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VENICE

NIA Major Project Progress Report

**July 2021 – October 2021**

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# Executive Summary

The Vulnerability and Energy Networks, Identification and Consumption Evaluation (VENICE) project is funded through Ofgem’s Network Innovation Allowance (NIA) mechanism and has a budget of £1,475,984. Project VENICE was registered in July 2021 and will be complete by December 2022

The project seeks to try to delve into the consumer aspects of the energy transition and is therefore complex and requires significant effort and thought in respect to how best to engage customers in the achievement of Net Zero, moreover it is challenging our business to think about its relationship with customers.

As mentioned previously we cannot underestimate how complex the energy transition is for society to understand and with the global pandemic having increased the spotlight on working patterns, mental wellbeing and changes in energy usage, we believe this complexity has further increased. It is imperative that the industry gets a firmer handle on how to respond in this fast changing environment. However, it is difficult for Distribution Network Operators (DNO’s), like Western Power Distribution (WPD) to gain valuable data and insights into this.

Project VENICE aims to look at three different aspects of the energy challenge and the low carbon transition. Firstly, it is looking at the pandemic and how this has impacted energy consumption, as well as identifying whether these changing behaviors may “stick”, in order to inform our future planning approaches. The second is looking at how it could be possible to predict if a customer has become vulnerable by analysing their energy usage patterns using existing known patterns for customers with vulnerabilities, it will do this by using real anonymized vulnerable consumer profiles. The third is taking a local community where there are high levels of poverty and developing new business models for those customers in order to keep them engaged in Net Zero and provide benefits to the distribution network. It will use insights from the other two work packages in order to achieve this.

This report details progress of the project, focusing on the last six months, April 2021 – October 2021.

## Business Case

The social value of signing new customers up to the Priority Services Register (PSR) has been calculated by each of the networks. For WPD, this value is £2.35 per customer (based on the paper: “WPD, Consumer Vulnerability Outcomes, 2018/19, Table 3.3”).

Other networks calculate a benefit of similar magnitude, ranging from £1.09 per customer to £3.70 per customer.

We estimate the total number of vulnerable customers on their network to be around 5.7m, and the number of PSR records is 3.6m. We therefore suggest the total number outstanding vulnerable customers on the register is therefore around 2.1m (based on WPD social indicator mapping).

To illustrate the potential benefits, if this intervention identifies an additional 25% of missing vulnerable customers, this could create additional social value worth £1.25m to network customers. Being able to identify all of these missing vulnerable customers proactively would therefore create social value of c. £4.935m. If this was extrapolated to all DNO’s and assuming 1m missing PSR records per DNO, this could equate to £11.75m of social value.

The benefits that come from understanding more about the impact of the recent pandemic are twofold: firstly we will have a view on the demand impact of the pandemic and the results will assist within our network planning. The results of this research will be made available to all DNO’s and therefore there will be a direct benefit we believe in being able to apply the results to our policies and assumptions associated with network planning to WPD and all DNO’s. We would expect to see benefits for customers through better planning and decision making around local networks.

The second benefit will be in the design assumptions we make for future developments if we know the likely impact on demand of more localised home working. Again, whilst intangible today, this is something that could be incredibly valuable to us and all other DNO’s to have in their planning toolkits.

The final benefit will come from the persistence assessment – if reinforcement work were to be undertaken without some view of the likelihood of persistence of demand changes then there is a chance that works might be done unnecessarily. Having a reasoned analysis of the likelihood of the changes continuing could provide substantial benefit to customers in the longer term.

The benefits of the local community engagement workstream come from firstly ensuring that no one is left behind but also, the achievement of Net Zero is Government policy and if by testing new business models we can ensure that we have learning to provide to all communities (through tools and techniques), this could be a substantial benefit to the UK and it’s goals. Having the tools in place to measure and plan a local energy transition could play a substantial role for the more deprived communities in the UK. Equally, these local energy schemes could provide significant benefits to networks through the use of Low Carbon Technologies (LCTs) and engagement in flexibility markets. Flexibility markets alone are expected to benefit customers substantially in the future.

## Project Progress

This is the projects first progress report. It covers progress from initial registration in July 2021 to the end of September 2021.

