://www.gov.uk/government/publications/impacts-of-leakage-from-refrigerants-in-heat-pumps

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Understanding of Requirements and Adding Value

Background to Eunomia

Eunomia Research and Consulting Ltd ('Eunomia') and sub-contractor for Lot 2 Redweb Ltd ('Redweb') are pleased to present this proposal to the Department of Energy and Climate Change ('DECC'). Eunomia has been providing advice in the low-carbon energy and waste management sectors since 2001. During the last 13 years, the company has grown from a one person company to an organisation which employs around 50 full time staff (46 of whom are full-time consultants). The company specialises in strategic, economics and policy-related work, managing projects and programmes for a wide range of public and private sector clients.

Eunomia takes pride in its ability to carry out challenging tasks within tight deadlines, whilst ensuring the quality of our work is of the highest standard possible. We are proud of being able to develop successful approaches to 'difficult problems' through innovative and original thinking.

With a reputation for critical thinking and analysis in the application of economic appraisal techniques in a number of areas, and an ability to approach problems outside of orthodox patterns, we seek to push the boundaries of what can be achieved through use of a range of modelling and statistical techniques.

We are experienced in all of the areas where support is required by DECC under this contract, as is evidenced in Section. We are also comfortable in producing documentation to the standard required, as is evidenced by five current or very recent studies undertaken on behalf of DECC, as described in Section 0. These studies include advice on a range of renewable energy policy areas and technologies, including those relating specifically to biomass and heat pumps.

Our team are experts in advising on renewable energy technologies, having undertaken commercial due diligence on biomass, tidal, wind and solar PV projects. This provides us with a detailed understanding of renewable generation, such that we are able to quickly spot any anomalies in both statistical and planning data. Our private sector client list in this respect includes utility companies such as DONG Energy, RWE Npower, Centrica and Scottish and Southern Energy (SSE); technology suppliers such as INEOS Bio, New Earth Solutions and Advanced Plasma Power (APP), along with lenders and private equity firms such as the Cooperative Bank, Investec, Goldman Sachs, Balfour Beatty Capital, Foresight Group, Ludgate Environmental and Climate Change Capital.

We have significant experience in long-term programme management, having delivered an annual energy from waste (EfW) gate fee survey on behalf of WRAP over a six-year period. On behalf of Defra, we also played a key role in the management of the New Technologies Demonstrator Programme (NTDP) over an eight year period to 2012, which included responsibility for convening and facilitation of the Technologies Advisory Committee and undertaking research, monitoring & evaluation of Defra-supported new technology demonstrator projects. Both roles involved significant amounts of data management and a range of modelling and statistical outputs similar to those required under this contract.

Our client base for provision of public sector advice spans all levels of government, from local authorities (over 150 in the UK), through to national government departments and agencies (including Defra, WRAP, OFGEM, Renewable Fuels Agency, CLG, DECC, DFiD, the European Commission (EC), European Investment Bank (EIB), UNEP and OECD. We have also provided key

support to Eurostat on two major projects. We are therefore very familiar with the issues faced by EU Member States when interacting with Eurostat, as will be required under this contract.

On a bi-annual basis, Eunomia has published its 'Residual Waste Infrastructure Review' for the last three years.[5] This includes collection and collation of planning data for all waste treatment facilities in the UK, including those generating heat and power from waste, and modelling this information to provide future market forecasts for infrastructure deployment. This publication has a wide subscription base and has become what might be considered the industry 'bible' for waste infrastructure data. This experience is of great importance in respect of Lot 2, but will also provide useful resources for Lot 1.

Finally, it is worth mentioning that Eunomia is proud to have been registered as a 'Living Wage' employer, meaning that all staff are paid, as a minimum, the hourly Living Wage rate (currently £7.65 per hour outside London).[6] We believe we are the only company in the environmental consultancy sector to have made this commitment. As a consequence, we do not employ 'free' interns, who might have little interest or commitment to the job they are doing, such as gathering information for statistical and data contracts such as this one.

Background to Redweb

Located in Bournemouth and London, Redweb is an award-winning digital strategy, design and development company and has been operating since 1994. Redweb has been appointed to the Government's G-Cloud ii framework under Lot 3, offering Software as a Service (SaaS). This on-demand model enables Government clients to buy Redweb services from the centrally hosted cloud as and when they are required.

With a turnover of over £6m and 80 permanent staff, we have dedicated user experience, design and production teams, supported by experienced account managers and project managers. Our experience in the digital arena covers the scope, specification, design and development of websites; intranets, extranets; applications; mobile solutions and the underlying Content Management Systems supporting such solutions.

Redweb utilise a range of highly skilled individuals to ensure that our client's strategic goals are defined and delivered. Our approach places significant emphasis and effort into strategic thinking ahead of any design or build. This ensures that our solutions have longevity, deliver maximum return on investment and most importantly, meet the current and future business needs of our clients.

Redweb has a strong record of working on major public sector projects, with clients including the Department for Education, HM Treasury, the Scottish Parliament, the Criminal Records Bureau and the Electoral Commission.

[5] Eunomia (2014) *Residual Waste Infrastructure Review – Issue 6*, May 2014. http://www.eunomia.co.uk/product.php/113

[6] See http://www.livingwage.org.uk/

Understanding of Renewable Energy and Policy Issues

Renewable Energy Targets and EU Context

As stated in the ITT, renewable energy is a central part of the UK Government's plan to reduce greenhouse gas emissions by 80% (from the 1990 baseline) by 2050. This commitment is the central, *legally binding* element of the 2008 Climate Change Act, which goes beyond the target currently required by the European Commission (EC) of a 40% reduction by 2030.

Under the 2009 EU Renewable Energy Directive (RED), the UK is legally obliged, in keeping with the EU's overall target of 20%, to source 15% of its *energy* from renewable sources by 2020. This target includes, therefore, energy used for both heating and transport and not just electricity.[7]

Whilst in January 2014, the EC agreed a 27% target for renewable energy generated across the EU 'bloc' by 2030, this stopped short of any legally binding renewable energy targets for individual Member States. The UK is supportive of this position on the basis that the commitments within the UK Climate Change Act are such that any such target is not needed. The Government has stated that it prefers a more 'flexible' approach to meeting this commitment, which might involve nuclear power, carbon capture and storage, energy efficiency or an expansion of the use of natural gas.

This development creates some uncertainty for long-term investments in renewable energy infrastructure. During the forthcoming years, therefore, it will be more important than ever to accurately monitor and measure the future development of renewable energy capacity, which will continue to be driven by a range of domestic policy mechanisms, as described in Section 0.

Current Status and Comparative Analysis of UK Renewable Output

In 2012, Eurostat comparative data shows that the UK generated just 4.2% of its energy from renewable sources. Only Luxembourg (3.1 per cent) and Malta (1.4 per cent) performed worse. Focusing on electricity only, however, during the same period, renewables accounted for 11.3% of that generated in the UK.

Onshore wind was the leading individual technology for the generation of renewable electricity during 2012 with a 29% share. This was followed by 18% from offshore wind, a source which is expected to grow significantly in the coming years as the final projects which have gained leases under 'Round 2' (and several 'Round 1' and 'Round 2' extensions), along with many further projects under 'Round 3' become operational.

In 2012, 13% of renewable electricity was generated by hydropower, whilst different forms of bioenergy (including solid biomass, bioliquids, anaerobic digestion and landfill gas) accounted for 37%. Whilst the share of solar photovoltaics (PV) is increasing significantly, this represented only 3% of total generation. This share is set to increase further, driven by the Government's Solar Strategy, which highlights the potential for the UK to install up to 20GW of solar PV capacity (a significant increase upon the current 3GW).[8]

[7] It should be noted, however, that transport has a lower associated target and falls under the responsibility of the Department for Transport (DfT), thus is outside the scope of this contract

[8] DECC (2014) UK Solar PV Strategy Part 2: Delivering a Brighter Future, April 2014

In November 2013, DECC published 'The Renewable Energy Roadmap' which outlines the role each energy generation and consumption sector must play in reaching this target. The Roadmap states that the electricity sector is expected to achieve a target of supplying 30% of electricity from renewable energy sources by 2020. The UK has been making good progress in this respect, in which the latest update states that for the 2nd Quarter of 2013, renewable electricity generation accounted for 15.5%.[9]

Impact of Increases in Intermittent Electricity Generation

Both solar PV and offshore wind represent 'intermittent' sources of electricity generation. That is to say they generate variable levels of power output (between zero and the level of their design capacity) depending upon the amount of sun or wind available, respectively, on any given day. These variable levels of output are usually known as 'load factors'. For example, average wind speed in 2012 was 0.8 knots lower than in 2011, which reduced the load factor for offshore from around 37% to 35%.

As a consequence of intermittency, to 'keep the lights on', significant non-intermittent, flexible generation must be in place to be available at times when there are lower levels of sun and/or wind. The large forecast increases in generation from solar PV and offshore wind, therefore, (along with any increases in hydro and onshore wind) will require natural gas and oil stations to be able to respond quickly to both peaks in demand. This raises the cost of the overall generation 'mix', which the Government is aiming to manage by way of the 'Capacity Market', which is core pillar of the current process of Electricity Market Reform (EMR).

Potential of Electricity Storage and Smart Technologies

During peak times of demand, the Capacity Market will be used to increase generation and reduce demand via permanent electricity demand reduction (EDR) measures, which are about to be piloted.[10] At non-peak times of demand, there is an additional need to balance power demand with supply. This is because some forms of renewable generation, namely offshore wind, are likely to generate significant surplus amounts of power, particularly during the night. Whilst to some extent this can be addressed via demand-side response (DSR) measures (including smart metering and grids) to shift demand to non-peak times, alternative solutions are also required.

