



INDUSTRIAL IMPACT

THE POWER OF SCOTLAND'S RENEWABLES SECTOR

INTRODUCTION

Despite daily headlines on energy, climate change and the growth of renewables, few people appreciate the scale of the transformation which is steadily underway in our energy sector.

In just eight years Scotland has almost tripled its renewable energy capacity, and made a massive dent in the country's carbon emissions as a result.

The industrial benefits of this strategic transformation are as impressive as the environmental ones: renewable energy is driving innovation and clean growth across Scotland.

The sector currently employs 21,000 people, from entrepreneurs who're designing new ways to capture energy from nature, consultants who make projects viable, lawyers who negotiate contracts, a supply chain which builds wind farms, hydro plant and solar farms and an army of highly-skilled engineers and technicians who maintain our green energy infrastructure.

This document takes a snapshot of the industrial impacts of our new renewable energy economy, showcasing how the sector has built on Scotland's existing strengths to deliver the industries of the future, raising and sharing prosperity among communities across the country.

In the north, businesses like Leask Marine, Green Marine and Aquatera are expanding to cater for the growth of renewables both onshore and offshore.

On the Western Isles, BiFab's work at Arnish for the Beatrice Offshore Wind Farm is providing skilled work for 80 local people.

In the north east, firms like Ecosse Subsea Systems are using expertise gained in the oil and gas industry to capitalise on the growing offshore wind market.

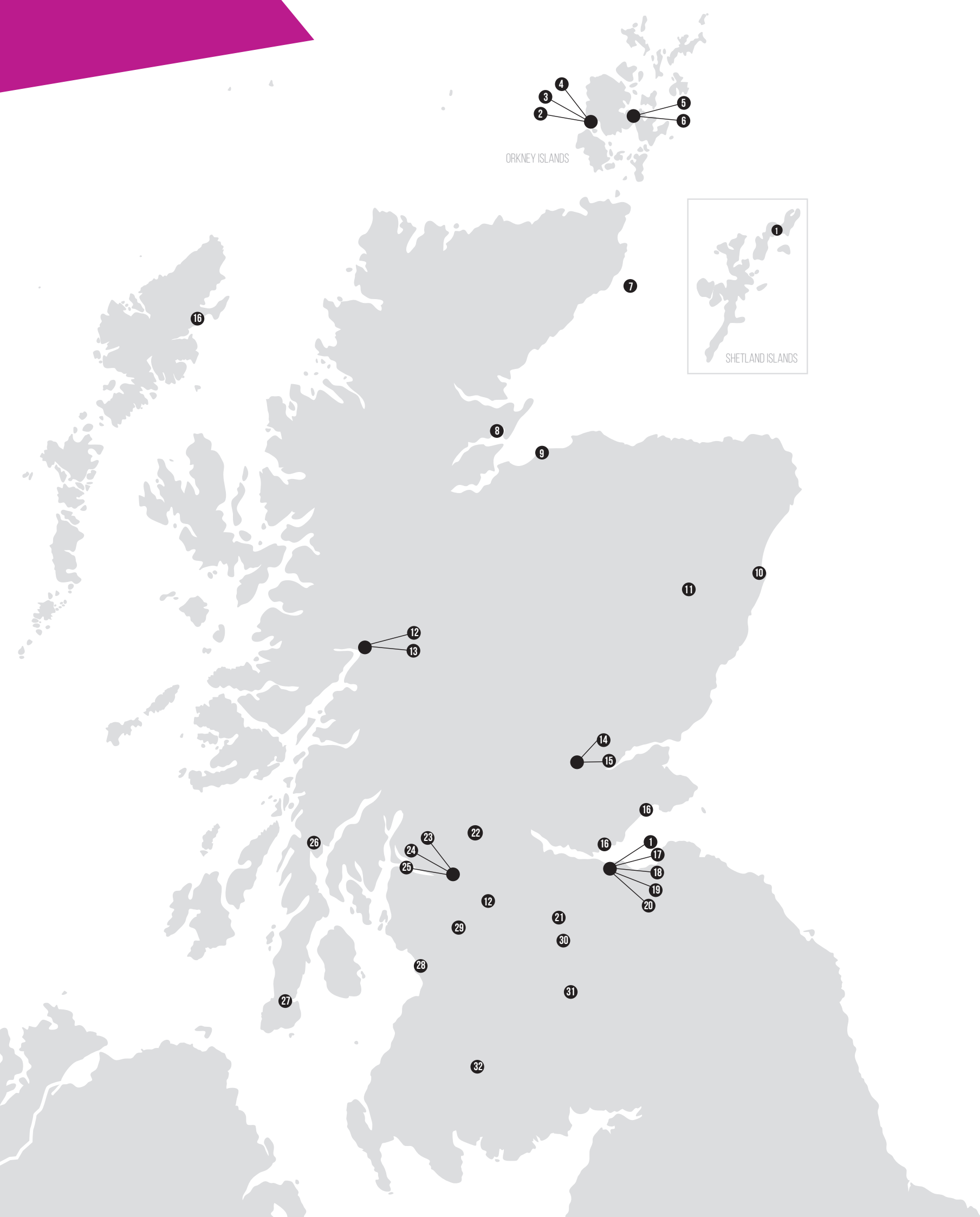
Glasgow and Edinburgh are home to large power utilities as well as some of our most cutting-edge science, research and innovation organisations – companies like Limpet Technologies and Neo Environmental are developing unique products which are already being exported across the globe.

Research by Scottish Renewables in December 2016 showed Scottish renewable energy businesses like these have been involved in projects worth £125.3 million in 43 countries in every continent bar Antarctica.

