

**Contract for: Greenhouse gas emissions  
inventory monitoring and verification  
programme: 2022-2024**

**TRN: 5488/11/2021**

### AWARD FORM

This Award Form creates the Contract. It summarises the main features of the procurement and includes the Buyer and the Supplier's contact details.

1.	Buyer	<p>The Department for Business, Energy &amp; Industrial Strategy (the Buyer).</p> <p>Its offices are on: 1 Victoria St, London SW1H 0ET</p>
2.	Supplier	<p>Name: University of Bristol</p> <p>Address: Beacon House, Queens Road, Bristol BS8 1QU.</p> <p>Registration number: RC000648</p>
3.	Contract	<p>This Contract between the Buyer and the Supplier is for the supply of Deliverables.</p> <p>This opportunity is advertised in the Contract Notice in Find A Tender, reference 2022/S 000-013627 (FTS Contract Notice).</p>
4.	Contract reference	Greenhouse gas emissions inventory monitoring and verification programme: 2022-2024
5.	Deliverables	See Schedule 2 (Specification) for further details.
6.	Start Date	1 <sup>st</sup> October 2022
7.	Expiry Date	30 <sup>th</sup> June 2024
8.	Extension Period	The contract is to be for a period of 21 months (unless terminated or extended by the Department in accordance with the terms of the contract.

9.	<p>Incorporated Terms</p> <p>(together these documents form the "the Contract")</p>	<p>The following documents are incorporated into the Contract. Where numbers are missing we are not using these Schedules. If the documents conflict, the following order of precedence applies:</p> <ol style="list-style-type: none"> <li>1. This Award Form</li> <li>2. Any Special Terms (see Section 10 Special Terms in this Award Form)</li> <li>3. Core Terms (version 1.0)</li> <li>4. Schedule 1 (Definitions)</li> <li>5. Schedule 20 (Processing Data)</li> <li>6. The following Schedules (in equal order of precedence):               <ol style="list-style-type: none"> <li>i. Schedule 2 (Specification)</li> <li>ii. Schedule 3 (Charges)</li> <li>. Schedule 5 (Commercially Sensitive Information)</li> <li>i. Schedule 6 (Transparency Reports)</li> <li>iii. Schedule 7 (Staff Transfer)</li> </ol> </li> </ol>
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		<p>vi. Schedule 11 (Continuous Improvement)</p> <p>. Schedule 13 (Contract Management)</p> <p>i. Schedule 14 (Business Continuity and Disaster Recovery)</p> <p>vii. Schedule 16 (Security)</p> <p>viii. Schedule 18 (Supply Chain Visibility)</p> <p>ix. Schedule 21 (Variation Form)</p> <p>ii. Schedule 22 (Insurance Requirements)</p> <p>iii. Schedule 25 (Rectification Plan)</p> <p>iv. Schedule 27 (Key Subcontractors)</p> <p>v. Schedule 30 (Exit Management)</p> <p>7. Schedule 26 (Corporate Social Responsibility)</p> <p>8. Schedule 4 (Tender) as long as any part of the Tender that offers a better commercial position for the Buyer takes precedence over the documents above</p>
10.	Special Terms	<p>Schedule 36 (Intellectual Property Rights), inclusion of an additional clause 1.4.4</p> <p>Intellectual Property Rights, Notwithstanding its sole right to use any information collected or collated pursuant to the Contract, the Buyer may allow the Supplier to publish results of the Project in academic research. The Supplier will need written approval from the Buyer before proceeding to any submission of an article, peer-reviewed journal or any form of academic research using results of the project that have not yet been made public by the Buyer.</p>
11.	Buyer's Environmental Policy	<p>Provided in Commercial policies available here:  <a href="https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy/about/procurement">https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy/about/procurement</a></p>

12.	Social Value Commitment	The Supplier agrees, in providing the Deliverables and performing its obligations under the Contract, to deliver the Social Value outcomes in Schedule 4 (Tender)
13.	Buyer's Security Policy	Schedule 16 (Security)
14.	Commercially Sensitive Information	Supplier's Commercially Sensitive Information: Schedule 5 (Commercially Sensitive Information)

15.	Charges	The value of the Contract is £1,499,987 exclusive of Value Added Tax. Details in Schedule 3 (Charges)
16.	Reimbursable expenses	Recoverable as set out in Schedule 3 (Charges)
17.	Payment method	Details in Schedule 3 (Charges)
18.	Insurance	Details in Annex of Schedule 22 (Insurance Requirements).
19.	Liability	In accordance with Clause 11.1 of the Core Terms each Party's total aggregate liability in each Contract Year under the Contract (whether in tort, contract or otherwise) is no more than [the greater of £5 million or 150% of the Estimated Yearly Charges]
20.	Progress Meetings and Progress Reports	Details in Schedule 2 (Specification)
21.	Supplier Contract Manager	<div>This information has been redacted</div> <div></div> <div></div> <div></div>

22.	Supplier Authorised Representative	<div>This information has been redacted</div> <div></div> <div></div> <div></div>
23.	Supplier Compliance Officer	<div>This information has been redacted</div> <div></div> <div></div> <div></div>
24.	Supplier Data Protection Officer	<div>This information has been redacted</div> <div></div> <div></div> <div></div>

25.	Supplier Marketing Contact	<div>This information has been redacted</div> <div></div> <div></div> <div></div>
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26.	Key Subcontractors	<p>Key Subcontractor</p> <p>Name (Registered name if registered): MET Office</p> <p>Registration number (if registered): N/A</p> <p>Role of Subcontractor: Modelling of data and estimation of emissions</p> <p>Name (Registered name if registered): NUIG</p> <p>Registration number (if registered): N/A</p> <p>Role of Subcontractor: Support of Mace Head Atmospheric Research Station</p> <p>Name (Registered name if registered): Terra Modus Consultants Ltd</p> <p>Registration number (if registered): 181446113</p> <p>Role of Subcontractor: Data hardware and software data analysis /interpretation/storage</p> <p>Name (Registered name if registered): INSCON</p> <p>Registration number (if registered): N/A</p> <p>Role of Subcontractor: Data interpretation publication of results</p>
27.	Buyer Authorised Representative	<p><span style="background-color: black; color: red;">This information has been redacted</span></p> <p>Emissions Scientist, Greenhouse Gas Inventory (BEIS)</p> <p><a href="mailto:greenhousegas.statistics@beis.gov.uk">greenhousegas.statistics@beis.gov.uk</a></p> <p><span style="background-color: black; color: red;">This information has been redacted</span></p>

Signed for and on behalf of the Supplier		Signed for and on behalf of the Buyer	
Name:	This information has been redacted	Name:	This information has been redacted
Date:	This information has been redacted	Date:	This information has been redacted
Signature:	This information has been redacted	Signature:	This information has been redacted



# Core Terms – Mid-tier

## Contents

1. Definitions used in the contract .....	1
2. How the contract works.....	1
3. What needs to be delivered.....	2
4. Pricing and payments.....	4
5. The buyer’s obligations to the supplier .....	5
6. Record keeping and reporting .....	5
7. Supplier staff .....	7
8. Supply chain .....	7
9. Rights and protection.....	9
10. Intellectual Property Rights (IPRs) .....	10
11. Rectifying issues .....	10
12. Escalating issues.....	11
13. Step-in rights .....	11

14. Ending the contract.....	12
15. How much you can be held responsible for .....	15
16. Obeying the law .....	16
17. Insurance.....	16
18. Data protection .....	17
19. What you must keep confidential .....	18
20. When you can share information .....	19
21. Invalid parts of the contract .....	19
22. No other terms apply.....	20
23. Other people's rights in the Contract .....	20
24. Circumstances beyond your control.....	20
25. Relationships created by the contract.....	21
26. Giving up contract rights .....	21
27. Transferring responsibilities .....	21
28. Changing the contract.....	22
29. How to communicate about the contract .....	23
30. Dealing with claims .....	23
31. Preventing fraud, bribery and corruption .....	24
32. Equality, diversity and human rights .....	25
33. Health and safety .....	25
34. Environment.....	26
35. Tax.....	26
36. Conflict of interest .....	27
37. Reporting a breach of the contract.....	27
38. Further Assurances .....	28
39. Resolving disputes.....	28
40. Which law applies .....	29

## **1. Definitions used in the contract**

Interpret this Contract using Schedule 1 (Definitions).

## **2. How the contract works**

- 2.1 If the Buyer decides to buy Deliverables under the Contract it must state its requirements using the Award Form. If allowed by the Regulations, the Buyer can:
  - 2.1.1 make changes to the Award Form;
  - 2.1.2 create new Schedules;
  - 2.1.3 exclude optional template Schedules; and
  - 2.1.4 use Special Terms in the Award Form to add or change terms.
- 2.2 The Contract:
  - 2.2.1 is between the Supplier and the Buyer; and
  - 2.2.2 includes Core Terms, Schedules and any other changes or items in the completed Award Form.
- 2.3 The Supplier acknowledges it has all the information required to perform its obligations under the Contract before entering into it. When information is provided by the Buyer no warranty of its accuracy is given to the Supplier.
- 2.4 The Supplier acknowledges that, subject to the Allowable Assumptions set out in Annex 2 of Schedule 3 (Charges) (if any), it has satisfied itself of all details relating to:
  - 2.4.1 the Buyer's requirements for the Deliverables;
  - 2.4.2 the Buyer's operating processes and working methods; and
  - 2.4.3 the ownership and fitness for purpose of the Buyer Assets, and it has advised the Buyer in writing of:
    - 2.4.4 each aspect, if any, of the Buyer's requirements for the Deliverables, operating processes and working methods that is not suitable for the provision of the Services;
    - 2.4.5 the actions needed to remedy each such unsuitable aspect; and
    - 2.4.6 a timetable for and, to the extent that such costs are to be payable to the Supplier, the costs of those actions, and such actions, timetable and costs are fully reflected in this Contract.

- 2.5 The Supplier won't be excused from any obligation, or be entitled to additional Costs or Charges because it failed to either:
- 2.5.1 verify the accuracy of the Due Diligence Information; and
  - 2.5.2 properly perform its own adequate checks.
- 2.6 The Buyer will not be liable for errors, omissions or misrepresentation of any information.
- 2.7 The Supplier warrants and represents that all statements made and documents submitted as part of the procurement of Deliverables are and remain true and accurate.

### **3. What needs to be delivered**

#### **3.1 All deliverables**

- 3.1.1 The Supplier must provide Deliverables:
- a) that comply with the Specification, the Tender Response and the Contract;
  - b) using reasonable skill and care;
  - c) using Good Industry Practice;
  - d) using its own policies, processes and internal quality control measures as long as they don't conflict with the Contract;
  - e) on the dates agreed; and
  - f) that comply with Law.
- 3.1.2 The Supplier must provide Deliverables with a warranty of at least 90 days from Delivery against all obvious defects or for such other period as specified in the Award Form.
- 3.1.3 Where the Award Form states that the Collaborative Working Principles will apply, the Supplier must co-operate and provide reasonable assistance to any Buyer Third Party notified to the Supplier by the Buyer from time to time and act at all times in accordance with the following principles:
- a) proactively leading on, mitigating and contributing to the resolution of problems or issues irrespective of its contractual obligations, acting in accordance with the principle of "fix first, settle later";
  - b) being open, transparent and responsive in sharing relevant and accurate information with Buyer Third Parties;
  - c) where reasonable, adopting common working practices, terminology, standards and technology and a collaborative approach to service development and resourcing with Buyer Third Parties;
  - ) providing reasonable cooperation, support, information and assistance to Buyer Third Parties in a proactive, transparent and open way and in a spirit of trust and mutual confidence; and

- a) identifying, implementing and capitalising on opportunities to improve deliverables and deliver better solutions and performance throughout the relationship lifecycle.

### **3.2 Goods clauses**

- 3.2.1 All Goods delivered must be new, or as new if recycled, unused and of recent origin.
- 3.2.2 All manufacturer warranties covering the Goods must be assignable to the Buyer on request and for free.
- 3.2.3 The Supplier transfers ownership of the Goods on Delivery or payment for those Goods, whichever is earlier.
- 3.2.4 Risk in the Goods transfers to the Buyer on Delivery of the Goods, but remains with the Supplier if the Buyer notices damage following Delivery and lets the Supplier know within 3 Working Days of Delivery.
- 3.2.5 The Supplier warrants that it has full and unrestricted ownership of the Goods at the time of transfer of ownership.
- 3.2.6 The Supplier must deliver the Goods on the date and to the specified location during the Buyer's working hours.
- 3.2.7 The Supplier must provide sufficient packaging for the Goods to reach the point of Delivery safely and undamaged.
- 3.2.8 All deliveries must have a delivery note attached that specifies the order number, type and quantity of Goods.
- 3.2.9 The Supplier must provide all tools, information and instructions the Buyer needs to make use of the Goods.
- 3.2.10 The Supplier must indemnify the Buyer against the costs of any Recall of the Goods and give notice of actual or anticipated action about the Recall of the Goods.
- 3.2.11 The Buyer can cancel any order or part order of Goods which has not been Delivered. If the Buyer gives less than 14 days' notice then it will pay the Supplier's reasonable and proven costs already incurred on the cancelled order as long as the Supplier uses all reasonable endeavours to minimise these costs.

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3.2.12 The Supplier must at its own cost repair, replace, refund or substitute (at the Buyer's option and request) any Goods that the Buyer rejects because they don't conform with Clause 3. If the Supplier doesn't do this it will pay the Buyer's costs including repair or re-supply by a third party.

### 3.3 Services clauses

- 3.3.1 Late Delivery of the Services will be a Default of the Contract.
- 3.3.2 The Supplier must co-operate with the Buyer and third party suppliers on all aspects connected with the Delivery of the Services and ensure that Supplier Staff comply with any reasonable instructions of the Buyer or third party suppliers.
- 3.3.3 The Supplier must at its own risk and expense provide all Supplier Equipment required to Deliver the Services.
- 3.3.4 The Supplier must allocate sufficient resources and appropriate expertise to the Contract.
- 3.3.5 The Supplier must take all reasonable care to ensure performance does not disrupt the Buyer's operations, employees or other contractors.
- 3.3.6 The Supplier must ensure all Services, and anything used to Deliver the Services, are of good quality and free from defects.
- 3.3.7 The Buyer is entitled to withhold payment for partially or undelivered Services, but doing so does not stop it from using its other rights under the Contract.

## 4. Pricing and payments

- 4.1 In exchange for the Deliverables, the Supplier must invoice the Buyer for the Charges in the Award Form.
- 4.2 All Charges:
  - 4.2.1 exclude VAT, which is payable on provision of a valid VAT invoice; and
  - 4.2.2 include all costs connected with the Supply of Deliverables.
- 4.3 The Buyer must pay the Supplier the Charges within 30 days of receipt by the Buyer of a valid, undisputed invoice, in cleared funds using the payment method and details stated in the Award Form.
- 4.4 A Supplier invoice is only valid if it:
  - 4.4.1 includes all appropriate references including the Contract reference number and other details reasonably requested by the Buyer; and

4.4.2 includes a detailed breakdown of Delivered Deliverables and Milestone(s) (if any).

- 4.5 The Buyer may retain or set-off payment of any amount owed to it by the Supplier under this Contract or any other agreement between the Supplier and the Buyer if notice and reasons are provided.
- 4.6 The Supplier must ensure that all Subcontractors are paid, in full, within 30 days of receipt of a valid, undisputed invoice. If this does not happen, the Buyer can publish the details of the late payment or non-payment.
- 4.7 The Supplier has no right of set-off, counterclaim, discount or abatement unless they're ordered to do so by a court.

## 5. The buyer's obligations to the supplier

- 5.1 If Supplier Non-Performance arises from a Buyer Cause:
  - 5.1.1 the Buyer cannot terminate the Contract under Clause 14.4.1;
  - 5.1.2 the Supplier is entitled to reasonable and proven additional expenses and to relief from Delay Payments, liability and Deduction under this Contract;
  - 5.1.3 the Supplier is entitled to additional time needed to make the Delivery;
  - 5.1.4 the Supplier cannot suspend the ongoing supply of Deliverables.
- 5.2 Clause 5.1 **Error! Reference source not found.** only applies if the Supplier:
  - 5.2.1 gives notice to the Buyer of the Buyer Cause within 10 Working Days of becoming aware;
  - 5.2.2 demonstrates that the Supplier Non-Performance only happened because of the Buyer Cause; and
  - 5.2.3 mitigated the impact of the Buyer Cause.

## 6. Record keeping and reporting

- 6.1 The Supplier must attend Progress Meetings with the Buyer and provide Progress Reports when specified in the Award Form.
- 6.2 The Supplier must keep and maintain full and accurate records and accounts in respect of the Contract during the Contract Period and for 7 years after the End Date and in accordance with the UK GDPR or the EU GDPR as the context requires, including the records and accounts which the Buyer has a right to Audit.
- 6.3 Where the Award Form states that the Financial Transparency Objectives apply, the Supplier must co-operate with the Buyer to achieve the Financial Transparency Objectives and, to this end, will provide a Financial Report to the Buyer:

- 6.3.1 on or before the Start Date;
  - 6.3.2 at the end of each Contract Year; and
  - 6.3.3 within 6 Months of the end of the Contract Period,
- and the Supplier must meet with the Buyer if requested within 10 Working Days of the Buyer receiving a Financial Report.

6.4 If the Supplier becomes aware of an event that has occurred or is likely to occur in the future which will have a material effect on the:

- 6.4.1 Supplier's currently incurred or forecast future Costs; and
- 6.4.2 forecast Charges for the remainder of the Contract,

then the Supplier must notify the Buyer in writing as soon as practicable setting out the actual or anticipated effect of the event.

6.5 The Supplier must allow any Auditor access to their premises and the Buyer will use reasonable endeavours to ensure that any Auditor:

- 6.5.1 complies with the Supplier's operating procedures; and
- 6.5.2 does not unreasonably disrupt the Supplier or its provision of the Deliverables.

6.6 During an Audit, the Supplier must provide information to the Auditor and reasonable co-operation at their request including access to:

- 6.6.1 all information within the permitted scope of the Audit;
- 6.6.2 any Sites, equipment and the Supplier's ICT system used in the performance of the Contract; and
- 6.6.3 the Supplier Staff.

6.7 The Parties will bear their own costs when an Audit is undertaken unless the Audit identifies a material Default by the Supplier, in which case the Supplier will repay the Buyer's reasonable costs in connection with the Audit.

6.8 The Supplier must comply with the Buyer's reasonable instructions following an Audit, including:

- 6.8.1 correcting any identified Default;
- 6.8.2 rectifying any error identified in a Financial Report; and
- 6.8.3 repaying any Charges that the Buyer has overpaid.

6.9 If the Supplier is not providing any of the Deliverables, or is unable to provide them, it must immediately:

- 6.9.1 tell the Buyer and give reasons;
- 6.9.2 propose corrective action; and



6.9.3 provide a deadline for completing the corrective action.

6.10 Except where an Audit is imposed on the Buyer by a regulatory body or where the Buyer has reasonable grounds for believing that the Supplier has not complied with its obligations under this Contract, the Buyer may not conduct an Audit of the Supplier or of the same Key Subcontractor more than twice in any Contract Year.

## **7. Supplier staff**

- 7.1 The Supplier Staff involved in the performance of the Contract must:
  - 7.1.1 be appropriately trained and qualified;
  - 7.1.2 be vetted using Good Industry Practice and the Security Policy; and
  - 7.1.3 comply with all conduct requirements when on the Buyer's Premises.
- 7.2 Where the Buyer decides one of the Supplier's Staff is not suitable to work on the Contract, the Supplier must replace them with a suitably qualified alternative.
- 7.3 If requested, the Supplier must replace any person whose acts or omissions have caused the Supplier to breach Clauses 31.1 to 31.4.
- 7.4 The Supplier must provide a list of Supplier Staff needing to access the Buyer's Premises and say why access is required.
- 7.5 The Supplier indemnifies the Buyer against all claims brought by any person employed by the Supplier caused by an act or omission of the Supplier or any Supplier Staff.

## **8. Supply chain**

### **8.1 Appointing Subcontractors**

8.1.1 The Supplier must exercise due skill and care when it selects and appoints Subcontractors to ensure that the Supplier is able to:

- a) manage Subcontractors in accordance with Good Industry Practice;
- b) comply with its obligations under this Contract; and
- c) assign, novate or transfer its rights and/or obligations under the Sub-Contract that relate exclusively to this Contract to the Buyer or a Replacement Supplier.

### **8.2 Mandatory provisions in Sub-Contracts**

8.2.1 The Supplier will ensure that all Sub-Contracts in the Supplier's supply chain entered into after the Effective Date wholly or substantially for the

purpose of performing or contributing to the performance of the whole or any part of this Contract contain provisions that:

- a) allow the Supplier to terminate the Sub-Contract if the Subcontractor fails to comply with its obligations in respect of environmental, social, equality or employment Law;
- b) require the Supplier to pay all Subcontractors in full, within 30 days of receiving a valid, undisputed invoice; and
- c) allow the Buyer to publish the details of the late payment or nonpayment if this 30-day limit is exceeded.

8.2.2 The Supplier will take reasonable endeavours to ensure that all Sub-Contracts in the Supplier's supply chain entered into before the Effective Date but made wholly or substantially for the purpose of performing or contributing to the performance of the whole or any part of this Contract contain provisions that:

- a) allow the Supplier to terminate the Sub-Contract if the Subcontractor fails to comply with its obligations in respect of environmental, social, equality or employment Law;
- b) require the Supplier to pay all Subcontractors in full, within 30 days of receiving a valid, undisputed invoice; and
- c) allow the Buyer to publish the details of the late payment or nonpayment if this 30-day limit is exceeded.

### **8.3 When Sub-Contracts can be ended**

8.3.1 At the Buyer's request, the Supplier must terminate any Sub-Contracts in any of the following events:

- a) there is a Change of Control of a Subcontractor which isn't pre-approved by the Buyer in writing;
- b) the acts or omissions of the Subcontractor have caused or materially contributed to a right of termination under Clause 14.4;
- c) a Subcontractor or its Affiliates embarrasses or brings into disrepute or diminishes the public trust in the Buyer;
- d) the Subcontractor fails to comply with its obligations in respect of environmental, social, equality or employment Law; and/or
- e) the Buyer has found grounds to exclude the Subcontractor in accordance with Regulation 57 of the Public Contracts Regulations 2015.

### **8.4 Competitive terms**

8.4.1 If the Buyer can get more favourable commercial terms for the supply at cost of any materials, goods or services used by the Supplier to provide the Deliverables and that cost is reimbursable by the Buyer, then the

8.4.2 If the Buyer uses Clause 8.4.1 **Error! Reference source not found.** then the Charges must be reduced by an agreed amount by using the Variation Procedure.

8.5.1 The Supplier is responsible for all acts and omissions of its Subcontractors and those employed or engaged by them as if they were its own.

9.1 The Supplier warrants and represents that:

- 9.1.1 it has full capacity and authority to enter into and to perform the Contract;
- 9.1.2 the Contract is executed by its authorised representative;
- 9.1.3 it is a legally valid and existing organisation incorporated in the place it was formed;
- 9.1.4 there are no known legal or regulatory actions or investigations before any court, administrative body or arbitration tribunal pending or threatened against it or its Affiliates that might affect its ability to perform the Contract;
- 9.1.5 all necessary rights, authorisations, licences and consents (including in relation to IPRs) are in place to enable the Supplier to perform its obligations under the Contract and for the Buyer to receive the Deliverables;
- 9.1.6 it doesn't have any contractual obligations which are likely to have a material adverse effect on its ability to perform the Contract;
- 9.1.7 it is not impacted by an Insolvency Event or a Financial Distress Event; and
- 9.1.8 neither it nor, to the best of its knowledge the Supplier Staff, have committed a Prohibited Act prior to the Start Date or been subject to an investigation relating to a Prohibited Act.

9.2 The warranties and representations in Clauses 2.7 and 9.1 are repeated each time the Supplier provides Deliverables under the Contract.



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- 9.3 The Supplier indemnifies the Buyer against each of the following:
  - 9.3.1 wilful misconduct of the Supplier, Subcontractor and Supplier Staff that impacts the Contract; and
  - 9.3.2 non-payment by the Supplier of any tax or National Insurance.
- 9.4 All claims indemnified under this Contract must use Clause 30.
- 9.5 The Buyer can terminate the Contract for breach of any warranty or indemnity where they are entitled to do so.
- 9.6 If the Supplier becomes aware of a representation or warranty that becomes untrue or misleading, it must immediately notify the Buyer.
- 9.7 All third party warranties and indemnities covering the Deliverables must be assigned for the Buyer's benefit by the Supplier.

## 10. Intellectual Property Rights (IPRs)

- 10.1 The Parties agree that the terms set out in Schedule 36 (Intellectual Property Rights) shall apply to this Contract.
- 10.2 If there is an IPR Claim, the Supplier indemnifies the Buyer against all losses, damages, costs or expenses (including professional fees and fines) incurred as a result.
- 10.3 If an IPR Claim is made or anticipated the Supplier must at its own expense and the Buyer's sole option, either:
  - 10.3.1 obtain for the Buyer the rights to continue using the relevant item without infringing any third party IPR; or
  - 10.3.2 replace or modify the relevant item with substitutes that don't infringe IPR without adversely affecting the functionality or performance of the Deliverables.
- 10.4 If the Buyer requires that the Supplier procures a licence in accordance with Schedule 36 or to modify or replace an item pursuant to Schedule 36, but this has not avoided or resolved the IPR Claim, then the Buyer may terminate this Contract by written notice with immediate effect.

## 11. Rectifying issues

- 11.1 If there is a Notifiable Default, the Supplier must notify the Buyer within 3 Working Days of the Supplier becoming aware of the Notifiable Default and the Buyer may request that the Supplier provide a Rectification Plan within 10

Working Days of the Buyer's request alongside any additional documentation that the Buyer requires.

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11.2 When the Buyer receives a requested Rectification Plan it can either:

11.2.1 reject the Rectification Plan or revised Rectification Plan  
giving reasons; or

11.2.2 accept the Rectification Plan or revised Rectification Plan (without  
limiting its rights) in which case the Supplier must immediately  
start work on the actions in the Rectification Plan at its own cost.

11.3 Where the Rectification Plan or revised Rectification Plan is rejected, the Buyer:

11.3.1 will give reasonable grounds for its decision; and

11.3.2 may request that the Supplier provides a revised  
Rectification Plan within 5 Working Days.

## 12. Escalating issues

12.1 If the Supplier fails to:

12.1.1 submit a Rectification Plan or a revised Rectification Plan  
within the timescales set out in Clauses 11.1 or 11.3; and

12.1.2 adhere to the timescales set out in an accepted Rectification  
Plan to resolve the Notifiable Default.

or if the Buyer otherwise rejects a Rectification Plan, the Buyer can require  
the Supplier to attend an Escalation Meeting on not less than 5 Working Days'  
notice. The Buyer will determine the location, time and duration of the  
Escalation Meeting(s) and the Supplier must ensure that the Supplier  
Authorised Representative is available to attend.

12.2 The Escalation Meeting(s) will continue until the Buyer is satisfied that the  
Notifiable Default has been resolved, however, where an Escalation Meeting(s)  
has continued for more than 5 Working Days, either Party may treat the matter  
as a Dispute to be handled through the Dispute Resolution Procedure.

12.3 If the Supplier is in Default of any of its obligations under this Clause 12, the  
Buyer shall be entitled to terminate this Agreement and the  
consequences of termination set out in Clause 14.5.1 shall apply as if the  
contract were terminated under Clause 14.4.1.

## 13. Step-in rights

13.1 If a Step-In Trigger Event occurs, the Buyer may give notice to the Supplier that  
it will be taking action in accordance with this Clause 13.1 and setting out:

13.1.1 whether it will be taking action itself or with the assistance of a third party;



- 13.1.2 what Required Action the Buyer will take during the Step-In Process;
  - 13.1.3 when the Required Action will begin and how long it will continue for;
  - 13.1.4 whether the Buyer will require access to the Sites; and
  - 13.1.5 what impact the Buyer anticipates that the Required Action will have on the Supplier's obligations to provide the Deliverables.
- 13.2 For as long as the Required Action is taking place:
  - 13.2.1 the Supplier will not have to provide the Deliverables that are the subject of the Required Action;
  - 13.2.2 no Deductions will be applicable in respect of Charges relating to the Deliverables that are the subject of the Required Action; and
  - 13.2.3 the Buyer will pay the Charges to the Supplier after subtracting any applicable Deductions and the Buyer's costs of taking the Required Action.
- 13.3 The Buyer will give notice to the Supplier before it ceases to exercise its rights under the Step-In Process and within 20 Working Days of this notice the Supplier will develop a draft Step-Out Plan for the Buyer to approve.
- 13.4 If the Buyer does not approve the draft Step-Out Plan, the Buyer will give reasons and the Supplier will revise the draft Step-Out Plan and re-submit it for approval.
- 13.5 The Supplier shall bear its own costs in connection with any step-in by the Buyer under this Clause 13, provided that the Buyer shall reimburse the Supplier's reasonable additional expenses incurred directly as a result of any step-in action taken by the Buyer under:
  - 13.5.1 limbs (f) or (g) of the definition of a Step-In Trigger Event; or
  - 13.5.2 limbs (h) and (i) of the definition of a Step-in Trigger Event (insofar as the primary cause of the Buyer serving a notice under Clause 13.1 is identified as not being the result of the Supplier's Default).

## 14. Ending the contract

- 14.1 The Contract takes effect on the Start Date and ends on the End Date or earlier if terminated under this Clause 14 or if required by Law.
- 14.2 The Buyer can extend the Contract for the Extension Period by giving the Supplier written notice before the Contract expires as described in the Award Form.



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[Subject to Contract]

#### 14.3 Ending the contract without a reason

The Buyer has the right to terminate the Contract at any time without reason or (unless the Award Form states something different) liability by giving the Supplier not less than 90 days' notice (unless a different notice period is set out in the Award Form) and if it's terminated Clauses 14.5.1b) to 14.5.1h) applies.

#### 14.4 When the Buyer can end the Contract

14.4.1 If any of the following events happen, the Buyer has the right to immediately terminate the Contract by issuing a Termination Notice to the Supplier:

- a) there's a Supplier Insolvency Event;
- b) the Supplier fails to notify the Buyer in writing of any Occasion of Tax Non-Compliance
- c) there's a Notifiable Default that is not corrected in line with an accepted Rectification Plan;
- d) the Buyer rejects a Rectification Plan or the Supplier does not provide it within 10 days of the request;
- e) there's any material Default of the Contract;
- f) a Default that occurs and then continues to occur on one or more occasions within 6 Months following the Buyer serving a warning notice on the Supplier that it may terminate for persistent breach of the Contract;
- g) there's any material Default of any Joint Controller Agreement relating to the Contract;
- h) there's a Default of Clauses 2.7, 10, 12, 18, 19, 31, 36, Schedule 19 (Cyber Essentials) (where applicable) or Schedule 36 (Intellectual Property Rights) relating to the Contract;
- i) the performance of the Supplier causes a Critical Service Level Failure to occur;
- j) there's a consistent repeated failure to meet the Service Levels in Schedule 10 (Service Levels);
- k) there's a Change of Control of the Supplier which isn't pre-approved by the Buyer in writing;
- l) the Buyer discovers that the Supplier was in one of the situations in 57 (1) or 57(2) of the Regulations at the time the Contract was awarded;
- m) the Supplier or its Affiliates embarrass or bring the Buyer into disrepute or diminish the public trust in them; or
- n) the Supplier fails to comply with its legal obligations in the fields of environmental, social, equality or employment Law when providing the Deliverables.



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[Subject to Contract]

14.4.2 The Buyer also has the right to terminate the Contract in accordance with Clauses 9.5 and 24.3, Paragraph 4.1 of Schedule 37 (Corporate Resolution Planning) (where applicable) and Paragraph 7 of Schedule 24 (Financial Difficulties) (where applicable).

14.4.3 If any of the events in 73 (1) (a) or (b) of the Regulations happen, the Buyer has the right to immediately terminate the Contract and Clauses 14.5.1b) to 14.5.1h) applies.

#### **14.5 What happens if the contract ends**

14.5.1 Where the Buyer terminates the Contract under Clauses 14.4.1 and 9.5, Paragraph 4.1 of Schedule 37 (Corporate Resolution Planning) (where applicable) or Paragraph 7 of Schedule 24 (Financial Difficulties) (where applicable). all of the following apply:

- a) The Supplier is responsible for the Buyer's reasonable costs of procuring Replacement Deliverables for the rest of the Contract Period.
- b) The Buyer's payment obligations under the terminated Contract stop immediately.
- c) Accumulated rights of the Parties are not affected.
- d) The Supplier must promptly delete or return the Government Data except where required to retain copies by Law.
- e) The Supplier must promptly return any of the Buyer's property provided under the terminated Contract.
- f) The Supplier must, at no cost to the Buyer, co-operate fully in the handover and re-procurement (including to a Replacement Supplier).
- g) The Supplier must repay to the Buyer all the Charges that it has been paid in advance for Deliverables that it has not provided as at the date of termination or expiry.
- h) The following Clauses survive the termination of the Contract: 3.2.10, 6, 7.2, 10, 15, 18, 19, 20, 21, 22, 39, 40, Schedule 36 (Intellectual Property Rights) and any Clauses and Schedules which are expressly or by implication intended to continue.

14.5.2 If either Party terminates the Contract under Clause 24.3:

- a) each party must cover its own Losses; and
- b) Clauses 14.5.1b) to 14.5.1h) applies.

#### **14.6 When the Supplier can end the contract**

14.6.1 The Supplier can issue a Reminder Notice if the Buyer does not pay an undisputed invoice on time. The Supplier can terminate the Contract if the Buyer fails to pay an undisputed invoiced sum due and worth over

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Version: v1.1  
[Subject to Contract]

10% of the total Contract Value within 30 days of the date of the Reminder Notice.

14.6.2 The Supplier also has the right to terminate the Contract in accordance with Clauses 24.3 and 27.5.

14.6.3 Where the Buyer terminates the Contract under Clause 14.3 or the Supplier terminates the Contract under Clause 14.6.1 or 27.5:

- a) the Buyer must promptly pay all outstanding Charges incurred to the Supplier;
- b) the Buyer must pay the Supplier reasonable committed and unavoidable Losses as long as the Supplier provides a fully itemised and costed schedule with evidence – the maximum value of this payment is limited to the total sum payable to the Supplier if the Contract had not been terminated; and
- c) Clauses 14.5.1d) to 14.5.1h) apply.

#### **14.7 Partially ending and suspending the contract**

14.7.1 Where the Buyer has the right to terminate the Contract it can terminate or suspend (for any period), all or part of it. If the Buyer suspends the Contract it can provide the Deliverables itself or buy them from a third party.

14.7.2 The Buyer can only partially terminate or suspend the Contract if the remaining parts of the Contract can still be used to effectively deliver the intended purpose.

14.7.3 The Parties must agree any necessary Variation required by this Clause 14.7 using the Variation Procedure, but the Supplier may not either:

- a) reject the Variation; or
- b) increase the Charges, except where the right to partial termination is under Clause 14.3.

14.7.4 The Buyer can still use other rights available, or subsequently available to it if it acts on its rights under this Clause 14.7.

## **15. How much you can be held responsible for**

15.1 Each Party's total aggregate liability in each Contract Year under the Contract (whether in tort, contract or otherwise) is no more than the greater of £5 million or 150% of the Estimated Yearly Charges unless specified otherwise in the Award Form.

15.2 Neither Party is liable to the other for:

15.2.1 any indirect Losses; and



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Version: v1.1  
[Subject to Contract]

- 15.2.2 Loss of profits, turnover, savings, business opportunities or damage to goodwill (in each case whether direct or indirect).
- 15.3 In spite of Clause 15.1, neither Party limits or excludes any of the following:
  - 15.3.1 its liability for death or personal injury caused by its negligence, or that of its employees, agents or Subcontractors;
  - 15.3.2 its liability for bribery or fraud or fraudulent misrepresentation by it or its employees; and
  - 15.3.3 any liability that cannot be excluded or limited by Law.
- 15.4 In spite of Clause 15.1, the Supplier does not limit or exclude its liability for any indemnity given under Clauses 7.5, 9.3, **Error! Reference source not found.**, 16.3 or Schedule 7 (Staff Transfer) of the Contract.
- 15.5 In spite of Clause 15.1, but subject to Clauses 15.2 and 15.3, the Supplier's total aggregate liability in each Contract Year under Clause 18.8.5 is no more than the Data Protection Liability Cap.
- 15.6 Each Party must use all reasonable endeavours to mitigate any Loss or damage which it suffers under or in connection with the Contract, including any indemnities.
- 15.7 When calculating the Supplier's liability under Clause 15.1 the following items will not be taken into consideration:
  - 15.7.1 Deductions; and
  - 15.7.2 any items specified in Clause 15.4.
- 15.8 If more than one Supplier is party to the Contract, each Supplier Party is fully responsible for both their own liabilities and the liabilities of the other Suppliers.

## 16. Obeying the law

- 16.1 The Supplier shall comply with the provisions of Schedule 26 (Sustainability).
- 16.2 The Supplier shall comply with the provisions of:
  - 16.2.1 the Official Secrets Acts 1911 to 1989; and
  - 16.2.2 section 182 of the Finance Act 1989.
- 16.3 The Supplier indemnifies the Buyer against any costs resulting from any Default by the Supplier relating to any applicable Law.
- 16.4 The Supplier must appoint a Compliance Officer who must be responsible for ensuring that the Supplier complies with Law, Clause 16.1 and Clauses 31 to 36.



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Version: v1.1  
[Subject to Contract]

## 17. Insurance

The Supplier must, at its own cost, obtain and maintain the Required Insurances in Schedule 22 (Insurance Requirements).

## 18. Data protection

18.1 The Supplier must process Personal Data and ensure that Supplier Staff process Personal Data only in accordance with Schedule 20 (Processing Data).

18.2 The Supplier must not remove any ownership or security notices in or relating to the Government Data.

18.3 The Supplier must make accessible back-ups of all Government Data, stored in an agreed off-site location and send the Buyer copies every 6 Months.

18.4 The Supplier must ensure that any Supplier system holding any Government Data, including back-up data, is a secure system that complies with the Security Policy and any applicable Security Management Plan.

18.5 If at any time the Supplier suspects or has reason to believe that the Government Data is corrupted, lost or sufficiently degraded, then the Supplier must immediately notify the Buyer and suggest remedial action.

18.6 If the Government Data is corrupted, lost or sufficiently degraded so as to be unusable the Buyer may either or both:

18.6.1 tell the Supplier to restore or get restored Government Data as soon as practical but no later than 5 Working Days from the date that the Buyer receives notice, or the Supplier finds out about the issue, whichever is earlier; and

18.6.2 restore the Government Data itself or using a third party.

18.7 The Supplier must pay each Party's reasonable costs of complying with Clause 18.6 unless the Buyer is entirely at fault.

18.8 The Supplier:

18.8.1 must provide the Buyer with all Government Data in an agreed open format within 10 Working Days of a written request;

18.8.2 must have documented processes to guarantee prompt availability of Government Data if the Supplier stops trading;

18.8.3 must securely destroy all Storage Media that has held Government Data at the end of life of that media using Good Industry Practice;

18.8.4 securely erase all Government Data and any copies it holds when asked to do so by the Buyer unless required by Law to retain it; and

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Version: v1.1  
[Subject to Contract]

18.8.5 indemnifies the Buyer against any and all Losses incurred if the Supplier breaches Clause 18 or any Data Protection Legislation.

## 19. What you must keep confidential

19.1 Each Party must:

- 19.1.1 keep all Confidential Information it receives confidential and secure;
- 19.1.2 not disclose, use or exploit the Disclosing Party's Confidential Information without the Disclosing Party's prior written consent, except for the purposes anticipated under the Contract; and
- 19.1.3 immediately notify the Disclosing Party if it suspects unauthorised access, copying, use or disclosure of the Confidential Information.

19.2 In spite of Clause 19.1, a Party may disclose Confidential Information which it receives from the Disclosing Party in any of the following instances:

- 19.2.1 where disclosure is required by applicable Law, a regulatory body or a court with the relevant jurisdiction if the Recipient Party notifies the Disclosing Party of the full circumstances, the affected Confidential Information and extent of the disclosure;
- 19.2.2 if the Recipient Party already had the information without obligation of confidentiality before it was disclosed by the Disclosing Party;
- 19.2.3 if the information was given to it by a third party without obligation of confidentiality;
- 19.2.4 if the information was in the public domain at the time of the disclosure;
- 19.2.5 if the information was independently developed without access to the Disclosing Party's Confidential Information;
- 19.2.6 on a confidential basis, to its auditors or for the purpose of regulatory requirements;
- 19.2.7 on a confidential basis, to its professional advisers on a need-to-know basis; and
- 19.2.8 to the Serious Fraud Office where the Recipient Party has reasonable grounds to believe that the Disclosing Party is involved in activity that may be a criminal offence under the Bribery Act 2010.

19.3 The Supplier may disclose Confidential Information on a confidential basis to Supplier Staff on a need-to-know basis to allow the Supplier to meet its obligations under the Contract. The Supplier Staff must enter into a direct confidentiality agreement with the Buyer at its request.



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Version: v1.1  
[Subject to Contract]

19.4 The Buyer may disclose Confidential Information in any of the following cases:

- 19.4.1 on a confidential basis to the employees, agents, consultants and contractors of the Buyer;
- 19.4.2 on a confidential basis to any other Central Government Body, any successor body to a Central Government Body or any company that the Buyer transfers or proposes to transfer all or any part of its business to;
- 19.4.3 if the Buyer (acting reasonably) considers disclosure necessary or appropriate to carry out its public functions;
- 19.4.4 where requested by Parliament; and
- 19.4.5 under Clauses 4.6 and 20.

19.5 For the purposes of Clauses 19.2 to 19.4 references to disclosure on a confidential basis means disclosure under a confidentiality agreement or arrangement including terms as strict as those required in Clause 19.

19.6 Transparency Information and any Information which is exempt from disclosure by Clause 20 is not Confidential Information.

19.7 The Supplier must not make any press announcement or publicise the Contracts or any part of them in any way, without the prior written consent of the Buyer and must use all reasonable endeavours to ensure that Supplier Staff do not either.

## 20. When you can share information

20.1 The Supplier must tell the Buyer within 48 hours if it receives a Request For Information.

20.2 In accordance with a reasonable timetable and in any event within 5 Working Days of a request from the Buyer, the Supplier must give the Buyer full cooperation and information needed so the Buyer can:

- 20.2.1 publish the Transparency Information;
- 20.2.2 comply with any Freedom of Information Act (FOIA) request; and
- 20.2.3 comply with any Environmental Information Regulations (EIR) request.

20.3 To the extent that it is allowed and practical to do so, the Buyer will use reasonable endeavours to notify the Supplier of a FOIA request and may talk to the Supplier to help it decide whether to publish information under Clause 20.1. However, the extent, content and format of the disclosure is the Buyer's decision in its absolute discretion.





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Version: v1.1  
[Subject to Contract]

## 21. Invalid parts of the contract

- 21.1 If any part of the Contract is prohibited by Law or judged by a court to be unlawful, void or unenforceable, it must be read as if it was removed from the Contract as much as required and rendered ineffective as far as possible without affecting the rest of the Contract, whether it's valid or enforceable.
- 21.2 If any removal under Clause 21.1 is so fundamental that it prevents the purpose of the Contract from being achieved or it materially changes the balance of risk and rewards between the Parties, either Party may give notice to the other Party requiring the Parties to commence good faith negotiations to rectify these issues and to amend the Contract accordingly so that, as amended, it is valid and enforceable, preserves the balance of risks and rewards in this Contract and, to the extent that it is reasonably possible, achieves the Parties' original commercial intention.
- 21.3 If the Parties cannot agree on what amendments are required within 5 Working Days, the matter will be dealt with via commercial negotiation as set out in Clause **Error! Reference source not found.** and, if there is no resolution within 30 Working Days of the matter being referred, the Contract will terminate automatically and immediately with costs lying where they fall.

## 22. No other terms apply

The provisions incorporated into the Contract are the entire agreement between the Parties. The Contract replaces all previous statements, or agreements whether written or oral. No other provisions apply.

## 23. Other people's rights in the Contract

No third parties may use the Contracts (Rights of Third Parties) Act (CRTPA) to enforce any term of the Contract unless stated (referring to CRTPA) in the Contract. This does not affect third party rights and remedies that exist independently from CRTPA.

## 24. Circumstances beyond your control

- 24.1 Any Party affected by a Force Majeure Event is excused from performing its obligations under the Contract while the inability to perform continues, if it both:
- 24.1.1 provides a Force Majeure Notice to the other Party; and
  - 24.1.2 uses all reasonable measures practical to reduce the impact of the Force Majeure Event.

24.2 Any failure or delay by the Supplier to perform its obligations under this Contract that is due to a failure or delay by an agent, Subcontractor or supplier will only

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Version: v1.1  
[Subject to Contract]

be considered a Force Majeure Event if that third party is itself prevented from complying with an obligation to the Supplier due to a Force Majeure Event.

24.3 Either party can partially or fully terminate the Contract if the provision of the Deliverables is materially affected by a Force Majeure Event which lasts for 90 days continuously.

## 25. Relationships created by the contract

The Contract does not create a partnership, joint venture or employment relationship. The Supplier must represent themselves accordingly and ensure others do so.

## 26. Giving up contract rights

A partial or full waiver or relaxation of the terms of the Contract is only valid if it is stated to be a waiver in writing to the other Party.

## 27. Transferring responsibilities

27.1 The Supplier cannot assign, novate or in any other way dispose of the Contract or any part of it without the Buyer's written consent.

27.2 Subject to Schedule 27 (Key Subcontractors), the Supplier cannot sub-contract the Contract or any part of it without the Buyer's prior written consent. The Supplier shall provide the Buyer with information about the Subcontractor as it reasonably requests. The decision of the Buyer to consent or not will not be unreasonably withheld or delayed. If the Buyer does not communicate a decision to the Supplier within 10 Working Days of the request for consent then its consent will be deemed to have been given. The Buyer may reasonably withhold its consent to the appointment of a Subcontractor if it considers that:

27.2.1 the appointment of a proposed Subcontractor may prejudice the provision of the Deliverables or may be contrary to its interests;

27.2.2 the proposed Subcontractor is unreliable and/or has not provided reliable goods and or reasonable services to its other customers; and/or

27.2.3 the proposed Subcontractor employs unfit persons

27.3 The Buyer can assign, novate or transfer its Contract or any part of it to any Crown Body, public or private sector body which performs the functions of the Buyer.

27.4 When the Buyer uses its rights under Clause 27.3 the Supplier must enter into a novation agreement in the form that the Buyer specifies.

27.5 The Supplier can terminate the Contract novated under Clause 27.3 to a private sector body that is experiencing an Insolvency Event.

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Version: v1.1  
[Subject to Contract]

27.6 The Supplier remains responsible for all acts and omissions of the Supplier Staff as if they were its own.

27.7 If at any time the Buyer asks the Supplier for details about Subcontractors, the Supplier must provide details of Subcontractors at all levels of the supply chain including:

27.7.1 their name;

27.7.2 the scope of their appointment;

27.7.3 the duration of their appointment; and

27.7.4 a copy of the Sub-Contract.

## 28. Changing the contract

28.1 Either Party can request a Variation to the Contract which is only effective if agreed in writing, including where it is set out in the Variation Form, and signed by both Parties.

28.2 The Supplier must provide an Impact Assessment either:

28.2.1 with the Variation Form, where the Supplier requests the Variation; and

28.2.2 within the time limits included in a Variation Form requested by the Buyer.

28.3 If the Variation to the Contract cannot be agreed or resolved by the Parties, the Buyer can either:

28.3.1 agree that the Contract continues without the Variation; and

28.3.2 refer the Dispute to be resolved using Clause 39 (Resolving Disputes).

28.4 The Buyer is not required to accept a Variation request made by the Supplier. 28.5

The Supplier may only reject a Variation requested by the Buyer if the Supplier:

28.5.1 reasonably believes that the Variation would materially and adversely affect the risks to the health and safety of any person or that it would result in the Deliverables being provided in a way that infringes any Law; or

28.5.2 demonstrates to the Buyer's reasonable satisfaction that the Variation is technically impossible to implement and that neither the Tender nor the Specification state that the Supplier has the required technical capacity or flexibility to implement the Variation.

28.6 If there is a General Change in Law, the Supplier must bear the risk of the change and is not entitled to ask for an increase to the Charges.



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Version: v1.1  
[Subject to Contract]

28.7 If there is a Specific Change in Law or one is likely to happen during the Contract Period the Supplier must give the Buyer notice of the likely effects of the changes as soon as reasonably practical. They must also say if they think any Variation is needed either to the Deliverables, the Charges or the Contract and provide evidence:

28.7.1 that the Supplier has kept costs as low as possible, including in Subcontractor costs; and

28.7.2 of how it has affected the Supplier's costs.

28.8 Any change in the Charges or relief from the Supplier's obligations because of a Specific Change in Law must be implemented using Clauses 28.1 to 28.4.

## **29. How to communicate about the contract**

29.1 All notices under the Contract must be in writing and are considered effective on the Working Day of delivery as long as they're delivered before 5:00pm on a Working Day. Otherwise the notice is effective on the next Working Day. An email is effective at 9am on the first Working Day after sending unless an error message is received.

29.2 Notices to the Buyer must be sent to the Buyer Authorised Representative's address or email address in the Award Form.

29.3 This Clause does not apply to the service of legal proceedings or any documents in any legal action, arbitration or dispute resolution.