At present, most large-scale electricity storage technologies are at an early stage of development, and although the UK does have a limited amount of 'pumped' storage located at hydro facilities, this is not sufficient capacity to store the potential future volumes of power which may be generated. To maintain a cost-effective electricity generation system, therefore, the UK will need to develop of a range of new electricity storage capacity, using new technologies. Use of electricity to generate hydrogen, which can then be used as a fuel is one approach, but this has so far not proven cost-effective and also faces significant infrastructure constraints. Such approaches, however, will give

[9] DECC (2013) *UK Renewable Energy Roadmap Update 2013*, 5th November 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255182/UK_Renewable_Energy_Roadmap_-_5_November_-_FINAL_DOCUMENT_FOR_PUBLICATIO___.pdf

[10] See https://www.gov.uk/government/policies/reducing-demand-for-energy-from-industry-businesses-and-the-public-sector–2/supporting-pages/electricity-demand-reduction-project

greater flexibility to intermittent renewable generation and make it less reliant on back-up power sources, which are usually powered by fossil fuels.

Constraints on Bioenergy Supply

As mentioned above, different forms of bioenergy accounted for around 37% of total renewable electricity production in 2012. At the same time, around 92% of all installations accredited under the Renewable Heat Incentive (RHI) have been solid biomass. Whilst bioenergy represents a form of non-intermittent renewable generation, however, there are limits to its growth due to lack of available feedstock and concerns over the sustainability of that feedstock. The Regulator, Ofgem, has already put in place sustainability criteria linked to both the RO and RHI, which sets standards for biomass fuels in terms of carbon savings and indirect land use change (ILUC) impacts. Falling Government support for biomass in this respect, is also reflected by the lack of Feed-in Tariff Contract for Difference (FiT CfD) for biomass power stations generating electricity only under EMR.

Understanding of Ongoing Development of UK Policy Mechanisms

Electricity Market Reform

EMR represents the Government's main tool for solving what has become broadly known as the energy 'trilemma'; how to develop new electricity infrastructure which is not only low-carbon, but also both secure and cost effective.

In April 2015, both the FiT CfD and Capacity Market mechanisms will commence under EMR. This will mean the closure of the Renewables Obligation (from April 2017) to new entrants. At the present time, many renewable electricity developers with consented facilities are faced with a decision as to which regime they seek support from. To help the market participants move into the new EMR regime, DECC has put in place the Early Final Investment Decision (FID) Enabling process. This involved a competitive process for receipt of early CfDs, which were received by eight different projects. There are various forms of auction process by which future projects will gain CfDs, which depend upon technology type and commissioning date.

CfDs are underpinned by a stable 'strike price' depending on the technology, which is combination of the modelled wholesale electricity price, plus an additional level of support. This varies from the approach under the RO, as discussed below.

As set out in Section 0, the Capacity Market has three main strands: payments for back-up generation, DSR and EDR measures. Whilst these will not be met by renewable forms of generation, the magnitude and nature of future renewable electricity generation will have a significant impact upon the scale of the need for such measures.

Renewable Obligation

As mentioned above, whilst the RO has been the main policy mechanism driving renewable electricity development in the UK since 2002, it will close for new applications in 2017. The RO has been relatively successful, with the level of electricity generated with its support rising from 5.4% of total generation in 2008 to 10.6% in 2012.

In contrast to CfDs, payments to generators under the RO are based on a system of tradable RO certificates (ROCs), which are allocated for each MWh generated and fluctuate in value, according to the wider market and level of overall obligation across the sector. Whilst price fluctuation has been

relatively limited during the last decade, the variability of project incomes has made it more challenging to raise debt finance, hence the move to a more 'stable' mechanism in the form of strike prices under the CfDs.

The RO did not include any pre-determined structures or measures by which to change tariffs over time, in response to new market dynamics. Consequently, in place of ongoing, somewhat unwieldy review processes, new mechanisms, such as pre-set degression 'triggers', as per those under the Small-scale Feed-in Tariff (FiT) discussed below, were also needed to provide greater certainty to the market.

Small-scale Feed-in Tariffs

As suggested above, concerns over the 'bankability' of projects under the RO, particularly those at the lower end of the capacity scale, led to the development of the Small-scale FiT mechanism. In 2010, DECC put in place FiTs for a range of technologies including solar PV, anaerobic digestion (AD), hydro and wind.

Whilst there have been significant issues associated with the Government's approach to managing degression of these tariffs over time, the principle appears to be a sound one, and does create greater market certainty than under the RO. DECC's Comprehensive Review of the FiT scheme, which concluded in 2012, resulted in some changes to solar tariffs. DECC is currently monitoring how further market developments and deployment of all eligible technologies might change impact the scheme and we understand that another Comprehensive Review is likely to take place during late 2014.

Renewable Heat Incentive

The non-domestic RHI launched in 2011, with the domestic RHI following in 2014. Both mechanisms pay installation owners for each mega-watt hour (MWh) of renewable heat generated. A range of technologies are supported including heat pumps (ground and air source), biomass, AD, solar thermal and geothermal. RHI payments can also be made to generators which also receive support for electricity generation under either a Small-scale FiT or FiT CfD.

Eunomia is currently undertaking an evaluation of the implementation of the Non-domestic RHI on behalf of DECC, so has a range of insights into the data relating to deployment and how this varies across business type and size etc. Ultimately, both the qualitative and quantitative research undertaken as part of this evaluation have resulted in a range of findings, which suggest that DECC needs to make a number of amendments to the policy if the level of deployment set out in the Impact Assessment on changes to the non-domestic RHI is to be realised.[11]

Understanding of Requirements for the REPD (Lot 2)

The proposed four year contract (with a potential 2-year extension) to be let via this ITT process follows a previous 5-year period, during which DECC and its predecessors, has contracted out services relating to planning data on renewable energy capacity to support the Renewable Energy Planning Database (REPD).

[11] DECC (2012) Impact Assessment on changes to the current non-domestic Renewable Heat Incentive scheme, September 2012

As detailed in Section 0, the UK is legally obliged to meet the EU 2020 target of producing 20% of energy from renewable sources. To forecast the continuing progress made in reaching these targets, as well as the impact the financial incentives will have on its budget up to 2020 and beyond, DECC needs to monitor the development and deployment of renewable electricity installations across the UK ahead of actual deployment. It is therefore understood that the accurate and timely data produced under this contract will play a key role in aiding decision-making with regard to a range of policy-mechanisms including the small-scale FiT, RO, FiT CfDs and capacity mechanism (as part of EMR) and the RHI, as all described in Section 0.

The core requirements for this contract, based on outputs and frequency, are presented in Table 1. Further, **more detailed demonstration of our understanding of the tender requirements** is provided in Section 0 in the context of our proposed approach to delivering upon each of the specific outputs presented in Table 1.

Table 1: Core Requirements for this Contract (Lot 1)

Nature of Task	Frequency of Update
Maintain and update the REPD. The REPD is used to track all renewable electricity developments through the planning system, from scoping to consent (or refusal), to construction, operation, and eventually decommissioning	Monthly
Provide accurate estimates of anticipated future levels of renewable electricity generation including estimates of the impact these future levels of renewable electricity generation will have on DECC's budget	Monthly / Quarterly / Annual[1]
Provide guidance and advice where problems and delays may be occurring in policy, incentive schemes, the market overall as well as in the planning and development process. This will be based on a number of sources including analysis of regular updates to the REPD and Eunomia's own market intelligence	Monthly / Quarterly / Annual[1]
Develop reports for government and public analysis of data, including the identification of the potential level of financial investment and jobs associated with the industry	Ad-hoc
Provide data and information to help inform the RO banding review, and to determine the potential demand for CfDs	Monthly / Quarterly / Annual[1]
Note: 1. The exact reporting requirements and detail to be supplied under the monthly, quarterly and annual reports are to be agreed with DECC during the early stages of the contract.	

Proposed Approach

As stated in the ITT, this contract is primarily focused on the management of the REPD in a 'resource effective and efficient manner', as well as the provision of reports on both a structured and 'as required' basis. The approach described in the following Sections details both the efficiency and accuracy that Eunomia will bring to this contract.

Work Programme Framework

[redacted]

[redacted]

Agreement of Strategic Approach

[redacted]

Handover and Implementation

[redacted]

[redacted]

Maintenance of the REPD

[redacted]

[redacted]

[redacted]

[redacted]

Summary of Overall Maintenance Plan

Table 2 [redacted]

Table 2: Summary of Overall Maintenance Plan

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			

Updating the Website

[redacted]

Schedule and Structure of Reporting to DECC

[redacted]

- [redacted]
- [redacted]

[redacted]

[redacted]

Identifying Trends and Patterns

[redacted]

Figure 3

Figure 4

[redacted]

Figure 3: Example Output Showing Current State of All Residual Waste Infrastructure