As the project was recently registered, progress has been limited to literature reviews and preparatory work for the three workstreams. We have further completed the assessment of the viability of modelling differing appliances in Workstream (WS)2 and started the work on the Carbon Accounting work in WS3. For WS1 we have completed the framework for the persistance assessment and created all of the hypotheses for the framework, this will now be used as we start to gather the data. Similarly, to WS2 there is a need for some smart meter data but not at the same level so we have a plan in place for Frontier Economics to work with a party to do the relevant analysis.

## Project Delivery Structure

* + 1. Project Review Group

The VENICE Project Review Group (PRG) meets on a bi-annual basis. The role of the PRG is to:

* Ensure the project is aligned with organisational strategy;
* Ensure the project makes good use of assets;
* Assist with resolving strategic level issues and risks;
* Approve or reject changes to the project with a high impact on timelines and budget;
* Assess project progress and report on project to senior management and higher authorities;
* Provide advice and guidance on business issues facing the project;
* Use influence and authority to assist the project in achieving its outcomes;
* Review and approve final project deliverables; and
* Perform reviews at agreed stage boundaries.

The PRG for VENICE is due to meet during Q4 2021.

* + 1. Project Resource

Resourcing is delivered via three project partners:

|  |  |
| --- | --- |
| Partner | Resourcing |
| Frazer Nash Consultancy | Frazer-Nash Consultancy will lead this workstream. Frazer-Nash is a leading systems, engineering and technology company. They will be using their skills and talents to delve into the use of Smart Meter data for the purposes of identifying vulnerability. They have a wide breath of experience undertaking research projects, and their diverse set of expertise uniquely place them to undertake the laboratory and technical research required for this project. |
| Frontier Economics | Frontier Economics are the lead project partner for this workstream and will manage the delivery of the project, as well as carrying out all analysis.  Maxine Frerk will be subcontracted by Frontier in her capacity as an associate of Sustainability First. She will provide expert advice and quality assurance for this project. |
| Wadebridge Renewable Energy Network (WREN) | WREN is a registered society engaged in increasing the take up and sharing the benefits of renewable energy in the Wadebridge and Padstow Network Area. It is led by volunteers on the Board of Directors and has over 1,100 members. WREN was founded in 2011 to advance education and raise awareness of energy resource scarcity and low carbon living. Promoting individual, community and organisational commitment to reduce carbon emissions, whilst providing a sustainable means of achieving economic development and regeneration.  WREN are responsible for delivering workstream 3 and  Each Work Package is being delivered by a series of sub-contractors/partners which include: University of Exeter, Planet A Energy (Planet A), Community Energy Plus (CEP) and Your Coop Energy (YCP). |

## Procurement

No procurement activity has been undertaken during this period.

## Project Risks

A proactive role in ensuring effective risk management for VENICE is taken. This ensures that processes have been put in place to review whether risks still exist, whether new risks have arisen, whether the likelihood and impact of risks have changed, reporting of significant changes that will affect risk priorities and deliver assurance of the effectiveness of control.

Contained within Section 7 of this report are the current top risks associated with successfully delivering VENICE as captured in our Project Risk Register.

## Project Learning and Dissemination

Project lessons learned and what worked well are captured throughout the project lifecycle. These are captured through a series of on-going reviews with stakeholders and project team members, and will be shared in lessons learned workshops at the end of the project. Learning is captured in two distinct categories: the learning that we want to achieve as part of the project and that which is captured along the way. These are though reported in Section 5 of this report.

Events and dissemination activity where VENICE has been featured has included:

**WPD Innovation Showcase**- An overview of the project was provided. As it was newly registered at the time this was an early chance to socialise the work that we are doing on VENICE and discuss our approach with stakeholders within a breakout session.

**Social Media**- we have undertaken a campaign to socialise the project, which led to:

* Peninsula Transport Strategy workshop – we attended a workshop specifically to go through the challenges of mobility in the future and the impact of such on the fuel poor and vulnerable in the South West.

No other events have taken place so far in the project lifecycle.

