



**the BIG
Biodiversity
Challenge**
do one thing

SSEN Transmission Alyth 275kV/400kv Electrical Substation By Alyth, Perth & Kinross, Scotland

Scottish and Southern Electricity Networks Transmission ("SSEN Transmission")

BIG Biodiversity Challenge Award Category: *Habitat Creation: Project of the Year Award* (*>5 ha and above*)

Project overview

Scottish and Southern Electricity Networks Transmission ("SSEN Transmission") are currently constructing a new 275 / 400 kV electrical substation at the junction of three existing overhead transmission lines to be upgraded. The Proposed Development is located approximately 3.5 km southeast of Alyth, Perthshire (central grid reference NO 2880 4706).

What were the biodiversity conditions on site, prior to the enhancement?

The Site encompassed open arable fields used for rearing livestock and growing vegetable crop, with some existing areas of mixed woodland. The general landscape character is dominated by an extensive area of flat lying land within Strathmore valley that holds the River Isla. The biodiversity of the Site was quantified using the SSEN Transmission biodiversity toolkit, which calculates the biodiversity baseline. Construction plans were assessed for their biodiversity impacts (positive and negative), and the overall biodiversity value of the site post-development, and after habitat enhancement / creation and management, was compared to that of the Site prior to development works.

What were the reasons behind this project ?

SSEN Transmission is committed to protecting and enhancing the environment by minimising the potential impacts from their construction and operational activities. As part of this approach, SSEN Transmission has made commitment for new infrastructure projects to positively contribute to the United Nation and Scottish Government Biodiversity strategies by achieving an overall Biodiversity



Thriving Red Squirrel Population around site. Feeders on site boundary to discourage entering construction site



Various Farmland birds utilising wildflower seeding undertaken by project – Yellowhammer

What were the reasons behind this project ? (cont.)

'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards and achieving Net Gain on projects gaining consent in 2025 onwards. The Alyth substation required a planning application, this included a landscape mitigation plan which would detail the landscaping proposed to meet the commitment.

What were the biodiversity measures taken?

An initial biodiversity baseline was established for the Site based upon the non-irreplaceable habitat types, their distinctiveness and condition scores, the area of the habitats and the number of biodiversity units each type of habitat contributes. Irreplaceable habitats (e.g. ancient woodland, active peatland) are not present within the Site. The Site comprises 15 hectares (ha) and is predominantly open in character with a small shelter belt of woodland. The woodland cover which includes a mix of broadleaved and coniferous tree species. The area of trees was mostly retained, with only a small number of trees felled to create a new access into the site. New habitats of standing water, native mixed woodland, scrub and species rich grassland are being created. Tree species for planting include; Oak, Scots pine, Hazel, Holly, Hawthorn. Semi-improved grassland is being created in unplanted areas by species rich seeding, which would have greater biodiversity value than the current agricultural crops. With a predicted 50% Net Gain in the biodiversity with the new landscape plan for the site. Conserving, enhancing and creating valuable habitats for UK BAP priority species such as Yellowhammer, Red Squirrel and bats. Long Term Management Plan has been developed to manage the site once it is handed over to operations. This details practices for managing all habitats onsite for Biodiversity Net Gain (BNG) for many years to come. The BNG assessment is being replicate across all new infrastructure projects. During construction wild seed meadow mix has been sewn on the bunds, feeding areas for farmland birds. Recycling of felled trees/branches for mammal refugia. Red squirrel dissuasion feeders for expansion of local population. Site staff engagement with awareness sessions on nearby Osprey nest. Construction works being undertaken under approved Species protection plan and monitoring the nearby resident ospreys throughout construction.



Early seeding of landscape bunds with wildflower mix to help screen the site and great biodiversity resource.



Habitat piles created in woodland area with material from storm damage earlier in year. Providing ecological resource for various species as part of Biodiversity commitment.

Potential bat roosts identified in trees requiring to be felled for access into the substation site, this was done under licensed watching brief to ensure no impacts on potential bats. Bat boxes have been installed in tree shelter belt as compensation. Osprey Camera installed during winter 2021-22 ahead of birds returning from Africa. This was done by Wildlife Windows after discussion with Roy Dennis. Three chicks fledged 2021 season, three healthy chicks being raised this season. Long Term Management Plan has been created to deliver the BNG scoring, as it will take time to achieve the biodiversity score over a number of years. The legacy will be providing valuable habitat for wildlife into the future. Through the initial year of construction, there has already been benefits to the biodiversity with early species rich grassland seeding, provide feeding habitat for wildlife. The whole project team has benefited by adopting the Biodiversity Net Gain assessment onsite, which has led to a great environmental engagement across the project workforce. Onsite Environmental Clerk of Works has engaged in awareness sessions with project team, creating a great environmentally focused team. Local school visits to site to see the construction works and ecological improvements, including Osprey chick naming. [SEEN Transmission Alyth Substation Osprey Camera – YouTube](#)

Project Team

Client - SSEN Transmission, Contractor – Siemens +BAM joint venture (Substation), Balfour Beatty (OHL), Design - ASH design & Assessment & Mabbett, Roy Dennis & Wildlife Windows (Osprey advice & Camera installation)

What was the motivation for carrying out the enhancement?

We have a responsibility not only to facilitate low carbon generation deployment but also to develop our projects in a sustainable way which means considering biodiversity. The Site at Alyth was in a rural area with various protected species including nesting Osprey and population of Red Squirrel. Landscape Mitigation plan was required for planning, ensuring this would benefit the wildlife in the area was essential. A purpose built nest for resident Osprey was create prior to works, to allow works on overhead line towers, monitoring the birds throughout the works was essential. And 2022 season have added in a Live camera.



Osprey Camera – Feeding 3 chicks.(June 22) Substation under construction in background. Ospreys being monitor throughout.



New Alyth Substation under construction – SiemensBAM June 2022