Domestic and I&C Demand Side Response

My Electric Avenue

Richard Hartshorn 13th October 2014

Scottish and Southern Energy Power Distribution

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ea technology

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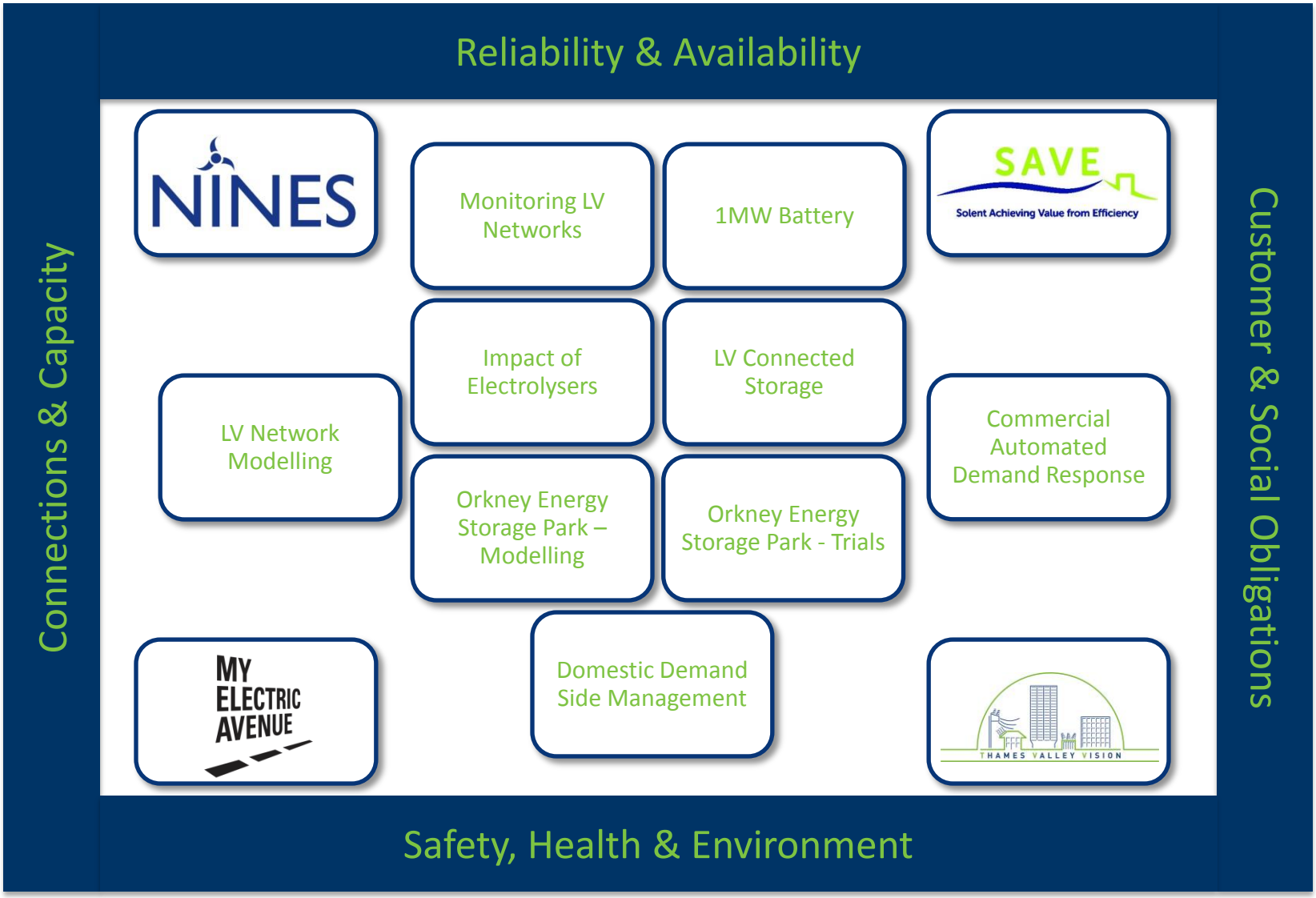
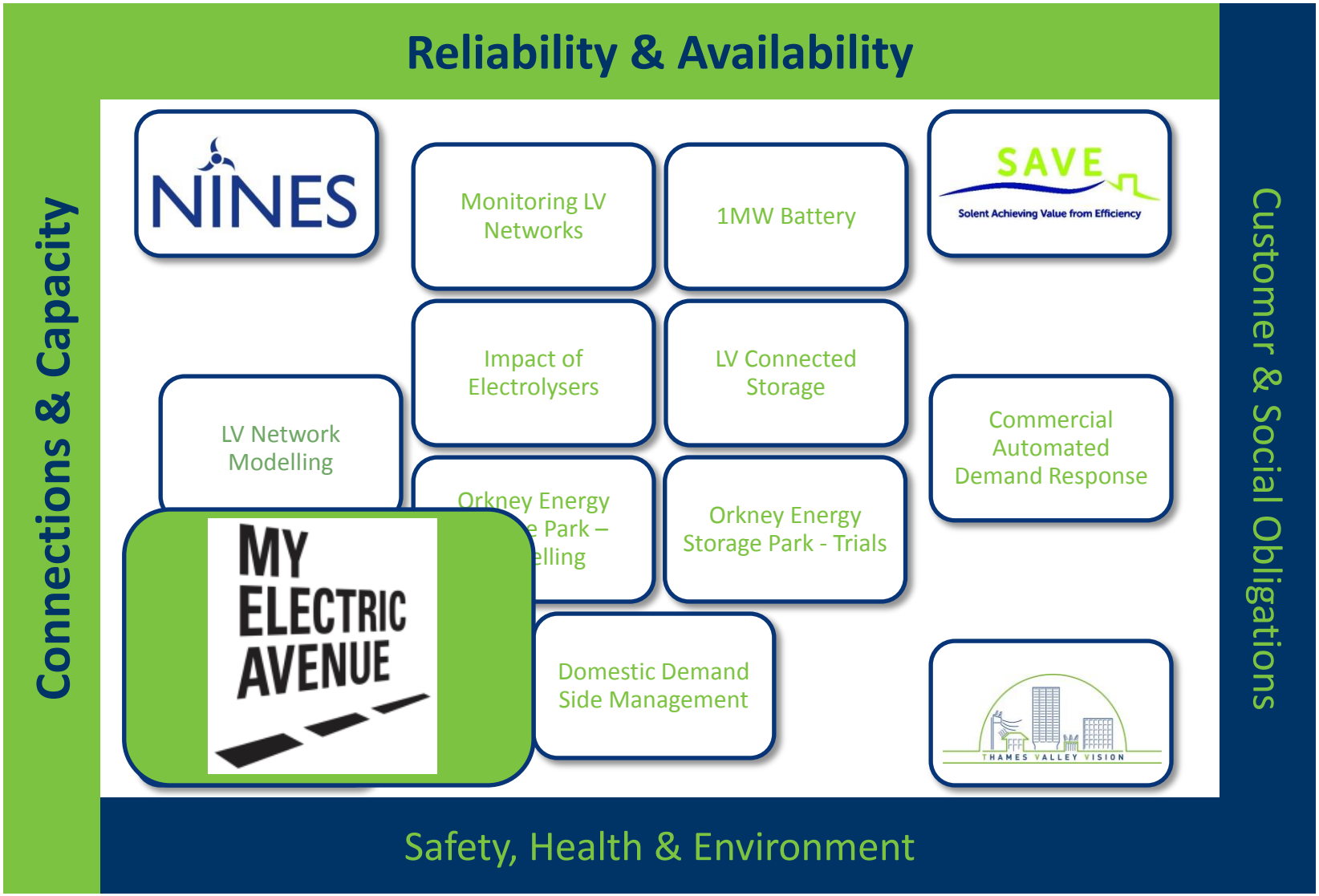


