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NIA Project Registration and PEA Document

Date of Submission

Mar 2018

Project Reference Number

NIA_WPD_031

Project Registration

Project Title

Carbon Portal

Project Reference Number

NIA_WPD_031

Project Licensee(s)

National Grid Electricity Distribution

Project Start

April 2018

Project Duration

0 years and 9 months

Nominated Project Contact(s)

Jonathan Berry

Project Budget

£149,135.00

Summary

This project built on the results from the Carbon Tracing project (WPD_NIA_022). The project facilitated exploitation of the WPD operational data used by the existing carbon tracer app to make it available for third party developers. It investigated what other data could also be made available and by what means to support other (future) apps. The project refined the existing app to improve performance and visibility to better serve those customers already using it and to encourage more users to join.

Preceding Projects

PRJ_1175 - Carbon Tracing

Problem Being Solved

There is currently no ready access to WPD data for third party app developers and this renders further automation in the area of app provision both difficult as well as app creation being reliant on WPD itself at the moment. We also need to understand how best to interact with customers/users when developing and supporting apps in an area which will become much more important under the DSO operating model.

Method(s)

Mobile App data server enhancement and existing app refinement.

This is an IT project continuing the successful Carbon Tracer app development and initial operations, beyond the original scope of that project, to carry out further improvement and prototyping work. We will use the standard Agile IT development project methodology to implement a set of candidate changes according to evolving customer led view of how to enhance the existing Carbon Tracer app using user feedback which continues to be gathered. The data facilitation piece is the priority and the app enhancement work will be tailored to utilize the remaining budget once the data workstream is satisfactorily completed.

Scope

Expansion of initial Carbon Tracing App scope to cover external data access and add selected customer requested enhancements.

Refinement of existing app as a learning test bed.

Objective(s)

Facilitate exploitation - make WPD operational data used by existing app(s) available for third party developers. Identify what other data could also be made available and by what means to support other (future) apps.

Refine the existing app to improve performance and visibility, and consolidate the position of the app in the Carbon footprint awareness space to better serve those customers already using it and encourage more users to join and use the app.

Essentially both elements are confirming WPDs commitment to the app landscape, considered vital for DNO operations.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

An updated app and creation of a new data service via which WPD can better serve customers are key success markers. Increased numbers and a more usable app interface will demonstrate improved user engagement and show that WPD is both committed the existing app and support for apps in general.

Project Partners and External Funding

None. Using third party developer for app refinement and data management.

Potential for New Learning

Third party developer engagement and data dissemination via access portal.

Flush out licencing issues.

Improve user experience in apps.

Prepare for future apps (isolate re-usable elements).

Data sourcing and facilitation for live (API) access and internal processes for making this available externally.

Scale of Project

Small, follow on from existing project for maximizing return and exploitation of new capabilities.

Technology Readiness at Start

TRL2 Invention and Research

Technology Readiness at End

TRL6 Large Scale

Geographical Area

All WPD DNO regions.

Revenue Allowed for the RIIO Settlement

N/A

Indicative Total NIA Project Expenditure

£149,135

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)

Apps can direct users to the most advantageous times for EV charging etc. However these future applications of unknown number and type, cannot be readily estimated at this time. The Carbon Tracer app was £327k to develop, however this included over £155k for user engagement, marketing and high level functional design and GUI modelling with the help of the Carbon Trust. Without this cost, and others that result from reusable elements of the Carbon Tracer, we therefore estimate that a typical app will currently require a CAPEX expenditure of around £120k to design, develop and rollout - although this amount will vary considerably according to the specific "Requirements" in the system specification. This amount then shrinks further if the development work is carried out by third parties who are able to charge for the app on the basis of the user being able to make financial savings or other gains. The core cost to WPD and thus onward to customers is therefore likely to significantly decrease in such cases and be limited to the provision of and support for the data needed to power apps. This data support cost (CAPEX only element) is estimated at £30k per app, but again will depend on the functionality being supported and the data provision must anticipate the sort of data structures that would be required by these external developers.

Please provide a calculation of the expected benefits the Solution

Difficult to quantify as we are principally enabling third party app developers by providing them with data. The saving to WPD is therefore the app design and development cost, however. As an app budget would likely be expected to fall in the range 100 – 200k (depending on its nature) and the data preparation costs are estimated to be in the range £25-30k, the cost benefit falls in the range £75k – £175k per app. As noted above this is highly dependent on the functionality of the app and the ready availability of the data necessary for its operation.

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

IT app hosting can be standardized potentially even sharing host platforms for multiple applications. The processes, methods and even data can be shared/reused. There is no practical limit to what apps can be enabled/produced via these methods.

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

Once implemented, the pilot environment can be expanded at minimal cost to service additional data services and would require just an expanded host server at a cost of around £5k/annum (OPEX). There is no locational dependency.

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 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

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 project outcomes will inform network licencees as to how to make their internal data and processes able to support app development by third parties. User engagement in the customer facing app area will provide useful material on how users interact with apps and what they are looking for.

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 Innovation Strategy contains several projects which would potentially benefit from the availability of a customer facing app for support, for example, DSM activities or electric car charging. These will almost certainly become an area of interest for future app developments and an expanded capability in this area provides a firm basis for these moves. We already have a core app development and support capability, but this now needs generalizing from the single app "bridgehead" where we are currently placed.

- 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.

The app being used as the testbed is only the second of what may become several customer facing apps, and making these easier to produce is the aim of the project. Effectively a new more templated process for app production and pilot versions of hosted solutions will simplify future app production and mean that each app project does not then need to replicate previous ones and can even be implemented by external third party developers.

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

Apps and IT in general are not a core area of WPDs business so making this area open by rendering data accessible to third parties and supporting this app production process will be a significant enabling capability for any/all DNOs.

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

It is an IT/App development and leverage project and as such it is not part of WPDs core competency.

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

Part 1 was NIA funded and involved Carbon Trust as a partner. The initial app premise is highly specialized even within the broader customer base, this specific area of interest will have limited support. However it is well known that Carbon Footprint awareness enablement is a key strategic development area, hence bringing this to the attention of the wider business and beyond that community, is a key NIA function.

This project has been approved by a senior member of staff

Yes