

PUBLIC INFORMATION

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Green Recovery Scheme Investment – Epworth Primary Substation

| Project overview | | | |
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| Project name | Epworth Primary Substation | Total investment (£) | £8.2m |
| Voltage | 33kV | Location or relevant substation | Area around Doncaster, DN9 |
| Capacity released (MW) | TBC | Targeted completion | 2023 |
| Project description | Provide a second feeder and transformer to the substation to create additional capacity for demand and generation. Stakeholder feedback combined with our own planning assumptions highlighted a significant growth in demand and economic activity in the region. New capacity will ensure security of supply for existing customers and release significant network capacity for future developments. | | |

Northern Powergrid is investing £53m in vital local electricity networks as part of a national Green Recovery Scheme which aims to accelerate green-growth projects and stimulate the economy. A total of 14 projects in 17 locations across our region are set to benefit.

We have now completed the detailed design work required for each of the 14 projects and following final approval, work on the Epworth Primary Substation project is underway. From this point onwards, any relevant new connections offers that are issued will factor in the capacity made available through the Green Recovery Scheme, meaning that applicants could benefit from significantly cheaper connections costs.

This document provides potential applicants with an overview of the project and the information required to apply for a new connection.

For more information on the Green Recovery Scheme visit our website northernpowergrid.com/green-recovery or email greenrecovery@northernpowergrid.com

Project specification

The rural area of North Lincolnshire is supplied by three single transformer primary substations – Crowle, Epworth and Haxey. An aerial view showing the locations of the three primary substations, as well as the bulk supply points (BSP) that supply them is below.



The three substations from north to south are Crowle, Epworth and Haxey.

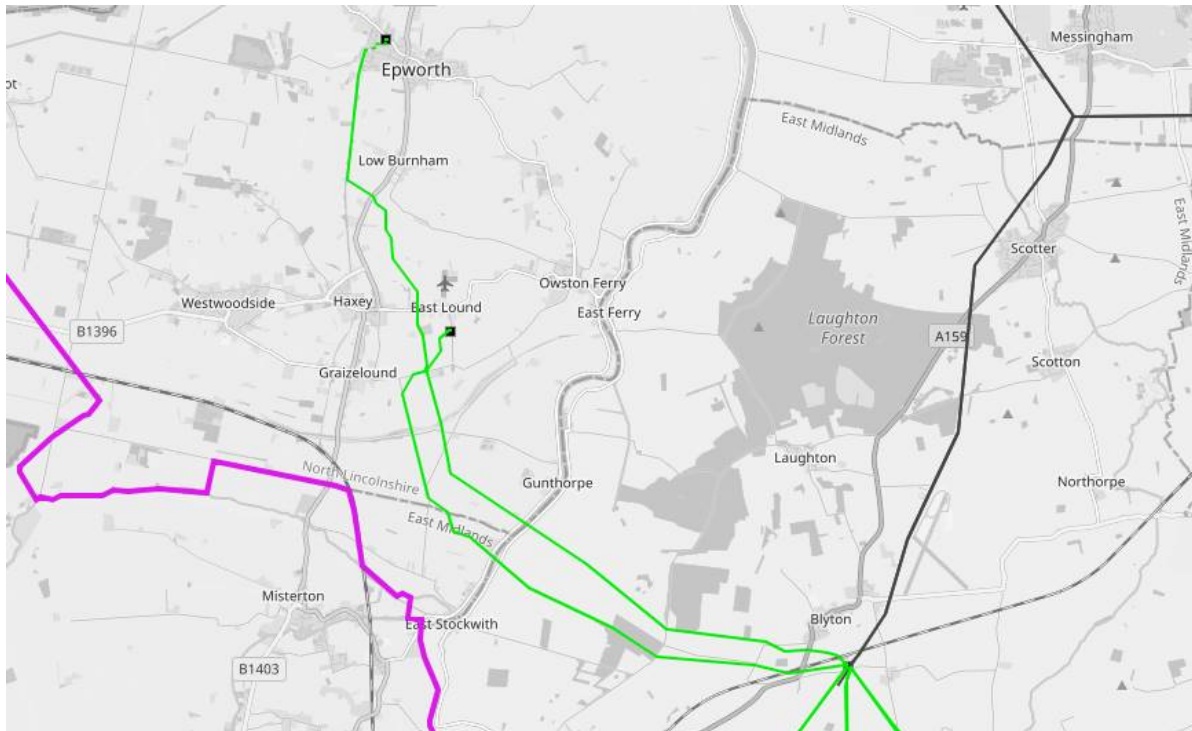
Epworth primary substation is used for interconnection under a first circuit EHV outage of either Crowle or Haxey and vice-versa for an EHV outage at Epworth. Crowle is fed by 66kV connections from Rawcliffe and Camblesforth substations. Epworth and Haxey are fed by two separate 33kV connections from Blyton. From the aerial view, it can be seen that the distance from Crowle to its nearest supplies, is farther than the distance between Epworth and Haxey.

Various demand forecasts have projected Crowle primary substation to be over its firm capacity as soon as 2020-21. Crowle currently has a firm capacity of 6.5MVA. Distribution load estimates (DLE) show a forecast load of 6.9MVA in 2020-21, rising to 7MVA by 2024-25, while Northern Powergrid's distribution future energy scenarios (DFES) 2020 shows a forecast of 7.2MVA by the end of the RIIO-ED1 period (2023) and 7.5-8MVA by the end of RIIO-ED2 (2028).

Epworth has a firm capacity of 10MVA and a projected maximum demand (MD) of 7.3MVA by 2024-25 (DLE) and 8MVA by end of RIIO-ED2 (DFES 2020).

Haxey has a firm capacity of 8MVA and a projected MD of 5.5MVA by 2024-25 (DLE) and 6MVA by end of RIIO-ED2 (DFES 2020).

Due to network configuration of the HV feeding arrangements, load transfer between the three transformers has largely been exhausted. The 33kV overhead lines connecting Epworth and Haxey to Blyton are shown below.



It is proposed to reinforce Epworth primary substation by adding a second 33/11.5kV 12/24MVA transformer, a new 11kV switchboard and a new 33kV feeder derived from the 33kV feeder supplying Haxey.

The proposed second transformer will release the firm capacity potential at Epworth primary substation. As Epworth sits centrally between Crowle and Haxey, the investment will provide extra load transfer capabilities from these substations to meet the future requirements at Crowle and further operational flexibility to move open points.

A potential cable route to connect the second transformer at Epworth substation via Haxey substation is shown below, with an estimated distance of 6.6km.