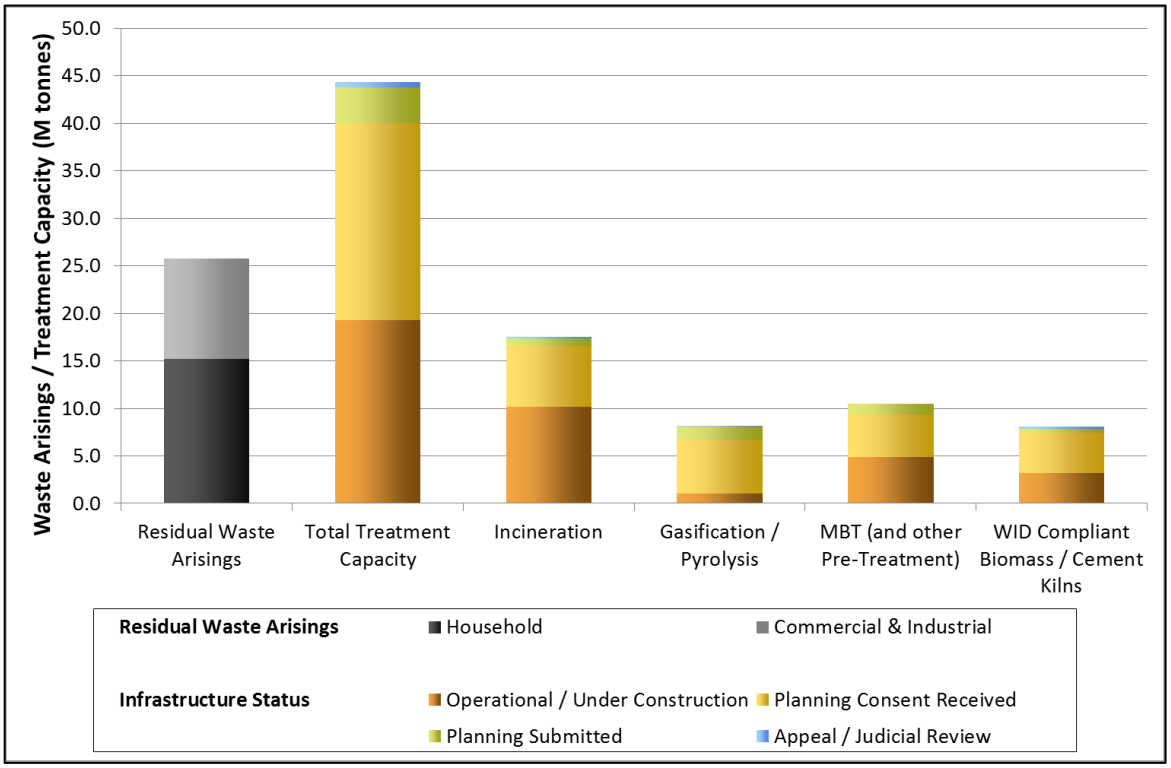
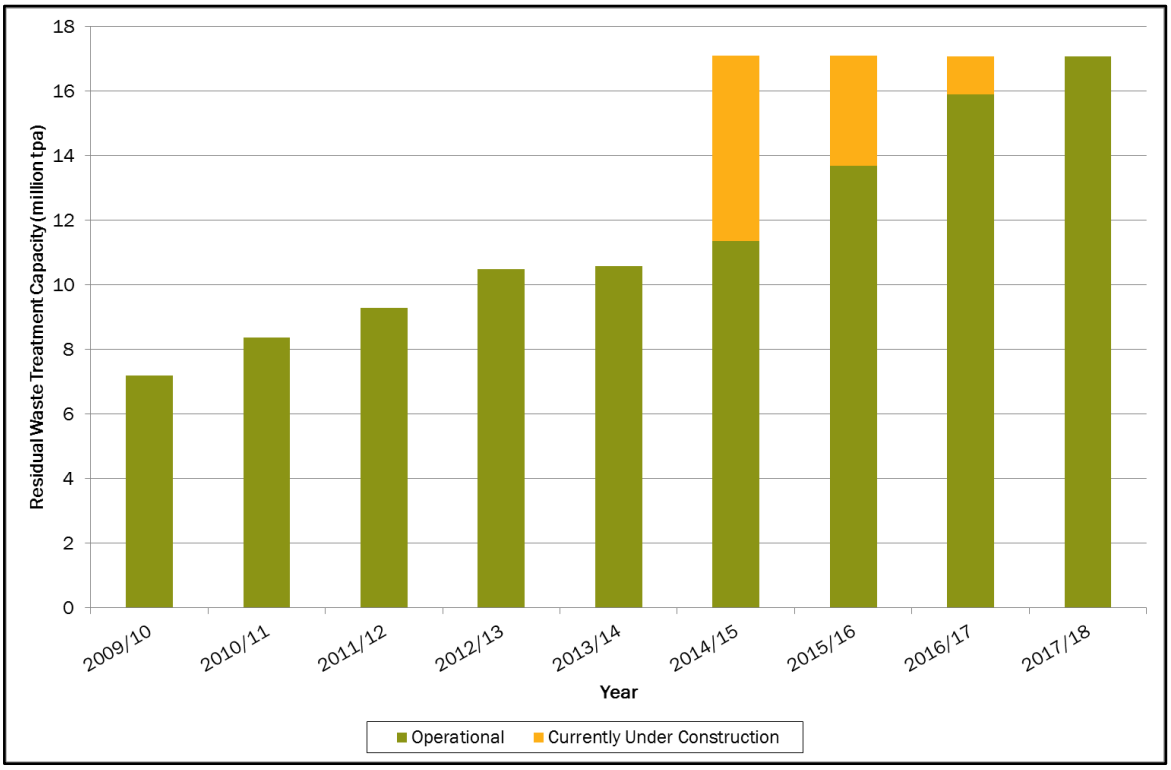


Figure 4: Example Output of Known Residual Waste Facilities Due to Come Online



Projecting Longer-term Deployment

[redacted]

Table 3

[redacted]

Table 3: Example of Metrics Used in by Eunomia

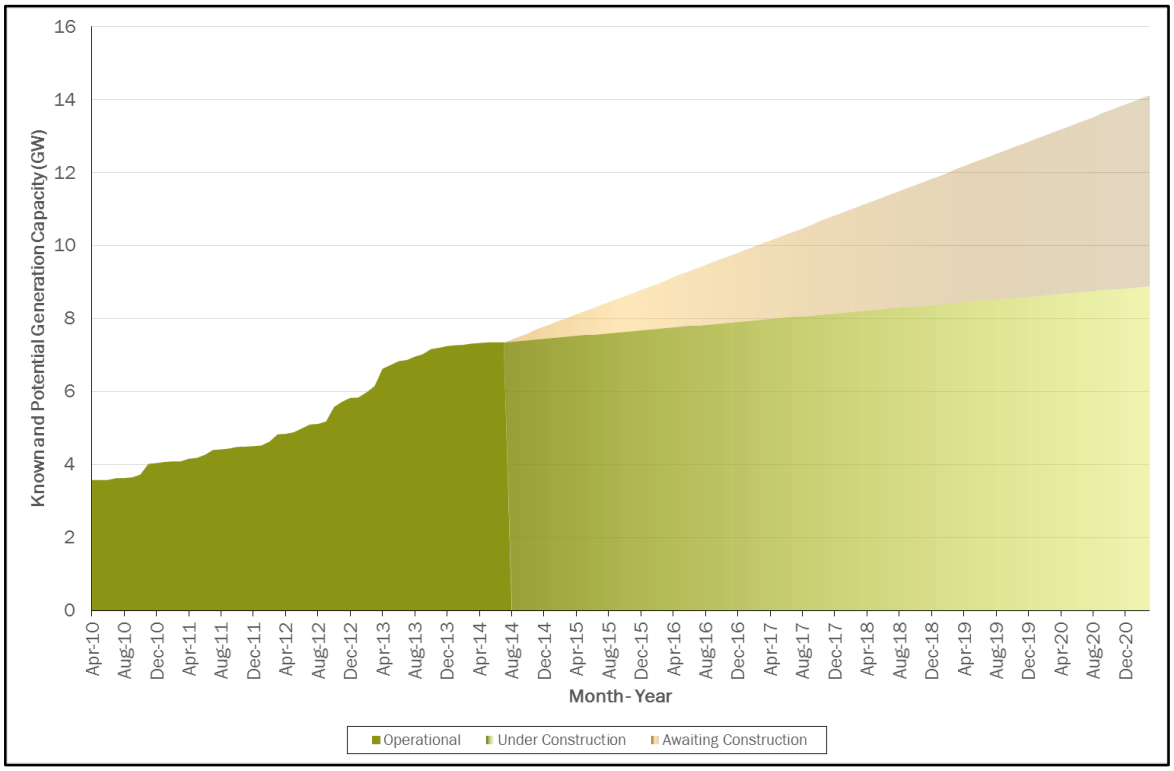
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]
		[redacted]	[redacted]
		[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]
		[redacted]	[redacted]

[redacted]

[redacted]

Figure 5 [redacted]

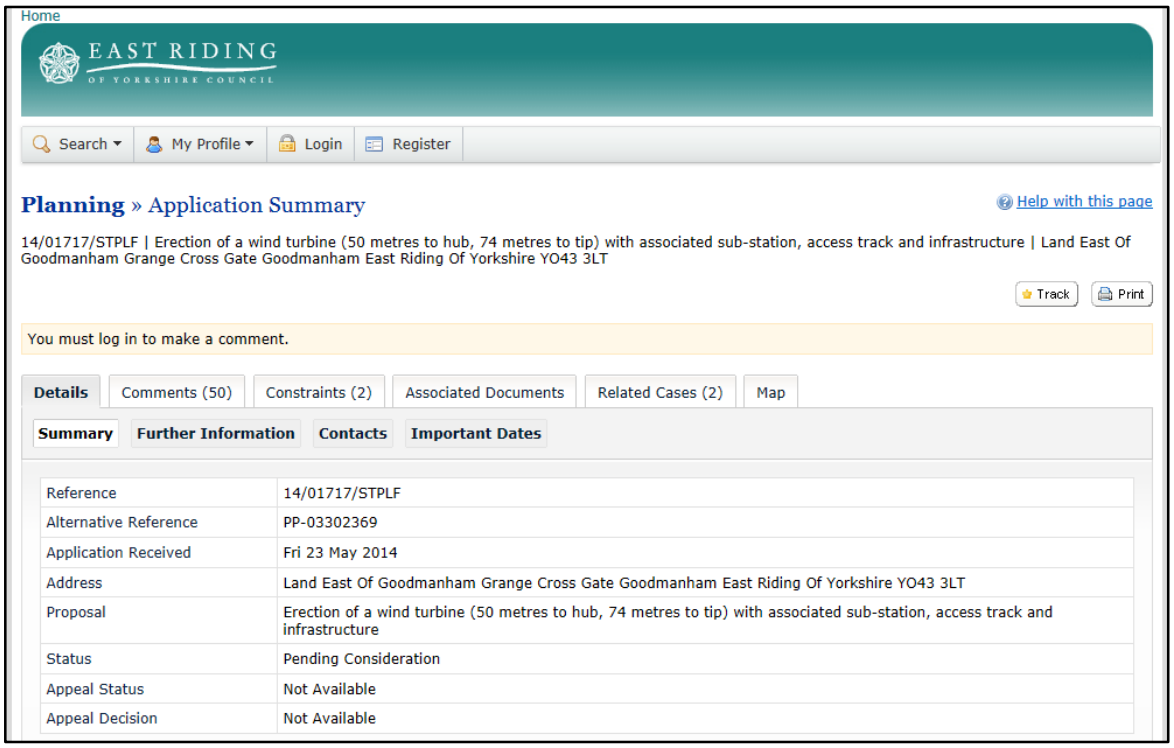
Figure 5: Example Output – Forecast Levels of Onshore Wind Generation Capacity



