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NIA Project Registration and PEA Document

Date of Submission

Aug 2026

Project Reference Number

NIA3_NGET0020

Project Registration

Project Title

Nature Networks

Project Reference Number

NIA3_NGET0020

Project Licensee(s)

National Grid Electricity Transmission

Project Start

October 2026

Project Duration

1 year and 1 month

Nominated Project Contact(s)

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Project Budget

£74,414.00

Summary

Nature Networks will trial nature-based vegetation management approaches on overhead line spans in Wharnccliffe Woods, Sheffield. The project will test interventions including, habitat restoration, conservation grazing, low-growing native planting, and rewetting/drainage impediment to reduce vegetation regrowth, lower wildfire risk, and improve biodiversity. The trial will assess whether sustainable land management techniques can provide a more effective and long-term alternative to traditional vegetation clearance practices while maintaining network safety and improving system resilience. Learning from the project will support future deployment across woodland and peatland transmission corridors on the NGET network.

Third Party Collaborators

Steel Valley Project

Nominated Contact Email Address(es)

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Problem Being Solved

National Grid Electricity Transmission (NGET) manages approximately 7,000 km of transmission assets across England and Wales, including over 600km that pass-through woodland and peatland habitats. Maintaining safe electrical clearances around overhead lines requires regular vegetation management to ensure network safety and reliability.

Current vegetation management practices can result in the rapid regrowth of undesirable species, requiring repeated maintenance interventions and increasing operational costs. These challenges are expected to intensify as climate change drives longer growing seasons and higher vegetation growth rates. Increased vegetation growth around transmission assets could place additional pressure on maintenance programmes and increase the risk of vegetation-related network faults.

Vegetation clearance can also create conditions that encourage the spread of bracken and other fast-growing species. Bracken can increase wildfire risk during dry periods as it provides a highly combustible fuel source, and provides limited biodiversity value. Wildfires pose a threat to transmission assets through potential damage, operational disruption, and impacts on network resilience. Many sites impacted by vegetation and / or wildfire risk are also located in difficult terrain, making vegetation management more complex and costly.

The project seeks to identify whether nature-based vegetation management approaches can provide a more sustainable, resilient, and cost-effective alternative to traditional vegetation clearance methods. By establishing habitats that naturally suppress undesirable vegetation growth, reduce wildfire risk, and enhance biodiversity, the project aims to improve long-term management of transmission corridors while maintaining network safety and enhancing system reliability.

Method(s)

NGET currently manages vegetation around overhead line assets through routine vegetation clearance to maintain statutory safety clearances and network reliability. However, vegetation often regrows rapidly following clearance, leading to repeated interventions, increasing maintenance costs and, in some locations, encouraging bracken growth that can increase wildfire risk as well as limiting biodiversity value. These challenges are expected to increase as climate change drives longer growing seasons and higher vegetation growth rates. Nature Networks will trial nature-based vegetation management techniques, including conservation grazing, habitat restoration, low-growing native planting and pond creation across two overhead line spans at Wharncliffe Woods, Sheffield. These interventions will be tested to gauge their effectiveness at impeding the growth of new undesirable vegetation like fast growing pioneer tree species and bracken. A field demonstration approach has been selected because, while the ecological principles behind these interventions are well understood, their effectiveness within an operational electricity transmission environment has not been fully demonstrated in the UK. The project will therefore generate operational evidence on whether these approaches can reduce vegetation management requirements, improve biodiversity, reduce wildfire risk and support long-term network resilience, as well as identifying any challenges or barriers to their wider delivery.

Data Quality Statement (DQS):

The project will be delivered under the NIA framework in line with Ofgem, ENA and NGET internal policies. Data produced as part of the project will be subject to quality assurance processes to ensure that information contained within project deliverables is accurate, traceable and supported by appropriate documentation. Data validation and review procedures will be applied throughout the project to ensure consistency and reliability of reported results.

The project will generate ecological, vegetation management and environmental datasets, including habitat survey data, biodiversity metrics, vegetation cover and regrowth measurements, species monitoring records, wildfire risk indicators and site assessment information. Data collection methodologies, assumptions and analytical approaches will be clearly documented to ensure transparency and repeatability.

