

Domestic and I&C Demand Side Response

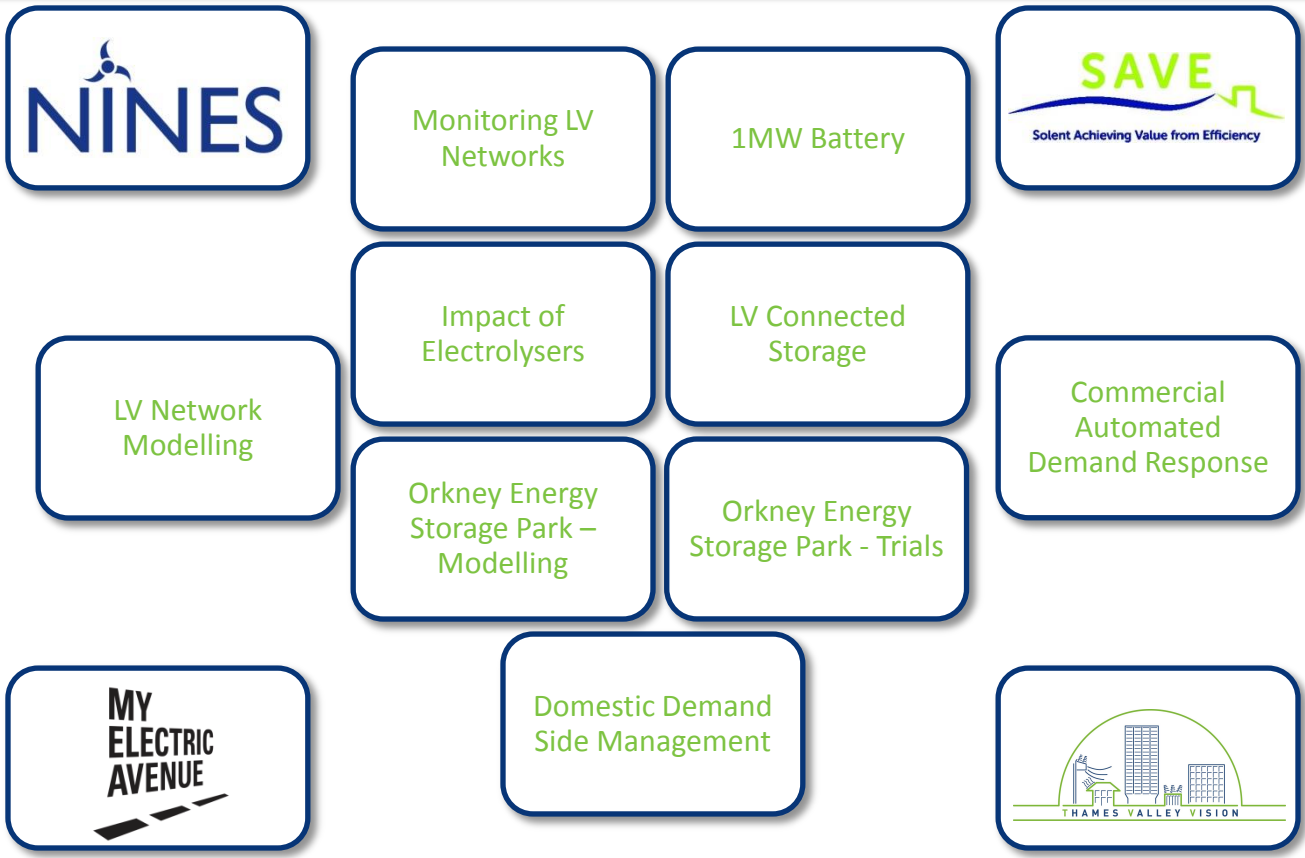
New Thames Valley Vision
13th October 2014



