



Department  
for Environment  
Food & Rural Affairs

# Conditions of Contract Short Form Enhanced

October 2021

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[REDACTED]  
Liverpool John Moores University  
JMU Services Limited,  
c/o Liverpool John Moores University,  
2nd Floor Exchange Station,  
Tithebarn Street,  
Liverpool L2 2QP

**Our ref:** C16131  
**Date:** 28/06/2023

**COMMERCIAL IN CONFIDENCE**

Dear [REDACTED]

**Award Notification: Contract for Nature for Climate Fund  
Monitoring and Evaluation Scientific Indicators**

This is an award decision pursuant to Regulation 86 of the Public Contract Regulations 2015 (the "Regulations"). The evaluation of tenders for the procurement is complete and we are pleased to inform you that you were successful.

Under Regulation 87 we must allow a "standstill" period of 10 calendar days before entering into a contract. The standstill period will start on **29<sup>th</sup> June 2023** and is expected to finish at midnight on **10<sup>th</sup> July 2023**. The contract will not be entered into before **10<sup>th</sup> July 2023** – midnight on the last day of standstill.

Therefore, this award decision is provisional and in particular is subject to the result of any challenge to the decision which may be received during the standstill period. We will inform you if a challenge (should there be one) amends the standstill period.

Once the standstill period has concluded we will contact you to discuss execution of the contract agreement.

An electronic copy of the proposed contract, in its final form, will be sent to you via the Authority's e-Tendering system. The Authority would be grateful if you could

arrange the contract to be executed, by way of electronic signature, on behalf of [insert supplier name] and by [insert date that standstill period expires]. The Authority then intends to execute the contract at the conclusion of the standstill period (assuming that no challenge is made to the outcome of this procurement resulting in a delay).

Please find enclosed a report which sets out the scores awarded to your tender against the evaluation criteria. The evaluation of tenders was conducted against the criteria and weightings and using the scoring methodology detailed in the Invitation to Tender your scores and weighted scores are given in the Evaluation Report enclosed with this letter.

In accordance with the Procurement Policy Note 8/16 supporting evidence in relation to self-declarations in the standard Selection Questionnaire must be checked during the standstill period. Please ensure information supporting your responses are provided via the Authority's e-Tendering system.

We are automatically obliged to refrain from entering into the contract agreement if proceedings are brought in respect of the award decision. We will write to you again at the end of the standstill period to formally award the contract agreement, in the meantime you should not make any financial commitments to this contract/framework agreement. Finally you are reminded that the terms of the Invitation to Tender continue to apply (for example in relation to confidentiality and publicity).

Yours sincerely

***Execution of this award notification letter is carried out in accordance with EU Directive 99/93 (Community framework for electronic signatures) and the Electronic Communications Act 2000.***



Senior Category Officer  
Defra Group Commercial- Environmental Goods & Services  
Telephone: REDACTED  
Email: REDACTED


# Order Form

1. Contract Reference	C16131
2. Date	12 <sup>th</sup> July 2023
3. Authority	DEFRA Seacole Building, 2 Marsham Street, London SW1P 4DF
4. Supplier	Liverpool John Moores University  JMU Services Limited, c/o Liverpool John Moores University, 2nd Floor Exchange Station, Tithebarn Street, Liverpool L2 2QP  <i>Company registration number: 02440084</i>
4a. Supplier Account Details	JMU Services Limited Sort code <span style="background-color: black; color: black;"> </span> Account number <span style="background-color: black; color: black;"> </span> Remittance address : REDACTED Please quote the invoice number
5. The Contract	<p>The Supplier shall supply the Deliverables described below on the terms set out in this Order Form and the attached contract conditions ("<b>Conditions</b>") and any [<b>Annex/Annexes</b>].</p> <p>Unless the context otherwise requires, capitalised expressions used in this Order Form have the same meanings as in Conditions.</p> <p>In the event of any inconsistency between the provisions of the Order Form, the Conditions and the Annexes, the inconsistency shall be resolved by giving precedence in the following order:</p> <ol style="list-style-type: none"><li>1. Order Form, Annex 2 (<i>Specification</i>) and Annex 3 (<i>Charges</i>) with equal priority.</li><li>2. Conditions and Annex 1 (<i>Authorised Processing Template</i>) with equal priority.</li><li>3. Annexes 4 (<i>Tender Submission</i>) and 5 (<i>Sustainability</i>).</li></ol> <p>In the event of any inconsistency between the provisions of Annexes 4 and 5, Annex 5 shall take precedence over Annex 4.</p> <p><b>Please do not attach any Supplier terms and conditions to this Order Form as they will not be accepted by the Authority and may delay conclusion of the Contract.</b></p>

<b>6. Deliverables</b>	<b>Goods</b>	None
	<b>Services</b>	To be performed at, <i><b>the Supplier's premises and/or a third party's premises and in each case the address</b></i>
<b>7. Specification</b>	The specification of the Deliverables is as set out in Annex 2.	
<b>8. Term</b>	<p>The Term shall commence on 1<sup>st</sup> August 2023 (the <b>Start Date</b>)</p> <p>and the Expiry Date shall be 31<sup>st</sup> September 2024 unless it is otherwise extended or terminated in accordance with the terms and conditions of the Contract.</p> <p>The Authority may extend the Contract for a period of up to 6 months' by giving not less than 1 months' notice in writing to the Supplier prior to the Expiry Date. The terms and conditions of the Contract shall apply throughout any such extended period.</p>	
<b>9. Charges</b>	The Charges for the Deliverables shall be as set out in Annex 3.	
<b>10. Payment</b>	<p>The Authority's preference is for all invoices to be sent electronically, quoting a valid Purchase Order Number (PO Number), to:</p> <p><u><a href="mailto:APinvoices-DEF-U@gov.sscl.com">APinvoices-DEF-U@gov.sscl.com</a></u></p> <p>Alternatively, you may post to: Shared Services Connected Ltd DEF Procure to Pay PO Box 790 Newport Gwent NP10 8FZ</p> <p>Within <b>10</b> Working Days of receipt of your countersigned copy of this Order Form, we will send you a unique PO Number. You must be in receipt of a valid PO Number before submitting an invoice.</p> <p>To avoid delay in payment it is important that the invoice is compliant with Annex 3. Non-compliant invoices will be sent back to you, which may lead to a delay in payment.</p>	

	<p>If you have a query regarding an outstanding payment please contact the Authority's Authorised Representative(s).</p>
<p><b>11. Authority Authorised Representative(s)</b></p>	<p>For general liaison your contact will continue to be</p> <p>██████████   Research and Development Project Delivery Advisor   Trees, Woodland and Forestry   Natural Environment Trees &amp; Landscapes Directorate Department for Environment, Food and Rural Affairs Email: <u>REDACTED</u></p> <p>or, in their absence,</p> <p>██████████   Monitoring and Evaluation, Nature for Climate Tree Programme   Natural Environment, Trees and Landscapes Directorate Department for Environment, Food and Rural Affairs   Email: <u>REDACTED</u>   2nd Floor, Foss House, York YO1 7PR</p>
<p><b>12. Address for notices</b></p>	<p><b>Authority:</b> Department for Environment, Food and Rural Affairs Seacole Building, 2 Marsham Street, London SW1P 4DF</p> <p>Attention: <u>REDACTED</u></p> <p><b>Supplier:</b> Attention: University Secretary and General Counsel Exchange Station, Tithebarn St, Liverpool, L2 2QP Email: <u>REDACTED</u> and a copy to <u>REDACTED</u></p>
<p><b>13. Key Personnel</b></p>	<p><b>Authority:</b></p> <p>██████████   Research and Development Project Delivery Advisor   Trees, Woodland and Forestry   Natural Environment Trees &amp; Landscapes Directorate Department for Environment, Food and Rural Affairs</p> <p>Email: <u>REDACTED</u></p> <p><b>Supplier:</b> ██████████</p>



	<div></div> <p>Research innovation Services, Exchange Station, Tithebarn St, Liverpool, L2 2QP</p> <p>Attention: Head of Knowledge Exchange/ Lead PI</p> <p>Email: REDACTED and a copy to REDACTED</p>
<b>14. Procedures and Policies</b>	<p>For the purposes of the Contract the relevant procedures and policies, e.g. Staff Vetting Procedures/data security requirements can be found here.</p> <p></p> <p>HMG_Baseline_Pers onnel_Security_Stan</p> <p><i>[Note: for sustainability requirements refer to any social or environmental strategies, policies, commitments, targets or requirements such as those at Government/Corporate/Policy level which are relevant to the Contract].</i></p> <p>For the avoidance of doubt, if other policies of the Authority are referenced in the Conditions and Annexes, those policies will also apply to the Contract on the basis described therein.</p> <p>The Authority may require the Supplier to ensure that any person employed in the delivery of the Deliverables has undertaken a Disclosure and Barring Service check. The Supplier shall ensure that no person who discloses that they have a conviction that is relevant to the nature of the Contract, relevant to the work of the Authority, or is of a type otherwise advised by the Authority (each such conviction a "Relevant Conviction"), or is found by the Supplier to have a Relevant Conviction (whether as a result of a police check, a Disclosure and Barring Service check or otherwise) is employed or engaged in the provision of any part of the Deliverables.</p>
<b>15. Limitation of Liabilities</b>	<p>As per Clause 12.1.</p> <p><a href="#">[Refer to Liabilities and Insurance Guidance]</a></p>

<b>16. Insurance</b>	<p>The Supplier shall hold the following insurance cover from the start date/commencement date for the duration of the Contract in accordance with this Order Form</p> <p><i>[please refer to <a href="#">Liabilities and Insurance guidance</a> note for further information]:</i></p> <ul style="list-style-type: none"><li>- Professional Indemnity insurance [with cover (for a single event or multiple with an aggregate) of not less than] [150% of the contract value];</li><li>- Public Liability insurance [with cover (for a single event or multiple with an aggregate) of not less than] [150% of the contract value];</li><li>- Employers Liability insurance [with cover (for a single event or multiple with an aggregate) of not less than] [£5 million]</li></ul>	
<p>Signed for and on behalf of the <b>Supplier</b></p> <p>REDACTED</p>	<p>Signed for and on behalf of the <b>Authority</b></p> <p>REDACTED</p>	

## Annex 1 – Authorised Processing Template

<b>Contract:</b>	[XXXX]
<b>Date:</b>	
<b>Description Of Authorised Processing</b>	<b>Details</b>
Subject matter of the processing	
Duration of the processing	
Nature and purposes of the processing	
Type of Personal Data	
Categories of Data Subject	

## Annex 2 – Specification

### **Development and Improvement of Tree Planting Scientific Indicators**

#### **Summary**

The Department for Environment, Food and Rural Affairs (Defra) is looking for tenderers to submit bids to support and build the evidence base for the Nature for Climate Fund Tree Planting Programme ('the Programme'). We welcome proposals from a consortium of organisations bringing together several institutions including (but not limited to) commercial, academia, and / or subject matter experts.

The overall aim is to demonstrate the Programme's impact in the following outcome areas:

#### ***Tier 1***

- a. *Carbon sequestration*
- b. *Biodiversity*

#### ***Tier 2***

- c. *Flood mitigation*
- d. *Water quality*
- e. *Air quality*

The development of indicators will be used to demonstrate the **attributable** changes caused by the Tree Planting Programme up to 2025, and address evidence gaps in the Programme Key Performance Indicator (KPI) Framework. Our aim in commissioning this research is to provide usable, robust, relevant and timely evidence so that the Customer can deliver a thorough monitoring and evaluation of the programme that gives confidence to others.

We are pleased to invite proposals for the development of indicators. We envision that the successful supplier will use fieldwork and/or existing research to illustrate long-term potential change. The findings will feed into the Programme evaluation running to January 2025. The successful supplier will illustrate the Programme's long-term trajectory in achieving its outcomes, by monitoring or modelling short-term observations.

#### **Programme background**

In 2018 Defra launched the [25 Year Environment Plan \(25YEP\)](#), which outlines the Government's focus on tree planting as a key driver of improved environmental and social outcomes. It includes a vision to drive extensive increases in tree planting in towns, cities and rural areas. It summarises ambitions to protect and support existing trees and forests, and to develop enhanced markets for UK forest products. In addition to this, the UK government is also following advice from the Committee on Climate Change (CCC) as part of the UK's commitment to deliver Net Zero by 2050 and meet the Paris Agreement goals.

In 2020 the Committee on Climate Change (CCC) recommended significant increases in tree planting, woodland creation and management, and peatland restoration in the UK, leading to a Government UK-wide manifesto commitment to increase tree planting and woodland creation across the UK by 30,000 hectares per annum before the end of the current parliament in 2025. England has a target of planting approximately 7,500 hectares of woodlands per year, by the end of this Parliament. Action Plans for trees and peat were launched in May 2021 to ensure that these commitments can be delivered in support of Net Zero whilst securing maximum benefits for citizens and the environment.

More recently, the [Environmental Improvement Plan \(EIP\) 2023](#) introduced the plan to deliver the 25YEP vision. It sets out several long-term targets and commitments including increase tree canopy and woodland cover from 14.5% to 16.5% of total land area in England by 2050, a new interim target to increase this by 0.26% by January 2028 and restore or create more than 500,00 hectares of wildlife-rich habitat by 2042.

In line with our tree canopy and woodland cover targets, the [England Trees Action Plan](#) (ETAP) sets out the government's ambition for the treescape it wants to see in England by 2050 and beyond in order to reduce climate change and to improve biodiversity in the UK.

The £750 million Nature for Climate Fund (NCF) is a primary delivery vehicle to meet the above Defra targets and generate a trajectory to ensure the Government meets ETAP policy outcomes. The Programme incorporates new partnerships and provides grants and advice to increase woodland creation and expansion to at least 7,500ha per year by March 2025, as well as a range of associated environmental benefits, including strengthened biodiversity, habitat creation, and social/economic development in line with government 'levelling up' objectives.

Defra has designed the Programme as a portfolio of projects that increase woodland creation, expansion and management through new partnerships with other public bodies, grants and advice for landowners. There are three types of tree planting project interventions designed to directly accelerate tree planting to the required rates (each containing multiple grant delivery mechanisms):

- Planting on Private Land: new support and incentives to get private landowners planting trees and establishing woodlands
- Planting on Public Land: Boosting tree planting and woodland creation on publicly owned and managed land
- Woodland Creation Partnerships: Creating woodlands through new and existing partnerships

There are additional, cross-cutting activities within the programme which support planting initiatives by enabling the wider transformation in capacity, capability and behaviours needed to accelerate planting and woodland creation. These are:

- Promotion and Engagement: promoting tree planting grants to new and existing audiences
- Communications and Stakeholders: helping generate a sense of excitement and interest around new woodland
- Increasing Sector Capacity: supporting the forestry and tree nursery sectors; ensuring we have enough saplings and a strong workforce
- Research and Development: supporting projects to achieve maximum impacts through research that will be disseminated to researchers, policy makers, forestry practitioners and delivery teams to maximise knowledge sharing.

The Programme works with a range of Delivery Partners, all of which manage a number of different workstreams and sites. A full list and description of projects in each work stream, can be found in Annex A.

## Background to the requirement

A monitoring and evaluation framework was developed in May 2022 to set out the evaluation approach and establish programme key performance indicators (KPIs). This highlighted that the programme evaluation requires more robust data that allows it to demonstrate attribution in specific outcome areas.

Potential suppliers may find the following deliverables useful for context:

- Theories of Change - Programme level theory of change alongside four nested thematic level theories of change. The thematic theories of change reflect four key areas contained within ETAP and are nested into the programme level outcomes, to demonstrate clear links between thematic and programme level outcomes and impacts. See Annex B1 and B2.
- KPI Framework - A KPI framework consisting of log frames that details indicators against the impacts and outcomes in the programme Theory of Change. See Annex C.

The majority of the current indicators in our priority outcome areas do not demonstrate the impact caused directly by the Programme, and instead capture the national picture/trends.

## Aims and objectives

We welcome both pragmatic and innovative proposals to develop indicators that can be used within the programme lifecycle to demonstrate the Programme's impact in the final evaluation (July 2024). Nevertheless, we expect the developed research will have some long-term utility for successor tree planting programmes as well as projecting the benefits from the NCF programme, which will be realised over a far longer time than the lifespan of the Programme.

The key aim of this work is to provide research or a model / trajectory that will allow us to:

- Establish whether the Programme is delivering its key outputs and outcomes and is **on track to achieve its long-term impacts**.
- **Demonstrate changes** within the life of the Programme, more than likely providing a modelled **trajectory** of the achievement of outcomes or similar.
- **Attribute** the changes to the Programme.

The outputs of this work are likely to be used to inform future delivery of successor tree planting programmes. The outcome areas have been grouped into two tiers to highlight key outcome areas for the programme. **It is important that potential suppliers address both tiers to the best of their ability.**

### ***Tier 1***

- Carbon sequestration*
- Biodiversity*

### ***Tier 2***

- Flood mitigation*
- Water quality*
- Air quality*

Table 1 on the following page details the outcome area, current proposed indicator, and our requirement.

