GREEN ECONOMY FUND

## Project PACE

# DNO led efficiencies in site selection for community EV charging hubs

A Green Economy Fund study





## Summary

**Project PACE** used £500k SPEN Green Economy Fund grant funding to carry out a sophisticated site selection process involving electricity network analysis as well as assessment of land ownership, environmental restrictions and potential community use.

This approach has delivered a total saving of **£1.3m - £2.6m** in expected connections costs across the 44 selected EV charging hubs

Scaling up this site selection activity to the whole of Scotland would cost **ca. £7.5m** and could save more than **£26m** in estimated connections costs.

Carrying out this site selection activity across the whole of the UK would cost ca. **£94m**, and could save more than **£310m** in estimated connections costs.





## Project overview

**Project PACE** is a major project that has evolved from the strategic partnership for the decarbonisation of transport announced by the Scottish Government and SP Energy Networks in August 2019.

The **Project PACE** team at SP Energy Networks are working in collaboration with Transport Scotland and Local Authorities to deliver around 180 new public chargers in more than 40 locations across Lanarkshire, targeting areas and communities where the commercial market has not yet delivered and is unlikely to in the short to medium term.

**Project PACE** is exploring the benefits of having a distribution network operator (DNO) involved in the various stages of deploying universally accessible public EV charger infrastructure, including costs and delivery timescales.









## Project PACE Optioneering Process

£500k SPEN Green Economy Fund grant funding was used to carry out a sophisticated site selection process involving electricity network analysis as well as assessment of land ownership, environmental restrictions and potential community use.



#### Network insight enabling efficient and cost effective site selection



## Numbers of chargers to be delivered by **Project PACE**

Project PACE plans to install **180 EV chargers** across 44 EV charging hubs in Lanarkshire. A mix of 51 standard (7kW), 63 fast (22kW) and 66 rapid (50kW) chargers will be installed to suit different charging requirements. Each charger will have 2 charging bays and can charge 2 EVs at the same time.

The number of EV chargers across Lanarkshire will be significantly increased, particularly the number of fast (22kW) and rapid (50kW) chargers, allowing more drivers to charge quickly.



**180 EV chargers** across 44 EV charging hubs

Project PACE will install **ca.10MW** of additional public EV charging capacity



Number of existing ChargePlace Scotland chargers taken from latest published Scottish Transporrt Statistics (Dec 2019) and does not include any additional chargers installed by other programmes in 2020 www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/chapter-13-environment-and-emissions/

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#### Numbers of 7kW, 22kW and 50kW chargers on CPS network before and after Project PACE delivery



## **Optioneering Results**

The Green Economy Funded **investment of £500k** in the **Project PACE** optioneering study has delivered the following benefits:

- Total saving of **£1.3m £2.6m** in expected connections costs - A saving of between **50% and 66%** across the **44 selected hubs** - Savings calculated by comparing the quoted connection cost of the 44 selected **sites** with the equivalent connection costs for the average and most expensive 44 sites evaluated in the optioneering process
- In addition to these connections savings, the optioneering process is expected to enable significant other efficiencies and time savings in the delivery of the 44 EV charging hubs - This will be fully tested and validated in delivery phase with Transport Scotland
- These benefits are delivered through completion of network feasibility studies and through working collaboratively with local authorities in the planning stage.



£500k investment in optioneering study has delivered expected connections saving of

### £1.3m - £2.6m

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NETWORKS



## Scale up of optioneering approach

This study has demonstrated that there are significant financial savings and time savings (with both environmental and economic benefits) to be leveraged through early and effective engagement of DNOs in public EV charging hub site selection.

Scaling up this site selection activity to the whole of Scotland would cost **ca. £7.5m**, to identify around **430 optimum EV charging hub locations** containing around **1730 chargers** and could save more **£26m** in estimated connections costs.

Carrying out this site selection activity across the whole of the UK would cost **ca. £94m**, identify around **5,200 optimum EV charging hub locations** containing around **21,000 chargers** and could save more than **£310m** in connections costs (estimated).



Rolling out this approach across the UK could achieve potential savings of up to £310m

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## PACE Community Transport Projects

The strategic partnership recognises that the decarbonisation of transport needs to consider more than just cars. Public transport and community transport also need to make the transition.

**Project PACE** has worked with the Green Economy Fund to provide ca **£1m of electric** vehicles for 6 community transport groups across Lanarkshire. The electric vehicles (6 electric mini-buses, 6 electric people carriers & 1 electric car) are due for delivery Q4 2020 – Q1 2021

**Project PACE** site selection has considered potential usage by community transport groups

More information on the Green Economy Funded community transport projects can be found here: www.spenergynetworks.co.uk/pages/green\_economy\_fund.aspx



Providing electric vehicle charging to communities across Lanarkshire







## Further information

further information on Project PACE, including the full site selection study report, can be found by visiting the following links:

SP Energy Networks:

www.spenergynetworks.co.uk/pages/pace.aspx

#### **Project Partners**

In Strategic Partnership with – Transport Scotland and the Scottish Government. Working closely with both South Lanarkshire Council and North Lanarkshire Council. Working with equipment suppliers and installers to deliver EV charging infrastructure











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