Reliability & Availability

Connections & Capacity

Customer & Social Obligations



Safety, Health & Environment

LCNF Project Portfolio

Reliability & Availability

Connections & Capacity

Customer & Social Obligations



Monitoring LV Networks

1MW Battery



LV Network Modelling

Impact of Electrolysers

LV Connected Storage

Commercial Automated Demand Response

Orkney Energy Storage Park – Modelling

Orkney Energy Storage Park



Domestic Demand Side Management



Safety, Health & Environment

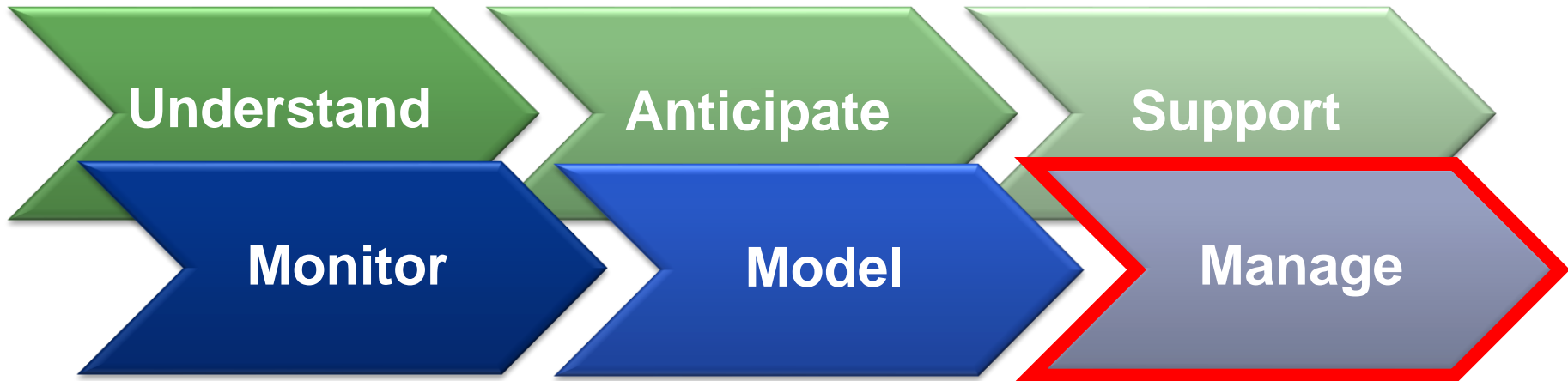
LCNF Project Portfolio



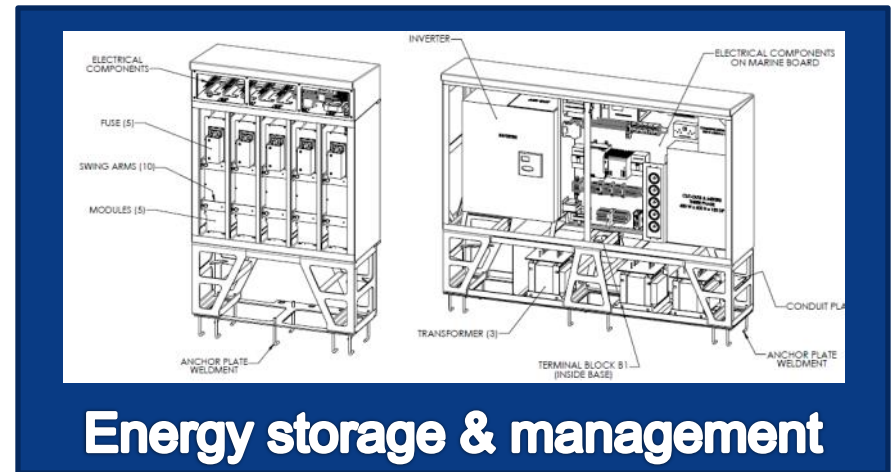
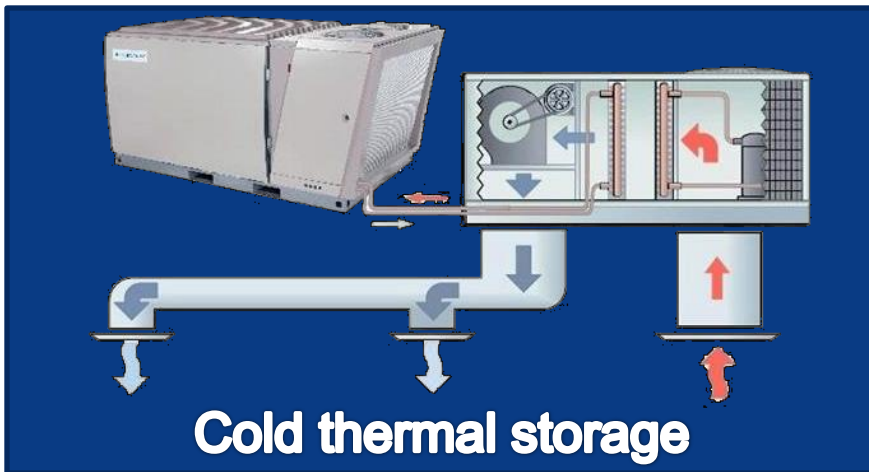
1 . What are you aiming to find out?