# Project Manager’s Report

## Project Background

The project has been running in practice for one month and is therefore in its very early stages. The high level delivery plan is shown below:

Jul 21

Nov 21

June 22

Dec 22

Phase 3

Phase 2

Phase 1

Frazer Nash

WP3

Go/No Go

Frazer Nash

WP2

Frazer Nash

WP1

Go/No Go

Frontier EconomicsWP3

Frontier Economics

WP1-2

WREN

WP1-7

*Fig 2-1: High level plan*

The project is divided into three workstreams with a number of work packages in each one. The bulk of the work actually started in August and will be completed by the end of December 2022.

Frontier Economics workstream is in part a desktop research exercise exploring the effects of the global pandemic on the WPD network as well as exploring how persistent changes in behaviour may impact the network longer term(e.g. home working and our planning assumptions) but it too could be enhanced with smart meter data and we are exploring how best to facilitate a good outcome with some options for obtaining some supporting data.

The Frazer Nash workstream will explore through the use of Artificial Intelligence and Machine Learning if it is feasible to predict vulnerability types via smart metering data. It has a couple of decision points and this is because it is wholly predicated on smart meter data and this presents a current regulatory risk but we have been working through a series of options to deliver what is needed with the whole team.

The WREN workstream is about how a community could engage its fuel poor and vulnerable consumers through a community energy scheme in achieving Net Zero. It will explore business models and “nudges” to see what can work in the context of Net Zero and make these models/ insights available to all communities. It is largely outsourced to a series of local experts and agencies to deliver and in particular the community engagement piece with a number of local charities supporting WREN.

## Project Progress

As the project is early in its lifecycle the effort has been focussed on planning, risk mitigation and the early tasks such as literature reviews. The project has started with some good early outcomes and results, the initial results of the Frazer Nash work have been approved as the initial assessments of the viability were compelling. More work now is needed on data acquisition and we have some real optimism that we can obtain data- albeit it will be the partners obtaining it on the projects behalf. This helps with the mitigation of the risks associated with our role as a DNO.

## Frontier Economics – Workstream 1

This workstream is divided into two work packages and dissemination:

* **Work Package 1a** involves the analysis of data to determine:
  + how have patterns of consumption changed as a result of COVID-19;
  + which factors may have
* **Work Package 1b** will use behavioural economic tools to consider:
  + the consumer behaviour that may underlie these changes; and
  + to what extent these changes may persist.
* **Work Package** **1c**- Dissemination

The final dissemination event will not occur until early 2023, approximately a year after WP2 finishes. Work package 1c will cover reporting and dissemination required at this point.

**Progress summary:**

*Workstream 1, data analysis*

* Investigated the availability of customer-level data with various parties.
* Received samples of data from one party, and undertaken some basic descriptive analysis to understand the data better.
* Drafted inputs for a proposal to additional party, which will feed into our joint proposal to use customer-level data.

Access to customer data for these types of research project remains a real issue, however, having explored options we now have a plan based on the use of a third party smart meter data set to complement the data that WPD can provide. The third party will provide a “walled garden” approach to the delivery of the analysis that will be required.

*Workstream 2, persistence assessment*

* Completed a literature review on the following areas using i). key search terms; ii). references from searched papers; and iii). papers recommended by external experts:
  + The key customer attributes that affect electricity consumption;
  + General behaviour change during COVID-19;
  + The impact of COVID-19 on energy consumption; and
  + General literature on habit formation.
* Summarising the key evidence from the literature, considering what the relevant findings might be for our analysis.
* Creating hypotheses on changes to electricity consumption during the pandemic, based on key customer attributes and evidence of behavioural change.
* Developed a logic model to map causal relationships between behaviour and energy consumption.
* Adapted a behavioural economics framework to consider how persistence might apply to changes in electricity consumption for customers with different attributes. This framework has been started to be applied.
* Started to build out some medium term scenarios for each of these hypotheses.
* It has been found from the literature that the key customer attributes that drive differences in electricity consumption are (broadly) income, household size, age and employment status. This is the impact on overall demand and also peak demand. For example, high income households consume more electricity and have a higher peak than low income households.
* We found seven hypotheses for how behaviours may have changed during the pandemic that impact electricity consumption (including the “working from home” behaviour, but six others which broadly fall into two categories: staying home for longer periods, and households moving).
* Frontier Economics now have a framework for thinking of persistence, which is a ‘Trigger, Action, Reward; Ease of Persistence’ framework, and is based on a framework Frontier behaviour experts have used in different contexts. The idea is that persistence will depend on the ‘rewards’ on offer to individuals as a result of changing behaviour.

