

# ABOUT EDEN RENEWABLES

Eden Renewables is an international developer of renewable energy and battery storage projects with a pipeline of sites across the UK, USA and in sub-Saharan Africa through our partner, GridX Africa.

Our founders have worked in the renewables industry since 2010, while the Eden team has been developing projects together since 2013; initially as the award-winning UK company Solstice Renewables, going on to set up Eden Renewables in 2017.

Eden has built on its management team's extensive development experience, pioneering an innovative, unique and sustainable approach to renewable energy projects that have a positive impact on the local environment and the communities that host them.

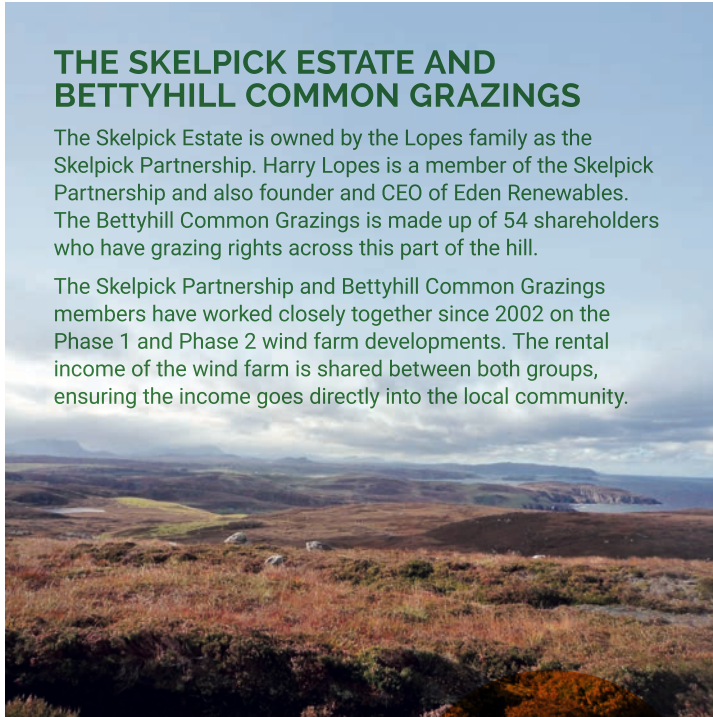
Based at offices in Wiltshire and London, Eden's UK team is working on several utility-scale onshore wind, solar and storage projects; commercial and industrial projects such as solar rooftops, EV charging and solar carparks; and standalone battery storage.



## THE SKELPICK ESTATE AND BETTYHILL COMMON GRAZINGS

The Skelpick Estate is owned by the Lopes family as the Skelpick Partnership. Harry Lopes is a member of the Skelpick Partnership and also founder and CEO of Eden Renewables. The Bettyhill Common Grazings is made up of 54 shareholders who have grazing rights across this part of the hill.

The Skelpick Partnership and Bettyhill Common Grazings members have worked closely together since 2002 on the Phase 1 and Phase 2 wind farm developments. The rental income of the wind farm is shared between both groups, ensuring the income goes directly into the local community.



"Projects such as these could lead to self-sustaining nature reserves, which would be a huge boost to wildlife, the local environment and the local community."

LANCASHIRE WILDLIFE TRUST

AWARD  
WINNING  
TEAM

## OUR TEAM



**HARRY LOPES**  
CHIEF EXECUTIVE  
OFFICER



**GIOVANNI MARUCA**  
CHIEF DEVELOPMENT  
OFFICER



**ALEC GREENWELL**  
DEVELOPMENT



**GERRARD MCKILLEN**  
DEVELOPMENT



**ROSS WOLHUTER**  
TECHNICAL



**MALCOLM EVANS**  
ELECTRICAL



**DR. GUY PARKER**  
BIODIVERSITY



**OWEN PIKE**  
PLANNING



**LORNA LYLE**  
EDUCATION



**SOPHY FEARNLEY-  
WHITTINGSTALL**  
COMMUNITY



**REBECCA SYMON**  
COORDINATOR



**GEORGE BARRON**  
COORDINATOR



**NADIA ASSAD**  
COORDINATOR



**MAX HENDERSON**  
COORDINATOR



**JACK CHILTON**  
COORDINATOR

SOLAR  
POWER  
PORTAL  
AWARDS 2015

WINNER

Best ground-mount project:  
SOLSTICE RENEWABLES

# WIND ENERGY IN SCOTLAND

## CLIMATE EMERGENCY

Generating electricity from fossil fuels is the single largest contributor to global carbon pollution; we must make our power supplies greener and cleaner.

The Climate Change Act 2019 commits Scotland to net-zero emissions of all greenhouse gases by 2045; increasing wind power generation is vital to achieve this.

In 2019 the Highland Council declared a climate and ecological emergency.

