



NINES – Domestic and I&C Smart Grid Forum's WS6 Workshop

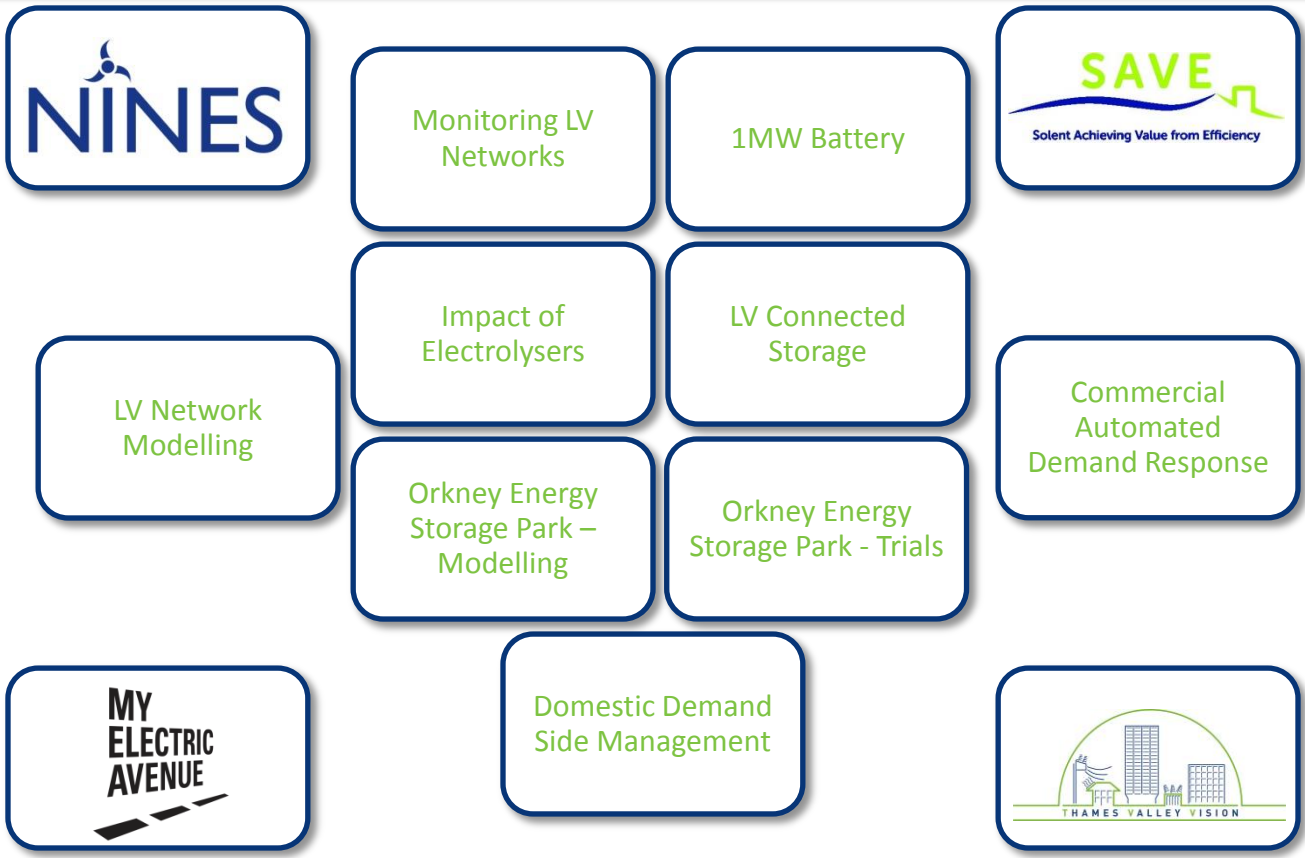
13 October 2014

Presented by: María Isabel Liendo

Reliability & Availability

Connections & Capacity

Customer & Social Obligations



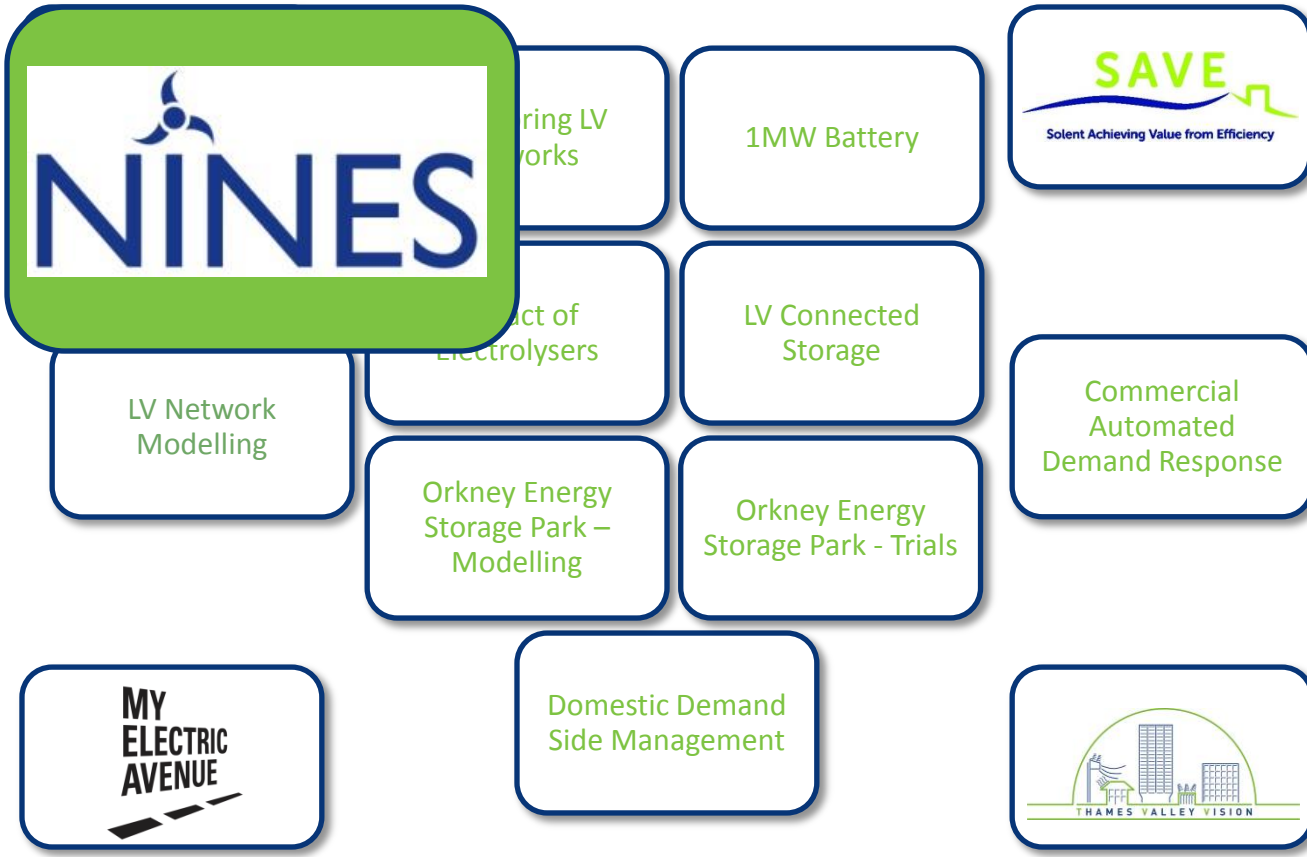
Safety, Health & Environment

LCNF Project Portfolio

Reliability & Availability