For each customer behaviour hypothesis, Frontier Economics have considered the size of the impact and the chance of behaviour persisting. In short, the biggest factor that it is thought to influence electricity consumption load profiles in the medium term is continued working from home, given that i). this affects a large subset of the population; and ii). there are a range of potential medium term outcomes, which are influenced by many factors (some of which are measurable, some of which are not). There are also like to be compounding effects, which means there are likely to be days of many people working from home, and days of fewer people working from home. Other behaviours might persist, but these behaviours: i). affect a smaller subset of the population; and ii). are less certain to persist in some way. The modelling work will try and give a bit more of a sense of how big these impacts are.

## Frazer Nash Consultancy – Workstream 2

**Overview**

Frazer-Nash Consultancy (Frazer-Nash) have three work packages in VENICE: 2a, 2b and 2c. There is a hold point between each of these work packages to confirm that there is sufficient knowledge and suitable results to continue to the next. In the last six months, Frazer-Nash have delivered the results from WP2a and started WP2b.

**WP2a: Dataset Preparation**

The aim of WP2a was to confirm access to appropriate training and validation datasets required to build the predictive model, and to finalise the architecture of the deployed platform. The hold point, to determine continuation of the project, considered the following questions:

* Is the proposed training dataset generation appropriate?
* Is a validation dataset obtainable?
* Is the process to obtain customer data once the platform is deployed agreed?

WP2a Task 1: Training Dataset

The aim of this task was to develop a proof-of-concept model training dataset, to determine whether the proposed method for generating the training data is suitable.

To generate the training dataset, Frazer-Nash intend to create synthetic smart meter usages which represent real usage. With these, Frazer-Nash will train their model to behavioural characteristics in smart meter data that may be related to vulnerability. To build the proof-of-concept training dataset for this task, Frazer-Nash focused on building synthetic datasets using the highest power appliances: washing machine, kettle, toaster, and microwave.

For each appliance, Frazer-Nash used open-source appliance data from the UK Energy Data Centre, to determine how much power is drawn by the appliance, how long the appliance is used for, when, during the day, it is used and how many times a day it is used. These distributions of usage statistics were sampled, aggregated and averaged over 30 minutes to build up a synthetic profile. These synthetic profiles were compared to the real household data, and it was concluded that the random nature of real usage was accurately captured.

As part of this phase, Frazer-Nash also completed a literature review. From this, a new model development workstream was added to WP2b, which looks at overall trends in a household’s data and quantifies changes to this. The approach for model development was also shifted slightly from the learnings of the literature review, but none of the outputs were affected.

WP2a Task 2: Validation Dataset

Obtaining data for the validation dataset led to ongoing discussions with many companies, charities and community groups. After a significant amount of work from Frazer-Nash and WPD, it was determined that we would obtain permission to use consumer data directly from the consumer by sending a questionnaire. This will be completed by Frazer-Nash.

WP2a Task 3: Deployed Platform Architecture

Due to the ongoing difficulties around obtaining long term smart meter data input to the model, the deployed platform architecture is still not confirmed but work continues to secure the data and then a final architecture can be determined.

WP2b: Determine Vulnerability Behavioural Characteristics & Develop Model

The aim of this work package is to determine the behavioural characteristics of vulnerable customers regarding their electricity consumption, and to build a model to recognise these characteristics in the synthetic usage profiles. This work package is separated into two tasks that have started in September and will be run in parallel.

WP2b Task 1: Determine Vulnerability Behavioural Characteristics

The aim of this task is to determine the set of behavioural characteristics, in relation to electricity usage, that a person might exhibit if they have a vulnerability. Frazer-Nash will complete a literature review and use the findings to hold a series of workshops with charities and community groups, to determine these behavioural characteristics.

Frazer-Nash have completed the literature review and will now work with our PSR and Social Obligations teams to determine the knowledge WPD already hold on the customer usage patterns. Following this, a workshop will be arranged with the social obligations team to down-select the charities and community groups to target, so that Frazer-Nash can hold the external workshops.