[redacted]

Figure 6

Figure 6: Example of an Idox Online Planning Application



[redacted]

Figure 7

[redacted]

Figure 7: [redacted]

Configuring the database for easy interrogation

[redacted]

[redacted]

Improving the accuracy and timeliness of data at each stage of planning

[redacted]

Capturing specific details on types of projects

[redacted]

Capturing up-to-date data on projects which can be deployed quickly

[redacted]

[redacted]

Projecting Decommissioning and Replacement

[redacted]

How to deal with existing Sub-1MW schemes

[redacted]

Table 2 [redacted]

Meeting Government and EU Directive Requirements

[redacted]

[redacted]

Support for a Members Only Section of the Database

[redacted]

Approach to Delivery of Optional Objectives

[redacted]

Additional Data on Solar PV

[redacted]

[redacted]

De-minimis level

[redacted]

[redacted]

Table 4: Average Monthly Planning Applications (all technologies)

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]					

Renewable Electricity Projects outwith the planning sector or within permitted development

[redacted]

[redacted]

Gathering Data on Renewable Heat Projects

[redacted]

Jobs and Investment data

[redacted]

[redacted]

Community Energy

[redacted]

[redacted]

Digital Services

Our approach as to how we will meet the Digital by Default Service is set out in Appendix A.2.0.

Development of a Service Level Agreement and KPIs

[redacted]

Secure hosting

[redacted]

Site Migration

[redacted]

[redacted]

Key Performance Indicators

[redacted]

Additional Tasks across both Lots

[redacted]

Addressing Challenges

[redacted]

Table 5: Challenges and related approaches to management

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

[redacted]

Delivery Plan

[redacted] Table 6 [redacted]

[redacted]

Table 6: Delivery Plan

Risk Identification and Management

The following sections outline our approach to risk management and how it is integrated within our Quality Management System (QMS).

Quality Management

- [redacted]

Risk Management

[redacted]

- [redacted]
- [redacted]

[redacted]

- [redacted]

[redacted]

[redacted]

[redacted]

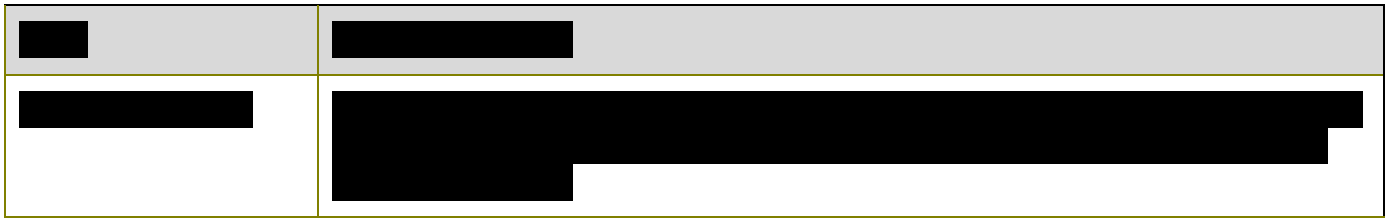
Quality Assurance Plan

Team Roles

As shown within our Service Delivery Structure chart in [redacted]

[redacted]	[redacted]	[redacted]	[redacted]

Table 7: Project Team Roles



[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Quality Register

[redacted]

Version control

[redacted]

Quality Review

[redacted] Table 8 [redacted]

Table 8: Database Error Review Process

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Output testing

[redacted]

Visual checks

[redacted]

Staged testing

[redacted]

Internal audit of the Excel model file(s)

[redacted]

Output from Quality Reviews

[redacted]

Skills and Knowledge

Analytical Skills provided by Eunomia

[redacted]

Collection and analysis of wide-ranging datasets

Eunomia has undertaken a range of studies, which require both qualitative and quantitative analysis. Recent examples of projects we have delivered for DECC include:

- An evaluation of the RHI (ongoing), which involves the synthesis of a number of work packages including qualitative interviews, longitudinal surveys and quantitative datasets);
- An evaluation of the benefits of corporate disclosure to support DECC policy-making with regard to the Energy Savings Opportunity Scheme (ESOS), which required the analysis of a large evidence base (over 400 datasets) to determine 'causality' in respect of outcomes; and
- An assessment of the Market, renewable heat Potential, cost, performance of non-domestic reversible air-to-air heat pumps, which required synthesis of a number of quantitative and qualitative datasets including primary survey work undertaken specifically for the contract.

Typically, in these projects, we have employed the Civil Service Rapid Evidence Assessment (REA) framework as a methodology which is effective in producing meaningful outcomes. This framework provides not only a clear and auditable database of information resources, but a transparent approach for gathering and assessing the strength of different sources of evidence.

Managing large datasets

Eunomia is familiar with handling large datasets from disparate sources. Members of the Service Team (including the Service Manager) played a central role in designing and managing the delivery of Defra's New Technologies Demonstration Programme (NTDP) which included a data repository involving over 12,000 documents and 50Gb of data spanning a 12 year period, from 2000 to 2012.

Over a six year period, from 2007 to 2013, Eunomia also managed WRAP's annual gate fee survey, which involved gathering a collation of financial data for 14 waste management processes, including anaerobic digestion, biomass (waste wood) heat and power and EfW incineration. Each of these processes typically had up to 50 data points, which were drawn from individual sources, and thus required a detailed approach to referencing involving metadata including capacity (in tonnes and MW), source identity, context and vintage.

Modelling and managing uncertainty

The Service Team has a wealth of expertise in Excel-based financial, economic and environmental modelling, generating anything from simple reusable 'ready reckoner' tools for clients to the development of large scale highly complex models. This includes budget reviews, options appraisals, MACC curves, and cost benefit analyses. A large proportion of Eunomia staff are also trained for the 'extended' use of Excel, including executable code such as Visual Basic for Applications (VBA).

As well as the use of 'off the shelf' modelling tools, we have developed a number of proprietary tools designed for internal use, as well as modelling tools and 'ready reckoners' for clients. Where there exist gaps in renewables data, we can offer modelling solutions which include detailed sensitivity (including through 'Monte Carlo' analysis) to test the impact upon the results of varying assumptions for which there exists uncertainty. Such analysis requires a distinction between those parts of the datasets to which one might reasonably attach an estimate of the statistical error, and those parts where there is very little known about the possible distribution of values for a given data point. The former is better described as 'statistical error', the latter as 'uncertainty'. Deviations may be therefore be the result of, for example mistakes in formulae, ('statistical error') or the lack of evidence to provide a totally accurate prediction where only a range can be produced ('uncertainty').

Reviewing current practice

As described in Section 0, our spreadsheet models are always designed to be flexible. In our experience having adopted existing models from both Government and other consultants, this is not always the case, making it difficult to make amendments to model functionality and assumptions and to integrate new information within the existing model structure.

We often see that there is value in undertaking rapid reviews of reported data in the model inventory in the spirit of data verification. There are likely to be areas within the energy data repository where a modelling can be used to understand whether the reported activity is aligned with 'known' levels. We also believe such 'rapid reviews' could help to identify areas where additional work might be necessary. This may include reviewing uncertainty estimates attached to parts of the methodology, notably for those sources which help to generate key trend data for publication.

Working Knowledge of Code of Practice for Official Statistics

The Code of Practice for Official Statistics ('the code') is designed to assure a common standard, and ensure a coherent and trustworthy service to the users of statistics, which serve the public good. Eunomia understands that compliance with the Code is a statutory requirement on bodies that produce statistics designated as National Statistics. We understand the importance of trust in statistics, and that this is particularly important when the responsibility for producing statistics lies outside of the responsibility of the Office for National Statistics (ONS) or Statistics authority, as part of a decentralised statistical service.

As such, we commit to producing statistics that fully comply with the principles and protocols of the Code as set out below:

- Principles:
  - Meeting user needs;
  - Impartiality and objectivity;
  - Integrity;
  - Sound methods and assured quality;
  - Confidentiality;
  - Proportionate Burden;
  - Sufficient resources; and

  - Frankness and accessibility.
- Protocols:
  - User engagement;
  - Release practices; and
  - The use of administrative sources for statistical purposes.

Our team is fully conversant with the Code of Practice, its principles and protocols. In particular, Harriet Parke, a member of the Service team, was previously employed as a Higher Executive Officer (Researcher) at the Office for National Statistics. During this time she completed comprehensive training on the Code of Practice, and was part of a team producing and reporting designated National Statistics. She project managed and co-authored the drafting of the English Housing Survey Headline Report 2010-11 and was responsible for quality assuring large data returns (from 13,000 households).

Ability to Respond Quickly to Ad-hoc Enquiries

As described in Section 0, Eunomia has proven its ability to respond quickly to requests for technical support via the provision of similar services to Ofgem under an ongoing call-off contract for technical advice on both biomass and heat pumps under the RHI. Examples of our speed of response include:

- Mobilisation at short notice to provide a briefing paper in response to a wide range of concerns relating to the Biomass Suppliers List (BSL);
- Mobilisation at short notice to develop a methodology for measuring seasonal performance factors (SPFs) and presentation of this to a wide industry stakeholder group, which enabled accreditations of ground source heat pump installations under the *non-domestic* RHI;
- Mobilisation at short notice to provide advice with regard to a specific application for accreditation of a biomass facility under the RHI, which was to shape Ofgem's future stance for all such applications; and
- Mobilisation at short notice to develop a metering methodology to enable accreditations of complex applications for heat pumps under the *domestic* RHI.