Table 1: Indicators

Outcome area	Current Indicator(s)	Requirement
Carbon Sequestration	Emissions/removals are estimated using output from Forest Research's CSORT model <sup>12</sup> , an off-line version of Carbine, the greenhouse gas accounting model used to calculate the forestry contribution to the UK LULUCF Greenhouse Gas inventory. Three indicative woodland types are represented in the model: productive conifer, productive broadleaf, and unmanaged. Carbon sequestration modelling is based on conventional forestry growth and yield models which apply an s-shaped growth function. This accounts for the fact that many forestry systems, particularly broadleaf woodland, commonly have slower growth during the establishment phase (the period after planting). As such, carbon sequestration in the early years is conservative before accelerating as the trees begin to reach maturity. Modelling also accounts for operational carbon emissions from NCF planting and carbon stored in timber hard wood products that have been harvested. See <a href="#">here</a> for more details on the Forestry Research carbon modelling.	<p>The projected carbon sequestration levels are based on tree planting data collected by delivery partners. The projections to date are at Programme level at current and we would like to see a comparison across the Programme regions or sites, as well as a programme level projection.</p> <p>The successful supplier should focus on providing a more accurate estimation of changes in carbon sequestration levels or early indications to estimate whether the Programme is on track to achieving its targets. Actual carbon sequestration rates from woodland creation are uncertain, particularly as local geography, species choice and soil condition will vary greatly from site to site.</p> <p>Field work and/or research may be required to improve understanding of certain factors that influence carbon modelling. For instance, there is a lack of data on early growth of trees and branch and root biomass, stocking density, and soil.</p>
Biodiversity	UK Biodiversity Indicator indices measuring woodland species abundance and distribution (C5: Woodland Birds Index, C6: Index of Butterflies of wider countryside in woodland, C4a: Change in the relative abundance of priority species in the UK, C4b: Status of UK priority species – distribution) <sup>3</sup> . National Forest Inventory records	We are interested in species and functional diversity and habitat creation but understand it may be difficult to measure accurately within the given timeframe. We expect the successful supplier to use a proxy to indicate whether the Programme is on the right trajectory to support biodiversity outcomes. Note, there are many ways of

<sup>1</sup> Morison et al. (2012), 'Understanding the carbon and greenhouse gas balance of forests in Britain', [fcrp018.pdf \(forestryresearch.gov.uk\)](#)

<sup>2</sup> Matthews, Broadmeadow (2009), 'The potential of UK forestry to contribute to government's emissions reduction commitments', <https://www.cabdirect.org/cabdirect/abstract/20103082977>

<sup>3</sup> <https://data.jncc.gov.uk/data/8fab1c70-e45f-4c41-ad5c-5c23fad46dbb/ukbi2022-summarybooklet-a.pdf>

	on Woodland Ecological Condition <sup>4</sup> .	<p>demonstrating changes in biodiversity and we welcome pragmatic approaches.</p> <p>Mapping and measuring habitat availability (e.g. location and condition of woodlands and trees) could provide a good indication of quantity of usable habitat, as well as connectivity to account for species movement, tree mortality/establishment, woodland ecological condition, woodland diversity (genetic, structural and species diversity), and more. Other methods could involve using or building on existing research on established woodlands or modelling trade-offs between ecosystem services.</p>
Flood mitigation	The indicator is based on mapping that indicates where planting is likely to contribute to flood risk reduction benefit. Proposed woodland must touch either 'Opportunity for Floodplain Woodland' or 'Opportunity for Wider Catchment Woodland' in the 'EWCO Water – Flood Risk' layer on the Forestry Commission's map browser and Land Information Search.	<p>We expect the successful supplier to build on this approach and use maps to distinguish where trees have been planted against flood risk areas and better understand the potential impact on overall flood risk reduction (such as increased storage volume, area of increased permeability or change in interception of rainfall).</p> <p>We encourage suppliers to review existing methods and evaluations to inform their approach to monitoring (e.g. <a href="#">Natural Flood Management Programme</a>).</p>
Water Quality	This 25 YEP indicator <sup>5</sup> is composed of several metrics including: percentage of water tests meeting good (or better) Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (the WFD regulations) status for ecology and chemistry, percentage of water bodies achieving good ecological status, and compliance of waters specially protected for specific uses such as drinking water abstraction and nature conservation.	<p>We understand it will be difficult to measure changes in water quality within the given timeframe. At a minimum, it will be beneficial to understand the impact of planting in areas of England with the lowest water quality and the estimated change in water quality as a result.</p> <p>We welcome a pragmatic approach and are open to the parameters used to indicate changes in water quality. Suppliers can build on or use existing research as well as deliver new research through fieldwork if required.</p>

<sup>4</sup> [NFI Woodland Ecological Condition - Forest Research](#)

<sup>5</sup> [Indicator: B3 - State of the water environment - Outcome indicator framework for the 25 Year Environment Plan \(defra.gov.uk\)](#)



Air quality	<p>Modelling of pollutant levels using ONS Pollution Removal Ecosystem accounts. The actual pollutant removal of NCF planting is location (and species) dependent and cannot be accurately quantified.</p> <p>There is mixed literature on the impact of trees on air pollutant removal; methodologies around this may change, and our ability to report on this against 5-year milestones as part of the Programme KPI Framework will rely on the ONS paper to be updated.</p> <p>Source: <a href="#">N524081RE.pdf (nerc.ac.uk)</a></p>	<p>The successful supplier should provide a more accurate forecast of changes in air quality at programme and/or site-specific level. This may involve carrying out fieldwork on programme sites to better understand pollutant removal, if at all, including some or all of the following:</p> <ul style="list-style-type: none"> <li>- PM10</li> <li>- PM2.5</li> <li>- SO2</li> <li>- NH3</li> <li>- NO2</li> <li>- O3</li> </ul> <p>We're interested in understanding the impacts of both urban tree planting and rural planting. If it is not possible to improve on existing methods, it could be that the successful suppliers take a more pragmatic approach to explore where trees are planted (e.g. close to industrial areas) and map these against areas with high levels of pollution or similar. Other methods could involve using or building on existing research.</p>
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## Timeline

There are three key stages under the Programme evaluation and the first is underway (mid-term evaluation). The mid-term evaluation will use existing evidence and KPIs.

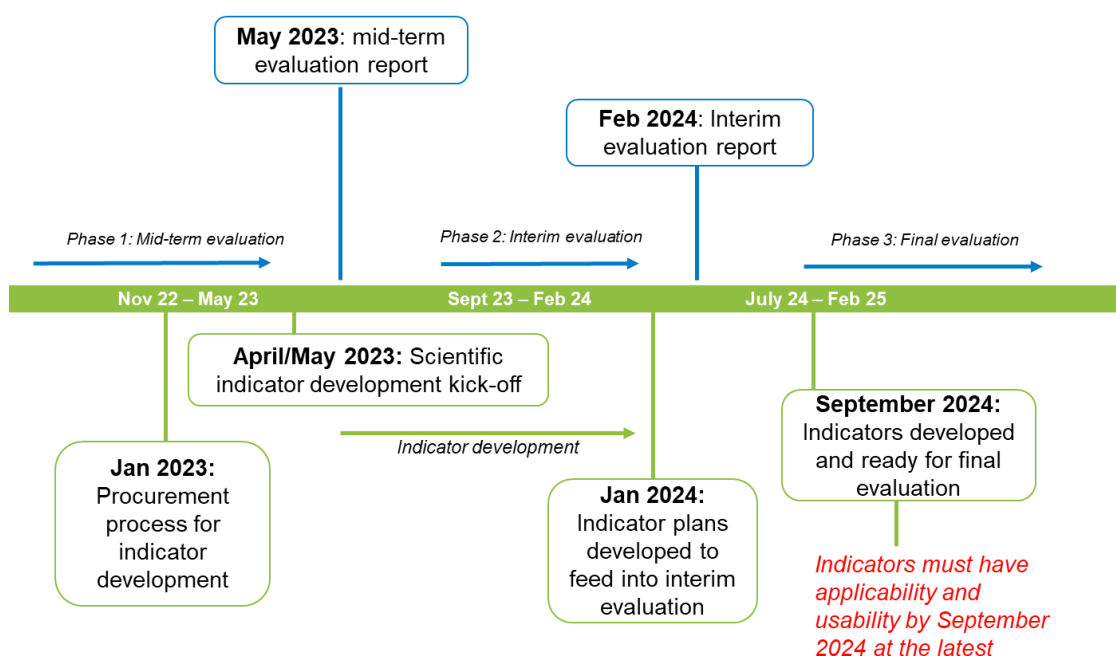
Suppliers need to provide final indicators by September 2024 so they can be incorporated into the programme evaluation plan. We will need to be kept updated on the thinking and progress being made by the successful supplier with evidence developing alongside the evaluation. The level of detail required during the remaining phases is detailed below:

### Interim evaluation (August 2023 – Feb 2024)

The Programme evaluation will **better understand and provide some evidence** of output and outcome-level results and the Programme's likely contribution to the longer-term impacts and investment objectives outlined in the NCF business case.

### Final Evaluation (July 2024 – Dec 2024)

**Provide an overall evidence** base for the delivery and impact of the NCF Tree Planting Programme.



## Approach and Methodology

We expect potential suppliers to review the Theory of Change and KPI Framework to inform their proposed approach and methodology. The successful supplier will take a pragmatic and robust approach that can be delivered within the allocated timeframe.

The approach/methodology should take the following into consideration:

- *Attribution and net impact* – Does the research have potential to demonstrate the outputs and outcomes are caused by the Programme? Does the research take into consideration potential negative impacts?
- *Forecasting* – Does the indicator provide a trajectory of the benefits? If so, what are the underlying assumptions, dependencies and caveats?
- *Existing data* – Is there existing evidence and research that can be drawn on to develop the indicator?

- *Primary data and research* – What new data (if at all) is required to develop the indicator
- *Scope* – Can the indicator be applied to the Programme or is site specific research more appropriate? If so, what are the key caveats that need to be borne in mind if extrapolating to a national picture?
- *Accessibility and visualisation* – Can the findings be presented to a lay audience in a digestible format? Is the presentation format easy to navigate? What platforms will be used? (e.g. RShiny, ArcGIS, GIS or similar)

We welcome innovative and advanced methods and tools including but not limited to, LiDAR, Laser scanning, GIS mapping, Earth Observation and any other appropriate options that will allow delivery within the scope and timeframe of this Programme.

The methods proposed must explore the net impact (both positive and negative impacts) on the environment and link the impact back to the Programme. We welcome suppliers that can provide an approach and methodology considering these points, outlining the benefits and limitations of their approach. These points will be considered when bids are assessed. More detail on the scoring criteria can be found later in this document.

**Please note that Defra has no preferred methods for indicator development but requires a clear rationale for the approach taken and a clear demonstration that it will meet the aims and objectives outlined in this brief.**

## Data and scope

The following data will be available for the successful supplier for each site:

1. Total land
2. Total area planted (hectares)
3. Number of trees planted (available for some project but not all)
4. Woodland or tree cover outside woodland
5. Tree species breakdown
6. Grid references
7. Spatial files (available for some sites)

Annex D shows a data template submitted by delivery partners that is submitted on a monthly basis. Defra **does not** have permission to gain access to some sites and therefore would support the successful supplier to liaise with Delivery Partners and landowners if fieldwork or ongoing monitoring is required. Positive relationships have been established between delivery partners and landowners and therefore this is unlikely to be a barrier. The majority of delivery partners hold spatial data on sites that can be shared with the successful supplier.

Suppliers are expected to have or obtain data licenses for any data or maps that may be required.

The successful supplier will **not** include trees established through natural colonisation as this method is a small proportion of overall Programme planting and will not be counted towards the Programme's planting targets.

## Outputs

Below is a summary of required outputs, although this list should not stymie additional innovative products. Reports must be produced in line with the Authority's publications and accessibility standards.

1. *Detailed project plan including recruitment and sampling approaches and methods, following an*

*inception meeting.*

2. *Summary monthly progress reports.*
3. *A technical report on the research/indicator development including an executive summary.*
4. *Evidence compendium(s) summarising the research and how it will be used to demonstrate environmental benefits. The evidence compendium(s) will be easy to navigate and be in an impactful style that is succinct.*
5. *Visualisation of the findings (format to be suggested by potential suppliers) and usable for evaluation.*

We expect the evidence compendium(s) and any findings used in the evaluation will be published.

## **Programme of Work and Project Management**

It is important that the activities align with the Programme evaluation. We expect the supplier to provide all outputs to inform the evaluation by September 2024.

Defra will nominate a Project Manager who will be responsible for the day-to-day management of this contract, the relationship with the successful contractor, and will liaise with the Trees and Woodlands Scientific Advisory Group (TAW-SAG) and National Biodiversity team to review the work and ensure it meets our aims and objectives.

The successful contractor will be expected to appoint a Project Manager who will act as the principal point of contact for Defra and who will be responsible for the day-to-day management of the project. Appropriate escalation routes to senior managers must be included in the project bid. Ways of working will be agreed at inception - the contractor will regularly update the Project Manager on project progress for example, via regular meetings, progress reports, and updates when there are any significant issues (as early as possible).

## **Quality management**

The contractor should provide details of the measures that will be taken to manage and ensure the quality of the work. Please include details of the quality assurance policy in place and how this will ensure the quality of the project. The contractor should take note of DEFRA's [quality assurance processes](#).

## **Required skills**

Potential suppliers should provide information about the skills and experience of the project team deemed relevant to the indicator development, which should include but is not limited to:

- Detailed technical knowledge/understanding of any relevant policy landscape
- Technical expertise and experience of modeling / forecasting
- Knowledge of latest publications, data and other relevant information
- Experience of presenting clear written and verbal deliverables
- Project design and management skills to oversee the development and delivery of the project to time, cost and quality criteria
- Specific subject matter expertise in outcome area

## **Ethics and Data Protection**

The contractor should identify any ethical issues relevant to this project and provide details of how any specific risks will be addressed. The successful bidder must comply with all of the requirements of the Data Protection Act 2018 and shall ensure appropriate research consents from interviews or any

data collection. Contractors are responsible for ensuring that all necessary permissions are acquired for the use of data, visuals or other materials through the project that are subject to copyright law, and that the materials are used in accordance with the permissions that have been secured. Contractors are also responsible for ensuring suitable referencing of materials in all project outputs including project data.

The successful contractor must comply with General Data protection regulation (GDPR) and ensure that any information collected, processed and transferred on behalf of Defra will be managed, held, handled and transferred successfully. The successful contractor will be assigned the role of 'Data Processor' for the duration of the contract and Defra will act as the 'Data Controller'.

Contractors should provide a data management plan outlining any specific data security issues related to this project and detailing how these will be managed.

## Intellectual Property Rights

Contained in the Terms and Conditions.

## Evaluation criteria

The criterion for evaluating your proposal is detailed below. The description for sub-criteria should be used to guide your response; however, we welcome additional details.

Table 2:

Criteria	Quality	Price	Social Value
Weighting	60%	30%	10%

## Quality sub-criteria weightings

Table 4:

Sub-criteria	Description	Weighting
<b>What methodology has been proposed?</b>	<p>The supplier has demonstrated a clear understanding of the aims, objectives and main concerns of demonstrating the Programme's impact.</p> <p>The supplier has provided a detailed description of how the outcome areas will be addressed including (but not limited to):</p> <ul style="list-style-type: none"> <li>• details on methods,</li> <li>• data sources (primary / secondary),</li> <li>• how attribution will be addressed,</li> <li>• the scope (site specific / national picture),</li> <li>• any underlying assumptions and limitations,</li> <li>• potential applicability to successor programmes</li> </ul>	40
<b>Are the proposed outputs appropriate for lay audiences? How will outputs be visualised?</b>	<p>The supplier has demonstrated the indicator can be digestible for lay audiences.</p> <p>The supplier has provided infographics and / or visualisations for the evaluation and lay audiences.</p> <p>The supplier has provided innovative or creative solutions to disseminating research findings.</p>	15
<b>What is the suppliers'</b>	There is organisational and individual experience relating to each outcome area.	15

<b>organisational experience? What is the team expertise?</b>	<p>There is strong scientific, technical and statistical expertise or ability to draw on experts.</p> <p>The assigned team is suitable for the project and have a vast amount of experience.</p> <p>Note: Pen profiles should be provided in the response. CVs should be a maximum of 0.5 pages per member of staff.</p>	
<b>How will the supplier enable strong co-ordination across elements of the project and deliver the project on time?</b>	<p>The lead organisation(s) are well equipped to successfully liaise with its partners.</p> <p>There is a suitable approach to project management to support the successful delivery of the project on time.</p> <p>There is a strong team structure and roles and responsibilities are defined.</p> <p>The appropriate governance is in place and clearly explained.</p>	20
<b>How will risk be managed?</b>	<p>The supplier has a suitable approach to performance management and stakeholder management</p> <p>The supplier has a suitable approach to risk management (including risk log and mitigation actions).</p>	5
<b>What quality management, data protection and ethics protocols will be in place?</b>	<p>The supplier has considered ethics and has procedures and protocols in place.</p> <p>The supplier has secure systems in place for data sharing (e.g., cloud-based or other) in line with GDPR requirements.</p>	5
Score	Comment	
100	Excellent - Response that meets the requirements. Indicates an excellent response with detailed supporting evidence and no weaknesses resulting in a high level of confidence.	
70	Good - Response that meets the requirements with good supporting evidence. Demonstrates good understanding.	
50	Acceptable - Response is relevant and acceptable. Meets the requirements – the response generally meets the requirements but lacks sufficient detail to warrant a higher mark.	
20	Poor - Response provides the minimum level of detail to meet the requirements for the first year for which funding is requested and will require further clarity/detail ahead of any further years funding.	
0	Unacceptable - Nil or inadequate response. Failed to provide confidence that the proposal will meet the requirements. An unacceptable response with serious reservations.	

## PROPOSAL

Potential suppliers **must** submit proposals to address all outcome areas.

We will not be providing indicative costs as contractors may adopt different approaches.

**Note: Your proposal should not exceed 25 sides of A4 (excluding the Costs and CVs which can be provided as additional attachments).**

Attachments must not be included unless requested apart from a full cost schedule that presents the task/deliverable against the number of days required, by whom, and associated cost, and CVs.

Do not make or append Caveats and Assumptions in your proposal – any points of uncertainty must be raised as a clarification point prior to submitting the proposal. Where assumptions are to be made, these will be stated by the Authority's Project Manager.

### **Presentation:**

**What methodology has been proposed for Tier 1 indicators, how does it achieve our objectives and how will key limitations be addressed? 60%**

The supplier has clearly set out how their proposed methodology:

- achieves our objectives;
- addresses key limitations;
- provides additional value in comparison to the current indicators in our KPI framework.

**How will the project ensure high quality outputs are delivered on time? 20%**

The supplier has clearly set out how:

- The project will use a collaborative approach
- Both internal and external stakeholders will be involved
- Draft and final outputs will be of a high standard when shared with Defra (this could include but is not limited to internal quality assurance and peer reviews)

**What previous experience can be drawn on for visualising and disseminating outputs? 20%**

The supplier has provided a practical example of how they have delivered innovative solutions for visualising or disseminating research and how that can be applied to this project.

## Annex 3 – Charges

Defined terms within this Annex:

**E-Invoicing:** Means invoices created on or submitted to the Authority via the electronic marketplace service.

**Electronic Invoice:** Means an invoice (generally in PDF file format) issued by the Supplier and received by the Authority using electronic means, generally email

### 1. How Charges are calculated

#### 1.1 The Charges:

1.1.1 shall be calculated in accordance with the terms of this Annex 3

### 2. Rates and Prices



### 3. Currency

All Supplier invoices shall be expressed in sterling or such other currency as shall be permitted by the Authority in writing.

### 4. Variations

The Authority may make reasonable changes to its invoicing requirements during the Term after providing 30 calendar days written notice to the Supplier.