## **30. Dealing with claims**

30.1 If a Beneficiary is notified of a Claim then it must notify the Indemnifier as soon as reasonably practical and no later than 10 Working Days.

30.2 At the Indemnifier's cost the Beneficiary must both:

30.2.1 allow the Indemnifier to conduct all negotiations and proceedings to do with a Claim; and

30.2.2 give the Indemnifier reasonable assistance with the claim if requested.

30.3 The Beneficiary must not make admissions about the Claim without the prior written consent of the Indemnifier which cannot be unreasonably withheld or delayed.

30.4 The Indemnifier must consider and defend the Claim diligently using competent legal advisors and in a way that doesn't damage the Beneficiary's reputation.

30.5 The Indemnifier must not settle or compromise any Claim without the Beneficiary's prior written consent which it must not unreasonably withhold or delay.



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Version: v1.1  
[Subject to Contract]

30.6 Each Beneficiary must use all reasonable endeavours to minimise and mitigate any losses that it suffers because of the Claim.

30.7 If the Indemnifier pays the Beneficiary money under an indemnity and the Beneficiary later recovers money which is directly related to the Claim, the Beneficiary must immediately repay the Indemnifier the lesser of either:

30.7.1 the sum recovered minus any legitimate amount spent by the Beneficiary when recovering this money; and

30.7.2 the amount the Indemnifier paid the Beneficiary for the Claim.

## 31. Preventing fraud, bribery and corruption

31.1 The Supplier must not during the Contract Period:

31.1.1 commit a Prohibited Act or any other criminal offence in the Regulations 57(1) and 57(2);

31.1.2 do or allow anything which would cause the Buyer, including any of their employees, consultants, contractors, Subcontractors or agents to breach any of the Relevant Requirements or incur any liability under them.

31.2 The Supplier must during the Contract Period:

31.2.1 create, maintain and enforce adequate policies and procedures to ensure it complies with the Relevant Requirements to prevent a Prohibited Act and require its Subcontractors to do the same;

31.2.2 keep full records to show it has complied with its obligations under this Clause 31 and give copies to the Buyer on request; and

31.2.3 if required by the Buyer, within 20 Working Days of the Start Date of the Contract, and then annually, certify in writing to the Buyer, that they have complied with this Clause 31, including compliance of Supplier Staff, and provide reasonable supporting evidence of this on request, including its policies and procedures.

31.3 The Supplier must immediately notify the Buyer if it becomes aware of any breach of Clauses 31.1 or has any reason to think that it, or any of the Supplier Staff, have either:

31.3.1 been investigated or prosecuted for an alleged Prohibited Act;

31.3.2 been debarred, suspended, proposed for suspension or debarment, or are otherwise ineligible to take part in procurement programmes or contracts because of a Prohibited Act by any government department or agency;

31.3.3 received a request or demand for any undue financial or other  
advantage of any kind related to the Contract; and

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Version: v1.1  
[Subject to Contract]

31.3.4 suspected that any person or Party directly or indirectly related to the Contract has committed or attempted to commit a Prohibited Act.

31.4 If the Supplier notifies the Buyer as required by Clause 31.3, the Supplier must respond promptly to their further enquiries, co-operate with any investigation and allow the Audit of any books, records and relevant documentation.

31.5 If the Supplier is in Default under Clause 31.1 the Buyer may:

31.5.1 require the Supplier to remove any Supplier Staff from providing the Deliverables if their acts or omissions have caused the Default; and

31.5.2 immediately terminate this agreement.

31.6 In any notice the Supplier gives under Clause 31.4 it must specify the:

31.6.1 Prohibited Act;

31.6.2 identity of the Party who it thinks has committed the Prohibited Act; and

31.6.3 action it has decided to take.

## **32. Equality, diversity and human rights**

32.1 The Supplier must follow all applicable equality Law when they perform their obligations under the Contract, including:

32.1.1 protections against discrimination on the grounds of race, sex, gender reassignment, religion or belief, disability, sexual orientation, pregnancy, maternity, age or otherwise; and

32.1.2 any other requirements and instructions which the Buyer reasonably imposes related to equality Law.

32.2 The Supplier must use all reasonable endeavours, and inform the Buyer of the steps taken, to prevent anything that is considered to be unlawful discrimination by any court or tribunal, or the Equality and Human Rights Commission (or any successor organisation) when working on the Contract.

## **33. Health and safety**

33.1 The Supplier must perform its obligations meeting the requirements

of: 33.1.1 all applicable Law regarding health and safety; and

33.1.2 the Buyer's current health and safety policy while at the Buyer's Premises, as provided to the Supplier.



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Version: v1.1  
[Subject to Contract]

33.2 The Supplier must as soon as possible notify the other of any health and safety incidents or material hazards they're aware of at the Buyer Premises that relate to the performance of the Contract.

## 34. Environment

34.1 When working on Site the Supplier must perform its obligations under the Buyer's current Environmental Policy, which the Buyer must provide.

34.2 The Supplier must ensure that Supplier Staff are aware of the Buyer's Environmental Policy.

## 35. Tax

35.1 The Supplier must not breach any tax or social security obligations and must enter into a binding agreement to pay any late contributions due, including where applicable, any interest or any fines. The Buyer cannot terminate the Contract where the Supplier has not paid a minor tax or social security contribution.

35.2 Where the Charges payable under the Contract are or are likely to exceed £5 million at any point during the relevant Contract Period, and an Occasion of Tax Non-Compliance occurs, the Supplier must notify the Buyer of it within 5 Working Days including:

35.2.1 the steps that the Supplier is taking to address the Occasion of Tax Non-Compliance and any mitigating factors that it considers relevant; and

35.2.2 other information relating to the Occasion of Tax Non-Compliance that the Buyer may reasonably need.

35.3 Where the Supplier or any Supplier Staff are liable to be taxed or to pay National Insurance contributions in the UK relating to payment received under the Contract, the Supplier must both:

35.3.1 comply with the Income Tax (Earnings and Pensions) Act 2003 and all other statutes and regulations relating to income tax, the Social Security Contributions and Benefits Act 1992 (including IR35) and National Insurance contributions; and

35.3.2 indemnify the Buyer against any Income Tax, National Insurance and social security contributions and any other liability, deduction, contribution, assessment or claim arising from or made during or after the Contract Period in connection with the provision of the Deliverables by the Supplier or any of the Supplier Staff.



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[Subject to Contract]

35.4 If any of the Supplier Staff are Workers who receive payment relating to the Deliverables, then the Supplier must ensure that its contract with the Worker contains the following requirements:

35.4.1 the Buyer may, at any time during the Contract Period, request that the Worker provides information which demonstrates they comply with Clause 35.3.1, or why those requirements do not apply, the Buyer can specify the information the Worker must provide and the deadline for responding;

35.4.2 the Worker's contract may be terminated at the Buyer's request if the Worker fails to provide the information requested by the Buyer within the time specified by the Buyer;

35.4.3 the Worker's contract may be terminated at the Buyer's request if the Worker provides information which the Buyer considers isn't good enough to demonstrate how it complies with Clause 35.3.1 or confirms that the Worker is not complying with those requirements; and

35.4.4 the Buyer may supply any information they receive from the Worker to HMRC for revenue collection and management.

## 36. Conflict of interest

36.1 The Supplier must take action to ensure that neither the Supplier nor the Supplier Staff are placed in the position of an actual, potential or perceived Conflict of Interest.

36.2 The Supplier must promptly notify and provide details to the Buyer if an actual, potential or perceived Conflict of Interest happens or is expected to happen.

36.3 The Buyer will consider whether there are any appropriate measures that can be put in place to remedy an actual, perceived or potential Conflict of Interest. If, in the reasonable opinion of the Buyer, such measures do not or will not resolve an actual or potential Conflict of Interest, the Buyer may terminate its Contract immediately by giving notice in writing to the Supplier where there is or may be an actual or potential Conflict of Interest.

## 37. Reporting a breach of the contract

37.1 As soon as it is aware of it the Supplier and Supplier Staff must report to the Buyer any actual or suspected breach of:

37.1.1 Law;

37.1.2 Clause 16.1; and

### 37.1.3 Clauses 31 to 36.



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Version: v1.1  
[Subject to Contract]

37.2 The Supplier must not retaliate against any of the Supplier Staff who in good faith reports a breach listed in Clause 37.1 to the Buyer or a Prescribed Person.

## 38. Further Assurances

Each Party will, at the request and cost of the other Party, do all things which may be reasonably necessary to give effect to the meaning of this Contract.

## 39. Resolving disputes

39.1 If there is a Dispute, the senior representatives of the Parties who have authority to settle the Dispute will, within 28 days of a written request from the other Party, meet in good faith to resolve the Dispute by commercial negotiation.

39.2 If the Parties cannot resolve the Dispute via commercial negotiation, they can attempt to settle it by mediation using the Centre for Effective Dispute Resolution (CEDR) Model Mediation Procedure current at the time of the Dispute. If the Parties cannot agree on a mediator, the mediator will be nominated by CEDR. If either Party does not wish to use, or continue to use mediation, or mediation does not resolve the Dispute, the Dispute must be resolved using Clauses 39.3 to 39.5.

39.3 Unless the Buyer refers the Dispute to arbitration using Clause 39.4, the Parties irrevocably agree that the courts of England and Wales have the exclusive jurisdiction to:

39.3.1 determine the Dispute;

39.3.2 grant interim remedies; and

39.3.3 grant any other provisional or protective relief.

39.4 The Supplier agrees that the Buyer has the exclusive right to refer any Dispute to be finally resolved by arbitration under the London Court of International Arbitration Rules current at the time of the Dispute. There will be only one arbitrator. The seat or legal place of the arbitration will be London and the proceedings will be in English.

39.5 The Buyer has the right to refer a Dispute to arbitration even if the Supplier has started or has attempted to start court proceedings under Clause 39.3, unless the Buyer has agreed to the court proceedings or participated in them. Even if court proceedings have started, the Parties must do everything necessary to ensure that the court proceedings are stayed in favour of any arbitration proceedings if they are started under Clause 39.4.

39.6 The Supplier cannot suspend the performance of the Contract during any Dispute.

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Version: v1.1  
[Subject to Contract]

## 40. Which law applies

This Contract and any issues or Disputes arising out of, or connected to it,  
are governed by English law.





## **Schedule 1 (Definitions)**

### **1. Definitions**

- 1.1 In the Contract, unless the context otherwise requires, capitalised expressions shall have the meanings set out in this Schedule 1 (Definitions) or the relevant Schedule in which that capitalised expression appears.
- 1.2 If a capitalised expression does not have an interpretation in this Schedule or any other Schedule, it shall, in the first instance, be interpreted in accordance with the common interpretation within the relevant market sector/industry where appropriate. Otherwise, it shall be interpreted in accordance with the dictionary meaning.
- 1.3 In the Contract, unless the context otherwise requires:
  - 1.3.1 the singular includes the plural and vice versa;
  - 1.3.2 reference to a gender includes the other gender and the neuter;
  - 1.3.3 references to a person include an individual, company, body corporate, corporation, unincorporated association, firm, partnership or other legal entity or Crown Body;
  - 1.3.4 a reference to any Law includes a reference to that Law as amended, extended, consolidated or re-enacted from time to time;
  - 1.3.5 the words "**including**", "**other**", "**in particular**", "**for example**" and similar words shall not limit the generality of the preceding words and shall be construed as if they were immediately followed by the words "**without limitation**";
  - 1.3.6 references to "**writing**" include typing, printing, lithography, photography, display on a screen, electronic and facsimile transmission and other modes of representing or reproducing words in a visible form, and expressions referring to writing shall be construed accordingly;
  - 1.3.7 references to "**representations**" shall be construed as references to present facts, to "**warranties**" as references to present and future facts and to "**undertakings**" as references to obligations under the Contract;
  - 1.3.8 references to "**Clauses**" and "**Schedules**" are, unless otherwise provided, references to the clauses and schedules of the Core Terms and references in any Schedule to parts, paragraphs, annexes and tables are, unless otherwise provided, references to the parts, paragraphs, annexes and tables of the Schedule in which these references appear;
  - 1.3.9 references to "**Paragraphs**" are, unless otherwise provided, references to the paragraph of the appropriate Schedules unless otherwise provided; and
  - 1.3.10 references to a series of Clauses or Paragraphs shall be inclusive of the clause numbers specified.

[Subject to Contract]

**Schedule 1 (Definitions)**

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- 1.3.11 the headings in the Contract are for ease of reference only and shall not affect the interpretation or construction of the Contract; and
- 1.3.12 where the Buyer is a Crown Body it shall be treated as contracting with the Crown as a whole.
- 1.3.13 Any reference in this Contract which immediately before IP Completion Day (or such later date when relevant EU law ceases to have effect pursuant to Section 1A of the European Union (Withdrawal) Act 2018) is a reference to (as it has effect from time to time):
- (i) any EU regulation, EU decision, EU tertiary legislation or provision of the EEA agreement ("**EU References**") which is to form part of domestic law by application of Section 3 of the European Union (Withdrawal) Act 2018 and which shall be read on and after IP Completion Day as a reference to the EU References as they form part of domestic law by virtue of Section 3 of the European Union (Withdrawal) Act 2018 as modified by domestic law from time to time; and
  - (ii) any EU institution or EU authority or other such EU body shall be read on and after IP Completion Day as a reference to the UK institution, authority or body to which its functions were transferred.


1.4 In the Contract, unless the context otherwise requires, the following words shall have the following meanings:

" <b>Achieve</b> "	in respect of a Test, to successfully pass such Test without any Test Issues and in respect of a Milestone, the issue of a Satisfaction Certificate in respect of that Milestone and " <b>Achieved</b> ", " <b>Achieving</b> " and " <b>Achievement</b> " shall be construed accordingly;
" <b>Affected Party</b> "	the party seeking to claim relief in respect of a Force Majeure Event;
" <b>Affiliates</b> "	in relation to a body corporate, any other entity which directly or indirectly Controls, is Controlled by, or is under direct or indirect common Control of that body corporate from time to time;
" <b>Annex</b> "	extra information which supports a Schedule;
" <b>Approval</b> "	the prior written consent of the Buyer and " <b>Approve</b> " and " <b>Approved</b> " shall be construed accordingly;

<b>"Audit"</b>	the Buyer's right to: (a) verify the integrity and content of any Financial Report;
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- (b) verify the accuracy of the Charges and any other amounts payable by the Buyer under a Contract (including proposed or actual variations to them in accordance with the Contract);
  - (c) verify the costs of the Supplier (including the costs of all Subcontractors and any third party suppliers) in connection with the provision of the Services;
  - (d) verify the Open Book Data;
  - (e) verify the Supplier's and each Subcontractor's compliance



- (f) identify or investigate actual or suspected breach of Clauses 3 to 37 and/or Schedule 26 (Sustainability), impropriety or accounting mistakes or any breach or threatened breach of security and in these circumstances the Buyer shall have no obligation to inform the Supplier of the purpose or objective of its investigations;
- (g) identify or investigate any circumstances which may impact upon the financial stability of the Supplier, any Guarantor, and/or any Subcontractors or their ability to provide the Deliverables;
- (h) obtain such information as is necessary to fulfil the Buyer's obligations to supply information for parliamentary, ministerial, judicial or administrative purposes including the supply of information to the Comptroller and Auditor General;
- (i) review any books of account and the internal contract management accounts kept by the Supplier in connection with the Contract;
- (j) carry out the Buyer's internal and statutory audits and to prepare, examine and/or certify the Buyer's annual and interim reports and accounts;
- (k) enable the National Audit Office to carry out an examination pursuant to Section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Buyer has used its resources;

- (a) the Buyer's internal and external auditors;
- (b) the Buyer's statutory or regulatory auditors;
- (c) the Comptroller and Auditor General, their staff and/or any appointed representatives of the National Audit Office;
- (d) HM Treasury or the Cabinet Office;
- (e) any party formally appointed by the Buyer to carry out audit or similar review functions; and
- (f) successors or assigns of any of the above;

[Subject to Contract]  
**Schedule 1 (Definitions)**  
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<b>"Award Form"</b>	the document outlining the Incorporated Terms and crucial information required for the Contract, to be executed by the Supplier and the Buyer;
<b>"BACS"</b>	the Bankers' Automated Clearing Services, which is a scheme for the electronic processing of financial transactions within the United Kingdom;
<b>"Beneficiary"</b>	a Party having (or claiming to have) the benefit of an indemnity under this Contract;
<b>"Buyer"</b>	the public sector purchaser identified as such in the Order Form;
<b>"Buyer Assets"</b>	the Buyer's infrastructure, data, software, materials, assets, equipment or other property owned by and/or licensed or leased to the Buyer and which is or may be used in connection with the provision of the Deliverables which remain the property of the Buyer throughout the term of the Contract;
<b>"Buyer Authorised Representative"</b>	the representative appointed by the Buyer from time to time in relation to the Contract initially identified in the Award Form;
<b>"Buyer Cause"</b>	has the meaning given to it in the Award Form;
<b>"Buyer Data"</b>	means the data, text, drawings, diagrams, images or sounds (together with any database made up of any of these) which are embodied in any electronic, magnetic, optical or tangible media, including any Buyer's or End User's Confidential Information, and which:  (a) are supplied to the Supplier by or on behalf of the Buyer, or End User; or  (b) the Supplier is required to generate, process, store or transmit pursuant to this Contract; or  (c) any Personal Data for which the Buyer or End User is the Controller;
<b>"Buyer Premises"</b>	premises owned, controlled or occupied by the Buyer which are made available for use by the Supplier or its Subcontractors for the provision of the Deliverables (or any of them);
<b>"Buyer Third Party"</b>	means any supplier to the Buyer (other than the Supplier), which is notified to the Supplier from time to time;

<b>"Central Government Body"</b>	a body listed in one of the following sub-categories of the Central Government classification of the Public Sector Classification
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	<p>Guide, as published and amended from time to time by the Office for National Statistics:</p> <ul style="list-style-type: none"> <li>(a) Government Department;</li> <li>(b) Non-Departmental Public Body or Assembly Sponsored Public Body (advisory, executive, or tribunal);</li> <li>(c) Non-Ministerial Department; or</li> <li>(d) Executive Agency;</li> </ul>
<b>"Change in Law"</b>	any change in Law which impacts on the supply of the Deliverables and performance of the Contract which comes into force after the Start Date;
<b>"Change of Control"</b>	a change of control within the meaning of Section 450 of the Corporation Tax Act 2010;
<b>"Charges"</b>	the prices (exclusive of any applicable VAT), payable to the Supplier by the Buyer under the Contract, as set out in the Award Form, for the full and proper performance by the Supplier of its obligations under the Contract less any Deductions;
<b>"Claim"</b>	any claim which it appears that a Beneficiary is, or may become, entitled to indemnification under this Contract;
<b>"Commercially Sensitive Information"</b>	the Confidential Information listed in the Award Form (if any) comprising of commercially sensitive information relating to the Supplier, its IPR or its business or which the Supplier has indicated to the Buyer that, if disclosed by the Buyer, would cause the Supplier significant commercial disadvantage or material financial loss;
<b>"Comparable Supply"</b>	the supply of Deliverables to another Buyer of the Supplier that are the same or similar to the Deliverables;
<b>"Compliance Officer"</b>	the person(s) appointed by the Supplier who is responsible for ensuring that the Supplier complies with its legal obligations;

<b>"Confidential Information"</b>	means any information, however it is conveyed, that relates to the business, affairs, developments, trade secrets, Know-How, personnel and suppliers of the Buyer or the Supplier, including IPRs, together with information derived from the above, and any other information clearly designated as being confidential (whether or not it is marked as " <b>confidential</b> ") or which ought reasonably to be considered to be confidential;
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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<b>"Conflict of Interest"</b>	a conflict between the financial or personal duties of the Supplier or the Supplier Staff and the duties owed to the Buyer under the Contract, in the reasonable opinion of the Buyer;
<b>"Contract"</b>	the contract between the Buyer and the Supplier, which consists of the terms set out and referred to in the Award Form;
<b>"Contract Period"</b>	the term of the Contract from the earlier of the: (a) Start Date; or (b) the Effective Date (c) until the End Date;
<b>"Contract Value"</b>	the higher of the actual or expected total Charges paid or payable under the Contract where all obligations are met by the Supplier;
<b>"Contract Year"</b>	a consecutive period of twelve (12) Months commencing on the Start Date or each anniversary thereof;
<b>"Control"</b>	control in either of the senses defined in sections 450 and 1124 of the Corporation Tax Act 2010 and <b>"Controlled"</b> shall be construed accordingly;
<b>"Controller"</b>	has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;
<b>"Core Terms"</b>	the Buyer's terms and conditions which apply to and comprise one part of the Contract set out in the document called "Core Terms";

<p><b>"Costs"</b></p>	<p>the following costs (without double recovery) to the extent that they are reasonably and properly incurred by the Supplier in providing the Deliverables:</p> <ul style="list-style-type: none"> <li>(a) the cost to the Supplier or the Key Subcontractor (as the context requires), calculated per Work Day, of engaging the Supplier Staff, including: <ul style="list-style-type: none"> <li>(i) base salary paid to the Supplier Staff;</li> <li>(ii) employer's National Insurance contributions;</li> <li>(iii) pension contributions;</li> <li>(iv) car allowances;</li> <li>(v) any other contractual employment benefits;</li> <li>(vi) staff training;</li> <li>(vii) work place accommodation;</li> <li>(viii) work place IT equipment and tools reasonably necessary to provide the Deliverables (but not including items included within limb (b) below); and</li> </ul> </li> </ul>
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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	<p>(ix) reasonable recruitment costs, as agreed with the Buyer;</p> <p>(b) costs incurred in respect of Supplier Assets which would be treated as capital costs according to generally accepted accounting principles within the UK, which shall include the cost to be charged in respect of Supplier Assets by the Supplier to the Buyer or (to the extent that risk and title in any Supplier Asset is not held by the Supplier) any cost actually incurred by the Supplier in respect of those Supplier Assets;</p> <p>(c) operational costs which are not included within (a) or (b) above, to the extent that such costs are necessary and properly incurred by the Supplier in the provision of the Deliverables; and</p> <p>(d) Reimbursable Expenses to the extent these have been specified as allowable in the Award Form and are incurred in delivering any Deliverables;</p> <p>but excluding:</p> <p>(e) Overhead;</p> <p>(f) financing or similar costs;</p> <p>(g) maintenance and support costs to the extent that these relate to maintenance and/or support Deliverables provided beyond the Contract Period whether in relation to Supplier Assets or otherwise;</p> <p>(h) taxation;</p> <p>(i) fines and penalties;</p> <p>(j) amounts payable under Schedule 12 (Benchmarking) where such Schedule is used; and</p> <p>(k) non-cash items (including depreciation, amortisation, impairments and movements in provisions);</p>
<b>"Critical Service Level Failure"</b>	has the meaning given to it in the Award Form;

<b>"Crown Body"</b>	the government of the United Kingdom (including the Northern Ireland Assembly and Executive Committee, the Scottish Government and the National Assembly for Wales), including government ministers and government departments and particular bodies, persons, commissions or agencies from time to time carrying out functions on its behalf;
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<b>"Crown IPR"</b>	means any IPR which is owned by or licensed to the Crown, and which are or have been developed independently of the Contract (whether prior to the Start Date or otherwise);
<b>"CRTPA"</b>	the Contract Rights of Third Parties Act 1999;
<b>"Data Protection Impact Assessment"</b>	an assessment by the Controller of the impact of the envisaged Processing on the protection of Personal Data;
<b>"Data Protection Legislation"</b>	(i) the UK GDPR, (ii) the DPA 2018 to the extent that it relates to processing of personal data and privacy; (iii) all applicable Law about the processing of personal data and privacy; and (iv) (to the extent that it applies) the EU GDPR
<b>"Data Protection Liability Cap"</b>	has the meaning given to it in the Award Form
<b>"Data Protection Officer"</b>	has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;
<b>"Data Subject"</b>	has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;
<b>"Data Subject Access Request"</b>	a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data;
<b>"Deductions"</b>	all Service Credits, Delay Payments (if applicable), or any other deduction which the Buyer is paid or is payable to the Buyer under the Contract;
<b>"Default"</b>	any breach of the obligations of the Supplier (including abandonment of the Contract in breach of its terms) or any other default (including material default), act, omission, negligence or statement of the Supplier, of its Subcontractors or any Supplier Staff howsoever arising in connection with or in relation to the subject-matter of the Contract and in respect of which the Supplier is liable to the Buyer;
<b>"Delay Payments"</b>	the amounts (if any) payable by the Supplier to the Buyer in respect of a delay in respect of a Milestone as specified in the Implementation Plan;
<b>"Deliverables"</b>	Goods and/or Services that may be ordered under the Contract including the Documentation;



<b>"Delivery"</b>	delivery of the relevant Deliverable or Milestone in accordance with the terms of the Contract as confirmed and accepted by the Buyer by the either (a) confirmation in writing to the Supplier; or (b) where
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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	Schedule 8 (Implementation Plan and Testing) is used issue by the Buyer of a Satisfaction Certificate. <b>"Deliver"</b> and <b>"Delivered"</b> shall be construed accordingly;
<b>"Dependent Parent Undertaking"</b>	means any Parent Undertaking which provides any of its Subsidiary Undertakings and/or Associates, whether directly or indirectly, with any financial, trading, managerial or other assistance of whatever nature, without which the Supplier would be unable to continue the day to day conduct and operation of its business in the same manner as carried on at the time of entering into this Contract, including for the avoidance of doubt the provision of the Services in accordance with the terms of this Contract;
<b>"Disaster"</b>	the occurrence of one or more events which, either separately or cumulatively, mean that the Deliverables, or a material part thereof will be unavailable (or could reasonably be anticipated to be unavailable) for the period specified in the Award Form (for the purposes of this definition the <b>"Disaster Period"</b> );
<b>"Disclosing Party"</b>	the Party directly or indirectly providing Confidential Information to the other Party in accordance with Clause 19 (What you must keep confidential);
<b>"Dispute"</b>	any claim, dispute or difference (whether contractual or non-contractual) arising out of or in connection with the Contract or in connection with the negotiation, existence, legal validity, enforceability or termination of the Contract, whether the alleged liability shall arise under English law or under the law of some other country and regardless of whether a particular cause of action may successfully be brought in the English courts;
<b>"Dispute Resolution Procedure"</b>	the dispute resolution procedure set out in Clause 39 (Resolving disputes);

<p><b>"Documentation"</b></p>	<p>descriptions of the Services and Service Levels, technical specifications, user manuals, training manuals, operating manuals, process definitions and procedures, system environment descriptions and all such other documentation (whether in hardcopy or electronic form) is required to be supplied by the Supplier to the Buyer under the Contract as:</p> <ul style="list-style-type: none"> <li>(a) would reasonably be required by a competent third party capable of Good Industry Practice contracted by the Buyer to develop, configure, build, deploy, run, maintain, upgrade and test the individual systems that provide the Deliverables</li> <li>(b) is required by the Supplier in order to provide the Deliverables; and/or</li> </ul>
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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	(c) has been or shall be generated for the purpose of providing the Deliverables;
<b>"DOTAS"</b>	the Disclosure of Tax Avoidance Schemes rules which require a promoter of tax schemes to tell HMRC of any specified notifiable arrangements or proposals and to provide prescribed information on those arrangements or proposals within set time limits as contained in Part 7 of the Finance Act 2004 and in secondary legislation made under vires contained in Part 7 of the Finance Act 2004 and as extended to National Insurance Contributions;
<b>"DPA 2018"</b>	The Data Protection Act 2018
<b>"Due Diligence Information"</b>	any information supplied to the Supplier by or on behalf of the Buyer prior to the Start Date;
<b>"Effective Date"</b>	the date on which the final Party has signed the Contract;
<b>"EIR"</b>	the Environmental Information Regulations 2004;
<b>"Employment Regulations"</b>	the Transfer of Undertakings (Protection of Employment) Regulations 2006 (SI 2006/246) as amended or replaced;
<b>"End Date"</b>	the earlier of: (a) the Expiry Date as extended by the Buyer under Clause 14.2; or (b) if the Contract is terminated before the date specified in (a) above, the date of termination of the Contract;
<b>"End User"</b>	means a party that is accessing the Deliverables provided pursuant to this Contract (including the Buyer where it is accessing services on its own account as a user);
<b>"Environmental Policy"</b>	to conserve energy, water, wood, paper and other resources, reduce waste and phase out the use of ozone depleting substances and minimise the release of greenhouse gases, volatile organic compounds and other substances damaging to health and the environment, including any written environmental policy of the Buyer;
<b>"Equality and Human Rights Commission"</b>	the UK Government body named as such as may be renamed or replaced by an equivalent body from time to time;

<b>"Escalation Meeting"</b>	means a meeting between the Supplier Authorised Representative and the Buyer Authorised Representative to address issues that have arisen during the Rectification Plan Process;
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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<b>"Estimated Year 1 Charges"</b>	the anticipated total Charges payable by the Buyer in the first Contract Year specified in the Award Form;
<b>"Estimated Yearly Charges"</b>	means for the purposes of calculating each Party's annual liability under Clause 15.1 : (a) in the first Contract Year, the Estimated Year 1 Charges; or (b) in any subsequent Contract Years, the Charges paid or payable in the previous Contract Year; or (c) after the end of the Contract, the Charges paid or payable in the last Contract Year during the Contract Period;
<b>"EU"</b>	European Union
<b>"EU GDPR"</b>	Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation) as it has effect in EU law;
<b>"Existing IPR"</b>	any and all IPR that are owned by or licensed to either Party and which are or have been developed independently of the Contract (whether prior to the Start Date or otherwise);
<b>"Exit Plan"</b>	has the meaning given to it in Paragraph 4.1 of Schedule 30 (Exit Plan);
<b>"Expiry Date"</b>	the date of the end of the Contract as stated in the Award Form;
<b>"Extension Period"</b>	such period or periods beyond which the Initial Period may be extended, specified in the Award Form;
<b>"FDE Group"</b>	the Supplier and any Additional FDE Group Member;

<b>"Financial Distress Event"</b>	<p>The occurrence of one or more the following events:</p> <ul style="list-style-type: none"> <li>(a) the credit rating of any FDE Group entity drops below the applicable Credit Rating Threshold of the relevant Rating Agency;</li> <li>(b) any FDE Group entity issues a profits warning to a stock exchange or makes any other public announcement, in each case about a material deterioration in its financial position or prospects;</li> <li>(c) there being a public investigation into improper financial accounting and reporting, suspected fraud or any other impropriety of any FDE Group entity;</li> <li>(d) any FDE Group entity commits a material breach of covenant to its lenders;</li> </ul>
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- (e) a Key Subcontractor notifies the Buyer that the Supplier has not paid any material sums properly due under a specified invoice and not subject to a genuine dispute;
- (f) any FDE Group entity extends the filing period for filing its accounts with the Registrar of Companies so that the filing period ends more than 9 months after its accounting reference date without an explanation to the Buyer which the Buyer (acting reasonably) considers to be adequate;
- (g) any FDE Group entity is late to file its annual accounts without a public notification or an explanation to the Buyer which the Buyer (acting reasonably) considers to be adequate;
- (h) the directors and/or external auditors of any FDE Group entity conclude that a material uncertainty exists in relation to that FDE Group entity's going concern in the annual report including in a reasonable but plausible downside scenario. This includes, but is not limited to, commentary about liquidity and trading prospects in the reports from directors or external auditors;
- (i) any of the following:
  - (i) any FDE Group entity makes a public announcement which contains commentary with regards to that FDE Group entity's liquidity and trading and trading prospects, such as but not limited to, a profit warning or ability to trade as a going concern;
  - (ii) commencement of any litigation against any FDE Group entity with respect to financial indebtedness greater than £5m or obligations under a service contract with a total contract value greater than £5m;
  - (iii) non-payment by any FDE Group entity of any financial indebtedness;
  - (iv) any financial indebtedness of any FDE Group entity becoming due as a result of an event of default;
  - (v) the cancellation or suspension of any financial indebtedness in respect of any FDE Group entity; or
  - (vi) an external auditor of any FDE Group entity expressing a qualified opinion on, or including an emphasis of matter in, its opinion on the statutory accounts of that FDE Group entity, in each case which the Buyer reasonably believes (or would be likely reasonably to





	<p>believe) could directly impact on the continued provision of the Deliverables in accordance with the Contract; or</p> <p>(j) any one of the Financial Indicators set out in Part C of Annex 2 of Schedule 24 for any of the FDE Group entities failing to meet the required Financial Target Threshold.</p>
<b>"Financial Report"</b>	<p>a report provided by the Supplier to the Buyer that:</p> <p>(a) to the extent permitted by Law, provides a true and fair reflection of the Costs and Supplier Profit Margin forecast by the Supplier;</p> <p>(b) to the extent permitted by Law, provides detail a true and fair reflection of the costs and expenses to be incurred by Key Subcontractors (as requested by the Buyer);</p> <p>(c) is in the same software package (Microsoft Excel or Microsoft Word), layout and format as the blank templates which have been issued by the Buyer to the Supplier on or before the Start Date for the purposes of this Contract; and</p> <p>(d) is certified by the Supplier's Chief Financial Officer or Director of Finance;</p>
<b>"Financial Transparency Objectives"</b>	<p>means:</p> <p>(a) the Buyer having a clear analysis of the Costs, Overhead recoveries (where relevant), time spent by Supplier Staff in providing the Services and the Supplier Profit Margin so that it can understand any payment sought by the Supplier;</p> <p>(b) the Parties being able to understand Cost forecasts and to have confidence that these are based on justifiable numbers and appropriate forecasting techniques;</p> <p>(c) the Parties being able to understand the quantitative impact of any Variations that affect ongoing Costs and identifying how these could be mitigated and/or reflected in the Charges;</p> <p>(d) the Parties being able to review, address issues with and re-forecast progress in relation to the provision of the Services;</p> <p>(e) the Parties challenging each other with ideas for efficiency and improvements; and</p> <p>(f) enabling the Buyer to demonstrate that it is achieving value for money for the tax payer relative to current market prices;</p>

<b>"FOIA"</b>	the Freedom of Information Act 2000 and any subordinate legislation made under that Act from time to time together with any guidance and/or codes of practice issued by the Information
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	Commissioner or relevant Government department in relation to such legislation;
<b>"Force Majeure Event"</b>	<p>any event, circumstance, matter or cause affecting the performance by either the Buyer or the Supplier of its obligations arising from:</p> <ul style="list-style-type: none"> <li>(a) acts, events, omissions, happenings or non-happenings beyond the reasonable control of the Affected Party which prevent or materially delay the Affected Party from performing its obligations under a Contract;</li> <li>(b) riots, civil commotion, war or armed conflict, acts of terrorism, nuclear, biological or chemical warfare;</li> <li>(c) acts of a Crown Body, local government or regulatory bodies;</li> <li>(d) fire, flood or any disaster; or</li> <li>(e) an industrial dispute affecting a third party for which a substitute third party is not reasonably available but excluding: <ul style="list-style-type: none"> <li>(i) any industrial dispute relating to the Supplier, the Supplier Staff (including any subsets of them) or any other failure in the Supplier or the Subcontractor's supply chain;</li> <li>(ii) any event, occurrence, circumstance, matter or cause which is attributable to the wilful act, neglect or failure to take reasonable precautions against it by the Party concerned; and</li> </ul> </li> <li>( ) any failure of delay caused by a lack of funds, and which is not attributable to any wilful act, neglect or failure to take reasonable preventative action by that Party;</li> </ul>
<b>"Force Majeure Notice"</b>	a written notice served by the Affected Party on the other Party stating that the Affected Party believes that there is a Force Majeure Event;
<b>"General Anti-Abuse Rule"</b>	<ul style="list-style-type: none"> <li>(a) the legislation in Part 5 of the Finance Act 2013 and; and</li> <li>(b) any future legislation introduced into parliament to counteract tax advantages arising from abusive arrangements to avoid National Insurance contributions;</li> </ul>

<b>"General Change in Law"</b>	a Change in Law where the change is of a general legislative nature (including taxation or duties of any sort affecting the Supplier) or which affects or relates to a Comparable Supply;
<b>"Goods"</b>	goods made available by the Supplier as specified in Schedule 2 (Specification) and in relation to a Contract as specified in the Award Form;
<b>"Good Industry Practice"</b>	standards, practices, methods and procedures conforming to the Law and the exercise of the degree of skill and care, diligence, prudence and foresight which would reasonably <del>and ordinarily be expected from a skilled and experienced</del>
<b>"Government"</b>	the government of the United Kingdom (including the Northern Ireland Assembly and Executive Committee, the Scottish Government and the National Assembly for Wales), <del>including government ministers and government departments</del>
<b>"Government Data"</b>	the data, text, drawings, diagrams, images or sounds (together with any database made up of any of these) which are embodied in any electronic, magnetic, optical or tangible <del>media, including any of the Buyer's Confidential Information</del>
<b>"Government Procurement Card"</b>	the Government's preferred method of purchasing and payment for low value goods or services  <a href="https://www.gov.uk/government/publications/government-procurement-card--2">https://www.gov.uk/government/publications/government-procurement-card--2</a> ;
<b>"Guarantor"</b>	the person (if any) who has entered into a guarantee in the form set out in Schedule 23 (Guarantee) in relation to this Contract;
<b>"Halifax Abuse Principle"</b>	the principle explained in the CJEU Case C-255/02 Halifax and others;
<b>"HMRC"</b>	Her Majesty's Revenue and Customs;
<b>"ICT Policy"</b>	the Buyer's policy in respect of information and communications technology, referred to in the Award Form, which is in force as at the Start Date (a copy of which has been supplied to the Supplier), as updated from time to time in accordance with the Variation Procedure;

<b>"Impact Assessment"</b>	an assessment of the impact of a Variation request by the Buyer completed in good faith, including:
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	<ul style="list-style-type: none"> <li>(a) details of the impact of the proposed Variation on the Deliverables and the Supplier's ability to meet its other obligations under the Contract;</li> <li>(b) details of the cost of implementing the proposed Variation;</li> <li>(c) details of the ongoing costs required by the proposed Variation when implemented, including any increase or decrease in the Charges (as applicable), any alteration in the resources and/or expenditure required by either Party and any alteration to the working practices of either Party;</li> <li>(d) a timetable for the implementation, together with any proposals for the testing of the Variation; and</li> <li>(e) such other information as the Buyer may reasonably request in (or in response to) the Variation request;</li> </ul>
<b>"Implementation Plan"</b>	the plan for provision of the Deliverables set out in Schedule 8 (Implementation Plan and Testing) where that Schedule is used or otherwise as agreed between the Supplier and the Buyer;
<b>"Incorporated Terms"</b>	the contractual terms applicable to the Contract specified in the Award Form;
<b>"Indemnifier"</b>	a Party from whom an indemnity is sought under this Contract;
<b>"Independent Controller"</b>	a party which is Controller of the same Personal Data as the other Party and there is no element of joint control with regards to that Personal Data;
<b>"Indexation"</b>	the adjustment of an amount or sum in accordance with the Award Form;
<b>"Information"</b>	has the meaning given under section 84 of the Freedom of Information Act 2000;
<b>"Information Commissioner"</b>	the UK's independent authority which deals with ensuring information relating to rights in the public interest and data privacy for individuals is met, whilst promoting openness by public bodies;
<b>"Initial Period"</b>	the initial term of the Contract specified in the Award Form;
<b>"Insolvency Event"</b>	<p>with respect to any person, means:</p> <ul style="list-style-type: none"> <li>(a) that person suspends, or threatens to suspend, payment of its debts, or is unable to pay its debts as they fall due or admits inability to pay its debts, or:</li> </ul>

- (i) (being a company or a LLP) is deemed unable to pay its debts within the meaning of section 123 of the Insolvency Act 1986, or
  - (ii) (being a partnership) is deemed unable to pay its debts within the meaning of section 222 of the Insolvency Act 1986;
- (b) that person commences negotiations with one or more of its creditors (using a voluntary arrangement, scheme of arrangement or otherwise) with a view to rescheduling any of its debts, or makes a proposal for or enters into any compromise or arrangement with one or more of its creditors or takes any step to obtain a moratorium pursuant to Section 1A and Schedule A1 of the Insolvency Act 1986 other than (in the case of a company, a LLP or a partnership) for the sole purpose of a scheme for a solvent amalgamation of that person with one or more other companies or the solvent reconstruction of that person;
- (c) another person becomes entitled to appoint a receiver over the assets of that person or a receiver is appointed over the assets of that person;
- (d) a creditor or encumbrancer of that person attaches or takes possession of, or a distress, execution or other such process is levied or enforced on or sued against, the whole or any part of that person's assets and such attachment or process is not discharged within fourteen (14) days;
- (e) that person suspends or ceases, or threatens to suspend or cease, carrying on all or a substantial part of its business;
- (f) where that person is a company, a LLP or a partnership:
  - (i) a petition is presented (which is not dismissed within fourteen (14) days of its service), a notice is given, a resolution is passed, or an order is made, for or in connection with the winding up of that person other than for the sole purpose of a scheme for a solvent amalgamation of that person with one or more other companies or the solvent reconstruction of that person;
  - (ii) an application is made to court, or an order is made, for the appointment of an administrator, or if a notice of intention to appoint an administrator is filed at Court or given or if an administrator is appointed, over that person;
  - (iii) (being a company or a LLP) the holder of a qualifying floating charge over the assets of that person has





[Subject to Contract]  
**Schedule 1 (Definitions)**  
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	<p>become entitled to appoint or has appointed an administrative receiver; or</p> <p>(iv) (being a partnership) the holder of an agricultural floating charge over the assets of that person has become entitled to appoint or has appointed an agricultural receiver; or</p> <p>(a) any event occurs, or proceeding is taken, with respect to that person in any jurisdiction to which it is subject that has an effect equivalent or similar to any of the events mentioned above;</p>
<b>"Installation Works"</b>	all works which the Supplier is to carry out at the beginning of the Contract Period to install the Goods in accordance with the Contract;
<b>"Intellectual Property Rights" or "IPR"</b>	<p>(a) copyright, rights related to or affording protection similar to copyright, rights in databases, patents and rights in inventions, semi-conductor topography rights, trade marks, rights in internet domain names and website addresses and other rights in trade or business names, goodwill, designs, Know-How, trade secrets and other rights in Confidential Information;</p> <p>(b) applications for registration, and the right to apply for registration, for any of the rights listed at (a) that are capable of being registered in any country or jurisdiction; and</p> <p>(c) all other rights having equivalent or similar effect in any country or jurisdiction;</p>
<b>"Invoicing Address"</b>	the address to which the Supplier shall Invoice the Buyer as specified in the Award Form;
<b>"IP Completion Day"</b>	has the meaning given to it in the European Union (Withdrawal Agreement) Act 2020;
<b>"IPR Claim"</b>	any claim of infringement or alleged infringement (including the defence of such infringement or alleged infringement) of any IPR, used to provide the Deliverables or otherwise provided and/or licensed by the Supplier (or to which the Supplier has provided access) to the Buyer in the fulfilment of its obligations under the Contract;

<b>"IR35"</b>	the off-payroll rules requiring individuals who work through their company pay the same tax and National Insurance contributions as an employee which can be found online at: <a href="https://www.gov.uk/guidance/ir35-find-out-if-it-applies;">https://www.gov.uk/guidance/ir35-find-out-if-it-applies;</a>
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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<b>"Joint Controller Agreement"</b>	the agreement (if any) entered into between the Buyer and the Supplier substantially in the form set out in Annex 2 of Schedule 20 (Processing Data);
<b>"Joint Control"</b>	where two or more Controllers jointly determine the purposes and means of Processing;
<b>"Joint Controllers"</b>	where two or more Controllers jointly determine the purposes and means of Processing;
<b>"Key Staff"</b>	the persons who the Supplier shall appoint to fill key roles in connection with the Services as listed in Annex 1 of Schedule 29 (Key Supplier Staff);
<b>"Key Sub-Contract"</b>	each Sub-Contract with a Key Subcontractor;
<b>"Key Subcontractor"</b>	<p>any Subcontractor:</p> <ul style="list-style-type: none"> <li>(a) which is relied upon to deliver any work package within the Deliverables in their entirety; and/or</li> <li>(b) which, in the opinion of the Buyer performs (or would perform if appointed) a critical role in the provision of all or any part of the Deliverables; and/or</li> <li>(c) with a Sub-Contract with the Contract value which at the time of appointment exceeds (or would exceed if appointed) 10% of the aggregate Charges forecast to be payable under the Contract, <p>and the Supplier shall list all such Key Subcontractors in section 29 of the Award Form;</p> </li></ul>
<b>"Know-How"</b>	all ideas, concepts, schemes, information, knowledge, techniques, methodology, and anything else in the nature of know-how relating to the Deliverables but excluding know-how already in the other Party's possession before the Start Date;
<b>"Law"</b>	any law, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, bye-law, right within the meaning of the European Union (Withdrawal) Act 2018 as amended by European Union (Withdrawal Agreement) Act 2020, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements of any regulatory body with which the Supplier is bound to comply;

<b>"Law Enforcement Processing"</b>	processing under Part 3 of the DPA 2018;
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<b>"Occasion of Tax Non – Compliance"</b>	<p>where:</p> <ul style="list-style-type: none"> <li>(a) any tax return of the Supplier submitted to a Relevant Tax Authority on or after 1 October 2012 which is found on or after 1 April 2013 to be incorrect as a result of: <ul style="list-style-type: none"> <li>(i) a Relevant Tax Authority successfully challenging the Supplier under the General Anti-Abuse Rule or the</li> </ul> </li> </ul>
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Halifax Abuse Principle or under any tax rules or legislation in any jurisdiction that have an effect equivalent or similar to the General Anti-Abuse Rule or the Halifax Abuse Principle;

- (ii) the failure of an avoidance scheme which the Supplier was involved in, and which was, or should have been, notified to a Relevant Tax Authority under the DOTAS or any equivalent or similar regime in any jurisdiction; and/or
- (b) any tax return of the Supplier submitted to a Relevant Tax Authority on or after 1 October 2012 which gives rise, on or after 1 April 2013, to a criminal conviction in any jurisdiction for tax related offences which is not spent at the Start Date or to a civil penalty for fraud or evasion;

complete and accurate financial and non-financial information which is sufficient to enable the Buyer to verify the Charges already paid or payable and Charges forecast to be paid during the remainder of the Contract, including details and all assumptions relating to:

- (a) the Supplier's Costs broken down against each Good and/or Service and/or Deliverable, including actual capital expenditure (including capital replacement costs) and the unit cost and total actual costs of all Deliverables;
- (b) operating expenditure relating to the provision of the Deliverables including an analysis showing:
  - (i) the unit costs and quantity of Goods and any other consumables and bought-in Deliverables;

- (iii) a list of costs underpinning those rates for each manpower grade, being the agreed rate less the Supplier Profit Margin; and
- (iv) Reimbursable Expenses, if allowed under the Award Form;

(c) Overheads;

- (a) all interest, expenses and any other third party financing costs incurred in relation to the provision of the Deliverables;
- (b) the Supplier Profit achieved over the Contract Period and on an annual basis;

(ii) manpower resources broken down into the number and grade/role of all Supplier Staff (free of any contingency) together with a list of agreed rates against each manpower grade;



	<p>(f) confirmation that all methods of Cost apportionment and Overhead allocation are consistent with and not more onerous than such methods applied generally by the Supplier;</p> <p>(g) an explanation of the type and value of risk and contingencies associated with the provision of the Deliverables, including the amount of money attributed to each risk and/or contingency; and</p> <p>(h) the actual Costs profile for each Service Period;</p>
<b>"Open Licence"</b>	<p>means any material that is published for use, with rights to access and modify, by any person for free, under a generally recognised open licence including Open Government Licence as set out at <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/">http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</a> and the Open Standards Principles documented at <a href="https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles">https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles</a>;</p>
<b>"Open Licence Publication Material"</b>	<p>means items created pursuant to the Contract which the Buyer may wish to publish as Open Licence which are supplied in a format suitable for publication under Open Licence;</p>
<b>"Overhead"</b>	<p>those amounts which are intended to recover a proportion of the Supplier's or the Key Subcontractor's (as the context requires) indirect corporate costs (including financing, marketing, advertising, research and development and insurance costs and any fines or penalties) but excluding allowable indirect costs apportioned to facilities and administration in the provision of Supplier Staff and accordingly included within limb (a) of the definition of "Costs";</p>
<b>"Parent Undertaking"</b>	<p>has the meaning set out in section 1162 of the Companies Act 2006;</p>
<b>"Parliament"</b>	<p>takes its natural meaning as interpreted by Law;</p>
<b>"Party"</b>	<p>the Buyer or the Supplier and <b>"Parties"</b> shall mean both of them where the context permits;</p>
<b>"Personal Data"</b>	<p>has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;</p>
<b>"Personal Data Breach"</b>	<p>has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;</p>
<b>"Prescribed Person"</b>	<p>a legal adviser, an MP or an appropriate body which a whistle-blower may make a disclosure to as detailed in 'Whistleblowing: list of prescribed people and bodies', 24 November 2016, available online at: <a href="https://www.gov.uk/government/publications/blowing-the-">https://www.gov.uk/government/publications/blowing-the-</a></p>

