



Serving the Midlands, South West and Wales

Innovation and Losses

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Innovation

- Started as a very research based Innovation Funding Initiative (IFI)
- Became larger and more project and demonstration based in the Low Carbon Network Fund (LCNF) but was focussed purely on low carbon schemes
- Now extended as the Network Innovation Allowance (NIA) and competition (NIC) where a wider range of topics can be investigated
- Projects must provide benefit to customers

Losses

- Losses became a key driver in RIIO-ED1
- A Losses Strategy was required in the same way that an Innovation Strategy was required
- Initial focus was on what we could do to reduce losses in a very engineering way
- We are installing larger cables and transformers as a result

Losses

- We have changed our focus this year and will shortly issue our next Losses Strategy
- Losses are a function of network usage and we expect the network to be used more in the future as a result of The Carbon Plan
- In addition to steps already taken we need to prepare for this change in use which will bring more electric vehicles and heat pumps
- We predict electric vehicles to be the next big change

Losses and Innovation

- In the early days of innovation funding we partnered with UKPN to deliver the “Understanding distribution network losses” project completed by SOHN associates
- Losses improvements were a side benefit of LCNF projects
- Our LV Templates project monitored low voltage networks in South Wales to assess the opportunity for household PV generation
- It showed that there was an opportunity to lower voltages to reduce energy used and tested this in the Voltage Reduction project, using the same monitoring

Losses and Innovation

- Working with Manx Utilities we are undertaking the first UK project to actually manage losses on the network. The project is measuring the input and output of networks at all points
- We are recording losses of less than 5% of total energy distributed, so difficult to measure with smart meters
- We are planning a further project which could be used to model networks and estimate or calculate losses

Losses and Innovation

- Our Electric Nation project is investigating driver habits. It is understanding how people use their cars and will trial the effects of us controlling the rate and time of charge
- Our Electric Vehicle Emissions project is looking at the harmonic disturbance of chargers on our network
- Both projects give us a good starting point for future projects

Losses and Innovation

- We have projects planned to make us ready for electric vehicles
- On new build housing we propose a project which will take three phase supplies to all houses, a sort of “superfast broadband” for electricity
- On established housing we propose a project to find a way to replace the old single phase service cable with a three phase one, without digging up gardens and driveways.
- On larger more expensive developments we are investigating if it is possible to bring a supply to the driveway at 11,000 volts and keep losses away from the local supply network