### 5. Electronic Invoicing

5.1 The Authority shall accept for processing any electronic invoice that it is valid, undisputed and complies with the requirements of the Authority's e-invoicing system:

5.2 The Supplier shall ensure that each invoice is submitted in a PDF format and contains the following information:

5.2.1 the date of the invoice;

5.2.2 a unique invoice number;

5.2.3 the period to which the relevant Charge(s) relate;



- 5.2.4 the correct reference for the Contract
  - 5.2.5 a valid Purchase Order Number;
  - 5.2.6 the dates between which the Deliverables subject of each of the Charges detailed on the invoice were performed;
  - 5.2.7 a description of the Deliverables;
  - 5.2.8 the pricing mechanism used to calculate the Charges (such as fixed price, time and materials);
  - 5.2.9 any payments due in respect of achievement of a milestone, including confirmation that milestone has been achieved by the Authority's Authorised Representative
  - 5.2.10 the total Charges gross and net of any applicable deductions and, separately, the amount of any reimbursable expenses properly chargeable to the Authority under the terms of this Contract, and, separately, any VAT or other sales tax payable in respect of each of the same, charged at the prevailing rate;
  - 5.2.11 a contact name and telephone number of a responsible person in the Supplier's finance department and/or contract manager in the event of administrative queries; and
  - 5.2.12 the banking details for payment to the Supplier via electronic transfer of funds (i.e. name and address of bank, sort code, account name and number);
- 5.3 The Supplier shall submit all invoices and any requested supporting documentation through the Authority's e-invoicing system or if that is not possible to: [(**For Defra, NE, MMO & APHA**) Shared Services Connected Ltd, PO Box 790, Newport, Gwent, NP10 8FZ; with a copy (again including any supporting documentation) to such other person and at such place as the Authority may notify to the Supplier from time to time.
- 5.4 Invoices submitted electronically will not be processed if:
- 5.4.1 The electronic submission exceeds 4mb in size
  - 5.4.2 Is not submitted in a PDF formatted document
  - 5.4.3 Multiple invoices are submitted in one PDF formatted document
  - 5.4.4 The formatted PDF is "Password Protected"

# Annex 4 – Tender Submission

## T01 Methodology

### Proposal summary

The Nature for Climate programme requires a series of indicators to evaluate the outcomes directly attributable to the project across five key areas. Because woodland creation and establishment is a long process, the indicators should capture the projected trajectory of benefits. We understand that outcomes from such an ambitious programme must be assessed both in their entirety and summarised across smaller regions and themes of interest.

We propose to develop a suite of indicators that can be scaled from site- to programme level and which reflect the influence that the spatial configuration and context of a planting scheme has on its success. Our approach will assess all sites against a spatial baseline of habitats and ecosystem services. We will refine existing models from the EcoservR tool to meet the specific objectives of this tender (e.g. including a forecasting element). The project will build upon our existing, extensive work in this area: a full baseline for England will be completed by summer 2023 to serve as the base of uplift calculations. The impact of the programme’s planting will be assessed by updating this baseline to reflect the land cover change (woodland creation) and quantifying resulting change in ecosystem services and other metrics.

Our work on evaluating the Trees for Climate programme for England’s Community Forests puts us in a strong position to understand and meet the objectives set out in this tender. Through this project, we have already evaluated the impact of over 650 woodland creation sites for the first two years of the programme. We have developed robust, reproducible workflows to assess the success of the programme against its key performance indicators. We have demonstrated (spatially and as summarised metrics) the change in ecosystem service provision created by the planting. Finally, we have created parametrised reports (R Markdown) and are developing a web portal to communicate outcomes in accessible, digestible and customizable formats (i.e. scale-specific reporting for ward, local authority, the whole community forest).

This proposal describes the development of 13 indicators across the five outcome areas (summarised in **Table 1**).

Table 1. Proposed indicators for the evaluation of the Nature for Climate programme.

### General approach

We will build on our experience evaluating the Trees for Climate programme to develop the indicators required for this project. Our proposed approach is spatially explicit and will cover the whole footprint of Nature for Climate. We will use existing national datasets to inform our modelling and provide nested, site-level to programme-wide estimates of environmental uplift.



Figure 1. The EcoservR approach allows the user to 1- map natural capital assets by using nationally available environmental data; 2- map and measure ecosystem services according to the relative capacity of habitats to deliver services and their spatial configuration; and 3-

produce change estimates by applying land cover interventions and comparing model runs. We propose to augment and customize the approach to obtain spatially explicit, flexible indicators that can be summarised at any desired extent.

Our work with England's Community Forests and other partners such the Environment Agency has led us to map extensive areas of the country in this way, to the point that we are now working towards a unified habitat and ecosystem service baseline for England (70% complete, to be finished summer 2023). This means that we already have a high-quality, standardized baseline against which we can compare all Nature for Climate sites and extract metrics for them, individually and combined. **All the indicators we develop will be applied to all sites, and we will therefore be able to provide the full, national-level picture of the change brought about by the programme.**

**Table 2.** Datasets used to create the environmental baseline and ecosystem service models. Most datasets are freely available on government portals; others are available to public-sector bodies under data sharing agreements.

Dataset	Provider	Licence	Acquisition	Use
MasterMap Topography	Ordnance Survey (OS)	Public Sector Geospatial Agreement (PSGA)	OS DataHub	Forms the skeleton of the baseline map
MasterMap Greenspace	OS	PSGA	OS DataHub	Habitat classification
Open Greenspace	OS	Open Government Licence (OGL)	OS DataHub	Habitat classification
National Forest Inventory	Forestry Commission	OGL	data.gov.uk	Habitat classification
CORINE land cover	European Environment Agency	Open data EU policy 1159/2013	Copernicus portal	Habitat classification
Priority Habitat Inventory	Natural England	OGL	data.gov.uk	Habitat classification
Crop Map of England	Rural Payments Agency	OGL	data.gov.uk	Habitat classification
Elevation (DTM)	BlueSky/GetMapping	Aerial Photography for Great Britain (APGB)	APGB portal	Habitat classification; Flood regulation model
Hedgerows	Rural Payments Agency	Public Sector Geospatial Agreement (PSGA)	By direct request; contact in place	Habitat classification
English Indices of Deprivation 2019	Ministry of Housing, Communities and Local Government	OGL	gov.uk	Demand models; ad hoc analyses
Census data	Office for National Statistics	OGL	ons.gov.uk	Demand models; ad hoc analyses
Local Nature Reserves National Nature Reserves	Natural England	OGL	data.gov.uk	Access to nature model
Public Rights of Way	Councils	Varied	By direct request	Access to nature model
Countryside Rights of Way	Natural England	OGL	data.gov.uk	Access to nature model

EcoservR is a powerful tool but, [REDACTED]. For each indicator below, we describe what outputs can be obtained out-of-the-box as well as how we plan to improve and customise the workflows to address some of these limitations and better meet the objectives of this project. A clear benefit of this approach is that the development of the indicators can be an iterative process rather than starting from scratch, and a first draft of outcomes could be provided very early on into the project.

For each indicator, the general process of measuring the impact of the programme will be as follows:

1. Prepare a detailed **habitat and ecosystem service baseline** for areas of interest (**Figure 2**) (DONE)
2. Model the **change in habitat** resulting from the Nature for Climate interventions. Where spatial data are supplied, we will recode the polygons to the appropriate habitat type (DONE for Trees for Climate, the largest stream of Nature for Climate). Where only a grid reference is available, we will use satellite or aerial imagery to try and delineate the extents of the planting.
3. **Re-run ecosystem service models / indicator workflows** with the updated habitat map

4. **Measure difference** in pre- vs post-intervention scores. This can be done within the site boundaries (site-level net change), within larger units of interest (“cookie-cutter” approach; e.g. ward-level, local authority), using bespoke grouping (e.g. project partners, type of planting), and for the whole programme.

As long as only the programme interventions are modelled onto the baseline map (i.e. surrounding land use changes are ignored), these metrics provide a **change estimate that is directly attributable to the programme**.

**Figure 2.** Close-up view of EcoservR habitat maps illustrating the level of detail, based on OS MasterMap. Polygons are augmented with environmental information from other data layers before being allocated a habitat type (Phase 1 or UKHab classification). This map contains OS data © Crown copyright and database rights 2023. Ordnance Survey 100025252.

## Carbon sequestration indicators

We understand the current CSORT indicator to be state-of-the-art in terms of modelling and likely to give a good estimate of the programme’s success as a whole. We will focus on providing site-level and regional estimates to complement this by further developing EcoservR’s carbon sequestration model. This model uses existing, compiled evidence from Natural England’s *Carbon Storage and Sequestration by Habitat* report<sup>[2]</sup> and simplified estimates from the Woodland Carbon Code<sup>[3]</sup> (also based on CSORT and therefore compatible with the current indicator).

In this model, habitats (not just woodland but all semi-natural habitats) are assigned a sequestration potential in tonnes of CO<sub>2</sub> captured (or emitted) per hectare and per year. We can therefore estimate baseline sequestration for what the land was capturing pre-planting, and subtract this from the forestry estimate. Currently, this model assumes that habitats are mature (fully established) and does not consider the ecological condition of the habitat. Emissions from built-up areas are not included. We propose to add new parameters to our modelling to better align with the Woodland Carbon Code (WCC) and give more robust and temporally variable estimates of sequestration that consider at minimum **tree age and species**, and possibly spacing and yield class where data are available. To allow forecasting over the programme’s milestone dates, planting schemes will be assigned an age and the model will take a target year as a new parameter. The process will involve calculating the cumulative sequestration potential of the trees as they move through the 5-year age brackets defined in the Woodland Carbon Code.

Our modelling generates different estimates for broadleaved, coniferous and mixed woodlands, and this could be further refined to align with the WCC species profiles using the tree species breakdown provided by the client. Where the number of trees planted is provided, we can also calculate spacing to further refine these estimates in accordance with the WCC. If and where yield class information is available for the sites, we will also include this; if not available we will run the models with a conservative and a productive class estimate to generate a bracketed indicator. This approach would reflect the large uncertainties around carbon modelling and produce a result more akin to what would arise from field studies (i.e. an average value with variation around the mean given differences in site characteristics).

**The final indicators** will be calculated for each site, for the whole programme, and for any other pre-defined boundaries or grouping level (e.g. local authorities) to be agreed upon in kick-off meeting (**Figure 3**).

- *Annual sequestration rate at each milestone (tonnes CO<sub>2</sub>e per year)*
- *Total carbon sequestered to date, for the 5-year milestones of the project (tonnes CO<sub>2</sub>e)*

**Figure 3.** The proposed carbon sequestration indicators can be communicated in visual ways. Left: EcoservR map of annual carbon sequestration potential for the Liverpool City Region (negative values indicate sequestration; positive values indicate emissions). Right: mock-up of sequestration over time for regions of interest. These groupings could be spatial (e.g. local authorities) or thematic (e.g. project strand, rural vs urban, etc).

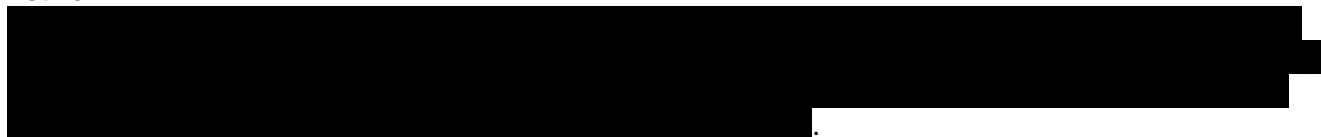
### Example result wording:

- The programme will have sequestered between [min] – [max] tonnes of CO<sub>2</sub> by 2050, XX% more than had the planting not occurred.
- By [year], site A is expected to have sequestered a total of [min] – [max] tonnes of CO<sub>2</sub>.

### Biodiversity indicators

We have expertise in modelling ecological networks using a generic focal species approach[4]. This is a pragmatic approach that does not require population data about any particular species, but rather uses average dispersal ability and habitat size requirements for a hypothetical, representative species of a given habitat. Using our habitat baseline as a starting point, habitat sources are identified, and permeability scores are applied to the rest of the landscape. Permeability is the ease with which species of a given habitat type can move through patches of non-habitat; for instance, it is easier for a woodland species to move to another woodland patch along a hedgerow than along a busy road. Our approach uses a cost distance analysis to identify parts of the landscape within which our focal species can disperse. Planting in strategic areas can link up disjointed parts of the network to provide larger, better-connected habitats.

This method relies on habitats as proxy and does not consider the presence or condition of local populations of any particular species. Habitat condition is not considered, but the size and spatial arrangement of the habitat patches are, with small, disjointed fragments being removed from the network.



**Figure 4.** Example of an analysis for the Trees for Climate programme, where new schemes (yellow points) not only add new habitat but help join up parts of the existing network (dark green) by providing stepping stones (bright green). For instance, we estimated that 42 hectares of planting in Cheshire West and Chester generated a gain of 102 hectares in the woodland ecological network.

Climate change is a pressing global issue and we have been exploring the use of Circuitscape[5] and Condatis[6] to augment our habitat network analyses. Both pieces of software model the *directional* movement of species through a region in a similar manner to our current biodiversity networks. This can further be calibrated to the potential movement of species as a result of a warming climate (e.g. south to north in the UK), and highlight bottlenecks in these migratory pathways. We will run these models across predefined regions within England, and assess the extent to which these **bottlenecks are being alleviated** by the programme. i.e. where planting is providing “escape routes” for species shifting their range northward.

We also have expertise with correlative species distribution models (SDMs) using the R package Biomod[7] or the software package MaxEnt[8]. These models marry species occurrence data with current environmental predictors (e.g. WorldClim variables[9]), producing a bioclimatic envelope for a particular species. We can model the future position and geographic extent of the envelope using a range of climate change scenarios[10] for decadal projections up to 2050. By doing this for a range of rare or ecologically important species, we can generate a **“climate refugia” indicator** assessing where Nature for Climate planting is likely to provide new habitats for range-shifting species.

**The final indicators** will be calculated for each site, for the whole programme, and for any other pre-defined boundaries or grouping level (e.g. local authorities) to be agreed upon in kick-off meeting:

- *Amount of woodland ecological network added (hectares)*
- *Network efficiency (hectares of network created per hectare planted)*
- *Proportion of bottlenecks alleviated by planting (%)*

- *Amount of planting within key species climate change refugia areas (hectares)*

#### Example result wording:

- The programme has added a total of [X] ha of ecological network for woodland species.
- [X] ha of woodland creation in [region A] have added [Y] ha of ecological network area for woodland species.
- In [region A], [X]% of potential bottlenecks to species migration are being alleviated by planting.
- The programme is predicted to add [X] ha of suitable habitat in areas likely to be colonised by [species A] following climate change scenarios.

## Flood mitigation indicators

The current DEFRA indicator (Annex C of bidder's pack) can assess whether planting occurs in areas with identified opportunities for flood reduction, but does not provide a mechanistic way of measuring this benefit. Natural flood management can help "slow the flow" of water, and we can measure the relative capacity of the landscape to do this with our flood risk mitigation model<sup>[11]</sup>. While not a full hydrological model, it considers up to three key features of the landscape to measure this service:

- - **Terrain slope** (obtained from a digital terrain model): steeper slopes have lower water retention capacity
  - **Surface roughness** (using Manning's roughness coefficient which varies for different habitat types): dense, complex vegetation is more effective at slowing the flow
  - **Standard Percentage Runoff** of the soil (optional)<sup>[12]</sup>: more permeable soils can retain more water.

By running this model pre- and post- planting, we can provide a **measure of uplift in the service** (percentage change). We will model change over time (5-year milestones) by adapting roughness coefficients (currently set for established habitats) to represent increasing capacity of woodlands to slow water over time as the root system and forest structure develops<sup>[13], [14], [15]</sup>.

Our work on natural capital opportunities with the Environment Agency has led us to innovate in linking natural flood management with wider ecosystem benefits. Using points of interest such as communities at risk of flooding<sup>[16]</sup> and a digital terrain model, we use a flow accumulation analysis to delineate *upstream contributing areas*, i.e. all land that drain into these points (**Figure 5**). We can then perform summaries within these catchments, and propose as an additional flood mitigation indicator to score all Nature for Climate schemes by **the population they serve within communities at risk**.

**Figure 5.** Upstream contributing area (yellow highlights) for Northwich, a community at risk of flooding (circled in red) in Cheshire. Natural flood management within these catchments could be a way of reducing the risk downstream, and we will quantify how many households benefit from planting as a natural flood management solution.

We can also estimate water storage from woodland planting using a value-transfer approach from the EA's Natural Capital Register and Account Tool (NCRAT)<sup>[17]</sup>. The volume of water stored by woodland (in m<sup>3</sup> per hectare per year) for Great Britain is determined using the Joint UK Land Environment Simulator (JULES) model and floodplain modelling. This estimates flood water absorbed by woodland water use or retained by hydraulic roughness, compared to an alternative cover of short grass<sup>[18]</sup>. This can be applied pre- and post-planting to determine the change in water storage at a broad or site-specific scale.



**The final indicators** will be calculated for each site, for the whole programme, and for any other pre-defined boundaries or grouping level (e.g. local authorities) to be agreed upon in kick-off meeting:

- - *Uplift in flood mitigation capacity after planting compared to baseline (percent change)*
  - *Number of households/people in communities at risk of flooding benefiting from upstream planting within the watershed*
  - *Added quantity of peak flow water storage volume (m<sup>3</sup>)*

#### **Example result wording:**

- The programme will add [X] m<sup>3</sup> of storage volume by 2050.
- On average, site-level flood mitigation capacity will increase by [X]%. The uplift is greatest in [region A; X%] and lowest in [region B; X%].
- [X] ha of the Nature for Climate schemes were planted in the upstream contributing areas of [X] communities at risk of flooding, contributing to additional protection by natural flood management of ca. [X] people.

## Water quality indicators

While it would be difficult to measure changes in water quality during this project, we can assume that certain land cover types have higher susceptibility to erosion, and that urban pollution and agricultural run-off pose threats to water quality. Planting in vulnerable locations such as riparian areas and places where water flows converge during extreme events can help intercept pollutants before they enter a watercourse. We propose a pragmatic approach by which we will adapt the water purification demand model<sup>[19]</sup> from Ecoserv-GIS (not yet translated for EcoservR) to produce a map quantifying the risk of surface runoff water becoming contaminated by fine sediments and dissolved pollutants before entering a watercourse.