[Subject to Contract]  
**Schedule 1 (Definitions)**  
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	<a href="#">whistle-list-of-prescribed-people-and-bodies--2/whistleblowing-list-of-prescribed-people-and-bodies;</a>
<b>"Processing"</b>	has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;
<b>"Processor"</b>	has the meaning given to it in the UK GDPR or the EU GDPR as the context requires;
<b>"Processor Personnel"</b>	all directors, officers, employees, agents, consultants and suppliers of the Processor and/or of any Subprocessor engaged in the performance of its obligations under the Contract;
<b>"Progress Meeting"</b>	a meeting between the Buyer Authorised Representative and the Supplier Authorised Representative;
<b>"Progress Report"</b>	a report provided by the Supplier indicating the steps taken to achieve Milestones or delivery dates;
<b>"Prohibited Acts"</b>	<p>(a) to directly or indirectly offer, promise or give any person working for or engaged by the Buyer or any other public body a financial or other advantage to:</p> <p>(i) induce that person to perform improperly a relevant function or activity; or</p> <p>(ii) reward that person for improper performance of a relevant function or activity;</p> <p>(b) to directly or indirectly request, agree to receive or accept any financial or other advantage as an inducement or a reward for improper performance of a relevant function or activity in connection with the Contract; or</p> <p>(c) committing any offence:</p> <p>(i) under the Bribery Act 2010 (or any legislation repealed or revoked by such Act); or</p> <p>(ii) under legislation or common law concerning fraudulent acts; or</p> <p>(iii) defrauding, attempting to defraud or conspiring to defraud the Buyer or other public body; or</p> <p>(d) any activity, practice or conduct which would constitute one of the offences listed under (c) above if such activity, practice or conduct had been carried out in the UK;</p>

<b>"Protective Measures"</b>	technical and organisational measures which must take account of: <ul style="list-style-type: none"><li>(a) the nature of the data to be protected</li><li>(b) harm that might result from Data Loss Event;</li></ul>
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	<p>(c) state of technological development</p> <p>(d) the cost of implementing any measures</p> <p>including pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by it;</p>
<b>"Public Sector Body "</b>	means a formally established organisation that is (at least in part) publicly funded to deliver a public or government service;
<b>"Recall"</b>	a request by the Supplier to return Goods to the Supplier or the manufacturer after the discovery of safety issues or defects (including defects in the IPR rights) that might endanger health or hinder performance;
<b>"Recipient Party"</b>	the Party which receives or obtains directly or indirectly Confidential Information;
<b>"Rectification Plan"</b>	<p>the Supplier's plan (or revised plan) to rectify its breach using the template in Schedule 25 (Rectification Plan) which shall include:</p> <p>(a) full details of the Notifiable Default that has occurred, including a root cause analysis;</p> <p>(b) the actual or anticipated effect of the Notifiable Default; and</p> <p>(c) the steps which the Supplier proposes to take to rectify the Notifiable Default (if applicable) and to prevent such Notifiable Default from recurring, including timescales for such steps and for the rectification of the Notifiable Default (where applicable);</p>
<b>"Rectification Plan Process"</b>	the process set out in Clause 11;
<b>"Regulations"</b>	the Public Contracts Regulations 2015 and/or the Public Contracts (Scotland) Regulations 2015 (as the context requires);

<b>"Reimbursable Expenses"</b>	<p>the reasonable out of pocket travel and subsistence (for example, hotel and food) expenses, properly and necessarily incurred in the performance of the Services, calculated at the rates and in accordance with the Buyer's expenses policy current from time to time, but not including:</p> <p>(a) travel expenses incurred as a result of Supplier Staff travelling to and from their usual place of work, or to and from the premises at which the Services are principally to be</p>
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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	<p>performed, unless the Buyer otherwise agrees in advance in writing; and</p> <p>(b) subsistence expenses incurred by Supplier Staff whilst performing the Services at their usual place of work, or to and from the premises at which the Services are principally to be performed;</p>
<b>"Relevant Requirements"</b>	all applicable Law relating to bribery, corruption and fraud, including the Bribery Act 2010 and any guidance issued by the Secretary of State pursuant to section 9 of the Bribery Act 2010;
<b>"Relevant Tax Authority"</b>	HMRC, or, if applicable, the tax authority in the jurisdiction in which the Supplier is established;
<b>"Reminder Notice"</b>	a notice sent in accordance with Clause 14.6.1 given by the Supplier to the Buyer providing notification that payment has not been received on time;
<b>"Replacement Deliverables"</b>	any deliverables which are substantially similar to any of the Deliverables and which the Buyer receives in substitution for any of the Deliverables , whether those goods are provided by the Buyer internally and/or by any third party;
<b>"Replacement Supplier"</b>	any third party provider of Replacement Deliverables appointed by or at the direction of the Buyer from time to time or where the Buyer is providing Replacement Deliverables for its own account, shall also include the Buyer;
<b>"Request For Information"</b>	a request for information or an apparent request relating to the Contract for the provision of the Deliverables or an apparent request for such information under the FOIA or the EIRs;
<b>"Required Action"</b>	means the action the Buyer will take and what Deliverables it will control during the Step-In Process;
<b>"Required Insurances"</b>	the insurances required by Schedule 22 (Insurance Requirements);
<b>"Satisfaction Certificate"</b>	the certificate (materially in the form of the document contained in Annex 2 of Part B of Schedule 8 (Implementation Plan and Testing) or as agreed by the Parties where Schedule 8 is not used in this Contract) granted by the Buyer when the Supplier has Achieved a Milestone or a Test;

<b>"Schedules"</b>	any attachment to the Contract which contains important information specific to each aspect of buying and selling;
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<b>"Security Management Plan"</b>	the Supplier's security management plan prepared pursuant to Schedule 16 (Security) (if applicable);
<b>"Security Policy"</b>	the Buyer's security policy, referred to in the Award Form, in force as at the Start Date (a copy of which has been supplied to the Supplier), as updated from time to time and notified to the Supplier;
<b>"Serious Fraud Office"</b>	the UK Government body named as such as may be renamed or replaced by an equivalent body from time to time;
<b>"Service Credits"</b>	any service credits specified in the Annex to Part A of Schedule 10 (Service Levels) being payable by the Supplier to the Buyer in respect of any failure by the Supplier to meet one or more Service Levels;
<b>"Service Levels"</b>	any service levels applicable to the provision of the Deliverables under the Contract (which, where Schedule 10 (Service Levels) is used in this Contract, are specified in the Annex to Part A of such Schedule);
<b>"Service Period"</b>	has the meaning given to it in the Award Form;
<b>"Services"</b>	services made available by the Supplier as specified in Schedule 2 (Specification) and in relation to a Contract as specified in the Award Form;
<b>"Sites"</b>	<p>any premises (including the Buyer Premises, the Supplier's premises or third party premises) from, to or at which:</p> <ul style="list-style-type: none"> <li>(a) the Deliverables are (or are to be) provided; or</li> <li>(b) the Supplier manages, organises or otherwise directs the provision or the use of the Deliverables;</li> <li>(c) those premises at which any Supplier Equipment or any part of the Supplier System is located (where ICT Services are being provided)</li> </ul>
<b>"SME"</b>	an enterprise falling within the category of micro, small and medium sized enterprises defined by the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium enterprises;



<p><b>“Social Value”</b></p>	<p>the additional social benefits that can be achieved in the delivery of the Contract set out in Schedule 2 (Specification) and either (i) Schedule 10 (Service Levels) (where used) or (ii) Part C of Schedule 26 (Sustainability) (where Schedule 10 (Service Levels) is not used)</p>
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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<b>"Social Value KPIs"</b>	the Social Value priorities set out in Schedule 2 (Specification) and either (i) Schedule 10 (Service Levels) (where used) or (ii) Part C of Schedule 26 (Sustainability) (where Schedule 10 (Service Levels) is not used
<b>"Social Value Report"</b>	the report the Supplier is required to provide to the Buyer pursuant to Paragraph 1 of Part C of Schedule 26 (Sustainability) where Schedule 10 (Service Levels) is not used
<b>"Special Terms"</b>	any additional terms and conditions set out in the Award Form incorporated into the Contract;
<b>"Special IPR Terms"</b>	any additional terms and conditions relating to IPR set out in the Award Form incorporated into the Contract;
<b>"Specific Change in Law"</b>	a Change in Law that relates specifically to the business of the Buyer and which would not affect a Comparable Supply where the effect of that Specific Change in Law on the Deliverables is not reasonably foreseeable at the Start Date;
<b>"Specification"</b>	the specification set out in Schedule 2 (Specification), as may, in relation to the Contract, be supplemented by the Award Form;
<b>"Standards"</b>	any: (a) standards published by BSI British Standards, the National Standards Body of the United Kingdom, the International Organisation for Standardisation or other reputable or equivalent bodies (and their successor bodies) that a skilled and experienced operator in the same type of industry or business sector as the Supplier would reasonably and ordinarily be expected to comply with; (b) standards detailed in the specification in Schedule 2 (Specification); (c) standards detailed by the Buyer in the Award Form or agreed between the Parties from time to time; (d) relevant Government codes of practice and guidance applicable from time to time;
<b>"Start Date"</b>	the date specified on the Award Form;
<b>"Step-In Process"</b>	the process set out in Clause 13;

<b>"Step-In Trigger Event"</b>	means:
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	<ul style="list-style-type: none"> <li>(a) the Supplier's level of performance constituting a Critical Service Level Failure;</li> <li>(b) the Supplier committing a material Default which is irremediable;</li> <li>(c) where a right of termination is expressly reserved in this Contract;</li> <li>(d) an Insolvency Event occurring in respect of the Supplier or any Guarantor required under the Award Form;</li> <li>(e) a Default by the Supplier that is materially preventing or materially delaying the provision of the Deliverables or any material part of them;</li> <li>(f) the Buyer considers that the circumstances constitute an emergency despite the Supplier not being in breach of its obligations under this agreement;</li> <li>(g) the Buyer being advised by a regulatory body that the exercise by the Buyer of its rights under Clause 13 is necessary;</li> <li>(h) the existence of a serious risk to the health or safety of persons, property or the environment in connection with the Deliverables; and/or</li> <li>(i) a need by the Buyer to take action to discharge a statutory duty;</li> </ul>
<b>"Step-Out Plan"</b>	means the Supplier's plan that sets out how the Supplier will resume the provision of the Deliverables and perform all its obligations under the Contract following the completion of the Step-In Process;
<b>"Storage Media"</b>	the part of any device that is capable of storing and retrieving data;
<b>"Sub-Contract"</b>	any contract or agreement (or proposed contract or agreement), other than the Contract, pursuant to which a third party: <ul style="list-style-type: none"> <li>(a) provides the Deliverables (or any part of them);</li> <li>(b) provides facilities or services necessary for the provision of the Deliverables (or any part of them); and/or</li> <li>(c) is responsible for the management, direction or control of the provision of the Deliverables (or any part of them);</li> </ul>
<b>"Subcontractor"</b>	any person other than the Supplier, who is a party to a Sub-Contract and the servants or agents of that person;

<b>"Subprocessor"</b>	any third Party appointed to process Personal Data on behalf of the Supplier related to the Contract;
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**Schedule 1 (Definitions)**  
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<b>"Subsidiary Undertaking"</b>	has the meaning set out in section 1162 of the Companies Act 2006;
<b>"Supplier"</b>	the person, firm or company identified in the Award Form;
<b>"Supplier Assets"</b>	all assets and rights used by the Supplier to provide the Deliverables in accordance with the Contract but excluding the Buyer Assets;
<b>"Supplier Authorised Representative"</b>	the representative appointed by the Supplier named in the Award Form, or later defined in a Contract;
<b>"Supplier Equipment"</b>	the Supplier's hardware, computer and telecoms devices, equipment, plant, materials and such other items supplied and used by the Supplier (but not hired, leased or loaned from the Buyer) in the performance of its obligations under this Contract;
<b>"Supplier Existing IPR"</b>	any and all IPR that are owned by or licensed to the Supplier and which are or have been developed independently of the Contract (whether prior to the Start Date or otherwise)
<b>"Supplier Existing IPR Licence"</b>	means a licence to be offered by the Supplier to the Supplier Existing IPR as set out in Para 1.3 of Schedule 36.
<b>"Supplier Group"</b>	means the Supplier, its Dependent Parent Undertakings and all Subsidiary Undertakings and Associates of such Dependent Parent Undertakings;
<b>"Supplier Non-Performance"</b>	where the Supplier has failed to: <ul style="list-style-type: none"> <li>(a) Achieve a Milestone by its Milestone Date;</li> <li>(a) provide the Goods and/or Services in accordance with the Service Levels ; and/or</li> <li>(b) comply with an obligation under the Contract;</li> </ul>
<b>"Supplier Profit"</b>	in relation to a period, the difference between the total Charges (in nominal cash flow terms but excluding any Deductions and total Costs (in nominal cash flow terms) in respect of the Contract for the relevant period;

<b>"Supplier Profit Margin"</b>	in relation to a period or a Milestone (as the context requires), the Supplier Profit for the relevant period or in relation to the relevant Milestone divided by the total Charges over the same period or in relation to the relevant Milestone and expressed as a percentage;
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[Subject to Contract]  
**Schedule 1 (Definitions)**  
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<b>"Supplier Staff"</b>	all directors, officers, employees, agents, consultants and contractors of the Supplier and/or of any Subcontractor engaged in the performance of the Supplier's obligations under the Contract;
<b>"Supplier's Confidential Information"</b>	<p>(a) any information, however it is conveyed, that relates to the business, affairs, developments, IPR of the Supplier (including the Supplier Existing IPR) trade secrets, Know-How, and/or personnel of the Supplier;</p> <p>(b) any other information clearly designated as being confidential (whether or not it is marked as "confidential") or which ought reasonably to be considered to be confidential and which comes (or has come) to the Supplier's attention or into the Supplier's possession in connection with the Contract;</p> <p>Information derived from any of (a) and (b) above;</p>
<b>"Supplier's Contract Manager"</b>	the person identified in the Award Form appointed by the Supplier to oversee the operation of the Contract and any alternative person whom the Supplier intends to appoint to the role, provided that the Supplier informs the Buyer prior to the appointment;
<b>"Supply Chain Information Report Template"</b>	the document at Annex 1 of Schedule 18 (Supply Chain Visibility);
<b>"Supporting Documentation"</b>	sufficient information in writing to enable the Buyer to reasonably assess whether the Charges, Reimbursable Expenses and other sums due from the Buyer under the Contract detailed in the information are properly payable;
<b>"Tender Response"</b>	the tender submitted by the Supplier to the Buyer and annexed to or referred to in Schedule 4 (Tender);
<b>"Termination Assistance"</b>	the activities to be performed by the Supplier pursuant to the Exit Plan, and other assistance required by the Buyer pursuant to the Termination Assistance Notice;
<b>"Termination Assistance Notice"</b>	has the meaning given to it in Paragraph 5.1 of Schedule 30 (Exit Management);
<b>"Termination Notice"</b>	a written notice of termination given by one Party to the other, notifying the Party receiving the notice of the intention of the Party giving the notice to terminate the Contract on a specified date and setting out the grounds for termination;

<b>"Test Issue"</b>	any variance or non-conformity of the Deliverables or Deliverables from their requirements as set out in the Contract;
<b>"Test Plan"</b>	a plan:

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	<p>(a) for the Testing of the Deliverables; and</p> <p>(b) setting out other agreed criteria related to the achievement of Milestones;</p>
<b>"Tests and Testing"</b>	any tests required to be carried out pursuant to the Contract as set out in the Test Plan or elsewhere in the Contract and <b>"Tested"</b> shall be construed accordingly;
<b>"Third Party IPR"</b>	Intellectual Property Rights owned by a third party which is or will be used by the Supplier for the purpose of providing the Deliverables;
<b>"Third Party IPR Licence"</b>	means a licence to the Third Party IPR as set out in Paragraph 1.6 of Schedule 36
<b>"Transparency Information"</b>	<p>the Transparency Reports and the content of the Contract, including any changes to this Contract agreed from time to time, except for –</p> <p>(a) any information which is exempt from disclosure in accordance with the provisions of the FOIA, which shall be determined by the Buyer; and</p> <p>(b) Commercially Sensitive Information;</p>
<b>"Transparency Reports"</b>	the information relating to the Deliverables and performance pursuant to the Contract which the Supplier is required to provide to the Buyer in accordance with the reporting requirements in Schedule 6 (Transparency Reports);
<b>"UK GDPR"</b>	Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (United Kingdom General Data Protection Regulation), as it forms part of the law of England and Wales, Scotland and Northern Ireland by virtue of section 3 of the European Union (Withdrawal) Act 2018, together with the Data Protection, Privacy and Electronic Communications (Amendments etc.) (EU Exit) Regulations 2019
<b>"Variation"</b>	means a variation to the Contract;
<b>"Variation Form"</b>	the form set out in Schedule 21 (Variation Form);
<b>"Variation Procedure"</b>	the procedure set out in Clause 28 (Changing the contract);

<b>"VAT"</b>	value added tax in accordance with the provisions of the Value Added Tax Act 1994;
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<b>"VCSE"</b>	a non-governmental organisation that is value-driven and which principally reinvests its surpluses to further social, environmental or cultural objectives;
<b>"Verification Period"</b>	has the meaning given to it in the table in Annex 2 of Schedule 3 (Charges);
<b>"Work Day"</b>	7.5 Work Hours, whether or not such hours are worked consecutively and whether or not they are worked on the same day;
<b>"Work Hours"</b>	the hours spent by the Supplier Staff properly working on the provision of the Deliverables including time spent travelling (other than to and from the Supplier's offices, or to and from the Sites) but excluding lunch breaks;
<b>"Worker"</b>	any one of the Supplier Staff which the Buyer, in its reasonable opinion, considers is an individual to which Procurement Policy Note 08/15 (Tax Arrangements of Public Appointees)
	<a href="https://www.gov.uk/government/publications/procurement-policy-note-0815-tax-arrangements-of-appointees">https://www.gov.uk/government/publications/procurement-policy-note-0815-tax-arrangements-of-appointees</a> applies in
	respect of the Deliverables; and

<b>"Working Day"</b>	any day other than a Saturday or Sunday or public holiday in England and Wales unless specified otherwise by the Parties in the Award Form.
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# Schedule 2 (Specification)

ITT: Greenhouse gas emissions inventory monitoring and verification programme

## 1. Introduction and summary of requirements

BEIS is looking for a contractor, or contractors, to verify the data we report in the UK's annual greenhouse gas (GHG) inventory through measurement of gases in the atmosphere.

In proposing a suitable methodology, the contractor must address the full list of objectives outlined in part 3 of Section 2. Project outputs are specified in part 5.

The programme of work will take place between **29<sup>th</sup> July 2022** and **30<sup>th</sup> April 2024**.

## 2. Background and policy context

The UK's greenhouse gas inventory is reported by BEIS annually and is used to assess the UK's progress against domestic and international climate targets. BEIS submits the inventory to the UN Framework Convention on Climate Change (UNFCCC) and the European Commission (EC) as part of the UK's obligations under the Kyoto Protocol and will continue to do so under the obligations of the Paris Agreement. The inventory is also used domestically to assess progress under the UK's own Climate Change Act.

The aim of this monitoring and verification programme is to independently verify the emissions reported in the inventory, using top-down atmospheric measurements. BEIS and its predecessor departments have been monitoring greenhouse gas (GHG) concentrations in the atmosphere over the UK and Ireland since 1987.

The programme:

- Identifies discrepancies between atmospheric concentrations and the inventory, informs the parallel inventory improvements programme, and helps to ensure the inventory is a reliable evidence base for informing policy decisions. For example, atmospheric measurements of HFC-134a have been used as the basis for an investigation into the functioning of the mobile air conditioning model in the UK GHG Inventory<sup>1</sup>.
- Allows the UK to contribute to international scientific research, e.g. through membership of European and global measurement networks.

There has been increasing international onus on the use of atmospheric observations to monitor GHG emissions in recent years. A case study of the programme's work on UK methane and nitrous oxide emissions was included as an example of best practice in the 2019 refinement to the IPCC guidelines for national inventories<sup>2</sup>.

The outputs of this programme will be summarised in public reports on the [gov.uk](https://www.gov.uk) website<sup>3</sup>. The findings of this programme will also be described in Annex 6 of the UK National Inventory Report<sup>4</sup>.

In addition to monitoring and verifying inventory estimates and tracking progress under the Paris Agreement, there are several emerging research questions for which atmospheric measurements can provide insight. This monitoring and verification programme contract for

<sup>1</sup> <https://pubs.acs.org/doi/abs/10.1021/acs.est.6b03630>

<sup>2</sup> <https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/>



[. https://www.gov.uk/government/publications/uk-greenhouse-gas-emissions-monitoring-and-verification](https://www.gov.uk/government/publications/uk-greenhouse-gas-emissions-monitoring-and-verification)  
[. https://unfccc.int/documents/273439](https://unfccc.int/documents/273439)

ITT: Greenhouse gas emissions inventory monitoring and verification programme

2022-2024 will conduct desk-based reviews and scoping studies into current areas of inventory uncertainty, such as fugitive methane emissions from offshore oil and gas production, to improve understanding of how atmospheric measurements could be better used to verify emissions estimates.

### 3. Aims and Objectives

The fundamental aim of this programme is to provide high-quality estimates of UK GHG emissions based on observed atmospheric concentrations, to independently verify the figures BEIS reports in the UK GHG Inventory (excluding CO<sub>2</sub>, for which UK emissions estimation is challenging).

BEIS also requires this programme to:

- Provide evidence of any differences between inventory and verification estimates, for consideration by the National Inventory Steering Committee (NISC), when considering parallel inventory improvements work.
- Determine how the UK's monitoring, reporting and verification needs could be met by current and emerging capabilities.
- Identify how improved monitoring capability could help fill important gaps in knowledge, such as sources of methane (from waste, agriculture, offshore oil and gas) which are challenging to estimate via inventories.
- Improve the UK's understanding of international GHG emissions through membership of or collaboration with international programmes and networks, and improve the engagement of the verification programme with other international programmes.

To fulfil these aims, the programme objectives are:

- i. Collect measurements of GHGs and other related species in the atmosphere over the UK.
- ii. Interpret atmospheric concentration data to understand hemispheric background concentrations, exploring the seasonal and long-term trends in these data.
- iii. Interpret atmospheric concentration data to understand the spatial distribution of emissions over the UK, and where possible, the North Sea.
- iv. Compare the emissions data with figures reported in the UK's GHG Inventory and analyse the differences, to verify inventory figures and identify any discrepancies.
- v. Use the observed and interpreted data to support other high priority areas of government policy, such as the phase out of hydrofluorocarbons (HFCs) and their replacement with hydrofluoroolefins (HFOs).
- vi. Identify scientific and technological developments which could inform improvements to the verification programme and effectively communicate and collaborate with international monitoring networks and parallel research programmes in the wider scientific landscape.

### 4. Methodology

The supplier should measure atmospheric concentrations of the gases described in Section 5.1, at multiple locations, and analyse these data to estimate emissions for the UK and

surrounding regions (listed in Section 5.2), using a method which provides adequate spatial and temporal resolution and uncertainties (detailed in Section 5.2).

## ITT: Greenhouse gas emissions inventory monitoring and verification programme

This contract specification is outcome-based, and therefore suppliers are encouraged to use their own methodology to deliver the outcomes in the best possible way. Prospective suppliers should be aware that the current incumbent supplier has privately acquired and owns a large volume of the equipment currently used to make atmospheric measurements; a small amount of equipment is owned by BEIS (detailed in Annex E) and would be available for a new supplier to use. This contract is being tendered on a basis in which suppliers should own, or has appropriate access to, the necessary equipment to deliver this contract. The modelling and inversion technique used in the current programme is also owned by a subcontractor of the incumbent supplier and consists of an inversion technique (Inversion Technique for Emissions Modelling, InTEM<sup>6</sup>) using an atmospheric dispersion model (Numerical Atmospheric dispersion Modelling Environment, NAME<sup>6</sup>). In light of this, any prospective tenderers should own, or have appropriate access to, an appropriate modelling technique necessary to delivery this contract. The current programme uses a network of atmospheric sensors mounted on tall towers, on which space is rented from the telecommunications company Arqiva. Space on the towers may be available to rent for prospective suppliers for this programme; suppliers would need to negotiate rental agreements. All equipment used in the programme, whether owned by BEIS or the supplier, should be maintained by the supplier. See Annex E for details of equipment ownership.

Regardless of the measurement methods and spatial analysis technique used, through which innovation is encouraged, the methodology should comprise three broad stages. Bidders should describe in their proposals the approach they plan to take to these stages:

- (1) Measurement.** Collection of the raw atmospheric concentration data for the gases specified (Section 2, 5.1), at high frequency and high precision. Collecting the data will require the ability to monitor the equipment and gain access to it if necessary (e.g., in case of breakdown). Bidders should provide details of their QA/QC process for raw data.
- (2) Spatial analysis.** To be useful for inventory verification, the data on atmospheric concentrations of GHGs must be analysed to estimate emissions trends and the spatial distribution of emissions across the UK. This requires data on air movements across the UK, to understand where the air reaching each measurement location has come from. The results of the spatial analysis, from 1990 (where possible, using the verification timeseries to date) until the end of the most recent inventory year, will need to be compared with the latest UK GHG Inventory. Bidders should describe their approach to obtaining and using meteorological data, spatial analysis to infer emissions trends, calculation of overall uncertainties, including uncertainties arising from both data collection and analysis, methods used to reduce uncertainties, and model QA/QC arrangements for any models used. Bidders should also describe any challenges and limitations arising from the analysis methods used.
- (3) Analysis and interpretation.** This will require the knowledge and methodology to assess the likely sources of discrepancies between the verification results and the

- <sup>5</sup> Manning, A. J., O'Doherty, S., Jones, A. R., Simmonds, P. G., and Derwent, R. G. (2011): Estimating UK methane and nitrous oxide emissions from 1990 to 2007 using an inversion modeling approach, *Journal of Geophysical Research: Atmospheres*, 116, <https://doi.org/10.1029/2010JD014763>.
- <sup>6</sup> <https://www.metoffice.gov.uk/research/approach/modelling-systems/dispersion-model>

## ITT: Greenhouse gas emissions inventory monitoring and verification programme

inventory. This will need to include a comprehensive assessment of both modelling and measurement uncertainties in the model. Bidders should describe how they plan to use the emissions trends and spatial estimates to identify discrepancies with the greenhouse gas inventory, and how they plan to investigate the causes of any discrepancies.

### 5. Outputs Required

Bidders should outline the expected delivery dates and costs for the outputs listed below.

#### 5.1 The raw concentration data from the atmospheric gas measurements.

The UNFCCC guidelines for reporting under the Paris Agreement<sup>7</sup> refer to many gases, which are reported in the UK's inventory and which bidders should be able to measure as a minimum:

- Carbon dioxide (CO<sub>2</sub>)
- methane (CH<sub>4</sub>)
- nitrous oxide (N<sub>2</sub>O)
- The major perfluorocarbons (PFCs), with data disaggregated by chemical:
  - PFC-14
  - PFC-116
  - PFC-218
  - PFC-318
- The major hydrofluorocarbons (HFCs), with data disaggregated by chemical:
  - HFC-134a
  - HFC-125
  - HFC-143a
  - HFC-23
  - HFC-32
  - HFC-227ea
  - HFC-365mfc
  - HFC-245fa
  - HFC-152a
  - HFC-43-10mee
- nitrogen trifluoride (NF<sub>3</sub>)
- sulphur hexafluoride (SF<sub>6</sub>)

Please note that the UNFCCC guidelines also specify reporting a number of indirect GHGs<sup>8</sup>, which BEIS does **not** require the supplier to measure.

In addition, bidders should measure molecular hydrogen (H<sub>2</sub>), hydrofluoroolefins (HFOs), and chlorofluorocarbons (CFCs).

High-frequency (2-hourly or better) data from all measurement site(s) with capability to measure each gas and for all gases listed above should be freely available on a publicly accessible website and in a usable industry-standard format, and include associated uncertainties. Raw data should be published in October 2022 and 2023 at a minimum to

<sup>7</sup> <https://unfccc.int/documents/193408>

. UNFCCC guidelines for reporting under the Paris Agreement specify that countries should provide information on the following indirect gases: carbon monoxide (CO), non-methane volatile organic compounds (NMVOCs), nitrogen oxides (NO<sub>x</sub>), and sulphur oxides (reported as sulphur dioxide, SO<sub>2</sub>).

This would aim to understand the uncertainty in the measurement methods, and the analysis technique, used to derive UK emissions estimates, and propose methods for



reducing the uncertainties along with an estimate of associated costs. It would also assess uncertainty in the spatial distribution of UK emissions; assess whether a

## ITT: Greenhouse gas emissions inventory monitoring and verification programme

meaningful comparison can be made between the spatial GHG inventory and the verification estimates; and assess the impact of improved capability (either in the measurement technique or the analysis method) on the uncertainty in the spatial distribution of emissions.

- Improving UK emissions estimates for uncertain areas of the inventory, e.g. methane emissions from offshore oil and gas.

This study would aim to determine: The sensitivity of the atmospheric measurement technique to offshore oil and gas emissions, and whether they can be differentiated from other sources e.g. refineries; whether additional measurement capability (e.g. more measurement sites, additional equipment, an improved analysis technique, or better utilisation of existing available datasets from European measurement sites/other programmes) would enable the programme to produce estimates of emissions from offshore oil and gas, and an assessment of any likely associated costs; if additional sites were required, where they should be situated; an assessment of the uncertainties and limitations of emissions estimates resulting from any proposed increases in capability; understand the feasibility of the programme to capture emissions from related fugitive sources, e.g. pipelines, storage and associated activities; and the feasibility of resolving different parts of the North Sea.

- Improved understanding of natural and anthropogenic sources of atmospheric molecular hydrogen (H<sub>2</sub>) emissions, and an improved understanding of the removal of H<sub>2</sub> from the atmosphere by natural sinks.

This study would include a review on the challenges and uncertainties around producing a UK emissions estimate for hydrogen; whether additional capability (e.g. more measurement sites, additional equipment, an improved analysis technique, or better utilisation of existing available datasets from European measurement sites/other programmes) would enable the programme to produce a UK hydrogen emissions estimate, and an assessment of any associated costs; an initial estimate of timescales for producing a UK emissions estimate; possible links to parallel research programmes and an assessment of how the work could inform these (e.g. whether it could enable a better understanding of H<sub>2</sub> sources and sinks).

- Maximising the value of existing data and measurement infrastructure.

For example, suppliers could assess the benefit of incorporating other existing datasets, such as data from measurement sites in continental Europe, which are not currently used to verify the inventory; and the value to the programme of collaboration with UK air quality measurement networks (e.g. feasibility of co-locating sensors), including assessment of the comparability of different methods and any calibration required.

### 5.4 Analysis comparing absolute values and trends in the analysed data to what is reported in the inventory.

Required analysis includes analysis of the drivers behind discrepancies between verification and inventory data, and uncertainty analysis. This analysis will be detailed in the annual

The 12-month update to the project plan should include:

[. https://www.gov.uk/guidance/style-guide](https://www.gov.uk/guidance/style-guide)

[. https://www.gov.uk/guidance/how-to-publish-on-gov-uk/document-accessibility](https://www.gov.uk/guidance/how-to-publish-on-gov-uk/document-accessibility)

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ITT: Greenhouse gas emissions inventory monitoring and verification programme

- An up-to-date assessment of progress against each of the deliverables and KPIs in the contract, highlighting any likely slippage that may cause a delay and knock-on effects for linked work and knowledge integration plans.
- An up-to-date version of the risk register (see 5.13) for the contract deliverables.
- An up-to-date tracker of spend on contract deliverables.

### **5.7 Short reports detailing potential methodological improvements.**

Required short reports include scoping studies assessing options for future improvements to the capability of the programme. Specific priorities will be agreed with BEIS annually, drawing on steers from the and the number of short reports per year will depend on the scale of the work to be undertaken. See point 5.3 (above) for guidance on topics for scoping studies. The reports will include a brief outline of the science-policy issue(s) the scoping work will address. An indicative length for short reports is 10-30 pages (dependent on the scope of the work to be agreed with BEIS).

### **5.8 A section in the annex to the National Inventory Report (NIR), in March 2023 and March 2024.**

The Annex to the NIR will consist of a description of the measurement and modelling methods, and analysis including, at a minimum, Northern Hemisphere background concentration trends and UK emissions estimates with spatial and temporal resolution and geographical coverage set out in point (5.2); and analysis comparing verification programme data with the inventory, including analysis of the drivers behind discrepancies between verification and inventory data, and uncertainty analysis. The Annex should include a clear and transparent description of the methods used to compare verification programme and inventory emissions estimates, including for estimating uncertainties. An indicative length for the Annex to the NIR is ~ 30 pages.

### **5.9 A presentation on findings to the National Inventory Steering Committee (NISC).**

Presentations will be given at NISC meetings at least once a year, including at the autumn NISC in November 2022 and 2023; and possible additional presentations may be required at the spring NISC meetings, in April 2023 and 2024, as requested by BEIS.

### **5.10 Presentations and the preparation of agenda items for biannual steering group meetings, and other ad hoc briefings and presentations as agreed with BEIS.**

The project will be governed by a new subgroup to the NISC, which will meet with the project team twice yearly starting in 2023. Wider stakeholders included in the steering group may include sub-contractors and experts from wider policy teams in BEIS and/or Defra tasked with reviewing the project outputs. The supplier will assist in developing agendas for steering group meetings and prepare presentations for these. Other briefings required may include briefings for quarterly contract meetings between the supplier and BEIS, and educational sessions for BEIS staff.

### **5.11 Exit and handover plans for the beginning and end of the contract, for the transfer of services between incumbent and new suppliers.**

The plan would be designed to ensure that the new supplier, if applicable, would have access to the raw data collected as part of the monitoring and verification programme until

## ITT: Greenhouse gas emissions inventory monitoring and verification programme

the contract end date; details of the measurement methods used; and any other data necessary to ensure the new timeseries is comparable with previous data. The handover plan produced at the beginning of the contract will detail transfer of services from the current supplier and be produced in collaboration with the outgoing supplier, detailing the data, licenses, facilities, and any other necessary materials to be shared to enable handover, with timescales and responsibilities for ensuring this, by August 2022 at the latest, noting the expected 2-month contract overlap period between 29<sup>th</sup> July and 30<sup>th</sup> September 2022. The handover plan for the end of the contract should be produced in the first year of the contract and updated regularly, and include the necessary materials listed above along with an assessment of the time period required for handover to a new supplier.

### 5.12 Methodology reports.

An initial methodology report will be produced by August 2022 and an updated methodology report should be produced by April 2024, reflecting any methodology changes implemented during the project. The methodology report should explain the methods used, detail any necessary handover procedures identified in the handover plan, and include QA/QC processes for all data and models and the methods used to calculate uncertainties.

Methodology reports will include, at a minimum:

- An introduction and description of the measurement site(s).
- A summary of technology and methods used for atmospheric observations at the measurement site(s), with the gases, time intervals, and precision specified.
- A description of the calibration processes used to calibrate the system(s).
- QA/QC processes for the raw data.
- Details of external data sources used, access details (e.g. publicly accessible or accessed via a Memorandum of Understanding or other arrangement), with gases, time intervals, precision, and QA/QC processes.
- Methodology for the spatial analysis, including methods used to estimate baseline Northern Hemisphere background concentrations and UK emissions estimates and details of any assumptions made.
- Calculation of overall uncertainties, including uncertainties arising from both data collection and analysis, and methods used to reduce uncertainties.
- Model QA/QC arrangements for all models used.
- Methodology for comparison of atmospheric concentration trends to the values reported in the UK GHG inventory.
- Methodological challenges and limitations of the methods used.

### 5.13 A project risk register.

An initial project risk register should be produced by August 2022 and the risk register should be updated regularly (and reviewed at all quarterly contract meetings). The risk register should be a comprehensive list of anticipated risks, an assessment of the levels of risk, and details of planned mitigation measures, including:



- Contingency plans to ensure the continuity of the timeseries, and minimise any data gaps, in case of instrument or software failure, loss or damage of equipment or measurement sites.

ITT: Greenhouse gas emissions inventory monitoring and verification programme

- Plans to mitigate the risk of changes in project costs, such as site or equipment rental, unexpected site setup/decommissioning costs or changes to the costs of data or membership of international programmes.
- Plans to mitigate the risk of disruption if the bidder's team delivering the work are away for extended periods of time; including plans to recruit and train staff so that at least two people are trained in each area, and to produce detailed records of procedures.

#### **5.14 A Quality Assurance (QA) log.**

The QA log, covering all models and modelling undertaken during the programme, will be filled during the project and submitted at project completion as a deliverable to demonstrate the QA undertaken. Guidance on QA is detailed below in section 14 (Quality Assurance).

#### **5.15 Development of, and improvements to, the analysis technique used to estimate Northern Hemisphere baselines, UK emissions and their spatial distributions, calculate uncertainties, and identify discrepancies with inventory estimates.**

Bidders should outline their proposed analysis methods and any suggested improvements.

### **6. Ownership and Publication**

BEIS is committed to openness and transparency. All outputs listed in part 5 above (with the exception of the project plan, handover plan and risk register) should be accessible, non-disclosive and suitable for publication and further use.

We will assume ownership of all outputs from the project. Therefore, the contractor must obtain permission from us before using any of these outputs, other than what is publicly available, for purposes other than our work.

Pending this permission from us, BEIS encourages the use of the data and interpretation from this project for the purposes of original research. Where the contractor uses outputs from this work in research published in a peer-reviewed journal, we request that the contractor keeps BEIS informed to seek prior approval.

### **7. Quality Assurance**

All models and modelling must be quality assured and documented.

Contractors should include in their proposal a Quality Assurance (QA) plan that they will apply to all of the research tasks and modelling. This QA plan should be no longer than 2 sides of A4 paper. It should include the delivery of a BEIS QA Log.

[This link](#) contains an externally accessible version of the BEIS Modelling QA guidance, and the QA log. The QA log should be filled during the project and submitted at project completion as a deliverable to demonstrate the QA undertaken. Suppliers will be offered access to BEIS QA training if necessary.

When outputs from models are submitted to BEIS, during the project or at completion, they should be accompanied by confirmation by a senior (partner or equivalent) of the contracting organisation, that the assurance has taken place in accordance with approaches outlined in the QA plan agreed with BEIS. Evidence of testing through development provided in support

ITT: Greenhouse gas emissions inventory monitoring and verification programme

of the QA Log ratings greatly improves the level of confidence in it.

For all projects Contractors must supply quality assurance evidence for any existing models they wish to submit to BEIS. This must be:

- to a standard that is at least the equivalent of BEIS's internal standard, available at [this link](#)
- accepted as suitable by BEIS.

## 8. Timetable

The table below sets out timings for the deliverables during the contract duration. The timetable for this procurement process is on page 6.

Action	Timing – completed by
Initial methodology report delivered	August 2022
Initial project risk register delivered	August 2022 and updated as requested following quarterly contract meetings.
Exit and handover plan delivered	Completed by 31 <sup>st</sup> August 2022 for transfer of services from the outgoing supplier (if applicable), and updated to reflect requirements for transfer of services at the end of the project by 15 <sup>th</sup> December 2022.
Project meetings with BEIS	Quarterly, in (approximately) February, April, July and November <sup>11</sup>
Steering group meetings	Biannually, starting 2023; inception steering group meeting to be held by 30 <sup>th</sup> June 2023
Attendance at NISC meetings	November annually (required), April annually (optional, to be agreed with BEIS).
Progress updates by phone or email; ad- hoc briefings requested by BEIS	As required
Annual reports submitted, accompanied by publication of raw data	October annually
Project plan updated	Annually
Annex to the NIR produced	March annually
Final methodology report delivered	30 <sup>th</sup> April 2024
Final QA log delivered	30 <sup>th</sup> April 2024
Contract end	30 <sup>th</sup> April 2024, unless terminated by BEIS in accordance with the terms of the contract.

## 9. Challenges

There will be a number of challenges in delivering this requirement; some are identified below. Bidders should consider how these, and any other challenges, will be addressed and mitigated while designing and developing the programme.

<sup>11</sup> The November and (if applicable) April meetings will be scheduled to precede NISC meetings to make the best use of the contractor's time.

- ITT: Greenhouse gas emissions inventory monitoring and verification programme

- CV
- Confirmation of rate (against those submitted)

ITT: Greenhouse gas emissions inventory monitoring and verification programme



	<p>The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.</p>
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## ITT: Greenhouse gas emissions inventory monitoring and verification programme

Duration of the processing	Processing will take place from <b>29th July 2022</b> for the duration of the Contract. The Contract will end on <b>30<sup>th</sup> April 2024</b> .
Nature and purposes of the processing	The nature of processing will include the storage and use of names and business contact details of staff of both the Authority and the Contractor as necessary to deliver the services and to undertake contract and performance management. The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.
Type of Personal Data	Names, business telephone numbers and email addresses, office location and position of staff of both the Authority and the Contractor as necessary to deliver the services and to undertake contract and performance management. The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.
Categories of Data Subject	Staff of the Authority and the Contractor, including where those employees are named within the Contract itself or involved within contract management.
Plan for return and destruction of the data once the processing is complete UNLESS requirement under European Union or European member state law to preserve that type of data	<p>The Contractor will delete the Personal Data and erase the Personal Data from any computers, storage devices and storage media that are to be retained by the Contractor after the expiry of the Contract. The Contractor will certify to the Authority that it has completed such deletion.</p> <p>Where Personal Data is contained within the Contract documentation, this will be retained in line with the Department's privacy notice found within the Invitation to Tender.</p>

## 12. Skills and experience

BEIS would like you to demonstrate that you have the experience and capabilities to undertake the project. Your tender response should include a summary of each proposed team member's experience and capabilities.

## 14. Budget

The budget for this project is up to £ 1,500,000 excluding VAT.

ITT: Greenhouse gas emissions inventory monitoring and verification programme

Contractors should provide a full and detailed breakdown of costs (including options where appropriate). This should include staff (and day rate) allocated to specific tasks.

An indicative costing for the scoping studies, and short reports detailing the results, is up to ~ £30k per year, which is included in the total budget of £ 1,500,000 excluding VAT.

Cost will be a criterion against which bids which will be assessed.

Payments will be linked to delivery of key milestones, as described in part 5 ('Outputs required') and for which an indicative timetable is given in part 15. This can be adjusted and agreed with the contractor based on the tender response. Please advise in your tender response how this breakdown reflects your usual payment processes.

In submitting full tenders, contractors confirm in writing that the price offered will be held for a minimum of 60 calendar days from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

The Department aims to pay all correctly submitted invoices as soon as possible with a target of 10 days from the date of receipt and within 30 days at the latest in line with standard terms and conditions of contract.

### ***Invoicing***

Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

The Department aims to pay all correctly submitted invoices as soon as possible with a target of 10 days from the date of receipt and within 30 days at the latest in line with standard terms and conditions of contract.

Please advise in your tender response how this process reflects your usual payment processes.

## **15. Key Performance Indicators**

Information on the specific KPIs and scoring methodology can be found in Annex D ('Performance Management Framework'). The approach to KPIs is outlined below.

KPIs will be used to align the Supplier's performance with the requirements of the Authority. KPIs will be realistic and achievable. KPIs must maintain a green rating in order to demonstrate that the service is being delivered to an adequate quality. The Authority reserves the right to amend the existing KPIs detailed below or add any new KPIs throughout delivery with agreement of the supplier. Any changes to the KPIs will be agreed with the Supplier and be confirmed in writing.

Performance against KPIs will need to be monitored on a quarterly basis by the Supplier and reported by the Supplier at quarterly contract meetings. The Authority will reserve the right to request reporting of KPIs on a more frequent basis if performance levels suggest increased monitoring is required.

Performance of each KPI will be recorded against a red, amber, green “score”, as described below.

Scoring methodology for KPI criteria:

ITT: Greenhouse gas emissions inventory monitoring and verification programme

**Green score:** If a green score has been awarded to a KPI then no further action is required from the Supplier, with the exception of continuing activities to maintain this score for the next reporting period.

**Amber score:** If an amber score is awarded, the Contractor should examine and implement measures to prevent this KPI being scored an amber or below in subsequent reporting periods. The Authority will not expect formal improvement measures at that stage. If a single KPI is awarded amber in two consecutive quarters, or twice in four consecutive quarters then the Contractor should create a Remediation Plan at their own cost. This should detail how they will change their practices to prevent another amber score being awarded for this KPI. The timeline for producing this Remediation Plan should be agreed between the Authority and the Contractor and should only be implemented following approval by the Authority. The Authority reserves the right to terminate the Contract if a satisfactory Remediation Plan cannot be agreed.

**Red score:** If a red score is awarded, the Contractor should create a Remediation Plan at their own cost. This Remediation Plan should detail how they will change practices to prevent another red score being awarded for this KPI. As above, the Authority must agree to the timelines and contents of the Remediation Plan prior to implementation and reserves the right to terminate the Contract if a satisfactory plan cannot be agreed. If, following implementation of a Remediation Plan, the Contractor scores a red in the same KPI in any subsequent period throughout the duration of the Contract, the Authority reserves the right to terminate the Contract. The Authority also reserves the right to terminate this Contract based on a red score without requesting a Remediation Plan, if it is of the Authority's view that a material default has occurred. The Authority reserves the right to suspend, or partially



terminate this Contract, while a Remediation Plan is being developed and agreed, where there is justification to do so.

ITT: Greenhouse gas emissions inventory monitoring and verification programme

Annex D: Performance Management Framework

KPI Category	KPI Ref	KPI Criteria	KPI measure	KPI Rating		
Delivery	1	Deadlines	Work delivered to the agreed standard on the timescale agreed with the Authority.	More than three deadlines missed by 3 working days or more in a 12-month period.	More than one deadline missed by 3 working days or more in a 12-month period.	Meets expectations - All deliverables sent to the Authority on time and to the required standard.
	2	Invoices	Invoices to be produced by the agreed deadline and should include a comprehensive breakdown (as agreed with the Authority).	Invoices sent to the Authority with either a delay and/ or without the required breakdown and/or do not accurately reflect agreed work, on more than three occasions in a 12-month period.	Invoices sent to the Authority with either a delay and/ or without the required breakdown and/or do not accurately reflect agreed work, on more than two occasions in a 12-month period.	Meets expectations - All invoices sent to the Authority on time and accurately reflect agreed work, including a comprehensive breakdown of costs.

Programme Management	3	<b>Attendance</b>	Attendance of appropriate representatives at contract governance meetings and the autumn and spring NISC meetings.	Attendance target is not met on more than three occasions in a 12-month period.  Material provided contains inaccuracies or	Attendance target is not met on more than one occasion in a 12-month period.  Material provided contains inaccuracies or is not	Meets expectations - 100% attendance is achieved, and products meet the agreed requirements.
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ITT: Greenhouse gas emissions inventory monitoring and verification programme

			Any presentation should meet the expectations agreed with the Authority.	is not appropriate for the audience on more than three occasions.	appropriate for the audience on more than one occasion.	
	4	Risk	An up-to-date risk register is provided one week in advance of quarterly contract meetings.	A risk register is not provided on three or more occasions or contains significant omissions on three or more occasions.	A risk register is not provided on one or two occasions or contains significant omissions on one or two occasions.	Meets expectations – an updated risk register is provided at the agreed time, and includes sufficient plans for mitigating the risks identified to ensure continuity of the data timeseries.
Financial Management	5	Adherence to budget	Variance against agreed budget.	10% or more deliverables do not adhere to the agreed budget.	5% or more deliverables do not adhere to the agreed budget.	Meets expectations – 95% of all deliverables successfully delivered within the agreed budget.
Social Value	7	Social value	Percentage of companies in the supply chain to have implemented measures to achieve social value objectives. Updates on progress towards Social Value objectives are delivered at quarterly contract meetings and will be consistent with the social value project plan and process agreed with the	Updates on social value objectives are not provided on three or more occasions or contain significant omissions on three or more occasions.  Two or more companies in the supply chain under the contract failed to implement measures to achieve social value	Updates on social value objectives are not provided on one or two occasions or contain significant omissions on one or two occasions.  One or more companies in the supply chain under the contract failed to implement measures to achieve social value objectives.	Meets expectations – 100% of companies in the supply chain under the contract to have implemented measures to achieve social value objectives. Timely updates on social value objectives are provided.  Actions taken towards social value aims are

			Authority. Specific tangible social value KPIs will be agreed with the	objectives.		in line with the timed project plan and process agreed with
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		Supplier on contract award.			the Authority.
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- Cavity Ring-Down Spectrometer (CRDS), Picarro G2301



- Medusa Gas Chromatograph with Mass Spectrometer  
(Medusa GC-

## ITT: Greenhouse gas emissions inventory monitoring and verification programme

MS)

- Off-Axis Integrated Cavity Output Spectrometer (OA-ICOS);  
Los Gatos Research (LGR) N<sub>2</sub>O-CO 30-EP Analyser
- Sample inlet lines (x3), sample pumps (x3), compressor, TOC generator, computer server, UPS backup
- ANSTO 1500L radon analyser and associated sample pumps and inlet lines
- Meteorological equipment (anemometers, temperature, humidity, pressure and data logger)
- All equipment uses custom built sample modules and GCWerks software
- Laboratory space is rented from Arqiva.

### Currently installed at Ridge Hill:

- Cavity Ring-Down Spectrometer (CRDS) for measuring CO<sub>2</sub> and CH<sub>4</sub>- Picarro G2301 (owned by BEIS)
- Gas Chromatograph with Electron-Capture Detector (GC-ECD) for measuring N<sub>2</sub>O and SF<sub>6</sub>+ UoB sampling unit (owned by BEIS)
- Sample inlet lines (x2), sample pumps (x2), compressor, Compressor, TOC generator, computer server, UPS backup
- ANSTO 1500L radon analyser and associated sample pumps and inlet lines
- Meteorological equipment (anemometers, temperature, humidity, pressure and data logger)
- All equipment uses custom built sample modules and GCWerks software
- Laboratory space is rented from Arqiva

### Previously installed\* at Bilsdale:

- Cavity Ring-Down Spectrometer (CRDS); Picarro G5310(+EN box)
- Cavity Ring-Down Spectrometer (CRDS); Picarro G2401(+UoB box)
- Gas Chromatograph with Electron-Capture Detector (GC-ECD) for measuring N<sub>2</sub>O and SF<sub>6</sub>+ UoB sample unit
- Sample inlet lines (x3), Sample pumps (x3), compressor, TOC generator, computer server, UPS backup
- All equipment uses custom built sample modules and GCWerks software.

