Coire Glas Pumped Storage Scheme

About SSE

SSE is one of the UK’s largest energy companies and is headquartered in Perth. Our purpose is to provide the energy people need in a reliable and sustainable way. We’re involved in producing, distributing and supplying electricity and gas and we provide other energy-related services, to homes in Great Britain and Ireland. We are the only company listed on the London Stock Exchange with such a balance of energy businesses.

NETWORKS: Our electricity networks transmit and distribute electricity to around 3.7 million businesses, offices and homes through some 130,000km of overhead lines and underground cables. SGN’s gas networks distribute gas to around 5.7 million homes, offices and businesses via 75,000km of gas mains.

RETAIL: We are involved in the supply of electricity and gas and in other energy-related services such as electrical contracting to business and household customers.

We supply electricity and gas to around 8.02 million household and business accounts in the UK and Ireland.

WHOLESALE: Our wholesale business comprises the production and storage of gas, the generation of electricity and energy portfolio management.

We are one of the UK’s largest generators of electricity with 10,577MW of capacity.

Being responsible: Sustainability is embedded throughout all of SSE’s different business operations. For us, it’s about being responsible in all that we do. Our 2016 Sustainability report contains information about our approach to managing our social, environmental and economic impacts.

The right thing to do: We are one of the UK’s largest Living Wage employers which means that our employees – and increasingly our contractors – earn an hourly rate that exceeds the national minimum wage.

Paying our fair share: Since 2014, we have remained the only FTSE100 company with the Fair Tax Mark – an independent accreditation for businesses that proactively demonstrate they pay the right tax, in the right place at the right time.
Coire Glas Pumped Storage Scheme

The story so far

In December 2013 SSE was granted planning approval for a 600MW pumped storage hydro scheme at Coire Glas. This consent remains valid until 2021. Despite the obvious benefits that pumped storage offers, progressing the Coire Glas scheme requires overcoming a number of commercial and regulatory challenges. These include changes in the existing transmission charging regime for pumped storage and a satisfactory and supportive long-term public policy and regulatory framework.

Since obtaining consent, SSE has been working with key stakeholders including the Scottish Government, Department for Business, Energy and Industrial Strategy (BEIS), OFGEM and other bodies with the aim of achieving the necessary electricity market recognition of the benefits that pumped storage hydro will bring to the electricity market and its wider socio-economic benefits.

Coire Glas 2017

SSE submitted a scoping request for a revised scheme on 12th May 2017. The revisions to the consented scheme now being proposed are intended to provide options for better aligning the project with the current and future market framework and thereby aiding delivery of the project.

We are proposing to increase the generating capacity of the project from the consented 600 megawatts (MW) up to 1500 MW. This increase in capacity will, however, bring little change to the current external elements of the scheme with the majority of the changes being in the underground space required to house the larger turbines and pass the increased flow rates of water and as such will not be visible. External elements of the project, such as the dam, upper reservoir, construction access, jetty and administration building, being of a similar size and nature to that of the already consented development.

Key Points:

• The majority of changes to the scheme will be in the underground space required to house the larger turbines and pass the increased flow rates of water, and as such will not be visible;
• There is no proposal to increase the size of the previously consented upper reservoir;
• The amount of rock excavated from the underground works will increase compared to that previously consented;
• The requirement for a surface intake tower and a surge shaft to respond to fluctuations in pressure within the tunnels are currently being assessed;
• There will be an increase in the footprint of the lower tailrace and outlet structures;
• There is no proposal for the maximum and minimum levels in either the upper or lower reservoirs to be outside the limits previously consented; and
• All access routes in and out of the site would remain the same as previously consented, with little anticipated additional traffic during the operation life of the scheme.
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SSE and Hydro energy

Hydro is in SSE’s DNA. SSE played a proud role in Scotland’s hydro revolution, which began in 1943 with the Hydro Electric Development Act. This delivered electricity across the Highlands and dramatically improved the lives of hundreds of thousands of Scots. Today SSE remains one of the UK’s largest generator of renewable energy, in keeping with its historic aim to provide safe and reliable energy for all.

SSE owns and operates 1,150MW of conventional hydro electric capacity across 50 hydro electric power stations in Highland, Perth and Kinross and Argyll and Bute. A further 300MW comes from its pumped storage facility at Foyers, on Loch Ness.

How does Pumped Storage Work?

Hydro pumped storage, a technology which has been around for over 100 years and has proven itself to be indispensable to the electricity system, can respond very quickly if the system requires it, similar to other forms of storage. Its unique benefit is that it can store and then flexibly generate electricity over a sustained period of time. Pumped Storage offers significant benefits to the GB electricity system in terms of capacity, balancing services and flexibility, particularly as the energy system moves towards an increasing amount of variable generation capacity.

