
Generation Connections

An essential guide for generation developers applying to connect to the GB Transmission Network

- Preparing your application
- A guide to costs and timescales
- Your connection offer



Scottish and Southern
Energy
Power Distribution

About SHE Transmission

Scottish Hydro Electric Transmission plc (SHE Transmission) owns and maintains the electricity transmission network (132kV and above) in the north of Scotland. The transmission network is used for the transfer of large-scale electricity generation, particularly renewables, to the centres of demand.

Foreword

Making sure that generation developments can connect to our network is one of our primary responsibilities as the owner of the network in the north of Scotland and my team has a huge job to do over the coming years to make sure that our network is capable of connecting the planned additional generation capacity. For this reason, we have a major programme of investment underway which involves upgrading and reinforcing the network and fundamentally changing its historic role.

We have already connected over 1.5GW of renewable energy to our network over the last decade, with over 300MW connected during 2013/2014. We are committed to providing our customers with the best possible service and so we have developed this guide to make it easy for developers to understand what is involved in connecting to the network and who they need to talk to.

David Gardner

Director of Transmission

Who's who in the connection process

The responsibilities and obligations for the safe installation, operation and maintenance of our transmission network are split across two parties – the Transmission Owner (TO) and the System Operator (SO).



Scottish Hydro Electric Transmission plc (SHE Transmission) is the TO of the electricity network which operates at voltages of 132kV and above in the north of Scotland. We own the existing system and are responsible for the planning, design, construction and maintenance of a network which currently comprises 104 Grid Substations, 2,690km of circuits and 11,012 pylons and structures.



National Grid Electricity Transmission (NGET), also known simply as National Grid, is the SO of the transmission network across the whole of Great Britain and ensures that minute by minute electricity demand is matched by an equal volume of electricity generated by power stations. In addition to its obligations to operate the network, NGET is also responsible for the coordination, issue and management of contracts for the connection of new, large power stations using all technologies – wind, hydro, marine, gas, nuclear or coal.

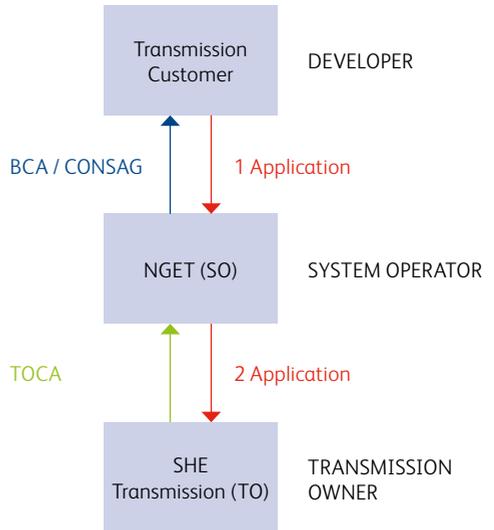
Connecting to the GB Transmission Network

As a generation developer in the north of Scotland, you need to make an application for network connection, at voltages of 132kV and above, directly to National Grid Electricity Transmission (NGET).

National Grid, in turn, makes an application to Scottish Hydro Electric Transmission PLC (SHE Transmission) asking us to specify the most economic and efficient design for your development and provide costs for the completion of necessary work.

Detailed guidelines on how SHE Transmission and NGET jointly process your application are documented in the System Operator Transmission Owner Code (STC) under procedure STCP18-2 Use of System Application. For further information please go to www2.nationalgrid.com/uk/industry-information/electricity-codes/stc/the-stc/

Contractual Framework – Transmission Connection



Our commitment to you

At SHE Transmission, we aim to make the application process as straightforward as possible and we are committed to providing you with the following support:

- We will meet you to discuss your requirements prior to you starting your application.
- A dedicated Contract Manager will contact you at Clock Start, providing their contact information and confirming your application requirements.
- A Planning Engineer will contact you around day 40 of the process to confirm and discuss our outline technical design.
- Your Contract Manager will contact you when we have completed our draft connection offer and issued it to the SO (NGET).
- Once you have received your connection offer we will, in conjunction with the SO, invite you to meet and discuss the offer terms and answer any questions you may have.