\*Equipment installed at Bilsdale has been relocated to University of Bristol for testing, following a fire at the Bilsdale tower site in August 2021.

ITT: Greenhouse gas emissions inventory monitoring and verification programme

## Annex G: October 2021 supplier event Q&A

Below are questions asked by suppliers at a supplier event held to gauge market interest in October 2021, and answers from BEIS.

**Q: How is BEIS proposing to create a level playing field for new suppliers to this contract given the potential cost of equipment?**

A: BEIS is taking steps to ensure fair competition and ensure that diverse supplier participation is encouraged. This will include writing the specification to focus on outcomes rather than stipulating methodology or means of data collection. The incumbent supplier has accumulated the equipment through private, alternative means and not through BEIS funding (namely through academic grants). We anticipate that this is a likely scenario with other suppliers in the market who may already own alternative equipment or may be able to acquire equipment through comparable means.

This engagement event was held to gauge the wider market capability. We anticipate and strongly encourage consortia facilitation for this contract, to ensure diverse supplier participation.

**Q: Why does the current supplier own instrumentation for recording gases? Was it acquired with public money?**

A: The majority of equipment used in the current programme was obtained through funding sources other than BEIS, and thus belongs to the supplier. Some equipment was purchased by BEIS and BEIS therefore own this equipment. For this procurement, given BEIS' ownership, this equipment would remain for usage by the awarded supplier of the verification programme. A full list of this BEIS-owned equipment can be found in Annex E.

**Q: How can suppliers get involved (come in and complement the programme with additional expertise) if they are not planning to put in a bid as a lead supplier? Is it okay for organisations to bid as sub-contractors with another organisation leading, and if so, is it up to a lead bidder to set up a consortium?**

A:

- Consortia facilitation is encouraged. It is up to lead bidders and prospective sub-contractors to liaise with each other to set up consortia and organise these relationships. BEIS is not facilitating networking (beyond sharing contact details of those attending this supplier event, with permission).
- Prospective bidders are welcome to network with partners to discuss arrangements in regard to working together on the contract.

- Bids must be submitted by lead contractors – not sub-contractors. The ITT will outline requirements for those wishing to bid as a consortium.

ITT: Greenhouse gas emissions inventory monitoring and verification programme

**Q: Would there be scope for a new organisation to come on board later in the life of the contract?**

A:

- In line with the Public Contract Regulations, the lead supplier should state up front in their application which organisations will be involved in delivering the contract. This is in the interests of fairness to all bidders and to ensure transparency of bids being submitted.

**Q: Are BEIS T&Cs changing from the last time this contract was procured?**

A: The terms and conditions for this procurement can be found in the tender pack. It is on the onus of suppliers to assess any differences in terms and conditions.

## Invitation to Tender for Greenhouse gas emissions inventory monitoring and verification programme: Questions and Answers

1. The Tender opportunity notice lists the duration of the contract as 29 July 2022 – 31 March 2024 (20 months), however, the ITT lists the same start date but an end date of 30 April 2024 (21 months). Can you clarify the end date?

The correct end date is 30<sup>th</sup> April 2024 (21 months), as specified in the ITT.

2. The title of the tender is different on the Invitation to Tender p1 and p2. Which title should be used?

The correct title is 'Greenhouse gas emissions inventory monitoring and verification programme', as used on page 1 of the Tender. This has been corrected in the updated ITT, which has been uploaded on Jaggaer along with these answers.

3. The tender states that suppliers should register on [www.delta-esourcing.com](http://www.delta-esourcing.com) website and upload proposals via the BIP solutions data website. This is different to the Jaggaer website ([www.jaggaer.com](http://www.jaggaer.com)) used to register.

The mention of the Delta and BIP websites was in error, all suppliers should please register and upload their tenders via the Jaggaer website. Note that the correct link to register for BEIS opportunities on Jaggaer can be found at: <https://beisgroup.ukp.app.jaggaer.com/>. This has been corrected in the updated ITT, which has been uploaded on Jaggaer along with these answers.

4. Page 14 of the tender should state 134a and 143a, not 134-a and 143-a.

Thank you for pointing out this error in the list of required hydrofluorocarbons (HFCs). The correct names for the listed gases are HFC-134a and HFC-143a. This has been corrected in the updated ITT, which has been uploaded on Jaggaer along with these answers.

5. Page 14 of the tender: The last paragraph about high-frequency data suggests that all gases listed as the minimum requirement of gases are measured at all sites. This is not the case in the current verification network, in which the PFCs and HFCs are only measured at Mace Head and Tacolneston.

The Tender requires that data are provided for the gases listed on page 14 of the Tender at all sites used in the programme which have the required capability. There is no requirement for measurement site(s) to measure every gas, as long as the proposed setup enables the supplier to effectively carry out the analysis detailed in section 5.2 (page 15 of the Tender).

6. The tender specifies producing emission maps of the sum of all HFCs and all PFCs. Is this a new requirement? Previously the programme has produced UK emission trends of the sum of HFCs and the sum of PFCs compared to the inventory but not the spatial maps of these composites.



This was not intended to be a new requirement for the programme and is an error in the Tender. The supplier should produce UK emissions trends for the sum of the listed HFCs and the sum of the listed PFCs, in addition to the emissions trends as listed in the Tender. Spatial emissions maps for the

sum of HFCs and the sum of PFCs are not a requirement. This has been corrected in the updated ITT, which has been uploaded on Jaggaer along with these answers.

**7. Is it possible to get a word version of the annex/declarations contained in the ITT, as they would be easier to edit than the current pdf document?**

Yes. A Word version of the Annexes and Declarations has been uploaded to the tender documentation box (on Jaggaer) along with these answers.

**8. If one of the bidder's subcontractors is unable to fully accept all of the terms and conditions in the contract provided (for example, liability provisions, requirement for a guarantee, insurance requirements and automatic right of set-off) due to their policies, is it possible for the bidder to submit details of the terms and conditions where negotiation would be required in the event the bid were to be successful? Can the bidder submit derogations to the contract terms and conditions if there are terms that their subcontractors cannot agree to?**

We will need specific details of terms that are not aligned with supplier's policies to be able to consider this request for negotiation. It is unlikely that substantial elements of the terms and conditions can be changed as these are standard central government clauses. However, please submit this detail for the request to be considered.

**9. Schedule 36 (IP rights) is missing from the terms and conditions. Could this be uploaded please?**

This was in error – thank you for flagging. A new version of the T+Cs has been uploaded with this schedule included. All other schedules remain unchanged.

## Additional questions – Greenhouse Gas Monitoring and Verification

1. Regarding the budget in Annex A. I am unclear how you want this budget presented. In the past we produced a budget (Pricing Schedule) detailing the project costs - staff, equipment, consumables etc. Annex A appears to be asking for a breakdown by milestones - this is normally what we would regard as the payment schedule. I am unsure what information you are expecting, can you clarify? e.g for Risk Register - do you want a price associated with this individual milestone?

**A. Yes, the cost information should be set out per milestone. Where timings align, it is acceptable to group multiple deliverable payments into fewer invoices and propose a payment schedule reflecting this, but suppliers will still need to provide a breakdown of those costs per individual milestone. For the deliverables in this ITT, the milestones are set out in Part A of the pricing schedule and bidders will need to price them accordingly, including day rates of staff (including any subcontractors) working on those deliverables. The breakdown of staff costs per deliverable is a new requirement and a higher level of transparency than required in previous procurements of this programme. Please include any payments not linked to fixed deliverables in part B; this could include non-staff/project team charges such as equipment maintenance and site rental.**

2. The ITT stipulates that BEIS "will assume ownership of all outputs from the project. Therefore, the contractor must obtain permission from [BEIS] before using any of these outputs, other than what is publicly available, for purposes other than [BEIS's] work". Clause 10 of the Core Terms refers to the IP provisions in the Schedule 36 (attached) which in turn contains several options for the ownership of IP. It looks like option 1 (Buyer owns all new IP (including any copyright or database rights with limited Supplier rights to all new IP in order to deliver the contract. Buyer will look to publish the new IP under Open Licence) corresponds most closely to the information in the ITT in that the Buyer owns the new IP and the licence to the Supplier to use the new IP only extends to using it to fulfil the Supplier's obligations during the contract period. Please could BEIS confirm which of the IP options in Schedule 36 it intends to apply to the contract and whether Schedule 36 may be amended to suit the project and meet Supplier requirements following award of the contract?

**A. Schedule 36 indicates that all new generation of IP shall be owned by BEIS. For the purpose of the contract, as the clause states, BEIS will grant license to use this IP to the supplier. The specific instances in which this is appropriate will be discussed with the awarded supplier.**

3. The ITT states that "BEIS encourages the use of the data and interpretation from this project for the purposes of original research". However, option 1 in Schedule 36 does not contain a licence allowing the Supplier to use the results of the research for purposes other than the contract. Would BEIS agree to formalise the right for the Supplier to use the research results for the purposes of academic research (on an irrevocable, perpetual royalty free, sub-licensable basis) in the Special Terms?

**A. BEIS will agree to formalise the right for the supplier to use the research for academic purposes upon confirmation with internal legal teams, prior to award.**

4. The ITT stipulates that "where the contractor uses outputs from this work in research published in a peer-reviewed journal, we request that the contractor keeps BEIS informed to seek prior approval". However, we note that the Core Terms (including Schedule 36) do not include any

publication rights (other than where publications are foreseen as part of the project work).  
Would BEIS agree to include formal publication rights in the Special Terms?

**A: BEIS will agree to formalise the right to publication, (with approval in each instance), following confirmation with internal legal teams, prior to award.**

5. Clause 15.4 of the Core Terms refers to an indemnity in Clause 10.2.1. However, there does not appear to be a Clause 10.2.1. Please could BEIS clarify the reference?

**A: This was included in error and the specific reference to clause 10.2.1 can be ignored. However, the other clauses in reference to indemnity still stand.**





- a) a breakdown of the profit and cost components that comprise the relevant part of the Charges;

- b) details of the movement in the different identified cost components of the relevant Charge;
- c) reasons for the movement in the different identified cost components of the relevant Charge;
- d) evidence that the Supplier has attempted to mitigate against the increase in the relevant cost components; and
- e) evidence that the Supplier's profit component of the relevant Charge is no greater than that applying to Charges using the same pricing mechanism as at the Start Date.

4.4 The Buyer shall consider each request for a price increase. The Buyer may grant Approval to an increase at its sole discretion.

4.5 Any Approval granted by the Buyer pursuant to Paragraph 4.4 shall be on the condition that the change to the Charges will not result in the Supplier Profit Margin exceeding the Maximum Permitted Profit Margin.

4.6 Where the Buyer approves an increase then it will be implemented from the first (1st) Working Day following the relevant Review Date or such later date as the Buyer may determine at its sole discretion and Annex 1 shall be updated accordingly.

## **5. Other events that allow the Supplier to change the Charges**

5.1 The Charges can also be varied (and Annex 1 will be updated accordingly) due to:

- 5.1.1 a Specific Change in Law in accordance with Clauses 28.6 to 28.8;
- 5.1.2 a review in accordance with insurance requirements;

5.1.3 a request from the Supplier, which it can make at any time, to decrease the Charges

Please submit a pricing breakdown in your proposal - the tables below illustrate the information we would like to see. Work undertaken by subcontractors should also be broken down by their team members, rather than submitted as non-labour costs. For the deliverables with milestone payments in this ITT, the milestones are set out below and bidders will need to price them accordingly. Bidders should add rows to indicate the proposed payment amounts and schedules for programme work not covered by the fixed milestones below. The payment schedule should be per deliverable, please include any payments not linked to fixed deliverables in part B. Additional cost eligibility will be assessed, and only eligible additional costs will be accepted.

Deliverables	Target date	Pricing mechanism	Cost (£k) - by financial year (within each line, please break down by resource and time required)			Grade/level of staff*	Daily rate (ex VAT)*	No. days over course of contract*	Tasks to be undertaken on this milestone	Proposed payment schedule	Additional information
			22/23	23/24	Total						
1. Methodology reports  <b>Total</b>  This information has been redacted	August 2022, April 2024	Fixed price	This information has been redacted	This information has been redacted	This information has been redacted		-	25	Update reports with new information.	All deliverable payments should be inline with the NIR in Mar 23 & 24 and submission of annual reports. in Oct 22 & 23.	
2. Project risk register  <b>Total</b>  This information has been redacted	August 2022 (and updated as required)	Fixed price	This information has been redacted	This information has been redacted	This information has been redacted			7	Update reports with new information.	Oct 22 & Oct 23	

<p>3. Exit and handover plan</p> <p><b>Total</b></p> <p>This information has been redacted</p>	<p>August 2022 for transfer of services from the outgoing supplier (if applicable), and update by 15th December 2022</p>	<p>Fixed price</p>	<p>This information has been redacted</p>	<p>This information has been redacted</p>	<p>This information has been redacted</p>		<p>-</p> <p>This information has been redacted</p>	<p><b>18</b></p> <p>4</p> <p>4</p> <p>4</p> <p>4</p> <p>4</p>	<p>Assess and document project information required for efficient supplier handover.</p>	<p>Oct 22 &amp; Oct 23</p>	
<p>4. Project meetings with BEIS</p> <p><b>Total</b></p> <p>This information has been redacted</p>	<p>Quarterly, in (approximately) February, April, July and November.</p>	<p>Fixed price</p>	<p>This information has been redacted</p>	<p>This information has been redacted</p>	<p>This information has been redacted</p>		<p>-</p> <p>This information has been redacted</p>	<p><b>46</b></p> <p>25</p> <p>11</p> <p>11</p>		<p>Oct 22, Mar 23 Oct 23, Mar 24</p>	
<p>5. Steering group meetings (including production of papers and contributing agenda items)</p> <p><b>Total</b></p> <p>This information has been redacted</p>	<p>Biannually, starting 2023; 2-3 meetings expected during contract</p>	<p>Fixed price</p>	<p>This information has been redacted</p>	<p>This information has been redacted</p>	<p>This information has been redacted</p>		<p>-</p> <p>This information has been redacted</p>	<p><b>26</b></p> <p>11</p> <p>11</p> <p>5</p>		<p>Oct 22, Mar 23 Oct 23, Mar 24</p>	

[illegible]

meetings	2023, November 2023, April 2024.		This information has been redacted	This information has been redacted	This information has been redacted		-	21			
<b>Total</b>								14			
								4			
								4			
7. Annual reports submitted, accompanied by publication of raw data	October 2022 and 2023	Fixed price	This information has been redacted	This information has been redacted	This information has been redacted		This information has been redacted	277		Oct 22 & Oct 23	Modelling effort for MetO (50%)
<b>Total</b>								55			
								98			
								21			
								21			
								21			
								35			
								19			
								7			
8. Project plan updated	September 2022 and 2023	Fixed	This information has been redacted	This information has been redacted	This information has been redacted		-	18		Oct 22 & Oct 23	
<b>Total</b>								4			
								4			
								4			
								4			
								4			
9. Annex to the NIR	March	Fixed	This information has been redacted	This information has been redacted	This information has been redacted				Write a	Oct 23, Mar	Modelling

produced <b>Total</b>	2023 and 2024	price	<div>This information has been redacted</div>	<div>This information has been redacted</div>	<div>This information has been redacted</div>		-	<div>This information has been redacted</div>	section about emissions derived from observations	24	effort for MetO (50%)
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10. Final QA log delivered	April 2024	Fixed price	This information has been redacted	This information has been redacted	This information has been redacted		-	12		Mar 24	
Total			This information has been redacted	This information has been redacted	This information has been redacted			4 2 2 2 4			
11. Scoping studies and short reports detailing the results	Exact timelines, scope and costings to be agreed with BEIS; an indicative costing is up to ~ £30k per year	Fixed	This information has been redacted	This information has been redacted	This information has been redacted		-	~2-3months per study.	Work with Project team and external experts to produce scoping studies as requested by BEIS. Costs will be allocated depending on project	Oct 22, Mar 23 Oct 23, Mar 24	Cannot provide exact timelines, and staff details until the scoping studies are selected and agreed.
Everyone+ external experts			This information has been redacted	This information has been redacted	This information has been redacted	-	-				
12. Delivery of observations of atmospheric GHG/ODS gases			This information has been redacted	This information has been redacted	This information has been redacted		-		Manage UK DECC Networks sites and all equipment, data processing, calibration, data reporting archiving	Oct 22, Mar 23 Oct 23, Mar 24	
Total			This information has been redacted	This information has been redacted	This information has been redacted						

<div>This information has been redacted</div>			<div>This information has been redacted</div>	<div>This information has been redacted</div>	<div>This information has been redacted</div>	<div>This information has been redacted</div>	35			
Grand total			517.232	387.922	905.154					

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**[\* Suppliers should also include sub-contractors]**

N.B. 22/23 in column 4 relates to 29<sup>th</sup> July 2022 through to 28<sup>th</sup> July 2023 inclusive

**23/24 in column 5 relates to 29<sup>th</sup> July 2023 through to 30<sup>th</sup> April 2024 inclusive**

**Individual costs are rounded to the nearest £100 and days to whole days, this results in differences between the individual amounts and the totals**

### Part B – Additional costs

### **Part C – Full price offered**

<b>Sub-total (Part A + Part B)</b>	<b>£1,499,987</b>
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VAT	£299,997
TOTAL (Sub-total + VAT)	£1,799,984

[Subject to Contract]  
**Schedule 5 (Commercially Sensitive Information)**  
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## Schedule 5 (Commercially Sensitive Information)

### 1. What is the Commercially Sensitive Information?

- 1.1 In this Schedule the Parties have sought to identify the Supplier's Confidential Information that is genuinely commercially sensitive and the disclosure of which would be the subject of an exemption under the FOIA and the EIRs.
- 1.2 Where possible, the Parties have sought to identify when any relevant Information will cease to fall into the category of Information to which this Schedule applies in the table below and in the Award Form (which shall be deemed incorporated into the table below).
- 1.3 Without prejudice to the Buyer's obligation to disclose Information in accordance with FOIA or Clause 20 (When you can share information), the Buyer will, in its sole discretion, acting reasonably, seek to apply the relevant exemption set out in the FOIA to the following Information:

No.	Date	Item(s)	Duration of Confidentiality
None Identified.	None Identified.	None Identified.	None Identified.





[Subject to Contract]

**Schedule 6 (Transparency Reports)**

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## **Schedule 6 (Transparency Reports)**

- 1.1 The Supplier recognises that the Buyer is subject to PPN 01/17 (Updates to transparency principles v1.1 <https://www.gov.uk/government/publications/procurement-policy-note-0117-update-to-transparency-principles>). The Supplier shall comply with the provisions of this Schedule in order to assist the Buyer with its compliance with its obligations under that PPN.
- 1.2 Without prejudice to the Supplier's reporting requirements set out in the Contract, within three (3) Months of the Start Date the Supplier shall submit to the Buyer for Approval (such Approval not to be unreasonably withheld or delayed) draft Transparency Reports consistent with the content requirements and format set out in the Annex of this Schedule.
- 1.3 If the Buyer rejects any proposed Transparency Report submitted by the Supplier, the Supplier shall submit a revised version of the relevant report for further Approval within five (5) days of receipt of any notice of rejection, taking account of any recommendations for revision and improvement to the report provided by the Buyer. If the Parties fail to agree on a draft Transparency Report the Buyer shall determine what should be included. Any other disagreement in connection with Transparency Reports shall be treated as a Dispute.
- 1.4 The Supplier shall provide accurate and up-to-date versions of each Transparency Report to the Buyer at the frequency referred to in the Annex of this Schedule.

[Subject to Contract]

**Schedule 6 (Transparency Reports)**

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## Annex A: List of Transparency Reports

Title	Content	Format	Frequency
Performance KPIs	KPIs – as listed in Schedule 10	.gov.uk	Quarterly
Key Subcontractors – as appropriate	Key subcontractors delivering the contract	Find a Tender service and Contracts	Award of contract
Technical reporting – Long-Term Atmospheric Measurement and Interpretation of Radioactively Active	Technical reporting obligations	.gov.uk	Annually
Performance Management – as appropriate	Performance management reporting	.gov.uk	Quarterly

## Schedule 7 (Staff Transfer)

### 1. Definitions

1.1 In this Schedule, the following words have the following meanings and they shall supplement Schedule 1 (Definitions):

**"Employee Liability"**

all claims, actions, proceedings, orders, demands, complaints, investigations (save for any claims for personal injury which are covered by insurance) and any award, compensation, damages, tribunal awards, fine, loss, order, penalty, disbursement, payment made by way of settlement and costs, expenses and legal costs reasonably incurred in connection with a claim or investigation including in relation to the following:

- (a) redundancy payments including contractual or enhanced redundancy costs, termination costs and notice payments;
- (b) unfair, wrongful or constructive dismissal compensation;
- (c) compensation for discrimination on grounds of sex, race, disability, age, religion or belief, gender reassignment, marriage or civil partnership, pregnancy and maternity or sexual orientation or claims for equal pay;
- (d) compensation for less favourable treatment of part-time workers or fixed term employees;
- (e) outstanding debts and unlawful deduction of wages including any PAYE and National Insurance Contributions in relation to payments made by the Buyer or the Replacement Supplier to a Transferring Supplier Employee which would have been payable by the Supplier or the Subcontractor if such payment should have been made prior to the Service Transfer Date and also including any payments arising in respect of pensions;

(f) claims whether in tort, contract or statute or otherwise;

any investigation by the Equality and Human Rights Commission or other enforcement, regulatory or supervisory body and of implementing any requirements which may arise from such investigation;

**"Former Supplier"** a supplier supplying the Services to the Buyer before the Relevant Transfer Date that are the same as or substantially similar to the Services (or any part of the Services) and shall include any subcontractor of such supplier (or any subcontractor of any such subcontractor);

**"Partial  
Termination"**

the partial termination of the relevant Contract to the extent that it relates to the provision of any part of the Services as further provided for in Clause 14.4 (When the Buyer can end this contract) or 14.6 (When the Supplier can end the contract);

**"Relevant  
Transfer"**

a transfer of employment to which the Employment Regulations applies;

**"Relevant  
Transfer Date"**

in relation to a Relevant Transfer, the date upon which the Relevant Transfer takes place, and for the purposes of Part D and its Annexes, where the Supplier or a Subcontractor was the Former Supplier and there is no Relevant Transfer of the Fair Deal Employees because they remain continuously employed by the Supplier (or Subcontractor), references to the Relevant Transfer Date shall become references to the Start Date;

"Staffing Information"	in relation to all persons identified on the Supplier's Provisional Supplier Staff List or Supplier's Final Supplier Staff List, as the case may be, , all information required in <b>Error! Reference source not found.</b> ( <i>Table of Staffing Information</i> ) in the format specified and with the identities of Data Subjects anonymised where possible. The Buyer may acting reasonably make changes to the format or information requested in <b>Error! Reference source not found.</b> from time to time.
"Supplier's Final Supplier Staff List"	a list provided by the Supplier of all Supplier Staff whose will transfer under the Employment Regulations on the Service Transfer Date;
"Supplier's Provisional Supplier Staff List"	a list prepared and updated by the Supplier of all Supplier Staff who are at the date of the list wholly or mainly engaged in or assigned to the provision of the Services or any relevant part of the Services which it is envisaged as at the date of such list will no longer be provided by the Supplier;
"Transferring Buyer Employees"	those employees of the Buyer to whom the Employment Regulations will apply on the Relevant Transfer Date; and
"Transferring Former Supplier Employees"	in relation to a Former Supplier, those employees of the Former Supplier to whom the Employment Regulations will apply on the Relevant Transfer Date.
"Transferring Supplier Employees"	those employees of the Supplier and/or the Supplier's Subcontractors to whom the Employment Regulations will apply on the Relevant Transfer Date.

## 2. Interpretation

Where a provision in this Schedule imposes any obligation on the Supplier including to comply with a requirement or provide an indemnity, undertaking or warranty, the Supplier shall procure that each of its Subcontractors shall comply with such obligation and provide such indemnity, undertaking or warranty to the Buyer, Former Supplier, Replacement Supplier or Replacement Subcontractor, as the case may be

and where the Subcontractor fails to satisfy any claims under such indemnities the Supplier will be liable for satisfying any such claim as if it had provided the indemnity itself.

## **1. Part A: Staff transfer**

### **1. Transfer from a Former Supplier**

#### **1. What is a relevant transfer**

1.1 The Buyer and the Supplier agree that:

1.1.1 the commencement of the provision of the Services or of any relevant part of the Services will be a Relevant Transfer in relation to the Transferring Former Supplier Employees; and

1.1.2 as a result of the operation of the Employment Regulations, the contracts of employment between each Former Supplier and the Transferring Former Supplier Employees (except in relation to any terms disappplied through the operation of regulation 10(2) of the Employment Regulations) shall have effect on and from the Relevant Transfer Date as if originally made between the Supplier and/or any Sub-contractor and each such Transferring Former Supplier Employee.

1.2 The Buyer shall procure that each Former Supplier shall comply with all its obligations under the Employment Regulations and shall perform and discharge all its obligations in respect of all the Transferring Former Supplier Employees in respect of the period up to (but not including) the Relevant Transfer Date including (without limit) the payment of all remuneration, benefits, entitlements, PAYE, national insurance contributions and pension contributions.

#### **0. Indemnities given by the Former Supplier**

2.1 Subject to Paragraph 2.2, the Buyer shall procure that each Former Supplier shall indemnify the Supplier and any Sub-contractor against any Employee Liabilities arising from or as a result of any act or omission by the Former Supplier in respect of any Transferring Former Supplier Employee or any appropriate employee representative (as defined in the Employment Regulations) of any Transferring Former Supplier Employee arising before the Relevant Transfer Date;

2.2 The indemnities in Paragraph 2.1 shall not apply to the extent that the Employee Liabilities arise or are attributable to an act or omission of the Supplier or any Sub-contractor whether occurring or having its origin before, on or after the Relevant Transfer Date.

2.3 Subject to Paragraphs 2.4 and 2.5, if any employee of a Former Supplier who is not identified as a Transferring Former Supplier Employee and claims, and/or it is determined, in relation to such person that his/her contract of employment has been transferred from a Former Supplier to the Supplier and/or any Notified Sub-contractor pursuant to the Employment Regulations then:



2.3.1 the Supplier will within 5 Working Days of becoming aware of that fact notify the Buyer and the relevant Former Supplier in writing;

2.3.2 the Former Supplier may offer employment to such person, or take such other steps as it considers appropriate to resolve the matter, within 10 Working Days of receipt of notice from the Supplier;

2.3.3 if such offer of employment is accepted, the Supplier shall immediately release the person from its employment;

2.3.4 if after the period referred to in Paragraph 2.3.2 no such offer has been made, or such offer has been made but not accepted, the Supplier may within 5 Working Days give notice to terminate the employment of such person;

- (i) and subject to the Supplier's compliance with Paragraphs 2.3.1 to 2.3.4 the Buyer shall procure that the Former Supplier will indemnify the Supplier and/or the relevant Sub-contractor against all Employee Liabilities arising out of the termination of the employment of any of the Former Supplier's employees referred to in Paragraph 2.3.

2.4 The indemnity in Paragraph 2.3 shall not apply to any claim:

2.4.1 for discrimination, including on the grounds of sex, race, disability, age, gender reassignment, marriage or civil partnership, pregnancy and maternity or sexual orientation, religion or belief or equal pay or compensation for less favourable treatment of part-time workers or fixed-term employees, arising as a result of any alleged act or omission of the Supplier and/or any Sub-contractor; or

2.4.2 that the termination of employment was unfair because the Supplier and/or Sub-contractor neglected to follow a fair dismissal procedure.

2.5 The indemnity in Paragraph 2.3 shall not apply to any termination of employment occurring later than 3 Months from the Relevant Transfer Date.

2.6 If the Supplier and/or any Sub-contractor at any point accept the employment of any person as is described in Paragraph 2.3, such person shall be treated as having transferred to the Supplier and/or any Sub-contractor and the Supplier shall comply with such obligations as may be imposed upon it under applicable Law.

### **3. Indemnities the Supplier must give and its obligations**

3.1 Subject to Paragraph 3.1, the Supplier shall indemnify the Buyer, and the Former Supplier against any Employee Liabilities arising from or as a result of any act or omission by the Supplier or any Sub-contractor in respect of any Transferring Former Supplier Employee or any appropriate employee representative (as defined in the Employment Regulations) of any Transferring Former Supplier Employee whether occurring before, on or after the Relevant Transfer Date.

3.2 The indemnities in Paragraph 3.1 shall not apply to the extent that the Employee Liabilities arise or are attributable to an act or omission of the Former Supplier whether occurring or having its origin before, on or after the Relevant Transfer Date including, without limitation, any Employee Liabilities arising from the

Former Supplier's failure to comply with its obligations under the Employment Regulations.

- 3.3 The Supplier shall comply with all its obligations under the Employment Regulations and shall perform and discharge all its obligations in respect of all the Transferring Former Supplier Employees, on and from the Relevant Transfer Date including (without limit) the payment of all remuneration, benefits, entitlements, PAYE, national insurance contributions and pension contributions and all such sums due under Part D: Pensions.

#### **4. Information the Supplier must give**

The Supplier shall promptly provide to the Buyer and/or at the Buyer's direction, the Former Supplier, in writing such information as is necessary to enable the Buyer and/or the Former Supplier to carry out their respective duties under regulation 13 of the Employment Regulations. The Buyer shall procure that the Former Supplier shall promptly provide to the Supplier in writing such information as is necessary to enable the Supplier and any Sub-contractor to carry out their respective duties under regulation 13 of the Employment Regulations.

#### **5. Cabinet Office requirements**

- 5.1 The Supplier shall comply with any requirement notified to it by the Buyer relating to pensions in respect of any Transferring Former Supplier Employee as set down in (i) the Cabinet Office Statement of Practice on Staff Transfers in the Public Sector of January 2000, as revised; (ii) HM Treasury's guidance "Staff Transfers from Central Government: A Fair Deal for Staff Pensions of 1999; (iii) HM Treasury's guidance: "Fair deal for staff pensions: procurement of Bulk Transfer Agreements and Related Issues" of June 2004; and/or (iv) the New Fair Deal.
- 5.2 Any changes embodied in any statement of practice, paper or other guidance that replaces any of the documentation referred to in Paragraph 5.1 shall be agreed in accordance with the Change Control Procedure.

#### **6. Procurement obligations**

Notwithstanding any other provisions of this Part B, where in this Part B the Buyer accepts an obligation to procure that a Former Supplier does or does not do something, such obligation shall be limited so that it extends only to the extent that the Buyer's contract with the Former Supplier contains a contractual right in that regard which the Buyer may enforce, or otherwise so that it requires only that the Buyer must use reasonable endeavours to procure that the Former Supplier does or does not act accordingly.

#### **7. Pensions**

- 7.1 The Supplier shall comply with all statutory pension obligations in respect of all Transferring Former Supplier Employees.
- 7.2 The Supplier agrees that it will indemnify, and keep indemnified, the Buyer and

the Former Supplier against any Employee Liabilities or any other Losses arising from or as a result of any failure by the Supplier or any Sub-contractor to comply with its obligations under clause 7.1 above.

## **Part B: No Staff Transfer**

- 1.1 In the event that the Former Supplier is re-appointed (namely to the post of Supplier), the Buyer and the Supplier agree that the commencement of the provision of the Services or of any part of the Services will not give rise to a Relevant Transfer in relation to any employees of the Former Supplier.

## Part C: Staff Transfer on Exit

### 1. Obligations before a Staff Transfer

1.1 The Supplier agrees that within 20 Working Days of the earliest of:

- 1.1.1 receipt of a notification from the Buyer of a Service Transfer or intended Service Transfer;
- 1.1.2 receipt of the giving of notice of early termination or any Partial Termination of the relevant Contract;
- 1.1.3 the date which is 12 Months before the end of the Term; and
- 1.1.4 receipt of a written request of the Buyer at any time (provided that the Buyer shall only be entitled to make one such request in any 6 Month period),

it shall provide in a suitably anonymised format so as to comply with the Data Protection Laws, the Supplier's Provisional Supplier Personnel List, together with the Staffing Information in relation to the Supplier's Provisional Supplier Personnel List and it shall provide an updated Supplier's Provisional Supplier Personnel List at such intervals as are reasonably requested by the Buyer.

- 1.2 At least 20 Working Days prior to the Service Transfer Date, the Supplier shall provide to the Buyer or at the direction of the Buyer to any Replacement Supplier and/or any Replacement Sub-contractor (i) the Supplier's Final Supplier Personnel List, which shall identify the basis upon which they are Transferring Supplier Employees and (ii) the Staffing Information in relation to the Supplier's Final Supplier Personnel List (insofar as such information has not previously been provided).
- 1.3 The Buyer shall be permitted to use and disclose information provided by the Supplier under Paragraphs 1.1 and 1.2 for the purpose of informing any prospective Replacement Supplier and/or Replacement Sub-contractor.
- 1.4 The Supplier warrants, for the benefit of The Buyer, any Replacement Supplier, and any Replacement Sub-contractor that all information provided pursuant to Paragraphs 1.1 and 1.2 shall be true and accurate in all material respects at the time of providing the information.
- 1.5 From the date of the earliest event referred to in Paragraph 1.1.1, 1.1.2 and 1.1.3, the Supplier agrees that it shall not assign any person to the provision of the Services who is not listed on the Supplier's Provisional Supplier Personnel List and shall, unless otherwise instructed by the Buyer (acting reasonably):

not replace or re-deploy any Supplier Personnel listed on the Supplier Provisional Supplier Personnel List other than where any replacement is of equivalent grade, skills, experience and expertise and is employed on the same terms and conditions of employment as the person he/she replaces

not make, promise, propose, permit or implement any material changes to the terms and conditions of (i) employment and/or (ii) pensions, retirement and death benefits (including not to make pensionable any category of earnings which



were not previously pensionable or reduce the pension contributions payable) of the Supplier Personnel (including any payments connected with the termination of employment);

- 1.5.1 not increase the proportion of working time spent on the Services (or the relevant part of the Services) by any of the Supplier Personnel save for fulfilling assignments and projects previously scheduled and agreed;
- 1.5.2 not introduce any new contractual or customary practice concerning the making of any lump sum payment on the termination of employment of any employees listed on the Supplier's Provisional Supplier Personnel List;
- 1.5.3 not increase or reduce the total number of employees so engaged, or deploy any other person to perform the Services (or the relevant part of the Services);
- 1.5.4 not terminate or give notice to terminate the employment or contracts of any persons on the Supplier's Provisional Supplier Personnel List save by due disciplinary process;
- 1.5.5 not dissuade or discourage any employees engaged in the provision of the Services from transferring their employment to the Buyer and/or the Replacement Supplier and/or Replacement Sub-contractor;
- 1.5.6 give the Buyer and/or the Replacement Supplier and/or Replacement Sub-contractor reasonable access to Supplier Personnel and/or their consultation representatives to inform them of the intended transfer and consult any measures envisaged by the Buyer, Replacement Supplier and/or Replacement Subcontractor in respect of persons expected to be Transferring Supplier Employees;
- 1.5.7 co-operate with the Buyer and the Replacement Supplier to ensure an effective consultation process and smooth transfer in respect of Transferring Supplier Employees in line with good employee relations and the effective continuity of the Services, and to allow for participation in any pension arrangements to be put in place to comply with New Fair Deal;
- 1.5.8 promptly notify the Buyer or, at the direction of the Buyer, any Replacement Supplier and any Replacement Sub-contractor of any notice to terminate employment given by the Supplier or received from any persons listed on the Supplier's Provisional Supplier Personnel List regardless of when such notice takes effect;
- 1.5.9 not for a period of 12 Months from the Service Transfer Date re-employ or re-engage or entice any employees, suppliers or Sub-contractors whose employment or engagement is transferred to the Buyer and/or the Replacement Supplier (unless otherwise instructed by the Buyer (acting reasonably));

1.5.10 not to adversely affect pension rights accrued by all and any Fair Deal Employees in the period ending on the Service Transfer Date;

- 1.5.11 fully fund any Broadly Comparable pension schemes set up by the Supplier;
  - 1.5.12 maintain such documents and information as will be reasonably required to manage the pension aspects of any onward transfer of any person engaged or employed by the Supplier or any Sub-contractor in the provision of the Services on the expiry or termination of this Contract (including without limitation identification of the Fair Deal Employees);
  - 1.5.13 promptly provide to the Buyer such documents and information mentioned in Paragraph 3.1.1 of Part D: Pensions which the Buyer may reasonably request in advance of the expiry or termination of this Contract; and
  - 1.5.14 fully co-operate (and procure that the trustees of any Broadly Comparable pension scheme shall fully co-operate) with the reasonable requests of the Supplier relating to any administrative tasks necessary to deal with the pension aspects of any onward transfer of any person engaged or employed by the Supplier or any Sub-contractor in the provision of the Services on the expiry or termination of this Contract.
- 1.6 On or around each anniversary of the Effective Date and up to four times during the last 12 Months of the Term, the Buyer may make written requests to the Supplier for information relating to the manner in which the Services are organised. Within 20 Working Days of receipt of a written request the Supplier shall provide such information as the Buyer may reasonably require which shall include:
  - 1.6.1 the numbers of employees engaged in providing the Services;
  - 1.6.2 the percentage of time spent by each employee engaged in providing the Services;
  - 1.6.3 the extent to which each employee qualifies for membership of any of the Fair Deal Schemes (as defined in Part D: Pensions); and
  - 1.6.4 a description of the nature of the work undertaken by each employee by location.
- 1.7 The Supplier shall provide all reasonable cooperation and assistance to the Buyer, any Replacement Supplier and/or any Replacement Sub-contractor to ensure the smooth transfer of the Transferring Supplier Employees on the Service Transfer Date including providing sufficient information in advance of the Service Transfer Date to ensure that all necessary payroll arrangements can be made to enable the Transferring Supplier Employees to be paid as appropriate. Without prejudice to the generality of the foregoing, within 5 Working Days following the Service Transfer Date, the Supplier shall provide to the Buyer or, at the direction of the Buyer, to any Replacement Supplier and/or any Replacement Sub-contractor (as appropriate), in respect of each person on the Supplier's Final Supplier Personnel List who is a Transferring Supplier Employee:

1.7.1 the most recent month's copy pay slip data;

1.7.2 details of cumulative pay for tax and pension purposes;

1.7.3 details of cumulative tax paid;

1.7.4 tax code;

1.7.5 details of any voluntary deductions from pay; and

1.7.6 bank/building society account details for payroll purposes.

## **2. Staff Transfer when the contract ends**

2.1 A change in the identity of the supplier of the Services (or part of the Services), howsoever arising, may constitute a Relevant Transfer to which the Employment Regulations will apply. The Buyer and the Supplier agree that where a Relevant Transfer occurs, the contracts of employment between the Supplier and the Transferring Supplier Employees (except in relation to any contract terms disapplied through operation of regulation 10(2) of the Employment Regulations) will have effect on and from the Service Transfer Date as if originally made between the Replacement Supplier and/or a Replacement Sub-contractor (as the case may be) and each such Transferring Supplier Employee.

2.2 The Supplier shall comply with all its obligations in respect of the Transferring Supplier Employees arising under the Employment Regulations in respect of the period up to (and including) the Service Transfer Date including (without limit) the payment of all remuneration, benefits, entitlements, PAYE, national insurance contributions and pension contributions and all such sums due as a result of any Fair Deal Employees' participation in the Fair Deal Schemes (as defined in Part D: Pensions).

2.3 Subject to Paragraph 2.4, the Supplier shall indemnify the Buyer and/or the Replacement Supplier and/or any Replacement Sub-contractor against any Employee Liabilities arising from or as a result of any act or omission of the Supplier or any Sub-contractor in respect of any Transferring Supplier Employee or any appropriate employee representative (as defined in the Employment Regulations) of any Transferring Supplier Employee whether occurring before, on or after the Service Transfer Date.

2.4 The indemnity in Paragraph 2.3 shall not apply to the extent that the Employee Liabilities arise or are attributable to an act or omission of the Replacement Supplier and/or any Replacement Sub-contractor whether occurring or having its origin before, on or after the Service Transfer Date.

2.5 Subject to Paragraphs 2.6 and 2.7, if any employee of the Supplier who is not identified in the Supplier's Final Transferring Supplier Employee List claims, or it is determined in relation to any employees of the Supplier, that his/her contract of employment has been transferred from the Supplier to the Replacement Supplier and/or Replacement Sub-contractor pursuant to the Employment Regulations then.

2.5.1 the Replacement Supplier and/or Replacement Sub-contractor will, within 5 Working Days of becoming aware of that fact, notify the Buyer and the Supplier in writing;

2.5.2 the Supplier may offer employment to such person, or take such other steps as it considered appropriate to resolve the matter,

within 10 Working Days of receipt of notice from the Replacement Supplier and/or Replacement Sub-contractor;

2.5.3 if such offer of employment is accepted, the Replacement Supplier and/or Replacement Sub-contractor shall immediately release the person from its employment;

2.5.4 if after the period referred to in Paragraph 2.5.2 no such offer has been made, or such offer has been made but not accepted, the Replacement Supplier and/or Replacement Sub-contractor may within 5 Working Days give notice to terminate the employment of such person;

**1.1.2** and subject to the Replacement Supplier's and/or Replacement Subcontractor's compliance with Paragraphs 2.5.1 to 2.5.4 the Supplier will indemnify the Replacement Supplier and/or Replacement Sub-contractor against all Employee Liabilities arising out of the termination of the employment of any of the Supplier's employees referred to in Paragraph 2.5.

2.6 The indemnity in Paragraph 2.5 shall not apply to:

2.6.1 (a) any claim for discrimination, including on the grounds of sex, race, disability, age, gender reassignment, marriage or civil partnership, pregnancy and maternity or sexual orientation, religion or belief, or equal pay or compensation for less favourable treatment of part-time workers or fixed-term employees, arising as a result of any alleged act or omission of the Replacement Supplier and/or Replacement Sub-contractor, or

2.6.2 (b) any claim that the termination of employment was unfair because the Replacement Supplier and/or Replacement Subcontractor neglected to follow a fair dismissal procedure.

2.7 The indemnity in Paragraph 2.5 shall not apply to any termination of employment occurring later than 3 Months from the Service Transfer Date.

2.8 If at any point the Replacement Supplier and/or Replacement Sub-contract accepts the employment of any such person as is described in Paragraph 2.5, such person shall be treated as a Transferring Supplier Employee and Paragraph 2.5 shall cease to apply to such person.

2.9 The Supplier shall promptly provide the Buyer and any Replacement Supplier and/or Replacement Sub-contractor, in writing such information as is necessary to enable the Buyer, the Replacement Supplier and/or Replacement Subcontractor to carry out their respective duties under regulation 13 of the Employment Regulations. The Buyer shall procure that the Replacement Supplier and/or Replacement Sub-contractor, shall promptly provide to the Supplier and each Sub-contractor in writing such information as is necessary to enable the Supplier and each Sub-contractor to carry out their respective duties under regulation 13 of the Employment Regulations.

2.10 Subject to Paragraph 2.9, the Buyer shall procure that the Replacement Supplier indemnifies the Supplier on its own behalf and on behalf of any Replacement Sub-contractor and its Sub-contractors against any Employee Liabilities arising from or as a result of any act or omission, whether occurring before, on or after

the Service Transfer Date, of the Replacement Supplier and/or Replacement Sub-contractor in respect of any Transferring Supplier Employee or any



appropriate employee representative (as defined in the Employment Regulations) of any such Transferring Supplier Employee.

2.11 The indemnity in Paragraph 2.10 shall not apply to the extent that the Employee Liabilities arise or are attributable to an act or omission of the Supplier and/or any Sub-contractor (as applicable) whether occurring or having its origin before, on or after the Service Transfer Date, including any Employee Liabilities arising from the failure by the Supplier and/or any Sub-contractor (as applicable) to comply with its obligations under the Employment Regulations, or to the extent the Employee Liabilities arise out of the termination of employment of any person who is not identified in the Supplier's Final Supplier Personnel List in accordance with Paragraph 2.5 (and subject to the limitations set out in Paragraphs 2.6 and 2.7 above).

### 3 PROCUREMENT OBLIGATIONS

Where in this Part C the Buyer accepts an obligation to procure that a Replacement Supplier does or does not do something, such obligation shall be limited so that it extends only to the extent that the Buyer's contract with the Replacement Supplier contains a contractual right in that regard which the Buyer may enforce, or otherwise so that it requires only that the Buyer must use reasonable endeavours to procure that the Replacement Supplier does or does not act accordingly.

[Subject to Contract]

## **Schedule 11 (Continuous Improvement)**

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# **Schedule 11 (Continuous Improvement)**

## **1. Supplier's Obligations**

- 1.1 The Supplier must, throughout the Contract Period, identify new or potential improvements to the provision of the Deliverables with a view to reducing the Buyer's costs (including the Charges) and/or improving the quality and efficiency of the Deliverables and their supply to the Buyer.
- 1.2 The Supplier must adopt a policy of continuous improvement in relation to the Deliverables, which must include regular reviews with the Buyer of the Deliverables and the way it provides them, with a view to reducing the Buyer's costs (including the Charges) and/or improving the quality and efficiency of the Deliverables. The Supplier and the Buyer must provide each other with any information relevant to meeting this objective.
- 1.3 In addition to Paragraph 1.1, the Supplier shall produce at the start of each Contract Year a plan for improving the provision of Deliverables and/or reducing the Charges (without adversely affecting the performance of this Contract) during that Contract Year ("**Continuous Improvement Plan**") for the Buyer's Approval. The Continuous Improvement Plan must include, as a minimum, proposals:
  - 1.3.1 identifying the emergence of relevant new and evolving technologies;
  - 1.3.2 changes in business processes of the Supplier or the Buyer and ways of working that would provide cost savings and/or enhanced benefits to the Buyer (such as methods of interaction, supply chain efficiencies, reduction in energy consumption and methods of sale);
  - 1.3.3 new or potential improvements to the provision of the Deliverables including the quality, responsiveness, procedures, benchmarking methods, likely performance mechanisms and customer support services in relation to the Deliverables; and
  - 1.3.4 measuring and reducing the sustainability impacts of the Supplier's operations and supply-chains relating to the Deliverables, and identifying opportunities to assist the Buyer in meeting their sustainability objectives.
- 1.4 The initial Continuous Improvement Plan for the first (1<sup>st</sup>) Contract Year shall be submitted by the Supplier to the Buyer for Approval within six (6) Months following the Start Date.
- 1.5 The Buyer shall notify the Supplier of its Approval or rejection of the proposed Continuous Improvement Plan or any updates to it within twenty (20) Working Days of receipt. If it is rejected then the Supplier shall, within ten (10) Working Days of receipt of notice of rejection, submit a revised Continuous Improvement Plan reflecting the changes required. Once

Approved, it becomes the Continuous Improvement Plan for the purposes of this Contract.



## **Schedule 11 (Continuous Improvement)**

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- 1.6 The Supplier must provide sufficient information with each suggested improvement to enable a decision on whether to implement it. The Supplier shall provide any further information as requested.
- 1.7 If the Buyer wishes to incorporate any improvement into this Contract, it must request a Variation in accordance with the Variation Procedure and the Supplier must implement such Variation at no additional cost to the Buyer.
- 1.8 Once the first Continuous Improvement Plan has been Approved in accordance with Paragraph 1.5:
  - 1.8.1 the Supplier shall use all reasonable endeavours to implement any agreed deliverables in accordance with the Continuous Improvement Plan; and
  - 1.8.2 the Parties agree to meet as soon as reasonably possible following the start of each quarter (or as otherwise agreed between the Parties) to review the Supplier's progress against the Continuous Improvement Plan.
- 1.9 The Supplier shall update the Continuous Improvement Plan as and when required but at least once every Contract Year (after the first (1<sup>st</sup>) Contract Year) in accordance with the procedure and timescales set out in Paragraph 1.3.
- 1.10 All costs relating to the compilation or updating of the Continuous Improvement Plan and the costs arising from any improvement made pursuant to it and the costs of implementing any improvement, shall have no effect on and are included in the Charges.
- 1.11 Should the Supplier's costs in providing the Deliverables to the Buyer be reduced as a result of any changes implemented, all of the cost savings shall be passed on to the Buyer by way of a consequential and immediate reduction in the Charges for the Deliverables.
- 1.12 At any time during the Contract Period of the Contract, the Supplier may make a proposal for gainshare. If the Buyer deems gainshare to be applicable then the Supplier shall update the Continuous Improvement Plan so as to include details of the way in which the proposal shall be implemented in accordance with an agreed gainshare ratio.



[Subject to Contract]  
**Schedule 13 (Contract Management)**  
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# Schedule 13 (Contract Management)

## 1. Definitions

In this Schedule, the following words shall have the following meanings and they shall supplement Schedule 1 (Definitions):

"Operational Board"	the board established in accordance with Paragraph 4.1 of this Schedule;
"Project Manager"	the manager appointed in accordance with Paragraph 2.1 of this Schedule;

## 5. Project Management

- 2.1 The Supplier and the Buyer shall each appoint a Project Manager for the purposes of this Contract through whom the provision of the Services and the Deliverables shall be managed day-to-day.
- 2.2 The Parties shall ensure that appropriate resource is made available on a regular basis such that the aims, objectives and specific provisions of this Contract can be fully realised.