## ENERGY SECURITY

Onshore wind is one of the most successful and established renewable energy technologies. It's also one of the cheapest sources of energy generation, now being developed subsidy free. It lowers energy costs for everyone, contributing to Scotland's energy security. The importance of energy security has never been more evident since Russia invaded Ukraine causing a massive spike in global gas prices.

The Scottish Government's new draft Energy Strategy (January 2023) calls for an additional 12 GW onshore wind by 2030, more than double existing capacity.

"Energy security that focuses on sustainability, with measures to promote energy efficiency, and to accelerate the development of renewable and low carbon energy, is a far better answer to the energy crisis, than increasing reliance on fossil fuel. For example, wind power is already the cheapest form of power in Scotland's energy mix."

**ENVIRONMENT MINISTER MAIRI MCALLAN,  
NOVEMBER 2022**

"In addition to being a cheap and reliable source of electricity that harnesses one of our most abundant resources, onshore wind can also help us meet [our net zero] target in a way that benefits communities – through the creation of high quality jobs, and investment in local businesses and supply chains – as part of a just transition from fossil fuels to renewable energy."

**NICOLA STURGEON, NOVEMBER 2022**

## LEADING THE GREEN ECONOMY

Scotland leads the UK with 60% of the UK's onshore wind capacity. Wind power not only combats the climate emergency, it helps to build a cleaner, stronger and more resilient economy for Scotland; bringing positive benefits to local communities, businesses and the environment.

Increasingly, communities across Scotland are coming together to participate in wind projects enabling more financial benefits to be retained locally.



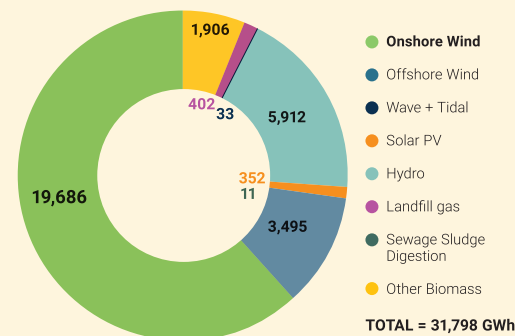
## LOW IMPACT

Wind turbines generate pollution free electricity, and their efficiency is increasing rapidly. Over its full lifecycle, the wind farm is expected to pay back the energy and carbon in its manufacture and construction within 13 months of operation.

"I want you to act as if the house is on fire, because it is."

**GRETA THUNBERG**

## RENEWABLE OUTPUT BY TECHNOLOGY IN SCOTLAND 2020 (GWh)



(Source: BEIS Energy Trends)

**SCOTLAND  
GOAL  
NET ZERO  
BY 2045**

# COMMUNITY BENEFITS

Eden Renewables believes strongly that people living near our renewable energy projects should share the economic as well as the environmental benefits. Our team has led the industry with our community benefit programmes:

- Substantial financial contributions to community funds delivering meaningful social change
- A ground-breaking education programme
- Community Shared Ownership



“It has been a fantastic opportunity for the children to discuss possible future renewable energy solutions and to be able to relate these to their own schools and local community.”

MRS. PRICE, HEADTEACHER, PACKINGTON PRIMARY SCHOOL, LEICESTERSHIRE

## COMMUNITY BENEFIT FUND

In 2022 the existing Bettyhill turbines contributed almost £8,000 to a community benefit fund managed by Bettyhill, Strathnaver and Altnaharra Community Council. The fund has disbursed over £50,000 since 2015, supporting a very wide range of projects including:

- local Covid-response initiatives
- the Strathnaver Museum’s purchase of the Rosal pre-clearance village and archaeological investigations of Bronze Age remains during its refurbishment
- Evening classes organised by the Farr North Community Development Trust

Bettyhill Phase 2 will see the overall value of community benefits increase over 30-fold, potentially delivering enormous positive social and economic change!

- £5,000 per MW per year, index-linked, for 35 years, in line with Scottish government recommendations
- £250,000 per year, if 50 MW achieved
- over £8.5 million for the lifetime of the project



## BENEFIT AREA

- 50% of the funds to Bettyhill, Strathnaver and Altnaharra as host community
- 50% to be shared with the six neighbouring community councils: Strathy & Armadale, Tongue, Durness, Kinlochberrie, Scourie and Melvich, in a proportion to be agreed by them.

## EDUCATIONAL FUND

Eden has created an innovative educational programme, working with Earth Energy Education, to educate and inspire young people in science, technology, engineering, climate science, energy and ecology. This includes classroom-based learning and field trips to our renewable energy projects. Over 10,000 children across the UK have already benefited from this programme.

The community benefit package would include £5,000, index-linked, per year to deliver this programme to Bettyhill, Melvich and Tongue primary schools and Farr secondary school.

## LOCAL ELECTRICITY DISCOUNT SCHEME

The proposed fund package includes a local electricity discount scheme which has proved very popular during our consultations. Local households, businesses and organisations would receive an annual discount on their electricity bills, ranging from an estimated £30 to £200 depending on community council area. Participation in the scheme is voluntary and is not linked to any particular supplier or tariff.