Preparing your application

With such a high level of interest and activity in renewable connections, it's important that your connection application is prepared correctly. We're here to help.

1. Arrange to talk to SHE Transmission

At SHE Transmission, we can work with you to review your plans, discuss potential options and guide you through the application process. We'll put you in touch with the right people, both here at SHE Transmission and also at National Grid, ensuring you have all the guidance you need on initial feasibility, application and data requirements. We'll also provide details on fees and charges, plus any other support you may need to get your application off the ground.

2. Provide background information

Before you come and speak to us, it's important that you have the following information to hand as it will help to inform our discussion:

- Capacity of your development in Megawatts (MW).
- Planned location of your substation in the form of a six digit grid reference.
- Ideal date for you to be connected to the network.

3. Complete the appropriate documents

And finally, once you are ready to make you application, there are specific documents you must complete and submit to National Grid. You'll find details at www2.nationalgrid.com/uk/services/electricity-connections/new-connection/

Call us on 0345 0724319 or email us at MCC@sse.com to discuss your requirements or to arrange a meeting.

Paying for your application, connection and infrastructure

There are three distinct areas that you'll need to budget for – your application fee first, followed by construction costs and ongoing charges.

The application fee you need to pay to NGET is dictated by a number of factors, including your network area and the capacity of your development in Megawatts.

Infrastructure works are paid for via Transmission Network Use of System (TNUoS Charges) – you pay all charges levied to the SO (NGET) and we, in turn, are paid by them under established regulatory mechanisms.

Ongoing connection charges can either be paid in advance of your network access or over the lifetime of the development (typically 25 years).

Further details are available from the National Grid website at www2.nationalgrid.com/uk/services/electricity-connections/new-connection/



Working out timescales

We, at SHE Transmission, jointly with NGET, work to a clearly defined schedule while we process your application.

- When you submit your application documentation, it is checked by the SO (NGET) and us, as the TO, for technical verification. You'll be advised by NGET within **5 working days** if we have all the information we need to provide a contract for connection.
- Upon receipt of this confirmation and payment of your fee to NGET (whichever happens later) we (SHE Transmission and NGET) initiate Clock Start and then have a maximum of **three months** to provide you with a connection offer.
- And upon receipt of the connection offer, you have **three months** to accept or decline the connection offer.

Your connection offer

The connection offer that you receive from us works in two stages. The first is a Transmission Owner Connection Agreement (TOCA) that we, SHE Transmission, provide to the National Grid. The second is a suite of contracts given to you by National Grid.

Stage 1

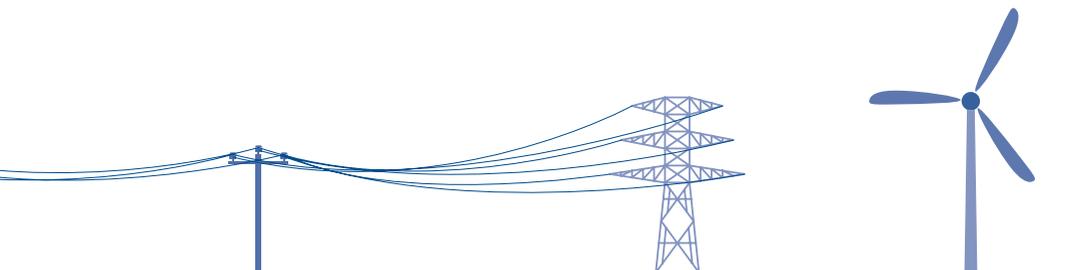
As the Transmission Owner (TO), SHE Transmission provides a Transmission Owner Connection Agreement (TOCA) to National Grid which captures the following key elements:

- **Design:** an identification of the connection and infrastructure works required to connect your development to our network, plus any wider indirect infrastructure works which are necessary across the rest of our part of the National Electricity Transmission System (NETS).
- **Costs:** an identification of the direct costs (connection) and indirect costs (infrastructure) involved.
- **Programme:** an identification of the key milestone dates relating to consent, commencement of work, commissioning and completion.