Appropriate metadata will be maintained for all datasets, including information on data sources, survey dates, locations, methodologies, units of measurement, assumptions and data ownership. Spatial information will be managed using recognised GIS formats where applicable, and project data will be stored in widely accessible formats to support future use, interpretation and analysis.

All deliverables, datasets and project outputs will be stored on NGET's approved document management systems, ensuring appropriate access control, version management and backup arrangements. Relevant project documentation and reports will also be made available through the ENA Smarter Networks Portal, enabling knowledge sharing across the industry. Sufficient supporting information, including survey methodologies, data definitions and assumptions, will be provided to ensure that future users can understand, interpret and reuse project outputs appropriately. Measurement Quality Statement (MQS):

The project will apply a structured and repeatable monitoring framework to assess the effectiveness of nature-based vegetation management interventions within transmission corridors. Baseline surveys will be completed prior to implementation, with follow-up monitoring undertaken at agreed intervals throughout the project using recognised ecological assessment techniques, including UKHab surveys, biodiversity metrics, vegetation cover and regrowth measurements, species monitoring and wildfire risk indicators. These metrics have been selected to assess project outcomes relating to biodiversity enhancement, vegetation management effectiveness, wildfire risk reduction and network resilience. Consistent methodologies, survey locations and assessment criteria will be applied throughout the project to ensure comparability of results over time.

All data sources, survey methods, assumptions, measurements and analytical processes will be fully documented and retained to provide traceability and enable independent review. Monitoring activities will be undertaken by suitably qualified specialists and subject to supplier quality assurance procedures to ensure the reliability and consistency of results.

Uncertainty arising from factors such as seasonal variation, weather conditions and site-specific characteristics will be recorded and

considered when interpreting results. Repeat measurements, baseline comparisons and documented assumptions will be used to support robust evaluation of project outcomes and provide confidence in the findings.

While the individual ecological interventions included within the project, such as conservation grazing, habitat restoration, wetland creation and low-growing native planting, are established and well-understood environmental management practices, their application as an integrated vegetation management approach within operational electricity transmission corridors has not previously been demonstrated within the GB transmission sector. The project will therefore validate the operational effectiveness, practicality and scalability of these approaches within a live transmission environment, supporting progression from TRL7 to TRL8.

TRL Steps = 3 (2 TRL steps)

Cost = 1 (£74k)

Suppliers = 1 (1 suppliers)

Data Assumption = 1 (data supplied by suppliers for analysis)

Assessed Ris score: Low

Scope

The Nature Networks project will design, implement and monitor nature-based vegetation management interventions across two overhead line spans in Wharncliffe Woods, Sheffield. The project will trial conservation grazing, habitat restoration, low-growing native planting and rewetting to assess whether these approaches can reduce vegetation management requirements, lower wildfire risk, improve biodiversity and maintain operational safety clearances. The project will include intervention design, implementation, monitoring, evaluation and dissemination of learning to support potential future deployment across woodland and climate-risk transmission corridors.

WP1: Baseline ecological assessment, habitat surveys and Biodiversity Net Gain (BNG) evaluation.

WP2: Habitat design and development of intervention plan for the trial sites.

WP3: Implementation of habitat interventions, including bracken control, habitat restoration, native planting and wetland creation.

WP4: Monitoring and evaluation of vegetation management, biodiversity and wildfire resilience outcomes.

WP5: Dissemination of learning, knowledge sharing and development of recommendations for future deployment across the NGET network.

The project will be delivered through five work packages (WPs) covering baseline ecological assessment, habitat design, habitat intervention implementation, monitoring and evaluation, and dissemination of learning and recommendations.

Objective(s)

The objectives of the project are to:

Establish a baseline understanding of habitat condition, biodiversity value and vegetation management challenges across the trial sites.

Design and implement nature-based vegetation management interventions, including conservation grazing, habitat creation, native planting and wetland creation.

Assess the effectiveness of these interventions in reducing vegetation regrowth and wildfire risk while maintaining operational requirements.

Evaluate biodiversity and habitat improvements resulting from the interventions.