- Focusing on the LV Network
- Bracknell and the surrounding Thames Valley area

“How will the DNO need to understand, anticipate and support changes in customer behaviour to develop an efficient network for the low-carbon economy?”



2. What does the trial consist of



Engagement



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

Domestic

- *End Point Monitoring*

- *In a relatively scattered approach, engaging customers in trial can be achieved fairly painlessly if your approach is known – eg mailings etc*
- *High density engagement is very difficult and dependent on the value of the offering available – eg Kibble Green street monitoring*

- *Hot Thermal Storage*

- *Generally more engaged customers on*
- *This makes recruitment percentages higher*

- *Advisory Centre*

- *To allow customers to speak to the project at any time as well as an engagement method*



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

Commercial

- *ADR*
 - *Initial contact amongst larger customers is time consuming but generally successful if the right people are engaged however, legal approval is a huge bottle neck/ barrier*
 - *Key ADR recruitment recommendations;*
 - Identifying the drivers behind any decision
 - Minimise the number of documents that require legal/ commercial review
 - Identify both the key decision maker and ‘business sponsor’
 - Face to face meetings are key for engagement
 - Identify any additional costs barriers to being ‘ADR ready’
- *Cold Thermal Storage*
 - *Third party to engage with customers, install equipment and subsequently hand over to network operator*
 - *Subject to change request.*



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

Entirely Dependant on the Situation

Engagement for ;

- *End point monitors is lead by DNO*
- *Hot Thermal Storage is lead by DNO*
- *ADR is lead by Honeywell*
- *Cold Thermal Storage is lead by ICE Energy*

Having some elements branded from the local Authority worked very well



Consumer Reaction



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

- Uptake
 - This is covered in later slides
- Customer reaction
 - Most customers have reacted positively to the interaction with the DNO through the NTVV project.
 - Domestic customers have gain an awareness of issues through public events (Low Carbon Day) and the advisory centre
 - Commercial customers have often appreciated the opportunity to have a closer relationship with the DNO and keen to share understanding
- Changes in Behaviour in attitudes
 - Engaged customers have been through a journey of understanding the role of their DNO and in many cases, they have now reported that they have an awareness about peak electricity and its impacts (primarily projects participants)



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

Domestic

- *Incentive*
 - *Hot Thermal - Using more of their solar power with installation of a free device*
 - *EPM - Being green, seeing their data, receiving feedback from their data and VIP Events*

- *Complaints*
 - *There are no recurring themes but some isolated requests for more project updates was mentioned early in the project and now addressed with VIP events*

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

Commercial

- *Incentive*
 - *ADR - CSR benefits, part of the community, corporate profile, energy audit and control of their energy*
 - *Cold Thermal Storage - New A/C unit, greater reliability of cooling system*
- *Complaints*
 - *More good learnings from how we operate the system e.g.. Some struggled to load shed at certain times of the day or for certain durations or a combination of both*

Outcomes



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

Domestic

- *Hot Thermal – Savings, use more of the energy you produce. Improved network service with minimal delay or disruption*

Commercial

- *DSR is part of our RIIO business plan and will be used in areas that it can be cost effectively deployed*



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

Domestic Customers

Risks

- *Lack of understanding of the project*
- *Device failure*

Protection Measures

- *Regular project update letters and the offer of VIP project participant events*
- *Operations team on standby on a service contract to provide assistance, advice and repair if necessary within 24 hours (primarily Hot Thermal Storage)*



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

- *To date the project has not incentivised customers with direct payments however, throughout our trials we have a commitment that customers will not financially suffer as a result of the trial.*
- *In many cases, receipt of new equipment (Hot Thermal Storage, Cold Thermal Storage etc.) is the incentive itself.*
- *Similarly the capabilities and improved understanding from new equipment/scheme participation are widely viewed as tangible benefits*
- *Financial incentive structures for ADR are being implemented 2014/2015*
- *Incentive structure, hardware/system installation etc must cost less in total than the traditional measures they replace.*



Technical



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

The NTVV only has active DSR (based on signals) with commercial customers so this is the focus of our answer.

Advance notice ranges from a day to several days with automatic enrolment and email based opt-out.

We have been closely monitoring the amount of load shed to understand the impact on the wider industry and we think the localised volumes of load shed would be unlikely to cause energy balancing issues to other players, such as energy suppliers.

We do not notify suppliers and thus far, no impact has been seen



11. For LCNF projects involving Smart Meters, do your initial findings indicate any enablers that may accelerate or increase the expected benefits from Smart Meters?

The NTVV project has not trialled smart meter so have nothing to add



Questions?



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