Stage 2

As the System Operator (SO), National Grid will provide you with a suite of contracts which you must enter into:

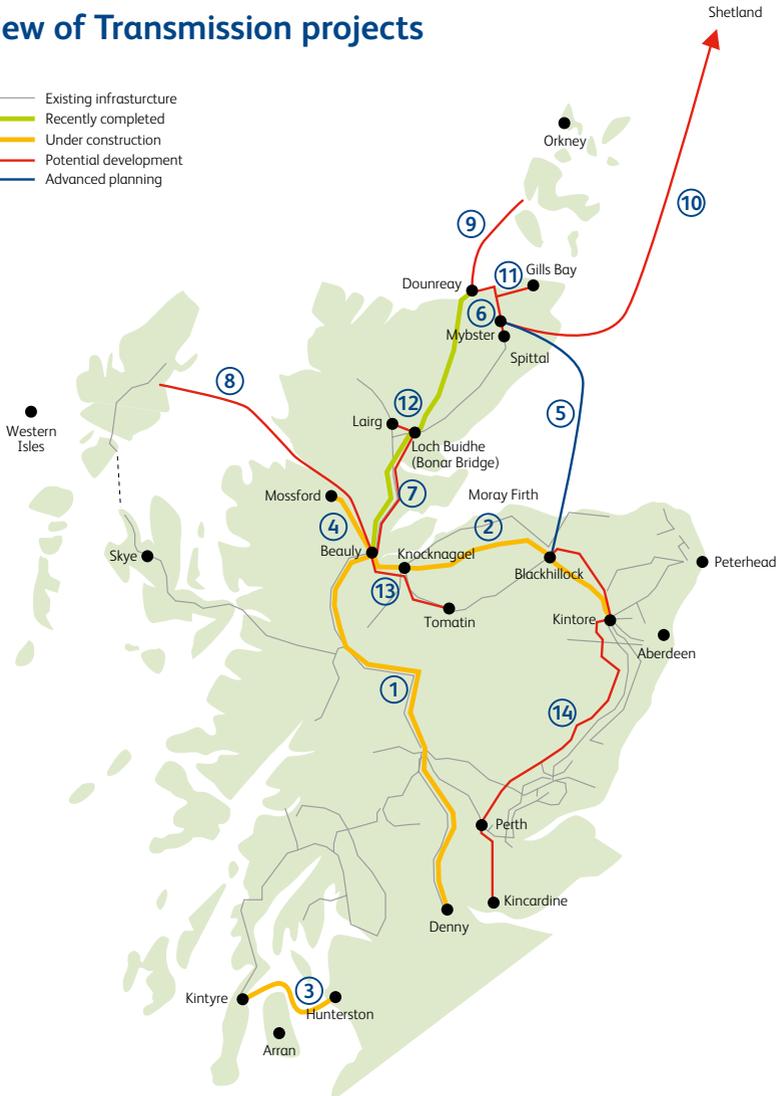
- **BCA (Bilateral Connection Agreement):** this details how generators are required to comply with the Grid Code, Connection Use of System (CUSC) and Balancing and Settlement Code (BSC). It also defines arrangements for connection to the National Electricity Transmission System (NETS).
- **CONSAG (Construction and Use of System Code Construction Agreement):** this details the design, cost and programme as well as other industry requirements associated with connection to the National Electricity Transmission System (NETS).



For further information you can call us on 0345 0724319, email us at MCC@sse.com or check out our website at www.ssepd.co.uk

Overview of Transmission projects

- Existing infrastructure
- Recently completed
- Under construction
- Potential development
- Advanced planning



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|---|------------------------------------|----|---------------------|
| 1 | Beaulieu – Denny | 8 | Western Isles Link |
| 2 | Beaulieu – Blackhilllock – Kintore | 9 | Orkney AC Link |
| 3 | Kintyre – Hunterston Link | 10 | Shetland Isles Link |
| 4 | Beaulieu Mossford | 11 | Gills Bay Radial |
| 5 | HVDC Link and Converter Stations | 12 | Lairg – Loch Buidhe |
| 6 | Downreay – Mybster | 13 | Beaulieu – Tomatin |
| 7 | Beaulieu – Loch Buidhe | 14 | East Coast |