This model combines a fine-scale hydrological analysis and a coarser-scale watershed analysis to derive the final risk. The coarser analysis assigns relative, expert-derived erosion scores based on land cover in each watershed, with more urban or more agricultural areas deemed at higher risk. We will use the Water Framework Directive's river waterbody catchments to delineate these watersheds. The fine-scale analysis uses principles of the Universal Soil Loss Equation<sup>[20]</sup>, with the following indicators combined to generate local risk:

- **Land erodibility:** erosion risk based on land cover. Data will be taken from the habitat baseline; a lookup table has been compiled from the scientific literature. We would look to adjust this parameter with a time factor to account for decrease in erodibility as woodlands establish.
- **Soil type:** erosion risk based on soil texture; a lookup table has been compiled from the scientific literature. We have identified NATMAP Topsoil Texture<sup>[21]</sup> as a candidate layer for this.
- **Distance to watercourses:** the risk of pollutants entering a stream is inversely proportional to the distance from it. Calculated using a cost distance analysis to create realistic flow paths (avoiding high topography).
- **Slope length:** slope steepness and length affect the velocity of runoff. This is modelled via a flow accumulation analysis using a digital terrain model.

This model does not consider subsurface flows and only models the risk of diffuse pollution (point-based pollution incidents are not included). The model does not emit predictions for any given

precipitation event but rather gives an overall general risk based on land use, topography, and how water moves through the landscape. It does not provide estimated levels of any given pollutant.

**The final indicators** will be calculated for each site, for the whole programme, and for any other pre-defined boundaries or grouping level (e.g. local authorities) to be agreed upon in kick-off meeting:

- *Risk reduction of water pollution after planting, as percentage change*
- *Weighted version of the above using the Water Framework Directive quality indicators, so that schemes that are reducing risk in areas of known poor water quality are identified as particularly successful.*

#### Example result wording:

- On average, site-level capacity to enhance water quality will increase by [X]% by 2050.
- [X] ha of the Nature for Climate schemes were planted within water catchments of poor water quality. These schemes are expected to improve water quality by [min]-[max]%.

## Air quality indicators

Air quality modelling for the purposes of natural capital valuation tends to group habitats in broad classes that do not lend themselves very well to site-level assessments. For instance, the UK National Accounts has a “woodland” category that does not distinguish between woodland type, let alone species composition. It is generally accepted that conifers exert a slightly stronger removal effect due to their leaf surface and (usually) non-deciduous foliage; further species characteristics can influence ability to trap pollutants[22].

EcoservR’s air purification model produces heatmaps (**Figure 6**) showing the relative capacity of vegetation to remove airborne pollutants and implements a scoring system which does differentiate between broadleaved, coniferous and mixed woodland. By running the model pre-and post- planting, we can get an estimate of **relative change (uplift)** in the provision of this ecosystem service attributable to each of the programme’s sites.

We propose to further develop this model to incorporate:

- **Tree age and species:** we will do a literature review to assess how the capacity to provide this service varies during a tree’s life based on canopy development[23], so that we can forecast more accurately over the programme’s milestones.
- **Biophysical calibration:** currently the model outputs relative scores, but we will look to adapt this to output a quantity of pollutants removed instead (PM2.5, PM10, SO<sub>2</sub>, NH<sub>3</sub>, NO<sub>2</sub>, O<sub>3</sub>). This is the approach taken (although at the coarser, national level) by tools such as the EA’s Natural Capital Registers and Accounts tool (**Figure 6**). We will review the quality of species-level information that has already been compiled elsewhere, such as the i-Tree tools[24] to refine the NCRAT model to at least consider different woodland types (conifer vs broadleaf).

The change analysis pre- vs post- planting could then be overlaid onto emission maps (e.g. National Atmospheric Emissions Inventory maps) to identify where the sites are most benefiting their environment (meeting a need). This analysis can be done contrasting urban and rural sites to address the specific interest of the client. This will only be done using current emission levels, as projecting the change in demand (air pollution levels) over time would depend on too many factors to provide reliable projections.

**Figure 6.** Quantity of PM2.5 pollutants removed in tonnes per year (left) as determined by the EA’s Natural Capital Register and Account Tool and EcoservR’s relative pollutant removal capacity map (right) with 100 being high capacity and 0 being low capacity. Both maps show pollutant removal over the Liverpool City Region Combined Authority area. We will combine the strengths of the two approaches to provide an indicator that outputs biophysical values (NCRAT) while accounting for different types of woodland (EcoservR).



**The final indicators** will be calculated for each site, for the whole programme, and for any other pre-defined boundaries or grouping level (e.g. local authorities, urban vs rural) to be agreed upon in kick-off meeting:

- Pollutant removal (as percentage change and mass of pollutants per unit area and per year)
- Weighted version of the above using areas of high pollution for each pollutant type so that schemes that are reducing risk in areas of known poor air quality are identified as particularly successful.

**Example result wording:**

- On average, site-level capacity to enhance air quality will increase by [X]% by 2050.
- Planting in urban areas is expected to remove [X] tonnes of [pollutant type].
- [X] ha of the Nature for Climate schemes were planted within areas with the bottom 10% air quality in the country, capturing [X] tonnes of [pollutant type].

## Additional indicators

The brief to bidders contained a question around considering negative impacts, and Annex C (of bidder's pack) described outcomes beyond the five areas covered so far. We are suggesting the following indicators as a complement to those described above, as we feel they would add great value utilising efficiencies from the development of the other indicators and our previous work with the Trees for Climate programme. Indeed, we already have workflows established for all of these metrics and can provide them with very little additional work.

### *Trade-off indicators*

For a more complete picture of the benefits (and potential trade-offs) arising from the programme, we offer to run the **full suite of ecosystem service models** from EcoservR. These extra services are:

- Local climate regulation (heat island effect mitigation)
- Noise regulation
- Access to nature
- Pollination
- Food production

Like all other indicators, these can be calculated for each site, for the whole programme, and for any other pre-defined boundaries or grouping level. To deliver this efficiently, we would not adapt those to factor to consider a temporal element, but rather give a 2050 estimate of benefits (established woodland).

### *Access indicators*

We also propose to generate **socio-economic access estimates** to refine Outcome 3 (Annex C of bidder's pack) by applying woodland-focused metrics inspired by the Accessible Natural Greenspace Standards<sup>[25]</sup> (ANGSt) and the Woodland Access Standard<sup>[26]</sup>. Criteria can be refined with the client and could for instance look like:

- Everyone should have access to a woodland of any size within 500m of their home
- Everyone should have a woodland over 20 ha in size within 4 km of their home

In our work with the Community Forests, we have used the Woodland Trust's *Woods for People* layer identifying accessible woodland and applied the criteria above in a GIS analysis. The metrics we can provide are:

- Number of households gaining access as a result of the programme (i.e. were previously failing the standards)
- Number of households within accessible distance of each scheme
- Metrics above, but reported by decile of deprivation (English Indices of Deprivation)

## Attribution and net impact

Our approach will provide estimates of change directly attributable to the programme, as we are proposing to use a static habitat baseline (“snapshot”) into which we will only embed the programme’s interventions. This has the benefit of isolating the effects of the programme from confounding factors (natural succession, land development, and other land-use changes), keeping in mind that the realised outcomes by 2050 may end up being greater or weaker depending on how the surrounding land changes and interacts with the programme’s provision of benefits.

A strength of our proposed spatial approach is that it does not only consider the amount of habitat created, but also **how its configuration interacts with existing features** in the landscape (and how the land use it replaced used to interact with its surroundings). This means that our models are not deterministic like a habitat-service scoring matrix, where a certain amount of habitat creation will always yield the same outcome. On the contrary, our uplift calculations show that woodland creation can yield minimal to important benefits depending on the spatial context (**Figure 7**). For this reason, we are confident that our outputs provide more robust, accurate and nuanced measures than non-spatial approaches.

**Figure 7.** Projected site-level uplift for around 90 Trees for Climate planting sites for a Community Forest, calculated with the EcoservR tool. Baseline scores show that planting occurred in sites of both high and low existing capacity, and scores can increase by small to large amounts depending on the spatial context and how the planting interacts with landscape features.

The range of indicators we propose will help the programme assess its success against targets and should make evident the multiple benefits brought about by woodland creation. The supplementary indicators we have suggested (wider ecosystem service assessment, ecological networks beyond woodland) can help provide a more nuanced picture to acknowledge the fact that any habitat creation includes trade-offs, and some of these indicators could show decreases. For instance, there could be local decreases in food production where planting occurs on arable land, and parts of previous ecological networks for e.g. grassland or woodland species could become disconnected with new woodland acting as a barrier. Our experience with Trees for Climate suggests that these impacts are small as planting is usually conducted on marginal/unproductive land and local records centres are consulted to assess the presence of sensitive species.

Finally, using national datasets and a consistent baseline (which we already have produced for England) will allow to assess every site using the same evidence and assumptions, rather than being limited by local data availability and inconsistencies in data collection protocols, age and quality.

## Applicability to successor programmes

This is a multi-scale analysis that uses nationally consistent yet richly detailed mapping. We therefore envision that this approach could be applied to other large, ambitious national programmes such as ELMs (e.g. measuring the total impact of agri-environmental interventions in the different tiers or across years) or similar.

As an academic group, we are committed to providing innovative solutions that generate impact and provide real-world benefits. We are working hard to make EcoservR as transparent and user-friendly as possible. The code base is open-source and available for anyone to use and adapt, and we are currently working with beta-testers and producing user guides ahead of an official release later this year. We are also exploring various training formats (video tutorials, hands-on workshops) through

our Natural Capital Hub to upskill analysts across organisations so that they can carry out their own assessments in-house.

Finally, we are partnering with NatureScot to develop an Application Programming Interface (API) which would allow web mapping applications to send queries to, and receive results from EcoservR. An end user without any GIS or programming skills could therefore draw or upload interventions onto a web portal and request an uplift calculation at the click of a button. We hope that in a few years' time, a successor programme could even leverage the power of EcoservR at the decision-making rather than at the reporting stage, using projected uplift to design interventions that provide the most benefits for people and nature.

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[1] We develop and maintain EcoservR, which is a re-write of [the EcoservGIS toolkit](#).

[2] [Natural England Carbon Storage and Sequestration by Habitat](#)

[3] [Woodland Carbon Code Project Carbon Sequestration Calculator](#)

[4] [Watts et al. 2010](#), Targeting and evaluating biodiversity conservation action within fragmented landscapes: an approach based on generic focal species and least-cost networks

[5] [Anantharaman et al. 2020](#), Circuitscape in Julia: High Performance Connectivity Modelling to Support Conservation Decisions

[6] [Hodgson et al. 2012](#), The speed of range shifts in fragmented landscapes

[7] [Thuiller et al. 2014](#), Package biomod2

[8] [Phillips et al. 2006](#), Maximum entropy modelling of species geographic distributions

[9] WorldClim [bioclimatic variables](#)

[10] [Pearson and Dawson 2003](#), Predicting the impacts of climate change on the distribution of species: are bioclimate envelope models useful?

[11] Adapted from Ecoserv-GIS [water purification](#) model

[12] This would require access to the CEH's Hydrology of Soil Types layer which is costly (> £35k for the country) – discussion to be had with client as to whether this can be obtained through a Defra/CEH agreement

[13] [Archer et al. 2014](#), Natural Flood Management: Does the age of forest influence flood mitigation?

[14] [Dixon et al. 2018](#), A conceptual model of riparian forest restoration for natural flood management

[15] [Revell et al. 2021](#), Modelling the Hydrological Effects of Woodland Planting on Infiltration and Peak Discharge Using HEC-HMS

[16] Environment Agency's Indicative Flood Risk Areas: [Communities at Risk](#)

[17] Environment Agency's [NCRAT tool](#)

[18] [Valatin et al. 2018](#), Valuing flood regulation services of existing forest cover to inform natural capital accounts

[19] Ecoserv-GIS [water purification](#) demand model

[20] More about the [Universal Soil Loss Equation](#)

[21] Land Information System [Topsoil Texture](#); licensed but possibly free for Crown Users.

[22] EcoservGIS [air purification technical guide](#) and references therein

[23] [Beckett et al. 2012](#), The capture of particulate pollution by trees at five contrasting urban sites

[24] USDA Forest Service [i-Tree tools](#)

[25] Natural England's [Accessible Natural Green Space Standards in Towns and Cities](#)

[26] Woodland Trust's [Space for People](#) policy paper

## T02 Dissemination (please see supporting evidence attached in Q8.6 -titled T02 Dissemination)

We will use interactive analytical tools to provide layered, tailored information to end users such as the Nature for Climate evaluation team, project partners (local authorities, England's Community Forests, the Woodland Trust, etc), and the general public. Our team has expertise using **parametrised reporting (R Markdown)** and **interactive dashboards (R Shiny)** to communicate results in clear and impactful ways.

Our **supporting document (Markdown report)** illustrates how we reported on natural capital outcomes arising from the Trees for Climate programme at the local authority level. Once the template was created, the analysis was run separately for around 60 local authorities, providing bespoke reports that the Community Forests can use to engage locally with their partners. These reports are provided in HTML format, which means they will open in any web browser, and have the advantage (unlike standard PDF reports) of embedding interactive functionality such as map panning/zooming and collapsible tabs to provide a rich yet clutter-free reading experience. The reports received excellent feedback and we propose to adapt them to cover all indicators for Nature for Climate, including:

- Headline figures for each indicator (e.g. X tonnes of carbon sequestered annually)
- Separate sections for each indicator with interpretation of results in simple language
- Transparent summary of methods and calculations
- Map and table breakdowns where appropriate (e.g. location of schemes in upstream areas of communities at risk of flooding; amount of airborne pollutants removed by each scheme in a region, or by each region in the programme)
- Glossary section with definition of technical terms
- Full list of data sources

The reports can be produced for any grouping level or geographic extent agreed upon at the inception meeting. This could include:

- Regional reports (e.g. North West, East Midlands, etc)
- Reporting by project (e.g. Trees for Climate, Northern Forest, etc)

We propose that these reports could be generated and downloaded via an **interactive web dashboard (R Shiny)** which would additionally showcase the breadth and spread of Nature for Climate schemes and serve as an outreach tool. The dashboard could be augmented with local information where available (e.g. photographs), and clicking on a scheme on the map view would bring up the indicators for this specific site (possibly contrasted against the regional/national average). We have created a similar portal (**Figure 8**) to bring together monitoring data for the Urban GreenUP<sup>[1]</sup> programme in Liverpool.

As an academic institution, we strongly believe in transparent, reproducible research and are willing to share all analysis and app code developed for this project either openly (e.g. via GitHub) or with the appropriate project partners where there are any licensing or data privacy considerations. We will provide guidance for DEFRA to take over the maintenance of the app long-term if desired.

**Figure 8.** Data dashboard created by our team to present results of the Urban GreenUP programme. The interactive map viewer contains images, descriptions, and data summaries of the various monitoring strands of the project. A dropdown menu allows the user to view the project KPIs summarised at the project level, by each of the 3 programme's regions, or by type of intervention (tree planting, water features, etc).

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[1] [Urban GreenUP](#) is a EU-funded nature-based solutions programme for which Liverpool was one of three front-runner cities.

### Organisational Experience

The Natural Capital Hub team at LJMU brings years of experience, technical expertise, and academic rigour in developing natural capital metrics. We have conducted this work with a range of partners including government agencies, local and regional government, and conservation NGOs to inform policy, decision making and markets. We have experience of developing portals and dashboards to allow outputs to be shared in a way that can be understood by different users. We are also well embedded within the policy landscape of nature recovery, natural capital, climate resilience and the green economy, leading initiatives such as Nature North and working with local government, government agencies and with Nature for Climate Tree Planting partnerships, the Community Forests, and the Northern Forest. We bring significant expertise in knowledge exchange, supporting stakeholders in understanding the benefits of nature recovery and building a natural capital approach within their organisations. We seek to demonstrate this based on selected project examples and our profiles below, as well as our CVs (attached to the submission titled *Team CVs LJMU*).

#### *Trees for Climate Evaluation*

We have supported the Community Forests in their annual reporting of natural capital outcomes for year 1 and year 2 planting and are contracted to continue doing so until 2025. Using national datasets and EcoservR, we can identify environmental net gain from woodland creation both planned and delivered. We have been calculating and reporting outcomes for a range of geographical scales (e.g., site, local authority area, national) and time scales (planting seasons). These outcomes will be available for the Community Forests to view via a web-based application, enabling them to track natural capital benefits from new woodland establishment against a baseline for each forest over time. Our method summarises multiple benefits such as carbon uptake, improved access to nature and flood regulation, and the workflows we developed in this project have efficiencies for the work set out in this proposal.

#### *Mapping natural capital opportunities for the Environment Agency's Northwest and Eastern Hub*

The Environment Agency are looking to consider natural capital opportunities when assessing the suitability of candidate flood mitigation projects. In a first phase, we produced a spatial natural capital baseline for Greater Manchester, Merseyside, and Cheshire, and used supply and demand maps as well as ecological network modelling to identify areas with opportunities to enhance ecosystem services, biodiversity, or both. These outputs were integrated in the EA's Northwest Opportunities internal toolkit, and we are now expanding the approach to Cumbria and Lancashire, as well as replicating the project for the Eastern Hub of the Agency. This means that different teams can all use the same consistent approach to identify opportunities to deliver multiple benefits alongside providing flood reduction. As part of the next phase, we are also exploring training options, and using hydrological modelling to identify opportunities for areas upstream of communities at risk to encourage the development of natural flood management schemes where they are most needed.

#### *Embedding Natural Capital within the Liverpool City Region*

We led the development of a natural capital baseline for the Liverpool City Region (LCR) to facilitate the inclusion of natural capital within decision making and policy. The baseline includes an asset map and register, ecosystem service maps for capacity and demand, and an economic valuation of benefits. It has been used for strategic planning within the region by measuring uplift of proposed interventions and by mapping areas with low ecosystem service



provision and/or high demand to identify opportunities. These analyses have informed projects at various geographic extents, from site scale (e.g., an LCR Beacon Project - Heath Park redevelopment project), to city region extent. Local authorities have been able to utilise this data to identify areas for habitat creation and aid planning for Biodiversity Net Gain requirements. Further work to embed the baseline assessment within the local Spatial Development Strategy<sup>28</sup> was shortlisted as a finalist in the Planning for the Natural Environment category of the Royal Town Planning Institute (RTPI) awards.

#### *More from Trees*

This Green Recovery Challenge Fund project from the Mersey Forest has allowed us to develop a training and outreach aspect to the hub which aims to further embed natural capital approaches. Through partner interviews, we have identified knowledge gaps within the sector in areas such as natural capital finance, upcoming policy, and mapping approaches. We are addressing this through bespoke training courses, such as our afternoon of Natural Capital Literacy Training for planning officers from each of the local authorities within the LCR (January 2023), and the development of resources for wider dissemination. Through this project, we are engaging with local schools and colleges, as well as embedding our work into teaching at LJMU, introducing concepts of natural capital and green careers. The development of our portals (Shiny applications) has allowed for the translation of our work to stakeholders and students in a user-friendly format.