2.3 Without prejudice to Paragraph 4 below, the Parties agree to operate the boards specified as set out in the Annex to this Schedule.

## 2. Role of the Supplier Project Manager

- 3.1 The Supplier Project Manager shall be:
  - 3.1.1 the primary point of contact to receive communication from the Buyer and will also be the person primarily responsible for providing information to the Buyer;
  - 3.1.2 able to delegate his position to another person at the Supplier but must inform the Buyer before proceeding with the delegation and it will be delegated person's responsibility to fulfil the Project Manager's responsibilities and obligations;
  - 3.1.3 able to cancel any delegation and recommence the position himself; and
  - 3.1.4 replaced only after the Buyer has received notification of the proposed change.
- 3.2 The Buyer may provide revised instructions to the Supplier's Project Manager in regards to the Contract and it will be the Supplier Project Manager's responsibility to ensure the information is provided to the Supplier and the actions implemented.

3.3 Receipt of communication from the Supplier Project Manager by the Buyer does not absolve the Supplier from its responsibilities, obligations or liabilities under the Contract.





[Subject to Contract]

**Schedule 13 (Contract Management)**

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**4. Role of The Operational Board**

- 4.1 The Operational Board shall be established by the Buyer for the purposes of this Contract on which the Supplier and the Buyer shall be represented.
- 4.2 The Operational Board members, frequency and location of board meetings and planned start date by which the board shall be established are set out in Annex A to the Schedule.
- 4.3 In the event that either Party wishes to replace any of its appointed board members, that Party shall notify the other in writing for approval by the other Party (such approval not to be unreasonably withheld or delayed). Each Buyer board member shall have at all times a counterpart Supplier board member of equivalent seniority and expertise.
- 4.4 Each Party shall ensure that its board members shall make all reasonable efforts to attend board meetings at which that board member's attendance is required. If any board member is not able to attend a board meeting, that person shall use all reasonable endeavours to ensure that a delegate attends the Operational Board meeting in his/her place (wherever possible) and that the delegate is properly briefed and prepared and that he/she is debriefed by such delegate after the board meeting.
- 4.5 The purpose of the Operational Board meetings will be to review the Supplier's performance under this Contract. The agenda for each meeting shall be set by the Buyer and communicated to the Supplier in advance of that meeting.

**5. Contract Risk Management**

- 5.1 Both Parties shall pro-actively manage risks attributed to them under the terms of this Contract.
- 5.2 The Supplier shall develop, operate, maintain and amend, as agreed with the Buyer, processes for:
  - 5.2.1 the identification and management of risks;
  - 5.2.2 the identification and management of issues; and
  - 5.2.3 monitoring and controlling project plans.
- 5.3 The Supplier allows the Buyer to inspect at any time within working hours the accounts and records which the Supplier is required to keep.

5.4 The Supplier will maintain a risk register of the risks relating to the Contract which the Buyer and the Supplier have identified.



[Subject to Contract]

### Schedule 13 (Contract Management)

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## Annex: Operational Boards

The Parties agree to operate the following boards at the locations and at the frequencies set out in Schedule 2 (Specification).



[Subject to Contract]

## Schedule 14 (Business Continuity and Disaster Recovery)

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# Schedule 14 (Business Continuity and Disaster Recovery)

## 1. Definitions

1.1 In this Schedule, the following words shall have the following meanings and they shall supplement Schedule 1 (Definitions):

"BCDR Plan"	has the meaning given to it in Paragraph 2.1 of this Schedule;
"Business Continuity Plan"	has the meaning given to it in Paragraph 2.2.2 of this Schedule;
"Disaster Recovery Plan"	has the meaning given to it in Paragraph 2.2.3 of this Schedule;
"Related Supplier"	any person who provides Deliverables to the Buyer which are related to the Deliverables from time to time;
"Review Report"	has the meaning given to it in Paragraph 6.3 of this Schedule; and
"Supplier's Proposals"	has the meaning given to it in Paragraph 6.3 of this Schedule;

## 2. BCDR Plan

2.1 At least ninety (90) Working Days prior to the Start Date the Supplier shall prepare and deliver to the Buyer for the Buyer's written approval a plan (a "**BCDR Plan**"), which shall detail the processes and arrangements that the Supplier shall follow to:

- 2.1.1 ensure continuity of the business processes and operations supported by the Services following any failure or disruption of any element of the Deliverables; and
- 2.1.2 the recovery of the Deliverables in the event of a Disaster

2.2 The BCDR Plan shall be divided into three sections:

- 2.2.1 Section 1 which shall set out general principles applicable to the BCDR Plan;
- 2.2.2 Section 2 which shall relate to business continuity (the "**Business Continuity Plan**"); and
- 2.2.3 Section 3 which shall relate to disaster recovery (the "**Disaster Recovery Plan**").

2.3 Following receipt of the draft BCDR Plan from the Supplier, the Parties shall use reasonable endeavours to agree the contents of the BCDR Plan. If the Parties are unable to agree the contents of the BCDR Plan within twenty

(20) Working Days of its submission, then such Dispute shall be resolved in accordance with the Dispute Resolution Procedure.





[Subject to Contract]

**Schedule 14 (Business Continuity and Disaster Recovery)**

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**3. General Principles of the BCDR Plan (Section 1)**

3.1 Section 1 of the BCDR Plan shall:

3.1.1 set out how the business continuity and disaster recovery elements of the BCDR Plan link to each other;

3.1.2 provide details of how the invocation of any element of the BCDR Plan may impact upon the provision of the Deliverables and any goods and/or services provided to the Buyer by a Related Supplier;

3.1.3 contain an obligation upon the Supplier to liaise with the Buyer and any Related Suppliers with respect to business continuity and disaster recovery;

3.1.4 detail how the BCDR Plan interoperates with any overarching disaster recovery or business continuity plan of the Buyer and any of its other Related Supplier in each case as notified to the Supplier by the Buyer from time to time;

3.1.5 contain a communication strategy including details of an incident and problem management service and advice and help desk facility which can be accessed via multiple channels;

3.1.6 contain a risk analysis, including:

- a) failure or disruption scenarios and assessments of likely frequency of occurrence;
- b) identification of any single points of failure within the provision of Deliverables and processes for managing those risks;
- c) identification of risks arising from an Insolvency Event of the Supplier, any Key Subcontractors and/or Supplier Group member;
- d) identification of risks arising from the interaction of the provision of Deliverables with the goods and/or services provided by a Related Supplier; and
- e) a business impact analysis of different anticipated failures or disruptions;

3.1.7 provide for documentation of processes, including business processes, and procedures;

3.1.8 set out key contact details for the Supplier (and any Subcontractors) and for the Buyer;

3.1.9 identify the procedures for reverting to "normal service";

3.1.10 set out method(s) of recovering or updating data collected (or which ought to have been collected) during a failure or disruption to minimise data loss;

3.1.11 identify the responsibilities (if any) that the Buyer has agreed it will assume in the event of the invocation of the BCDR Plan; and



[Subject to Contract]

**Schedule 14 (Business Continuity and Disaster Recovery)**

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- 3.1.12 provide for the provision of technical assistance to key contacts at the Buyer as required by the Buyer to inform decisions in support of the Buyer's business continuity plans.
- 3.2 The BCDR Plan shall be designed so as to ensure that:
  - 3.2.1 the Deliverables are provided in accordance with this Contract at all times during and after the invocation of the BCDR Plan;
  - 3.2.2 the adverse impact of any Disaster is minimised as far as reasonably possible;
  - 3.2.3 it complies with the relevant provisions of ISO/IEC 27002; ISO22301/ISO22313 and all other industry standards from time to time in force; and
  - 3.2.4 it details a process for the management of disaster recovery testing.
- 3.3 The BCDR Plan shall be upgradeable and sufficiently flexible to support any changes to the Deliverables and the business operations supported by the provision of Deliverables.
- 3.4 The Supplier shall not be entitled to any relief from its obligations under the Service Levels, or to any increase in the Charges to the extent that a Disaster occurs as a consequence of any breach by the Supplier of this Contract.

**4. Business Continuity (Section 2)**

- 4.1 The Business Continuity Plan shall set out the arrangements that are to be invoked to ensure that the business processes facilitated by the provision of Deliverables remain supported and to ensure continuity of the business operations supported by the Services including:
  - 4.1.1 the alternative processes, options and responsibilities that may be adopted in the event of a failure in or disruption to the provision of Deliverables; and
  - 4.1.2 the steps to be taken by the Supplier upon resumption of the provision of Deliverables in order to address the effect of the failure or disruption.
- 4.2 The Business Continuity Plan shall:
  - 4.2.1 address the various possible levels of failures of or disruptions to the provision of Deliverables;
  - 4.2.2 set out the goods and/or services to be provided and the steps to be taken to remedy the different levels of failures of and disruption to the Deliverables;
  - 4.2.3 specify any applicable Service Levels with respect to the provision of the Business Continuity Services and details of any agreed relaxation to the Service Levels in respect of the provision of other

Deliverables during any period of invocation of the Business Continuity Plan; and



4.2.4 set out the circumstances in which the Business Continuity Plan is invoked.

## **5. Disaster Recovery (Section 3)**

5.1 The Disaster Recovery Plan (which shall be invoked only upon the occurrence of a Disaster) shall be designed to ensure that upon the occurrence of a Disaster the Supplier ensures continuity of the business operations of the Buyer supported by the Services following any Disaster or during any period of service failure or disruption with, as far as reasonably possible, minimal adverse impact.

5.2 The Supplier's BCDR Plan shall include an approach to business continuity and disaster recovery that addresses the following:

- 5.2.1 loss of access to the Buyer Premises;
- 5.2.2 loss of utilities to the Buyer Premises;
- 5.2.3 loss of the Supplier's helpdesk or CAFM system;
- 5.2.4 loss of a Subcontractor;
- 5.2.5 emergency notification and escalation process;
- 5.2.6 contact lists;
- 5.2.7 staff training and awareness;
- 5.2.8 BCDR Plan testing;
- 5.2.9 post implementation review process;
- 5.2.10 any applicable Service Levels with respect to the provision of the disaster recovery services and details of any agreed relaxation to the Service Levels in respect of the provision of other Deliverables during any period of invocation of the Disaster Recovery Plan;
- 5.2.11 details of how the Supplier shall ensure compliance with security standards ensuring that compliance is maintained for any period during which the Disaster Recovery Plan is invoked;
- 5.2.12 access controls to any disaster recovery sites used by the Supplier in relation to its obligations pursuant to this Schedule; and
- 5.2.13 testing and management arrangements.

## **6. Review and changing the BCDR Plan**

6.1 The Supplier shall review the BCDR Plan:

- 6.1.1 on a regular basis and as a minimum once every six (6) Months;
- 6.1.2 within three (3) calendar Months of the BCDR Plan (or any part) having been invoked pursuant to Paragraph 7; and
- 6.1.3 where the Buyer requests in writing any additional reviews (over and above those provided for in Paragraphs 6.1.1 and 6.1.2 of this Schedule) whereupon the Supplier shall conduct such reviews in accordance with the Buyer's written requirements. Prior to starting





[Subject to Contract]

**Schedule 14 (Business Continuity and Disaster Recovery)**

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its review, the Supplier shall provide an accurate written estimate of the total costs payable by the Buyer for the Buyer's approval. The costs of both Parties of any such additional reviews shall be met by the Buyer except that the Supplier shall not be entitled to charge the Buyer for any costs that it may incur above any estimate without the Buyer's prior written approval.

6.2 Each review of the BCDR Plan pursuant to Paragraph 6.1 shall assess its suitability having regard to any change to the Deliverables or any underlying business processes and operations facilitated by or supported by the Services which have taken place since the later of the original approval of the BCDR Plan or the last review of the BCDR Plan, and shall also have regard to any occurrence of any event since that date (or the likelihood of any such event taking place in the foreseeable future) which may increase the likelihood of the need to invoke the BCDR Plan. The review shall be completed by the Supplier within such period as the Buyer shall reasonably require.

6.3 The Supplier shall, within twenty (20) Working Days of the conclusion of each such review of the BCDR Plan, provide to the Buyer a report (a "**Review Report**") setting out the Supplier's proposals (the "**Supplier's Proposals**") for addressing any changes in the risk profile and its proposals for amendments to the BCDR Plan.

6.4 Following receipt of the Review Report and the Supplier's Proposals, the Parties shall use reasonable endeavours to agree the Review Report and the Supplier's Proposals. If the Parties are unable to agree Review Report and the Supplier's Proposals within twenty (20) Working Days of its submission, then such Dispute shall be resolved in accordance with the Dispute Resolution Procedure.

6.5 The Supplier shall as soon as is reasonably practicable after receiving the approval of the Supplier's Proposals effect any change in its practices or procedures necessary so as to give effect to the Supplier's Proposals. Any such change shall be at the Supplier's expense unless it can be reasonably shown that the changes are required because of a material change to the risk profile of the Deliverables.

## **7. Testing the BCDR Plan**

7.1 The Supplier shall test the BCDR Plan:

7.1.1 regularly and in any event not less than once in every Contract Year;

7.1.2 in the event of any major reconfiguration of the Deliverables

7.1.3 at any time where the Buyer considers it necessary (acting in its sole discretion).

7.2 If the Buyer requires an additional test of the BCDR Plan, it shall give the Supplier written notice and the Supplier shall conduct the test in accordance

with the Buyer's requirements and the relevant provisions of the BCDR Plan.  
The Supplier's costs of the additional test shall be borne by the Buyer



unless the BCDR Plan fails the additional test in which case the Supplier's costs of that failed test shall be borne by the Supplier.

7.3 The Supplier shall undertake and manage testing of the BCDR Plan in full consultation with and under the supervision of the Buyer and shall liaise with the Buyer in respect of the planning, performance, and review, of each test, and shall comply with the reasonable requirements of the Buyer.

7.4 The Supplier shall ensure that any use by it or any Subcontractor of "live" data in such testing is first approved with the Buyer. Copies of live test data used in any such testing shall be (if so required by the Buyer) destroyed or returned to the Buyer on completion of the test.

7.5 The Supplier shall, within twenty (20) Working Days of the conclusion of each test, provide to the Buyer a report setting out:

7.5.1 the outcome of the test;

7.5.2 any failures in the BCDR Plan (including the BCDR Plan's procedures) revealed by the test; and

7.5.3 the Supplier's proposals for remedying any such failures.

7.6 Following each test, the Supplier shall take all measures requested by the Buyer to remedy any failures in the BCDR Plan and such remedial activity and re-testing shall be completed by the Supplier, at its own cost, by the date reasonably required by the Buyer.

## **8. Invoking the BCDR Plan**

8.1 In the event of a complete loss of service or in the event of a Disaster, the Supplier shall immediately invoke the BCDR Plan (and shall inform the Buyer promptly of such invocation). In all other instances the Supplier shall invoke or test the BCDR Plan only with the prior consent of the Buyer.

## **9. Circumstances beyond your control**

9.1 The Supplier shall not be entitled to relief under Clause 24 (Circumstances beyond your control) if it would not have been impacted by the Force Majeure Event had it not failed to comply with its obligations under this Schedule.



[Subject to Contract]  
**Schedule 16 (Security)**  
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## Schedule 16 (Security)

### Part A: Short Form Security Requirements

#### 1. Definitions

- 1.1 In this Schedule, the following words shall have the following meanings and they shall supplement Schedule 1 (Definitions):

**"Breach of Security"**

the occurrence of:

- a) any unauthorised access to or use of the Deliverables, the Sites and/or any Information and Communication Technology ("ICT"), information or data (including the Confidential Information and the Government Data) used by the Buyer and/or the Supplier in connection with this Contract; and/or
- b) the loss and/or unauthorised disclosure of any information or data (including the Confidential Information and the Government Data), including any copies of such information or data, used by the Buyer and/or the Supplier in connection with this Contract,

in either case as more particularly set out in the Security Policy where the Buyer has required compliance there with in accordance with Paragraph 2.1;

**"Security Management Plan"**

the Supplier's security management plan prepared pursuant to this Schedule, a draft of which has been provided by the Supplier to the Buyer and as updated from time to time.

#### 2. Complying with security requirements and updates to them

- 2.1 The Supplier shall comply with the requirements in this Schedule in respect of the Security Management Plan. Where specified by a Buyer it shall also comply with the Security Policy and shall ensure that the Security Management Plan produced by the Supplier fully complies with the Security Policy.
- 2.2 Where the Security Policy applies the Buyer shall notify the Supplier of any changes or proposed changes to the Security Policy.
- 2.3 If the Supplier believes that a change or proposed change to the Security Policy will have a material and unavoidable cost implication to the provision of the Deliverables it may propose a Variation to the Buyer. In doing so, the Supplier must support its request by providing evidence of the cause of any

[Subject to Contract]

## **Schedule 16 (Security)**

Crown Copyright 2022

increased costs and the steps that it has taken to mitigate those costs. Any change to the Charges shall be subject to the Variation Procedure.

2.4 Until and/or unless a change to the Charges is agreed by the Buyer pursuant to the Variation Procedure the Supplier shall the Deliverables provide in accordance with its existing obligations.

### **3. Security Standards**

3.1 The Supplier acknowledges that the Buyer places great emphasis on the reliability of the performance of the Deliverables, confidentiality, integrity and availability of information and consequently on security.

3.2 The Supplier shall be responsible for the effective performance of its security obligations and shall at all times provide a level of security which:

3.2.1 is in accordance with the Law and this Contract; as

3.2.2 a minimum demonstrates Good Industry Practice;

3.2.3 meets any specific security threats of immediate relevance to the Deliverables and/or the Government Data; and

3.2.4 where specified by the Buyer in accordance with Paragraph 2.1 complies with the Security Policy and the ICT Policy.

3.3 The references to standards, guidance and policies contained or set out in Paragraph 3.2 shall be deemed to be references to such items as developed and updated and to any successor to or replacement for such standards, guidance and policies, as notified to the Supplier from time to time.

3.4 In the event of any inconsistency in the provisions of the above standards, guidance and policies, the Supplier should notify the Buyer's Representative of such inconsistency immediately upon becoming aware of the same, and the Buyer's Representative shall, as soon as practicable, advise the Supplier which provision the Supplier shall be required to comply with.

## **4. Security Management Plan**

### **4.1 Introduction**

4.1.1 The Supplier shall develop and maintain a Security Management Plan in accordance with this Schedule. The Supplier shall thereafter comply with its obligations set out in the Security Management Plan.

### **4.2 Content of the Security Management Plan**

4.2.1 The Security Management Plan shall:

- a) comply with the principles of security set out in Paragraph 3 and any other provisions of this Contract relevant to security;
- b) identify the necessary delegated organisational roles for those responsible for ensuring it is complied with by the Supplier;



[Subject to Contract]  
**Schedule 16 (Security)**

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- c) detail the process for managing any security risks from Subcontractors and third parties authorised by the Buyer with access to the Deliverables, processes associated with the provision of the Deliverables, the Buyer Premises, the Sites and any ICT, Information and data (including the Buyer's Confidential Information and the Government Data) and any system that could directly or indirectly have an impact on that Information, data and/or the Deliverables;
- d) be developed to protect all aspects of the Deliverables and all processes associated with the provision of the Deliverables, including the Buyer Premises, the Sites, and any ICT, Information and data (including the Buyer's Confidential Information and the Government Data) to the extent used by the Buyer or the Supplier in connection with this Contract or in connection with any system that could directly or indirectly have an impact on that Information, data and/or the Deliverables;
- e) set out the security measures to be implemented and maintained by the Supplier in relation to all aspects of the Deliverables and all processes associated with the provision of the Goods and/or Services and shall at all times comply with and specify security measures and procedures which are sufficient to ensure that the Deliverables comply with the provisions of this Contract;
- f) set out the plans for transitioning all security arrangements and responsibilities for the Supplier to meet the full obligations of the security requirements set out in this Contract and, where necessary in accordance with the Security Policy as set out in Paragraph 2.1 ; and
- g) be written in plain English in language which is readily comprehensible to the staff of the Supplier and the Buyer engaged in the provision of the Deliverables and shall only reference documents which are in the possession of the Parties or whose location is otherwise specified in this Schedule.

**4.3**

**Development of the Security Management Plan**

**4.3.1**

Within twenty (20) Working Days after the Start Date and in accordance with Paragraph 4.4, the Supplier shall prepare and deliver to the Buyer for Approval a fully complete and up to date Security Management Plan which will be based on the draft Security Management Plan.

**4.3.2**

If the Security Management Plan submitted to the Buyer in accordance with Paragraph 4.3.1, or any subsequent revision to it in accordance with Paragraph 4.4, is Approved it will be adopted immediately and will replace the previous version of the Security Management Plan and thereafter operated and maintained in

[Subject to Contract]

**Schedule 16 (Security)**

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accordance with this Schedule. If the Security Management Plan is not Approved, the Supplier shall amend it within ten (10) Working Days of a notice of non-approval from the Buyer and re-submit to the Buyer for Approval. The Parties will use all reasonable endeavours to ensure that the approval process takes as little time as possible and in any event no longer than fifteen (15) Working Days from the date of its first submission to the Buyer. If the Buyer does not approve the Security Management Plan following its resubmission, the matter will be resolved in accordance with the Dispute Resolution Procedure.

4.3.3 The Buyer shall not unreasonably withhold or delay its decision to Approve or not the Security Management Plan pursuant to Paragraph 4.3.2. However a refusal by the Buyer to Approve the Security Management Plan on the grounds that it does not comply with the requirements set out in Paragraph 4.2 shall be deemed to be reasonable.

4.3.4 Approval by the Buyer of the Security Management Plan pursuant to Paragraph 4.3.2 or of any change to the Security Management Plan in accordance with Paragraph 4.4 shall not relieve the Supplier of its obligations under this Schedule.

**4.4 Amendment of the Security Management Plan**

4.4.1 The Security Management Plan shall be fully reviewed and updated by the Supplier at least annually to reflect:

- c) emerging changes in Good Industry Practice;
- c) any change or proposed change to the Deliverables and/or associated processes;
- d) where necessary in accordance with Paragraph 2.2, any
- e) change to the Security Policy;
- any new perceived or changed security threats; and
- any reasonable change in requirements requested by the Buyer.

4.4.2 The Supplier shall provide the Buyer with the results of such reviews as soon as reasonably practicable after their completion and amendment of the Security Management Plan at no additional cost to the Buyer. The results of the review shall include:

- a) suggested improvements to the effectiveness of the Security Management Plan;
- b) updates to the risk assessments; and
- c) suggested improvements in measuring the effectiveness of controls.

4.4.3 Subject to Paragraph 4.4.4, any change or amendment which the Supplier proposes to make to the Security Management Plan (as a result of a review carried out in accordance with Paragraph 4.4.1, a

[Subject to Contract]

**Schedule 16 (Security)**

Crown Copyright 2022

request by the Buyer or otherwise) shall be subject to the Variation Procedure.

- 4.4.4 The Buyer may, acting reasonably, Approve and require changes or amendments to the Security Management Plan to be implemented on timescales faster than set out in the Variation Procedure but, without prejudice to their effectiveness, all such changes and amendments shall thereafter be subject to the Variation Procedure for the purposes of formalising and documenting the relevant change or amendment.

**5. Security breach**

- 5.1 Either Party shall notify the other in accordance with the agreed security incident management process (as detailed in the Security Management Plan) upon becoming aware of any Breach of Security or any potential or attempted Breach of Security.
- 5.2 Without prejudice to the security incident management process, upon becoming aware of any of the circumstances referred to in Paragraph 5.1, the Supplier shall:
- 5.2.1 immediately use all reasonable endeavours (which shall include any
- a) action or changes reasonably required by the Buyer) necessary to:
  - b) minimise the extent of actual or potential harm caused by any Breach of Security;  
remedy such Breach of Security to the extent possible and protect the integrity of the Buyer and the provision of the Goods and/or Services to the extent within its control against any such Breach of Security or attempted Breach of Security;
  - d) prevent an equivalent breach in the future exploiting the same cause failure; and  
as soon as reasonably practicable provide to the Buyer, where the Buyer so requests, full details (using the reporting mechanism defined by the Security Management Plan) of the Breach of Security or attempted Breach of Security,
- 5.3 including a cause analysis where required by the Buyer.

In the event that any action is taken in response to a Breach of Security or potential or attempted Breach of Security that demonstrates non-compliance of the Security Management Plan with the Security Policy (where relevant in accordance with Paragraph 2.1 ) or the requirements of this Schedule, then any required change to the Security Management Plan shall be at no cost to the Buyer.

[Subject to Contract]

## Schedule 18 (Supply Chain Visibility)

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# Schedule 18 (Supply Chain Visibility)

## 1. Definitions

1.1 In this Schedule, the following words shall have the following meanings and they shall supplement Schedule 1 (Definitions):

"Contracts Finder"	the Government's publishing portal for public sector procurement opportunities;
"SME"	an enterprise falling within the category of micro, small and medium sized enterprises defined by the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium sized enterprises;

"Supply Chain Information Report Template" the document at Annex 1 of this Schedule 18; and

## 2. Visibility of Sub-Contract Opportunities in the Supply

Chain 2.1 The Supplier shall:

- 2.1.1 subject to Paragraph 2.3, advertise on Contracts Finder all Sub-Contract opportunities arising from or in connection with the provision of the Deliverables above a minimum threshold of £25,000 that arise during the Contract Period;
- 2.1.2 within 90 days of awarding a Sub-Contract to a Subcontractor, update the notice on Contract Finder with details of the successful Subcontractor;
- 2.1.3 monitor the number, type and value of the Sub-Contract opportunities placed on Contracts Finder advertised and awarded in its supply chain during the Contract Period;
- 2.1.4 provide reports on the information at Paragraph 2.1.3 to the Buyer in the format and frequency as reasonably specified by the Buyer; and
- 2.1.5 promote Contracts Finder to its suppliers and encourage those organisations to register on Contracts Finder.

2.2 Each advert referred to at Paragraph 2.1.1 of this Schedule 18 shall provide a full and detailed description of the Sub-Contract opportunity with each of the mandatory fields being completed on Contracts Finder by the Supplier.

2.3 The obligations on the Supplier set out at Paragraph 2.1 shall only apply in respect of Sub-Contract opportunities arising after the Start Date.

[Subject to Contract]

**Schedule 18 (Supply Chain Visibility)**

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- 2.4 Notwithstanding Paragraph 2.1, the Buyer may by giving its prior Approval, agree that a Sub-Contract opportunity is not required to be advertised by the Supplier on Contracts Finder.

**3. Visibility of Supply Chain Spend**

- 3.1 In addition to any other management information requirements set out in the Contract, the Supplier agrees and acknowledges that it shall, at no charge, provide timely, full, accurate and complete SME management information reports (the “SME Management Information Reports”) to the Buyer which incorporates the data described in the Supply Chain Information Report Template which is:
- 3.1.1 the total contract revenue received directly on the Contract;
  - 3.1.2 the total value of sub-contracted revenues under the Contract (including revenues for non-SMEs/non-VCSEs); and
  - 3.1.3 the total value of sub-contracted revenues to SMEs and VCSEs.
- 3.2 The SME Management Information Reports shall be provided by the Supplier in the correct format as required by the Supply Chain Information Report Template and any guidance issued by the Buyer from time to time. The Supplier agrees that it shall use the Supply Chain Information Report Template to provide the information detailed at Paragraph 3.1.1 –3.1.3 and acknowledges that the template may be changed from time to time (including the data required and/or format) by the Buyer issuing a replacement version. The Buyer agrees to give at least thirty (30) days’ notice in writing of any such change and shall specify the date from which it must be used.
- 3.3 The Supplier further agrees and acknowledges that it may not make any amendment to the Supply Chain Information Report Template without the prior Approval of the Buyer.

## Supply Chain Information Report template

Data provided by:

Name
Organisation INSERT YOUR ORGANISATION/COMPANY NAME
DUNS Number
Email
Phone
Date

Please provide details of the preferred contact for future reporting (If applicable)

Name
Email
Phone

[Subject to Contract]  
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## Schedule 20 (Processing Data)

### 1. Status of the Controller

- 1.1 The Parties acknowledge that for the purposes of the Data Protection Legislation, the nature of the activity carried out by each of them in relation to their respective obligations under a Contract dictates the status of each party under the DPA 2018. A Party may act as:
  - 1.1.1 “Controller” in respect of the other Party who is “Processor”;
  - 1.1.2 “Processor” in respect of the other Party who is “Controller”;
  - 1.1.3 “Joint Controller” with the other Party;
  - 1.1.4 “Independent Controller” of the Personal Data where the other Party is also “Controller”,  
  
in respect of certain Personal Data under a Contract and shall specify in Annex 1 (*Processing Personal Data*) which scenario they think shall apply in each situation.

### 10. Where one Party is Controller and the other Party its Processor

- 2.1 Where a Party is a Processor, the only Processing that it is authorised to do is listed in Annex 1 (*Processing Personal Data*) by the Controller.
- 2.2 The Processor shall notify the Controller immediately if it considers that any of the Controller’s instructions infringe the Data Protection Legislation.
- 2.3 The Processor shall provide all reasonable assistance to the Controller in the preparation of any Data Protection Impact Assessment prior to commencing any Processing. Such assistance may, at the discretion of the Controller, include:
  - 2.3.1 a systematic description of the envisaged Processing and the purpose of the Processing;
  - 2.3.2 an assessment of the necessity and proportionality of the Processing in relation to the Services;
  - 2.3.3 an assessment of the risks to the rights and freedoms of Data Subjects; and
  - 2.3.4 the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.
- 2.4 The Processor shall, in relation to any Personal Data Processed in connection with its obligations under the Contract:
  - 2.4.1 Process that Personal Data only in accordance with Annex 1 (*Processing Personal Data*), unless the Processor is required to do otherwise by Law. If it

is so required the Processor shall notify the Controller before Processing the Personal Data unless prohibited by Law;



2.4.2 ensure that it has in place Protective Measures, including in the case of the Supplier the measures set out in Clause 18.4 of the Core Terms, which the Controller may reasonably reject (but failure to reject shall not amount to approval by the Controller of the adequacy of the Protective Measures) having taken account of the:

- a) nature of the data to be protected;
- b) harm that might result from a Personal Data Breach;
- c) state of technological development; and
- d) cost of implementing any measures;

2.4.3 ensure that:

- a) the Processor Personnel do not Process Personal Data except in accordance with the Contract (and in particular Annex 1 (*Processing Personal Data*));
- b) it uses all reasonable endeavours to ensure the reliability and integrity of any Processor Personnel who have access to the Personal Data and ensure that they:
  - (i) are aware of and comply with the Processor's duties under this Schedule 20, Clauses 18 (Data protection), 19 (What you must keep confidential) and 20 (When you can share information);
  - (ii) are subject to appropriate confidentiality undertakings with the Processor or any Subprocessor;
  - (iii) are informed of the confidential nature of the Personal Data and do not publish, disclose or divulge any of the Personal Data to any third party unless directed in writing to do so by the Controller or as otherwise permitted by the Contract; and
  - (iv) have undergone adequate training in the use, care, protection and handling of Personal Data;

2.4.4 not transfer Personal Data outside of the UK unless the prior written consent of the Controller has been obtained and the following conditions are fulfilled:

- a) the transfer is in accordance with Article 45 of the UK GDPR (or section 73 of DPA 2018); or
- b) the Controller or the Processor has provided appropriate safeguards in relation to the transfer (whether in accordance with UK GDPR Article 46 or section 75 of the DPA 2018) as determined by the Controller which could include relevant parties entering into the International Data Transfer Agreement (the "IDTA"), or International Data Transfer Agreement Addendum to the European Commission's SCCs (the "Addendum"), as published by the Information Commissioner's

Office from time to time, as well as any additional measures determined by the Controller;

- ) the Data Subject has enforceable rights and effective legal remedies;
- a) the Processor complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the Controller in meeting its obligations); and
- b) the Processor complies with any reasonable instructions notified to it in advance by the Controller with respect to the Processing of the Personal Data;

2.4.5 where the Personal Data is subject to EU GDPR, not transfer Personal Data outside of the EU unless the prior written consent of the Controller has been obtained and the following conditions are fulfilled:

- a) the transfer is in accordance with Article 45 of the EU GDPR; or
- b) the transferring Party has provided appropriate safeguards in relation to the transfer in accordance with Article 46 of the EU GDPR as determined by the non-transferring Party which could include relevant parties entering into Standard Contractual Clauses in the European Commission's decision 2021/914/EU or such updated version of such Standard Contractual Clauses as are published by the European Commission from time to time as well as any additional measures determined by the non-transferring Party;
- c) the Data Subject has enforceable rights and effective legal remedies;
- d) the transferring Party complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the non-transferring Party in meeting its obligations); and
- e) the transferring Party complies with any reasonable instructions notified to it in advance by the non-transferring Party with respect to the processing of the Personal Data; and

2.4.6 at the written direction of the Controller, delete or return Personal Data (and any copies of it) to the Controller on termination of the Contract unless the Processor is required by Law to retain the Personal Data.

**2.5 Subject to Paragraph 2.6 of this Schedule 20, the Processor shall notify the Controller immediately if in relation to it Processing Personal Data under or in connection with the Contract it:**

2.5.1 receives a Data Subject Access Request (or purported Data Subject Access Request);

2.5.2 receives a request to rectify, block or erase any Personal Data;

2.5.3 receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;

2.5.4 receives any communication from the Information Commissioner or any other

regulatory authority in connection with Personal Data Processed under the Contract;

2.5.5 receives a request from any third Party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law; or

2.5.6 becomes aware of a Personal Data Breach.

**2.6 The Processor's obligation to notify under Paragraph 2.5 of this Schedule 20 shall include the provision of further information to the Controller, as details become available.**

**2.7 Taking into account the nature of the Processing, the Processor shall provide the Controller with assistance in relation to either Party's obligations under Data Protection Legislation and any complaint, communication or request made under Paragraph 2.5 of this Schedule 20 (and insofar as possible within the timescales reasonably required by the Controller) including by immediately providing:**

2.7.1 the Controller with full details and copies of the complaint, communication or request;

2.7.2 such assistance as is reasonably requested by the Controller to enable it to comply with a Data Subject Access Request within the relevant timescales set out in the Data Protection Legislation;

2.7.3 the Controller, at its request, with any Personal Data it holds in relation to a Data Subject;

2.7.4 assistance as requested by the Controller following any Personal Data Breach; and/or

2.7.5 assistance as requested by the Controller with respect to any request from the Information Commissioner's Office or any other regulatory authority, or any consultation by the Controller with the Information Commissioner's Office or any other regulatory authority.

**2.8 The Processor shall maintain complete and accurate records and information to demonstrate its compliance with this Schedule 20. This requirement does not apply where the Processor employs fewer than 250 staff, unless:**

2.8.1 the Controller determines that the Processing is not occasional;

2.8.2 the Controller determines the Processing includes special categories of data as referred to in Article 9(1) of the UK GDPR or Personal Data relating to criminal convictions and offences referred to in Article 10 of the UK GDPR; or

2.8.3 the Controller determines that the Processing is likely to result in a risk to the rights and freedoms of Data Subjects.

**2.9 The Processor shall allow for audits of its Data Processing activity by the Controller or the Controller's designated auditor.**

**2.10 The Parties shall designate a Data Protection Officer if required by the Data Protection Legislation.**

- 2.11 Before allowing any Subprocessor to Process any Personal Data related to the Contract, the Processor must:
- 2.11.1 notify the Controller in writing of the intended Subprocessor and Processing;
  - 2.11.2 obtain the written consent of the Controller;
  - 2.11.3 enter into a written agreement with the Subprocessor which give effect to the terms set out in this Schedule 20 such that they apply to the Subprocessor; and
  - 2.11.4 provide the Controller with such information regarding the Subprocessor as the Controller may reasonably require.
- 2.12 The Processor shall remain fully liable for all acts or omissions of any of its Subprocessors.
- 2.13 The Buyer may, at any time on not less than 30 Working Days' notice, revise this Schedule 20 by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to the Contract).
- 2.14 The Parties agree to take account of any guidance issued by the Information Commissioner's Office. The Buyer may on not less than 30 Working Days' notice to the Supplier amend the Contract to ensure that it complies with any guidance issued by the Information Commissioner's Office.

### 3. Where the Parties are Joint Controllers of Personal Data

- 3.1 In the event that the Parties are Joint Controllers in respect of Personal Data under the Contract, the Parties shall implement Paragraphs that are necessary to comply with UK GDPR Article 26 based on the terms set out in Annex 2 to this Schedule 20 (*Processing Data*).

#### Independent Controllers of Personal Data

- 3.2 With respect to Personal Data provided by one Party to another Party for which each Party acts as Controller but which is not under the Joint Control of the Parties, each Party undertakes to comply with the applicable Data Protection Legislation in respect of their Processing of such Personal Data as Controller.
- 3.3 Each Party shall Process the Personal Data in compliance with its obligations under the Data Protection Legislation and not do anything to cause the other Party to be in breach of it.
- 3.4 Where a Party has provided Personal Data to the other Party in accordance with Paragraph 3.2 of this Schedule 20 above, the recipient of the Personal Data will provide all such relevant documents and information relating to its data protection policies and procedures as the other Party may reasonably require.
- 3.5 The Parties shall be responsible for their own compliance with Articles 13 and 14 UK GDPR in respect of the Processing of Personal Data for the purposes of the Contract.
- 3.6 The Parties shall only provide Personal Data to each other:

3.6.1 to the extent necessary to perform their respective obligations under the Contract;

3.6.2 in compliance with the Data Protection Legislation (including by ensuring all



required data privacy information has been given to affected Data Subjects to meet the requirements of Articles 13 and 14 of the UK GDPR); and

3.6.3 where it has recorded it in Annex 1 (*Processing Personal Data*).

3.7 **Taking into account the state of the art, the costs of implementation and the nature, scope, context and purposes of Processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, each Party shall, with respect to its Processing of Personal Data as Independent Controller, implement and maintain appropriate technical and organisational measures to ensure a level of security appropriate to that risk, including, as appropriate, the measures referred to in Article 32(1)(a), (b), (c) and (d) of the UK GDPR, and the measures shall, at a minimum, comply with the requirements of the Data Protection Legislation, including Article 32 of the UK GDPR.**

3.8 **A Party Processing Personal Data for the purposes of the Contract shall maintain a record of its Processing activities in accordance with Article 30 UK GDPR and shall make the record available to the other Party upon reasonable request.**

3.9 **Where a Party receives a request by any Data Subject to exercise any of their rights under the Data Protection Legislation in relation to the Personal Data provided to it by the other Party pursuant to the Contract ("Request Recipient"):**

3.9.1 the other Party shall provide any information and/or assistance as reasonably requested by the Request Recipient to help it respond to the request or correspondence, at the cost of the Request Recipient; or

3.9.2 where the request or correspondence is directed to the other Party and/or relates to that other Party's Processing of the Personal Data, the Request Recipient will:

- a) promptly, and in any event within five (5) Working Days of receipt of the request or correspondence, inform the other Party that it has received the same and shall forward such request or correspondence to the other Party; and
- b) provide any information and/or assistance as reasonably requested by the other Party to help it respond to the request or correspondence in the timeframes specified by Data Protection Legislation.

3.10 **Each Party shall promptly notify the other Party upon it becoming aware of any Personal Data Breach relating to Personal Data provided by the other Party pursuant to the Contract and shall:**

3.10.1 do all such things as reasonably necessary to assist the other Party in mitigating the effects of the Personal Data Breach;

3.10.2 implement any measures necessary to restore the security of any compromised Personal Data;

3.10.3 work with the other Party to make any required notifications to the Information Commissioner's Office or any other regulatory authority and

affected Data Subjects in accordance with the Data Protection Legislation (including the timeframes set out therein); and

3.10.4 not do anything which may damage the reputation of the other Party or that

Party's relationship with the relevant Data Subjects, save as required by Law.

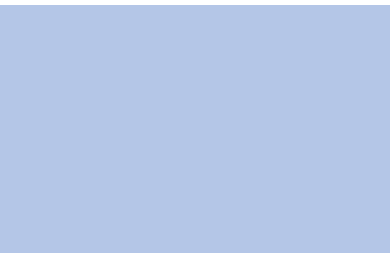
- 3.11 Personal Data provided by one Party to the other Party may be used exclusively to exercise rights and obligations under the Contract as specified in Annex 1 (*Processing Personal Data*).
- 3.12 Personal Data shall not be retained or processed for longer than is necessary to perform each Party's respective obligations under the Contract which is specified in Annex 1 (*Processing Personal Data*).
- 3.13 Notwithstanding the general application of Paragraphs 2.1 to 2.14 of this Schedule 20 to Personal Data, where the Supplier is required to exercise its regulatory and/or legal obligations in respect of Personal Data, it shall act as an Independent Controller of Personal Data in accordance with Paragraphs 3.2 to 3.12 of this Schedule 20.

Annex 1 - Processing Personal Data

1. This Annex shall be completed by the Controller, who may take account of the view of the Processor, however the final decision as to the content of this Annex shall be with the Buyer at its absolute discretion.
- 1.1 The contact details of the Buyer's Data Protection Officer are:  
BEIS Data Protection Officer Department for Business, Energy and Industrial Strategy  
1 Victoria Street London SW1H 0ET  
[Email: dataprotection@beis.gov.uk](mailto:dataprotection@beis.gov.uk)
- 1.2 The contact details of the Supplier's Data Protection Officer are: [Information Governance Manager and Data Protection Officer, University of Bristol, University Secretary's Office, BS2 8DZ  
[Email: henry.stuart@bristol.ac.uk](mailto:henry.stuart@bristol.ac.uk)
- 1.3 The Processor shall comply with any further written instructions with respect to Processing by the Controller.
- 1.4 Any such further instructions shall be incorporated into this Annex.

Description	Details
Identity of Controller for each Category of Personal Data	<p>The Buyer is Controller and the Supplier is Processor</p> <p>The Parties acknowledge that in accordance with Paragraph 2 and for the purposes of the Data Protection Legislation, the Buyer is the Controller and the Supplier is the Processor of the following Personal Data:</p> <p>The processing is needed in order to ensure that the Contractor can effectively deliver the contract to verify the data we report in the UK's annual greenhouse gas emissions inventory through measurements of atmospheric gas concentrations.</p> <p>The processing of names and business contact details of staff of both the Authority and the Contractor will be necessary to deliver the services exchanged during the course of the Contract, and to undertake contract and performance management.</p>

The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.

Duration of the Processing	Processing will take place from 1 <sup>st</sup> October 2022 for the duration of the Contract. The Contract will end on 30th June 2024.
Nature and purposes of the Processing	The nature of processing will include the storage and use of names and business contact details of staff of both the Authority and the Contractor as necessary to deliver the services and to undertake contract and performance management. The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.
Type of Personal Data	Names, business telephone numbers and email addresses, office location and position of staff of both the Authority and the Contractor as necessary to deliver the services and to undertake contract and performance management. The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.
Categories of Data Subject	Staff of the Authority and the Contractor, including where those employees are named within the Contract itself or involved within contract management.
Plan for return and destruction of the data once the Processing is complete UNLESS requirement under law to preserve that type of data	The Contractor will delete the Personal Data and erase the Personal Data from any computers, storage devices and storage media that are to be retained by the Contractor after the expiry of the Contract. The Contractor will certify to the Authority that it has completed such deletion. Where Personal Data is contained within the Contract documentation, this will be retained in line with the Department's privacy notice found within the Invitation to Tender.
Protective Measures that the Supplier and, where applicable, its Sub-contractors have implemented to protect Personal Data processed	As provided in Tender Declaration: 

under this Contract Agreement against a breach of security (insofar as that breach of security relates to data) or a Personal

See Declaration table below:

Documentation: Information you hold		Status
Your business has conducted an information audit to map data flows.	This will be implemented by time of contract award.	
<p>data you hold, where it came from, who you share it with, and what you do with it.</p>		
<p>NOTE: You may be required to make these records available to the Information Commissioners Office (ICO) on request.</p>		
Accountability & Governance		Status
Your business has an appropriate data protection policy	This will be implemented by time of contract award.	
Data Protection Officer (DPO)		s t a t u s ,
Your business has nominated a data protection lead or Data Protection Officer (DPO).	This will be implemented by time of contract award.	
Information Risks & Data Protection Impact Assessments		State s
Your business manages information risks in a structured way so that management understands the business impact of personal data related risks and manages them effectively.	This will be implemented by time of contract award.	
Data Protection by Design		Status
Your business has implemented appropriate technical and organisational measures to show you have considered and integrated data protection into your processing activities.	This will be implemented by time of contract award.	
Training & Awareness		Status
Your business provides data protection awareness training for all staff.	This will be implemented by time of contract award.	
Operational Base		Status
If your business operates outside the EU, you have appointed a representative within the EU in writing.	This is not applicable to the organisation.	
Breach Notification		Status
Your business has effective processes to identify, report, manage and resolve any personal data breaches. BEIS must be notified within 48 hours about any breaches involving personal data being processed on our behalf	This will be implemented by time of contract award	
Individual Rights: Right of Access		Stages
Your business has a process to respond to a data controllers request for information (following an individuals' request to access their personal data)	This will be implemented by time of contract award.	
Right to Rectification & Data Quality		Status
Your business has processes to ensure that the personal data you hold remains accurate and up to date.	This will be implemented by time of contract award	
Right to Erasure including Retention & Dispose		Status
Your business has a process to routinely and securely dispose of personal data that is no longer required in line with agreed timescales as stated within the terms and conditions.	This will be implemented by time of contract award.	
Right to Restrict Processing		Status
Your business has procedures to respond to a data controllers' request to suppress the processing of specific personal data.	This will be implemented by time of contract award.	
Right of Data Portability		Status
Your business will be able to respond to a request from the data controller for the supply of the personal data you process in an electronic format.	This will be implemented by time of contract award	
Data Security: Security Policy		Status
Your business has an information security policy supported by appropriate security measures.	This will be implemented by time of contract award	

## Annex 2 - Joint Controller Agreement

### 1. Joint Controller Status and Allocation of Responsibilities

- 1.1 With respect to Personal Data under Joint Control of the Parties, the Parties envisage that they shall each be a Data Controller in respect of that Personal Data in accordance with the terms of this Annex 2 (Joint Controller Agreement) in replacement of Paragraph 2 of this Schedule 20 (Where one Party is Controller and the other Party is Processor) and Paragraphs 3.2 -3.12 of this Schedule 20 (Independent Controllers of Personal Data). Accordingly, the Parties each undertake to comply with the applicable Data Protection Legislation in respect of their Processing of such Personal Data as Data Controllers.
- 1.2 The Parties agree that the [Supplier/]:
  - 1.2.1 is the exclusive point of contact for Data Subjects and is responsible for using all reasonable endeavours to comply with the UK GDPR regarding the exercise by Data Subjects of their rights under the UK GDPR;
  - 1.2.2 shall direct Data Subjects to its Data Protection Officer or suitable alternative in connection with the exercise of their rights as Data Subjects and for any enquiries concerning their Personal Data or privacy;
  - 1.2.3 is solely responsible for the Parties' compliance with all duties to provide information to Data Subjects under Articles 13 and 14 of the UK GDPR;
  - 1.2.4 is responsible for obtaining the informed consent of Data Subjects, in accordance with the UK GDPR, for Processing in connection with the Services where consent is the relevant legal basis for that Processing; and
  - 1.2.5 shall make available to Data Subjects the essence of this Annex (and notify them of any changes to it) concerning the allocation of responsibilities as Joint Controller and its role as exclusive point of contact, the Parties having used their best endeavours to agree the terms of that essence. This must be outlined in the privacy policy (which must be readily available by hyperlink or otherwise on all of its public facing services and marketing).
- 1.3 Notwithstanding the terms of Paragraph 1.2, the Parties acknowledge that a Data Subject has the right to exercise their legal rights under the Data Protection Legislation as against the relevant Party as Controller.