Connections & Capacity

Customer & Social Obligations



Safety, Health & Environment

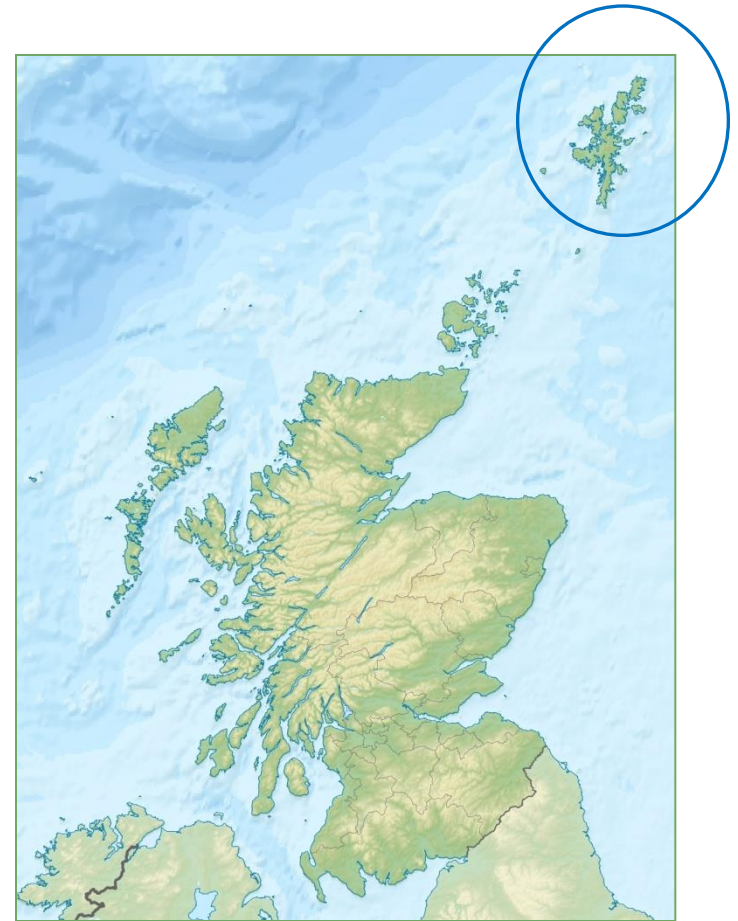
LCNF Project Portfolio

Agenda

- **Shetland overview**
- **NINES project**
- **Objectives for DSM trial**
- **Subgroups' questions**

Shetland: An energy island

- Shetland is not connected to the UK electricity network
- Shetland HVDC connector (Caithness-Moray) would interconnect Shetland with Mainland UK
- For now, Shetland remains an energy island



SHETLAND energy problem

Despite massive renewable resources, just 7% of energy is from renewables



➤ Minimum summer demand (11MW) does not allow more renewable generation to enter the system (system is “full”)