#### *Doubling Nature Investment Readiness Project*

The Bollin IRF set out an ambition to double nature in the Bollin Catchment by attracting private investment alongside available grant funding from Nature for Climate. Using an EcoservR approach, we identified the areas that would have the greatest impact in terms of meeting multiple benefits, producing heat maps that pinpoint where investment could lead to multiple ecosystem services benefits. We demonstrated that the natural capital opportunities across this catchment were such that it would be possible to double the nature value by investing in projects supportable by woodland creation grant and biodiversity net gain. The project will provide a model which can be scaled up and rolled out in locations across the UK.

#### *Leading Nature North*

Since November 2020, hub lead Dr Colm Bowe has been seconded (0.6 FTE) to lead Nature North. Nature North is a collaboration of environmental organisations seeking to drive green growth and climate resilience through nature recovery at scale across the North of England. Nature North is working to embed nature and its benefits with policy and decision making across the North of England, drive further investment into Nature Recovery through a set regional-scale investable propositions, and drive collaboration across organisations with a material interest in nature recovery. The Investable Propositions include two across regional programmes for nature recovery, the Northern Forest, and Great North Bog, and five new propositions drawn from different thematic areas of the natural environment. Nature North are also working to support data availability and governance through collating a spatial database for nature recovery across the North of England. All of this will be brought together to develop an Investment Plan for Nature Recovery for the North of England by spring 2025.

#### *Team Expertise*

**REDACTED**

REDACTED

REDACTED

REDACTED

## T04 Project Management 2 pages

All work on this project will be carried out by Liverpool John Moores University. The Natural Capital Hub team have considerable experience working together on similar projects (e.g. Trees for Climate evaluation for the Community Forests). Through these we have developed workflows for effective and efficient working and communications that will be applied to this project. The team will be supported by central support teams within the university on areas such as finance, IT, ethics and contract management etc.

### Project Management Roles

**Project Lead:** The project will be led by REDACTED. REDACTED will have project oversight and overall decision making within the project. REDACTED will manage the project team and will engage with DEFRA in this lead role. He will work to resolve any projects issues either technical, finance or scheduling related if these cannot be resolved by the team.

**Technical Lead:** REDACTED will act as technical lead for the project. REDACTED will lead on the day-to-day development of the baseline, metrics and dissemination material. In addition, she will carry out the majority of activities on developing the carbon, air quality and additional (tradeoff) indicators. She will lead on the Shiny app development to support the dissemination activities. REDACTED will address any technical queries from DEFRA in the first instance.

**Technical Support:** REDACTED will support the technical aspects of the projects. He will carry out the majority of activities relating to developing the biodiversity, flood mitigation and water quality indicators. He will also lead on the development of the digital Markdown reports to support the dissemination activities.

**Project Manager:** REDACTED will act as LJMU project manager and be the daily point of contact for the Defra project manager. REDACTED will manage the project finances and the project scheduling and progress. She will be supported by the LJMU finance department and business management teams including Head of Knowledge Exchange & Commercialisation REDACTED. REDACTED will address any finance or project management questions from DEFRA in the first instance.

### Project Management processes and timeline

A project progress dashboard will be developed to monitor progress against the main indicators. A traffic-light system will be used to mark progress and identify blockers within each activity. Potential risks will be identified and monitored throughout the project in weekly meetings against each work area. This will be shared with DEFRA ahead of monthly meetings and made available through a shared workspace. The project team will meet every week to discuss progress and address any project obstacles. Project outputs will be produced as set out in the tender (Annex 1 of the bidders pack) and delivered based on the dates within the Gantt Chart below (**Figure 9**). Indicators will be developed by March 2024 to allow us to feed into the Nature for Climate interim evaluation report. We will then apply the indicators on a national scale to support the full programme evaluation process.

**Figure 9.** Gantt Chart mapping setting out time management for project activities and outputs. Activities are marked in yellow and outputs in blue.



## T05 Risk Management 2 pages

### Approach to performance management

Performance within the project will be monitored through the project management processes described in T04. A traffic-light system will be used to identify progress and flag blockers within each activity. Potential risks will be identified and monitored throughout the project in weekly meetings against each work area. Any delay in meeting identified milestones will be brought to DEFRA's attention as soon as possible by the LJMU team lead, project manager or appropriate team member. Resolution of the issue will be discussed at the earliest time and at the latest by the next weekly meeting. Suggested resolutions will be discussed with the DEFRA project manager as early as possible and any performance issue will be brought to the next regular meeting with the DEFRA team. Any change in delivery of milestones and outcomes will be discussed and agreed with the DEFRA project manager and team.

### Approach to stakeholder management

The LJMU Natural Capital hub team have considerable experience working with stakeholders including government bodies and those involved in the Nature for Climate programme. Through our work on Trees for Climate we have established a strong working relationship with the Community Forests and with staff members at DEFRA. Through our wider work we engage with a range of stakeholders across the environmental sector and those with a material interest in nature recovery. We look to be as open and transparent as possible with stakeholders in sharing our approach and progress. We are keen to work in a way where we transfer knowledge and build the capacity of those we work with. We seek to ensure that the tools and data we deliver can and are utilised beyond the length of the project, for instance by providing appropriate training and guidance, sharing data and code, and providing user-friendly outputs like interactive reports and dashboards to complement the technical work. We seek to build relationships that allow us to work with stakeholders for significant periods of time. For example, we have been involved with the Liverpool City Region Combined Authority since 2019 supporting the embedding of a natural capital approach across the region. We follow LJMU's procurement policies ensuring fair and resilient supply chains, aligning to the Universities sustainability and net zero action plan and targets. We look to treat everyone we work with fairly and equally. We proudly work to LJMU's [Ethics Policy Framework](#) and [Diversity and Inclusion Policies](#). We promote an environment where everyone can be their true self and are treated with dignity and respect.

### Risk Log

Risk	Likelihood of impact HML	Impact	Level of Impact HML	Mitigation
<b>Team member leaves or goes off sick long term</b>	Medium	Reduction in staff resources – may slow progress	Medium	We will re-allocate staff across the team and recruit new staff members. Temporary staff will be employed in the short term though temp agency if required.
<b>Reintroduction of COVID – 19 restrictions</b>	Low	Staff unable to attend the office and in person meetings	Low	All organisations in the team are set up for home working. Meetings will be online.
<b>IT failure</b>	Low	Project activities delayed	Low	Staff all have access to new, high-quality IT equipment. LJMU can provide virtual high-

				<p>powered machines that can be accessed from any laptop. The team works with version control protocols and performs regular backups. All workflows are scripted (automated) to minimise manual steps – any lost or corrupted outputs can be re-created by re-running the scripts.</p>
<p><b>Delayed availability on planting data</b></p>	<p>Medium</p>	<p>Delay in project outcomes</p>	<p>Low</p>	<p>Work plan modified to accommodate for delay in data being received.</p>

## T06 Quality management, data protection and ethics 1 page

The approach at the core of our proposed methodology is supported by scientific literature. As an academic institution, it was the robustness and transparency of the Ecoserv-GIS tool that attracted us to this approach and led us to redevelop it as EcoservR. While we have updated some processes, the fundamental scientific principles and extensive academic literature which underpin the tool are still valid and state-of-the-art. The workflows and evidence are rigorously documented in the original Ecoserv-GIS guidance<sup>[1]</sup>. This guidance was produced for and reviewed by NatureScot, Scotland's nature agency.

We have been applying the EcoservR approach within partnerships with other DEFRA-family members such as the Environment Agency and with DEFRA-funded programmes, for example through the evaluation of the Trees for Climate programme. Ecoserv-GIS has also been assessed against other tools and reviewed within academic literature<sup>[2]</sup>. At LJMU we have run a validation assessment of the natural capital asset map using field survey data (in preparation for submission to a peer-review publication). Any amendments to the models that we propose to apply within this project will be supported by academic literature and fully documented within an evidence compendium.

The quality of spatial datasets can vary in terms of coverage, location accuracy, resolution, and age. For our approach, we prioritise datasets with national coverage, so that the baseline is spatially consistent and using the same pool of evidence to assess all sites. The layers we use are all developed by well-recognised organisations such as Ordnance Survey (OS) or DEFRA family bodies and are available from the OS and government data portals (data.gov.uk). These datasets are available to public bodies and their contractors through Public Sector Geospatial Agreement (PSGA), Aerial Photography for Great Britain (APGB) or as open data through Open Government Licence. We will ensure all licencing is in place and ensure we only share with people who are authorised to view. We will adhere to guidelines set out by DEFRA's [quality assurance processes](#). Through our work with England's Community Forests we already have performed quality control on the Trees for Climate spatial data for Years 1-2 and are continuing to work with the Forests to improve quality and consistency of the data they submit to assess the schemes.

We do not plan on using any personal identifiable data within the project. However, the project will be carried out in strict adherence with [Liverpool John Moores University Data Management Policy](#). Currently, all project data are stored on LJMU One Drive as per the university's data storage guidelines. We are exploring the use of a Trusted Research Environment with Amazon Web Services and the University: this would act as a secure data store and collaborative working environment for the team.

We do not see any ethical concerns related to the project. We will follow LJMU [Ethics Policy Framework](#) and [Diversity and Inclusion Policies](#). We will promote an environment where everyone can be their true self and are treated equally and with dignity and respect.

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[1] Winn, J.P., Bellamy, C.C. & Fisher, T. 2018. EcoServ-GIS: a toolkit for mapping ecosystem services. [Scottish Natural Heritage Research Report No. 954](#).

[2] [Vorstius and Spray 2015](#). A comparison of ecosystem services mapping tools for their potential to support planning and decision-making on a local scale.

## Sustainability


Liverpool John Moores University is committed to delivering solutions to the challenges of the 21st century through world-class research, education and innovation. Our institution sits in the top third of universities in the [People and Planet League](#) and is a member of [Universities Climate Network](#). The work of the Natural Capital Hub contributes to LJMU's strategic plan, supporting the university's sustainability ambitions and addressing the ecological and climate change emergency as part of its civic mission. Since declaring a climate emergency in 2020, LJMU has committed to [achieving net zero for scope 1 and 2 emissions by 2035](#). Our Climate Action Plan, published last year, sets out the four-phase approach we will take to achieve this, as well as the steps needed to meet targets for each phase (Figure 1). This action plan applies the 'Climate Action Toolkit for the Higher Education Sector', preparing staff and students to act responsibly in a changing world and working towards climate and social justice, and protected biodiversity.



*Figure 1. LJMU Climate Action Plan Timeline*

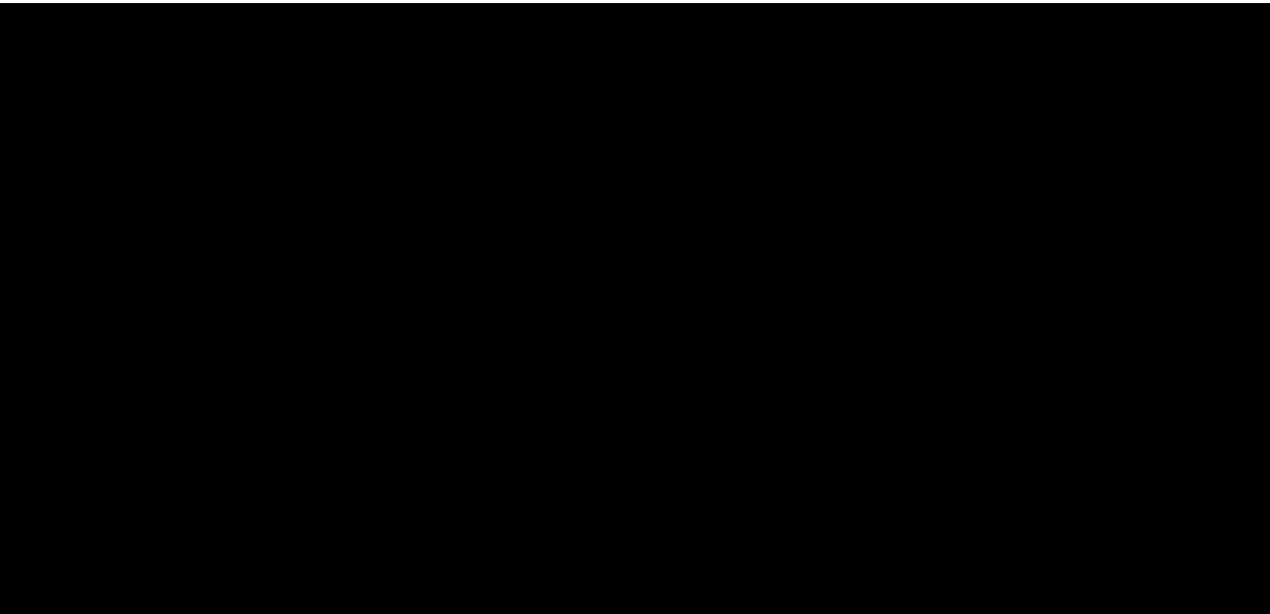
Although we have no direct supply chain for this project, we recognise that our actions will ultimately have a lasting impact. We will ensure that decisions made by the team will reduce our environmental footprint. This will include cutting unnecessary travel and encouraging remote working where possible, taking steps to reduce energy consumption (e.g., decreasing screen brightness, turning off monitors when not in use), and ensuring sustainable/ethical acquisition and disposal of goods through LJMU Procurement Services.

For years we have been carrying out knowledge transfer and capacity building around Merseyside and more widely, ensuring that our academic work translates into real-world impact with positive outcomes for people and nature. Through activities such as establishing, running and chairing the Liverpool City Region Natural Capital Working Group, we have contributed to the embedding of a natural capital approach within planning and policy making. More recently, supported by a Green Recovery Challenge Fund grant, we have been developing and delivering training and outreach activities to improve natural capital literacy across sectors and boost vital green skills. Our work in the Liverpool City Region and more widely in the North of England promotes data sharing between partners, leading to better decisions for nature and contributing to the region's target of net zero by 2040. Other work with Nature North, the Environment Agency and the Community Forests has also allowed us to work with a range of partners to support nature recovery at scale. The work through this tender will further enhance our networks and reach, allowing us to continue to support such activities. We recognise the role we can play in delivering a pipeline of green skills across a range of career stages. To meet LJMU's aim to provide students with a transformational university experience, we must ensure students are equipped for a green growth-based economy. The Natural Capital Hub carries out school visits to engage students with the concept of natural capital from an early age and to advertise the routes we offer through our courses. Additionally, for our current students, we have liaised with teaching staff within LJMU to assist in the development of course content around natural capital and nature-based solutions. Our EcoservR mapping tool has been introduced to Masters students through the development of a bespoke interactive dashboard (R Shiny). To increase opportunities for students, we have linked partner organisations from across the region with our employability team resulting in a greater offering of green internships. Our LJMU-funded 'Discovery Internships' help to support local small and medium-sized enterprises and charities, as well as students' career progression. Our own team members are encouraged to pursue projects within their own areas of interest and take time to expand their skillset. We have core funding to support professional development such as participation in conferences and specialist training courses.



*Figure 2. A pipeline of green skills and the various ways LJMU can provide opportunities for development.*

As an educational institution, we value open and collaborative work. We will share all analysis and app code developed for this project either publicly (e.g. via GitHub) or with the appropriate project partners where there are any licensing or data privacy considerations. We aim to innovate in terms of data sharing and communication, producing user-friendly, interactive analytical tools to provide tailored information to end users. These attractive, digestible outputs allow the key results of complex analyses to be shared clearly and in an impactful way and can facilitate further outreach opportunities. Our actions will align with LJMU's [Equality, Diversity and Inclusion Priorities and Action Plan](#) and we will continue to contribute to the reporting of outcomes relating to this plan where appropriate. We will work proactively within the university community to embed equality, diversity and inclusivity practices towards our current staff and for any future recruitment into the team.



# Annex 5 – Sustainability

Annex 5 [Enhanced]

## Annex 5 – Sustainability

### 1. Sustainability

- 1.1 The Supplier must comply with the Authority's Sustainability Requirements set out in this Contract. The Supplier must ensure that all Supplier Staff and subcontractors who are involved in the performance of the Contract are aware of these requirements in accordance with clauses 8.1 (c) and 13.2.
- 1.2 The Authority expects its suppliers and subcontractors to meet the standards set out in the Supplier Code of Conduct in accordance with clause 13.1(c).
- 1.3 The Supplier must comply with all legislation as per clause 13.1.
- 1.4 The Supplier shall ensure that any Goods or Services are designed, sourced, and delivered in a manner which is environmentally and socially responsible, always consistent with best practice environmental management and social standards, policy, and compliant with clause 1.3
- 1.5 The Supplier is expected to achieve continuous improvement in environmental and social performance.

### 2. Human Rights

- 2.1 The Authority is committed to ensuring that workers employed within its supply chains are treated fairly, humanely, and equitably. The Authority requires the Supplier to share this commitment and to take reasonable and use reasonable and proportionate endeavours to identify any areas of risk associated with this Contract to ensure that it is meeting the International Labour Organisation International Labour Standards which can be found online - [Conventions and Recommendations \(ilo.org\)](https://www.ilo.org/) and at a minimum comply with the Core Labour Standards, encompassing the right to freedom of association and collective bargaining, prohibition of forced labour, prohibition of discrimination and prohibition of child labour.

2.2 The Supplier must ensure that it and its sub-contractors and its [or their] supply chain:

#### **2.2.1 pay staff fair wages and**

- 2.2.2 implement fair shift arrangements, providing sufficient gaps between shifts, adequate rest breaks and reasonable shift length, and other best practices for staff welfare and performance.**

### **3 Human Rights - Modern Slavery, Child Labour, Inhumane Treatment**

- 3.2 The Supplier must ensure its Supplier Staff and its sub-contractors and its [or their] supply chain comply with the provisions of the Modern Slavery Act 2015 including Section 54 of the Act which requires certain organisations to publish annual modern slavery statements.

