Notes on Completion: Please refer to the appropriate NIA Governance Document to assist in the completion of this form. The full completed submission should not exceed 6 pages in total.

NIA Project Registration and PEA Document

Date of Submission

Dec 2013

Project Reference Number

NIA_SHET_0001

Project Registration

Project Title

Sustainable Commercial Model For Networks

Project Reference Number

NIA_SHET_0001

Project Licensee(s)

Scottish and Southern Electricity Networks Transmission

Project Start

June 2013

Project Duration

1 year and 11 months

Nominated Project Contact(s)

SSEN Future Networks Team

Project Budget

£499,000.00

Summary

The lack of a clear and consistent commercial approach to quantify and analyse the social and environmental impacts of network developments alongside the economic costs and benefits and illustrate their quantification in a transparent way has let to overreliance on subjective interpretation by TOs and external bodies including planning authorities and potential objectors. This, in turn, has lead to significant delays in projects while these impacts are debated, resulting in an increased cost to deliver infrastructure projects, borne by network customers.

An example of this would be the Beauly Denny line which was delayed for 3 years while a Public Enquiry was held of the the potential impacts of the transmission line on the Scottish Highlands. An estimated cost of £81m was agreed with Ofgem to mitigate the 73 planning consent conditions identified in during the public enquiry; a cost to electricity consumers which could potentially be reduced in future projects from a refined assessment of the social and environmental impacts.

Nominated Contact Email Address(es)

transmissioninnovation@sse.com

Problem Being Solved

The lack of a clear and consistent commercial approach to quantify and analyse the social and environmental impacts of network developments alongside the economic costs and benefits and illustrate their quantification in a transparent way has led to overreliance on subjective interpretation by TOs and external bodies including planning authorities and potential objectors. This, in turn, has lead to significant delays in projects while these impacts are debated, resulting in an increased cost to deliver infrastructure projects, borne by network customers.

An example of this would be the Beauly Denny line which was delayed for 3 years while a Public Inquiry was held over the potential impacts of the transmission line on the Scottish Highlands. An estimated cost of £81m was agreed with Ofgem to mitigate the 73 planning consent conditions identified during the Public Inquiry; a cost to electricity consumers which could potentially be reduced in

future projects from a refined assessment of the social and environmental impacts.

Method(s)

SHE Transmission has internally funded an initial investigation in this area, including research to define the most material areas of social, economic and environmental impact from the construction of existing Transmission Developments. We have also established an advisory board of internal staff (SSE Group Finance Director, Director of Transmission, Sustainability Accountant), external academics (Prof Jan Bebbington, Prof David Collison, Dr Tim Cockerill and Prof Michael Grubb) and professional bodies (Scottish Environmental Protection Agency (SEPA), Institute of Chartered Accountants Scotland (ICAS), Institute of Chartered Accountants England and Wales (ICAEW), Accounting for Sustainability (A4S)) to ensure early stakeholder engagement.

Based on this initial investigation and research, SHE Transmission intends to use NIA funding to progress the recommendations from initial investigation and research to:

· Develop techniques for quantifying the incremental costs and benefits to the environment, society and the wider economy of Transmission developments;

· Based on these techniques, develop and implement an analytical framework in order to provide a holistic understanding of the costs and benefits to the environment, society and the economy of Transmission developments – known as the "Sustainable Commercial Model" (SCM); and

· Trial the SCM in a network environment to illustrate potential application and merits to the GB networks.

It is intended that the Sustainable Commercial Model will provide a consistent measure of the incremental environmental, social and wider economic impacts on network customers, to allow for more informed and consistent:

· Network Planning decisions; and

· Debate on how to analyse and communicate transmission project costs and benefit impacts.

The SCM will use data from SHE Transmission's share of the Beauly Denny line as a case study.

Scope

The scope of this project is to develop and implement methods and an analytical framework to quantify the value the social, environmental and wider economic impacts of Transmission Line Developments (the SCM), and demonstrate the use of the SCM with a specific case study.

Objective(s)

The key objectives of the project are outlined below.

Provide a method and software model for quantifying the contribution of Transmission projects to the wider Scottish and UK economy from direct, indirect and induced expenditure on network projects (demonstrated with a specific case study).

Provide a method and software model for quantifying the social and environmental impact value to stakeholders from the construction of Transmission projects, by providing an effective commercial approach to stakeholder engagements at early stages with transparent case study of examples.

Provide a method and software model for quantifying the incremental social, environmental and economic impacts of optioneering so that more information can be provided to stakeholders to support commercial decisions and their rationale (demonstrated with a specific case study).