Eunomia believes that the service management structure, as outlined in Section 0 is sufficiently robust, such that if any one of the three key service delivery staff (Adam Baddeley, Robert Reid and Ian Cessford) becomes unavailable, for reasons beyond our control, the other two will be readily available, in the short term, to fill any resulting gaps. Furthermore, we have additional consultants at all levels, with similar experience to those listed in Section 0, who will be able to replace any other members of the Project Team, should they become unavailable for reasons beyond our control.

Our fully operational quality management system (QMS), as detailed in Section 0 ensures that quality of service is maintained in situations whereby we have to mobilise quickly in response to client needs. As set out in Section 0, our QMS is based on the PRINCE2 ® project management framework.

Submission of User-friendly Spreadsheets

As described in Section 0, Eunomia follows strict internal guidance for model design and development and audit. We also use a standard format spreadsheet, colour coded in a consistent

way, such that users can easily distinguish cells for input, reference only, and formulae. The template contains a basic guide for the use of the spreadsheet based on naming, and colour-code conventions. Using this is a foundation for further variations to the spreadsheet according to client requirements, we have built several tools on behalf of Government, which are designed to be intuitive to the user, with minimal training.

Approach to Data Presentation and Dissemination

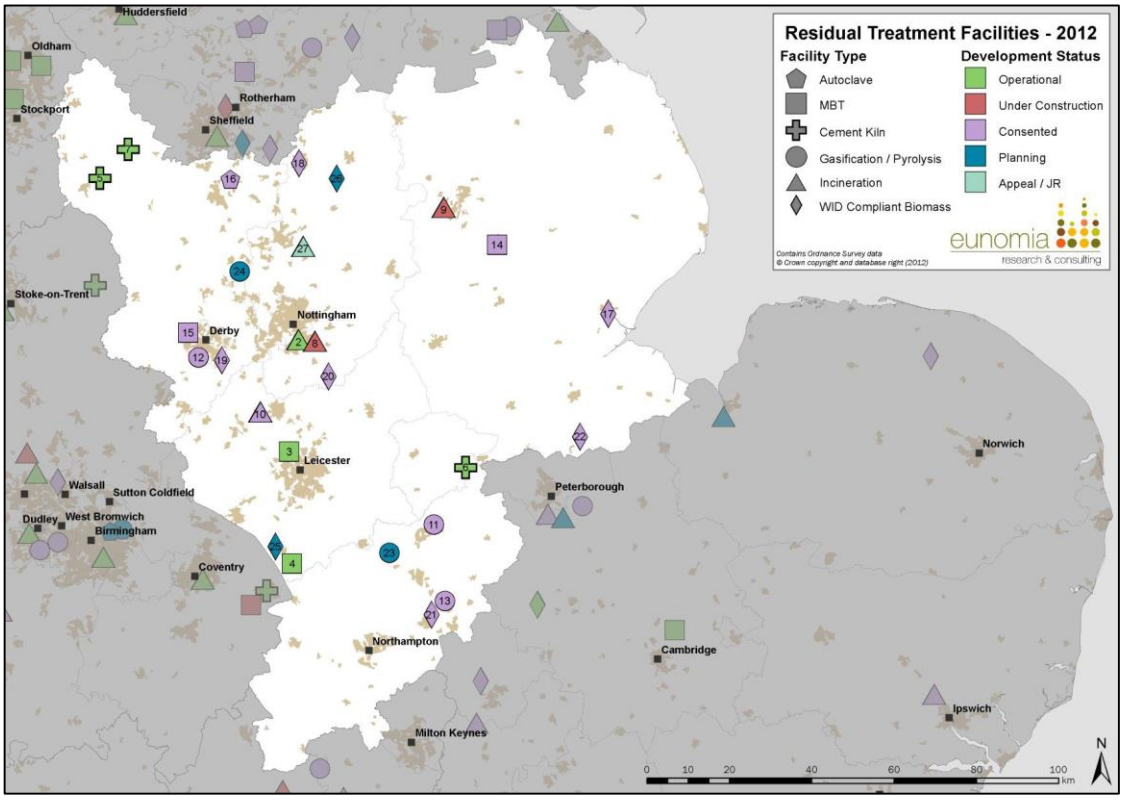
Eunomia regularly produces outputs in a range of formats including written reports, data sheets, verbal responses to specific questions (sometimes when giving evidence in a legal context), and presentations through display boards and in PowerPoint. Not only would we be comfortable producing these outputs for DECC, but it should also be noted that:

- Eunomia uses a range of software, most commonly Excel and Visio, to produce detailed graphical outputs, as required by our varied client base;
- Many of our consultants are also experienced VBA programmers, such that we can deliver complex, bespoke tools, which have a simplified user interface for client use;
- Eunomia's internal GIS team has several expert users of ARCGIS software, who can draw upon the powerful functionality of the tool to produce high-quality, engaging spatial information coupled with quantitative data, which provides insights far beyond simple tables and charts. As an example, Figure 8 shows an example of a GIS output from our own in-house Facilities Database; and
- Based on the outputs from our data collection and modelling, we have successfully delivered (with a local sub-contractor) several detailed interactive websites, including the European Waste Data Centre on behalf of Eurostat.[12]

Without a clear scope it is challenging to provide estimated costs for any visual upgrades to the website in terms of presentation of spatial information, as these might require 'back-end' as well as 'front-end' development. We therefore suggest that this is explored with DECC in further detail during the course of the contract, and that a detailed specification is agreed, which can then be priced and signed-off.

[12] See http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/introduction/

Figure 8: Example GIS Output from Facilities Database



Eunomia understands the sensitivities surrounding public distribution of evidence-based reports having published our own reports and supported WRAP, DECC, Defra, CPRE, Committee on Climate Change (CCC), Ofgem and others produce reports put into the public domain.

The channels for dissemination have increased dramatically in recent years, and we would look forward to considering with DECC the full range of communication methods available through new technology, such as blogs, social media, email newsletters, RSS feeds and webinars.

As outlined in our section on our Quality Management System (Section 0), we operate a strict policy of senior authorisation for submission of both numerical and written material, which we would regard as fit for public use, as soon as it is sent to our clients.

Knowledge of the Renewable Energy Sector

As described in Section 0 and in the biographies in Section 0, Eunomia's Service Team has significant experience of working in the renewable energy sector, both on behalf of Government and for private sector investors, project developers and energy utility companies on projects relating to biomass, tidal, wind and solar PV projects. Our private sector client list in this respect includes utility companies such as DONG Energy, RWE Npower, Centrica and Scottish and Southern Energy (SSE); technology suppliers such as INEOS Bio, New Earth Solutions and Advanced Plasma Power (APP), along with lenders and private equity firms such as the Cooperative Bank, Investec, Goldman Sachs, Balfour Beatty Capital, Foresight Group, Ludgate Environmental and Climate Change Capital. This

expertise provides us with a detailed understanding of various forms of renewable generation, such that we are able to quickly spot any anomalies in statistical data.

Service Management Structure and Roles

Our Service Management structure is described in Table 9 and summarised in Figure 9. Report drafting is ultimately the responsibility of the Service Director, supported by the Service Manager and QA manager (see 0 for examples of our experience). As described in Section 0 with regard to staff continuity, Eunomia operates monthly company meetings to disseminate such knowledge alongside internal seminars and workshops looking at specific technical areas or more strategic projects in depth. Furthermore, our high staff retention rate means that we have a high degree of confidence that we can provide continuity across the contract period. Our policy is to ensure that we have a sufficient pool of resource with sufficient knowledge on which to draw on from within the Eunomia team. Furthermore, our company Board has in place a defined succession planning strategy through which new long term recruitment can be seamlessly incorporated into the team. Summary biographies of the team members listed in Table 9.

Table 9: Service Team

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Figure 9: Overview of Service Delivery Structure

Summary Biographies for Core Project Team

Adam Baddeley, Head of Energy, Eunomia

[redacted]

Chris Cullen, Senior Consultant, Eunomia

[redacted]

Robert Reid, Senior Consultant, Eunomia

[redacted]

[redacted]

Ian Cessford, Consultant, Eunomia

[redacted]

[redacted]

David Benham Head of Client Services, RedWeb

[redacted]

Chloe Bines, Consultant, Eunomia

[redacted]

Joe Hudson, Junior Consultant, Eunomia

[redacted]

Laurence Elliott, Junior Consultant, Eunomia

[redacted]

Project References

The following project references demonstrate that Eunomia, supported by Redweb as a sub-contractor has both the depth and breadth of experience to support DECC on this contract

Selected Eunomia Projects

Adam Baddeley will be ultimately responsible for the drafting of reports, although this will be a joint effort with technical and quality input from the Service Manager (Ian Cessford) and Quality Assurance Manager (Rob Reid). (See roles in Section 0). The following examples of previous reports Adam has written demonstrate that Eunomia has both the depth and breadth of experience to support DECC on this contract.