# COMMUNITY BENEFITS



**POTENTIAL  
TO DOUBLE  
COMMUNITY  
FUND**

## SHARED OWNERSHIP

Shared ownership enables communities to participate directly in renewable energy developments in their local area. It offers a direct financial stake in a commercially-run wind farm with the potential to earn a commercial return from the energy produced.

Investing in a wind farm carries risk, but can also create significant local opportunities. Impartial advice on how your community can make the most of this is available from Local Energy Scotland, an independent organisation set up by the Scottish Government to promote community and shared ownership.

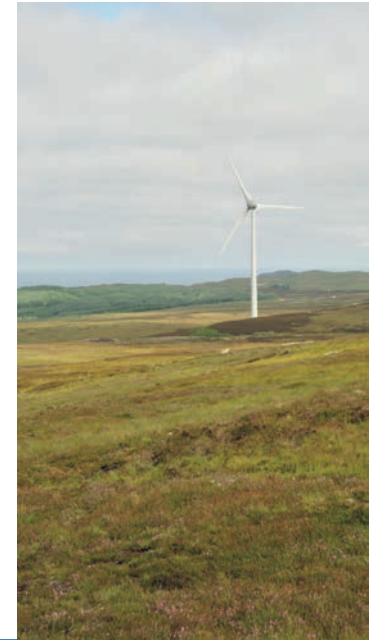
Eden is committed to offering the community the chance to take a commercial shared ownership stake of up to 20% in Bettyhill Phase 2 in partnership with the Farr North Community Development Trust, a charity set up in 2020 to invest in renewable energy projects and committed to improving the lives of people living in North Sutherland. Profits from the shared ownership stake, although not guaranteed, could at least double the value of community funds over the lifetime of the project, further increasing the potential for social and economic change.

## COMMON GRAZINGS INCOME

The 54 shareholders in Bettyhill Common Grazings represent about a quarter of households in the community council area. They already share a rental income from Bettyhill Phase 1 with the landowner, which will increase substantially with Phase 2, supporting a healthy local economy.

## LOCAL BUSINESSES

We welcome the opportunity for local businesses and contractors to work on the construction and maintenance of the wind farm and will publicise tender opportunities at the appropriate time. Businesses in the tourism sector will benefit from the need for accommodation, food and fuel for the construction workforce during the low season. We have created a database of local businesses who may benefit from construction or operation. Several of these businesses have already noted they may win significant business from the development and asked to be kept informed. Please contact us to add your business to the database.



# KEY FACTS

## EXISTING BETTYHILL WIND FARM

- Installed capacity 6MW
- Two turbines
- Blade tip height 119m
- Operational since 2013
- Community benefit fund £8,000 per year



“A shift towards more localised energy solutions is a vital part of our journey to a net zero future, with local energy developing alongside, and within, a vibrant national energy network.”

**PAUL WHEELHOUSE, MSP, MINISTER FOR ENERGY, CONNECTIVITY AND THE ISLANDS**



## BETTYHILL WIND FARM PHASE 2

- Up to 10 turbines
- Maximum blade tip height of 149.9m
- Battery storage to bring combined maximum capacity to 49.9 MW
- Viable grid connection has been secured with Scottish and Southern Electricity at Dounreay
- Expected life of wind farm 35 years



**44,000 HOMES\*  
SUPPLIED WITH  
CLEAN ENERGY**

## BENEFITS

- Total generation approximately 166,000MWh of renewable, carbon-free electricity (based on 49.9MW capacity)
- Equivalent to typical annual usage of 44,000 homes\*
- Will displace 32,000 tonnes CO<sub>2</sub> from fossil-fuel electricity generation\*\*
- Community benefits equivalent to £5,000 per MW, index-linked (up to £250,000 pa)
- Up to 20% community shared ownership
- Peat restoration across parts of the site and adjacent land to sequester carbon and boost local biodiversity