Generate evidence and recommendations to support wider deployment of nature-based vegetation management approaches across the NGET network.

Consumer Vulnerability Impact Assessment

An assessment of distributional impacts (technical, financial and wellbeing-related) on consumers in vulnerable situations has been undertaken using a bespoke assessment tool that considers the categories of consumers identified within the Priority Services Register.

The project has been assessed as having an overall neutral impact on consumers in vulnerable situations. This is because the project is focused on vegetation management and transmission network resilience and does not involve any direct consumer-facing interventions.

Technical impacts: The project is expected to have a neutral direct impact on consumers in vulnerable situations. However, successful

delivery may contribute to improved network resilience through enhanced vegetation management practices and reduced wildfire risk, potentially reducing the likelihood of network-related disruptions.

Financial impacts: No direct financial impacts on consumers in vulnerable situations are anticipated during the project. If the approach is successfully deployed at scale in the future, there may be indirect consumer benefits through more efficient vegetation management and reduced asset management costs.

Wellbeing impacts: No direct wellbeing impacts are expected as a result of the project. However, any future improvements to electricity network resilience and reliability could provide indirect wellbeing benefits to all consumers, including those in vulnerable situations, by supporting a secure and dependable electricity supply.

Overall, the project is considered to have a neutral impact on consumers in vulnerable situations, with the potential for indirect long-term benefits arising from improved network resilience, reliability and operational efficiency.

Success Criteria

Completion of baseline ecological surveys and habitat mapping.

Completion of detailed habitat designs and management plans for all trial sites.

Successful delivery of planned interventions, including bracken control, grass and wildflower seeding, tree and shrub planting, forestry management and wetland creation.

Completion of monitoring and evaluation activities demonstrating changes in vegetation growth, species dominance, habitat condition and biodiversity.

Production of a final assessment and recommendations identifying whether nature-based vegetation management can provide a sustainable and cost-effective alternative to conventional vegetation management approaches.

Project Partners and External Funding

The project does not include any Project Partners or external funding contributions. National Grid Electricity Transmission (NGET) will fund the project through the Network Innovation Allowance (NIA). Project delivery will be undertaken by Steel Valley Project, acting as the appointed external supplier. Steel Valley Project will be responsible for delivering all project scope, including baseline ecological surveys, habitat design, habitat creation and restoration activities, monitoring and evaluation, and associated project management activities. NGET will provide project governance, oversight, assurance and dissemination of learning throughout the project lifecycle.

Potential for New Learning

The project will generate new learning on the use of nature-based solutions for vegetation management within operational electricity transmission corridors. While techniques such as conservation grazing, habitat restoration, bracken control, low-growing native planting and wetland creation are established environmental practices, there is limited evidence of their application beneath overhead line infrastructure to reduce vegetation management requirements, wildfire risk and whole-life operational costs.

The project will provide evidence on the effectiveness of different habitat interventions in suppressing undesirable vegetation growth, reducing the frequency of vegetation maintenance activities, improving biodiversity and supporting network resilience. It will also improve understanding of the practical, operational and financial considerations associated with implementing nature-based vegetation management approaches across the transmission network.

Through baseline surveys, habitat design, intervention delivery and post-implementation monitoring, the project will identify which measures provide the greatest operational and environmental benefits and establish whether they can provide a sustainable alternative to conventional vegetation clearance practices.

The learning generated will support future vegetation management, climate adaptation, wildfire resilience and biodiversity strategies across NGET. It will also provide valuable learning for other electricity transmission and distribution network operators facing similar challenges associated with vegetation growth, wildfire risk and environmental stewardship.

Project findings will be shared through project reports, the ENA Smarter Networks Portal, NIA dissemination activities and engagement with relevant industry stakeholders to maximise knowledge transfer and support wider adoption of successful approaches.

Scale of Project

The scale of the project has been selected to generate meaningful operational and environmental learning through the implementation and monitoring of nature-based vegetation management interventions across two overhead line spans. The selected spans provide representative transmission corridor environments in which the effectiveness of different habitat management techniques can be assessed under real operational conditions.