### 2. Undertakings of both Parties

- 2.1 The Supplier and the Buyer each undertake that they shall:
  - 2.1.1 report to the other Party every [6] months on:



- a) the volume of Data Subject Access Request (or purported Data Subject Access Requests) from Data Subjects (or third parties

on their behalf);

- b) the volume of requests from Data Subjects (or third parties on their behalf) to rectify, block or erase any Personal Data;
- c) any other requests, complaints or communications from Data Subjects (or third parties on their behalf) relating to the other Party's obligations under applicable Data Protection Legislation;
- d) any communications from the Information Commissioner or any other regulatory authority in connection with Personal Data; and
- e) any requests from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law,

that it has received in relation to the subject matter of the Contract during that period;

2.1.2 notify each other immediately if it receives any request, complaint or communication made as referred to in Paragraphs 2.1.1a) to e);

2.1.3 provide the other Party with full cooperation and assistance in relation to any request, complaint or communication made as referred to in Paragraphs 2.1.1c) to e) to enable the other Party to comply with the relevant timescales set out in the Data Protection Legislation;

2.1.4 not disclose or transfer the Personal Data to any third party unless necessary for the provision of the Services and, for any disclosure or transfer of Personal Data to any third party, (save where such disclosure or transfer is specifically authorised under the Contract or is required by Law) that disclosure or transfer of Personal Data is otherwise considered to be lawful processing of that Personal Data in accordance with Article 6 of the UK GDPR or EU GDPR (as the context requires). For the avoidance of doubt, the third party to which Personal Data is transferred must be subject to equivalent obligations which are no less onerous than those set out in this Annex;

2.1.5 request from the Data Subject only the minimum information necessary to provide the Services and treat such extracted information as Confidential Information;

2.1.6 ensure that at all times it has in place appropriate Protective Measures to guard against unauthorised or unlawful Processing of the Personal Data and/or accidental loss, destruction or damage to the Personal Data and unauthorised or unlawful disclosure of or access to the Personal Data;

2.1.7 use all reasonable endeavours to ensure the reliability and integrity of any of its Personnel who have access to the Personal Data and ensure that its Personnel:

- a) are aware of and comply with their duties under this Annex 2 (Joint Controller Agreement) and those in respect of

## Confidential Information

- b) are informed of the confidential nature of the Personal Data, are subject to appropriate obligations of confidentiality and do not publish, disclose or divulge any of the Personal Data to any third party where the that Party would not be permitted to do so;
- c) have undergone adequate training in the use, care, protection and handling of personal data as required by the applicable Data Protection Legislation;

2.1.8 ensure that it has in place Protective Measures as appropriate to protect against a Personal Data Breach having taken account of the:

- a) nature of the data to be protected;
- b) harm that might result from a Personal Data Breach;
- c) state of technological development; and
- d) cost of implementing any measures;

2.1.9 ensure that it has the capability (whether technological or otherwise), to the extent required by Data Protection Legislation, to provide or correct or delete at the request of a Data Subject all the Personal Data relating to that Data Subject that the Supplier holds; and

2.1.10 ensure that it notifies the other Party as soon as it becomes aware of a Personal Data Breach;

2.1.11 where the Personal Data is subject to UK GDPR, not transfer such Personal Data outside of the UK unless the prior written consent of the non-transferring Party has been obtained and the following conditions are fulfilled:

- a) the transfer is in accordance with Article 45 of the UK GDPR or DPA 2018 Section 73; or
- b) the transferring Party has provided appropriate safeguards in relation to the transfer (whether in accordance with Article 46 of the UK GDPR or DPA 2018 Section 75) as agreed with the non-transferring Party which could include the International Data Transfer Agreement (the “IDTA”), or International Data Transfer Agreement Addendum to the European Commission’s SCCs (the “Addendum”), as published by the Information Commissioner’s Office from time to time, as well as any additional measures;
- c) the Data Subject has enforceable rights and effective legal remedies;
- d) the transferring Party complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its

best endeavours to assist the non-transferring Party in meeting its obligations); and

- e) the transferring Party complies with any reasonable instructions notified to it in advance by the non-transferring Party with respect to the processing of the Personal Data; and

**2.1.12** where the Personal Data is subject to EU GDPR, not transfer such Personal Data outside of the EU unless the prior written consent of non-transferring Party has been obtained and the following conditions are fulfilled:

- a) the transfer is in accordance with Article 45 of the EU GDPR; or
- b) the transferring Party has provided appropriate safeguards in relation to the transfer in accordance with Article 46 of the EU GDPR as determined by the non-transferring Party which could include relevant parties entering into Standard Contractual Clauses in the European Commission's decision 2021/914/EU as well as any additional measures;
- c) the Data Subject has enforceable rights and effective legal remedies;
- d) the transferring Party complies with its obligations under the EU GDPR by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the non-transferring Party in meeting its obligations); and
- e) the transferring Party complies with any reasonable instructions notified to it in advance by the non-transferring Party with respect to the processing of the Personal Data.

**2.2** Each Joint Controller shall use its reasonable endeavours to assist the other Controller to comply with any obligations under applicable Data Protection Legislation and shall not perform its obligations under this Annex in such a way as to cause the other Joint Controller to breach any of its obligations under applicable Data Protection Legislation to the extent it is aware, or ought reasonably to have been aware, that the same would be a breach of such obligations

### **3. Data Protection Breach**

**3.1** Without prejudice to Paragraph 3.2, each Party shall notify the other Party promptly and without undue delay, and in any event within 48 hours, upon becoming aware of any Personal Data Breach or circumstances that are likely to give rise to a Personal Data Breach, providing the Buyer and its advisors with:

**3.1.1** sufficient information and in a timescale which allows the other Party to meet any obligations to report a Personal Data Breach under the Data Protection Legislation;

**3.1.2** all reasonable assistance, including:

- a) co-operation with the other Party and the Information Commissioner investigating the Personal Data Breach and

**its cause, containing and recovering the compromised  
Personal Data and compliance with the applicable guidance;**

**b) co-operation with the other Party including using such**

reasonable endeavours as are directed by the Buyer to assist in the investigation, mitigation and remediation of a Personal Data Breach;

- c) co-ordination with the other Party regarding the management of public relations and public statements relating to the Personal Data Breach; and/or
- d) providing the other Party and to the extent instructed by the other Party to do so, and/or the Information Commissioner investigating the Personal Data Breach, with complete information relating to the Personal Data Breach, including, without limitation, the information set out in Paragraph 3.2.

**3.2 Each Party shall use all reasonable endeavours to restore, re-constitute and/or reconstruct any Personal Data where it has lost, damaged, destroyed, altered or corrupted as a result of a Personal Data Breach as it was that Party's own data at its own cost with all possible speed and shall provide the other Party with all reasonable assistance in respect of any such Personal Data Breach, including providing the other Party, as soon as possible and within 48 hours of the Personal Data Breach relating to the Personal Data Breach, in particular:**

3.2.1 the nature of the Personal Data Breach;

3.2.2 the nature of Personal Data affected;

3.2.3 the categories and number of Data Subjects concerned;

3.2.4 the name and contact details of the Supplier's Data Protection Officer or other relevant contact from whom more information may be obtained;

3.2.5 measures taken or proposed to be taken to address the Personal Data Breach; and

3.2.6 describe the likely consequences of the Personal Data Breach.

#### 4. Audit

##### 4.1 The Supplier shall permit:

4.1.1 the Buyer, or a third-party auditor acting under the Buyer's direction, to conduct, at the Buyer's cost, data privacy and security audits, assessments and inspections concerning the Supplier's data security and privacy procedures relating to Personal Data, its compliance with this Annex 2 and the Data Protection Legislation; and/or

4.1.2 the Buyer, or a third-party auditor acting under the Buyer's direction, access to premises at which the Personal Data is accessible or at which it is able to inspect any relevant records, including the record maintained under Article 30 UK GDPR by the Supplier so far as relevant to the Contract, and procedures, including premises under



the control of any third party appointed by the Supplier to assist in the provision of the Services.

**4.2 The Buyer may, in its sole discretion, require the Supplier to provide evidence of the Supplier's**

compliance with Paragraph 4.1 in lieu of conducting such an audit, assessment or inspection.

## 5. Impact Assessments

The Parties shall:

- 5.1 provide all reasonable assistance to each other to prepare any Data Protection Impact Assessment as may be required (including provision of detailed information and assessments in relation to Processing operations, risks and measures); and
- 5.2 maintain full and complete records of all Processing carried out in respect of the Personal Data in connection with the Contract, in accordance with the terms of Article 30 UK GDPR.

## 6. ICO Guidance

The Parties agree to take account of any guidance issued by the Information Commissioner and/or any relevant Central Government Body. The Buyer may on not less than thirty (30) Working Days' notice to the Supplier amend the Contract to ensure that it complies with any guidance issued by the Information Commissioner and/or any relevant Central Government Body.

## 7. Liabilities for Data Protection Breach

- 7.1 If financial penalties are imposed by the Information Commissioner on either the Buyer or the Supplier for a Personal Data Breach ("Financial Penalties") then the following shall occur:
  - 7.1.1 if in the view of the Information Commissioner, the Buyer is responsible for the Personal Data Breach, in that it is caused as a result of the actions or inaction of the Buyer, its employees, agents, contractors (other than the Supplier) or systems and procedures controlled by the Buyer, then the Buyer shall be responsible for the payment of such Financial Penalties. In this case, the Buyer will conduct an internal audit and engage at its reasonable cost when necessary, an independent third party to conduct an audit of any such Personal Data Breach. The Supplier shall provide to the Buyer and its third party investigators and auditors, on request and at the Supplier's reasonable cost, full cooperation and access to conduct a thorough audit of such Personal Data Breach;
  - 7.1.2 if in the view of the Information Commissioner, the Supplier is responsible for the Personal Data Breach, in that it is not a Personal Data Breach that the Buyer is responsible for, then the Supplier shall be responsible for the payment of these Financial Penalties. The Supplier will provide to the Buyer and its auditors, on request and at the Supplier's sole cost, full cooperation and access to conduct a thorough audit of such Personal Data Breach; or
  - 7.1.3 if no view as to responsibility is expressed by the Information Commissioner, then the Buyer and the Supplier shall work together to investigate the relevant Personal Data Breach and allocate responsibility for any Financial Penalties as outlined above, or by agreement to split any financial penalties equally if no responsibility for

the Personal Data Breach can be apportioned. In the event that the Parties do not agree such apportionment then such Dispute shall be referred to the Dispute Resolution Procedure set out in Clause 39 of

## the Core Terms (Resolving disputes).

- 7.2 If either the Buyer or the Supplier is the defendant in a legal claim brought before a court of competent jurisdiction ("Court") by a third party in respect of a Personal Data Breach, then unless the Parties otherwise agree, the Party that is determined by the final decision of the court to be responsible for the Personal Data Breach shall be liable for the losses arising from such Personal Data Breach. Where both Parties are liable, the liability will be apportioned between the Parties in accordance with the decision of the Court.
- 7.3 In respect of any losses, cost claims or expenses incurred by either Party as a result of a Personal Data Breach (the "Claim Losses"):
- 7.3.1 if the Buyer is responsible for the relevant Personal Data Breach, then the Buyer shall be responsible for the Claim Losses;
- 7.3.2 if the Supplier is responsible for the relevant Personal Data Breach, then the Supplier shall be responsible for the Claim Losses: and
- 7.3.3 if responsibility for the relevant Personal Data Breach is unclear, then the Buyer and the Supplier shall be responsible for the Claim Losses equally.
- 7.4 Nothing in either Paragraph 7.2 or Paragraph 7.3 shall preclude the Buyer and the Supplier reaching any other agreement, including by way of compromise with a third party complainant or claimant, as to the apportionment of financial responsibility for any Claim Losses as a result of a Personal Data Breach, having regard to all the circumstances of the Personal Data Breach and the legal and financial obligations of the Buyer.

## 8. Termination

If the Supplier is in material Default under any of its obligations under this Annex 2 (*Joint Controller Agreement*), the Buyer shall be entitled to terminate the Contract by issuing a Termination Notice to the Supplier in accordance with Clause 14 of the Core Terms (Ending the contract).

## 9. Sub-Processing

In respect of any Processing of Personal Data performed by a third party on behalf of a Party, that Party shall:

- 9.1 carry out adequate due diligence on such third party to ensure that it is capable of providing the level of protection for the Personal Data as is required by the Contract, and provide evidence of such due diligence to the other Party where reasonably requested; and
- 9.2 ensure that a suitable agreement is in place with the third party as required under applicable Data Protection Legislation.

## 10. Data Retention

The Parties agree to erase Personal Data from any computers, storage devices and storage media that are to be retained as soon as practicable after it has ceased to be necessary for them to retain such Personal Data under applicable Data Protection Legislation and their privacy policy (save to the extent

(and for the limited period) that such information needs to be retained by the Party for statutory compliance purposes or as otherwise required by the Contract), and taking all further actions as may be necessary to ensure its compliance with Data Protection Legislation and its privacy policy.

## Schedule 21 (Variation Form)

This form is to be used in order to change a contract in accordance with Clause 28 of the Core Terms (Changing the Contract)

Contract Details		
This variation is between:	[Buyer] ("the Buyer") And [insert name of Supplier] ("the Supplier")	
Contract name:	[insert name of contract to be changed] ("the Contract")	
Contract reference number:	[insert contract reference number]	
Details of Proposed Variation		
Variation initiated by:	[delete as applicable: Buyer/Supplier]	
Variation number:	[insert variation number]	
Date variation is raised:	[insert date]	
Proposed variation		
Reason for the variation:	[insert reason]	
An Impact Assessment shall be provided within:	[insert number] days	
Impact of Variation		
Likely impact of the proposed variation:	[Supplier to insert assessment of impact]	
Outcome of Variation		
Contract variation:	This Contract detailed above is varied as follows: <input type="checkbox"/> [Buyer to insert original Clauses or Paragraphs to be varied and the changed clause]	
Financial variation:	Original Contract Value:	£ [insert amount]
	Additional cost due to variation:	£ [insert amount]
	New Contract value:	£ [insert amount]

1. This Variation must be agreed and signed by both Parties to the Contract and shall only be effective from the date it is signed by the Buyer

2. Words and expressions in this Variation shall have the meanings given to them in the Contract.





Don't forget to check out the new book by the author of this book, [The Art of the Deal](#), available on Amazon.

**Schedule 21 (Variation Form)**

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3. The Contract, including any previous Variations, shall remain effective and unaltered except as amended by this Variation.

Signed by an authorised signatory for and on behalf of the Buyer

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Signature

Date

Name (in Capitals) Address

Signed by an  
authorised  
signatory to sign  
for and on behalf  
of the Supplier  
Signature

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Date

Name (in Capitals)

Address



[Subject to Contract]

## **Schedule 22 (Insurance Requirements)**

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# **Schedule 22 (Insurance Requirements)**

## **1. The insurance you need to have**

1.1 The Supplier shall take out and maintain or procure the taking out and maintenance of the insurances as set out in the Annex to this Schedule and any other insurances as may be required by applicable Law (together the “**Insurances**”). The Supplier shall ensure that each of the Insurances is effective no later than the Start Date in respect of those Insurances set out in the Annex to this Schedule and those required by applicable Law; and

1.2 The Insurances shall be:

1.2.1 maintained in accordance with Good Industry Practice;

1.2.2 (so far as is reasonably practicable) on terms no less favourable than those generally available to a prudent contractor in respect of risks insured in the international insurance market from time to time;

1.2.3 taken out and maintained with insurers of good financial standing and good repute in the international insurance market; and

1.2.4 maintained until the End Date except in relation to Professional Indemnity where required under the Annex Part C which shall be maintained for at least six (6) years after the End Date.

1.3 The Supplier shall ensure that the public and products liability policy contain an indemnity to principals clause under which the Buyer shall be indemnified in respect of claims made against the Buyer in respect of death or bodily injury or third party property damage arising out of or in connection with the Deliverables and for which the Supplier is legally liable.

## **2. How to manage the insurance**

2.1 Without limiting the other provisions of this Contract, the Supplier shall:

2.1.1 take or procure the taking of all reasonable risk management and risk control measures in relation to Deliverables as it would be reasonable to expect of a prudent contractor acting in accordance with Good Industry Practice, including the investigation and reports of relevant claims to insurers;

2.1.2 promptly notify the insurers in writing of any relevant material fact under any Insurances of which the Supplier is or becomes aware; and

2.1.3 hold all policies in respect of the Insurances and cause any insurance broker effecting the Insurances to hold any insurance slips and other evidence of placing cover representing any of the Insurances to which it is a party.

## **3. What happens if you aren't insured**

3.1 The Supplier shall not take any action or fail to take any action or (insofar as is reasonably within its power) permit anything to occur in relation to it



which would entitle any insurer to refuse to pay any claim under any of the Insurances.



[Subject to Contract]

**Schedule 22 (Insurance Requirements)**

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3.2 Where the Supplier has failed to purchase or maintain any of the Insurances in full force and effect, the Buyer may elect (but shall not be obliged) following written notice to the Supplier to purchase the relevant Insurances and recover the reasonable premium and other reasonable costs incurred in connection therewith as a debt due from the Supplier.

**4. Evidence of insurance you must provide**

4.1 The Supplier shall upon the Start Date and within 15 Working Days after the renewal of each of the Insurances, provide evidence, in a form satisfactory to the Buyer, that the Insurances are in force and effect and meet in full the requirements of this Schedule.

**5. Making sure you are insured to the required amount**

5.1 The Supplier shall ensure that any Insurances which are stated to have a minimum limit "in the aggregate" are maintained at all times for the minimum limit of indemnity specified in this Contract and if any claims are made which do not relate to this Contract then the Supplier shall notify the Buyer and provide details of its proposed solution for maintaining the minimum limit of indemnity.

**6. Cancelled Insurance**

6.1 The Supplier shall notify the Buyer in writing at least five (5) Working Days prior to the cancellation, suspension, termination or non-renewal of any of the Insurances.

6.2 The Supplier shall ensure that nothing is done which would entitle the relevant insurer to cancel, rescind or suspend any insurance or cover, or to treat any insurance, cover or claim as voided in whole or part. The Supplier shall use all reasonable endeavours to notify the Buyer (subject to third party confidentiality obligations) as soon as practicable when it becomes aware of any relevant fact, circumstance or matter which has caused, or is reasonably likely to provide grounds to, the relevant insurer to give notice to cancel, rescind, suspend or void any insurance, or any cover or claim under any insurance in whole or in part.

**7. Insurance claims**

7.1 The Supplier shall promptly notify to insurers any matter arising from, or in relation to, the Deliverables, or the Contract for which it may be entitled to claim under any of the Insurances. In the event that the Buyer receives a claim relating to or arising out of the Contract or the Deliverables, the Supplier shall co-operate with the Buyer and assist it in dealing with such claims including without limitation providing information and documentation in a timely manner.

7.2 Except where the Buyer is the claimant party, the Supplier shall give the Buyer notice within twenty (20) Working Days after any insurance claim in excess of 10% of the sum required to be insured pursuant to paragraph 5.1 relating to or arising out of the provision of the Deliverables or this Contract on any of the Insurances or which, but for the application of the applicable policy

excess, would be made on any of the Insurances and (if required by the Buyer) full details of the incident giving rise to the claim.



[Subject to Contract]

**Schedule 22 (Insurance Requirements)**

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7.3 Where any Insurance requires payment of a premium, the Supplier shall be liable for and shall promptly pay such premium.

7.4 Where any Insurance is subject to an excess or deductible below which the indemnity from insurers is excluded, the Supplier shall be liable for such excess or deductible. The Supplier shall not be entitled to recover from the Buyer any sum paid by way of excess or deductible under the Insurances whether under the terms of this Contract or otherwise.



[Subject to Contract]

**Schedule 22 (Insurance Requirements)**

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**ANNEX: REQUIRED INSURANCES**

1. The Supplier shall hold the following insurance cover from the Start Date in accordance with this Schedule:
  - 1.1 professional indemnity insurance [with cover (for a single event or a series of related events and in the aggregate) of not less than] one million pounds (£1,000,000);
  - 1.2 public liability insurance [with cover (for a single event or a series of related events and in the aggregate)] of not less than one million pounds (£1,000,000); and
  - 1.3 employers' liability insurance [with cover (for a single event or a series of related events and in the aggregate) of not less than] five million pounds (£5,000,000).



[Subject to Contract]  
**Schedule 25 (Rectification Plan)**  
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**Schedule 25 (Rectification Plan)**

Request for <b>[Revised]</b> Rectification Plan		
Details of the Notifiable Default:	<b>[Guidance: Explain the Notifiable Default, with clear schedule and clause references as appropriate]</b>	
Deadline for receiving the <b>[Revised]</b> Rectification Plan:	<b>[ad]</b> date (minimum 10 days from request)	
Signed by Buyer:		Date:
Supplier <b>[Revised]</b> Rectification		
Cause of the Notifiable Default	<b>[ad]</b> cause]	
Anticipated impact assessment:	<b>[add]</b> impact]	
Actual effect of Notifiable Default:	<b>[add]</b> effect]	
Steps to be taken to rectification:	<b>Steps</b>	<b>Timescale</b>
	1.	<b>[date]</b>
	2.	<b>[date]</b>
	3.	<b>[date]</b>
	4.	<b>[date]</b>
	<b>[...]</b>	<b>[date]</b>
Timescale for complete Rectification of Notifiable Default	[X Working Days ]	
	<b>Steps</b>	<b>Timescale</b>
	1.	<b>[date]</b>
	2.	<b>[date]</b>
	3.	<b>[date]</b>

Steps taken to prevent	4.	[date]
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[Subject to Contract]  
**Schedule 25 (Rectification Plan)**  
Crown Copyright 2022

	[...]	[date]	
Signed by the Supplier:		Date:	
Review of Rectification Plan Buyer			
Outcome of review	[Plan Accepted] [Plan Rejected] [Revised Plan Requested]		
Reasons for rejection (if applicable)	[add reasons]		
Signed by Buyer		Date:	



[Subject to Contract]

**Schedule 27 (Key Subcontractors)**

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## **Schedule 27 (Key Subcontractors)**

### **1. Restrictions on certain subcontractors**

- 1.1 The Supplier is entitled to sub-contract its obligations under the Contract to the Key Subcontractors set out in the Award Form.
- 1.2 Where during the Contract Period the Supplier wishes to enter into a new Key Sub-contract or replace a Key Subcontractor, it must obtain the prior written consent of the Buyer and the Supplier shall, at the time of requesting such consent, provide the Buyer with the information detailed in Paragraph 1.4. The decision of the Buyer to consent or not will not be unreasonably withheld or delayed. Where the Buyer consents to the appointment of a new Key Subcontractor then they will be added to Key Subcontractor section of the Award Form. The Buyer may reasonably withhold their consent to the appointment of a Key Subcontractor if it considers that:
  - 1.2.1 the appointment of a proposed Key Subcontractor may prejudice the provision of the Deliverables or may be contrary to its interests;
  - 1.2.2 the proposed Key Subcontractor is unreliable and/or has not provided reliable goods and or reasonable services to its other customers; and/or
  - 1.2.3 the proposed Key Subcontractor employs unfit persons.
- 1.3 The Supplier shall provide the Buyer with the following information in respect of the proposed Key Subcontractor:
  - 1.3.1 the proposed Key Subcontractor's name, registered office and company registration number;
  - 1.3.2 the scope/description of any Deliverables to be provided by the proposed Key Subcontractor;
  - 1.3.3 where the proposed Key Subcontractor is an Affiliate of the Supplier, evidence that demonstrates to the reasonable satisfaction of the Buyer that the proposed Key Sub-Contract has been agreed on "arm's-length" terms;
  - 1.3.4 the Key Sub-Contract price expressed as a percentage of the total projected Charges over the Contract Period; and
  - 1.3.5 (where applicable) Credit Rating Threshold (as defined in Schedule 24 (Financial Difficulties)) of the Key Subcontractor.
- 1.4 If requested by the Buyer, within ten (10) Working Days of receipt of the information provided by the Supplier pursuant to Paragraph 1.3, the Supplier shall also provide:
  - 1.4.1 a copy of the proposed Key Sub-Contract; and

1.4.2 any further information reasonably requested by the Buyer.





[Subject to Contract]

**Schedule 27 (Key Subcontractors)**

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1.5 The Supplier shall ensure that each new or replacement Key Sub-Contract shall include:

- 1.5.1 provisions which will enable the Supplier to discharge its obligations under the Contract;
- 1.5.2 a right under CRTPA for the Buyer to enforce any provisions under the Key Sub-Contract which confer a benefit upon the Buyer;
- 1.5.3 a provision enabling the Buyer to enforce the Key Sub-Contract as if it were the Supplier;
- 1.5.4 a provision enabling the Supplier to assign, novate or otherwise transfer any of its rights and/or obligations under the Key Sub-Contract to the Buyer;
- 1.5.5 obligations no less onerous on the Key Subcontractor than those imposed on the Supplier under the Contract in respect of:
  - a) the data protection requirements set out in Clause 18 (Data protection);
  - b) the FOIA and other access request requirements set out in Clause 20 (When you can share information);
  - c) the obligation not to embarrass the Buyer or otherwise bring the Buyer into disrepute;
  - d) the keeping of records in respect of the goods and/or services being provided under the Key Sub-Contract, including the maintenance of Open Book Data; and
  - e) the conduct of audits set out in Clause 6 (Record keeping and reporting);
- 1.5.6 provisions enabling the Supplier to terminate the Key Sub-Contract on notice on terms no more onerous on the Supplier than those imposed on the Buyer under Clauses 14.4 (When the Buyer can end this contract) and 14.5 (What happens if the contract ends) of this Contract;
- 1.5.7 a provision restricting the ability of the Key Subcontractor to sub-contract all or any part of the provision of the Deliverables provided to the Supplier under the Key Sub-Contract without first seeking the written consent of the Buyer; and
- 1.5.8 a provision enabling the Supplier, the Buyer or any other person on behalf of the Buyer to step-in on substantially the same terms as are set out in Clause 13 (Step-in rights).

1.6 The Supplier shall not terminate or materially amend the terms of any Key Sub-Contract without the Buyer's prior written consent, which shall not be unreasonably withheld or delayed.



[Subject to Contract]  
**Schedule 30 (Exit Management)**  
Crown Copyright 2022

**Schedule 30 (Exit Management)**

**1. Definitions**

1.1 In this Schedule, the following words shall have the following meanings and they shall supplement Schedule 1 (Definitions):

"Exclusive Assets"	Supplier Assets used exclusively by the Supplier or a Key Subcontractor in the provision of the Deliverables;
"Exit Information"	has the meaning given to it in Paragraph <b>Error! Reference source not found.</b> of this Schedule;
"Exit Manager"	the person appointed by each Party to manage their respective obligations under this Schedule;
"Net Book Value"	the current net book value of the relevant Supplier Asset(s) calculated in accordance with the Tender (if stated) or (if not stated) the depreciation policy of the Supplier (which the Supplier shall ensure is in accordance with Good Industry Practice);
"Non-Exclusive Assets"	those Supplier Assets used by the Supplier or a Key Subcontractor in connection with the Deliverables but which are also used by the Supplier or Key Subcontractor for other purposes;
"Registers"	the register and configuration database referred to in Paragraph 2.2 of this Schedule;
"Replacement Goods"	any goods which are substantially similar to any of the Goods and which the Buyer receives in substitution for any of the Goods following the End Date, whether those goods are provided by the Buyer internally and/or by any third party;
"Replacement Services"	any services which are substantially similar to any of the Services and which the Buyer receives in substitution for any of the Services following the End Date, whether those goods are provided by the Buyer internally and/or by any third party;
"Termination"	the activities to be performed by the

**Assistance"**

Supplier pursuant to the Exit Plan, and  
other assistance required by the Buyer

	pursuant to the Termination Assistance Notice;
<b>"Termination Assistance Notice"</b>	has the meaning given to it in Paragraph 5.1 of this Schedule;
<b>"Termination Assistance Period"</b>	the period specified in a Termination Assistance Notice for which the Supplier is required to provide the Termination Assistance as such period may be extended pursuant to Paragraph <b>Error! Reference source not found.</b> of this Schedule;
<b>"Transferable Assets"</b>	Exclusive Assets which are capable of legal transfer to the Buyer;
<b>"Transferable Contracts"</b>	Sub-Contracts, licences for Supplier's Software, licences for Third Party Software or other agreements which are necessary to enable the Buyer or any Replacement Supplier to provide the Deliverables or the Replacement Goods and/or Replacement Services, including in relation to licences all relevant Documentation;
<b>"Transferring Assets"</b>	has the meaning given to it in Paragraph <b>Error! Reference source not found.</b> of this Schedule;
<b>"Transferring Contracts"</b>	has the meaning given to it in Paragraph <b>Error! Reference source not found.</b> of this Schedule.

## **1. Supplier must always be prepared for contract exit**

- 1.1 The Supplier shall within 30 days from the Start Date provide to the Buyer a copy of its depreciation policy to be used for the purposes of calculating Net Book Value.
- 1.2 During the Contract Period, the Supplier shall promptly:
  - 1.2.1 create and maintain a detailed register of all Supplier Assets (including description, condition, location and details of ownership and status as either Exclusive Assets or Non-Exclusive Assets and Net Book Value) and Sub-contracts and other relevant agreements required in connection with the Deliverables; and
  - 1.2.2 create and maintain a configuration database detailing the technical infrastructure and operating procedures through which the Supplier provides the Deliverables

("Registers").





[Subject to Contract]

**Schedule 30 (Exit Management)**

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**1.3 The Supplier shall:**

- 1.3.1 ensure that all Exclusive Assets listed in the Registers are clearly physically identified as such; and
- 1.3.2 procure that all licences for Third Party Software and all Sub-Contracts shall be assignable and/or capable of novation (at no cost or restriction to the Buyer) at the request of the Buyer to the Buyer (and/or its nominee) and/or any Replacement Supplier upon the Supplier ceasing to provide the Deliverables (or part of them) and if the Supplier is unable to do so then the Supplier shall promptly notify the Buyer and the Buyer may require the Supplier to procure an alternative Subcontractor or provider of Deliverables.
- 1.4 Each Party shall appoint an Exit Manager within three (3) Months of the Start Date. The Parties' Exit Managers will liaise with one another in relation to all issues relevant to the expiry or termination of this Contract.

**2. Assisting re-competition for Deliverables**

- 2.1 The Supplier shall, on reasonable notice, provide to the Buyer and/or its potential Replacement Suppliers (subject to the potential Replacement Suppliers entering into reasonable written confidentiality undertakings), such information (including any access) as the Buyer shall reasonably require in order to facilitate the preparation by the Buyer of any invitation to tender and/or to facilitate any potential Replacement Suppliers undertaking due diligence (the "**Exit Information**").
- 2.2 The Supplier acknowledges that the Buyer may disclose the Supplier's Confidential Information (excluding the Supplier's or its Subcontractors' prices or costs) to an actual or prospective Replacement Supplier to the extent that such disclosure is necessary in connection with such engagement.
- 2.3 The Supplier shall provide complete updates of the Exit Information on an as-requested basis as soon as reasonably practicable and notify the Buyer within five (5) Working Days of any material change to the Exit Information which may adversely impact upon the provision of any Deliverables (and shall consult the Buyer in relation to any such changes).
- 2.4 The Exit Information shall be accurate and complete in all material respects and shall be sufficient to enable a third party to prepare an informed offer for those Deliverables; and not be disadvantaged in any procurement process compared to the Supplier.

**3. Exit Plan**

- 3.1 The Supplier shall, within three (3) Months after the Start Date, deliver to the Buyer an Exit Plan which complies with the requirements set out in Paragraph 4.3 of this Schedule and is otherwise reasonably satisfactory to the Buyer.

3.2 The Parties shall use reasonable endeavours to agree the contents of the Exit Plan. If the Parties are unable to agree the contents of the Exit Plan within twenty (20) Working Days of the latest date for its submission

[Subject to Contract]

**Schedule 30 (Exit Management)**

Crown Copyright 2022

pursuant to Paragraph 4.1, then such Dispute shall be resolved in accordance with the Dispute Resolution Procedure.

3.3 The Exit Plan shall set out, as a minimum:

- 3.3.1 a detailed description of both the transfer and cessation processes, including a timetable;
- 3.3.2 how the Deliverables will transfer to the Replacement Supplier and/or the Buyer;
- 3.3.3 details of any contracts which will be available for transfer to the Buyer and/or the Replacement Supplier upon the Expiry Date together with any reasonable costs required to effect such transfer;
- 3.3.4 proposals for the training of key members of the Replacement Supplier's staff in connection with the continuation of the provision of the Deliverables following the Expiry Date;
- 3.3.5 proposals for providing the Buyer or a Replacement Supplier copies of all documentation relating to the use and operation of the Deliverables and required for their continued use;
- 3.3.6 proposals for the assignment or novation of all services utilised by the Supplier in connection with the supply of the Deliverables;
- 3.3.7 proposals for the identification and return of all Buyer Property in the possession of and/or control of the Supplier or any third party;
- 3.3.8 proposals for the disposal of any redundant Deliverables and materials;
- 3.3.9 how the Supplier will ensure that there is no disruption to or degradation of the Deliverables during the Termination Assistance Period; and
- 3.3.10 any other information or assistance reasonably required by the Buyer or a Replacement Supplier.

3.4 The Supplier shall:

- 3.4.1 maintain and update the Exit Plan (and risk management plan) no less frequently than:
  - a) every [six (6) months] throughout the Contract Period; and
  - b) no later than [twenty (20) Working Days] after a request from the Buyer for an up-to-date copy of the Exit Plan;
  - c) as soon as reasonably possible following a Termination Assistance Notice, and in any event no later than [ten (10) Working Days] after the date of the Termination Assistance Notice;
  - d) as soon as reasonably possible following, and in any event no later than [twenty (20) Working Days] following, any material change to the Deliverables

(including all changes under the Variation Procedure);  
and



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### **Schedule 30 (Exit Management)**

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3.4.2 jointly review and verify the Exit Plan if required by the Buyer and promptly correct any identified failures.

3.5 Only if (by notification to the Supplier in writing) the Buyer agrees with a draft Exit Plan provided by the Supplier under Paragraph 4.2 or 4.4 (as the context requires), shall that draft become the Exit Plan for this Contract.

3.6 A version of an Exit Plan agreed between the parties shall not be superseded by any draft submitted by the Supplier.

## **4. Termination Assistance**

4.1 The Buyer shall be entitled to require the provision of Termination Assistance at any time during the Contract Period by giving written notice to the Supplier (a "**Termination Assistance Notice**") at least four (4) Months prior to the Expiry Date or as soon as reasonably practicable (but in any event, not later than one (1) Month) following the service by either Party of a Termination Notice. The Termination Assistance Notice shall specify:

4.1.1 the nature of the Termination Assistance required; and

4.1.2 the start date and period during which it is anticipated that Termination Assistance will be required, which shall continue no longer than twelve (12) Months after the date that the Supplier ceases to provide the Deliverables.

4.2 The Buyer shall have an option to extend the Termination Assistance Period beyond the Termination Assistance Notice period provided that such extension shall not extend for more than six (6) Months beyond the end of the Termination Assistance Period and provided that it shall notify the Supplier of such this extension no later than twenty (20) Working Days prior to the date on which the provision of Termination Assistance is otherwise due to expire. The Buyer shall have the right to terminate its requirement for Termination Assistance by serving not less than (20) Working Days' written notice upon the Supplier.

4.3 In the event that Termination Assistance is required by the Buyer but at the relevant time the parties are still agreeing an update to the Exit Plan pursuant to Paragraph 4, the Supplier will provide the Termination Assistance in good faith and in accordance with the principles in this Schedule and the last Buyer approved version of the Exit Plan (insofar as it still applies).

## **5. Termination Assistance Period**

5.1 Throughout the Termination Assistance Period the Supplier shall:

5.1.1 continue to provide the Deliverables (as applicable) and otherwise perform its obligations under this Contract and, if required by the Buyer, provide the Termination Assistance;

5.1.2 provide to the Buyer and/or its Replacement Supplier any reasonable assistance and/or access requested by the Buyer and/or its Replacement Supplier including assistance and/or access to facilitate the orderly transfer of





### **Schedule 30 (Exit Management)**

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responsibility for and conduct of the Deliverables to the Buyer and/or its Replacement Supplier;

- 5.1.3 use all reasonable endeavours to reallocate resources to provide such assistance without additional costs to the Buyer;
- 5.1.4 subject to Paragraph 6.3, provide the Deliverables and the Termination Assistance at no detriment to the Performance Indicators (PI's) or Service Levels, the provision of the Management Information or any other reports nor to any other of the Supplier's obligations under this Contract;
- 5.1.5 at the Buyer's request and on reasonable notice, deliver up-to-date Registers to the Buyer;
- 5.1.6 seek the Buyer's prior written consent to access any Buyer Premises from which the de-installation or removal of Supplier Assets is required.

5.2 If it is not possible for the Supplier to reallocate resources to provide such assistance as is referred to in Paragraph 6.1.2 without additional costs to the Buyer, any additional costs incurred by the Supplier in providing such reasonable assistance shall be subject to the Variation Procedure.

5.3 If the Supplier demonstrates to the Buyer's reasonable satisfaction that the provision of the Termination Assistance will have a material, unavoidable adverse effect on the Supplier's ability to meet one or more particular Service Levels, the Parties shall vary the relevant Service Levels and/or the applicable Service Credits accordingly.

### **6. Obligations when the contract is terminated**

6.1 The Supplier shall comply with all of its obligations contained in the Exit Plan.

6.2 Upon termination or expiry or at the end of the Termination Assistance Period (or earlier if this does not adversely affect the Supplier's performance of the Deliverables and the Termination Assistance), the Supplier shall:

- 6.2.1 vacate any Buyer Premises;
- 6.2.2 remove the Supplier Equipment together with any other materials used by the Supplier to supply the Deliverables and shall leave the Sites in a clean, safe and tidy condition. The Supplier is solely responsible for making good any damage to the Sites or any objects contained thereon, other than fair wear and tear, which is caused by the Supplier;
- 6.2.3 provide access during normal working hours to the Buyer and/or the Replacement Supplier for up to twelve (12) Months after expiry or termination to:
  - a) such information relating to the Deliverables as remains in the possession or control of the Supplier; and
  - b) such members of the Supplier Staff as have been involved in the design, development and provision of the Deliverables and who are still employed by the



[Subject to Contract]

**Schedule 30 (Exit Management)**

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Supplier, provided that the Buyer and/or the Replacement Supplier shall pay the reasonable costs of the Supplier actually incurred in responding to such requests for access.

6.3 Except where this Contract provides otherwise, all licences, leases and authorisations granted by the Buyer to the Supplier in relation to the Deliverables shall be terminated with effect from the end of the Termination Assistance Period.

**7. Assets, Sub-contracts and Software**

7.1 Following notice of termination of this Contract and during the Termination Assistance Period, the Supplier shall not, without the Buyer's prior written consent:

7.1.1 terminate, enter into or vary any Sub-contract or licence for any software in connection with the Deliverables; or

7.1.2 (subject to normal maintenance requirements) make material modifications to, or dispose of, any existing Supplier Assets or acquire any new Supplier Assets.

7.2 Within twenty (20) Working Days of receipt of the up-to-date Registers provided by the Supplier, the Buyer shall notify the Supplier setting out:

7.2.1 which, if any, of the Transferable Assets the Buyer requires to be transferred to the Buyer and/or the Replacement Supplier ("**Transferring Assets**");

7.2.2 which, if any, of:

a) the Exclusive Assets that are not Transferable Assets; and

b) the Non-Exclusive Assets, the Buyer

and/or the Replacement Supplier requires the continued use of; and

7.2.3 which, if any, of Transferable Contracts the Buyer requires to be assigned or novated to the Buyer and/or the Replacement Supplier (the "**Transferring Contracts**"),

in order for the Buyer and/or its Replacement Supplier to provide the Deliverables from the expiry of the Termination Assistance Period. The Supplier shall provide all reasonable assistance required by the Buyer and/or its Replacement Supplier to enable it to determine which Transferable Assets and Transferable Contracts are required to provide the Deliverables or the Replacement Goods and/or Replacement Services.

7.3 With effect from the expiry of the Termination Assistance Period, the Supplier shall sell the Transferring Assets to the Buyer and/or the Replacement Supplier for their Net Book Value less any amount already paid for them through the Charges.

7.4 Risk in the Transferring Assets shall pass to the Buyer or the Replacement Supplier (as appropriate) at the end of the Termination Assistance Period and title shall pass on payment for them



[Subject to Contract]

**Schedule 30 (Exit Management)**

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7.5 Where the Buyer and/or the Replacement Supplier requires continued use of any Exclusive Assets that are not Transferable Assets or any Non-Exclusive Assets, the Supplier shall as soon as reasonably practicable:

7.5.1 procure a non-exclusive, perpetual, royalty-free licence for the Buyer and/or the Replacement Supplier to use such assets (with a right of sub-licence or assignment on the same terms); or failing which

7.5.2 procure a suitable alternative to such assets, the Buyer or the Replacement Supplier to bear the reasonable proven costs of procuring the same.

7.6 The Supplier shall as soon as reasonably practicable assign or procure the novation of the Transferring Contracts to the Buyer and/or the Replacement Supplier. The Supplier shall execute such documents and provide such other assistance as the Buyer reasonably requires to effect this novation or assignment.

7.7 The Buyer shall:

7.7.1 accept assignments from the Supplier or join with the Supplier in procuring a novation of each Transferring Contract; and

7.7.2 once a Transferring Contract is novated or assigned to the Buyer and/or the Replacement Supplier, discharge all the obligations and liabilities created by or arising under that Transferring Contract and exercise its rights arising under that Transferring Contract, or as applicable, procure that the Replacement Supplier does the same.

7.8 The Supplier shall hold any Transferring Contracts on trust for the Buyer until the transfer of the relevant Transferring Contract to the Buyer and/or the Replacement Supplier has taken place.

7.9 The Supplier shall indemnify the Buyer (and/or the Replacement Supplier, as applicable) against each loss, liability and cost arising out of any claims made by a counterparty to a Transferring Contract which is assigned or novated to the Buyer (and/or Replacement Supplier) pursuant to Paragraph 8.6 in relation to any matters arising prior to the date of assignment or novation of such Transferring Contract. Clause 19 (Other people's rights in this contract) shall not apply to this Paragraph 8.9 which is intended to be enforceable by Third Parties Beneficiaries by virtue of the CRTPA.

**8.No charges**

8.1 Unless otherwise stated, the Buyer shall not be obliged to pay for costs incurred by the Supplier in relation to its compliance with this Schedule.

**9.Dividing the bills**

9.1 All outgoings, expenses, rents, royalties and other periodical payments receivable in respect of the Transferring Assets and Transferring Contracts shall be apportioned between the Buyer and/or the Replacement and the Supplier as follows:

9.1.1 the amounts shall be annualised and divided by 365 to reach a daily rate;





[Subject to Contract]

**Schedule 30 (Exit Management)**

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9.1.2 the Buyer or Replacement Supplier (as applicable) shall be responsible for or entitled to (as the case may be) that part of the value of the invoice pro rata to the number of complete days following the transfer, multiplied by the daily rate; and

the Supplier shall be responsible for or entitled to (as the case may be) the rest of the invoice.



[Subject to Contract]

**Schedule 26 (Sustainability)**

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## Schedule 26 (Corporate Social Responsibility)

## 1. What we expect from our Suppliers

- 1.1. In February 2019, HM Government published a Supplier Code of Conduct setting out the standards and behaviours expected of suppliers who work with government.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/779660/20190220-Supplier\\_Code\\_of\\_Conduct.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779660/20190220-Supplier_Code_of_Conduct.pdf)

- 1.2. The Buyer expects its suppliers and subcontractors to meet the standards set out in that Code. In addition, the Buyer expects its suppliers and subcontractors to comply with the standards set out in this Schedule.

## 2. Equality and Accessibility

- 2.1. In addition to legal obligations, the Supplier shall support the Buyer in fulfilling its Public Sector Equality duty under S149 of the Equality Act 2010 by ensuring that it fulfils its obligations under each Contract in a way that seeks to:

- 2.1.1. eliminate discrimination, harassment or victimisation of any kind; and
- 2.1.2. advance equality of opportunity and good relations between those with a protected characteristic (age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation, and marriage and civil partnership) and those who do not share it.

### 3. Modern Slavery, Child Labour and Inhumane Treatment

**"Modern Slavery Helpline"** means the mechanism for reporting suspicion, seeking help or advice and information on the subject of modern slavery available online at <https://www.modernslaveryhelpline.org/report> or by telephone on 08000 121 700.

- ### 3.1. The Supplier:

- 3.1.1. shall not use, nor allow its Subcontractors to use forced, bonded or involuntary prison labour;
- 3.1.2. shall not require any Supplier Staff or Subcontractor Staff to lodge deposits or identify papers with the Employer and shall be free to leave their employer after reasonable notice;
- 3.1.3. warrants and represents that it has not been convicted of any slavery or human trafficking offences anywhere around the world.
- 3.1.4. warrants that to the best of its knowledge it is not currently under investigation, inquiry or enforcement proceedings in relation to any

allegation of slavery or human trafficking offenses anywhere around the world.



[Subject to Contract]

**Schedule 26 (Sustainability)**

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- 3.1.5. shall make reasonable enquires to ensure that its officers, employees and Subcontractors have not been convicted of slavery or human trafficking offenses anywhere around the world.
- 3.1.6. shall have and maintain throughout the term of the Contract its own policies and procedures to ensure its compliance with the Modern Slavery Act 2015 and include in its contracts with its Subcontractors anti-slavery and human trafficking provisions;
- 3.1.7. shall implement due diligence procedures to ensure that there is no slavery or human trafficking in any part of its supply chain performing obligations under the Contract;
- 3.1.8. shall prepare and deliver to the Buyer, an annual slavery and human trafficking report setting out the steps it has taken to ensure that slavery and human trafficking is not taking place in any of its supply chains or in any part of its business with its annual certification of compliance with Paragraph 3;
- 3.1.9. shall not use, nor allow its employees or Subcontractors to use physical abuse or discipline, the threat of physical abuse, sexual or other harassment and verbal abuse or other forms of intimidation of its employees or Subcontractors;
- 3.1.10. shall not use or allow child or slave labour to be used by its Subcontractors;
- 3.1.11. shall report the discovery or suspicion of any slavery or trafficking by it or its Subcontractors to the Buyer and Modern Slavery Helpline.

## 4. Income Security

- 4.1. The Supplier shall:
- 4.1.1. ensure that that all wages and benefits paid for a standard working week meet, at a minimum, national legal standards in the country of employment;
  - 4.1.2. ensure that all Supplier Staff are provided with written and understandable Information about their employment conditions in respect of wages before they enter;
  - 4.1.3. provide all workers with written and understandable Information about their employment conditions in respect of wages before they enter employment and about the particulars of their wages for the pay period concerned each time that they are paid;
  - 4.1.4. not make deductions from wages:
    - 4.1.4.1. as a disciplinary measure
    - 4.1.4.2. except where permitted by law; or

4.1.4.3. without expressed permission of the worker concerned;

On 8/15/2015, at 10:55 AM, "C852425425B0745A65AD3012F542EDF28BB40E9"  
@DEG





[Subject to Contract]

**Schedule 26 (Sustainability)**

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- 4.1.5. record all disciplinary measures taken against Supplier Staff; and
- 4.1.6. ensure that Supplier Staff are engaged under a recognised employment relationship established through national law and practice.

**5. Working Hours**

5.1. The Supplier shall:

- 5.1.1. ensure that the working hours of Supplier Staff comply with national laws, and any collective agreements;
- 5.1.2. that the working hours of Supplier Staff, excluding overtime, shall be defined by contract, and shall not exceed 48 hours per week unless the individual has agreed in writing;
- 5.1.3. ensure that use of overtime used responsibly, taking into account:
  - (a) the extent;
  - (b) frequency; and
  - (c) hours worked;

by individuals and by the Supplier Staff as a whole;

5.2. The total hours worked in any seven day period shall not exceed 60 hours, except where covered by Paragraph 5.3 below.

5.3. Working hours may exceed 60 hours in any seven day period only in exceptional circumstances where all of the following are met:

- 5.3.1. this is allowed by national law;
- 5.3.2. this is allowed by a collective agreement freely negotiated with a workers' organisation representing a significant portion of the workforce;  
appropriate safeguards are taken to protect the workers' health and safety; and
- 5.3.3. the employer can demonstrate that exceptional circumstances apply such as unexpected production peaks, accidents or emergencies.

5.4. All Supplier Staff shall be provided with at least one (1) day off in every seven (7) day period or, where allowed by national law, two (2) days off in every fourteen (14) day period.

**6. Sustainability**

6.1. The supplier shall meet the applicable Government Buying Standards applicable to Deliverables which can be found online at:

<https://www.gov.uk/government/collections/sustainable-procurement-the-government-buying-standards-gbs>





## **Schedule 4 (Tender)**

Tender in response to: Greenhouse gas  
emissions inventory monitoring and verification  
programme: 2022-2024

TRN: 5488/11/2021

# Contents

<b>1 Overview</b>	<b>2</b>
<b>2 Methodology</b>	<b>3</b>
2.1 Measurement .....	3
2.2 Spatial analysis .....	6
2.3 Analysis and interpretation .....	11
2.4 Scoping improvements to the measurement and analysis capabilities .....	14
<b>3 Quality Assurance</b>	<b>16</b>
3.1 Measurement QA .....	16
3.2 Modelling QA.....	17
<b>4 Scientific Developments and Improvements</b>	<b>18</b>
<b>5 Collaborations</b>	<b>20</b>
<b>6 Reporting and documentation of procedures and methods</b>	<b>21</b>
6.1 Project Reports .....	21
6.2 Risk Register .....	22
6.3 Project Meetings and Presentations .....	23
6.4 Project and Handover Plans .....	23
<b>7 Management and Delivery</b>	<b>23</b>
7.1 Responsibilities .....	23
7.2 Project Planning - Timetable .....	24
7.3 Skills and Experience .....	25
7.4 Social Value .....	27
<b>8 Recent Publications</b>	<b>27</b>
<b>9 Bibliography</b>	<b>29</b>
<b>10 Nomenclature</b>	<b>30</b>





# 1 Overview

This tender seeks 21-months of continuing funding for the UK Deriving Emissions linked to Climate Change (DECC) Network. A real-time, high-frequency greenhouse gas measurement network combined with a sophisticated inversion modelling system is key to independently verifying the UK's greenhouse gas (GHG) inventory. BEIS submits the UK's inventory to the UN Framework Convention on Climate Change (UNFCCC) on an annual basis as part of the UK's international obligations. The inventory is also used domestically to assess progress under the UK's own Climate Change Act. The UK DECC Network is distinguished by its capability to measure all of the important GHGs the UK submits to the UNFCCC at high frequency, in addition to many of the gases covered by the Montreal Protocol. By providing direct observations of GHGs and ozone depleting substances (ODS) in the atmosphere, and by assigning them to direct emissions, we further the understanding of regional and global chemical and climatic phenomena. The specific objectives of this tender are to:

1. Collect measurements of GHGs and other related gases in the atmosphere over the UK.
2. Interpret atmospheric concentration data to understand hemispheric background concentrations, exploring the seasonal and long-term trends in these data.
3. Interpret atmospheric concentration data to understand the spatial distribution and magnitude of emissions over the UK and the North Sea.
4. Compare these modelled UK emissions data to those reported in the UK's GHG Inventory to verify the inventory estimates and identify any discrepancies.
5. Use the observed and modelled emission data to support other high priority areas of government policy, such as the phase out of hydrofluorocarbons (HFCs) and their replacement with hydrofluoroolefins (HFOs).
6. Identify scientific and technological developments which could inform improvements to the verification programme and effectively communicate and collaborate with international monitoring networks and parallel research programmes in the wider scientific landscape.