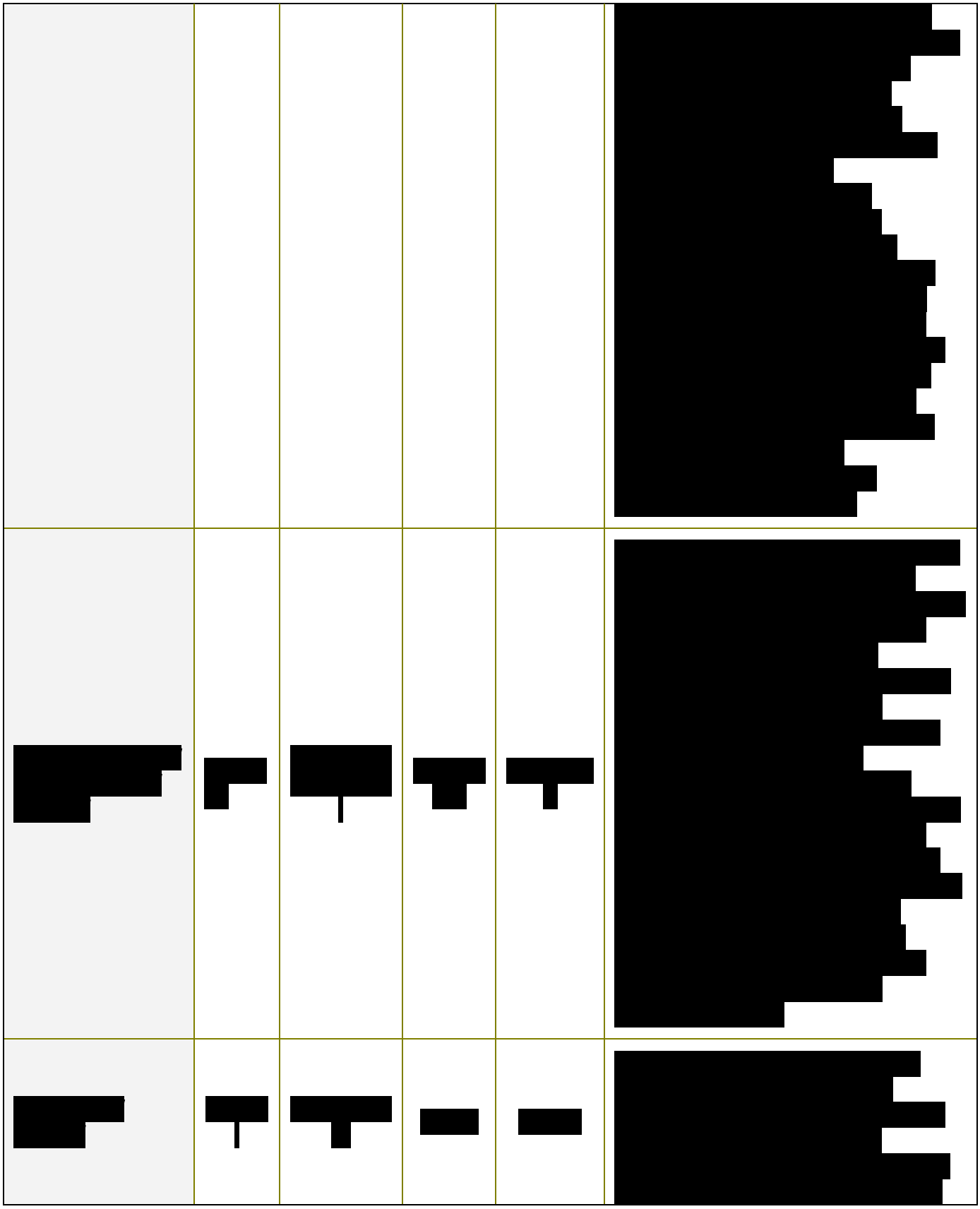
Impacts of Leakage from Refrigerants in Heat Pumps, Eunomia on behalf of DECC, March 2014 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/303689/Eunomia_-_DECC_Refrigerants_in_Heat_Pumps_Final_Report.pdf

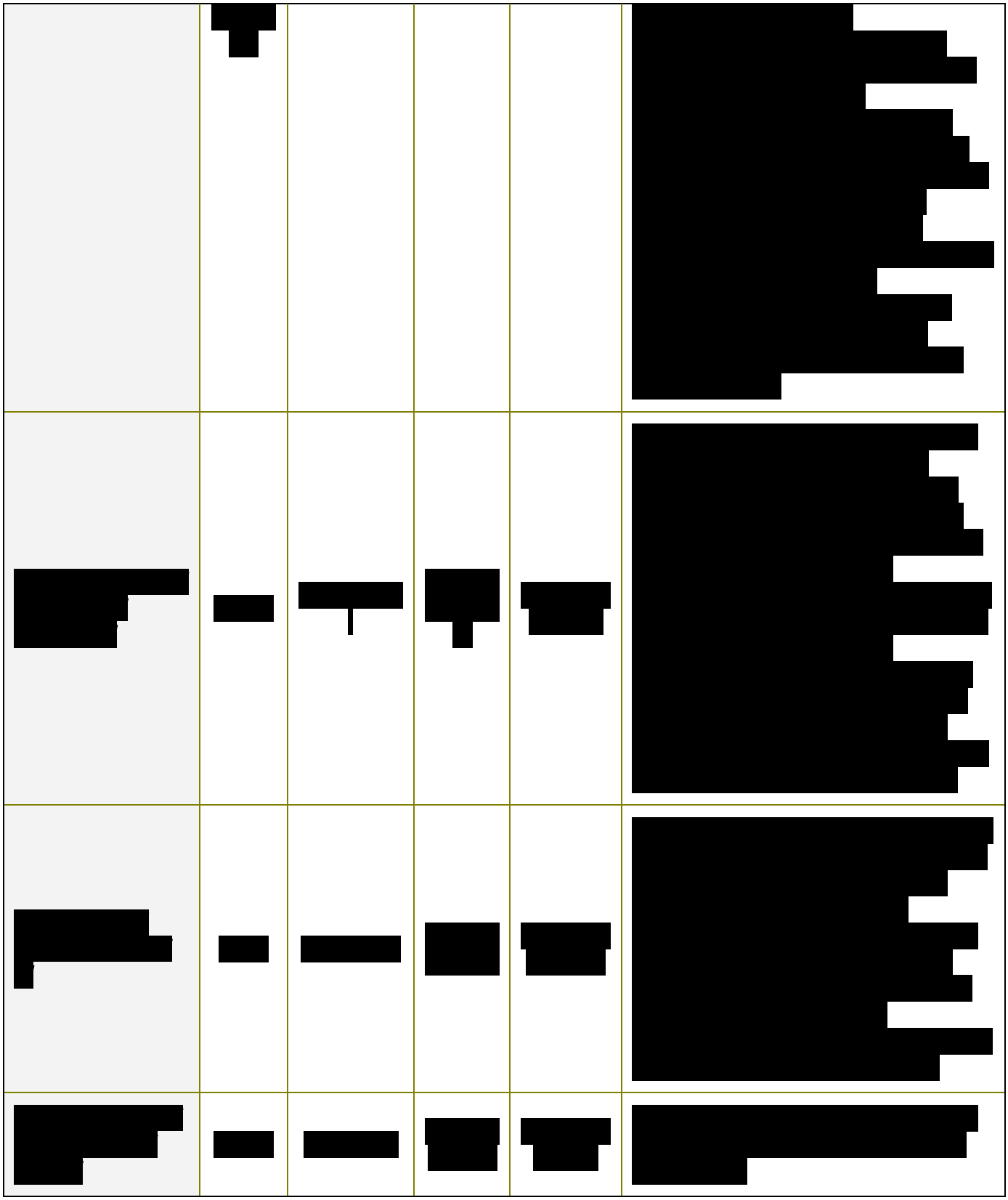
Review of the Emissions Performance Standard, Eunomia on behalf of GLA, March 2014 http://www.london.gov.uk/sites/default/files/EPS%20Report%20August%202013.pdf

We have also included other projects involving data services to clients in Table 10.

Table 10: Eunomia Track Record

[redacted]					
[redacted]					





					[redacted]

Selected Redweb Projects

RebWeb has undertaken the following projects on behalf of Government institutions:

- [redacted]
- [redacted]
- [redacted]

Pricing

Core Cost Proposal

The core costs for our proposal are set out in Table 11 to Table 14. We have also priced the Digital Service Element separately in Table 15. It should be noted, however, that this is already included in the core costs presented above.

Table 11: Part A – Staff/Project Team Charges ('One-off' Set-up Costs)

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Table 12: Part A – Staff/Project Team Charges

Table 13: Part B – Non-staff/project team charges (annual)

Table 14: Part C – Full price offered

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Table 15: Separate Costs for Digital Service Element (already included in Full Price above)

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			[redacted]

Costs for Further Optional Work

We have provided estimated costs for each element of optional work in Table 16. It is emphasised that we envisage that these estimates would be refined with DECC either at Project Inception or during the course of the contract, following more detailed scoping and agreement of specification.

Table 16: Costs for Further Optional Work

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

APPENDICES

A.1.0 Declarations, Undertakings and Attachments

A.1.1 Statement of Non-collusion

To The Department of Energy and Climate Change

1. We recognise that the essence of competitive tendering is that the Department will receive a bona fide competitive tender from all persons tendering. We therefore certify that this is a bona fide tender and that we have not fixed or adjusted the amount of the tender or our rates and prices included therein by or in accordance with any agreement or arrangement with any other person.

2. We also certify that we have not done and undertake not to do at any time before the hour and date specified for the return of this tender any of the following acts:

(a) communicate to any person other than the Department the amount or approximate amount of our proposed tender, except where the disclosure, in confidence, of the approximate amount is necessary to obtain any insurance premium quotation required for the preparation of the tender;

(b) enter into any agreement or arrangement with any other person that he shall refrain for submitting a tender or as to the amount included in the tender;

(c) offer or pay or give or agree to pay or give any sum of money, inducement or valuable consideration directly or indirectly to any person doing or having done or causing or having caused to be done, in relation to any other actual or proposed tender for the contract any act, omission or thing of the kind described above.

3. In this certificate, the word "person" shall include any person, body or association, corporate or unincorporated; and "any agreement or arrangement" includes any such information, formal or informal, whether legally binding or not.

.....

Signature (duly authorised on behalf of the tenderer)

ADAM BADDELEY

.....

Print name

EUNOMIA RESEARCH AND CONSULTING LTD

.....