This scale is sufficient to evaluate the practical delivery, monitoring requirements, operational constraints and environmental outcomes associated with implementing nature-based vegetation management approaches within the transmission network.

The project includes ecological surveys, habitat design, intervention delivery and monitoring to assess biodiversity, vegetation growth and wildfire risk outcomes. By trialling interventions across two spans, the project can assess the consistency of outcomes across different local conditions while maintaining a manageable project scope and cost commensurate with the technology readiness level and objectives of the trial.

A smaller-scale project, such as a single-span demonstration, would provide less robust evidence of the effectiveness, practicality and replicability of the interventions and would limit understanding of how site-specific factors influence outcomes. The proposed scale therefore represents the minimum practical deployment required to generate transferable learning and inform future rollout decisions across the NGET network.

Beyond the immediate project objectives, Nature Networks represents the first phase of a broader programme of work to understand how nature-based solutions can be used to manage vegetation risks and improve the resilience of transmission assets. The project will generate evidence on the effectiveness of different habitat interventions across woodland and peatland environments, helping NGET understand which approaches deliver the greatest operational, environmental and wildfire resilience benefits. The learning generated through this pilot will support future demonstration projects at additional sites, including woodland, peatland and other climate-sensitive landscapes, and will help inform the development of performance metrics, operational KPIs and long-term asset management strategies. Taking a phased approach allows NGET to reduce deployment risk, build a robust evidence base and develop future investment plans for the wider adoption of nature-based vegetation management practices where they can deliver enduring value to consumers, the network and the environment.

Technology Readiness at Start

TRL7 Inactive Commissioning

Technology Readiness at End

TRL8 Active Commissioning

Geographical Area

The project will be undertaken within the National Grid Electricity Transmission (NGET) licence area at Wharncliffe Woods, Sheffield. The trial will be delivered across two overhead line spans within an operational transmission corridor and will include ecological surveys, habitat design, intervention delivery and monitoring activities. Learning from the project will be applicable across wider woodland, peatland and climate-risk transmission corridors within the NGET network.

Revenue Allowed for the RIIO Settlement

No expenditure currently included within the RIIO-3 settlement is expected to become surplus to requirements as a result of this project. The project is investigating an unproven methodology and therefore no reduction in baseline vegetation management allowances has been assumed.

Indicative Total NIA Project Expenditure

The total forecast project expenditure is **£74,414**, comprising external delivery costs, internal project management costs, indirect costs and contingency. **£66,973**, representing 90% of the total project cost.

The anticipated expenditure is broken down as follows:

External Supplier Costs (£45,914)

- Milestone 1** - Baseline Ecological Survey: UK Habitat Classification Survey, Biodiversity Net Gain feasibility assessment, habitat mapping and recommendations for habitat enhancement and management. £3,250
 - Milestone 2** - Detailed Habitat Design: Preparation of detailed habitat creation designs, planting plans, landscape drawings and habitat management prescriptions. £6,000
 - Milestone 3** - Habitat Establishment Works: Bracken treatment, grass and wildflower seeding, selective tree felling and stump treatment at Wharncliffe Heathland. £6,858
 - Milestone 4** - Habitat Creation and Restoration: Forestry plantation management, wetland creation, bracken treatment, shrub planting and associated restoration activities. £20,256
 - Milestone 5** - Monitoring and Evaluation: Ecological monitoring, habitat assessment and evaluation of project outcomes. £3,250
- Supplier Project Management and Coordination: Landowner liaison, contractor management and project coordination. £6,300

Total External Costs: £45,914

Internal NGET Costs

Internal project management, governance, assurance, reporting, dissemination and stakeholder engagement activities: £18,000

Indirect Costs

Corporate overheads, finance support, procurement support and administrative costs associated with project delivery: £7,500

Contingency

Contingency provision to manage delivery risks, changes in site conditions and unforeseen implementation requirements: £3,000

Total Project Cost

Total External Costs: £45,914

Total Internal Costs: £18,000

Indirect Costs: £7,500

Contingency: £3,000

Total Forecast Project Expenditure: £74,414

The project will be wholly funded through the Network Innovation Allowance (NIA) by National Grid Electricity Transmission and does not include external funding contributions.