Most generation on Shetland is from fossil fuels



➤ Opportunity for change – Lerwick Power Station needs to be replaced

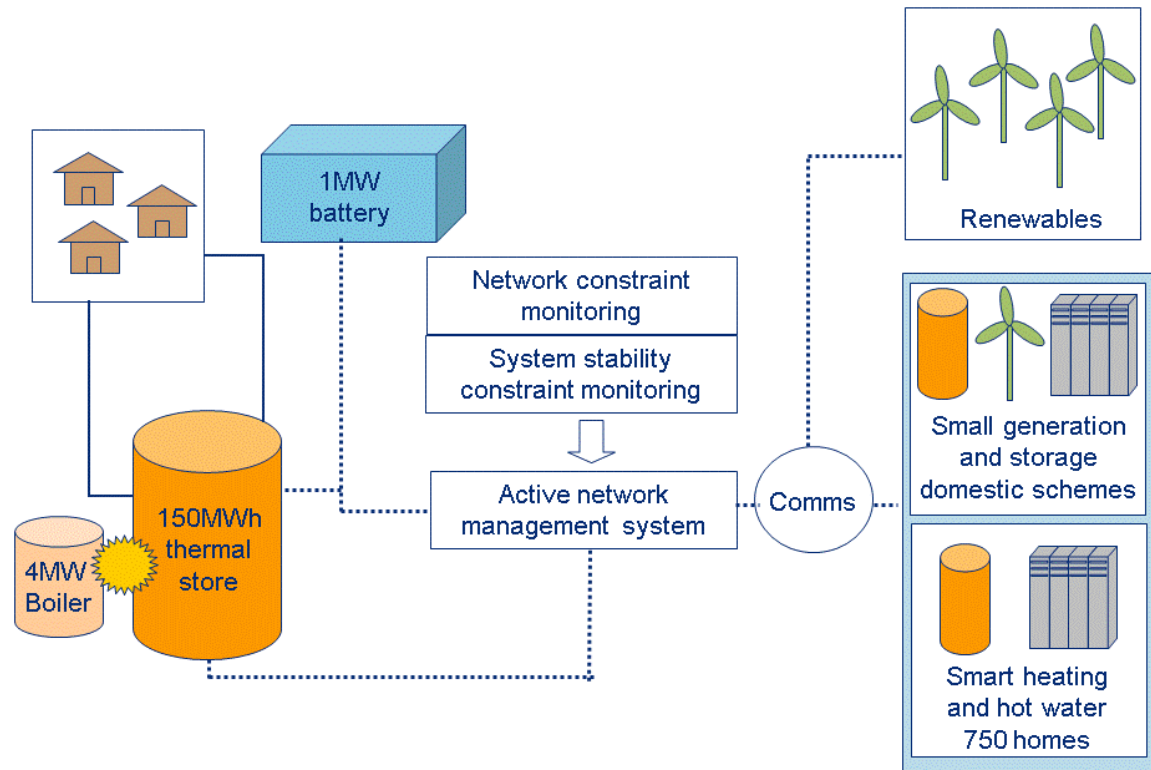
SHETLANDS Smart Grid. Two phases



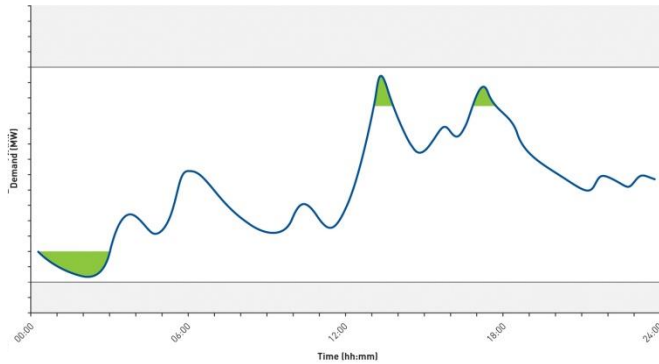
- **Northern Isles New Energy Solutions project (NINES)**
 - £35m expenditure. £15.3m from SHEPD allowed revenue
- **Phase II: repowering of Shetland. Integrated plan**

NINES. Main Objectives.

- Reduce peak
- Increase capacity for more renewable generation
 - 1 MW battery
 - DSM with frequency response
 - Renewable generation / ANM



SHETLANDS – DSM trials



1. What are we aiming to find out?

- Effectiveness of space and water heating for managing demand
- What response do we get from customers? Incentives?

2. What does the trial consist of?

Delivery of DSM into;

- >234 social housing homes
- 500 private homes
- BAU

Engagement

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

- Lack of understanding of DNO role
- Explain a technical problem and solution in a customer-friendly way
- Some difficulties with gaining access to houses (social housing)
- Logistics of the Islands, holding events in a suitable location
- More intensive marketing plan, to educate customers of the benefits etc
- Clear concise communications
- Hold local events where customers can talk to project team face to face
- Developed internal customer service skills and focus



Engagement

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

- We are directly engaging and managing all the domestic customers involved in NINES
 - Identified a new role - DSM Service Operator
 - SSEPD are the DSM SO for Shetland
 - Customers are more than willing to interact with DNO, sign-up rate is high
- Customers prefer to interact with parties they know...