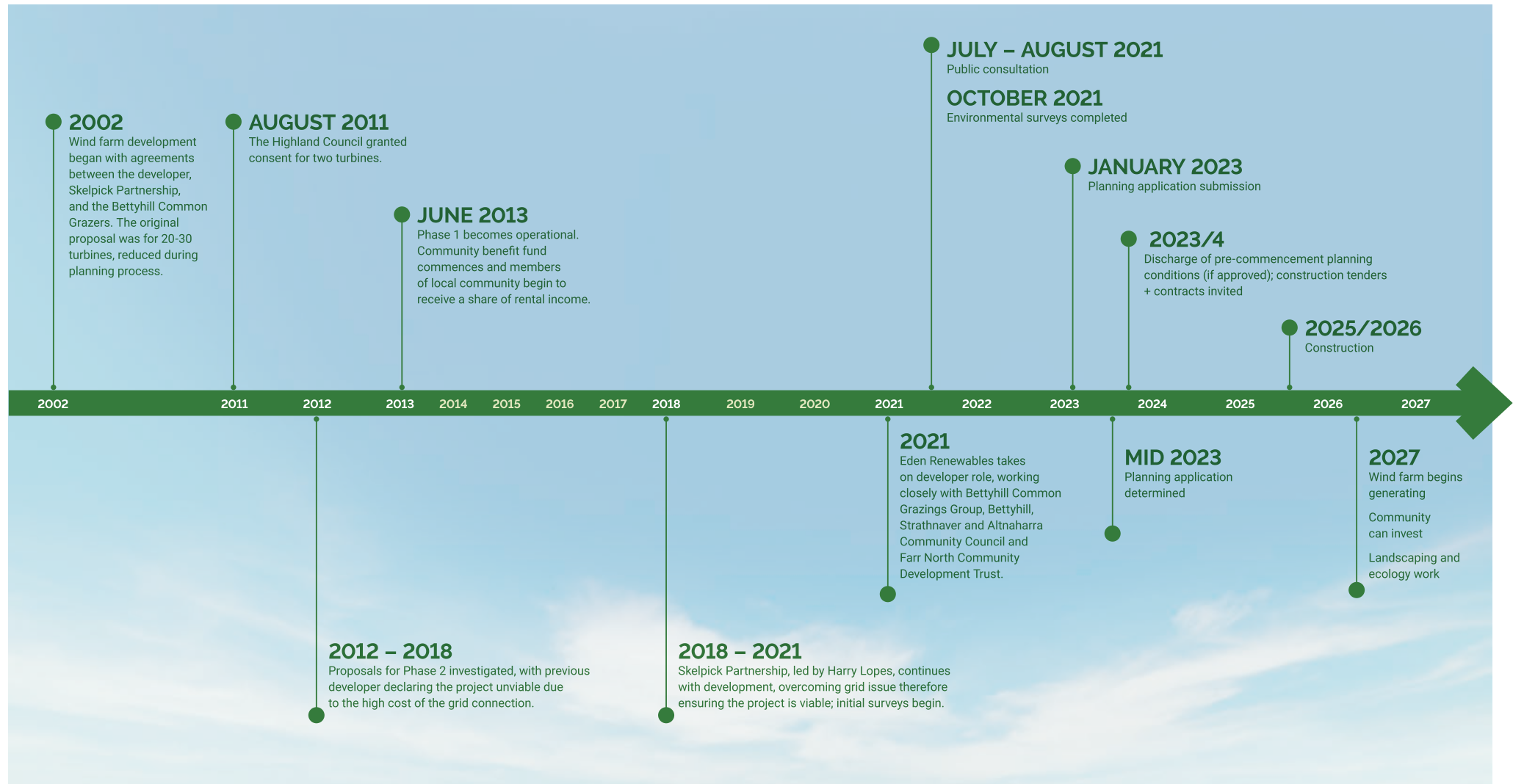


## PEAT RESTORATION

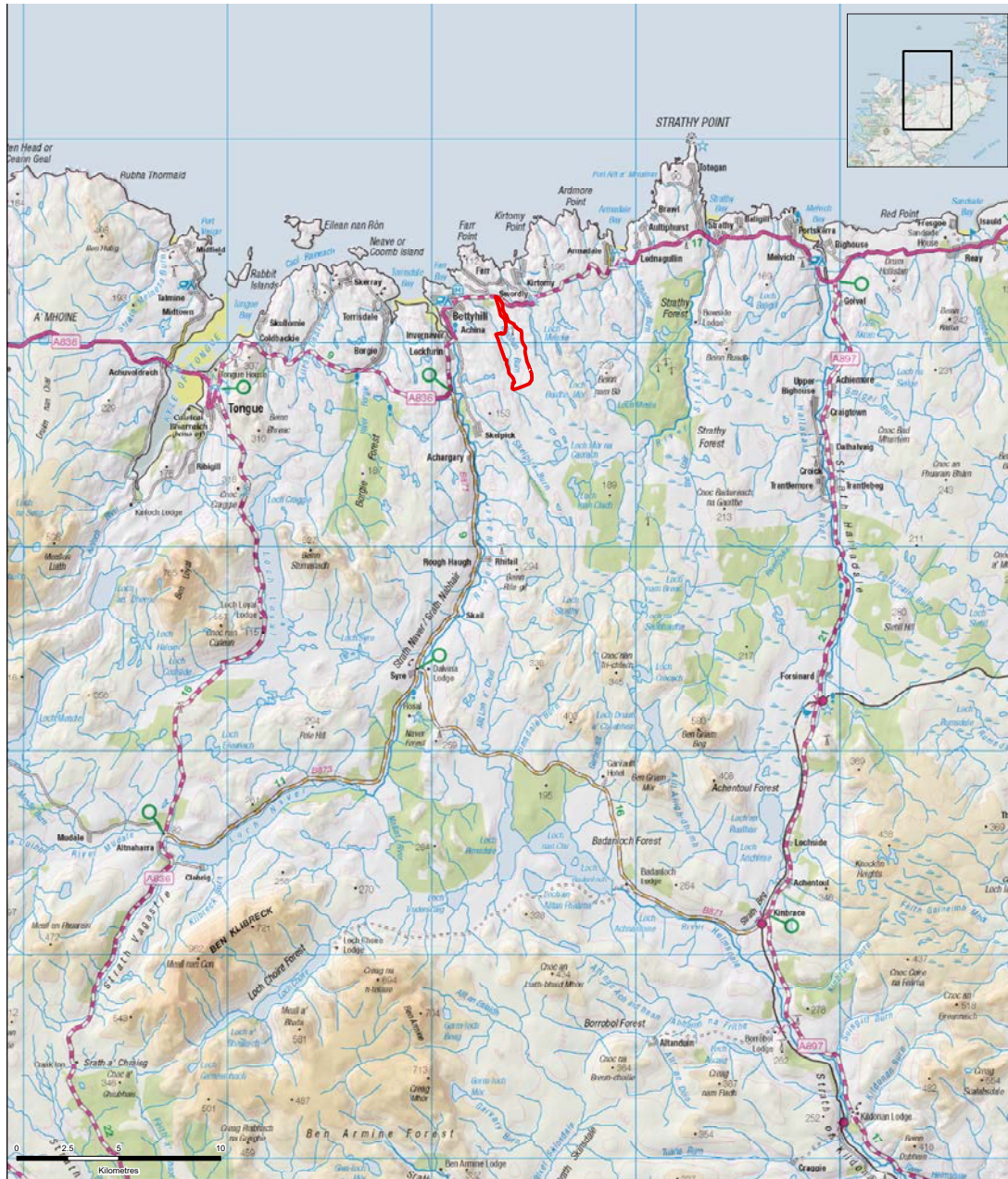
\* Based on Eden's forecast generation output and energy statistics provided by BEIS, which identify that average UK domestic household consumption is 3,748 kWh per annum (December 2021)

\*\* Based on the Scottish Government's carbon calculator <https://www.gov.scot/publications/carbon-calculator-for-wind-farms-on-scottish-peatlands-factsheet/>

# PROJECT TIMELINE



# SITE LOCATION



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The