Project Eligibility Assessment Part 1

Requirement 1

Facilitate the energy system transition and/or benefit consumers in vulnerable situations

Please answer **at least one** of the following:

How the Project has the potential to facilitate the energy system transition:

The project has the potential to facilitate the energy system transition by improving the resilience of electricity transmission infrastructure to climate change impacts, including increased vegetation growth and wildfire risk. By trialling nature-based vegetation management approaches, the project will support more sustainable asset management practices, enhance biodiversity and identify opportunities to reduce long-term maintenance requirements. The learning generated will help network operators adapt infrastructure management practices to support a reliable, resilient and environmentally sustainable energy system.

How the Project has potential to benefit consumer in vulnerable situations:

This project has been assessed as having an overall neutral impact on consumers in vulnerable situations because it is focused on vegetation management and network resilience rather than delivering direct consumer-facing interventions. However, successful delivery may improve the resilience and reliability of the electricity transmission network, providing indirect benefits to all consumers, including those in vulnerable situations.

Requirement 2 / 2b

Has the potential to deliver net benefits to consumers

Project must have the potential to deliver a Solution that delivers a net benefit to consumers of the Gas Transporter and/or Electricity Transmission or Electricity Distribution licensee, as the context requires. This could include delivering a Solution at a lower cost than the most efficient Method currently in use on the GB Gas Transportation System, the Gas Transporter's and/or Electricity Transmission or Electricity Distribution licensee's network, or wider benefits, such as social or environmental.

Please provide an estimate of the saving if the Problem is solved

n/a

Please provide a calculation and/or description of the expected benefits of the solution

The Nature Networks project has the potential to deliver net benefits to consumers by identifying a more sustainable approach to vegetation management within transmission corridors. The project will assess whether nature-based interventions can reduce vegetation regrowth, lower wildfire risk, improve biodiversity and enhance network resilience while maintaining operational safety requirements.

If successful, the approach could reduce long-term vegetation management requirements, support more efficient asset management and improve the reliability and resilience of the electricity transmission network. In addition to potential operational benefits, the project will deliver wider environmental benefits through habitat restoration, biodiversity enhancement and climate adaptation, providing value for both consumers and the wider environment.

The project Cost Benefit Analysis indicates that, if successfully deployed at suitable sites, nature-based vegetation management approaches have the potential to generate net consumer benefits through reduced vegetation management costs, lower wildfire risk, reduced operational interventions and improved network resilience. The assessment identified a positive Net Present Value and Benefit Cost Ratio above 1, indicating that the anticipated benefits outweigh the costs of implementation over the assessment period.

The Cost Benefit Analysis was undertaken over a five-year period and assessed the proposed nature-based vegetation management approach against the existing baseline of routine vegetation clearance. Key assumptions included vegetation management costs, reliability and unsupplied load impacts, wildfire risk reduction benefits and avoided operational interventions. Constraints costs were not explicitly modelled due to the uncertainty associated with system access arrangements, outage coordination, network operating conditions, generator availability and seasonal factors, which can vary significantly over time.

The Cost Benefit Analysis was undertaken using innovation NIA calculator project assessment methodology and indicates that, if successfully deployed at suitable locations following demonstration, the approach has the potential to deliver a positive Net Present

Value of approximately £410,000 and a Benefit Cost Ratio of 6:1. The projected benefits are driven by reductions in vegetation management interventions, reduced wildfire risk, avoided operational disruption, improved network resilience and associated environmental improvements. These results indicate that the anticipated whole-life benefits have the potential to exceed implementation costs, providing net value to both consumers and the electricity transmission network.

The primary beneficiaries are electricity consumers, who could benefit from lower whole-life network costs, improved reliability and enhanced resilience of transmission assets. Additional benefits are expected for NGET through improved asset management and for environmental stakeholders through enhanced habitat quality, biodiversity and climate adaptation outcomes.

Please provide an estimate of how replicable the Method is across GB

The method has strong replication potential across Great Britain, particularly within electricity transmission and distribution networks that manage assets located in woodland, peatland and other vegetation-sensitive environments. The project will demonstrate whether nature-based vegetation management approaches, including conservation grazing, habitat restoration, bracken control, low-growing native planting and wetland creation, can provide a sustainable alternative to conventional vegetation clearance practices and enhance wildfire resilience.