The UK inventory verification programme is world leading; no other country annually reports observation-derived emission estimates of the full suite of Kyoto GHGs. Only Switzerland, Australia and the United States of America report any verification emission estimates, but none of these countries do so on the comprehensive scale that the UK achieves. The UK has a significant amount of expertise and experience in this area of science, a point that is fully recognised by the WMO (World Meteorological Organisation) programme IG<sup>3</sup>IS (Integrated Global Greenhouse Gas Information System). Prof. Alistair Manning was a contributor to the inventory verification section of the 2019 Refinement to the 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories. Involvement in both of these international initiatives demonstrates the global impact we are currently having in this growing area of national inventory compilation. Under this contract we will continue to contribute to similar international efforts. One of the key benefits in the UK is the strong link between the inventory compilers and our work in the inventory verification team. In this tender we are proposing to further develop this link by more closely integrating the two strands of work through increased meetings and interaction with the inventory team at Ricardo. To these ends, funding is sought to continue the long-term measurements at stations within the UK DECC Network and, using these, deliver UK observation-derived emission estimates to directly verify and improve the UK inventory.

## 2 Methodology

### 2.1 Measurement

We propose to continue the successful long-term, high-frequency, in situ measurements at UK DECC Network and affiliated sites (Figure 1). In addition we propose to expand the number of associated sampling sites, as outlined in Section 5, and increase the number of species measured to include the new HFC replacement compounds, the HFOs and Hydrochlorofluoroolefins (HCFOs), as indicated in Table 1.

Mace Head (MHD), which is part of a wider global network (Advanced Global Atmospheric Gases Experiment; [AGAGE](#)), has been making high frequency, long-term measurements of GHGs and ODSs since 1987. AGAGE stations are predominantly coastal sites around the world, chosen to provide background measurements of these key trace gas species (Prinn et al. 2018). MHD is located on the west coast of Ireland, County Galway, and offers excellent exposure to the North Atlantic (clean air sector, 180° through west to 300°) and is used to estimate the mid-latitude northern hemisphere background concentrations of GHGs and ODSs. Tall tower sites in the UK DECC Network (Tacolneston, TAC, and Ridge Hill, RGL) have measured the composition of the atmosphere continuously since 2012, while those sites originally setup as part of the Greenhouse gAs UK and Global Emissions (GAUGE) project (Bilsdale, BSD, and Heathfield, HFD) were established in 2014 and were merged into the DECC Network at the end of the GAUGE project. The UK sites use telecommunications towers ranging from 132 – 290 m.a.g.l. (metres above ground level), which provide a convenient platform for boundary layer trace gas sampling and reduce the influence of local pollution events on measurements.

The network gives good spatial coverage over the UK. Stavert et al. (2019) showed that the inclusion of HFD within the UK DECC Network reduced total UK uncertainty for 2014 CH<sub>4</sub> emission estimates by 10% compared to using the original UK DECC Network sites only, via the InTEM method described in Section 2.2. Unfortunately, the BSD site has been out of operation since 10<sup>th</sup> August 2021, when a large fire occurred causing structural damage to the mast. The tower was then demolished on 6th October 2021 (see [website](#) for more information) and a temporary replacement tower is currently being built. Laboratory tests at the University of Bristol (UoB) confirmed that there was no lasting damage to the optical equipment housed at BSD, and it is proposed to return these instruments to the temporary tower at BSD in July/August 2022.

The stations in the UK DECC Network use a range of measurement technologies for trace

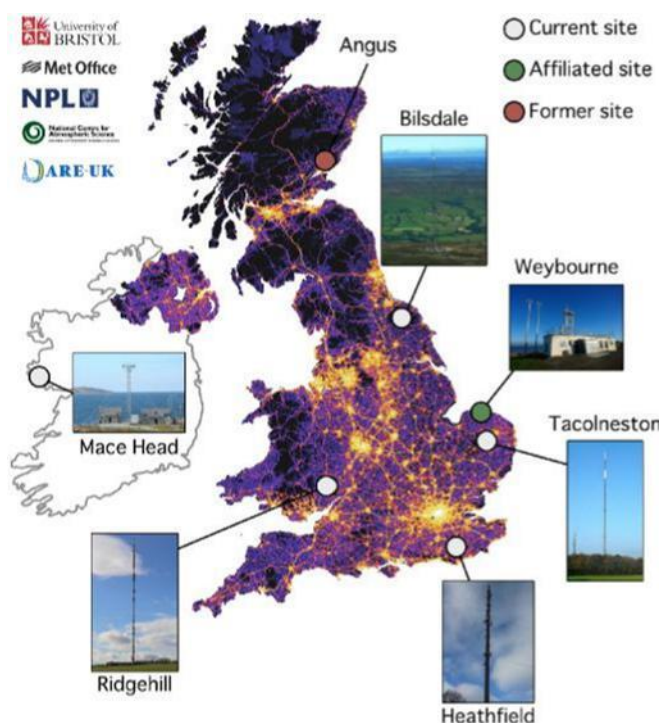


Figure 1: Location of UK DECC Network and affiliated sampling sites.

Compound	2021 conc. (ppt)	Prec. (%)	Compound	2021 conc. (ppt)	Prec. (%)	Compound	2021 conc. (ppt)	Prec. (%)
CO <sub>2</sub>	405-427 <sup>+</sup>	0.02	C <sub>4</sub> F <sub>10</sub>	0.2	3	CH <sub>3</sub> Cl	529	0.2
CH <sub>4</sub>	1900-2020*	0.2	C <sub>6</sub> F <sub>14</sub>	0.3	3	CH <sub>3</sub> Br	7.3	0.4
N <sub>2</sub> O	335*	0.06	HFO-1234yf	0-0.12	3.5	CH <sub>3</sub> I	0.9	1
HFC-125	39.3	0.3	HFO-1234ze(E)	0.01-0.17	3	CH <sub>2</sub> Cl <sub>2</sub>	64.8	0.4
HFC-134a	125	0.2	HCFO-1233zd(E)	0.07-0.32	2	CH <sub>2</sub> Br <sub>2</sub>	1.7	0.8
HFC-143a	28.7	0.5	HCFC-124	0.9	2	CHCl <sub>3</sub>	13.4	0.3
HFC-152a	10.5	0.7	HCFC-132b	0.2	3	CHBr <sub>3</sub>	6.1	0.6
HFC-23	35.6	0.4	HCFC-133a	0.5	3	CCl <sub>4</sub>	76	1
HFC-32	33.2	0.4	HCFC-141b	26	0.3	CH <sub>3</sub> CCl <sub>3</sub>	1	1.7
HFC-227ea	2.1	1.0	HCFC-142b	22.7	0.2	CHCl=CCl <sub>2</sub>	0.1-0.8	3
HFC-236fa	0.2	3	HCFC-22	259	0.2	CCl <sub>2</sub> =CCl <sub>2</sub>	1.5-3.0	0.5
HFC-245fa	3.8	1.0	CFC-11	222	0.1	COS	320-480	0.2
HFC-365mfc	1.3	1.7	CFC-12	497	0.1	C <sub>2</sub> H <sub>6</sub>	400-2100	0.3
HFC-4310mee	0.3	4.0	CFC-13	3.3	0.7	C <sub>3</sub> H <sub>8</sub>	5-700	1
PFC-14	88.0	0.2	CFC-112	0.5	1	c-C <sub>3</sub> H <sub>8</sub>	10.4	0.6
PFC-116	5.1	0.7	CFC-113	68.8	0.2	C <sub>6</sub> H <sub>6</sub>	10-100	0.5
PFC-218	0.7	1.5	CFC-114	16.3	0.3	C <sub>7</sub> H <sub>8</sub>	10-50	0.4
PFC-318	2.0	1.0	CFC-115	8.8	0.3	desflurane	0.4	3
SF <sub>6</sub>	10.8	0.4	H-1211	3.1	0.4	CO	80-160*	0.2
NF <sub>3</sub>	2.8	0.7	H-1301	3.4	1.5	H <sub>2</sub>	480-560*	0.3
SO <sub>2</sub> F <sub>2</sub>	2.9	0.7	H-2402	0.4	1.2			

Table 1: UK DECC Network measured species (ITT required species in blue; ITT requested species in orange; additional species in black), 2021 northern hemispheric baseline concentrations and instrumental precision (prec.). All concentrations are mid-year MHD values in parts per trillion (ppt) unless otherwise indicated. +parts per million (ppm). \* parts per billion (ppb).

gas and meteorological analysis; a summary is provided below and more information can be found in Prinn et al. (2018), Stanley et al. (2018), on the UoB [website](#) and in Table 2:

- Wavelength-scanned cavity-ring down spectroscopy (CRDS) to measure CO<sub>2</sub> and CH<sub>4</sub> at all sampling heights at all UK DECC Network sites, as well as CO and N<sub>2</sub>O at all sampling heights at BSD and HFD.
- Off-axis integrated cavity output spectroscopy (OA-ICOS) to measure CO and N<sub>2</sub>O at all sampling heights at TAC.
- Gas Chromatography – Electron Capture detection (GC-ECD) to measure N<sub>2</sub>O and SF<sub>6</sub> at RGL, BSD and HFD, sampling from the highest sample inlet height.
- Gas Chromatography – multi-detection (GC-MD), consisting of Flame-Ionization Detector (FID), Electron Capture Detector (ECD) and Mercuric oxide reduction analyser (RGA) to measure CH<sub>4</sub>, N<sub>2</sub>O, CFC-11, CFC-12, CFC-113, CHCl<sub>3</sub>, CH<sub>3</sub>CCl<sub>3</sub>, CCl<sub>4</sub>, CO and H<sub>2</sub> at MHD.
- Medusa Gas Chromatography – Mass Spectrometry (GC-MS) to measure all of the compounds listed in Table 1 with the exception of CO<sub>2</sub>, CH<sub>4</sub>, CO, N<sub>2</sub>O and H<sub>2</sub>. The gases being measured using the Medusa GC-MS at MHD and TAC, greatly exceeds the minimum requirements laid out in the ITT. More information about the Medusa GC-MS can be found in Miller et al. (2008) and Arnold et al. (2012).
- 1500L dual flow loop, two filter Radon-222 detector, associated sample lines and pump at RGL, TAC and HFD.
- Meteorological measurements. At RGL, these measurements consist of two sonic anemometers (both at 85 m sampling height), three temperature and relative humidity probes (53 m, 63 m and 85 m sampling heights) and two barometric pressure sensors (85 m sampling height and 1 m height within the ground).

instrumentation cabin). At TAC, these measurements consist of two sonic anemometers (both at 150 m sampling height), four temperature and relative humidity probes (51 m, 70 m, 150 m and 175 m sampling heights) and two barometric pressure sensors (150 m sampling height and at 1 m height within the ground instrumentation room).

- Custom built SA-6 compressor for filling calibration cylinders used within the network, located at MHD and UoB.
- Sample inlet lines (see Table 2 for sampling heights), sample pumps, compressors, zero air generators, computer server and UPS back up at all sites.

Site	Start date	Intake height (m.a.g.l.)	Optical instrument	GC-ECD/MD	Medusa(GC-MS)	Radon intake height (m.a.g.l.)
Mace Head (MHD)	1987	10	CO <sub>2</sub> /CH <sub>4</sub> /CO*	N <sub>2</sub> O/CH <sub>4</sub> /CFCs/CO/H <sub>2</sub> trace gases	Halocarbons & other	24*
Tacolneston (TAC)	2012	54 100 185	CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O† - CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O† - CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O† -	-	- Halocarbons & other trace gases	175
Ridge Hill (RGL)	2012	45 90	CO <sub>2</sub> /CH <sub>4</sub> CO <sub>2</sub> /CH <sub>4</sub>	- N <sub>2</sub> O/SF <sub>6</sub>	-	85
Bilsdale (BSD)	2014	48 108 248	CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O - CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O - CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O N <sub>2</sub> O/SF <sub>6</sub>	- - -	- - -	- - -
Heathfield (HFD)	2014	50 100	CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O - CO <sub>2</sub> /CH <sub>4</sub> /CO/N <sub>2</sub> O N <sub>2</sub> O/SF <sub>6</sub>	- -	-	100

**Table 2:** UK DECC Network tall tower sampling stations and instrumentation. Optical instruments are CRDS analysers unless stated otherwise. †CO and N<sub>2</sub>O measured using OA-ICOS. \*Instrument owned and run by the Laboratoire des Sciences du Climat et de l'Environnement (LSCE), Paris. Data are shared with the UK DECC Network through a memorandum of understanding (MOU). Picarro instrument measures from 24 m.a.g.l.

All instruments within the network are under computer control using [GCWerks](#) software designed for the AGAGE programme, with all instrumental data, ancillary data, and operators' logs stored locally at the sites and transmitted via the internet to the data processing servers at the UoB and the National Physical Laboratory (NPL). The data processing system relies on having identical software and databases at the field stations and at the data processing sites. This allows the station operators and investigators to review identical chromatograms and instrumental data in a timely manner and fosters constructive exchanges among the investigators. UoB maintains a complete database for all UK DECC Network stations and produces final results for all sites once the periodic data reviews have been completed. Preliminary reviews of the data are conducted daily by individual team members, with complete reviews of data across the network carried out by the entire team every other month.

The calibration protocols used within the network are instrument dependent and are outlined in Stanley et al. (2018). The optical instruments are linked to WMO calibration scales (Dlugokencky et al. 2005; Zhao et al. 2006; Hall et al. 2021) and the Medusa GC-MS and GC-ECD/MD instruments are linked to AGAGE Scripps Institution of Oceanography (SIO) calibration scales (Prinn et al. 2018). CO<sub>2</sub>, CH<sub>4</sub>, CO, N<sub>2</sub>O and SF<sub>6</sub> scales in the network are outlined in Table 3. Measurements made within the network are calibrated against close-to-ambient standards and non-linearity is assessed using a set of at least 3 calibration cylinders, which span a range greater than the typical ambient range for species measured by optical and GC-ECD instruments.

Concentration time-series measured at the UK DECC Network sites are freely available on publicly accessible

	CO <sub>2</sub>	CH <sub>4</sub>	CO	N <sub>2</sub> O	SF <sub>6</sub>
Mace Head (MHD) WMO x2019 <sup>a</sup>		Tohoku <sup>a,b</sup>	WMO x2014a	SIO-2016	SIO-05
Tacolneston (TAC) WMO x2019	WMO x2004a	WMO x2014a	WMO x2006a	SIO-05	
Ridge Hill (RGL) WMO x2019	WMO x2004a	WMO x2014a	SIO-2016	SIO-05	
Bilsdale (BSD) WMO x2019	WMO x2004a	WMO x2014a	SIO-2016 <sup>c</sup>	SIO-05	
Heathfield (HFD) WMO x2019	WMO x2004a	WMO x2014a	SIO-2016 <sup>c</sup>	SIO-05	

**Table 3:** Calibration scales for CO<sub>2</sub>, CH<sub>4</sub>, CO, N<sub>2</sub>O and SF<sub>6</sub> in the UK DECC Network. <sup>a</sup>Picarro G2401 instrument run by LSCE. <sup>b</sup>Picarro data on WMO x2004a scale. <sup>c</sup>Picarro G5310 instruments at BSD and HFD are on the WMO x2006a scale.

archives for both the ITT required species and the ITT requested species listed in Table 1, with the exception of HFO-1234yf, HFO-1234ze(E) and HCFO-1233zd(E). The replacement of HFCs with HFOs and HCFOs has resulted in an increasing atmospheric abundance of these species. Future data releases will incorporate HFO and HCFO measurements made at MHD and TAC.

Data from the AGAGE network are routinely archived on [ESS-DIVE](#). This includes timeseries for all archived species measured on the GC-MD and Medusa at MHD. The TAC Medusa has recently been added to the AGAGE network (see Section 5 for details), so future AGAGE ESS-DIVE data releases will incorporate this instrument. AGAGE data releases occur twice every year after the data have been reviewed by the AGAGE community at biannual general meetings (usually in May and November). Data is typically released with a 1-year time lag to ensure calibration of Medusa GC-MS data has been properly verified.

Data from the remaining UK DECC Network instruments (see Table 2) are archived with the Centre for Environmental Data Analysis ([CEDA](#)). Future updates to this CEDA archive will be timed to coincide with the biannual AGAGE data submissions (see Section 7.2 for more detail). This non-AGAGE data is typically released with a 3-month time lag for quality assurance purposes.

RGL has recently been labelled as an Integrated Carbon Observation System (ICOS) Class 2 station (see Section 5 for details). Consequently, CO<sub>2</sub> and CH<sub>4</sub> data from this site are additionally processed via the ICOS Atmosphere Thematic Centre (ATC), and archived on the ICOS [Carbon Portal](#). Data from RGL, TAC and BSD will also be included in the inaugural ObsPack-EU release, which will be incorporated into the National Oceanic and Atmospheric Administration (NOAA) GLOBALVIEWplus product. Data from MHD, RGL, TAC and HFD are also archived with the [World Data Centre for Greenhouse Gases](#).

2.2 Spatial analysis

We propose to use the well-established UM-NAME-InTEM modelling technique (Manning et al. 2021) to estimate total UK emissions and the spatial distributions of those emissions at a regional scale, for each of the greenhouse gases listed as required and requested in Table 1. The overall process is outlined here and further expanded upon in Section 2.3.

Each day the Met Office Numerical Atmospheric dispersion Modelling Environment (NAME) (Jones et al. 2007), an atmospheric transport model, will be employed at each station (and inlet height listed in Table 2) to calculate the impact of a grid of emissions at each inlet at that station for each hour of the day, producing hourly air-history maps (see examples in Figure 2). NAME is the UK Met Office’s world leading 3-D atmospheric dispersion model that is operationally employed by the UK government to respond to a wide range of atmospheric dispersion

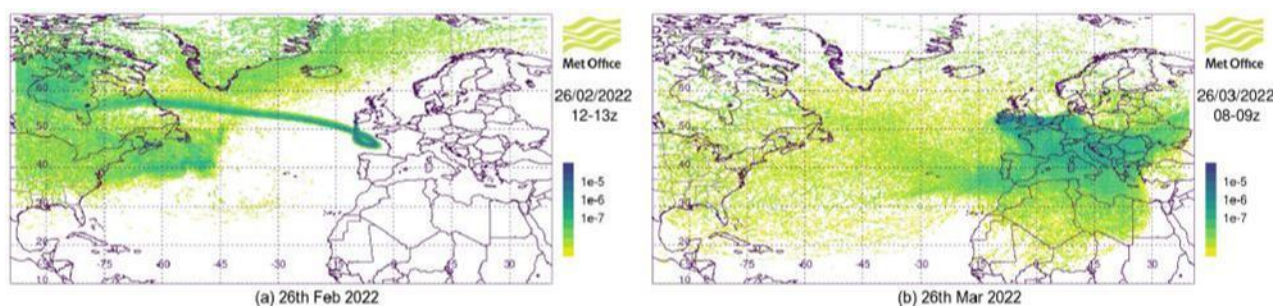
applications including volcanic ash, dust, air quality, fire plumes, nuclear accidents and biological releases such as the foot and mouth virus. The NAME grid extends from North America to Russia and from Africa to the Arctic. NAME is driven by the meteorology from the Met Office Numerical Weather Prediction Unified Model (UM) (Walters et al. 2014). The hourly NAME air-history maps have been calculated for eleven operating stations close to the UK from the day they started making measurements, e.g. 1989 for MHD, 1993 for CBW, 2012 for RGL, etc., amounting to more than 150,000 maps required per year with more than 2 million already calculated.

The Inversion Technique for Emission Modelling (InTEM) combines the NAME hourly air-history maps with the atmospheric observations of each gas to estimate its total UK emissions and the spatial distribution of those emissions. InTEM is also used by the Met Office to estimate the magnitude and height of the emission of volcanic ash from satellite observations during emergency response situations as part of the Met Office's role as a World Volcanic Ash Advisory Centre (VAAC) which provides forecasts of ash for the civil aviation authorities. UK emission estimates are made monthly for CH<sub>4</sub>, N<sub>2</sub>O and SF<sub>6</sub>, and annually for the HFCs, PFCs and NF<sub>3</sub>. The process can be sub-divided into specific steps:

- UM data packaged into a NAME-format (No cost to this project).
- NAME run daily for each hour for each inlet height at each station to produce the hourly air-history maps.
- MHD hourly air-history maps are analysed to identify times when the air is representative of the well-mixed Northern Hemisphere (NH) and, when combined with the MHD atmospheric observations, are used to estimate the mid-latitude NH background atmospheric concentrations of each gas from 1989 to current day. This time-series is used as a boundary condition for the emission estimation.
- An uncertainty (STD = standard deviation) is assigned to each observation.
- An uncertainty (STD) is assigned to each hourly footprint map.
- The station bias and atmospheric boundary conditions are assigned uncertainties.
- InTEM combines the observations, the hourly air-history maps, boundary conditions and related uncertainties of each within different time-periods (e.g. monthly, annual) to estimate the total UK emissions (with associated uncertainties) and the spatial distribution of those emissions.

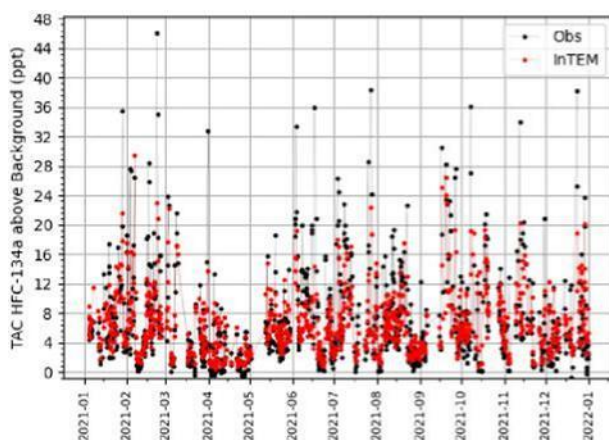
The NH background atmospheric concentrations of each gas will be estimated from 1989 to current day using a method that has been developed and improved over the current and previous contracts. Observations at MHD are sub-sampled, selecting only those observations taken in 'clean' well-mixed air samples with a recent history of only the Northern Atlantic and Northern Canada. A baseline is fitted through these observations generating a daily estimate of the mid-latitude NH concentration of each gas. In order to do this, the NAME model is run backwards in time to estimate the recent (30-day) history of the air (referred to as 'air-history maps') before it arrives at MHD for each hour between 1989 and current day (see Figure 2 for two examples), from which the 'clean' air samples can be selected (i.e. Figure 2a). For each hour, NAME uses 20,000 model parcels to describe the atmospheric dispersion. Running NAME backwards is very computationally efficient as every modelled parcel has a direct impact on the air-history maps produced. NAME is driven using 3-dimensional global meteorological data from both the Met Office Unified Model (UM) and ECMWF ERA-Interim data. UM data covers the period from 2002 – 2022, with the model resolution improving from 40 to 12 km (1.5 km over the UK) over the period. The ERA-Interim data covers the period 1989 – 2002 and has a resolution of 80 km. The horizontal resolution of the NAME output is set to 25 km and estimates the surface layer (0 - 40 m) impact of a large regional domain stretching from North America to Russia (-98° to 40° longitude) and North Africa to the Arctic circle (10° to 79° latitude). Vertically the NAME domain extends from the surface to 19 km.





**Figure 2:** Examples of hourly NAME air history maps for MHD.

The 'clean' background conditions are defined as those that have not been influenced by significant emissions within the last 30 days, i.e. those that imply the air is well mixed and representative of the mid-latitude NH background concentration. They are chosen by selecting those hours when the local land surfaces (within 100 km) and populated regions across the domain do not significantly contribute. An additional requirement is that the NAME parcels must predominately leave the domain along the NW edge. The selected observations are grouped into days and the minimum



**Figure 3:** Example above-background observations and InTEM model time-series of HFC-134a at TAC, 2021.

daily value is chosen. A best-fit line is fitted through the daily baseline mole fractions thereby generating daily, monthly and annual estimates of the mid-latitude Northern Hemisphere baseline concentrations across the entire time-series for each gas.

The distribution of regional emissions as shown in Figure 7, will be estimated for each gas using InTEM, as in the current inventory verification project and as described in detail in Manning et al. (2021), Manning et al. (2011), and Arnold et al. (2018), and briefly here. The geographical distribution of estimated emissions from InTEM for each gas allows us to investigate the specific sources of the emissions and how they vary with time. The InTEM methodology is flexible in that where observations (and uncertainties) are available from other additional monitoring stations they can be readily incorporated into the inversion system to better constrain the location of the source regions, thus improving the estimation of emissions. This flexibility allows us to include data from: Weybourne (WAO; National Centre for Atmospheric Science [NCAS], UK), Cabauw (CBW; Netherlands

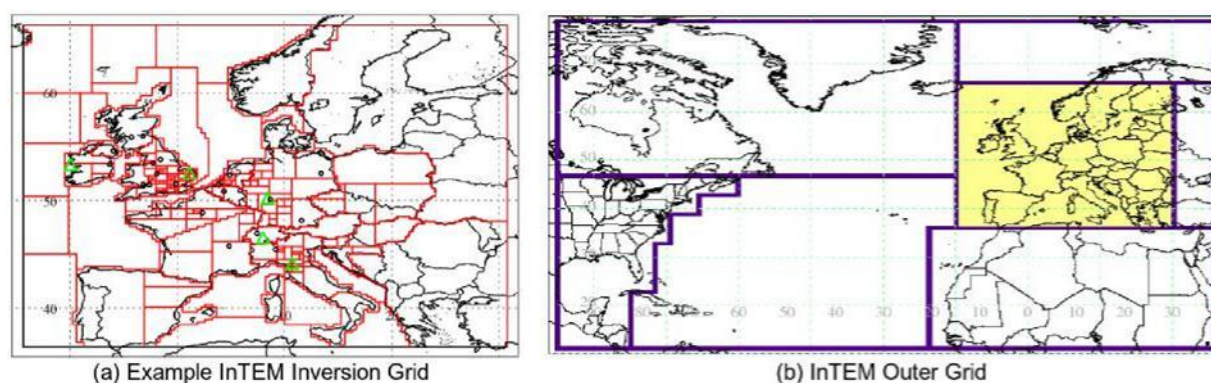
Organisation for Applied Scientific Research [TNO], the Netherlands), Carnsore Point (CSP) (Irish Environmental Protection Agency

[IEPA], Ireland), Jungfraujoch (JFJ) (Swiss Federal Laboratories for Materials Science and Technology [Empa], Switzerland), Monte Cimone (CMN) (University of Urbino, Italy), Tannus (TOB) (Goethe University of Frankfurt [GUF], Germany) and Zeppelin (ZEP) (Norwegian Institute for Air Research [NILU], Spitzbergen, Norway).

InTEM uses the atmospheric transport information from the NAME model and atmospheric observations from the UK DECC Network and other networks. NAME is run backwards in time to understand and estimate the



recent (30-day) history of the air before it arrives at each of the observation stations for each hour from when measurements began until current day. Where a station has multiple inlet heights, NAME will be run multiple times as the air arriving at different heights will have different histories. From 2012 on-wards, NAME air histories within the UK are calculated twice for each station and height, using two different resolutions of UM meteorology; global, currently at 12 km, and high resolution (called UKV) at 1.5 km. Using different meteorological resolutions allows us to further understand the uncertainty in the NAME estimates and ultimately in the InTEM estimates.



**Figure 4:** Example InTEM grid system using 5 observation sites (green triangles). Black circles are cities.

The observation time series, together with the NAME model output predicting the recent history and dilution of the air, is used in InTEM to estimate the emission distributions. The InTEM inversion system is Bayesian, where the uncertainties are assumed to be Gaussian with the added constraint that no emissions can be negative. InTEM derives an emission distribution that generates a model time-series (Figure 3) that best matches the observed time-series of a gas given the estimated time-varying uncertainties and constraints imposed by any prior information. The model time-series is composed of three elements: the regional emissions diluted by NAME on route to the observation point, the NH baseline adjusted by the latitude and height at which the air enters the NAME geographical domain, and the bias between different observation stations (if applicable). Each of these elements have an estimated uncertainty which is propagated through to the emissions estimates in InTEM. There is also the potential in InTEM to include a prior emission distribution with an estimated uncertainty, for example from the NAEI (National Atmospheric Emissions Inventory), to further constrain the resulting emission distribution. The principle InTEM results are presented without the constraint of a prior emission distribution, so that the verification process is independent from the inventory it is to be compared against. However, it is useful to investigate how and where the observations adjust the NAEI prior emissions so that recommendations can be made as to potential areas of inventory improvement. We would continue to present InTEM results with and without prior information to aid our understanding of the potential sources of the emissions.

The geographical and temporal resolution of the InTEM estimates is directly dependent on the number and location of observations and the recent history of the air as it travels to each observation station. The information about emissions decreases as the distance from the stations increases. To allow for this, InTEM is solved on a variable resolution geographical grid, allowing for small grid cells (the smallest grid resolution is defined as 25 km) close to the stations and progressively larger cells in more distant areas. Figure 4(a) shows an example InTEM grid for a 1-year HFC-134a inversion when observations from MHD, TAC, JFJ, CMN and TOB are available. When only MHD and CBW observations are available (pre-2012) the temporal resolution is set to three months to allow for sufficient observational information to be available to InTEM. The outer grids, as shown in Figure

4(b), are always evaluated, and reflect the impact of the outer regions on the measurements. The grids are also constructed so that they always conform to country boundaries allowing for emission estimates to be made for England, Wales, Scotland, Northern Ireland, Republic of Ireland, France, Benelux (Belgium, Luxembourg, The Netherlands), Denmark and Germany. The emissions from all of these countries combined are reported as North West Europe (NWEU) emissions in the annual reports. The emissions from the four Devolved Administrations (DAs) in the UK can be reported along with the total UK estimates if required.

With the introduction of a network of stations, it is necessary to define a baseline for each of the stations across the network. The mid-latitude boundary layer NH baseline is not representative of the atmospheric concentration from all the different latitudes and altitudes that affects the air that arrives at each station. Furthermore, the same baseline cannot be used at each station because each station receives air from different directions and heights. For example, TAC may be observing air from the north at the same time as MHD is observing air from the south-west. It is therefore important to reflect these differing baselines within the inversion system. InTEM has a method that directly solves for adjustments to the mid-latitude NH baseline depending on the direction and height the air entered the regional modelled domain (as shown in Figure 4(b)), as these contributions differ across the network, each station has a unique baseline time-series.

The uncertainties in the meteorology, dispersion and observations are central to understanding the inversion results and, as such, are vital components in the InTEM framework and are key areas of continual development. The uncertainties vary in time and InTEM allows for each 4-hour period to have a unique uncertainty. The size of the uncertainty for each 4-hour period determines the relative contribution that it makes to the derived emissions. When NAEI prior information is used, the uncertainties in the NAEI emission estimates are also required. The methodology underpinning the uncertainty in InTEM is a critical component of the system and is frequently revisited to ensure it is the most robust that it can be. Using observations at different heights at the tall tower observation stations within the same 4-hr window, we have showed that the uncertainty of an event is proportional to the magnitude of that pollution event. It also revealed that local modelled meteorology could be used to exclude particular 4-hour periods when the model would be unlikely to perform well, for example during times when the boundary layer or wind speed were low, or the atmosphere was very stable.

For each time period solved for, InTEM will be used 24 times, each time with approximately 10% of the data randomly removed. The data are removed in 5-day blocks to coincide with the average time scale over which large scale meteorological events change around the UK. Solving InTEM in this way improves our understanding of the uncertainty in the results and, in particular, the impact of certain observed synoptic time periods.

Any improvements in the quality of the observations automatically feeds through into InTEM through the time-varying observational uncertainty component. Likewise, if prior spatial emission data and uncertainties are available these can be readily incorporated into InTEM.

We will also report and investigate specific unusual pollution events for any of the gases observed. We will do this by first identifying any such unusual events by close scrutiny of the observations, for example the uncommon but persistent events of SF<sub>6</sub> observed across the network. We will then link those events to the NAME air history maps and look for consistent signals that may be able to shed light on the source of the gas. We will raise the events with our partners Ricardo who have a thorough and detailed understanding of the sources of each gas in the inventory.

The QA and QC procedures surrounding the UM, NAME and InTEM are explained in the QA section of the tender (Section 3).

The UM-NAME-InTEM system for estimating GHG emissions is cutting-edge and well respected but inevitably has limitations, like all inverse emission estimation systems. Each of the three components individually has limitations, but inter-comparisons with other emission modelling systems show very consistent results, for example Park et al. (2021) and Lunt et al. (2021).

Key limitations of InTEM:

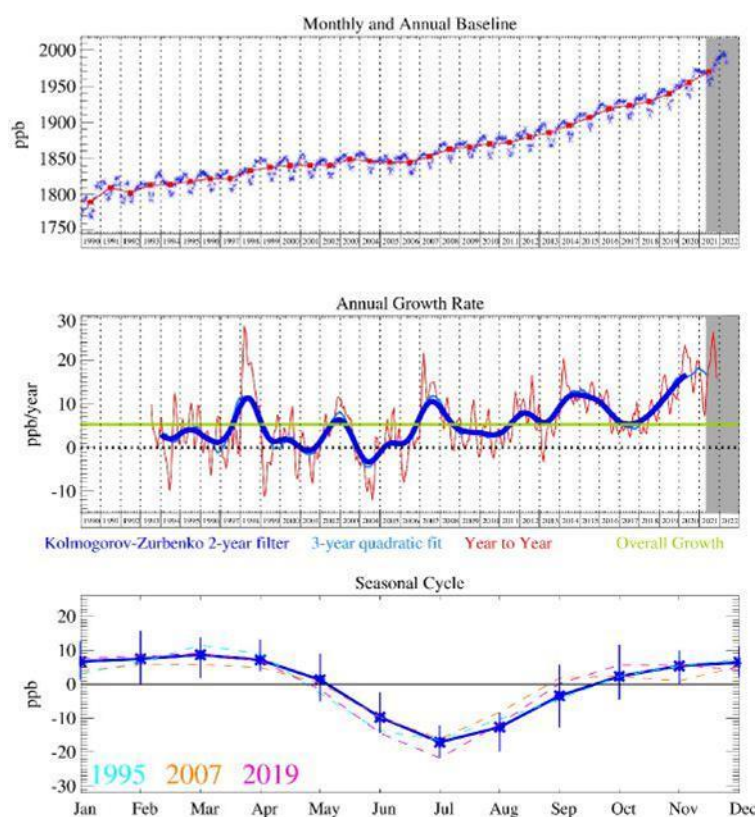
- Emissions from each grid region are considered constant and uniform across that grid region within the inversion time-window of each separate InTEM realisation. The length of the time-window is determined by the number of available observations for that gas. For CH<sub>4</sub>, N<sub>2</sub>O and SF<sub>6</sub> the time-window is currently 1 month, while for the other gases it is 1 year. The geographical size of a grid region is dependent on the number of observations that are sensitive to that grid region within the time-window and the estimated magnitude of the emissions from that region: the further away a grid region is from the network and the smaller its emission, the larger it is. The geographical grid within InTEM has been specifically designed to be fluid to maximise resolution whilst maintaining robustness and limiting noise. Increasing the number of observations or the number of observation sites allows these time and spatial limitations to be reduced. To mitigate this limitation we also solve InTEM multiple (24) times over the same time window, each time with a random 10% of observations removed.
- The standard deviation (STD) of each uncertainty element has to be prescribed before InTEM is run. Obviously this works well, and is not a limitation, if that STD is well constructed. However in many cases it is not well known or understood; for instance the uncertainty in NAME to simulate the atmosphere varies from hour to hour and place to place depending on the ability of the UM to represent the 3-D atmosphere at that moment at that place. Quantifying that uncertainty STD relies on expert judgement as it cannot be known precisely. Again, running InTEM multiple times excluding different randomly-determined time-periods mitigates this limitation, as does a careful selection of the meteorological conditions used by InTEM, i.e. excluding periods with low wind speeds and low boundary layer heights.

## 2.3 Analysis and interpretation

As discussed above, a daily mid-latitude NH background is estimated for each gas (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, H<sub>2</sub>, HFOs, CFCs and HCFCs) from which annual, monthly and seasonal mid-latitude NH background concentrations are estimated (Figure 5). Any unexpected changes would be highlighted to BEIS. Where appropriate, unexpected changes will be investigated by analysis of observations from other AGAGE or network stations around the world. For example, the slowdown in the NH decline of CFC-11 (a gas covered by the Montreal Protocol) was highlighted and the further analysis was published (Montzka et al. 2018, 2021; Park et al. 2021; Rigby et al. 2019).

To maintain continuity with the current inventory verification contract, InTEM will be used to estimate emissions over different time periods depending on the amount of observational data available for each period. For CH<sub>4</sub>, N<sub>2</sub>O and SF<sub>6</sub>, observed across the network from 2012, estimates will be calculated on monthly, 3-monthly and annual time-frames from 2012 on-wards. For CH<sub>4</sub> we will incorporate the ICOS observations from the near-continent and Ireland if available. For SF<sub>6</sub> we will use the European observations at JFJ and TOB. Prior to 2012, when there are many fewer observational sites operating, we will estimate annual emissions from 3-month or annual InTEM emission estimates.

For the other gases (HFCs, PFCs and NF<sub>3</sub>), observed at MHD, and TAC, 1- and 2-yearly emissions will be estimated. For these gases we will incorporate the AGAGE observations from JFJ, CMN, TOB and ZEP, and from 2021 onwards the CBW flask data.



**Figure 5:** CH<sub>4</sub> example of: (top) Atmospheric background concentration over time; (middle) Background growth rate; (bottom) Background seasonal cycle.

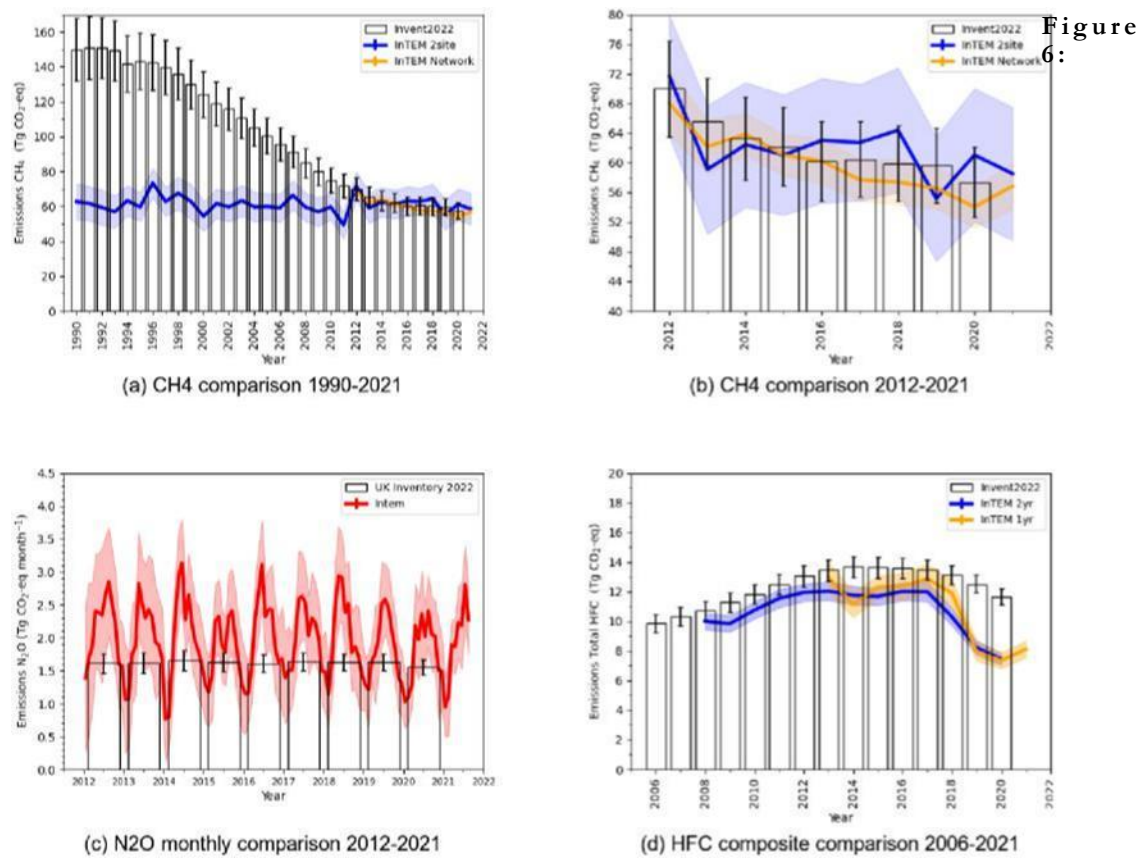
we will use the spatial maps generated as part of the NAEI. This knowledge will be combined with the InTEM spatial maps to assess any potential mis-matches between these two different approaches, and thereby identify potential areas of further investigation.

Figure 7 shows examples of InTEM spatial distribution emission maps, one for HFC-134a, a widely used air conditioner gas in vehicles, the other for PFC-218, a gas manufactured at one place in the UK and mostly used in the Far East. Maps like this are powerful in identifying areas of high emission, and whether they are consistent with the understanding of the inventory teams. Mismatches would be areas for further investigation.

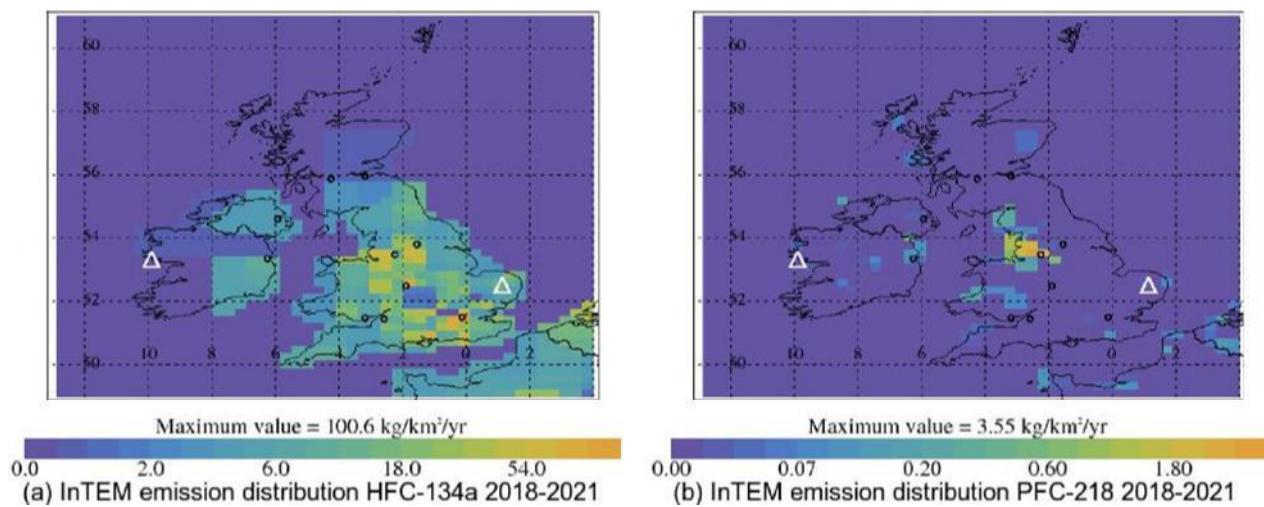
Emission estimates will be presented for the UK and NWEU for each gas individually, and for HFCs and PFCs the composite emissions will also be presented. The In-TEM estimates will be compared to the latest UK Greenhouse Gas Inventory (GHGI) and the relevant uncertainty estimates will be shown for both. We will present these comparisons (for example, Figure 6) in the annual reports and the UK UNFCCC NIR annex, in a consistent format to previous reports. We will also present InTEM estimates of the spatial emissions across the UK (and near-continent) as 1 to 4 year averages (dependent on rate of change). For CH<sub>4</sub> and N<sub>2</sub>O we will also present seasonal averages. The underlying resolution of the emission maps will be 25 km but the resolved InTEM grid resolution is variable dependent on distance and frequency of air flow to the observation sites from the different regions as described above.

For each gas we will show the emission sectors listed in the inventory thought to be the major contributors to UK emissions, and the likely geographical distributions of these emissions. In the case of CH<sub>4</sub> and N<sub>2</sub>O,





Examples of UK emission comparisons between the 2022 Inventory and InTEM for (a and b) CH<sub>4</sub>, (c) N<sub>2</sub>O and (d) HFC composite.



**Figure 7:** Examples of the InTEM emission maps for 2018-2021 for (a) HFC-134a and (b) PFC-218. White triangles denote UK DECC Network measurement stations used in the inversion and black circles show large cities.

- **Understanding and improving uncertainty estimation in UK emissions and spatial distributions.** We will seek to better understand and improve uncertainty estimation within the modelling for the emission estimates and spatial distributions. The study will make use of existing meteorological and radon measurements at the sites (see Section 2.1). Firstly, the uncertainties assigned to each 4-hour period will be further

refined by use of the actual meteorological observations now recorded at RGL and TAC stations. This will allow us to better identify how well NAME is modelling the atmosphere at each time and thus allow a better assignment of uncertainty or observation selection criteria. Secondly, radon measurements will be investigated as a means to assess atmospheric transport. Radon is an inert gas with an emissions map that can be estimated with reasonable accuracy by process models. It therefore acts as an inert tracer for atmospheric transport. NPL and UoB are participating in traceRadon, a project funded by the European Metrology Programme for Innovation and Research (EMPIR) that aims to improve the spatial mapping of radon emission flux and the traceability of atmospheric measurements (Röttger et al. 2022).

- **Improving UK emissions estimates for uncertain areas of the inventory, e.g. methane emissions from offshore oil and gas.**

This study would aim to determine the sensitivity of atmospheric measurements to offshore oil and gas emissions and investigate whether additional measurement capability (e.g. more measurement sites, additional equipment, an improved analysis technique, or better utilisation of existing available datasets from European measurement sites/other programmes) would enable the programme to produce estimates of emissions from offshore oil and gas. We note that the recent BEIS oil and gas inventory project highlighted that methane estimates from the upstream sector remain highly uncertain due to paucity of operator reporting, and that Ricardo colleagues have worked with the industry and regulators to explore how to improve the bottom-up inventory data. Sector-specific measurements conducted by NCAS and other teams are seeking to identify whether specific sources may be missing or under-reported in current operator estimates. This scoping study provides the opportunity to engage on this issue and explore how we may help to improve the measurement evidence base for this key source in the UK GHGI. As part of another pilot project, UoB is setting up a temporary sampling site at the Met Office Lerwick, Shetland Islands meteorological observatory (60.138°N, 1.1830°W, 82 m.a.s.l. [metres above sea level]) to assess CH<sub>4</sub> emissions from nearby oil and gas platforms. Furthermore, a new atmospheric observatory in Scotland funded by the Natural Environment Research Council (NERC; project reference: NE/V017144/1) will come online within the next two years. We will investigate if the inclusion of CH<sub>4</sub> data from the Lerwick pilot project, the new NERC-funded Scottish site and a select number of ICOS atmospheric measurement stations located around the North Sea can better constrain offshore oil and gas emissions from the northern UK fields and improve the spatial distribution of emissions. We will further explore the use of co-emitted compounds and isotope measurements, to better constrain CH<sub>4</sub> emissions. Previous work at UoB has shown that the inclusion of ethane (C<sub>2</sub>H<sub>6</sub>) measurements into CH<sub>4</sub> inversions reduces uncertainty on average by 15 % for fossil fuel CH<sub>4</sub> emissions compared to when C<sub>2</sub>H<sub>6</sub> was omitted from the inversion (Ramsden et al. 2022). These measurements could be expanded to all sites in the network if shown to be beneficial for reducing emission uncertainties. Additionally, we will look at the feasibility of deploying CH<sub>4</sub> isotope ratio measurements within the network, such as those made by the Boreas instrument, developed by NPL and University of Edinburgh (Rennick et al. 2021), as a means to differentiate these fossil sources from biogenic ones.

- **Improving understanding of natural and anthropogenic sources and sinks of atmospheric molecular hydrogen (H<sub>2</sub>).**

This study would include a review on the challenges and uncertainties of producing a UK emissions estimate for H<sub>2</sub>. Currently, only MHD and WAO are making long-term H<sub>2</sub> measurements, which are unlikely to provide high resolution spatial distribution emission maps. In order to better improve understanding of natural and anthropogenic sources of H<sub>2</sub>, more biospheric and atmospheric measurements are necessary. We will work with the winning consortium of the current NERC "[Environmental response to hydrogen emissions](#)" funding call, and in consultation with the UK Hydrogen Strategy published by BEIS, to establish good measurement locations within priority areas of the UK to better constrain H<sub>2</sub> emissions. As part of a

separate project UoB is developing a GC-Pulsed Discharged Detector (PDD), in conjunction with [CSIRO](#) in Australia, to detect atmospheric concentrations of H<sub>2</sub> at improved precisions and frequencies than the current instrumentation used at MHD. These detectors could be located at existing measurement sites within the UK DECC Network, or at sites identified as possible future monitoring sites based on forward simulations of leaks from production plants, storage locations and pipelines that are anticipated as part of the UK Hydrogen Strategy.