On behalf of (organisation name)

25th July 2014

.....

A.1.2 Form of Tender

To The Department of Energy and Climate Change

1. Having considered the invitation to tender and all accompanying documents (including without limitation, the terms and conditions of contract and the Specification) we confirm that we are fully satisfied as to our experience and ability to deliver the goods/services in all respects in accordance with the requirements of this invitation to tender.
2. We hereby tender and undertake to provide and complete all the services required to be performed in accordance with the terms and conditions of contract and the Specification for the amount set out in the Pricing Schedule.
3. We agree that any insertion by us of any conditions qualifying this tender or any unauthorised alteration to any of the terms and conditions of contract made by us may result in the rejection of this tender.
4. We agree that this tender shall remain open to be accepted by the Department for 8 weeks from the date below.
5. We understand that if we are a subsidiary (within the meaning of section 1159 of (and schedule 6 to) the Companies Act 2006) if requested by the Department we may be required to secure a Deed of Guarantee in favour of the Department from our holding company or ultimate holding company, as determined by the Department in their discretion.
6. We understand that the Department is not bound to accept the lowest or any tender it may receive.
7. We certify that this is a bona fide tender.

.....

Signature (duly authorised on behalf of the tenderer)

ADAM BADDELEY

.....

Print name

EUNOMIA RESEARCH AND CONSULTING LTD

.....

On behalf of (organisation name)

25th July 2014

.....

Date

A.1.3 Conflict of Interest Declaration

I have nothing to declare with respect to any current or potential interest or conflict in relation to this research (or any potential providers who may be subcontracted to deliver this work, their advisers or other related parties). By conflict of interest, I mean, anything which could be reasonably perceived to affect the impartiality of this research, or to indicate a professional or personal interest in the outcomes from this research.

Signed .....

ADAM BADDELEY

Name .....

HEAD OF ENERGY

Position .....

OR

I wish to declare the following with respect to personal or professional interests related to relevant organisations*;

- X
- X

Signed .....

Name .....

Position .....

Please complete this form and return this with your ITT documentation - Nil returns are required.

* These may include (but are not restricted to);

- A professional or personal interest in the outcome of this research
- Current or past employment with relevant organisations
- Payment (cash or other) received or likely to be received from relevant organisations for goods or services provided (Including consulting or advisory fees)
- Gifts or entertainment received from relevant organisations
- Shareholdings (excluding those within unit trusts, pension funds etc) in relevant organisations
- Close personal relationship or friendships with individuals employed by or otherwise closely associated with relevant organisations

All of the above apply both to the individual signing this form and their close family / friends / partners etc.

If your situation changes during the project in terms of interests or conflicts, you must DECC straight away.

A DECLARATION OF INTEREST WILL NOT NECESSARILY MEAN THE INDIVIDUAL CANNOT WORK ON THE PROJECT; BUT IT IS VITAL THAT ANY INTEREST OR CONFLICT IS DECLARED SO IT CAN BE CONSIDERED OPENLY.

A.1.4 Questions

Has your organisation or any directors or partner or any other person who has powers of representation, decision or control been convicted of any of the following offences?	Answer
(a) conspiracy within the meaning of section 1 or 1A of the Criminal Law Act 1977 or article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983 where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA;	No
(b) corruption within the meaning of section 1(2) of the Public Bodies Corrupt Practices Act 1889 or section 1 of the Prevention of Corruption Act 1906; where the offence relates to active corruption;	No
(c) the offence of bribery, where the offence relates to active corruption;	No
(d) bribery within the meaning of section 1 or 6 of the Bribery Act 2010;	No
(e) fraud, where the offence relates to fraud affecting the European Communities' financial interests as defined by Article 1 of the Convention on the protection of the financial interests of the European Communities, within the meaning of:	No
(i) the offence of cheating the Revenue;	No
(ii) the offence of conspiracy to defraud;	No
(iii) fraud or theft within the meaning of the Theft Act 1968, the Theft Act (Northern Ireland) 1969, the Theft Act 1978 or the Theft (Northern Ireland) Order 1978;	No
(iv) fraudulent trading within the meaning of section 458 of the Companies Act 1985, article 451 of the Companies (Northern Ireland) Order 1986 or section 993 of the Companies Act 2006;	No
(v) fraudulent evasion within the meaning of section 170 of the Customs and Excise Management Act 1979 or section 72 of the Value Added Tax Act 1994;	No

(vi) an offence in connection with taxation in the European Union within the meaning of section 71 of the Criminal Justice Act 1993;	No
(vii) destroying, defacing or concealing of documents or procuring the execution of a valuable security within the meaning of section 20 of the Theft Act 1968 or section 19 of the Theft Act (Northern Ireland) 1969;	No
(viii) fraud within the meaning of section 2, 3 or 4 of the Fraud Act 2006; or	No
(ix) making, adapting, supplying or offering to supply articles for use in frauds within the meaning of section 7 of the Fraud Act 2006;	No
(f) money laundering within the meaning of section 340(11) of the Proceeds of Crime Act 2002;	No
(g) an offence in connection with the proceeds of criminal conduct within the meaning of section 93A, 93B or 93C of the Criminal Justice Act 1988 or article 45, 46 or 47 of the Proceeds of Crime (Northern Ireland) Order 1996; or	No
(h) an offence in connection with the proceeds of drug trafficking within the meaning of section 49, 50 or 51 of the Drug Trafficking Act 1994; or	No
(i) any other offence within the meaning of Article 45(1) of Directive 2004/18/EC as defined by the national law of any relevant State.	No

A.2.0 Meeting the Digital by Default Service Standard

Our approach is set out in Table 17. Eunomia understand that the existing REPD service is not subject to a formal SLA but will implement this as part of the quarterly service management reporting cycle. We believe that the hosted service as proposed has already passed the 'Service Design' phase as defined by the Standard due to the infrastructure and security improvement proposed and the maturity of the existing applications and we are confident that as a result of being a G-Cloud5 accredited supplier for IT services, Redweb's proposed hosting solution will conform to the Standard by default.

The implementation of suitable service metrics and KPIs within a new SLA, as is envisaged for this contract, will highlight any areas of the service that are in danger of failing and remediation measures such as Service Improvement Programmes can be implemented before services are deemed to have failed.

Table 17: Meeting the Digital by Default Service Standard

Digital by Default Article	Addressed by
1. Understand user needs	This will be addressed by Onboarding activities, Service Delivery Management meetings, performance data gathering and KPI-based service delivery.
2. A sustainable multidisciplinary team	The combination of Eunomia and Redweb project teams provides the necessary depth and experience.
3. Evaluate what user data and information the service will be providing or storing, and address the security level, legal responsibilities, and risks associated with the service	A preliminary investigation has highlighted some risks associated with the service and mitigation measures have been suggested. This will be under continual review as part of regular service management processes and will be recorded in the risk register (see 4 below).
4. Evaluate the privacy risks to make sure that personal data collection requirements are appropriate.	DECC have indicated that it will required a "members only" section of the REPD service in the future. While some privacy risks have already been identified and mitigation suggested, DECC, Redweb and Eunomia will jointly develop and agree the scope for any future projects which will include the

	development and maintenance of a risk register.
5. Evaluate what tools and systems will be used to build, host, operate and measure the service, and how to procure them.	This has been performed as part of the bidding process and will be confirmed by onboarding activities.
6. Build the service using the agile, iterative and user-centred methods set out in the manual.	Redweb CMS development methodologies, particularly system/solution design according to SOLID principles match the methods set out in the manual.
7. Establish performance benchmarks, in consultation with GDS, using the 4 key performance indicators (KPIs) defined in the manual, against which the service will be measured.	These will be enacted in the SLAs between DECC and Eunomia and Eunomia and Redweb
8. Analyse the prototype service's success, and translate user feedback into features and tasks for the next phase of development.	Eunomia believes that this is a mature service and that future developments will be based on evolving the service. Eunomia's Project Management under PRINCE2 includes a continuous improvement process.
9. Create a service that is simple and intuitive enough that users succeed first time, unaided.	We believe that the service is mature and usability is therefore established. We envisage that future developments will enhance the user interface (UI) without removing any functionality.
10. Put appropriate assisted digital support in place that's aimed towards those who genuinely need it.	As per clarification provided by DECC, this is inherent in the service.
11. Plan (with GDS) for the phasing out of any existing alternative channels, where appropriate.	We have not currently identified any existing alternative channels which may be phased out over the lifetime of the contract.
12. Integrate the service with any non-digital sections required for legal reasons.	Eunomia has not currently identified any legal requirements that would involve the integration of the service with non-digital sections. Should this become necessary in the future, Eunomia will propose this as a separate project to DECC.

