

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

Nov 2013

### Project Reference Number

NIA\_WWU\_005

## Project Registration

### Project Title

Unconventional gases within the onshore gas networks

### Project Reference Number

NIA\_WWU\_005

### Project Licensee(s)

Wales & West Utilities

### Project Start

February 2013

### Project Duration

0 years and 11 months

### Nominated Project Contact(s)

Ian Dunston - Wales & West Utilities

### Project Budget

£113,220.00

## Summary

To produce standards for biogas gathering pipelines and biomethane injection into the gas distribution networks. To produce documents for use within the onshore gas industry and a report relating to the impact of shale gas on the gas distribution networks.

### Nominated Contact Email Address(es)

innovation@wwutilities.co.uk

## Problem Being Solved

There are no standards currently available for the gas collection pipelines for biogas and for injection of biomethane into the gas distribution network.

In addition, there is currently no guidance document for the onshore shale gas industry and how it may form part of the gas supply network. The document will reflect industry best practice as well as legislative requirements. The produced document can be used by all interested organisations involved in the process from local councilors, planning officers, exploration companies etc. The development of onshore Shale gas will form part of the UK gas energy mix and the development of the guidance document and the injection criteria of the biomethane Standard will form the basis for Shale gas injection into the gas distribution network.

## Method(s)

IGEM proposes to produce three documents to address these deficiencies. These will be:

IGEM/TD/16 - the IGEM standard for biomethane injection into the gas distribution network;

IGEM/TD/17 - the IGEM standard for biogas pipelines;

IGEM/G/101 the IGEM guidance document on onshore shale gas.

Also, a report relating to the impact of shale gas on the gas distribution networks.

## Scope

To produce standards for biogas gathering pipelines and biomethane injection into the gas distribution networks. To produce documents for use within the onshore gas industry and a report relating to the impact of shale gas on the gas distribution networks.

## Objective(s)

To provide Network Operators and suppliers/operators of biomethane plants with a UK standard for connection to the gas distribution network.. It will include the requirements of any plant in relation to minimum connection, gas odourisation, dewpoint, gas quality measurement etc. This will provide consistency across the gas industry for the benefit of suppliers/operators of biomethane installations and gas distribution network operators.

To stipulate the safe & efficient requirements of any Biogas collection network.

To enable shale gas deposits to be developed in a safe and reliable manner, in order for the gas to be utilized either as a stand alone energy source or for injection into the gas distribution network. This will also involve a report to identify the issues of shale gas extraction and the likely impact of shale gas injection into the gas distribution networks.

In all cases to ensure that all relevant legislative requirements are met.

## Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

## Success Criteria

- 1 Production of standard IGEM /TD/16
- 2 Production of standard IGEM /TD/17
- 3 Production of Guidance note IGEM/G/11
- 4 Production of shale gas report

## Project Partners and External Funding

n/a

## Potential for New Learning

n/a

## Scale of Project

This collaborative project will provide a standard for all Gas Distribution Networks to refer. There are no standards available for the gas distribution networks and biogas/biomethane industry.

## Technology Readiness at Start

TRL2 Invention and Research

## Technology Readiness at End

TRL8 Active Commissioning

## Geographical Area

UK wide

## Revenue Allowed for the RIIO Settlement

No revenue allowance or financial benefits from project. The standards will form part of the suite of documents that IGEM produce that are in the public arena and available to all interested parties. The publication of the documents will also coincide with seminars and training events to enable all parties to have the greatest understanding.

## Indicative Total NIA Project Expenditure

### WWU

£10,625 external cost

£3,527.50 internal cost

£14,152.50 total cost

### NGN

£10,625 external cost

£3,527.50 internal cost

£14,152.50 total cost

### SGN

£21,250 external cost

£7,055 internal cost

£28,305 total cost

### NGG

£42,500 external cost

£14,110 internal cost

£56,610 total cost

£113,220 total NIA project expenditure

## 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)

A common standard will enable the standardization in the design and manufacture of equipment which may result in lower unit costs. In the case of the biomethane/ biogas industry this could result in savings of several thousand pounds per installation. It is a possibility that over the next 10 years that several hundred sites could be developed for delivering biomethane into the gas distribution network. .

#### Please provide a calculation of the expected benefits the Solution

Not required – research project

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

The development of the Standards and Guidance documents will provide a common understanding & set of requirements for the gas industry whilst also providing reference material for the waste industry, renewable industry and commercial developers.

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

The only foreseeable costs of rolling out the new standards would be associated with seminars and training events to enable all parties to have the greatest understanding.

### 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):

- A specific piece of new (i.e. unproven in GB, or where a method has been trialed 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

## 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 development of the Standards and Guidance documents will provide a common understanding & set of requirements for the gas industry whilst also providing reference material for the waste industry, renewable industry and commercial developers.

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

The development of the biomethane injection into the gas distribution network represents a key part of the gas industry embracing renewable technologies. The standardization of the procedure, operation and equipment of biomethane into the gas distribution networks will help both the producers who now have a standard against which to work in developing a commercial biomethane site and the gas distribution networks who will have a Standard against which to approve the work.

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

### 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.

### 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