

HARNESSING WAVES AND WATER'S POWER FOR A SUSTAINABLE FUTURE

GENERATING ENERGY FROM WATER AND INCREASING DRINKING SUPPLIES VIA THE SEA ARE TWO FURTHER WAYS WATER IS MAKING A DIFFERENCE. STANTEC GIVES AN INSIGHT INTO VITAL WORK IN HYDROPOWER AND DESALINATION

Perthshire's iconic Tummel Bridge Power Station has been harnessing the force of water for almost a century.

Thanks to a £50m refurbishment, its lifespan was extended by four decades back in 2024, with the installation and energisation of two new hydro-electric power turbines. Stantec supported SSE Renewables with the complex, two-year modernisation scheme.

Strengthening the historic structure, preserving its architectural character while at the same time ensuring clean energy supplies from hydropower for a future generation, the project has now gained national recognition.

It recently secured the Heritage and Restoration Award at the British Hydropower Association's Annual Conference 2025 Awards.

The iconic site, which is in the centre of the overall Tummel Valley Hydro Scheme cascade, has also increased its potential generation output from 34 to 40 megawatts (MW) during optimum conditions.

The project involved the replacement of the station's two original hydro turbines, which were installed in 1933, with new modern technology.



Tummel Bridge Power Station

This increases water flow, enabling the rise in generation output at the plant and extending the hydropower plant's working life by at least 40 years.

This means Tummel Bridge Power Station will be running in the power system of 2050 and will play a continuing role in harnessing homegrown hydro power for a net zero future in Scotland and the UK.

SSE Renewables contracted Stantec's teams to look at options to replant the end-of-life mechanical and electrical equipment as well as conduct the detailed civil design works.

The plant's 5km aqueduct, classed as a Category A reservoir due to the volume of water it contains, underwent significant maintenance, drainage, leakage and improvement works supported by specialist reservoir engineers from Stantec.

The construction works focused on maintaining the original building

footprint and where possible, looked to continue the original internal look of the Category A listed station.

The project resulted in a wealth of information being documented and recorded on the carefully preserved historic building.

Craig Scott, Stantec's director of hydropower and dams, said: "Tummel Power Station has such a rich history, having held exceptionally rare turbines which were the largest of their kind, and being modified with a crane from the 1930s and even WWII air raid shelters.

"It was incredibly important for our team that we were able to retain and honour its original character, designed around muscular inter-war classicism, despite completely modernising its inner workings.

"By breathing new life into this asset, rather than rebuilding it, we've demonstrated what's possible when it comes to considered heritage

restoration in the hydropower sector. I'd like to thank the BHA for this award and congratulate our client SSE Renewables on another meaningful project that will benefit communities in Scotland."

Commissioned in 1933, Tummel Bridge Power Station is one of the oldest hydro power plants in Scotland.

"Retrofitting existing energy assets with modern, highly efficient equipment, rather than rebuilding them, brings added value for our clients as well as the communities they serve," said Scott.

SSE operates a fleet of eight hydro power sites across Scotland. These include some of the most iconic power station sites built after the introduction of the 1943 Hydro Electric Development (Scotland) Act, which brought hydro-electric power to the Scottish Glens 80 years ago.



DESALINATION PLANS MOVE AHEAD

Anglian Water desalination plans have recently taken another step forward.

The water company has awarded the technical contract to develop its two upcoming desalination plants, in Lincolnshire and Norfolk, to TYPASA-Stantec.

The proposed plants are designed to support the company's long-term strategy to secure resilient water supplies in the region, which is the driest part of the UK.

A joint venture (JV) between TYPASA, a global independent engineering services and consultancy group, and Stantec, a global leader in sustainable design and engineering, TYPASA-Stantec been appointed as the primary consultant for Anglian Water Services' (AWS) Desalination Technical Partner Framework.

The JV, which is supported by Acciona Agua, will support AWS with a range of technical design expertise associated with the development of two new desalination plants.

They will be joined by a secondary DTP, RSK-GHD JV, supported by Veolia.

The £29m partnership brings together world-class expertise in engineering and infrastructure, ensuring that Anglian Water has the best technical support as it progresses this critical and new initiative.

In its 2024 Water Resources Management Plan (WRMP24), Anglian Water identified significant challenges for the East of England, primarily due to a forecast reduction in available supply of potable water and an increase in the demand forecast.

“Seawater desalination is a fairly new technology for the UK water industry, so our partners’ technical expertise will be vital in progressing these plans.”

This project will secure future water supply for millions of people and will also play a vital role in national efforts to tackle climate-driven water stress, population growth and rising demand. As a result, two desalination plants have been identified as part of the Adaptive Plan to address the shortfall in Norfolk and Lincolnshire.

Seawater desalination is a relatively new technology within the UK water industry, and the two proposed new plants will be the first of their kind in the Anglian Water region. The plants will work by abstracting seawater from the North Sea, using pre-treatment, reverse osmosis and remineralisation, before blending treated water into supply. Brine waste will be dispersed via a long sea outfall.

The Desalination Technology Partnership (DTP) will give Anglian Water access to global expertise and cutting-edge innovation in desalination, helping us upskill its teams in an area that's new to the

UK water sector. It also enables the company to build strategic relationships for future projects and strengthen resilience through a two-partner framework.

As part of this collaboration, the DTPs will provide the technical expertise needed to deliver the programme. This includes design and engineering, optioneering, site selection, planning and consenting, as well as support for estimating, programming, and constructability assessments. They will also assist with land acquisition and regulatory engagement, ensuring the programme is robust and future-ready.

Kate Cassalli, head of programme development for Anglian Water, said: "Seawater desalination is a fairly new technology for the UK water industry, so our partners' technical expertise will be vital in progressing these plans."

Scott Jackson, Stantec's regional business lead for water in the UK and Ireland, said: "Having led the way in Europe's desalination market for some time, TYPASA is the perfect partner for us as we design and deliver these world-leading plants that will benefit communities across the East of England for generations. I'm incredibly excited to show Anglian Water the strength and breadth of our offering throughout this AMP and beyond."

As the primary partner, TYPASA-Stantec – working together as a joint venture, supported by Acciona – will be awarded the scope of work for both proposed sites. The secondary partner, RSK-GHD JV, supported by Veolia, will play a vital role in strengthening the overall framework by providing resilience and continuity.

The contract, which is worth up to £29m, started in January 2026 and will last for five years, with the option to extend for a further five years at the end of the initial term. [ii](#)