existing wind farm and proposed extension are located on open moorland on Bettyhill Common Grazings, forming part of the Skelpick Estate, south east of Bettyhill, Sutherland in The Highland Council area.

The site enjoys excellent local wind speeds.

## CHARACTER OF AREA:

- Rural; moorland; mostly used for agriculture, grazing, forestry and recreation.
- Not designated landscape
- Commercial forestry near Strathy, approx 6.9km east of the proposed extension

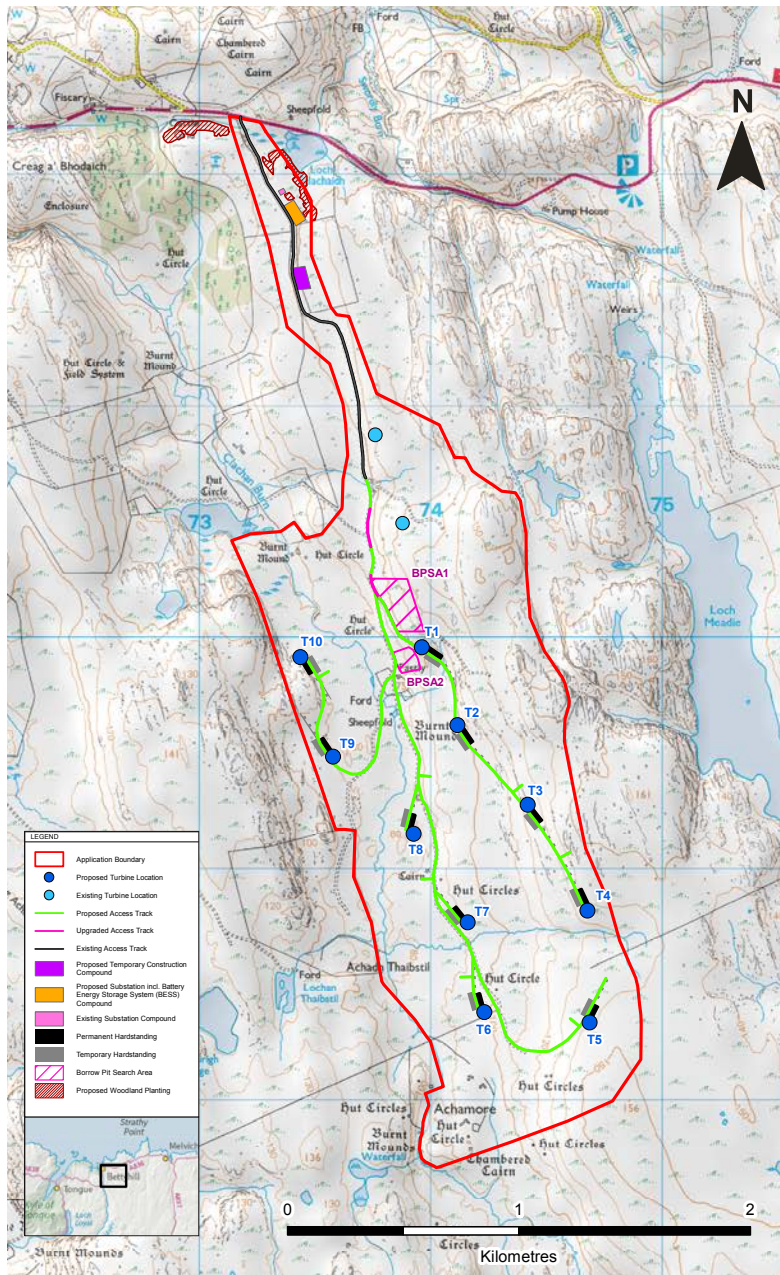
## OTHER SETTLEMENTS NEARBY:

- Nearest residential properties approx 1.8km to the north
- Bettyhill 2.9km northwest
- Kirtomy, Farr and Swordly all approx 3.3km north
- Armadale approx 6.3km to the north east
- Strathy located approx 10.8km to the north

## OTHER WIND FARMS IN THE VICINITY:

- Armadale approx 3.5km (in planning)
- Strathy North approx 4.9km to the east (operational)
- Strathy South approx 5.9km (approved)
- Strathy Wood approx 6.9km (approved)

# SITE LAYOUT AND ACCESS



## FEATURES

- Total site area approx 334ha
- Up to 10 turbines (one turbine has been removed from initial layouts since scoping, following surveys and due to the EIA process)
- Maximum blade tip height of 149.9m
- Potential Battery Energy Storage System
- SSE and customer substations
- Temporary construction compound
- Temporary borrow pits for rock extraction
- Existing access tracks reused, plus new tracks
- Hardstandings and laydown areas
- Wind monitoring mast
- Transformers
- Power cables underground

## CONSTRUCTION

- Construction is expected to last approximately 12 months
- Working hours 07:00 – 19:00 Monday to Friday and 07:00 – 16:00 on Saturdays
- Where possible, stone will be sourced from the site
- Construction materials to be sourced locally where possible to reduce traffic movements

## TRANSPORT ROUTE

- The turbine components would be transported from the Port of Scrabster via the A9 to Thurso, and then westwards via Melvich and Strathy to the site entrance on the A386
- The same route was used for both Bettyhill Phase 1 and Strathy North Wind Farm
- Turbine deliveries are considered Abnormal Indivisible Loads (AIL); two AIL delivery days per week for a 3-month period expected
- The total number of HGV movements associated with construction will be 3,224 two-way movements, equating to 16 per day on average during the peak period (months 10 to 12)
- Banksmen and warning signs will be provided where appropriate
- Our transport assessment shows that the increase in HGV movements would remain well within the design capacity of the local road network
- A Construction Traffic Management Plan will be developed after consent



# ENVIRONMENTAL IMPACT ASSESSMENT

Our team of independent consultants has undertaken a variety of environmental studies and reports to inform the design of the wind farm. These are published with the Environmental Impact Assessment report as part of the planning application, and include:

- Landscape and Visual
- Ecology
- Ornithology
- Soils, Geology and Water
- Archaeology and Cultural Heritage
- Access, Traffic and Transport
- Noise
- Socio-economics, Tourism and Recreation



## PEATLAND RESTORATION

More than a fifth of Scotland is covered in peat – important for its contribution to biodiversity and ecology, to Scotland’s high water quality, and its role as a carbon ‘sink’. Around 1,700 million tonnes of carbon is stored in Scotland’s peatlands – the equivalent of 140 years of our current annual greenhouse gas emissions. However around 80% of Scotland’s peatlands have been degraded due to historic land management practices.

