EDF Energy R&D UK Centre

CommUNITY

Brixton commercial non-wires microgrid



Introduction to EDF (Électricité de France)

EDF S.A. Group is the leading electricity generator in France with operations across Europe, Americas, Africa and Asia. The Group's share capital is 83.5% owed by the French government and generated 580.8 TWh of electricity in 2017, 87% of which was carbon-free.

EDF S.A. operates 73 nuclear reactors worldwide including 58 in France, 15 in United Kingdom across 8 power stations.

EDF Energy is the largest subsidiary of EDF S.A. outside of France with over 12,000 employees. EDF Energy both generates and supplies electricity across the UK. In 2017 EDF Energy output was 75.9 TWh, making EDF Energy the UK's largest generator.

5 Gas 6% 1% United Kingdom 9% Output /er

EDF Energy supplies gas and electricity to residential and business customers, with over 5.2m accounts. EDF Energy operates under a vertical integration model whereby the electricity generated in EDF Energy power stations is also supplied to customers.

EDF Energy is building the first new nuclear power station in the UK for a generation at Hinkley Point C in Somerset.



Hinkley Point C PROTECT PROPRIETARY

eDF

Project overview

- CommUNITY <u>Community Urban Neighbourhoods Internal Trading of energy will</u> design and implement the new infrastructure to support a local energy market based on Peer-To-Peer (P2P) energy trading.
- The proposed market will be trialled on a live site comprising a multitenant building in Brixton, London.
- Residents will be able to source energy from a solar PV system on the roof, store energy in a battery on the top floor and trade energy with one another using a blockchain platform and a smart phone app.
- Delivery of the project has been made possible after Ofgem provided a regulatory "sandbox".





CommUNITY Goals

- Customer empowerment: through enabling community level interaction and Customer-to-Customer (C2C) trading transactions of energy.
- Innovative technology advancement: through software P2P platform development and through a new customer platform App. These technology advancements will build on the smart metering infrastructure currently being deployed.
- Fostering sustainability: through testing new efficient ways of lowering consumer's energy bills and fostering local renewable energy use.
- Market fairness: demonstrating market fairness is a core principle. Our aim is to develop and demonstrate a sustainable business model which is applicable to the mass market and inclusive of all customers.

Are customers interested? New models for local energy?

Enabling regulatory changes?

New financing mechanisms?



PROTECT PROPRIETARY 4

Our Approach

- Non-wire solution
- Technology light project
- Working with existing infrastructure
- Full commercial model with full billing system in place
- Closely monitored by the UK regulator for lessons learnt and possible future developments



Trial Site Description – Elmore House

- Lambeth Council
- Landlord system: communal lighting and one lift
- Apartments: 62 two-bed properties, pre-pay meters, gas central heating and electric immersion heaters
- Generation: 37kWp PV roof plant supplying landlord load, >90% of power produced is fed back into the distribution grid





Project Structure



Licensing option for CommUNITY – Ofgem Sandbox





Thank You maria.brucoli@edfenergy.com