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Network Licensees must publish the required Project Progress information on the Smarter Networks Portal by 31st July 2014 and each year thereafter. The Network Licensee(s) must publish Project Progress information for each NIA Project that has developed new learning in the preceding relevant year.

## NIA Project Annual Progress Report Document

### Date of Submission

Jun 2022

### Project Reference

NIA\_WPD\_059

## Project Progress

### Project Title

Project Vulnerability and Energy Networks, Identification and Consumption Evaluation (VENICE)

### Project Reference

NIA\_WPD\_059

### Funding Licensee(s)

WPD - Western Power Distribution (East Midlands) Plc

### Project Start Date

July 2021

### Project Duration

1 year and 9 months

### Nominated Project Contact(s)

Stuart Fowler

## Scope

The project consists of three work streams that look at the problem through different but aligned lenses. The first is being led by Frontier Economics and this will look at the impact of the COVID19 pandemic on energy networks and how behavioral changes may further impact networks in the future in order to inform network planning.

The second work package will be led by Frazer Nash Consultancy and will look at the challenge of not clearly understanding how to identify, at a granular level, those citizens who require additional support from network operators and energy companies. A substantial amount of work has been done to identify vulnerability at a regional and Lower Layer Super Output Area (LSOA) level, but not at a household level. This project aims to understand power usage at a household level, by identifying and leveraging underlying trends in smart meter data which predict the likelihood of vulnerability, for example, lower energy usage at the end of month could indicate a lower income household.

The third work package will be led by Wadebridge Renewable Energy Network (WREN) a community energy initiative in the South West and this is looking at the challenge of meeting Net Zero in a fuel poor community. It will explore community schemes and business models to suit vulnerable consumers and benefit the distribution network.

## Objectives

Objectives are:

To measure the impact of the recent pandemic on networks and in particular persistence of behavioral changes in the future to inform

network planning.

Model vulnerability in order to be able to predict if a customer has become vulnerable so that DNOs can improve the identification of vulnerable customers and be able to offer more support to the people that need it.

Using a community energy scheme determine the right approaches needed to engage the fuel poor in this transition. This will be done via new business models and schemes to attract them to Net Zero while benefitting the electricity distribution network.

## Success Criteria

Success Criteria for the project are quite extensive but include:

Visualise and Interpret results from both the research on the pandemic and vulnerability analyses.

Model of counterfactual demand on the system, to compare pre/post pandemic.

Persistence level report (ie how many behaviours will persist post pandemic) and network impact.

Proposed community led business model to benefit communities and the distribution network.

Methodology for communities developing NZC future scenarios.

## Performance Compared to the Original Project Aims, Objectives and Success Criteria

- Measure the impact of the recent pandemic on networks and in particular persistence of behavioural changes in the future to inform network planning - Ongoing
  - The persistence analysis is completed and now the Frontier Economics are working with their subcontractor on the smart meter data analysis.
- Model vulnerability in order to be able to predict if a customer has become vulnerable so that DNOs can improve the identification of vulnerable customers and be able to offer more support to the people that need it - Ongoing
  - We have completed WP1 and WP2 and both have been successful based on the data available. We are currently rescopeing the final work package due to the lack of smart meter data for vulnerable customers.
- Using a community energy scheme determine the right approaches needed to engage the fuel poor in this transition. This will be done via new business models and schemes to attract them to Net Zero while benefitting the electricity distribution network - Ongoing
  - Due to the current Supplier crisis this part of the project has been impacted but the WREN team has a proposed change that will still deliver similar outcomes. This is being progressed now.

Performance against our project success criteria is as follows:

- Visualise and Interpret results from both the research on the pandemic and vulnerability analyses – On going
  - This is on target for completion for the end of the project.
- Model of counterfactual demand on the system, to compare pre/post pandemic - On going
  - This is on target for completion for the end of the project.
- Persistence level report (i.e how many behaviours will persist post pandemic) and network impact - Achieved
  - This has been completed and will be made available on our website in due course.
- Proposed community led business model to benefit communities and the distribution network – Ongoing
  - Due to the current Supplier crisis this part of the project has been impacted but the WREN team has a proposed change that will still deliver similar outcomes. This is being progressed now via our Change Request process.
- Methodology for communities developing NZC future scenarios – Ongoing
  - These are well advanced and will be made available on our project website in due course.

## Required Modifications to the Planned Approach During the Course of the Project

Two variations have been undertaken to both WS1 and WS2. Both cater for access to smart meter data and the addition of subcontractors who are able to support the delivery. Both changes have required minor changes to budget and utilised the smart

metering element of the budget (the project allocated some budget for the acquisition of the data needed to undertake the work in Workstreams 1 and 2). No change to total budget nor timescales has been required.

## Lessons Learnt for Future Projects

A lot of learning has been established so far but by far the most interesting ones are the ones that have come out of the community and customer engagement pieces within Workstream 3 with WREN . Highlights of these can be found below:

- WP4-A whole systems approach is needed to achieving Net Zero and some solutions may sit outside DNOs influence.
- WP4-Understanding who is driving certain decisions is key to achieving Net Zero
- WP4-Creating a fair national policy on Net Zero will be challenging and local solutions are required.
- WP4-There are technical, social, financial and policy/ regulatory constraints for most of the solutions being proposed as part of WS2.
- WP4-Some solutions may require phasing with others to create greatest impact.
- WP6-Leveraging existing community groups and how best to engage during a lockdown was inevitably challenging.
- WP6-Using community champions to amplify key messages did help increase community engagement
- WP6-Refine a Dynamic Community Engagement plan, this helps in building relationships and providing space to vocalise community Net Zero concerns. use a broadcast approach, with more interaction.
- WP6-Be aware of and cater for localism in Community Area's, what might work in one community may not in another and message towards each community themselves
- WP6-Use more creative engagement methods – use of stronger imagery; video, artwork, photograph competition.
- WP7-Delve deeper into how we can build trust with members first and then engage.
- WP7- Test the assumption that co-op eratives's have more trust than an average organisation.
- WP7-Find the best route to deliver the message.
- WP7-Difficult to gain internal traction for project during gas price crisis
- WP8 - Lack of knowledge and the difficulty in identifying sources of reliable information. What to do, which technologies are best going forward and the appropriate action to take now. More heating options can become confusing.
- WP8 - Lack of confidence in how technology works. No one solution fits all and what happens if it does not work? Potentially large expenditure on items, (eg heat pumps and E.V.) that may or may not work.
- WP8 - Future uncertainty, tariff increases, fuel supply availability and cost.
- WP8- Access to finance (are there grants?)

Note: The following sections are only required for those projects which have been completed since 1st April 2013, or since the previous Project Progress information was reported.

## The Outcomes of the Project

- Workstream 1 Deliverables are now due in next reporting period
- Workstream 2 Understanding Vulnerability and Energy Usage Report  
<https://www.westernpower.co.uk/downloads-view-reciteme/582871>  
Summary of Findings from Initial Work:  
<https://www.westernpower.co.uk/downloads-view-reciteme/582868>
- Workstream 3 Reports to be made available during next reporting period

## Data Access

Anonymised data will be available to share in accordance with WPD's data sharing policy  
[www.westernpower.co.uk/Innovation/Contact-us-and-more/Project-Data.aspx](http://www.westernpower.co.uk/Innovation/Contact-us-and-more/Project-Data.aspx)

## Foreground IPR

No Foreground IPR has been created to date however the project is on track for completion of the community tools as part of Work Stream 3.