Consumer reaction

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

- Uptake has been good. Customers willing to participate
- Customer education needed, once this happens they are open to new ideas
- DSM is automated charging of storage heaters -> seamless to customers

Consumer reaction

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

Incentives:

- For Housing Association customers: new equipment and £100 one-off payment 6 months after installation
- Private homes: £50 every year
- Reliable customer service + word of mouth

Enquiries:

- Installations: when are they happening, how much disruption
- Confusion about usage: customers thought their consumption had gone up initially
 - Actual read + tariffs going up + different pattern of consumption
- Enquiries about how to operate the system themselves, what the kit does

Outcomes

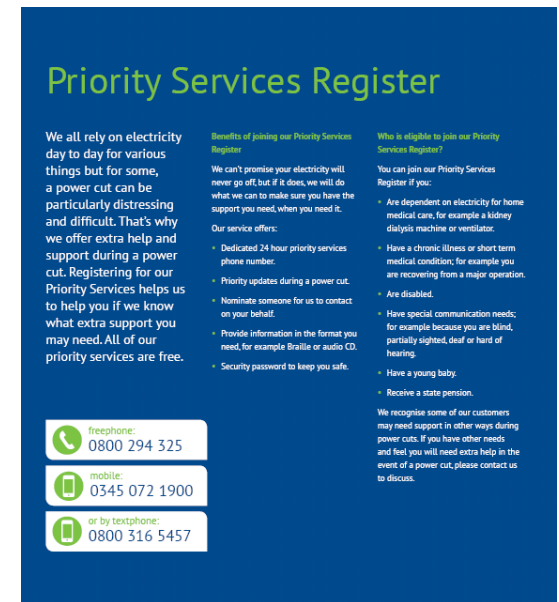
7. What is the customer proposition and how effectively does the trial suggest it could be realised?

- Customers see no difference to their usage if they had no DSM
- Incentives (plus new equipment for Housing Association)
- Target market is new builds and refurbishment, more likely to have storage systems

Outcomes

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

- Impact of changing the times at which we charge the storage devices may have on a prepayment customers credit.
 - Higher level of customer education about effect and mitigating actions. Will not turn on until proper modelling
- Potential to increase a customers bill, as no longer will storage heaters receive their charge at 'off-peak' times
 - Suggest changing tariff to single rate, levelising charge



Priority Services Register

We all rely on electricity day to day for various things but for some, a power cut can be particularly distressing and difficult. That's why we offer extra help and support during a power cut. Registering for our Priority Services helps us to help you if we know what extra support you may need. All of our priority services are free.

Benefits of joining our Priority Services Register

We can't promise your electricity will never go off, but if it does, we will do what we can to make sure you have the support you need, when you need it.

Our service offers:

- Dedicated 24 hour priority services phone number.
- Priority updates during a power cut.
- Nominate someone for us to contact on your behalf.
- Provide information in the format you need, for example Braille or audio CD.
- Security password to keep you safe.

Who is eligible to join our Priority Services Register?

You can join our Priority Services Register if you:

- Are dependent on electricity for home medical care, for example a kidney dialysis machine or ventilator.
- Have a chronic illness or short term medical condition; for example you are recovering from a major operation.
- Are disabled.
- Have special communication needs; for example because you are blind, partially sighted, deaf or hard of hearing.
- Have a young baby.
- Receive a state pension.

We recognise some of our customers may need support in other ways during power cuts. If you have other needs and feel you will need extra help in the event of a power cut, please contact us to discuss.

freephone: 0800 294 325

mobile: 0345 072 1900

or by textphone: 0800 316 5457

Outcomes

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

- Generators are the main beneficiaries
 - More capacity and operational savings
- Mechanism to transfer benefits?

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?

- Due to recommended change of tariff, we have informed all UK suppliers about NINES DSM
- We have tried to keep the approach as simple as possible whilst remaining within the boundaries of regulation and legislation.

Questions?



<http://www.ninessmartgrid.co.uk/>