NGET has identified approximately 510 km of transmission assets within woodland habitats and 126 km within peatland habitats where similar challenges relating to vegetation growth and / or wildfire risk exist. Subject to successful outcomes, the approach could be adopted across further suitable locations within the NGET network and may also be applicable to other GB network operators facing similar vegetation management and climate resilience challenges.

The principles being tested are not site-specific and could be adapted to local environmental conditions, habitat types and operational requirements. The project will generate practical guidance, evidence and lessons learned to support wider adoption and help inform future vegetation management strategies across the GB energy sector.

Please provide an outline of the costs of rolling out the Method across GB.

The exact cost of GB-wide deployment cannot be determined until the trial has established the effectiveness of the proposed interventions and identified the most suitable habitat management approaches for different environmental conditions. In parallel with this operational pilot project NGET is completing internal mapping work to identify potential areas of network risk based on habitat type, vegetation management status and past wildfire incidents. This internal work would support identification of the highest priority sites for future implementation if the pilot is successful. It should also be noted that 2 spans are being trialled through this project with 4 potential interventions, but interventions for further sites may vary from this due to local geographical (and other) conditions. For example, conservation grazing is dependent on having local availability of interested graziers. Rollout costs would primarily be driven by site surveys, habitat design, bracken control (which as well as being a wildfire is a pre requisite for establishment of alternative stable and slow growing habitat types), planting activities, wetland creation, fencing improvements, conservation grazing arrangements and ongoing monitoring requirements. Costs would vary depending on habitat type, vegetation density, site accessibility, land ownership constraints and the scale of intervention required.

Deployment costs are expected to be lowest where habitat enhancement activities can be integrated into existing vegetation management programmes and higher in remote, access-constrained or heavily vegetated locations requiring more extensive intervention. Additional costs may include ecological monitoring, stakeholder engagement and long-term habitat management activities.

At a GB network level, these costs are expected to be small relative to the potential benefits delivered through reduced vegetation management requirements, lower wildfire risk, improved network resilience, enhanced biodiversity and reduced long-term operational expenditure. The project will provide the evidence required to develop more robust rollout costs and deployment strategies for wider application across suitable woodland, peatland and climate-risk transmission corridors.

Requirement 3 / 1

Involve Research, Development or Demonstration

Projects must have the potential to have a Direct Impact on a Network Licensee's network or the operations of the System Operator and involve the Research, Development, or Demonstration of at least one of the following (please tick which applies):

- ☐ A specific piece of new (i.e. unproven in GB, or where a method has been trialled outside GB the Network Licensee must justify repeating it as part of a project) equipment (including control and communications system software).
- ☐ A specific novel arrangement or application of existing licensee equipment (including control and/or communications systems and/or software)

- ☐ A specific novel operational practice directly related to the operation of the Network Licensees system
- ☐ A specific novel commercial arrangement

Involve Research, Development or Demonstration - Please select all that apply

- ☐ A specific piece of new equipment (including monitoring, control and communications systems and software)
- ☐ A specific piece of new technology (including analysis and modelling systems or software), in relation to which the Method is unproven
- ☒ A new methodology (including the identification of specific new procedures or techniques used to identify, select, process, and analyse information)
- ☒ A specific novel arrangement or application of existing gas transportation, electricity transmission or electricity distribution equipment, technology or methodology
- ☒ A specific novel operational practice directly related to the operation of the GB Gas Transportation System, electricity transmission or electricity distribution
- ☐ A specific novel commercial arrangement

Specific Requirements 4 / 2a

Please explain how the learning that will be generated could be used by the relevant Network Licensees

The learning generated by the Nature Networks project will help Network Licensees understand whether nature-based vegetation management approaches can provide a sustainable alternative to conventional vegetation clearance within transmission corridors. The project will generate evidence on the effectiveness of conservation grazing, habitat restoration, bracken control and low-growing planting in reducing vegetation growth, lowering wildfire risk and improving biodiversity. The learning will support future vegetation management, climate resilience and biodiversity strategies, while reducing uncertainty around the feasibility and scalability of these approaches for wider deployment across GB electricity networks.

n/a

Is the default IPR position being applied?