### **4 Equality, Diversity, and Inclusion (EDI)**

- 4.1 The Supplier will support the Authority to achieve its [Public Sector Equality](#) Duty by complying with the Authority's policies (as amended from time to time) on EDI. This includes ensuring that the Supplier, Supplier Staff and its subcontractors in the delivery of its obligations under this Contract:
- 4.2.1 do not unlawfully discriminate either directly or indirectly because of race, colour, ethnic or national origin, disability, sex, sexual orientation, gender reassignment, religion or belief, pregnancy and maternity, marriage and civil partnership or age and without prejudice to the generality of the foregoing the Supplier shall not unlawfully discriminate within the meaning and scope of the Equality Act 2010;
  - 4.2.2 will not discriminate because of socio-economic background, working pattern or having parental or other caring responsibilities;
  - 4.2.3 eliminates discrimination, harassment, victimisation, and any other conduct that is prohibited by or under the Equality Act 2010;
  - 4.2.4 advances equality of opportunity between people who share a protected characteristic and those who do not;
  - 4.2.5 foster good relations between people who share a protected characteristic and people who do not share it;
  - 4.2.6 identifies and removes EDI barriers which are relevant and proportionate to the Contract; and
  - 4.2.7 shall endeavour to use gender-neutral language when providing the Deliverables and in all communications in relation to the Contract;
- 4.3 The Supplier is responsible for;
- 4.3.1 ensuring that it shows due regard for EDI, including within its policies, programmes, projects, and processes and work carried out on its behalf to meet Contract deliverables; and
  - 4.3.2 how it creates and maintains a diverse workforce.
- 4.4 The Supplier must take all necessary steps, and inform the Authority 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) in the performance of the Contract.

## **5. Environment**

5.1 In this section, the following term has the following meaning:

“Net zero” means the balance between the production of man-made greenhouse gases (GHGs) from sources (such as burning fossil fuels, deforestation and refrigerant gases) and the capture in “sinks” ( for example, forests, soil, the ocean and negative emission technologies (NETs).

5.2 The Supplier must have a documented management system and controls in place to manage the environmental impacts relevant and proportionate to the Contract.

5.3 The Supplier must consider and reduce sustainability impacts which are relevant to the Contract in accordance with 5.2. Without limitation to the generality of paragraph 1.3 of this Annex, when performing its obligations under the Contract the Supplier shall to the reasonable satisfaction of the Authority:

5.3.1 demonstrate that the solutions and the Deliverables eliminate and/or reduce the impacts of embodied carbon and support the Government and Authority in meeting their net zero carbon commitments;

5.3.2 demonstrate that the whole life cycle impacts (including end of use) have been considered and reduced;

5.3.3 minimise the consumption of resources and use them efficiently (including water and energy), working towards a circular economy including designing out waste and non-renewable resources, using re-use and closed loop systems;

5.3.4 reduce use of single use consumable items (including packaging), and avoid single use plastic in line with Government Commitments;

5.3.5 avoid use of products that are linked to unsustainable forest management and deforestation;

5.3.6 comply with [Government Buying Standards](#) applicable to Deliverables and use reasonable endeavours to support the Authority in meeting applicable [Greening Government Commitments](#); and

5.3.7 look to enhance the natural environment and connect communities with it.

5.4 The Supplier must demonstrate to the Authority the steps that it is taking to further the protection of the environment including:

5.4.1 understanding and reducing relevant biosecurity risks (including those relating to plant and tree health from harmful pests and diseases and from Invasive Non-Native Species);

5.4.2 reducing and eliminating hazardous/harmful substances to the environment; and

5.4.3 preventing pollution.

5.4.4 Should an environmental incident occur or if there is a significant near miss these must be reported to the Environment Agency Incident Hotline at the earliest opportunity, and then to the Authority.

## **6 Social Value**

6.1 The Supplier will support the Authority in highlighting opportunities to provide wider social, economic, or environmental benefits to local and/or national communities through the delivery of the Contract. Where included as part of the Contract the Supplier will provide details to the Authority of the approach taken and benefits delivered.

6.2 The Supplier will ensure that supply chain opportunities are inclusive and accessible to:

6.2.1 new businesses and entrepreneurs;

6.2.2 small and medium enterprises (SMEs);

6.2.3 voluntary, community and social enterprise (VCSE) organisations; and

6.2.4 mutuals; and

6.2.5 other underrepresented business groups.

The Supplier will identify barriers to these organisations and work actively to remove them, ensuring equal opportunities to compete.

6.3 The Contracts Finder website can be used to help advertise any subcontracting opportunities outside the established supply chain. Other routes advertising to SMEs, VCSE organisations and other underrepresented business groups should be sought to highlight opportunities and encourage a diverse and inclusive supply base.

# Short Form Terms

## 1. Definitions used in the Contract

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

"Authority"	means the <a href="#">authority</a> identified in paragraph 3 of the Order Form;
"Authority Data"	a) 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 of the Authority's confidential information, and which: i) are supplied to the Supplier by or on behalf of the Authority; or ii) the Supplier is required to generate, process, store or transmit pursuant to the Contract; or b) any Personal Data for which the Authority is the Data Controller;
"Authority Cause"	any breach of the obligations of the Authority or any other default, act, omission, negligence or statement of the Authority, of its employees, servants, agents in connection with or in relation to the subject-matter of the Contract and in respect of which the Authority is liable to the Supplier;
"Biological Materials"	means any material (including, without limitation, plants, animals, microbes or viruses) of biological origin which contains genetic information capable of reproduction and/or material derived from the same that is collected or produced through the Contract.
"Central Government Body"	for the purposes of this Contract this means a body listed in one of the following sub-categories of the Central Government classification of the Public Sector Classification Guide, as published and amended from time to time by the Office for National Statistics: <ul style="list-style-type: none"> <li>• Government Department;</li> <li>• Non-Departmental Public Body or Assembly Sponsored Public Body (advisory, executive, or tribunal);</li> <li>• Non-Ministerial Department; or</li> <li>• Executive Agency;</li> </ul>
"Charges"	means the charges for the Deliverables as specified in the Order Form and Annex 3;
"Confidential Information"	means all information, whether written or oral (however recorded), provided by the disclosing Party to the receiving Party and which (i) is known by the receiving Party to be confidential; (ii) is agreed by the Parties to be confidential;

"Contract"	means this contract between (i) the Authority and (ii) the Supplier which is created by the Supplier signing the Order Form and returning it to the Authority.
"Controller"	has the meaning given to it in the "UK GDPR";
"Conventions"	Conventions" means any and all of: i) the Convention on Biological Diversity and the International Treaty on Plant Genetic Resources for Food and Agriculture, including any Protocols and other additions or amendments from time to time; ii) any guidelines adopted by the parties to the same (including, without limitation, the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization); and iii) any national legal or regulatory requirements made in pursuance of the provisions of the same in any territory.
"Crown Body"	means any department, office or agency of the Crown, including any and all Local Authority bodies;
"Data Loss Event"	any event that results, or may result, in unauthorised access to Personal Data held by the Supplier under this Contract, and/or actual or potential loss and/or destruction of Personal Data in breach of this Contract, including any Personal Data Breach;
"Data Protection Impact Assessment"	an assessment by the Controller of the impact of the envisaged processing on the protection of Personal Data;
"Data Protection Legislation"	(i) the UK GDPR and any applicable national implementing Laws as amended from time to time; (ii) the Data Protection Act 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;
"Data Protection Officer"	has the meaning given to it in the GDPR;
"Data Subject"	has the meaning given to it in the GDPR;
"Data Subject Access Request"	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;
"Date of Delivery"	means that date by which the Deliverables must be delivered to the Authority, as specified in the Order Form;

"Deliver"	means handing over the Deliverables to the Authority at the address and on the date specified in the Order Form, which shall include unloading and any other specific arrangements agreed in accordance with Clause 4. Delivered and Delivery shall be construed accordingly;
"Deliverables"	Goods and/or Services that may be ordered under the Contract including the Documentation;
"Documentation"	<p>descriptions of the Services, 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) that is required to be supplied by the Supplier to the Authority under the Contract as:</p> <p>a) would reasonably be required by a competent third party capable of Good Industry Practice contracted by the Authority to develop, configure, build, deploy, run, maintain, upgrade and test the individual systems that provide the Deliverables</p> <p>b) is required by the Supplier in order to provide the Deliverables; and/or</p> <p>c) has been or shall be generated for the purpose of providing the Deliverables;</p>
"End User"	means a party that is accessing the Deliverables provided pursuant to this Contract (including the Authority where it is accessing services on its own account as a user);
"Existing IPR"	any and all intellectual property rights that are owned by or licensed to either Party and which have been developed independently of the Contract (whether prior to the date of the Contract or otherwise);
"Expiry Date"	means the date for expiry of the Contract as set out in the Order Form;
"FOIA"	means the Freedom of Information Act 2000 together with any guidance and/or codes of practice issued by the Information Commissioner or relevant Government department in relation to such legislation;

"Force Majeure Event"	any event, occurrence, circumstance, matter or cause affecting the performance by either Party of its obligations under the Contract arising from acts, events, omissions, happenings or non-happenings beyond its reasonable control which prevent or materially delay it from performing its obligations under the Contract but excluding: 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; 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 iii) any failure of delay caused by a lack of funds;
"Goods"	means the goods to be supplied by the Supplier to the Authority under the Contract;
"Good Industry Practice"	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 and ordinarily be expected from a skilled and experienced person or body engaged within the relevant industry or business sector;
"Information"	has the meaning given under section 84 of the FOIA;
"Information Commissioner"	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;
"Insolvency Event"	occurs in respect of a legal person (for example an individual, company or organisation): i) if that person is insolvent; ii) if an order is made or a resolution is passed for the winding up of the person (other than voluntarily for the purpose of solvent amalgamation or reconstruction); iii) if an administrator or administrative receiver is appointed in respect of the whole or any part of the persons assets or business; or iv) if the person makes any arrangement with its creditors or takes or suffers any similar or analogous action to any of the actions detailed in this definition as a result of debt in any jurisdiction whether under the Insolvency Act 1986 or otherwise;
"IP Completion Day"	has the meaning given to it in the European Union (Withdrawal) Act 2018;
"Key Personnel"	means any persons specified as such in the Order Form or otherwise notified as such by the Authority to the Supplier in writing;

"Law"	means any law, statute, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, bye-law, right within the meaning of Section 4(1) EU Withdrawal Act 2018 as amended by EU (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 Parties are bound to comply;
"Methodology"	means an underlying methodology, model, process or procedure (rather than a specific output or material) developed by or on behalf of the Supplier pursuant to the Contract and which is used to generate any material prepared for or used by the Authority; for the avoidance of doubt, Methodology constitutes IPR for purposes of this Contract;
"New IPR"	all and any intellectual property rights in any materials created or developed by or on behalf of the Supplier pursuant to the Contract including the Results and Methodology but shall not include the Supplier's Existing IPR
"New IPR Items"	means a deliverable, document, product or other item within which New IPR subsists;
"Open Licence"	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> ;
"Order Form"	means the letter from the Authority to the Supplier printed above these terms and conditions;
"Party"	the Supplier or the Authority (as appropriate) and "Parties" shall mean both of them;
"Personal Data"	has the meaning given to it in the UK GDPR;
"Personal Data Breach"	has the meaning given to it in the UK GDPR;
"Processing"	has the mean given to it in the UK GDPR;
"Processor"	has the meaning given to it in the UK GDPR;
"Purchase Order Number"	means the Authority's unique number relating to the order for Deliverables to be supplied by the Supplier to the Authority in accordance with the terms of the Contract;

"Regulations"	the Public Contracts Regulations 2015 and/or the Public Contracts (Scotland) Regulations 2015 (as the context requires) as amended from time to time;
"Results"	means any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is: a) prepared by or for the Supplier for use in relation to the performance of its obligations under the Contract; or b) the result of any work done by the Supplier or the Supplier Staff in relation to the provision of the Services.
"Request for Information"	has the meaning set out in the FOIA or the Environmental Information Regulations 2004 as relevant (where the meaning set out for the term "request" shall apply);
"Services"	means the services to be supplied by the Supplier to the Authority under the Contract;
"Specification"	means the specification for the Deliverables to be supplied by the Supplier to the Authority (including as to quantity, description and quality) as specified in Annex 2;
"Staff Vetting Procedures"	means vetting procedures that accord with good industry practice or, where applicable, the Authority's procedures for the vetting of personnel as provided to the Supplier from time to time;
"Start Date"	Means the start date of the Contract set out in the Order Form;
"Subprocessor"	any third Party appointed to process Personal Data on behalf of the Supplier related to the Contract;
"Supplier Staff"	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;
"Supplier"	means the person named as Supplier in the Order Form;
"Sustainability Requirements"	means any relevant social or environmental strategies, policies, commitments, targets, plans or requirements that apply to and are set out in the Annex 5;
Tender Submission	means the Supplier's response to the invitation to the bidder pack (including, for the avoidance of doubt, any clarification provided by the Supplier).



"Term"	means the period from the Start Date to the Expiry Date as such period may be extended in accordance with the Order Form or terminated in accordance with Clause 11;
"UK GDPR"	means 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) (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 (and see section 205(4);
"VAT"	means value added tax in accordance with the provisions of the Value Added Tax Act 1994;
"Workers"	any one of the Supplier Staff which the Authority, 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;
"Working Day"	means a day (other than a Saturday or Sunday) on which banks are open for business in the City of London.

## 2. Understanding the Contract

In the Contract, unless the context otherwise requires:

2.1 references to numbered clauses are references to the relevant clause in these terms and conditions and references to numbered paragraphs are references to the paragraph in the relevant Annex;

2.2 any obligation on any Party not to do or omit to do anything shall include an obligation not to allow that thing to be done or omitted to be done;

2.3 the headings in this Contract are for information only and do not affect the interpretation of the Contract;

2.4 references to "writing" include printing, display on a screen and electronic transmission and other modes of representing or reproducing words in a visible form;

2.5 the singular includes the plural and vice versa;

2.6 a reference to any law includes a reference to that law as amended, extended, consolidated or re-enacted from time to time and to any legislation or byelaw made under that law;

2.7 any reference in this Contract which immediately before the 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 European Economic Area (“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 the date of exit from the EU as a reference to the UK institution, authority or body to which its functions were transferred.

2.8 the word ‘including’, “for example” and similar words shall be understood as if they were immediately followed by the words “without limitation”;

2.9 a person includes a natural person, corporate or unincorporated body (whether or not having separate legal personality);

2.10 any Annexes form part of this Contract and shall have effect as if set out in full in the body of this Contract. Any reference to this Contract includes the Annexes; and

2.11 all undefined words and expressions are to be given their normal English meaning within the context of this Contract. Any dispute as to the interpretation of such undefined words and expressions shall be settled by reference to the definition in the Shorter Oxford English Dictionary.

### **3. How the Contract works**

3.1 The Order Form is an offer by the Authority to purchase the Deliverables subject to and in accordance with the terms and conditions of the Contract.

3.2 The Supplier is deemed to accept the offer in the Order Form when the Authority receives a copy of the Order Form signed by the Supplier.

3.3 The Supplier warrants and represents that its Tender Submission and all statements made and documents submitted as part of the procurement of Deliverables are and remain true and accurate.

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

#### **4.1 All Deliverables**

- (a) The Supplier must provide Deliverables: (i) in accordance with the Specification and Tender Submission; (ii) to a professional standard; (iii) using all reasonable skill and care; (iv) using Good Industry Practice; (v) using its own policies, processes and

internal quality control measures as long as they don't conflict with the Contract; (vi) in accordance with such policies and procedures of the Authority (as amended from time to time) that may be specified in the Contract (vii) on the dates agreed; and (viii) in compliance with all applicable Law.

(b) Without prejudice to the Specification the Supplier must provide Deliverables with a warranty of at least 90 days (or longer where the Supplier offers a longer warranty period to the Authority) from Delivery against all obvious damage or defects.

## **4.2 Goods clauses**

(a) All Goods Delivered must be capable of meeting the requirements set out in the Specification and be either (i) new and of recent origin, (ii) reused or (iii) recycled.

(b) All manufacturer warranties covering the Goods will be assigned to the Authority on request and for free.

(c) The Supplier transfers ownership of the Goods on completion of Delivery (including off-loading and stacking) or payment for those Goods, whichever is earlier.

(d) Risk in the Goods transfers to the Authority on Delivery but remains with the Supplier if the Authority notices any damage or defect following Delivery and lets the Supplier know within three Working Days of Delivery.

(e) The Supplier must have full and unrestricted ownership of the Goods at the time of transfer of ownership.

(f) The Supplier must Deliver the Goods on the date and to the specified location during the Authority's working hours.

(g) The Supplier, its subcontractor(s) and supply chain must minimise packaging used whilst providing sufficient packaging for the Goods to reach the point of Delivery safely and undamaged. The Supplier must take back any primary packaging where it is possible to do so. Packaging must be 100% re-usable, recyclable or compostable, use recycled content where reasonably practicable and support the Government's commitment to eliminate single use plastic.

(h) All Deliveries must have a delivery note attached that specifies the order number, type, quantity of Goods, contact and details of traceability through the supply chain.

(i) The Supplier must provide all tools, information and instructions the Authority needs to make use of the Goods. This will include, where appropriate, any operation manuals which, unless specified otherwise, will be written in English and provided in electronic form.

(j) The Supplier will notify the Authority of any request that Goods are returned to it or the manufacturer after the discovery of safety issues or defects that might endanger health or hinder performance and shall indemnify the Authority against the costs arising as a result of any such request. Goods must be disposed of in line with the waste management hierarchy as set out in Law. The Supplier will provide evidence and transparency of the items and routes used for disposal to the Authority on request.

(k) The Authority can cancel any order or part order of Goods which have not been Delivered. If the Authority gives less than 14 calendar days' notice then it will pay the Supplier's reasonable and proven costs already incurred on the cancelled order as long as the Supplier takes all reasonable steps to minimise these costs.

(l) The Supplier must at its own cost repair, replace, refund or substitute (at the Authority's option and request) any Goods that the Authority rejects because they don't conform with clause 4.2. If the Supplier doesn't do this it will pay the Authority's costs including repair or re-supply by a third party.

(m) The Authority will not be liable for any actions, claims, costs and expenses incurred by the Supplier or any third party during Delivery of the Goods unless and to the extent that it is caused by negligence or other wrongful act of the Authority or its servant or agent. If the Authority suffers or incurs any damage or injury (whether fatal or otherwise) occurring in the course of Delivery or installation then the Supplier shall indemnify from all losses, damages, costs or expenses (including professional fees and fines) which arise as a result of or in connection with such damage or injury where it is attributable to any act or omission of the Supplier or, where related to the Contract, any of its subcontractors or suppliers.

### **4.3 Services clauses**

(a) Late delivery of the Services will be a breach of the Contract.

(b) The Supplier must co-operate with the Authority and third party suppliers on all aspects connected with the delivery of the Services and ensure that Supplier Staff comply with any reasonable instructions including any security requirements.