• **Maximising the value of existing data and measurement infrastructure.**

Of the >60 compounds being measured by the UK DECC Network under the current consortium, only a small subset of compounds are currently being used by the Government and its departments (i.e. BEIS). We plan to collaborate with other Government departments (e.g., Defra) to make better use of ODS measurements made as part of this programme. In addition, we will assess the benefit of incorporating existing datasets from current collaborations with ICOS atmospheric measurement stations, European AGAGE measurement stations (TOB, Germany; JFJ, Switzerland; CMN, Italy; ZEP, Norway, see Sections 4 and 5 for more details). Additionally, we will seek to assess if extending flask sampling for Kyoto Basket gases at ICOS sites using ICOS flasks, similar to at CBW (see Section 5) has any added benefit to the programme. Finally, we will evaluate the feasibility of co-locating sensors at the UK DECC Network sites for programmes such as the UK air quality management network.

• **Emerging gases and breakdown products.**

With the phase-out of HFCs under the Kigali Amendment to the Montreal Protocol, a number of replacement low global warming potential (GWP) compounds have come onto the market with short atmospheric lifetimes. HFOs and HCFOs are unsaturated organic compounds, which are rapidly replacing HFCs as refrigerant gases due to their short atmospheric lifetimes and low global warming potentials (GWP). Fortunately, the Medusa GC-MS instrumentation can detect these compounds to the parts per quadrillion level and observations of these compounds have already been detected within the AGAGE network (Vollmer et al. 2015). Two potential by-products of H(C)FO degradation are of environmental concern: Trifluoroacetic acid (TFA) and HFC-23. TFA, a mildly phytotoxic by-product, is produced by all HFOs in varying molar yields and rapidly deposited to the land and sea, leading to highly persistent terrestrial and aqueous contamination (Freeling et al. 2020). Photolysis of trifluoroacetaldehyde (CH<sub>3</sub> CFO), an intermediary in the atmospheric decay of some H(C)FOs, may produce HFC-23 (Sulbaek Andersen et al. 2022). Production of HFC-23 via this route would lead to a higher ‘effective GWP’ for these H(C)FOs. We will review the current literature on the use of H(C)FOs and their breakdown products.

## 3 Quality Assurance

### 3.1 Measurement QA

The atmospheric observations undergo a rigorous quality control process as described fully in Stanley et al. (2018). Briefly, data from the network are reviewed over two different time periods: daily to weekly for individual sites by the member of staff responsible for the site, and every other month for all sites by all members of the consortium. Daily to weekly reviewing of data is done on raw or one-minute mean data and follows well documented protocols. Firstly, chromatograms and instrumental parameters measured during sampling on individual instruments are reviewed to look for systematic biases and anomalous results. This process allows the elucidation of issues with the data, as well as potential issues that may be developing (e.g. the aging of a filament or ion source in the GC-



MS or changes in the optical instrument outlet valve, which can be a sign of imminent pump failure). Instrument precision is initially reviewed over time by monitoring the standard gas concentrations for anomalies. Air data are then reviewed, looking at different ancillary and instrumental parameters in conjunction with gas concentrations to check for further anomalous data.

On a 2-monthly basis, the data from the entire network are reviewed by members of the network group to compare sites within the network with the baseline station (MHD) and to look for differences between sites. Potential issues not previously noted can be investigated using ancillary and instrumental parameters, as well as air history maps produced on a two-hourly basis using NAME, outlined in Section 2.2.

The main review tool is the computer software GCWerks that allows in-depth analysis of every aspect of the performance of each instrument on a point-by-point basis. A collaborative, cross-comparison of the observations across the UK DECC Network and the global AGAGE network provided by GCcompare is integral to this process. All data are backed up at UoB and mirrored to a back-up server at the university.

As part of the ICOS network data review, regional subgroups of sites will compare their data with other ICOS sites in western Europe every other month. Each subgroup meeting will be attended by site representatives and a representative of the ICOS ATC, thus helping to ensure compatibility of UK DECC Network data with the rest of the ICOS network.

### 3.2 Modelling QA

The three Met Office modelling components each undergo sophisticated quality assurance and quality control procedures. The very rigorous QA and QC of the UM and NAME are covered by other programmes within the Met Office funded by the UK government.

The UM is the Met Office principle weather and climate model and as such has a very high level of resilience build into its operation, e.g. separate stand-alone computer halls, backup power generation, strict code management practices. New versions are only released after months of trial and comparison with the current operational model. More details can be made available if required.

The NAME model is the Met Office emergency response atmospheric transport model and is used very frequently to predict the movement of pollution in the atmosphere, e.g. volcanic ash, smoke, nuclear response. Its QA and QC procedures are, like the UM, very tightly controlled, we only use frozen, lodged and well-tested versions of the model. More details can be made available if required.

InTEM for GHG inverse modelling, although not operationally critical like the UM and NAME, is actively managed and stored. The code is controlled, maintained and developed by the Inverse Modelling group managed by Prof. Alistair Manning at the Met Office. We observe and log the following procedure:

- InTEM code is lodged in the File Control Management (FCM) version-control system that maintains all previous dated versions of InTEM. It is backed up and maintained through the central Met Office system.
- InTEM code is lodged on FCM at least twice a year, following submission of the annual report in October and following submission of the National Inventory Report (NIR) chapter in March. It is also lodged following submission of a paper for publication. This process ensures that the code used to generate these milestones are frozen and stored so that any subsequent questions relating to these items can be answered

using the precise code used to generate the data contained within them.

- Change logs are maintained and stored with the frozen versions of InTEM. They detail all of the changes made since the last frozen version was lodged. The code itself also contains comprehensive comments.
- Over time, InTEM is systematically developed to add additional features and improve the model. Newly developed code is reviewed by a co-worker who is not involved with the model development before being accepted. Such changes are thoroughly tested prior to being used to generate data for the key reports. Tests are always conducted to demonstrate the impact of each change on a variety of scenarios. The scenarios chosen each time are targeted to reflect the nature of the change but they always include a standard HFC-134a European inversion for completeness. The test results are kept for at least two years to enable any post-change analysis to be undertaken.
- The key NAME model output for each station, amounting to many tens of terabytes of data, and many years of CPU time, are archived and backed-up on the central Met Office archive system, MASS, and are also transferred to the UoB for their use and storage.

The InTEM QA log for the contract period will be submitted to BEIS at the end of the contract. In addition, model outputs will be accompanied by a statement confirming that QA has taken place in accordance with the method outlined above.

## 4 Scientific Developments and Improvements

As part of this tender, we seek to undertake a number of costed and in-kind (not charged to this project) scientific developments and improvements to the network.

Developments in this tender to the network include:

- In order to improve NF<sub>3</sub> emission estimates, we will convert the TAC Medusa from its current configuration to the NF<sub>3</sub> setup described in Arnold et al. (2012). This harmonises the TAC Medusa setup with the configuration currently deployed at MHD.
- A key part of the modelling process is to understand when the modelled meteorology is accurately describing the flow and mixing of the atmosphere. It is known that sub-grid scale features, for example steep orography and land-sea breezes, are not well represented in the models. The impact of these sub-grid scale processes varies from hour to hour and from place to place, sometimes they are negligible, for example in high wind situations, but sometimes not, for example in cold still nights. Knowing when and where this happens is vital so that only times when the meteorology is well modelled are used within InTEM. The new meteorological observations at RGL and TAC will significantly improve this data selection process and therefore deliver better uncertainty estimates in the InTEM emission estimates.
- The European Centre for Medium Range Weather Forecasting (ECMWF) has released a new re-analysis product called ERA-5 that has a global resolution of  $\sim 30$  km and covers the period 1989 - 2018. This new reanalysis replaces the ERA-Interim dataset ( $\sim 80$  km resolution) that is currently used by NAME (and therefore InTEM) for the period 1989 – 2002. The key benefit of a re-analysis is that it has a consistent set of physics and spatial resolution across the entire dataset and therefore is different from the evolving and improving products from the Met Office. The Met Office global model has improved over the years by incorporating new physics and observations, as well as moving to higher spatial resolution both horizontally and vertically; for example, the horizontal resolution has improved from  $\sim 40$  km in 2003, to  $\sim 25$  km in

2010, to  $\sim 17$  km in 2014, and finally to  $\sim 12$  km in 2017. ERA-5 will therefore not only be used to improve the 1989 – 2002 NAME runs, it will also be used as a different source of 3-D model data for the period 2003 – 2018 to allow us to further explore the impact of modelled meteorology on the InTEM results. This will lead to an improved understanding and reporting of uncertainty in the InTEM UK emission estimates.

- UoB have a different system for inferring GHG emissions using atmospheric observations (e.g. Lunt et al. (2016); Ganesan et al. (2018)). The Markov Chain Monte Carlo (MCMC) “transdimensional” hierarchical Bayesian approach is broadly similar to InTEM, but with an alternative method for estimating uncertainties. In this project, we will continue to compare the respective estimates for a range of gases in the UK and further afield. Lunt et al. (2021) demonstrates that for CH<sub>4</sub> the agreement between the two systems is good.

In-kind developments to the UK DECC Network include:

- Continued collaboration with TNO to collect flasks at CBW for analysis at UoB, as outlined in Sections 2 and 5. We will include these data within InTEM to improve emission estimates and spatial distribution across the UK.
- UoB has put in a bid for one of the 2022 NERC Highlight topics on halocarbon measurements ([Topic C: advances in halocarbon research to ensure success of the next phase of the Montreal Protocol in protecting the ozone layer and climate](#)). Included within the bid, there is a section to propagate calibration scales for two new compounds, HFO-1336mzzZ and 1,2-dichloroethane. If funded, the scales will be propagated out to existing measurements of these compounds currently being made at both MHD and TAC. Calibrated data will then be included within this programme to help inform Government policy on the phase-out of HFCs and their replacements with HFOs.
- As a follow up to the scoping studies identified in Section 2.4, a Medusa GC-MS currently located at UoB, which was used in a pilot project to measure urban halocarbon measurements in Bristol, could be redeployed to a location identified in the scoping studies.
- Comparisons of N<sub>2</sub>O datasets from optical instruments vs. GC-ECD have shown the added benefit of using optical instruments. The ultra-high frequency data from optical instruments better characterises N<sub>2</sub>O pollution events, which occur at faster rates than other GHGs, than the GC-ECD instruments. Therefore, we will seek funding to purchase N<sub>2</sub>O and CO optical instruments for RGL and MHD.
- Incorporate new measurements of CO<sub>2</sub>, CH<sub>4</sub> and CO from SOAR (Scottish Observatory for Atmospheric Research) into the DECC Network.
- We will continue our collaborations with the National University of Ireland, Galway (NUIG) and the IEPA. NUIG and IEPA have measurement stations at Malin Head on the north west coast of Ireland, Valencia Island on the south west coast and Carnsore Point on the south east coast. For example, they measure CH<sub>4</sub> at high-frequency and are linked to the same calibration scale used across the UK DECC Network making them ideal for inclusion in InTEM. This will improve the spatial resolution and uncertainty of the InTEM CH<sub>4</sub> emission estimates over the UK, especially over Northern Ireland.
- Process radon measurements to produce time-series data for comparison across the network. The radon detectors have an intrinsic time lag due to the measurement technique that hinders its application in interpreting GHG measurements. NPL are utilising a deconvolution algorithm under the traceRadon project that reduces the effect of this lag and this will be applied to data from the radon instruments in the UK DECC Network. We are also investigating processing the NAME model output to account for the short half life of radon ( 4 days). These developments will be used in the scoping study described above.

## 5 Collaborations

We will continue to cooperate with other groups carrying out flask and in situ real-time measurements in order to produce a harmonised regional and global data set for use by the international community:

- **ICOS.** In May 2022, RGL completed the labelling process and was accepted into the [ICOS network](#) by the General Assembly. This process ensures that both measurement infrastructure and data QA/QC procedures are aligned with other ICOS sites, and is described in detail by Yver-Kwok et al. (2021). Data from RGL will now be available in near real time through the ICOS Carbon Portal, enhancing both the visibility and utility of this dataset. Ongoing collaboration with ICOS will continue to facilitate knowledge exchange and ensure measurement compatibility between UK DECC Network sites and the wider ICOS network.
- **AGAGE.** In 2021, TAC became an official AGAGE station. Data from the MHD and TAC sites will be compared to the other [AGAGE](#) global stations to ensure consistency of data and assess potential offsets due to instrumental errors or calibration scale differences. In addition, as UoB is an AGAGE member, it has active collaborations with other AGAGE stations through the network and access to data from JFJ (run by Empa), CMN (run by the University of Bologna) and TOB (run by GUF). Data from these sites will be used in InTEM.
- **NOAA.** Flask measurements have been taken at MHD since 1991 as part of the [NOAA cooperative air sampling network](#). Flask data are compared to in situ measurements to ensure consistency of data and assess potential offsets due to instrumental errors or calibration scale differences.
- **LSCE.** As part of collaborations with LSCE and ICOS, in situ CO<sub>2</sub>, CH<sub>4</sub> and CO measurements (from 24 m.a.g.l.) at MHD have been made available to the consortium.
- **WAO.** The consortium has a collaboration with the NCAS funded [WAO](#) site run by the University of East Anglia. As part of this, data from WAO will be provided to the consortium for use within this programme for all of the GHGs measured at the site.
- **TNO.** The consortium has a collaboration with TNO to measure regular flask samples from the CBW tower (51.971°N, 4.927°E, -0.7 m.a.s.l.), located in the center of The Netherlands, for the Kyoto/Paris Agreement GHGs (Table 1). Analysis of daily flask samples collected at the CBW tower and sent to UoB began in February 2021 and make use of the ICOS infrastructure at the site. We will continue the collaboration with TNO on analysing these flasks and including them within the inversions for this programme.
- **GUF.** The consortium has a collaboration with GUF to use their weekly flask measurements at TOB (50.22°N, 8.44°E, 825 m.a.s.l.), which have been collected since 2013 (Schuck et al. 2018; Lefrancois et al. 2021) and measured at the university.
- **Synthetic standard inter-comparison exercise.** As part of the previous contract, synthetic standards made and calibrated at NPL of varying CO<sub>2</sub>, CH<sub>4</sub>, CO and N<sub>2</sub>O concentrations were analysed the UK DECC Network stations. Preliminary analysis has showed that these measurements can quantify the small site-to-site differences and better constrain the measurement uncertainty. These standards will continue to be circulated around the UK DECC Network as an inter-comparison exercise to assess potential offsets in calibration scales between sampling stations. These activities will be expanded under this programme.
- **IEPA and NUIG.** IEPA and NUIG have a network of four sites in Ireland operating Picarro CRDS instruments to obtain measurements of CH<sub>4</sub>, CO<sub>2</sub> and CO. These sites are situated at MHD, County Galway; Carnsore Point, County Wexford; Valencia, County Kerry; and Malin Head, County Donegal. UoB and the UK Met Office have entered into a Memorandum of Understanding (MoU) with NUIG to collaborate and share data between the UK and Irish networks to allow for better understanding of trends and distributions of these gases.

- **traceRADON.** This is a [radon metrology project](#) run under Euramet with a European consortium working on improving the measurements and flux estimation infrastructure in Europe. UoB and NPL are both in the consortium and will be able to quickly take up the metrology advances made.
- **University of Edinburgh and James Hutton Institute.** These two institutes are working on development of the Scottish tall tower project (SOAR). UoB, Met Office and NPL are working with the supporting project partners for this new site, with an aim to bring new measurements into DECC Network as soon as possible.
- **DARE-UK.** This research project was funded by NERC to develop systems to improve the accuracy of the UK's CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions inventory reports. UK emissions are estimated based on land, ocean and atmospheric observations coupled with novel modelling techniques. Many of the UK DECC Network science team lead or are involved in the [DARE-UK](#) project. We aim to report and utilise many of the new measurements (including isotopic <sup>14</sup>CO<sub>2</sub> and <sup>13</sup>CH<sub>4</sub>) and modelling tools as possible to support the aims of this verification contract.
- **OpenGHG.** This NERC funded project at UoB was setup to create a collaborative platform for researchers, stakeholders and the public within the realm of GHGs. The [OpenGHG](#) platform is built on open source technologies to create a cloud agnostic platform for simulation and analysis of large datasets. We demonstrated the [dashboard capability](#) at COP26.
- **World Meteorological Organisation Integrated Greenhouse Gas Information System.** This project ([WMO IG<sup>3</sup>IS](#)) aims to promote the use of atmospheric observations to estimate GHG emissions on a range of spatial scales. Prof. Manning sits on the science committee of IG<sup>3</sup>IS and presented at COP26 on its behalf.
- **Paris.** This recently funded EU project (Dr Ganesan from the UoB is the PI) aims to develop new science to enhance our ability to bridge the gap between top-down, bottom-up and inventory communities for the benefit of national inventory providers. Prof. Manning will lead the first work-package on engagement with inventory compilers from different countries including the UK.
- **International Modelling Studies** InTEM is frequently inter-compared with other regional emission estimation systems leading to joint publications, recent examples include, Lunt et al. (2021), Park et al. (2021), Simmonds et al. (2020), and Say et al. (2021).

## 6 Reporting and documentation of procedures and methods

A range of reports will be created and submitted in line with the times detailed in Section 7.2. The group has a long history of publishing in international journals (see Section 8 for a detailed publication list) and will continue to publish, after seeking BEIS permission, academic papers related to the inventory verification. Such publications necessarily contain a full description of the measurement and modelling systems used.

### 6.1 Project Reports

- Annual Reports will continue to be produced and submitted to BEIS for publication on the BEIS website. The reports will detail the latest programme results, analysis and methodology improvements, and publications. A new feature of the reports will be the inclusion of a 'horizon scanning' section to include the results of scoping studies carried out as part of the programme, new scientific and technological developments, and parallel ongoing research programmes, which could inform the programme in future. The reports will be

delivered in October 2022 and 2023.

- Short reports, include scoping studies assessing options for future improvements to the capability of the programme, will be produced. Specific priorities will be agreed with BEIS annually.
- National Inventory Report (NIR). We will continue to provide a section in the annex to the NIR to the UNFCCC, to be delivered in March 2023 and March 2024.
- Methodology Report. The current methodology report will be updated by August 2022 and April 2024. The report will reflect any methodology changes implemented during the project, explain the methods used and detail any necessary handover procedures identified in the handover plan.

6.2 Risk Register

An updated project risk register will be produced by August 2022 and updated/reviewed at all quarterly contract meetings (Figure 8). The register will be used to develop a risk management procedure for identifying challenges and risks within the verification contract. We will manage risk using traditional risk management procedures:

- The collective knowledge of the team will be used to identify risks (present and future).
- Risks will be analysed - How likely are these risks to occur? If they do occur what will the ramifications be - for example the fire at Bilsdale?
- Prioritise and rank risk to help identify workable solutions.
- Risk treatment using an ever growing database of practical solutions.
- Risk monitoring using clear communication within the project team.

RISK & BENEFITS REGISTER									
1. RISK IDENTIFY					2. RISK RESPONSE/TREATMENT PLAN				
Risk Number	Risk Description / Risk Owner	Class (Reference)	Current Medium	Current Impact	Unlikely Current Risk Score (1-5)	Unlikely Target Risk Score (1-5)	Planned Action	Last reviewed/updated	Updated by
U0B01	Instrumentation failure	if instrumentation failure is not resolved	VL	L	2	2	1. Ensure all instrumentation is checked and calibrated. 2. Keep records of all issues encountered for future reference. 3. Monitor and log data to predict and act upon issues already seen in the past. 4. On a temperature monitored within the laboratory to ensure that operating conditions for each instrument is not exceeded and subsequent damage prevented. GC/MS software monitors this and sends automatic alerts if a certain temperature is exceeded, so that a staff member can turn penalty and shutdown the instruments. Software updated in March 2018. 5. Laboratory all monitored by specific instruments to ensure no laboratory contamination of instruments, such as air conditioning refrigerant leaks on the Medusa GC/MS.	15/05/22	Software update added Aug. 18
U0B02	Resourcing	if work cannot be delivered because team member leaves	L	M	6	6	1. Ensure at least 2 people fully trained (inc Keen Stanley and Clifton Young as well as SU). 2. Keep detailed protocols/procedures of work done.	15/05/22	Action #1 updated on 22/11/17 to name Keen and Clifton
U0B03	Out observation site	Observation sites become unavailable	VL	H	4	4	1. Negotiate with Arqiva - work with them to find most space-efficient set-up of equipment onsite to keep cost increases down. 2. Incorporate other ADAGE sites into the UK DECC network, as required. 3. Reduce number of measurement sites within the network and the subsequent resolution of data. May lead to changes in layout of network. 4. Use ADAGE/ODS/Other data. 5. Formal liaison with Arqiva - agree and sign offer letter in.	15/05/22	#1 and #5 updated August 2018
U0B04	Fire safety	electrical fire, flammable solvents, and possible chemical damage	VL	VH	5	5	1. Ensure staff members know to isolate power supplies before working on instrument electronics. 2. If an issue detected with an instrument power connection, ensure power is isolated before going near the potential problem.	15/05/22	No changes made on 15/05/2022
U0B05	Cut	if LAR no longer available in NAME format because NAME for emergencies not required	VL	H	6	6	1. Liaise with NAME group to aware of changes. 2. 3. 4. 5.	15/05/22	No changes made on 15/05/2022
U0B06	Cut	if NAME no longer available because NAME not required	VL	VH	10	10	1. Liaise with NAME group to aware of changes. 2. 3. 4. 5.	15/05/22	No changes made on 15/05/2022
U0B07	Resourcing	if work cannot be delivered because Alister leaving/leaving/leaving	VL	VH	10	10	1. Ensure at least 2 people fully trained on HPLC (William Redington in addition to AM as of Nov 17). 2. Actively recruit to ensure 2 people trained. 3. 4. 5.	15/05/22	No changes made on 15/05/2022
U0B08	Data	if significant data gap or data quality drops at Bilsdale	L (for data gap)	M	3	3	1. Produce a baseline for HPLC and GC/MS. 2. Use inversion from Taconic. 3. 4. 5.	22/11/21	Action #2 added on 22/11/17

Figure 8: Example Project Risk Register (Risk Matrix)

## 6.3 Project Meetings and Presentations

- Presentations will be given at NTSC meetings at least once a year, including at the autumn NTSC in November 2022 and 2023; possible additional presentations may be required at the spring NTSC meetings, in April 2023 and 2024, as requested by BETS.
- Project subgroup meetings will take place twice yearly starting in 2023.
- Other briefings such as quarterly contract meetings and educational sessions for BETS staff will take place as agreed with BETS.

## 6.4 Project and Handover Plans

A project plan will be produced by September 2022 and kept up to date. The project plan will cover the work to be undertaken during the 21-month contract and will be reviewed and updated after 12 months to reflect the steer from review meetings with BETS and feedback from the National Inventory Steering Committee (NTSC). The 12-month update to the project plan will include:

- An up-to-date assessment of progress against each of the deliverables and KPTs in the contract, highlighting any likely slippage that may cause a delay and knock-on effects for linked work and knowledge integration plans.
- An up-to-date version of the risk register.
- An up-to-date tracker of spend on contract deliverables.

An exit and handover plan will be produced for the transfer of services between incumbent and new suppliers. The plan will be designed to ensure that a new supplier, if applicable, will have access to all of the details (raw data, methods used, etc.) to ensure the new time-series is comparable with previous data. The plan will be delivered by August 2022 at the latest, if a new supplier is selected, and will detail transfer of services and any other necessary materials to be shared to enable handover. If a new supplier is not selected an exit and handover plan for the end of the contract will be produced in the first year of the contract and updated regularly, and include the necessary materials along with an assessment of the time period required for handover to a potential new supplier.

# 7 Management and Delivery

## 7.1 Responsibilities

The overall flow of data and knowledge and the principle groups responsible for each primary area is illustrated in Figure 9. Further details of personnel are detailed in Section 7.3.



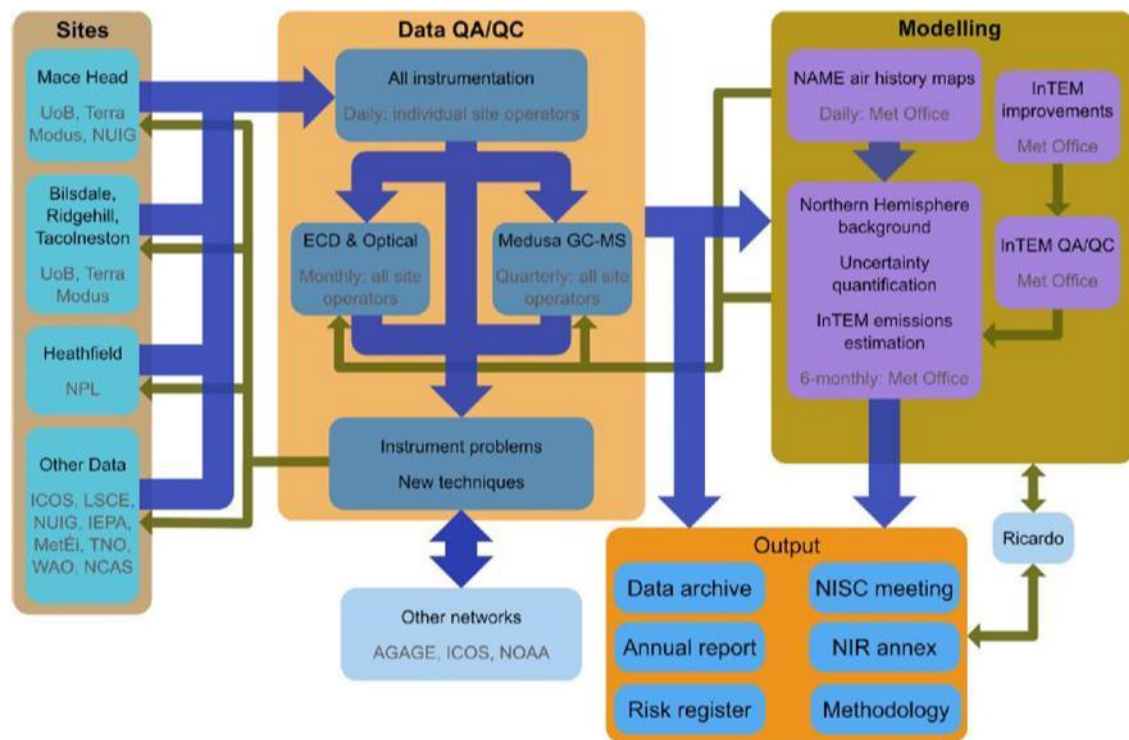


Figure 9: Diagram to highlight the principle flow of data and responsibilities for each area of the project

7.2 Project Planning - Timetable

	Aug 2022	Sept	Oct	Nov	Dec	Jan 2023	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan 2024	Feb	Mar	Apr
DATA:																					
Data collection and local data review																					
On-line Data UK review (non Medusa data)																					
On-line Data EU AGAGE review (Medusa data)																					
On-line Data global AGAGE review (Medusa data)																					
Submit UK DECC Network data to public database (CEDA & ESS-DIVE)																					
InTEM modelling																					
MEETINGS:																					
Project contract meetings (Project Leaders)																					
NISC meetings																					
Steering group meetings																					
REPORTS*:																					
Annex to the NIR																					
Methodology report to BEIS																					
Risk registers to BEIS																					
Handover and Exit plans																					
QA log																					
Project Plan																					
Submission of annual report to BEIS																					
Submission of final project report to BEIS																					

Figure 10: Project Planning timetable. \* Light grey squares indicate optional deliverables that can be requested by BETS during the project lifetime.



### 7.3 Skills and Experience

The UK DECC Network team have a wide range of national and international experience in both modelling and measurements spanning many years. They have been involved in successfully delivering other UK Government contracts related to the UK DECC Network; contracts GA01081 (2007-2011), GA01103 (2011-2015), GA0201 (2015-2018), TRN 1537/06/2018 (2018-2022) and many others related to the UK DECC Network and MHD, Ireland since 1987. These include: Defra: PECN 1/1/130, PECN 7/10/154; PECN 7/12/91; EPG 1/1/23; EPG 1/1/37; EPG 1/1/82; EPG 1/1/97; EPG 1/1/130 (2001-2003); EPG 1/1/159 (2003-2005); CPEG24 (2005-2007). The team have a wide variety of experience delivering UK research council grants related to understanding the role of Greenhouse Gases in the atmosphere: GAUGE (NE/K002449/1), DARE-UK (NE/S004211/1), OpenGHG (NE/V002996/1) and the GHG and Air Quality capital award (NE/R011532/1).

#### Project team (main contractors from the University of Bristol):

**This information has been redacted** (UoB) will be the measurement project leader and the point of contact for BEIS. **This information has been redacted**

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**This information has been redacted** (UoB) will be the measurement project co-leader and manage the day-to-day operations in the current UK DECC Network. **This information has been redacted**

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**This information has been redacted** (UoB) will be involved in instrument maintenance, data quality assurance and data archiving for the UK DECC Network instruments, with a particular focus on the optical analysers. **This information has been redacted**

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**This information has been redacted** (UoB) is a Professor in Atmospheric Chemistry. **This information has been redacted**

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#### Project team (sub-contractors):

**This information has been redacted** (MetO) will lead the project's modelling activities. He is responsible for the provision of NAME air history maps used in the process of validation for the atmospheric data. **This information has been redacted**

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**Collaborators (no cost associated with these personnel):**

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## 7.4 Social Value

As the consortium lead, UoB provides a wide range of development programmes and workshops to support in-work progression for research staff. The university has signed up to [The Concordat to Support the Career Development of Researchers](#), and has developed an implementation plan involving biennial self-assessment reports, feeding into updated action plans. These plans and reports are available via the [University of Bristol website](#). Specific action items from the latest update include:

- 10 days development time per year for all research staff.
- The establishment of Research Concordat Champions, who work to ensure all academic staff are aware of the Concordat and understand their role in supporting the careers of research staff.
- The extension of the workload model agreement to Research Associate level, with a particular focus on supporting research staff in developing opportunities to teach.
- The implementation of a new learning management system “Develop” to coordinate learning and development content in one location and enable more effective monitoring of engagement with development activities.

UoB has made firm commitments to support equality, diversity and inclusion in the workforce. The ongoing work to fully embed these principles is supported by the adoption of a three-step model: Learn, Act, Measure. The university has produced a [Equality, Diversity & Inclusion Policy Statement](#) and developed a [Diversity & Inclusion Roadmap](#) to help frame discussion around attracting and retaining a diverse range of staff and building a more inclusive working environment.

Both UoB and the School of Chemistry hold Athena Swan Bronze Awards, and the university has committed to work towards achieving a Silver Award. As a member of the [Race Equality Charter](#), the university is committed to improving the representation, progression and success of Black, Asian and Minority Ethnic staff and students. A steering group has been established to take the university through the process of evaluating race equality across the institution and developing appropriate actions in response. The university takes an approach to disability inclusion centred on the social model of disability, focussing on the removal, reduction or prevention of societal barriers through workplace adjustments wherever reasonably possible. This is encapsulated in the [Workplace Adjustment Guidance](#) issued to managers, outlining the process by which a reasonable adjustment should be made.

## 8 Recent Publications

A list of recent and high-profile publications and presentations resulting from BEIS/AGAGE and other research are summarised below.

- Brunner, D. et al. (2017). DOI: [10.5194/acp-17-10651-2017](https://doi.org/10.5194/acp-17-10651-2017).
- Graziosi, F. et al. (2017). DOI: [10.1016/j.atmosenv.2017.03.029](https://doi.org/10.1016/j.atmosenv.2017.03.029).
- Rigby, M. et al. (2017). DOI: [10.1073/PNAS.1616426114](https://doi.org/10.1073/PNAS.1616426114).
- Saunio, M. et al. (2017). DOI: [10.5194/acp-17-11135-2017](https://doi.org/10.5194/acp-17-11135-2017).
- Simmonds, P. G. et al. (2017). DOI: [10.5194/acp-17-4641-2017](https://doi.org/10.5194/acp-17-4641-2017).
- Adcock, K. E. et al. (2018). DOI: [10.5194/acp-18-4737-2018](https://doi.org/10.5194/acp-18-4737-2018).
- Arnold, T. et al. (2018). DOI: [10.5194/acp-18-13305-2018](https://doi.org/10.5194/acp-18-13305-2018).
- Bergamaschi, P. et al. (2018). DOI: [10.5194/acp-18-901-2018](https://doi.org/10.5194/acp-18-901-2018).
- Derwent, R. G. et al. (2018). DOI: [10.1016/j.atmosenv.2018.02.024](https://doi.org/10.1016/j.atmosenv.2018.02.024).
- Fang, X. et al. (2018). DOI: [10.1038/s41561-018-0278-2](https://doi.org/10.1038/s41561-018-0278-2).
- Hernández-Paniagua, I. Y. et al. (2018). DOI: [10.1016/j.atmosenv.2018.01.027](https://doi.org/10.1016/j.atmosenv.2018.01.027).
- Li, S. et al. (2018). DOI: [10.1038/s41598-018-22266-0](https://doi.org/10.1038/s41598-018-22266-0).
- Lunt, M. F. et al. (2018). DOI: [10.1029/2018GL079500](https://doi.org/10.1029/2018GL079500).
- Montzka, S. A. et al. (2018). DOI: [10.1038/s41586-018-0106-2](https://doi.org/10.1038/s41586-018-0106-2).
- Palmer, P. I. et al. (2018). DOI: [10.5194/acp-18-11753-2018](https://doi.org/10.5194/acp-18-11753-2018).
- Park, S. et al. (2018). DOI: [10.5194/acp-18-11729-2018](https://doi.org/10.5194/acp-18-11729-2018).
- Pison, I. et al. (2018). DOI: [10.5194/acp-18-3779-2018](https://doi.org/10.5194/acp-18-3779-2018).
- Prinn, R. G. et al. (2018). DOI: [10.5194/essd-10-985-2018](https://doi.org/10.5194/essd-10-985-2018).
- Schoenenberger, F. et al. (2018). DOI: [10.5194/acp-18-4069-2018](https://doi.org/10.5194/acp-18-4069-2018).
- Simmonds, P. G. et al. (2018). DOI: [10.5194/acp-18-4153-2018](https://doi.org/10.5194/acp-18-4153-2018).
- Stanley, K. M. et al. (2018). DOI: [10.5194/amt-11-1437-2018](https://doi.org/10.5194/amt-11-1437-2018).
- Vollmer, M. K. et al. (2018). DOI: [10.5194/acp-18-979-2018](https://doi.org/10.5194/acp-18-979-2018).
- Wells, K. C. et al. (2018). DOI: [10.5194/acp-18-735-2018](https://doi.org/10.5194/acp-18-735-2018).
- Derwent, R. G. et al. (2019). DOI: [10.1016/j.atmosenv.2019.01.050](https://doi.org/10.1016/j.atmosenv.2019.01.050).
- Helfer, C. et al. (2019). DOI: [10.5194/acp-19-3043-2019](https://doi.org/10.5194/acp-19-3043-2019).
- Hossaini, R. et al. (2019). DOI: [10.1029/2018JD029400](https://doi.org/10.1029/2018JD029400).
- Kuyper, B. et al. (2019a). DOI: [10.1021/acs.est.9b01612](https://doi.org/10.1021/acs.est.9b01612).
- Kuyper, B. et al. (2019b). DOI: [10.1016/j.atmosenv.2019.116833](https://doi.org/10.1016/j.atmosenv.2019.116833).
- Michalopoulou, E. et al. (2019). DOI: [10.1021/acs.jchemed.9b00270](https://doi.org/10.1021/acs.jchemed.9b00270).
- Muñhile, J. et al. (2019). DOI: [10.5194/acp-19-10335-2019](https://doi.org/10.5194/acp-19-10335-2019).
- Parrish, D. D. et al. (2019). DOI: [10.5194/amt-12-3383-2019](https://doi.org/10.5194/amt-12-3383-2019).
- Prignon, M. et al. (2019). DOI: [10.5194/acp-19-12309-2019](https://doi.org/10.5194/acp-19-12309-2019).
- Rigby, M. et al. (2019). DOI: [10.1038/s41586-019-1193-4](https://doi.org/10.1038/s41586-019-1193-4).
- Say, D. et al. (2019). DOI: [10.5194/acp-19-9865-2019](https://doi.org/10.5194/acp-19-9865-2019).
- Stavert, A. R. et al. (2019). DOI: [10.5194/amt-12-4495-2019](https://doi.org/10.5194/amt-12-4495-2019).
- Wenger, A. et al. (2019). DOI: [10.5194/acp-19-14057-2019](https://doi.org/10.5194/acp-19-14057-2019).
- Claxton, T. et al. (2020). DOI: [10.1029/2019JD031818](https://doi.org/10.1029/2019JD031818).
- Derwent, R. et al. (2020). DOI: [10.1016/j.atmosenv.2020.117531](https://doi.org/10.1016/j.atmosenv.2020.117531).
- Droste, E. S. et al. (2020). DOI: [10.5194/acp-20-4787-2020](https://doi.org/10.5194/acp-20-4787-2020).
- Kuyper, B. et al. (2020). DOI: [10.1021/acsearthspacechem.9b00207](https://doi.org/10.1021/acsearthspacechem.9b00207).
- Macdonald, M. L. et al. (2020). DOI: [10.5194/acp-20-7243-2020](https://doi.org/10.5194/acp-20-7243-2020).
- Ramonet, M. et al. (2020). DOI: [10.1098/rstb.2019.0513](https://doi.org/10.1098/rstb.2019.0513).
- Saunio, M. et al. (2020). DOI: [10.5194/essd-12-1561-2020](https://doi.org/10.5194/essd-12-1561-2020).
- Say, D. et al. (2020). DOI: [10.1021/acs.est.0c02057](https://doi.org/10.1021/acs.est.0c02057).
- Simmonds, P. G. et al. (2020). DOI: [10.5194/acp-20-7271-2020](https://doi.org/10.5194/acp-20-7271-2020).
- Stanley, K. M. et al. (2020). DOI: [10.1038/s41467-019-13899-4](https://doi.org/10.1038/s41467-019-13899-4).
- Tunnicliffe, R. L. et al. (2020). DOI: [10.5194/acp-20-13041-2020](https://doi.org/10.5194/acp-20-13041-2020).
- Western, L. M. et al. (2020). DOI: [10.5194/gmd-13-2095-2020](https://doi.org/10.5194/gmd-13-2095-2020).
- Yu, D. et al. (2020). DOI: [10.1016/j.atmosres.2019.104658](https://doi.org/10.1016/j.atmosres.2019.104658).
- An, M. et al. (2021). DOI: [10.1038/s41467-021-27592-y](https://doi.org/10.1038/s41467-021-27592-y).
- Dacre, H. F. et al. (2021). DOI: [10.1088/1748-9326/ac1eda](https://doi.org/10.1088/1748-9326/ac1eda).
- Derwent, R. G. et al. (2021). DOI: [10.1039/D1EA00040C](https://doi.org/10.1039/D1EA00040C).
- Gill-Olivas, B. et al. (2021). DOI: [10.1038/s43247-021-00202-x](https://doi.org/10.1038/s43247-021-00202-x).
- Gressent, A. et al. (2021). DOI: [10.1029/2020JD034327](https://doi.org/10.1029/2020JD034327).
- Hill-Pearce, R. E. et al. (2021). DOI: [10.5194/amt-14-5447-2021](https://doi.org/10.5194/amt-14-5447-2021).
- Lickley, M. et al. (2021). DOI: [10.1029/2021GL093700](https://doi.org/10.1029/2021GL093700).
- Lunt, M. F. et al. (2021). DOI: [10.5194/acp-21-16257-2021](https://doi.org/10.5194/acp-21-16257-2021).
- Manning, A. J.** et al. (2021). DOI: [10.5194/acp-21-12739-2021](https://doi.org/10.5194/acp-21-12739-2021).

Montzka, S. A. et al. (2021). DOI: [10.1038/s41586-021-03260-5](https://doi.org/10.1038/s41586-021-03260-5).  
 Park, S. et al. (2021). DOI: [10.1038/s41586-021-03277-w](https://doi.org/10.1038/s41586-021-03277-w).  
 Patra, P. K. et al. (2021a). DOI: [10.1029/2020JD033862](https://doi.org/10.1029/2020JD033862).  
 Patra, P. K. et al. (2021b). DOI: [10.2151/jmsj.2022-018](https://doi.org/10.2151/jmsj.2022-018).  
 Pelley, R. et al. (2021). DOI: [10.3390/atmos12121573](https://doi.org/10.3390/atmos12121573).  
 Petrescu, A. M. R. et al. (2021). DOI: [10.5194/essd-13-2307-2021](https://doi.org/10.5194/essd-13-2307-2021).  
 Say, D. et al. (2021). DOI: [10.5194/acp-21-2149-2021](https://doi.org/10.5194/acp-21-2149-2021).  
 Sheng, J. et al. (2021). DOI: [10.1088/1748-9326/ac24d1](https://doi.org/10.1088/1748-9326/ac24d1).  
 Tham, Y. J. et al. (2021). DOI: [10.1073/pnas.2009951118](https://doi.org/10.1073/pnas.2009951118).  
 Vollmer, M. K. et al. (2021). DOI: [10.1073/pnas.2010914118](https://doi.org/10.1073/pnas.2010914118).  
 Choi, H. et al. (2022). DOI: [10.5194/acp-22-5157-2022](https://doi.org/10.5194/acp-22-5157-2022).  
 Muñhle, J. et al. (2022). DOI: [10.5194/acp-22-3371-2022](https://doi.org/10.5194/acp-22-3371-2022).  
 Ramsden, A. E. et al. (2022). DOI: [10.5194/acp-22-3911-2022](https://doi.org/10.5194/acp-22-3911-2022).  
 Rust, D. et al. (2022). DOI: [10.5194/acp-22-2447-2022](https://doi.org/10.5194/acp-22-2447-2022).  
 Saboya, E. et al. (2022). DOI: [10.5194/acp-22-3595-2022](https://doi.org/10.5194/acp-22-3595-2022).  
 Velders, G. J. M. et al. (2022). DOI: [10.5194/acp-22-6087-2022](https://doi.org/10.5194/acp-22-6087-2022).  
 Yu, D. et al. (2022). DOI: [10.1016/j.atmosres.2022.106222](https://doi.org/10.1016/j.atmosres.2022.106222).

## 9 Bibliography

Arnold, T. et al. (2012). DOI: [10.1021/ac300373e](https://doi.org/10.1021/ac300373e).  
 Arnold, T. et al. (2018). DOI: [10.5194/acp-18-13305-2018](https://doi.org/10.5194/acp-18-13305-2018).  
 Dlugokencky, E. J. et al. (2005). DOI: [10.1029/2005JD006035](https://doi.org/10.1029/2005JD006035).  
 Freeling, F. et al. (2020). DOI: [10.1021/acs.est.0c02910](https://doi.org/10.1021/acs.est.0c02910).  
 Ganesan, A. L. et al. (2018). DOI: [10.1002/2018GL077536](https://doi.org/10.1002/2018GL077536).  
 Hall, B. D. et al. (2021). DOI: [10.5194/amt-14-3015-2021](https://doi.org/10.5194/amt-14-3015-2021).  
 Jones, A. R. et al. (2007). DOI: [10.1007/978-0-387-68854-1](https://doi.org/10.1007/978-0-387-68854-1).  
 Lefrancois, F. et al. (2021). DOI: [10.5194/amt-14-4669-2021](https://doi.org/10.5194/amt-14-4669-2021).  
 Lunt, M. F. et al. (2016). DOI: [10.5194/gmd-9-3213-2016](https://doi.org/10.5194/gmd-9-3213-2016).  
 Lunt, M. F. et al. (2021). DOI: [10.5194/acp-21-16257-2021](https://doi.org/10.5194/acp-21-16257-2021).  
 Manning, A. J. et al. (2011). DOI: [10.1029/2010JD014763](https://doi.org/10.1029/2010JD014763).  
 Manning, A. J. et al. (2021). DOI: [10.5194/acp-21-12739-2021](https://doi.org/10.5194/acp-21-12739-2021).  
 Miller, B. et al. (2008). DOI: [10.1021/ac702084k](https://doi.org/10.1021/ac702084k).  
 Montzka, S. A. et al. (2018). DOI: [10.1038/s41586-018-0106-2](https://doi.org/10.1038/s41586-018-0106-2).  
 Montzka, S. A. et al. (2021). DOI: [10.1038/s41586-021-03260-5](https://doi.org/10.1038/s41586-021-03260-5).  
 Park, S. et al. (2021). DOI: [10.1038/s41586-021-03277-w](https://doi.org/10.1038/s41586-021-03277-w).  
 Prinn, R. G. et al. (2018). DOI: [10.5194/essd-10-985-2018](https://doi.org/10.5194/essd-10-985-2018).  
 Ramsden, A. E. et al. (2022). DOI: [10.5194/acp-22-3911-2022](https://doi.org/10.5194/acp-22-3911-2022).  
 Rennick, C. et al. (2021). DOI: [10.1021/acs.analchem.1c01103](https://doi.org/10.1021/acs.analchem.1c01103).  
 Rigby, M. et al. (2019). DOI: [10.1038/s41586-019-1193-4](https://doi.org/10.1038/s41586-019-1193-4).  
 Röttger, S. et al. (2022). DOI: [10.5194/adgeo-57-37-2022](https://doi.org/10.5194/adgeo-57-37-2022).  
 Say, D. et al. (2021). DOI: [10.5194/acp-21-2149-2021](https://doi.org/10.5194/acp-21-2149-2021).  
 Schuck, T. J. et al. (2018). DOI: [10.5194/acp-18-16553-2018](https://doi.org/10.5194/acp-18-16553-2018).  
 Simmonds, P. G. et al. (2020). DOI: [10.5194/acp-20-7271-2020](https://doi.org/10.5194/acp-20-7271-2020).  
 Stanley, K. M. et al. (2018). DOI: [10.5194/amt-11-1437-2018](https://doi.org/10.5194/amt-11-1437-2018).  
 Stavert, A. R. et al. (2019). DOI: [10.5194/amt-12-4495-2019](https://doi.org/10.5194/amt-12-4495-2019).  
 Sulbaek Andersen, M. P. et al. (2022). DOI: [10.1016/j.atmosenv.2021.118935](https://doi.org/10.1016/j.atmosenv.2021.118935).  
 Vollmer, M. K. et al. (2015). DOI: [10.1021/es505123x](https://doi.org/10.1021/es505123x).  
 Walters, D. N. et al. (2014). DOI: [10.5194/gmd-7-361-2014](https://doi.org/10.5194/gmd-7-361-2014).  
 Yver-Kwok, C. et al. (2021). DOI: [10.5194/amt-14-89-2021](https://doi.org/10.5194/amt-14-89-2021).  
 Zhao, C. L. et al. (2006). DOI: [10.1029/2005JD006003](https://doi.org/10.1029/2005JD006003).

## 10 Nomenclature

AGAGE:	Advanced Global Atmospheric Gases Experiment
BEIS:	Department of Business, Energy and Industrial Strategy, UK
BSD:	Bilsdale tall tower observatory, North Yorkshire, UK
CBW:	Cabauw tall tower observatory, The Netherlands
CFC:	Chlorofluorocarbon
CMN:	Monte Cimone observatory, Italy
CRDS:	Cavity Ring-Down Spectroscopy
DARE-UK:	Detection and Attribution of Regional greenhouse gas Emissions in the UK DECC Network: Deriving Emissions related to Climate Change Network
ECMWF:	European Centre for Medium-range Weather Forecasting
Empa:	Swiss Federal Laboratories for Materials Science and Technology
EMPIR:	European Metrology Programme for Innovation and Research
ERA-5:	ECMWF Re-Analysis meteorology, version 5
ERA-Interim:	ECMWF Re-Analysis meteorology, Interim version
GAUGE:	Greenhouse gAs UK and Global Emissions
GHG:	GreenHouse Gas
GHGI:	GreenHouse Gas Inventory
GWP:	Global Warming Potential
HCFC:	Hydrochlorofluorocarbon
HCFO:	Hydrochlorofluoroolefin
HFC:	Hydrofluorocarbon
HFD:	Heathfield tall tower observatory, West Sussex, UK
HFO:	Hydrofluoroolefin
ICOS:	Integrated Carbon Observation System
IEPA:	Irish Environmental Protection Agency
IG <sup>3</sup> IS:	Integrated Global Greenhouse Gas Information System
InTEM:	Inversion Technique for Emission Modelling
JFJ:	Jungfraujoch research station, Switzerland
LSCE:	Laboratoire des Sciences du Climat et de l'Environnement
m.a.g.l.:	Metres above ground level
MHD:	Mace Head research station, Ireland
NAEI:	National Atmospheric Emissions Inventory
NAME:	Numerical Atmospheric dispersion Modelling Environment
NERC:	Natural Environment Research Council
NH:	Northern Hemisphere
NIR:	National Inventory Report
NISC:	National Inventory Steering Committee
NOAA:	National Oceanic and Atmospheric Administration
NPL:	National Physical Laboratory
NUIG:	National University of Ireland, Galway
NWEU:	North West Europe (IRL, UK, FRA, BEL, NLD, LUX, DEU)
ODS:	Ozone Depleting Substance
PDD:	Pulsed Discharge Detection
PFC:	Perfluorocarbon
QA:	Quality Assurance
QC:	Quality Control
RGL:	Ridge Hill tall tower observatory, Herefordshire, UK
SIO:	Scripps Institution of Oceanography
TAC:	Tacolneston tall tower observatory, Norfolk, UK
TNO:	Netherlands Organisation for Applied Scientific Research
TOB:	Taunus observatory, Germany
UM:	Unified Model
UNFCCC:	United Nations Framework Convention on Climate Change
UoB:	University of Bristol
WAO:	Weybourne Atmospheric Observatory, Norfolk, UK
WMO:	World Meteorological Organisation
ZEP:	Zeppelin research station, Svalbard, Norway