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The success of the project can be measured by the financial quantification of the selected methodologies in the SCM by April 2015.

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

The project has been designed on a scalable framework with the level of work in direct implementation of the models being developed and the level of detail in each. Initial estimates are that the project is for the equivalent of 1.5 FTE and external specialised resource for the next 2 years to develop the selected methods into the SCM. The process of demonstration to other TOs would then take place after April 2015 as a discrete dissemination phase.

Technology Readiness at Start

TRL3 Proof of Concept

Technology Readiness at End

TRL5 Pilot Scale

Geographical Area

This project will be undertaken within the SHE Transmission area.

Revenue Allowed for the RIIO Settlement

This project is focused on making more informed and consistent decisions, taking into account overall holistic costs and benefits to Transmission customers. Potential benefits and cost saving may be realised on future infrastructure projects and potentially earlier delivery of strategic projects.

Indicative Total NIA Project Expenditure

The project expects to fund 90% of the project costs from SHE Transmission's NIA allowance.

The total expenditure is expected to be £499k.

Project Eligibility Assessment Part 1

There are slightly differing requirements for RIIO-1 and RIIO-2 NIA projects. This is noted in each case, with the requirement numbers listed for both where they differ (shown as RIIO-2 / RIIO-1).

Requirement 1

Facilitate the energy system transition and/or benefit consumers in vulnerable situations (Please complete sections 3.1.1 and 3.1.2 for RIIO-2 projects only)

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

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

n/a

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

n/a

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 (RIIO-1 projects only)

This project is focused on making more informed and consistent decisions, for the overall holistic benefits of Transmission customers. This consistent holistic approach, backed-up by evidence and case-studies is expected to shorten the duration of the planning process for Transmission Development projects, with an associated cost saving (which would reduce the cost to Transmission customers).

There is also the potential for cost savings from early and informed engagement with stakeholders, to identify the most cost effective options, taking into account the incremental social, environmental and economic impacts.

A key focus of the SCM is having the appropriate reliable and transparent information for the early engagement with stakeholders to ensure that the commercial arrangements for planning or construction decisions are as effective as possible.

Finally, when the SCM is developed the next phase would be to roll it out to other GDNs, OFTOs, DNOs and other TOs so that they may also share the benefit from the main learning points on their own strategic projects and distribute greater financial benefits to their network customers too.

Please provide a calculation of the expected benefits the Solution

Not required for research project

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

The number of possible examples and level of rollout to future projects over £50m will depend on the stage of each project when the SCM is ready for detail testing and the level of incremental economic, environmental and social impact. It is anticipated that at least 3 SHE Transmission future projects between 2015 and 2021 could utilise the SCM from initial conception through to delivery. In addition, it may be possible, to utilise the SCM after April 2015 with SHE Transmission projects which are more advanced than initial conception and optioneering decisions. In addition to SHE Transmission projects it is envisioned that after April 2015 the SCM will be available to other TOs, OFTOs, GDNs and DNOs for them to utilise in their own stakeholder engagement, commercial scoping of preferred options and planning discussions on GB Network projects.

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

It is expected that once the SCM has reached a mature stage for wide spread implementation that the cost of rolling out the method across GB Network would be approximately a total of £75k depending on the level of support required by the other TOs. This total

estimated cost is expected to be the time required to sufficiently train a candidate at the relevant Transmission owner companies and provide initial support for a period of 6 months after the initial training.

Requirement 3 / 1

Involve Research, Development or Demonstration

A RIIO-1 NIA Project 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):

- [x] 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)
- [x] A specific novel operational practice directly related to the operation of the Network Licensees system
- [x] A specific novel commercial arrangement

RIIO-2 Projects

- [ ] 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 plan is that other TOs, DNOs, GDNs and OFTOs would take the lessons learnt in regard to commercial arrangements, data collection and the ability of the SCM to quantify wider economic, social and environmental impacts and apply it to their own strategic projects. The output could then be used for the internal planning stages of optioneering and enhanced and streamlined stakeholder engagement on costs versus impacts discussions.

Or, please describe what specific challenge identified in the Network Licensee's innovation strategy that is being addressed by the project (RIIO-1 only)

n/a

- [x] Has the Potential to Develop Learning That Can be Applied by all Relevant Network Licensees

Is the default IPR position being applied?

- [x] 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.

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

n/a

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

Network Licensees.

n/a

Additional Governance And Document Upload

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

n/a

Relevant Foreground IPR

n/a

Data Access Details

n/a

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

n/a

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

n/a

This project has been approved by a senior member of staff

☑ Yes