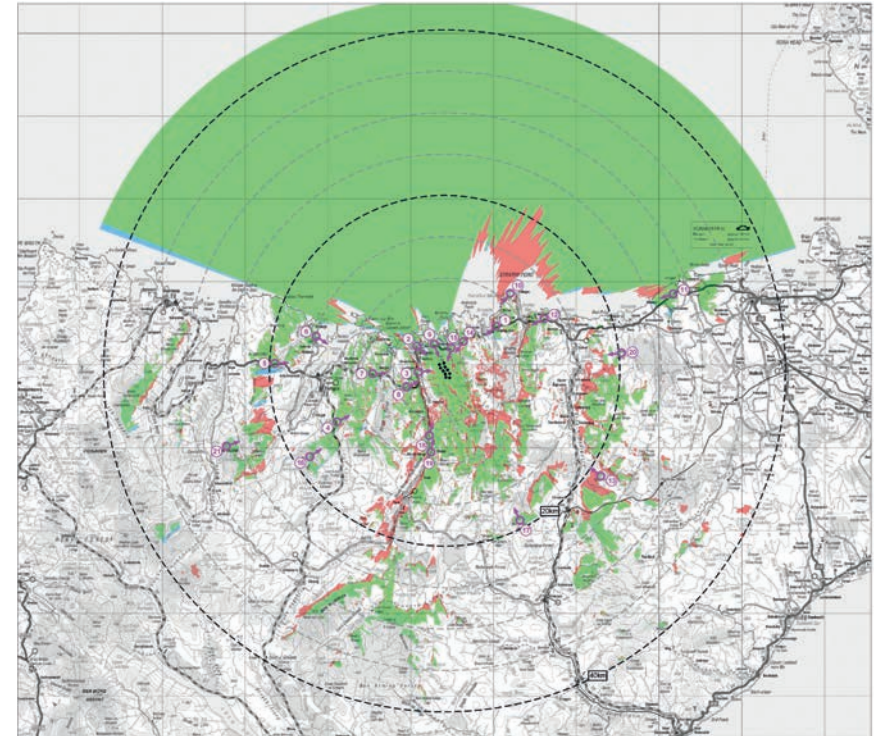
(Sources: NatureScot, UK centre for Hydrology and Ecology)

Eden proposes a comprehensive blanket bog restoration programme as part of the development, achieving a balance between areas of high restoration potential and the desire of local crofters to retain sheep grazing areas and continue their traditional way of life.

Approximately 80 hectares of peat bog will be restored, about triple the area directly and indirectly impacted by construction. This will improve local biodiversity.

## TREE PLANTING AND BRACKEN CONTROL

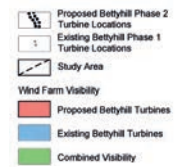
Several small areas of native woodland planting (2.8 hectares total) are proposed to filter some views of the site infrastructure which will also enhance ecology. Bracken control measures will be beneficial for water vole habitats.



## VISIBILITY

The Zone of Theoretical Visibility shown above depicts the areas where the wind farm might be visible, wholly or partly. It is based solely on the topography of the land and does not take account of forestry, woodland or man-made structures that might obscure views of the wind farm. The photomontages which follow show a more accurate representation of the key views taking account of other features in the landscape.

- 1 A836, Fleuchary/Lednagullin Junction
- 2 Bettyhill Store
- 3 A836 Achnabourin (South west of Bettyhill)
- 4 A836 above Loch Craggie
- 5 A838, A'Mhoine
- 6 Talmine
- 7 A836 West of Borgie
- 8 East of Loch Leacach A836
- 9 Minor road to Farr
- 10 Druim Allt a' Mhulinn, Trig Point, Strathy Point
- 11 A836, East of Dounreay
- 12 A836, West of Portskerra
- 13 Summit of Sletill Hill
- 14 A836, West of Druimbasbie
- 15 Formal Viewpoint A836
- 16 Beneath An Caisteal summit of Ben Loyal
- 17 Summit of Ben Griam Beg
- 18 B871, Strathnaver
- 19 Newland Haugh, B871, Strathnaver
- 20 Beinn Ratha, 242m, South of Reay
- 21 Ben Hope, 927m, munro summit



For Landscape Designations refer to Figure 7.1.2  
For Landscape Character Types refer to Figure 7.1.3  
For Viewpoint Locations refer to Figure 7.1.4

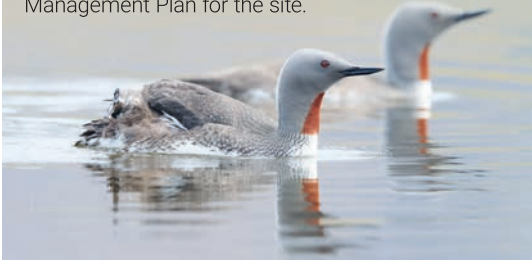
NOTES: Calculated using Earth's curvature (radius 6371km) and atmospheric refraction coefficient of 0.015.  
Terrain data is derived from Ordnance Survey Terrain 5 gridded height data.  
ZTV calculation does not take into account any surface features such as trees and buildings.  
Stack tip height (existing Bettyhill turbines) - 149.9m  
ZTV view height - 2m  
ZTV calculation resolution - 5m

## BIRDLIFE

We undertook detailed habitat and protected species surveys from April 2018 to March 2019, and from September 2020 to August 2021. The information collected has been used in turbine siting to avoid impacts on habitats and flight paths of birds of high conservation importance in the area. These include curlew, sandpiper, merlin and widgeon.

Overall no significant effects are predicted on the species surveyed, during the construction, operation or decommissioning of the wind farm.

We have also consulted NatureScot and RSPB and have developed an outline Habitat Management Plan for the site.