13. Build a service consistent with the user experience of the rest of GOV.UK by using the design patterns.	The current proposal is to migrate the service "as-is" with improved resilience and security.
14. Make sure that you have the capacity and technical flexibility to update and improve the service on a very frequent basis.	The combination of Eunomia and Redweb resources provides DECC with the expertise and experience to cover all aspects of the REPD service
15. Make all new source code open and reusable, and publish it under appropriate licences (or give a convincing explanation as to why this can't be done for specific subsets of the source code).	The proposed hosting environment will continue to use the existing Open Source systems. Project management under ISO9001, service delivery to ISO27001 and development according to SOLID will ensure that suitable documentation and source code are available.
16. Use open standards and common government platforms (e.g. identity assurance) where available.	The proposed hosting solution is well-proven for providing a current government platform at HM Treasury.
17. Be able to test the end-to-end service in an environment identical to that of the live version on all common browsers and devices. Use dummy accounts and a representative sample of users.	Redweb's UX testing facility provides a parallel environment for the deployment and testing of any aspect of the REPD service.
18. Use analytics tools that collect performance data.	This is provided as part of the hosted environment.
19. Build a service that can be iterated on a frequent basis and make sure resources are in place to do so.	Migrating the service to a more current infrastructure and a dedicated CMS build team using Object-Orientated (OO) techniques under the SOLID framework will ensure that the REPD applications can be iterated on a frequent basis.
20. Put a plan in place for ongoing user research and usability testing to continuously seek feedback from users.	Eunomia will jointly develop this plan with DECC and Redweb as part of the onboarding activities and will base it on the current activities to minimise any disruption to users.
21. Establish a benchmark for user satisfaction across the digital and assisted digital service. Report	This will be jointly developed between Eunomia, DECC and Redweb and will

performance data on the Performance Platform	form part of the SLA between DECC and Eunomia
22. Establish a benchmark for completion rates across the digital and assisted digital service. Report performance data on the Performance Platform.	This will be jointly developed between Eunomia, DECC and Redweb and will form part of the SLA between DECC and Eunomia
23. Make a plan (with supporting evidence) to achieve a low cost per transaction across the digital and assisted digital service. Report performance data on the Performance Platform	This will be jointly developed between Eunomia, DECC and Redweb and will form part of the SLA between DECC and Eunomia.
24. Make a plan (with supporting evidence) to achieve a high digital take-up and assisted digital support for users who really need it. Report performance data on the Performance Platform	We will baseline the existing levels of take-up of the system against a projected user base. This will then be monitored and reported via the Service Management meeting.
25. Make a plan for the event of the service being taken temporarily offline.	Should it become necessary for the service to be taken temporarily offline, a “holding” page will be presented to users attempting to connect to the service providing details of expected return to service times and/or dates.
26. Test the service from beginning to end with the minister responsible for it	User Acceptance Testing is included in Eunomia’s price to DECC.

A.3.0 Curriculum Vitae

A.3.1 Adam Baddeley, B.A., M.Sc.

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A.3.2 Chris Cullen, B.E. (Hons), M.Sc.

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A.3.4 Rob Reid, B.A.

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A.3.5 Ian Cessford, BA (Hons)

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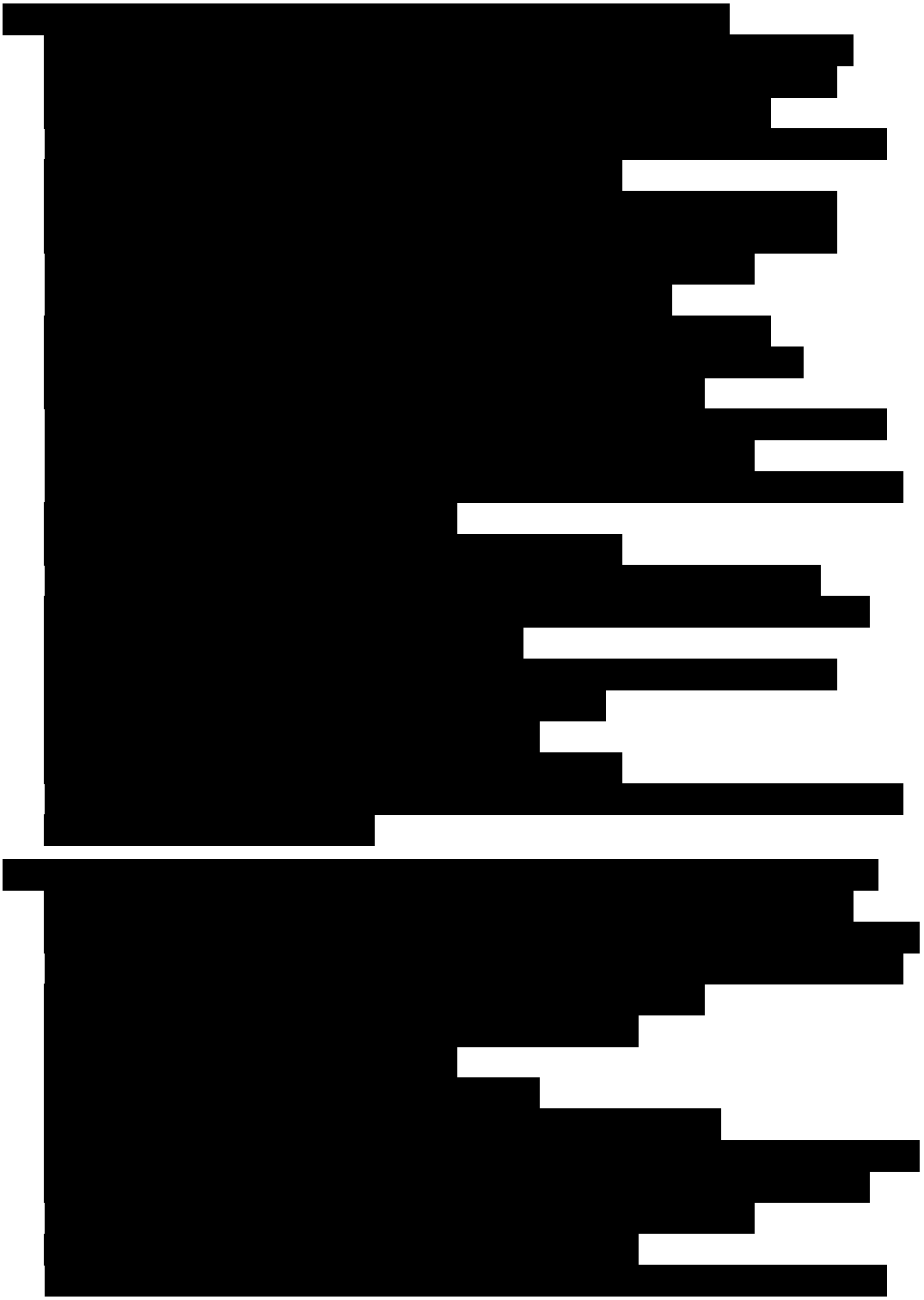

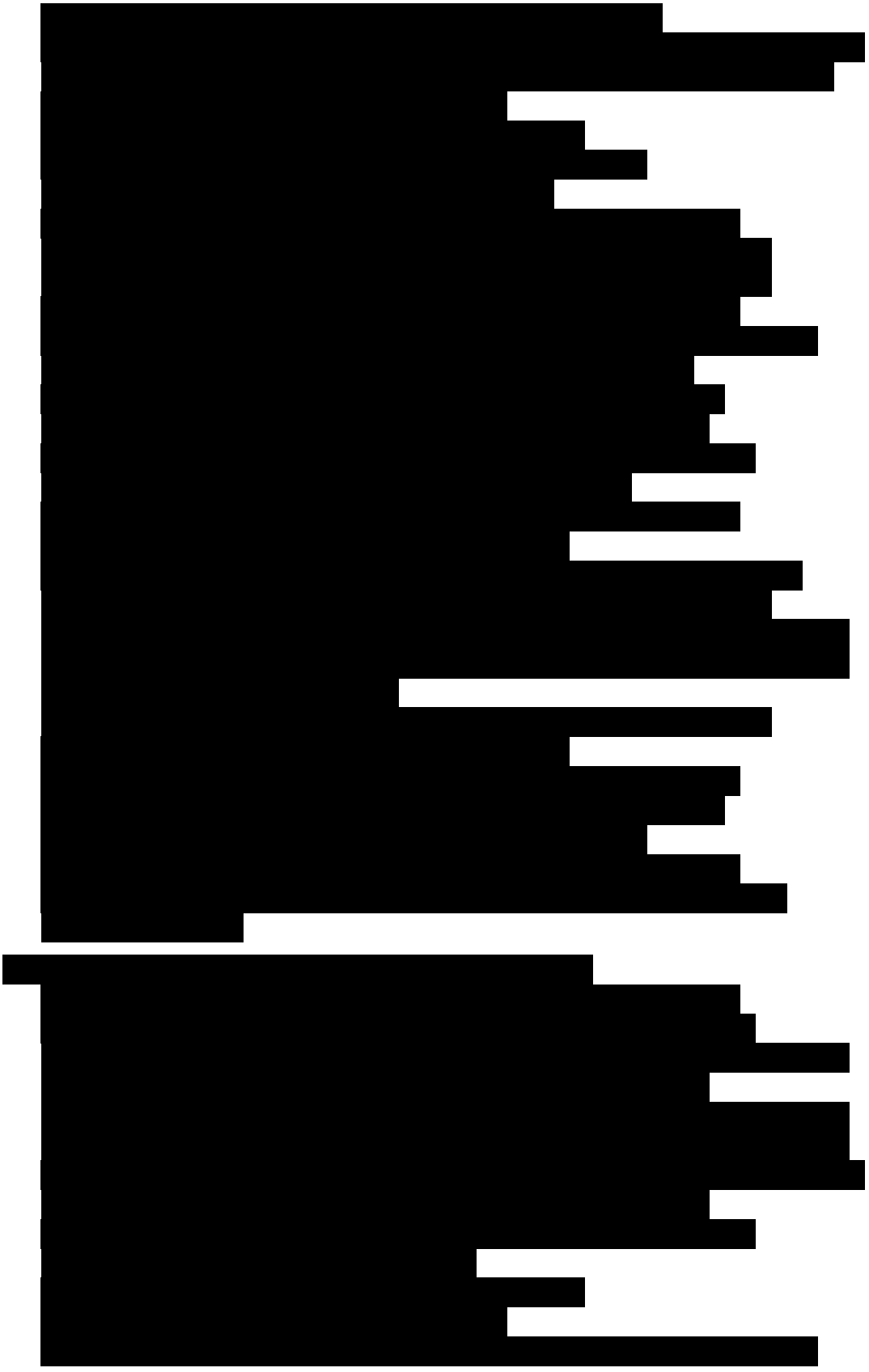

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A.3.6 Chloe Bines, BSc (Hons)

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A.3.7 Joe Hudson, BSc. (Hons), MSc.

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A.3.8 Laurence Elliot, MSci

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A.4.0 Example Risk Register

A.5.0 Example Quality Register