Pumped storage schemes involve two bodies of water at different heights. During periods of low demand for power, electricity is used to pump water from the lower loch to the upper reservoir. The water is released to create energy at a time when demand is high. A key advantage of developing a pumped storage scheme at Coire Glas is the site’s proximity to a large lower reservoir (Loch Lochy). There is significant elevation of around 500m between the upper and lower reservoir sites over a relatively short distance.
Coire Glas Pumped Storage Scheme

The proposed scheme

The proposed scheme is situated to the south west of Laggan Locks. The upper reservoir works, including the construction of the dam, would be accessed off the A87 at Whitebridge utilising existing forestry tracks and the creation of a new track to the dam site. The lower reservoir works, including the outlet area and excavation of rock for the underground works, would be accessed off the A82 at North Laggan.

Dam and Upper Reservoir

The site of the proposed dam lies within a “bowl” shaped valley with relatively steep slopes. The maximum dimensions of the dam would be a crest length of approx. 650m with a height above ground level of 92m. A borrow pit would be established within the reservoir area to produce rock to construct the dam, and for concrete operations. This reduces the requirement for offsite hauling of rock fill and aggregates to the project.

Underground Powerhouse and Waterway System

The most significant change of the proposed 1500 MW pumped storage scheme will be underground and not visible. The powerhouse complex which will house the larger turbines together with a number of tunnels consisting of the headrace tunnel, high pressure tunnel, tailrace tunnel and access tunnels will all be constructed underground.

Outlet Area

The outlet area would comprise of an administration building and jetty, tunnel portals and tailrace structure. Excavation of all underground works would commence at the outlet area, with excavated rock being brought to surface through the access tunnel.

Access Tracks

Access tracks during construction and operation of the scheme would utilise existing public roads and forestry tracks where feasible, with a new access track required to access the dam site. The existing minor public road off the A82 from North Laggan would be improved to include widening and potential upgrades to bridges.

Grid Connection

SSE has applied to National Grid for a grid connection. National Grid will then require the system operator (SSE’s regulated business Scottish and Southern Electricity Networks) to provide the connection, which will be subject to a separate planning application to the Scottish Government in due course.
What happens next?

Scoping Opinion

The Scottish Government are currently seeking responses from various statutory and non-statutory consultees to the Scoping Report submitted by SSE in May 2017. From this consultation, the Scottish Government will form a Scoping Opinion and this will identify the issues that should be assessed in the Environmental Impact Assessment in support of a Section 36 application to the Scottish Ministers.

Environmental Impact Assessment (EIA)

On receipt of the Scoping Opinion, a number of environmental surveys and impact assessments will be undertaken by professionally qualified specialists to assess the potential effects of the proposed scheme. The following topic areas are expected to be covered:

- Landscape Character and Visual Amenity;
- Terrestrial Ecology (Habitats and Animals);
- Ornithology;
- Fish and other Aquatic Ecology;
- Water, Geology and Soils;
- Noise And Air Quality;
- Cultural Heritage;
- Land Use And Recreation; and
- Traffic And Transport.

The outcome of these surveys will be detailed within an Environmental Statement (ES) which will accompany the Section 36 application. On submission of the application, consultees and the wider public will be able to formally comment on the finalised proposals.

Planning Programme Timeline

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<th>Task / Milestone</th>
<th>Anticipated Timescale</th>
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<td>Scoping Report Submission</td>
<td>May 2017</td>
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<tr>
<td>Consultee and Public Responses to Scoping Report and Early Consultation</td>
<td>June / July 2017</td>
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<tr>
<td>Scoping Opinion from the Scottish Government</td>
<td>July 2017</td>
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<tr>
<td>Environmental Survey Work and Preparation of the ES</td>
<td>Through to December 2017</td>
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<tr>
<td>Follow Up Local Public Exhibition</td>
<td>November 2017</td>
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<tr>
<td>Section 36 Application Submission to the Scottish Government</td>
<td>March 2018</td>
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<tr>
<td>Consultation Process and Public Responses</td>
<td>March to August 2018</td>
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<tr>
<td>Anticipated Scottish Government Decision Due</td>
<td>End 2018</td>
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This Exhibition
Exhibitions such as this are a very important part of the development process for us. The purpose of this exhibition is to engage with the local community and interested parties about our proposals and the work we have undertaken so far. The exhibition is a chance for us to share our plans and is an opportunity for people to raise questions, concerns, ideas or comments that can be considered as part of the development process.

We will be returning to talk to you in November 2017 to update you on our progress. In the meantime we will be sharing updated information on the project micro site: www.sse.com/coireglas

Keeping in touch

Please take the opportunity at this exhibition to speak to our project team today and ask questions about the proposal. SSE would welcome the submission of comments in respect of the proposal. If you have a few minutes please complete the exhibition feedback form.

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