(c) The Authority must provide the Supplier Staff with reasonable access to its premises at such reasonable times agreed with the Authority for the purpose of supplying the Services.

(d) The Supplier must at its own risk and expense provide all equipment required to deliver the Services. Any equipment provided by the Authority to the Supplier for supplying the Services remains the property of the Authority and is to be returned to the Authority on expiry or termination of the Contract.

(e) The Supplier must allocate sufficient resources and appropriate expertise to the Contract.

(f) The Supplier must take all reasonable care to ensure performance does not disrupt the Authority's operations, employees or other contractors.

(g) On completion of the Services, the Supplier is responsible for leaving the Authority's premises in a clean, safe and tidy condition and making good any damage that it has caused to the Authority's premises or property, other than fair wear and tear and any pre-existing cleanliness, safety or tidiness issue at the Authority's premises that existed before the commencement of the Term.

(h) The Supplier must ensure all Services, and anything used to deliver the Services, are of the required quality and free from damage or defects.

(i) The Authority is entitled to withhold payment for partially or undelivered Services or for Services which are not delivered in accordance with the Contract but doing so does not stop it from using its other rights under the Contract.

## 5. Pricing and payments

5.1 In exchange for the Deliverables delivered, the Supplier shall be entitled to invoice the Authority for the charges in Annex 3. The Supplier shall raise invoices promptly and in any event within 90 days from when the charges are due.

5.2 All Charges:

(a) exclude VAT, which is payable on provision of a valid VAT invoice and charged at the prevailing rate;

(b) include all costs connected with the supply of Deliverables.

5.3 The Authority must pay the Supplier the charges within 30 days of receipt by the Authority of a valid, undisputed invoice, in cleared funds to the Supplier's account stated in the Order Form.

5.4 A Supplier invoice is only valid if it:

(a) includes all appropriate references including the Purchase Order Number and other details reasonably requested by the Authority as set out in Annex 3; and

(b) includes a detailed breakdown of Deliverables which have been delivered (if any).

Details of the Authority's requirements for a valid invoice at the Start Date are set out in Annex 3.

5.5 If there is a dispute between the Parties as to the amount invoiced, the Authority shall pay the undisputed amount. The Supplier shall not suspend the provision of the Deliverables unless the Supplier is entitled to terminate the Contract for a failure to pay undisputed sums in accordance with clause 11.6. Any disputed amounts shall be resolved through the dispute resolution procedure detailed in clause 35.

5.6 If any sum of money is recoverable from or payable by the Supplier under the Contract (including any sum which the Supplier is liable to pay to the Authority in respect of any breach of the Contract), that sum may be deducted unilaterally by the Authority from any sum then due, or which may become due, to the Supplier under the Contract or under any other

agreement or contract with the Authority. The Supplier shall not be entitled to assert any credit, set-off or counterclaim against the Authority in order to justify withholding payment of any such amount in whole or in part.

5.7 The Supplier must ensure that its subcontractors and supply chain are paid, in full, within 30 days of receipt of a valid, undisputed invoice. If this doesn't happen, the Authority can publish the details of the late payment or non-payment.

## 6. The Authority's obligations to the Supplier

6.1 If the Supplier fails to comply with the Contract as a result of an Authority Cause:

- (a) the Authority cannot terminate the Contract under clause 11 on account of the failure to comply, provided this will not prejudice the Authority's right to terminate for another cause that may exist at the same time;
- (b) the Supplier will be relieved from liability for the performance of its obligations under the Contract to the extent that it is prevented from performing them by the Authority Cause and will be entitled to such reasonable and proven additional expenses that arise as a direct result of the Authority Cause;
- (c) the Supplier is entitled to any additional time needed to deliver the Deliverables as a direct result of the Authority's Cause;
- (d) the Supplier cannot suspend the ongoing supply of Deliverables.

6.2 Clause 6.1 only applies if the Supplier:

- (a) gives notice to the Authority within 10 Working Days of becoming aware of an Authority Cause, such notice setting out in detail with supporting evidence the known reasons for the Authority Cause;
- (b) demonstrates that the failure only happened because of the Authority Cause;
- (c) has used all reasonable endeavours to mitigate the impact of the Authority Cause.

## 7. Record keeping and reporting

7.1 .1The Supplier must ensure that suitably qualified (and authorised) representatives attend progress meetings with the Authority and provide progress reports when specified in Annex 2.

7.1.2 The Supplier must keep a scientific report which shall include:

- (a) the scientific objectives as set out in the Specification;
- (b) the extent to which the objectives set out in the Specification have been met;
- (c) details of methods used and the Results obtained, including statistical analysis where appropriate;
- (d) a discussion of the Results and their reliability;
- (e) the main implications of the findings;

- (f) possible future work; and
- (g) any action resulting from the research, for example, protection of Intellectual Property Rights and knowledge transfer.

7.2 The Supplier must keep and maintain full and accurate records and accounts on everything to do with the Contract for seven years after the date of expiry or termination of the Contract.

7.3 The Supplier must allow any auditor appointed by the Authority access to their premises to verify all contract accounts and records of everything to do with the Contract and provide copies for the audit.

7.4 The Supplier must provide information to the auditor and reasonable co-operation at their request.

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

- (a) tell the Authority and give reasons;
- (b) propose corrective action;
- (c) agree a deadline with the Authority for completing the corrective action.

7.6 If the Authority, acting reasonably, is concerned either:

- (a) as to the financial stability of the Supplier such that it may impact on the continued performance of the Contract; or
- (b) as to the sustainability or health and safety conduct of the Supplier, subcontractors and supply chain in the performance of the Contract;

then the Authority may:

- (i) require that the Supplier provide to the Authority (for its approval) a plan setting out how the Supplier will ensure continued performance of the Contract (in the case of (a)) or improve its sustainability conduct or performance (in the case of (b)) and the Supplier will make changes to such plan as reasonably required by the Authority and once it is agreed then the Supplier shall act in accordance with such plan and report to the Authority on demand
- (ii) if the Supplier fails to provide a plan or fails to agree any changes which are requested by the Authority or materially fails to implement or provide updates on progress with the plan, terminate the Contract immediately for material breach (or on such date as the Authority notifies).

## 8. Supplier staff

8.1 The Supplier Staff involved in the performance of the Contract must:

- a) be appropriately trained and qualified;
- b) be vetted using Good Industry Practice and in accordance with the instructions issued by the Authority in the Order Form;
- c) comply with the Authority's conduct requirements when on the Authority's premises including, without limitation, those Sustainability Requirements relating to Equality, Diversity & Inclusion (EDI) contained in Annex 5; and
- d) be informed about those specific requirements referred to in Clause 13.2.

8.2 Where an Authority decides one of the Supplier's Staff isn't suitable to work on the Contract, the Supplier must replace them with a suitably qualified alternative.

8.3 If requested, the Supplier must replace any person whose acts or omissions have caused the Supplier to breach clause 8.

8.4 The Supplier must provide a list of Supplier Staff needing to access the Authority's premises and say why access is required.

8.5 The Supplier indemnifies the Authority against all losses, damages, costs or expenses (including professional fees and fines) arising from claims brought against it by any Supplier Staff caused by an act or omission of the Supplier or any other Supplier Staff.

8.6 The Supplier shall use those persons nominated in the Order Form (if any) to provide the Deliverables and shall not remove or replace any of them unless:

- (a) requested to do so by the Authority;
- (b) the person concerned resigns, retires or dies or is on maternity, adoption, shared parental leave or long-term sick leave; or
- (c) the person's employment or contractual arrangement with the Supplier or any subcontractor is terminated.

## 9. Rights and protection

9.1 The Supplier warrants and represents that:

- (a) it has full capacity and authority to enter into and to perform the Contract;
- (b) the Contract is executed by its authorised representative;
- (c) it is a legally valid and existing organisation incorporated in the place it was formed;
- (d) 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;



(e) it maintains all necessary rights, authorisations, licences and consents to perform its obligations under the Contract;

(f) it doesn't have any contractual obligations which are likely to have a material adverse effect on its ability to perform the Contract; and

(g) it is not impacted by an Insolvency Event.

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

9.3 The Supplier indemnifies the Authority against each of the following:

(a) wilful misconduct of the Supplier, any of its subcontractor and/or Supplier Staff that impacts the Contract;

(b) non-payment by the Supplier of any tax or National Insurance.

9.4 If the Supplier becomes aware of a representation or warranty that becomes untrue or misleading, it must immediately notify the Authority.

9.5 All third party warranties and indemnities covering the Deliverables must be assigned for the Authority's benefit by the Supplier.

## 10. Intellectual Property Rights (IPRs)

10.1 Each Party keeps ownership of its own Existing IPRs. The Supplier gives the Authority a non-exclusive, perpetual, royalty-free, irrevocable, transferable worldwide licence to use, change and sub-license the Supplier's Existing IPR (excluding trade secrets or Confidential Information) to enable it and its sub-licensees to both:

(a) receive and use the Deliverables or for any End User to receive and use the Deliverables ;  
to use, sub-licence or commercially exploit (including by publication under Open Licence) the New IPR.

10.2 Any New IPR created under the Contract is owned by the Authority. The Authority gives the Supplier a licence to use any Existing IPRs and any New IPRs for the purpose of fulfilling its obligations under the Contract for the Term

10.3 Where a Party acquires ownership of intellectual property rights incorrectly under this Contract it must do everything reasonably necessary to complete a transfer assigning them in writing to the other Party on request and at its own cost.

10.4 Neither Party has the right to use the other Party's intellectual property rights, including any use of the other Party's names, logos or trademarks, except as provided in clause 10 or otherwise agreed in writing.

10.5 If any claim is made against the Authority for actual or alleged infringement of a third party's intellectual property arising out of, or in connection with, the supply or use of the Deliverables (an "**IPR Claim**"), then the Supplier indemnifies the Authority against all losses, damages, costs or expenses (including professional fees and fines) incurred as a result of the IPR Claim.

10.6 If an IPR Claim is made or anticipated the Supplier must at its own expense and the Authority's sole option, either:

(a) obtain for the Authority the rights in clauses 10.1 and 10.2 without infringing any third party intellectual property rights;

(b) replace or modify the relevant item with substitutes that don't infringe intellectual property rights without adversely affecting the functionality or performance of the Deliverables.

10.7 Subject to clause 10.9, the Supplier agrees that the Authority may at its sole discretion publish under Open Licence all or part of the New IPR Items and the Supplier warrants that the New IPR Items are suitable for release under Open Licence.

10.8 The Supplier will supply any or all New IPR Items in a format suitable for publication under Open Licence ("**the Open Licence Publication Material**") within 30 days of written request from the Authority ("**Authority Open Licence Request**").

10.9 The Supplier may within 15 days of a Authority Open Licence Request under clause 10.8 request in writing that the Authority excludes all or part of:

(a) the New IPR; or

(b) Supplier's Existing IPR or any third party intellectual property rights that would otherwise be included in the Open Licence Publication Material supplied to the Buyer pursuant to clause 10.8

from Open Licence publication.

10.10 Any decision to approve any such request from the Supplier pursuant to clause 10.9 shall be at the Authority's sole discretion, not to be unreasonably withheld, delayed or conditioned.

10.11 Subject to clause **Error! Reference source not found.**, the Authority will not be liable in the event that any Supplier Existing IPR or third party intellectual property rights is included in the Open Licence Publication Material published by the Buyer.

## 11. Ending the contract

11.1 The Contract takes effect on the date of or (if different) the date specified in the Order Form and ends on the earlier of the date of expiry or termination of the Contract or earlier if required by Law.

11.2 The Authority can extend the Contract where set out in the Order Form in accordance with the terms in the Order Form.

### **Ending the Contract without a reason**

11.3 The Authority has the right to terminate the Contract at any time without reason or liability by giving the Supplier not less than 90 days' written notice and if the Contract is terminated, clause 11.5(b) to 11.5(g) applies.

### **When the Authority can end the Contract**

11.4 (a) If any of the following events happen, the Authority has the right to immediately terminate its Contract by issuing a termination notice in writing to the Supplier:

- (i) there is a Supplier Insolvency Event;
- (ii) if the Supplier repeatedly breaches the Contract in a way to reasonably justify in the Authority's opinion that the Supplier's conduct is inconsistent with it having the intention or ability to give effect to the terms and conditions of the Contract;
- (iii) if the Supplier is in material breach of any obligation which is capable of remedy, and that breach is not remedied within 30 days of the Supplier receiving notice specifying the breach and requiring it to be remedied. Where a material breach is not capable of remedy, the Authority has the right to immediately terminate the Contract;
- (iv) there is a change of control (within the meaning of section 450 of the Corporation Tax Act 2010) of the Supplier which isn't pre-approved by the Authority in writing;
- (v) if the Authority 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;
- (vi) the Supplier or its affiliates embarrass or bring the Authority into disrepute or diminish the public trust in them;
- (vii) where a right to terminate described in clause 27 occurs;
- (viii) the Supplier is in breach of any of its health, safety and well-being obligations under clause 28.1(a); and
- (ix) where, in accordance with clause 33.3, there is or may be an actual or potential conflict of interest.

(b) If any of the events in 73(1) (a) to (c) of the Regulations (substantial modification, exclusion of the Supplier, procurement infringement) happen, the Authority has the right to immediately terminate the Contract and clause 11.5(a) to 11.5(g) applies.

## **11.5 What happens if the Contract ends**

Where the Authority terminates the Contract under clause 11.4 all of the following apply:

- (a) the Supplier is responsible for the Authority's reasonable costs of procuring replacement deliverables for the rest of the Term ;
- (b) the Authority'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 Authority Data except where required to retain copies by law;
- (e) the Supplier must promptly return any of the Authority's property provided under the Contract;
- (f) the Supplier must, at no cost to the Authority, give all reasonable assistance to the Authority and any incoming supplier and co-operate fully in the handover and re-procurement;
- (g) the following clauses survive the termination of the Contract: 3.3, 7.2, 7.3, 7.4, 9, 10, 12, 13.3, 14, 15, 16, 17, 18, 19, 20, 32, 35, 36 and any clauses or provisions within the Order Form or the Annexes which are expressly or by implication intended to continue.

## **11.6 When the Supplier can end the Contract**

- (a) The Supplier can issue a reminder notice if the Authority does not pay an undisputed invoice on time. The Supplier can terminate the Contract if the Authority fails to pay an undisputed invoiced sum due and worth over 10% of the total Contract value or £1,000, whichever is the lower, within 30 days of the date of the reminder notice.
- (b) If a Supplier terminates the Contract under clause 11.6(a):
  - (i) the Authority must promptly pay all outstanding charges incurred to the Supplier;
  - (ii) the Authority must pay the Supplier reasonable committed and unavoidable losses as long as the Supplier provides a fully itemised and costed schedule with satisfactory evidence - the maximum value of this payment is limited to the total sum payable to the Supplier if the Contract had not been terminated;
  - (iii) clauses 11.5(d) to 11.5(g) apply.

## **11.7 Partially ending and suspending the Contract**

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

(b) The Authority can only partially terminate or suspend the Contract if the remaining parts of it can still be used to effectively deliver the intended purpose.

(c) The Parties must agree (in accordance with clause 25) any necessary variation required by clause 11.7, but the Supplier may neither:

(i) reject the variation; nor

(ii) increase the Charges, except where the right to partial termination is under clause 11.3.

(d) The Authority can still use other rights available, or subsequently available to it if it acts on its rights under clause 11.7.

## 12. How much you can be held responsible for

12.1 Each Party's total aggregate liability under or in connection with the Contract (whether in tort, contract or otherwise) is no more than the value of the Charges or £5,000,000 (five million pounds) [whichever is higher] unless specified in the Order Form.

12.2 No Party is liable to the other for:

(a) any indirect losses;

(b) loss of profits, turnover, savings, business opportunities or damage to goodwill (in each case whether direct or indirect).

12.3 In spite of clause 12.1, neither Party limits or excludes any of the following:

(a) its liability for death or personal injury caused by its negligence, or that of its employees, agents or subcontractors;

(b) its liability for bribery or fraud or fraudulent misrepresentation by it or its employees;

(c) any liability that cannot be excluded or limited by law.

12.4 In spite of clause 12.1, the Supplier does not limit or exclude its liability for any indemnity given under clauses 4.2(j), 4.2(m), 8.5, 9.3, 10.5, 13.3, 15.28(e) or 31.2(b).

12.5 Each Party must use all reasonable endeavours to mitigate any loss or damage which it suffers under or in connection with the Contract, including where the loss or damage is covered by any indemnity.

12.6 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.

## 13. Obeying the law

13.1 The Supplier must, in connection with provision of the Deliverables:

- (a) comply with all applicable Law;
- (b) comply with the Sustainability Requirements
- (c) use reasonable endeavours to comply and procure that its subcontractors comply with the Supplier Code of Conduct appearing at:

[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)

13.2 The Sustainability Requirements and the requirements set out in Clause 27, 28 and 30 must be explained to the Supplier's Staff, subcontractors and suppliers who are involved in the performance of the Supplier's obligations under the Contract and where it is relevant to their role and equivalent obligations must be included in any contract with any suppliers or subcontractor that is connected to the Contract.

13.3 The Supplier indemnifies the Authority against all losses, damages, costs or expenses (including professional fees and fines) resulting from any default by the Supplier relating to any applicable Law to do with the Contract.

13.4 The Supplier must appoint a Compliance Officer who must be responsible for ensuring that the Supplier complies with the Law and its obligations under the Contract.

13.5 "Compliance Officer" the person(s) appointed by the Supplier who is responsible for ensuring that the Supplier complies with its legal and other obligations under the Contract.

13.6 The Supplier will provide such evidence of compliance with its obligations under this Clause 13 as the Authority reasonably requests.

## 14. Insurance

14.1 The Supplier must, at its own cost, obtain and maintain the required insurances as set out in the Order Form.

14.2 The Supplier will provide evidence of the required insurances on request from the Authority.

## 15. Data protection

15.1 The Authority is the Controller and the Supplier is the Processor for the purposes of the Data Protection Legislation.

15.2 The Supplier must process Personal Data and ensure that Supplier Staff process Personal Data only in accordance with this Contract.

15.3 The Supplier shall take all reasonable measures relating to the security of processing which are required pursuant to Article 32 of the UK GDPR including, without limitation, those security measures specified in this clause 15.

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

15.5 The Supplier must make accessible back-ups of all Authority Data, stored in an agreed off-site location and send the Authority copies every six Months.

15.6 The Supplier must ensure that any Supplier system holding any Authority Data, including back-up data, is a secure system that complies with the security requirements specified in writing by the Authority.