- ☒ Yes

Project Eligibility Assessment Part 2

Not lead to unnecessary duplication

A Project must not lead to unnecessary duplication of any other Project, including but not limited to IFI, LCNF, NIA, NIC or SIF projects already registered, being carried out or completed. Networks must explicitly mention similar projects that they have considered and how these differ.

Please demonstrate below that no unnecessary duplication will occur as a result of the Project.

NGET has reviewed relevant industry innovation activities, published environmental management programmes and previous network innovation projects and has identified no known GB electricity network project that has demonstrated the use of integrated nature-based vegetation management techniques beneath operational transmission infrastructure at this scale. While individual practices such as conservation grazing, habitat restoration, bracken control and biodiversity enhancement are established environmental management techniques, they have not been trialled together as a vegetation management solution specifically designed to reduce vegetation growth, reduce wildfire risk and improve biodiversity within transmission corridors.

The project builds upon learning from environmental land management initiatives and previous international activities, including work undertaken by Elia-RTE through the LIFE programme, which explored conservation grazing and sustainable land management approaches. However, Nature Networks is focused on demonstrating these interventions within an operational UK electricity transmission environment and evaluating their effectiveness against existing vegetation management practices.

The project therefore complements existing knowledge rather than duplicating it and will generate new operational, environmental and economic evidence that is currently unavailable to GB Network Licensees. The learning will support future vegetation management, biodiversity and climate resilience strategies across the electricity network sector.

If applicable, justify why you are undertaking a Project similar to those being carried out by any other

Network Licensees.

NGET has reviewed relevant industry innovation activities, published environmental management programmes, previous Network Innovation Allowance (NIA) projects, Strategic Innovation Fund (SIF) projects and publicly available environmental management initiatives. This review identified no known GB electricity network innovation project that has demonstrated the use of integrated nature-based vegetation management techniques beneath operational transmission infrastructure as a means of simultaneously reducing vegetation growth, reducing wildfire risk, enhancing biodiversity and maintaining statutory safety clearances.

While individual practices such as conservation grazing, habitat restoration, wetland creation, low-growing native planting and biodiversity enhancement are established environmental management techniques, they have not been trialled together as a vegetation management solution specifically designed for electricity transmission corridors within the GB network sector. Previous innovation activity has generally focused on biodiversity enhancement, environmental management guidance, wildfire mitigation, vegetation monitoring or asset resilience as separate activities rather than as an integrated vegetation management approach.

NGET has reviewed relevant innovation activities available through the ENA Smarter Networks Portal and has not identified any projects that directly replicate the scope of Nature Networks. The most closely related project identified was NIA_NG0169: Analytical Approach for Vegetation Management, delivered by National Gas Transmission, which focused on the use of aerial surveys, digital surface modelling and GIS analysis to identify vegetation encroachment risks. However, that project focused on vegetation monitoring and asset inspection rather than testing alternative vegetation management approaches within operational transmission corridors.

The project also builds upon learning from environmental land management initiatives and international activities, including work undertaken by Elia and RTE through the LIFE programme, which explored conservation grazing and sustainable land management approaches. However, Nature Networks differs by demonstrating and evaluating integrated nature-based vegetation management interventions within an operational UK electricity transmission environment and assessing their effectiveness against existing vegetation management practices, asset management requirements and statutory safety obligations.

NGET has not identified any previous NIA or SIF project that has generated operational evidence for the use of integrated nature-based vegetation management as an alternative to conventional cyclical vegetation clearance beneath transmission assets. The project therefore addresses a recognised evidence gap rather than duplicating existing innovation activity.

The project complements existing knowledge and will generate new operational, environmental and economic evidence that is currently unavailable to GB network licensees. The learning will support future vegetation management, biodiversity enhancement, wildfire resilience and climate adaptation strategies across the electricity network sector.