WP2b Task 2: Generate training data and develop model

The aim of this task is to create a set of synthetic household profiles and use them to train machine learning pattern recognition models to recognise behavioural characteristics in smart meter usage, that are related to vulnerabilities.

Following the literature review in WP2a Task 1, the detailed method for model development has been updated slightly. This was communicated in the kick-off meeting with WPD. Frazer-Nash highlighted the key technical risks for the model development, noting that this is a research project, and the approach may change further. Frazer-Nash have structured their approach to minimise the impact of these technical risks. Primarily, by initially undertaking key model development activities in parallel.

## Wadebridge Renewable Energy Network – Workstream 3

The 18 month feasibility study carried out by WREN is spread across 7 work packages, allowing the project team to deliver this workstreams 6 main objectives:

* Develop future likely net zero carbon scenarios to 2050 based on Wadebridge to help Network Operators to frame the likelihood of impact to vulnerable customers.
* Develop a carbon accounting methodology to qualitatively compare impacts and interventions.
* Identify technologies, systems, and approaches to reach Net Zero Carbon in Wadebridge by 2050 that positively support vulnerable customers and inform approaches and policy levers that may be needed from a Networks perspective.
* Develop community-led business models that have the potential to deliver socioeconomic benefits and are supported by the local community and how this will intersect with Network Operators.
* Working with an Energy Supplier, develop a methodology to provide the carbon content of energy supplied in customer billing & settlement to drive better consumer choices in reducing carbon and measure how this will impact the distribution network and it’s CO2 reduction strategy. This will include learning from the Carbon Tracer NIA project previously undertaken by WPD
* Develop & share methodologies & learnings for other communities to define their own 2050 Net Zero Community (NZC) scenarios and models.

During this period the following activities have been completed in line with WREN’s project plan:

* Terms of reference have been agreed for the Community Advisory Group (carried out by WREN) – this is an important part of the community engagement model within VENICE and as such is a significant milestone. Ensuring that the Advisory Group can support us in the projects objectives is going to be vital.
* Review of Energy Scenario’s and other methodologies (carried out by Exeter University) – these will be applied to the Wadebridge area to produce a Net Zero plan for Wadebridge.
* Community Engagement Plan has been signed off (carried out by WREN and their partners)
* Paper on Vulnerability in the Non Domestic Sector (carried out by CEP) – this is a key element of the socio-economic position in the South West.
* Review of Technical and System Options (carried out by Planet A) – the output of this was a report focused on the solutions and geography best suited to VENICE

All of the activities were completed to time and as such this part of the project is well on track. An additional risk will be raised for the coming period around the current energy industry issues as the workstream is dependent on an energy supplier to support its objectives. We do not expect this to materialise but we are monitoring any developments.

# Progress against Budget

The project only commenced work recently following initial delays with contract finalisation. The budget has now started to be allocated to partners accordingly. Work is now fully underway so it is expected that the progress against budget will continue to increase as planned. Please see Table 3-1 for details:

**Table 3-1: Progress against Budget**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Spend Area | Budget(£k) | Expected Spend to Date (£k) | Actual Spend to Date (£k) | Variance to expected (£k) | Variance to expected % |
| WPD Project Management | £75,273 | £6,937 | £2,218 | -£4,719 | -68% |
| Contractors | £1,196,530 | £204,417 | £56,625 | -£147,792 | -72% |
| Dissemination | £20,000 | - | - | - | - |
| AI/ML Consultancy Support | £100,000 | - | - | - | - |
| Smart Meter Data | £50,000 | - | - | - | - |
| WPDIR Costs | £50,000 | - | - | - | - |
| Contingency | £134,180 | - | - | - | - |
|  | £1,475,984 | £211,354 | £58,843 | -£152,511 | -72% |

# Progress towards Success Criteria

The project has made the following progress towards its Success Criteria for each of the work packages:

Work Package 1- Frontier Economics

|  |  |
| --- | --- |
| Success Criteria | Status |
| A model of counterfactual demand is built | This will commence once the relevant data sources have been sourced.  Status: Not started |
| Calculate the impact of COVID on each Feeder | Work on this can now commence following the completion of the literature review  Status: Not started |
| Able to describe and visualise the results | Will be started once the analysis has been completed.  Status: Not started |
| Able to assess which factors are associated with different responses to COVID | Work on this can now commence following the completion of the literature review  Status: Not started |
| Able to determine which behaviours will “stick” post pandemic | Work on this can now commence following the completion of the literature review, the framework of persistance has been completed along with the associated hypotheses.  Status: Not started |
| Determine the impact on the network for those behaviours that are deemed to be likely to stick | Work on this can now commence following the completion of the literature review  Status: Not started |