15.7 If at any time the Supplier suspects or has reason to believe that the Authority Data provided under the Contract is corrupted, lost or sufficiently degraded, then the Supplier must notify the Authority and immediately suggest remedial action.

15.8 If the Authority Data is corrupted, lost or sufficiently degraded so as to be unusable the Authority may either or both:

- (a) tell the Supplier to restore or get restored Authority Data as soon as practical but no later than five Working Days from the date that the Authority receives notice, or the Supplier finds out about the issue, whichever is earlier;
- (b) restore the Authority Data itself or using a third party.

15.9 The Supplier must pay each Party's reasonable costs of complying with clause 15.8 unless the Authority is at fault.

15.10 Only the Authority can decide what processing of Personal Data a Supplier can do under the Contract and must specify it for the Contract using the template in Annex 1 of the Order Form (*Authorised Processing*).

15.11 The Supplier must only process Personal Data if authorised to do so in the Annex to the Order Form (*Authorised Processing*) by the Authority. Any further written instructions relating to the processing of Personal Data are incorporated into Annex 1 of the Order Form.

15.12 The Supplier must give all reasonable assistance to the Authority in the preparation of any Data Protection Impact Assessment before starting any processing, including:

- (a) a systematic description of the expected processing and its purpose;
- (b) the necessity and proportionality of the processing operations;
- (c) the risks to the rights and freedoms of Data Subjects;

(d) the intended measures to address the risks, including safeguards, security measures and mechanisms to protect Personal Data.

15.13 The Supplier must notify the Authority immediately if it thinks the Authority's instructions breach the Data Protection Legislation.

15.14 The Supplier must put in place appropriate Protective Measures to protect against a Data Loss Event which must be approved by the Authority.

15.15 If lawful to notify the Authority, the Supplier must notify it if the Supplier is required to process Personal Data by Law promptly and before processing it.

15.16 The Supplier must take all reasonable steps to ensure the reliability and integrity of any Supplier Staff who have access to the Personal Data and ensure that they:

- (a) are aware of and comply with the Supplier's duties under this clause 15;
- (b) are subject to appropriate confidentiality undertakings with the Supplier or any Subprocessor;
- (c) are informed of the confidential nature of the Personal Data and do not provide any of the Personal Data to any third party unless directed in writing to do so by the Authority or as otherwise allowed by the Contract;
- (d) have undergone adequate training in the use, care, protection and handling of Personal Data.

15.17 The Supplier must not transfer Personal Data outside of the EU unless all of the following are true:

- (a) it has obtained prior written consent of the Authority;
- (b) the Authority has decided that there are appropriate safeguards (in accordance with Article 46 of the UK GDPR);
- (c) the Data Subject has enforceable rights and effective legal remedies when transferred;
- (d) the Supplier meets its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred;
- (e) where the Supplier is not bound by Data Protection Legislation it must use its best endeavours to help the Authority meet its own obligations under Data Protection Legislation; and
- (f) the Supplier complies with the Authority's reasonable prior instructions about the processing of the Personal Data.

15.18 The Supplier must notify the Authority immediately if it:



- (a) receives a Data Subject Access Request (or purported Data Subject Access Request);
- (b) receives a request to rectify, block or erase any Personal Data;
- (c) receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;
- (d) receives any communication from the Information Commissioner or any other regulatory authority in connection with Personal Data processed under this Contract;
- (e) receives a request from any third party for disclosure of Personal Data where compliance with the request is required or claims to be required by Law;
- (f) becomes aware of a Data Loss Event.

15.19 Any requirement to notify under clause 15.17 includes the provision of further information to the Authority in stages as details become available.

15.20 The Supplier must promptly provide the Authority with full assistance in relation to any Party's obligations under Data Protection Legislation and any complaint, communication or request made under clause 15.17. This includes giving the Authority:

- (a) full details and copies of the complaint, communication or request;
- (b) reasonably requested assistance so that it can comply with a Data Subject Access Request within the relevant timescales in the Data Protection Legislation;
- (c) any Personal Data it holds in relation to a Data Subject on request;
- (d) assistance that it requests following any Data Loss Event;
- (e) assistance that it requests relating to a consultation with, or request from, the Information Commissioner's Office.

15.21 The Supplier must maintain full, accurate records and information to show it complies with this clause 15. This requirement does not apply where the Supplier employs fewer than 250 staff, unless either the Authority determines that the processing:

- (a) is not occasional;
- (b) 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;
- (c) is likely to result in a risk to the rights and freedoms of Data Subjects.

15.22 The Supplier will make available to the Authority all information necessary to demonstrate compliance with clause 15 and allow for and contribute to audits, including inspections, conducted by the Authority or another auditor appointed by the Authority.

15.23 The Supplier must appoint a Data Protection Officer responsible for observing its obligations in this Contract and give the Authority their contact details.

15.24 Before allowing any Subprocessor to process any Personal Data, the Supplier must:

- (a) notify the Authority in writing of the intended Subprocessor and processing;
- (b) obtain the written consent of the Authority;
- (c) enter into a written contract with the Subprocessor so that this clause 15 applies to the Subprocessor;
- (d) provide the Authority with any information about the Subprocessor that the Authority reasonably requires.

15.25 The Supplier remains fully liable for all acts or omissions of any Subprocessor.

15.26 At any time the Authority can, with 30 Working Days' notice to the Supplier, change this clause 15 to:

- (a) replace it with any applicable standard clauses (between the controller and processor) or similar terms forming part of an applicable certification scheme under UK GDPR Article 42;
- (b) ensure it complies with guidance issued by the Information Commissioner's Office.

15.27 The Parties agree to take account of any non-mandatory guidance issued by the Information Commissioner's Office.

15.28 The Supplier:

- (a) must provide the Authority with all Authority Data in an agreed open format within 10 Working Days of a written request;
- (b) must have documented processes to guarantee prompt availability of Authority Data if the Supplier stops trading;
- (c) must securely destroy all storage media that has held Authority Data at the end of life of that media using Good Industry Practice;
- (d) must securely erase or return all Authority Data and any copies it holds when asked to do so by the Authority unless required by Law to retain it;
- (e) indemnifies the Authority against any and all losses, damages, costs or expenses (including professional fees and fines) incurred if the Supplier breaches clause 15 and any Data Protection Legislation.

## 16. What you must keep confidential

16.1 Each Party must:

- (a) keep all Confidential Information it receives confidential and secure;
- (b) 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;
- (c) immediately notify the disclosing Party if it suspects unauthorised access, copying, use or disclosure of the Confidential Information.

16.2 In spite of clause 16.1, a Party may disclose Confidential Information which it receives from the disclosing Party in any of the following instances:

- (a) where disclosure is required by applicable law, permitted in respect of an audit pursuant to clause 7.3, or by 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;
- (b) if the recipient Party already had the information without obligation of confidentiality before it was disclosed by the disclosing Party;
- (c) if the information was given to it by a third party without obligation of confidentiality;
- (d) if the information was in the public domain at the time of the disclosure;
- (e) if the information was independently developed without access to the disclosing Party's Confidential Information;
- (f) to its auditors or for the purposes of regulatory requirements;
- (g) on a confidential basis, to its professional advisers on a need-to-know basis;
- (h) 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.

16.3 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 Authority at its request.

16.4 The Authority may disclose Confidential Information in any of the following cases:

- (a) on a confidential basis to the employees, agents, consultants and contractors of the Authority;
- (b) on a confidential basis to any other Central Government Body, any successor body to a Central Government Body or any organisation that the Authority transfers or proposes to transfer all or any part of its business to;

(c) if the Authority (acting reasonably) considers disclosure necessary or appropriate to carry out its public functions;

(d) where requested by Parliament; and/or

(e) under clauses 5.7 and 17.

16.5 For the purposes of clauses 16.2 to 16.4 references to disclosure on a confidential basis means disclosure under a confidentiality agreement or arrangement including terms as strict as those required in clause 16.

16.6 Information which is exempt from disclosure by clause 17 is not Confidential Information.

16.7 The Supplier must not make any press announcement or publicise the Contract or any part of it in any way, without the prior written consent of the Authority and must take all reasonable steps to ensure that Supplier Staff do not either.

16.8 Where essential to comply with or carry out their statutory functions the Authority may disclose Confidential Information.

## **17. When you can share information**

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

17.2 Within the required timescales the Supplier must give the Authority full co-operation and information needed so the Authority can:

(a) comply with any Freedom of Information Act (FOIA) request;

(b) comply with any Environmental Information Regulations (EIR) request.

17.3 The Authority may talk to the Supplier to help it decide whether to publish information under clause 17. However, the extent, content and format of the disclosure is the Authority's decision, which does not need to be reasonable.

## **18. Invalid parts of the contract**

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 that 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.

## **19. No other terms apply**

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

## **20. Other people's rights in a contract**

No third parties may use the Contracts (Rights of Third Parties) Act 1999 (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.

## **21. Circumstances beyond your control**

21.1 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:

- (a) provides written notice to the other Party;
- (b) uses all reasonable measures practical to reduce the impact of the Force Majeure Event.

21.2 Either party can partially or fully terminate the Contract if the provision of the Deliverables is materially affected by a Force Majeure Event and the impact of such event lasts for 90 days continuously.

21.3 Where a Party terminates under clause 21.2:

- (a) each party must cover its own losses;
- (b) clause 11.5(b) to 11.5(g) applies.

## **22. 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.

## **23. 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.

## **24. Transferring responsibilities**

24.1 The Supplier cannot assign the Contract, or any rights under it, without the Authority's written consent.

24.2 The Authority can assign, novate or transfer its Contract or any part of it to any Crown Body, any contracting authority within the meaning of the Regulations or any private sector body which performs the functions of the Authority.

24.3 When the Authority uses its rights under clause 24.2 the Supplier must enter into a novation agreement in the form that the Authority specifies.

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

24.5 If the Authority asks the Supplier for details about its subcontractors and/or supply chain, the Supplier must provide such details as the Authority reasonably requests including, without limitation:

- (a) their name;
- (b) the scope of their appointment; and
- (c) the duration of their appointment.

## **25. Changing the contract**

25.1 Either Party can request a variation to the Contract which is only effective if agreed in writing and signed by both Parties. No oral modifications to the Contract shall be effective. The Authority is not required to accept a variation request made by the Supplier.

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

26.1 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 when sent unless an error message is received.

26.2 Notices to the Authority or Supplier must be sent to their address in the Order Form.

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

## **27. Preventing fraud, bribery and corruption**

27.1 The Supplier shall not:

- (a) commit any criminal offence referred to in the Regulations 57(1) and 57(2);
- (b) offer, give, or agree to give anything, to any person (whether working for or engaged by the Authority or any other public body) an inducement or reward for doing, refraining from doing, or for having done or refrained from doing, any act in relation to the obtaining or execution of the Contract or any other public function or for showing or refraining from showing favour or disfavour to any person in relation to the Contract or any other public function.

27.2 The Supplier shall take all reasonable steps (including creating, maintaining and enforcing adequate policies, procedures and records), in accordance with good industry practice, to prevent any matters referred to in clause 27.1 and any fraud by the Supplier, Supplier Staff (including its shareholders, members and directors), any subcontractor and

the Supplier's supply chain in connection with the Contract. The Supplier shall notify the Authority immediately if it has reason to suspect that any such matters have occurred or is occurring or is likely to occur.

27.3 If the Supplier or the Supplier Staff engages in conduct prohibited by clause 27.1 or commits fraud in relation to the Contract or any other contract with the Crown (including the Authority) the Authority may:

- (a) terminate the Contract and recover from the Supplier the amount of any loss suffered by the Authority resulting from the termination, including the cost reasonably incurred by the Authority of making other arrangements for the supply of the Deliverables and any additional expenditure incurred by the Authority throughout the remainder of the Contract; or
- (b) recover in full from the Supplier any other loss sustained by the Authority in consequence of any breach of this clause.

## 28. Health, safety and wellbeing

28.1 The Supplier must perform its obligations meeting the requirements of:

- (a) all applicable Law regarding health and safety;
- (b) the Authority's current health and safety policy and procedures while at the Authority's premises, as provided to the Supplier.
- (c) the Authority's current wellbeing policy or requirements while at the Authority's premises as provided to the Supplier.

28.2 The Supplier and the Authority must as soon as possible notify the other of any health and safety incidents, near misses or material hazards they're aware of at the Authority premises that relate to the performance of the Contract.

28.3 Where the Services are to be performed on the Authority's premises, the Authority and Supplier will undertake a joint risk assessment with any actions being appropriate, recorded and monitored.

28.4 The Supplier must ensure their health and safety policy statement and management arrangements are kept up to date and made available to the Authority on request.

28.5 The Supplier shall not assign any role to the Authority under the Construction (Design and Management) Regulations 2015 (as amended) (the 'CDM Regulations') without the Authority's prior express written consent (which may be granted or withheld at the Authority's absolute discretion). For the avoidance of doubt so far as the Authority may fall within the role of client as defined by the CDM Regulations in accordance with CDM Regulation 4(8) the parties agree that the Supplier will be the client.

## 29. Business Continuity

29.1 The Supplier will have a current business continuity plan, which has assessed the risks to its business site/s and activities both directly and with regards to reliance on the supply chain and will set out the contingency measures in place to mitigate them and adapt. As part of this assessment, the Supplier will take into account the business continuity plans of the supply chain. The Supplier's business continuity plan must include (where relevant), an assessment of impacts relating to extreme weather, a changing average climate and/or resource scarcity.

29.2 The Supplier's business continuity plan will be reviewed by the Supplier at regular intervals and after any disruption. The Supplier will make the plan available to the Authority on request and comply with reasonable requests by the Authority for information.

## 30. Whistleblowing

30.1 The Authority's whistleblowing helpline must be made available to the Supplier and Supplier Staff, subcontractors and key suppliers in the supply chain in order to report any concerns.

[30.2. The Supplier agrees:

(a) to insert the following wording into their whistleblowing policy and communicate to all staff:

"If you feel unable to raise your concern internally and it relates to work being carried out for which the ultimate beneficiary (through a contractual chain or otherwise) is Defra group, please email [Whistleblowing@Defra.gov.uk](mailto:Whistleblowing@Defra.gov.uk)."

(b) to ensure that their Sub-contractors have free access to the Authority's whistleblowing policy.]

## 31. Tax

31.1 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 Authority cannot terminate the Contract where the Supplier has not paid a minor tax or social security contribution.

31.2 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 this Contract, the Supplier must both:

(a) 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;



(b) indemnify the Authority 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 Term in connection with the provision of the Deliverables by the Supplier or any of the Supplier Staff.

31.3 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:

- (a) the Authority may, at any time during the term of the Contract, request that the Worker provides information which demonstrates they comply with clause 31.2, or why those requirements do not apply, the Authority can specify the information the Worker must provide and the deadline for responding;
- (b) the Worker's contract may be terminated at the Authority's request if the Worker fails to provide the information requested by the Authority within the time specified by the Authority;
- (c) the Worker's contract may be terminated at the Authority's request if the Worker provides information which the Authority considers isn't good enough to demonstrate how it complies with clause 31.2 or confirms that the Worker is not complying with those requirements;
- (d) the Authority may supply any information they receive from the Worker to HMRC for revenue collection and management.

## 32. Publicity

32.1 The Supplier and any subcontractor shall not make any press announcements or publicise this Contract or its contents in any way; without the prior written consent of the Authority.

32.2 Each Party acknowledges to the other that nothing in this Contract either expressly or by implication constitutes an endorsement of any products or services of the other Party and each Party agrees not to conduct itself in such a way as to imply or express any such approval or endorsement.

## 33. Conflict of interest

33.1 The Supplier must take action to ensure that neither the Supplier nor the Supplier Staff are placed in the position of an actual or potential conflict between the financial or personal duties of the Supplier or the Supplier Staff and the duties owed to the Authority under the Contract, in the reasonable opinion of the Authority.

33.2 The Supplier must promptly notify and provide details to the Authority if a conflict of interest happens or is expected to happen.

33.3 The Authority can terminate its Contract immediately by giving notice in writing to the Supplier or take any steps it thinks are necessary where there is or may be an actual or potential conflict of interest.

## **34. Reporting a breach of the contract**

34.1 As soon as it is aware of it the Supplier and Supplier Staff must report to the Authority any actual or suspected breach of Law or breach of its obligations under the Contract.

34.2 Where an actual or suspected breach is notified to the Authority under clause 34.1, the Supplier will take such action to remedy any breach as the Authority may reasonably require. Where the breach is material, the Authority has the right to terminate under clause 11.4.

34.3 The Supplier must not retaliate against any of the Supplier Staff who in good faith reports a breach listed in clause 34.1.

## **35. Resolving disputes**

35.1 If there is a dispute between the Parties, their senior representatives 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.

35.2 If the dispute is not resolved at that meeting, the Parties 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 35.3 to 35.5.

35.3 Unless the Authority refers the dispute to arbitration using clause 35.4, the Parties irrevocably agree that the courts of England and Wales have the exclusive jurisdiction to:

- (a) determine the dispute;
- (b) grant interim remedies;
- (c) grant any other provisional or protective relief.

35.4 The Supplier agrees that the Authority 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.

35.5 The Authority has the right to refer a dispute to arbitration even if the Supplier has started or has attempted to start court proceedings under clause 35.3, unless the Authority 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 35.4.

35.6 The Supplier cannot suspend the performance of the Contract during any dispute.

35.7 The provisions of this clause 35 are without prejudice to the Authority's right to terminate or suspend the Contract under clause 11.

## 36. Which law applies

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

36.2 The courts of England and Wales shall have jurisdiction to settle any dispute or claim (whether contractual or non-contractual) that arises out of or in connection with the Contract or its subject matter or formation.

## 37. Biological Materials

37.1 The Supplier shall ensure that any Biological Materials collected by or on behalf of the Supplier in the course of performance of the Services are:

(a) collected and used in accordance with the Conventions, where relevant;

37.2 The Supplier shall identify any requirements of the Conventions (including, without limitation, benefit-sharing requirements arising from use of Biological Materials) which may apply in connection with the Services. The Supplier shall comply with any such requirements and inform the Authority of the same. This clause 37.2 shall be without prejudice to the generality of clause 4.1 and 4.3.

37.3 Failure to comply with any obligation in clause 37 shall amount to a material breach for the purpose of clause 11.4 For the avoidance of doubt, where no Biological Materials are, or are to be, collected by or on behalf of the Supplier in the course of performance of the Contract all references to Biological Materials in this clause 37 or elsewhere in the Contract shall have no effect.