Additional Governance And Document Upload

Please identify why the project is innovative and has not been tried before

The project is innovative because it applies established ecological land management techniques in a novel electricity transmission context to address vegetation management, wildfire resilience and biodiversity challenges simultaneously. While interventions such as conservation grazing, habitat restoration, bracken control, low-growing native planting and wetland creation are widely used within environmental management, they have not been widely demonstrated as an integrated vegetation management solution beneath operational transmission infrastructure in Great Britain.

Current vegetation management practices are primarily based on cyclical vegetation clearance, which can result in rapid regrowth of undesirable species, repeated maintenance interventions and increased wildfire risk. Nature Networks seeks to test whether self-sustaining habitat creation can reduce the need for ongoing vegetation clearance while maintaining statutory safety clearances, improving biodiversity and increasing network resilience.

The project is innovative because it moves beyond traditional vegetation management approaches by working with natural ecological processes to manage vegetation growth. It combines multiple nature-based interventions within a live transmission environment and evaluates their operational, environmental and economic performance against conventional practices. The project will generate new evidence on the feasibility, effectiveness and scalability of nature-based vegetation management techniques for electricity transmission assets, creating learning that is not currently available within the GB electricity network sector.

Relevant Foreground IPR

The project is expected to generate foreground intellectual property in the form of habitat designs, monitoring methodologies, trial data, project reports, operational learning and best practice guidance relating to the application of nature-based vegetation

management within electricity transmission corridors.

The project is not expected to generate any patented technologies, software or proprietary equipment. No specific background intellectual property is expected to be required to utilise the project outputs, which will be shared through standard NIA dissemination arrangements.

Data Access Details

A description of how any data (de-sensitised where necessary) that are expected to be gathered in the course of the project can be requested by interested parties, and, if applicable, reasons why such data cannot be released to interested parties. This requirement may be met by including a link to the publicly available data sharing policy, which is required by virtue of paragraphs 2.13-2.16 of the RII0-2 NIA Governance Document.

Data for this project and all other projects funded under the Network Innovation Allowance (NIA), Network Innovation Competition (NIC) or the new Strategic Innovation Fund (SIF) can be found or requested in a number of ways:

A request for information via the Smarter Networks Portal at <https://smarter.energynetworks.org>, to contact select a project and click 'Contact Lead Network'. National Grid already publishes much of the data arising from our innovation projects here so you may wish to check this website before making an application.

Via our Innovation website at <https://www.nationalgrid.com/uk/electricity-transmission/innovation>

Via our managed mailbox box.NG.ETInnovation@nationalgrid.com

Please identify why the Network Licensees will not fund the project as a part of it's business and usual activities

Nature Networks will test a novel nature-based approach to vegetation management within operational transmission corridors. While NGET currently undertakes routine vegetation clearance as part of business-as-usual activities, the proposed interventions, including conservation grazing, habitat restoration, bracken control, low-growing native planting and wetland creation, have not been proven within the electricity transmission environment. As a result, there is insufficient evidence to justify their deployment through business-as-usual expenditure. The project is required to generate the operational, environmental and economic evidence needed to determine whether these approaches can provide a safe, effective and cost-efficient alternative to conventional vegetation management practices.

Please identify why the project can only be undertaken with the support of the NIA, including reference to the specific risks (e.g. commercial, technical, operational or regulatory) associated with the project

The project can only be undertaken through NIA funding because it involves the demonstration of an unproven approach within an operational transmission environment and carries technical, operational and commercial risks that would not normally be accepted under business-as-usual activities.

Technical risks relate to the uncertainty around whether nature-based interventions will successfully suppress vegetation growth, reduce wildfire risk and maintain statutory safety clearances. Operational risks arise from implementing and managing new habitat-based techniques around operational transmission assets and understanding their long-term maintenance requirements. Commercial risks exist because the expected benefits, future cost savings and scalability of the approach have not yet been demonstrated. There is also uncertainty regarding the effectiveness of different habitat interventions across varying environmental conditions.

NIA support enables NGET to undertake the trial, manage these risks and generate the evidence required to determine whether the approach can be deployed more widely and deliver long-term benefits for consumers, the network and the environment.

This project has been approved by a senior member of staff

☒ Yes