Work Package 2 – Frazer Nash Consultancy

|  |  |
| --- | --- |
| Success Criteria | Status |
| The proposed training dataset generation is appropriate | This will be commenced once data has been sourced.  Status: Not started |
| A validation dataset will be obtainable | Work to gain access to a validation dataset will commence during the projects next phase now that we have a range of options.  Status: Not started |
| The deployed platform architecture and long-term customer data access is known. | Once work has been completed to determine data sources, work will commence to discuss long term solutions ahead of the third work package commencing.  Status: Not started |
| The model can recognise short and long term patterns in the synthetic household profiles | Part of the initial work on this has started with selection of household appliances and the work to model what these appliances look like against standard profile  Status: Started |
| Frazer-Nash and WPD agree that a deployed platform is beneficial given the achieved model accuracy | To be started once project is completed and testing undertaken.  Status: Not started |

Work Package 3- Wadebridge Renewable Energy Network

|  |  |
| --- | --- |
| Success Criteria | Status |
| Able to produce a methodology for community approaches to Net Zero | Top 6 Solutions have been agreed as part of the Planet A work, during this next phase the next level of detail will be determined.  Status :Ongoing |
| Able to produce a methodology for carbon accounting | Literature review is complete, scope work is under way and will be completed during next period  Status: Started |
| Able to produce an approach for engaging communities in Net Zero | Community Engagement plan produced and agreed by partners, therefore plan is established. It will be progressed during the coming phases of the project  Status: Started |

# Learning Outcomes

New learning points that have been captured are detailed below and where the learning pertains to a project learning this is noted as well:

|  |  |  |
| --- | --- | --- |
| Learning Point | Learning Point Type | Commentary |
| The provision of smart meter data has been complex to resolve, is still not wholly resolved but the key take away has been that the combined efforts of the whole team working together has distilled our approach down to some key potential sources. | Captured | The complexities of the smart meter data domain and GDPR are complex and rightly so but it has also created considerable effort to try and find sensible routes to resolve the matter. Moreover we have had a good set of project partners engaged in the issue to help. |
| Is it feasible to obtain good quality smart meter data independently of Data Communications Company (DCC)? | Outcome | It seems that there are some good sources of data out there and as such it has been really invaluable to have partners who have been able to actively source data acquisition opportunities, |
| If we had known the challenges in obtaining large sets of smart meter data from suppliers, we would have attempted to obtain this data via community engagement sooner. This is because engaging directly with community groups is far more successful as we can obtain direct access to the data, and you also get insights from the communities. | Captured | N/A |
| The complexity of the process of obtaining differing datasets does require thought and work in order to work through it. | Captured | Allowing time and resource would be advantageous in future projects to resolve complex data matters. |

# Intellectual Property Rights

A complete list of all background Intellectual Property Rights (IPR) from all project partners has been compiled. The IPR register is reviewed on a quarterly basis. No New foreground IPR has been generated by VENICE during this period.

# Risk Management

Our risk management objectives are to:

* Ensure that risk management is clearly and consistently integrated into the project management activities and evidenced through the project documentation;
* Comply with WPDs risk management processes and any governance requirements as specified by Ofgem; and
* Anticipate and respond to changing project requirements.

These objectives will be achieved by:

* Defining the roles, responsibilities and reporting lines within the Project Delivery Team for risk management;
* Including risk management issues when writing reports and considering decisions;
* Maintaining a risk register;
* Communicating risks and ensuring suitable training and supervision is provided;
* Preparing mitigation action plans;
* Preparing contingency action plans; and
* Monitoring and updating of risks and the risk controls.

## Current Risks

The VENICE risk register is a live document and is updated regularly. There are currently 53 live project related risks. Mitigation action plans are identified when raising a risk and the appropriate steps then taken to ensure risks do not become issues wherever possible. In Table 7-1 below, we give details of our top five current risks by category. For each of these risks, a mitigation action plan has been identified and the progress of these are tracked and reported.