LCNF Project Portfolio

Scottish and Southern Energy
Power Distribution



LCNF Project Portfolio

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Introduction

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1 . What are you aiming to find out?

The project aims to simulate a 2030 electricity network in order to provide essential learning about managing the strain on the electricity distribution network from the anticipated increased uptake of Electric Vehicles (EVs).

It will achieve this by recording the ability to automatically shift peak demand of EV charging, along with customer acceptance to this concept

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2. What does the trial consist of

Two trials:

- *Technical trial*

  Creating a 'street of the future' by having clusters of 7 or more people in the same street and on same feeder leasing an EV. Technology integrated with the charging point at customer's home and also installed at local transformer will allow project to monitor driving and charging habits and set a threshold so when demand levels reach this defined limit a signal will be sent to charging points to stagger the charging and keep demand within limits of cables and transformers

- *Social trial*

  Individuals leasing an EV yet with no technology affecting charging- this is behavioural study to act as control group to Technical trial participants

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Engagement

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3. What Challenges have you experienced in recruiting and communicating with consumers taking part in DSR, and what solutions have you deployed?

Challenges

- *Ensuring participants in Technical trials had signed up 7 or more of their neighbours to ensure they qualified as a 'street of the future',*
- *Providing customers with LV network maps to show which properties were on the same feeder and so could be sought to sign up to the trial*
- *Numerous checks for house wiring, network suitability, and credit checks*

Solutions

- *Use of experienced PR company to utilise multimedia channels (website, YouTube, twitter, LinkedIn, radio, TV, magazines, papers)*
- *Great hook of subsidised Nissan Leaf EV*
- *Test drives*
- *Use of 'cluster champions'- customers who drove recruitment of neighbours*

All yielded great interest and sign-up in project and reduced burden on delivery team, even with knowledge that there will be control of EV charging during certain periods of peak demand.

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4. Which party would you say is best placed to lead engagement?

Two options

- *third party with experience and expertise in engaging with customers (i.e. Automotive Comms, Fleetdrive Electric, Zero Carbon Futures)*

- *'cluster champions' themselves- is a localised solution, so can be instigated by grassroots recruitment of willing customers, doesn't require another party to lead the wider engagement*

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Consumer Reaction

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5. What is the learning on the uptake, customer reaction, changes in behaviour and attitudes?

An amazing response

Website hits	19,461
Registered interest	2,136
Established Technical trial participants	110
Established Social trial participants	103

Uptake only hindered by network limitations, inability to recruit neighbours, credit checks, etc. not the potential for charging of vehicles to be controlled

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6. What have been the most effective incentives and the main sources of complaint?

Incentive

The subsidised rental offer for a Nissan Leaf EV most effective incentive for taking part in trial

As of yet no DSR activities have taken place as the project team have only recently finished rolling out EVs and installing technology

There have been delays in this process, however, which has the potential for replication in BAU and has been seen to cause attrition in customers signed up

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Outcomes

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7. What is the customer proposition and how effectively does is suggest it could be realised?

•To test the EV charge control system the trial will need to simulate a future EV network- groups of neighbours given low EV rental price if they all sign up together

• In return must allow their EV charger to be controlled and their EV data to be collected, and give feedback on their experience

By stating facts clearly and upfront it appears that this approach could be utilised in Business As Usual, however incentive currently for discounted EV lease so new incentive may need to be considered

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8. Have any consumer risks been identified and what protection measures have been identified to overcome these?

Risks

- *EVs not having enough charge in battery when needed*
- *Technology failure leading to network issues*

Protection Measures

- *providing emergency contact details for engineers to visit to resolve any issues*
- *offering to refund taxi journeys where need to use as result of technology failure*
- *utilising networks where enough capacity to avoid issues should technology fail*

There is still a duty of care to protect against the risks associated with the technology and service

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9. Which consumer segments would be most likely to gain or lose by the scheme and by how much?

All customers anticipated to benefit from the scheme due to:

- *Deferral/avoidance of reinforcement costs being passed to customers*

- *Avoidance of network issues such as brownouts/blackouts*

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Technical

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10. What notification of DSR actions or coordination with other parties would be required if this approach becomes ‘business as usual’ to ensure any interactions or impacts could be managed

This is a very localised solution (customers connected to one feeder, connected to one substation) and so it is not expected to require coordination with other parties to manage successful implementation

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Questions

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