# FREQUENTLY ASKED QUESTIONS

## HOW EFFICIENT ARE WIND TURBINES?

The ultimate measure of an energy generator's efficiency is its cost to society – the cost of generating each unit of electricity. Onshore wind is one of the cheapest sources of new generation in the UK. New projects are now subsidy-free bringing down energy bills for everyone and contributing to our energy security.

Other factors are how much wind energy a turbine is able to convert into electrical energy, and for how long the turbine is generating.

The "capacity factor" of wind turbines is the average power generated in relation to their maximum power. Through technological improvements this has grown significantly to a UK average of around 27% (similar to petrol and diesel car engines). We expect the turbine capacity factor at Bettyhill Phase 2 to be about 40% as wind speeds are so high.

Wind turbines typically generate energy 85% of the time. Batteries can be charged when generation levels are high allowing electricity to be exported when demand is higher or productivity is lower. This also helps the grid operate more smoothly and contributes to lower energy costs.

## WHAT HAPPENS AT THE END OF A WIND FARM'S LIFE?

The wind farm will be decommissioned and the site reinstated with a Decommissioning, Restoration and Aftercare Plan to be agreed with The Highland Council.

## ARE THERE ECONOMIC BENEFITS OF WIND FARMS?

Bettyhill wind farm will offer a Community Benefit Fund valued at over £8.5 million for its lifetime and a community ownership opportunity which could double the value coming into the community. Local residents will benefit financially from subsidised electricity costs at a time of unprecedented high energy prices. The crofting community will benefit from rental income.

We estimate that during the development, construction, and commissioning phase the project will generate £1.7 million for the local economy, and £8.4 million for Scotland as a whole.

Some individual businesses, particularly those in the tourism sector, will benefit significantly from the presence of contractors during the construction phase.

Wind farms create some local jobs throughout construction and operation, as well as through the supply chain.

## WHAT IMPACT DO WIND FARMS HAVE ON BIRDS & OTHER WILDLIFE?

Building a detailed ecological record of the site enables us to develop a turbine layout that reduces or avoids adverse effects on habitats, protected species and birds. Climate change is a threat to wildlife and the wind farm tackles this directly.

## ARE TURBINES NOISY?

Wind turbines emit noise as the blades pass through the air, sometimes described as a regular 'swish'. The volume of noise depends on the speed of the blades, the distance to the turbines and the level of noise from other sources. A noise assessment has been submitted and concludes that operational noise will be fully within national guidance both in isolation and cumulatively with other wind farms.

## DO WIND FARMS AFFECT HOUSE PRICES?

A 2016 research project commissioned by the Scottish Government found no consistent negative effects on house price trends for homes situated near a wind farm over a 25-year period.



# NEXT STEPS

Thank you for attending our information event for Bettyhill Phase 2 wind farm. We hope you have found it useful and informative.

The planning application has been submitted to The Highland Council and it will be carefully considered. They will consult a number of specialist consultees and will also look at representations made by members of the public.

## VIEW THE PLANNING APPLICATION

All the application documents can be viewed on The Highland Council's planning portal via this link <https://wam.highland.gov.uk/wam> using the reference number **23/00142/FUL**

A hard copy of the planning application will be available to view at:

- Bettyhill Library and Service Point
- Tongue Village Hall

The Non-Technical Summary (NTS) can be downloaded from our website via this link:

<https://uk.edenrenewables.com/bettyhill-wind>

A hard copy of the Non-Technical Summary is available from SLR Consulting Limited in Edinburgh, Tel: 0131 335 6830

## SHARE YOUR VIEWS

There are a number of ways to share your views with the Council:

### Comment online

Via the planning portal using the link above

### By post

Development and Infrastructure Services  
The Highland Council Headquarters  
Glenurquhart Road  
Inverness IV3 5NX

### By Email

[eplanning@highland.gov.uk](mailto:eplanning@highland.gov.uk)

The Council's consultation period typically lasts for 30 days.

## LOCAL SUPPLIERS

If you are a local supplier who would like to be considered during construction of the wind farm, please let one of the team know, or contact us directly and we will add your business to the local suppliers database and get in touch at the appropriate time before construction begins.

## OUR CONTACT DETAILS

If you have any further questions please feel free to contact us at any time.

## EDEN RENEWABLES

**WEBSITE** [uk.edenrenewables.com](http://uk.edenrenewables.com)

**EMAIL** [communityUK@edenrenewables.com](mailto:communityUK@edenrenewables.com)

**TELEPHONE** 07979-368238

**ADDRESS** The Barn, Ford Farm, Aldbourne, Marlborough, Wiltshire SN8 2DP



"...becoming a renewables powerhouse makes sense for a number of reasons – particularly helping to mitigate against future global market volatility and the high energy prices which are making life so difficult for so many people across Scotland. For example, onshore wind is one of the most affordable forms of energy."

**MICHEL MATHESON, NET ZERO & ENERGY  
SECRETARY, JANUARY 2023**