**Table 7-1: Top five current risks (by rating)**

|  |  |  |  |
| --- | --- | --- | --- |
| Details of the Risk | Risk Rating | Mitigation Action Plan | Progress |
| The smart meter data needed to undertake the predictive analytics for the FE and FNC work is proven to be unusable, or of poorer quality than envisaged | Major | Extensive investigation into alternatives and socialisation of the requirements. | We continue to explore a number of viable alternatives to getting good quality smart meter data for FNC and FE. We expect this to be finalised during the next two months. |
| It is not possible to get the relevant permissions in place to provide the data needed in order to undertake large parts of the work in the WPs | Major | Investigate all sources of data and continue to plan accordingly. | The team have been working through a number of alternative sources of data and this is a key focus for the team. We believe as with Smart Meter data that this will be resolved over the coming two months. |
| Engagement during pandemic - significantly more challenging due to changing government guidelines, nervousness of face to face contact/ groups etc., people do not have the capacity, or are unable to prioritise engagement due to more pressing matters. Particular higher risk with engaging vulnerable customers, less so with wider stakeholder engagement. | Major | Variety of community engagement techniques used, using existing social networks and socio-support groups | We will monitor this throughout the project and plan accordingly if evidence starts to emerge. It is important that the community part of this project is successful. |
| Publically available supporting data is of insufficient quality to deliver against milestones and outputs | Major | Explore as many alternatives initially and down select as appropriate | We continue to explore a number of options around all the data that will be needed and we expect to have a vision for how this will be addressed over the coming two months. |
| Vulnerability outreach is unsuccessful/ poor | Major | Recruitment of influential organisations on community advisory board to broker good relationships | Planning for the community outreach as early as possible is vital to that end the communications plan for the outreach has been started. |

Table 7-2 provides a snapshot of the risk register, details graphically, to provide an on-going understanding of the projects’ risks.

**Table 7-2: Graphical view of risk register**

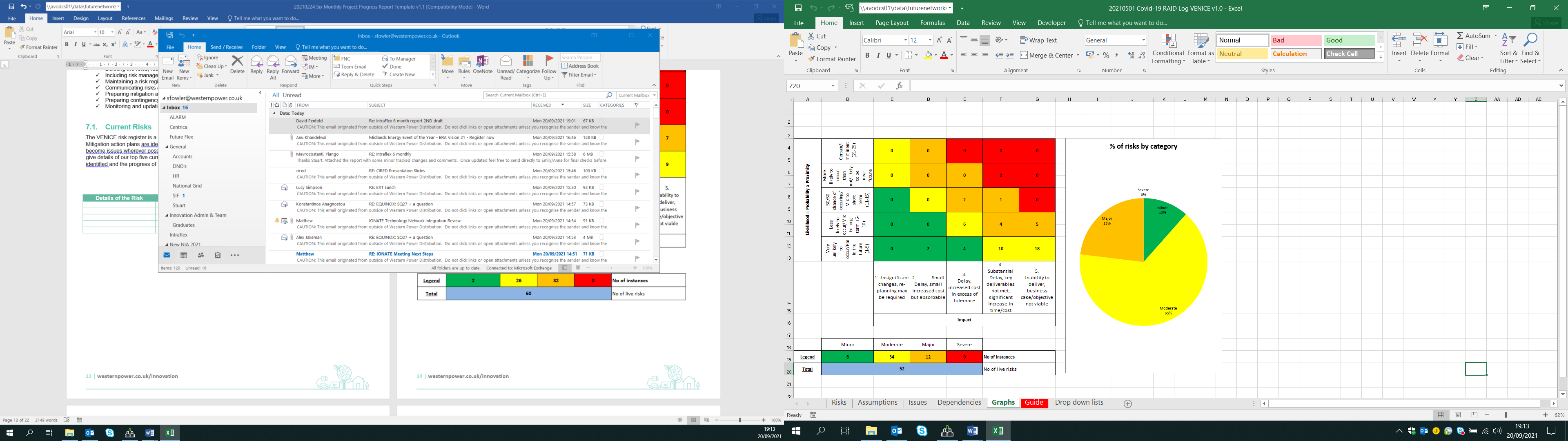
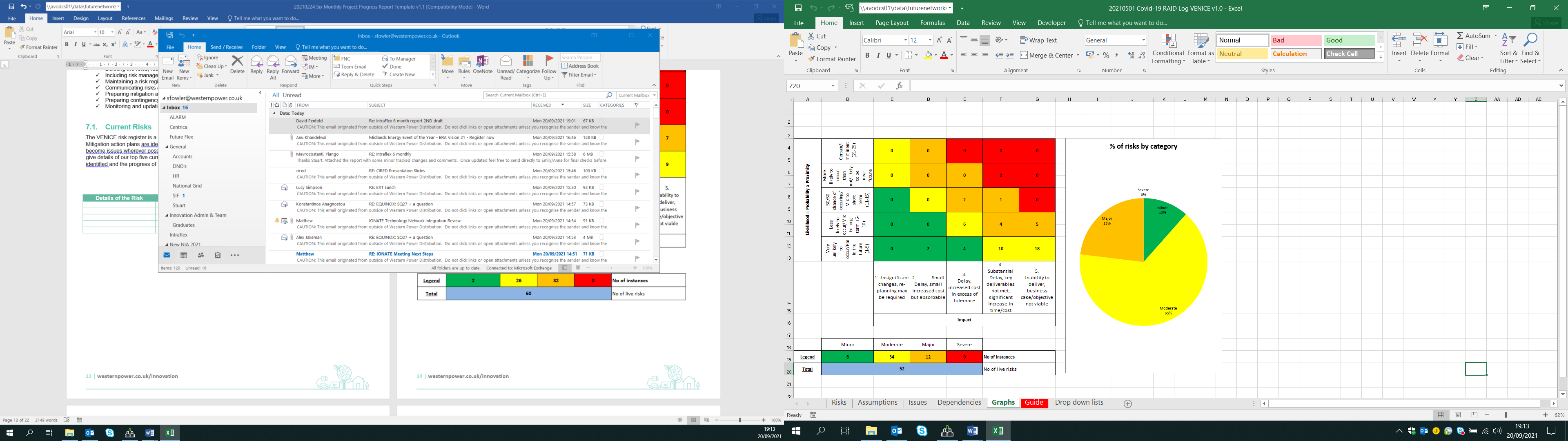


Table 7-3 provides an overview of the risks by category, minor, moderate, major and severe. This information is used to understand the complete risk level of the project.

**Table 7-3: Percentage of risk by category**



## Update for risks previously identified

None previously identified.

# Consistency with Project Registration Document

The scale, cost and timeframe of the project has remained consistent with the registration document, a copy of which can be found here:

<https://www.westernpower.co.uk/innovation/projects/vulnerability-and-energy-networks-identification-and-consumption-evaluation-venice>

# Accuracy Assurance Statement

This report has been prepared by the VENICE Project Manager, Stuart Fowler, reviewed by Ryan Huxtable and approved by the Innovation Manager (Yiango Mavrocostanti).

All efforts have been made to ensure that the information contained within this report is accurate. WPD confirms that this report has been produced, reviewed and approved following our quality assurance process for external documents and reports.

Glossary

|  |  |
| --- | --- |
| Abbreviation | Term |
| CEP | Community Energy Plus |
| DCC | Data Communications Company |
| IPR | Intellectual Property Rights |
| LCT | Low Carbon Technology |
| NIA | Network Innovation Allowance |
| NZC | Net Zero Community |
| PRG | Project Review Group |
| PSR | Priority Services Register |
| VENICE | Vulnerability and Energy Networks, Identification and Consumption Evaluation |
| WP | Work Package |
| WPD | Western Power Distribution |
| WREN | Wadebridge Renewable Energy Network |
| WS | Workstream |
| YCP | Your Coop Energy |

Appendices

A close up of a logo

Description automatically generated**Western Power Distribution (East Midlands) plc, No2366923**

**Western Power Distribution (West Midlands) plc, No3600574**

**Western Power Distribution (South West) plc, No2366894**

**Western Power Distribution (South Wales) plc, No2366985**

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A picture containing drawing

Description automatically generated**www.westernpower.co.uk/innovation**