In the south of Scotland, organisations like Natural Power and Green Cat Group are nurturing workforces skilled in providing the development support that renewable energy projects need to thrive, while construction of key infrastructure projects like the Clyde wind farm has brought investment and jobs to one of the country's least-populated areas.

The industrial impact of Scotland's renewable energy sector can be felt across the whole country.

With the active backing of government, and the determination of industry, renewable energy can continue to deliver the modern industrial benefits of our commitment to tackle climate change, bring secure, affordable energy to the UK and assist in the shift to a cleaner, more sustainable energy system.



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**CS WIND UK'S TURBINE
TOWER MANUFACTURING
PLANT IN ARGYLL IS THE
ONLY ONE OF ITS KIND IN
THE UK**



GREEN MARINE

Scotland's marine energy sector is built on expert supply chain businesses like Green Marine.

The award-winning firm supplies vessels and engineering and planning expertise to allow developers to install and maintain their marine technology devices safely and successfully.

Green Marine's history is in the fishing industry, where the company's founders operated a fleet of vessels from 12 metres to over 100 metres in length.

The company diversified into renewable energy in 2012, investing heavily in new vessels and training as the sector developed.

CS WIND UK

CS Wind UK's turbine tower manufacturing plant in Argyll is the only one of its kind in the UK.

The site, which was bought by the South Korean-headquartered CS Wind Corporation in 2016, is seeing rapid growth.

The business has diversified from manufacturing towers for onshore wind turbines into the growing offshore wind market, opening a lucrative new income stream.

Around 100 people are employed at CS Wind's Machrihanish site near Campbeltown, with that number expected to rise as additional orders are secured. The company has signed an agreement with Siemens to

HIGHLANDS AND ISLANDS

Green Marine's installation of the ANDRITZ HYDRO Hammerfest's 'HS1000' turbine in the waters off Orkney in 2013 marked a world first and showed the company's expertise perfectly: never before had a catamaran barge been moored in a tidal stream to deploy a tidal turbine.

Based within the hub of marine renewables in Stromness, Orkney, Green Marine operates across the UK and Europe and has a turnover from renewables of around £2.3 million.



produce offshore wind towers between 2017 and 2019; another with EDF Energy Renewables with potential to provide towers for the company's 1.6GW pipeline of Scottish projects and a third which will see it co-operate over potential future contract and supply opportunities with Swedish utility Vattenfall.



NOVA INNOVATION

Tidal energy company Nova Innovation deployed the world's first fully operational, commercial, grid-connected offshore tidal array in the waters off the Bluemull Sound in Shetland in 2016.



The Shetland Tidal Array – which will eventually be made up of five Nova M100 100kW underwater turbines – is unique in not only being a world first but also in the way in which it was developed: start small, think big, move fast. This strategy is positioning Nova Innovation as a trailblazer in tidal energy technology.

The Edinburgh-based company designs, builds and tests tidal energy turbines at its base in Leith.

Nova, which was founded in 2010, has grown to employ more than 20 people in Edinburgh, Shetland and Wales and aims to be the world's leading tidal energy technology company.



EUROPEAN MARINE ENERGY CENTRE

EMEC is the world's leading centre for testing wave and tidal energy converters at sea.

Having hosted 17 companies, with 27 prototypes so far, more marine energy devices have been trialled at EMEC's Orkney facilities than at any other site in the world.

The centre offers purpose-built, accredited grid-connected test berths for full-scale prototypes (at the Fall of Warness for tidal developers and Billia Croo for wave developers), as well as test sites in less challenging conditions for use by smaller-scale technologies, supply chain companies and equipment manufacturers (at Shapinsay Sound and Scaja Flow).



Currently testing at EMEC's tidal test sites are Scotrenewables' 550-tonne 2MW SR2000 (the world's most powerful floating tidal turbine), Sustainable Marine Energy's PLAT-O system (which hosts SCHOTTLE SIT turbines), and OpenHydro's Open-Centred Turbine (the first technology ever to generate tidal power into the UK grid).

2017 will see some technologies return to test at EMEC, including Wello Oy's Penguin wave energy converter, as well as the debut of brand new technologies including Laminaria (Flemish), CorPower (Swedish) and Tocardo (Dutch).

EMEC, a not-for-profit private company, acts as an advisor to countries planning marine energy deployment with staff having worked in Australia, Brazil, Canada, Chile, China, Denmark, France, Japan, Republic of Ireland, Singapore, South Korea and the USA.

A study in 2016 reviewed EMEC's impact on the UK and found the centre has generated a GVA to the wider UK economy of £249.6 million and has supported 3,801 full-time equivalent job years.



Image: Mike Brookes-Roper / TGL

AQUATERA

Environmental and sustainable energy consultancy Aquatera was established in 2000 to provide a modern and innovative suite of environmental and energy planning services and products.

The company, which employs 23 people in Stromness, Orkney, has established a strong track record in renewable energy and delivers to local, UK and global markets.

Aquatera's work, led by Managing Director Dr Gareth Davies, includes preparing strategic roadmaps and energy plans, option evaluation and feasibility studies and project-specific environmental impact assessment documents. The company has also moved into marine energy project development.

Aquatera's work is almost always collaborative. The company is now working with local businesses in 10 countries outside the UK and Europe in places as varied as the Amazon Basin, Patagonia, Caribbean, Canary Islands, Caspian, Mauritius, Aceh, West Papua and Nagasaki.

Aquatera has also established a database of 7,000 tidal energy sites worldwide.



SCOTRENEWABLES TIDAL POWER

Scotrenewables Tidal Power is an innovative renewable energy development company which has pioneered a floating tidal generating platform.

The technology's inherent design advantages are such that it is recognised as a next-generation tidal technology with the potential to deliver a step-change cost reduction in electricity from tidal currents.

In 2011 the company launched the SR250 250kW prototype: the first large-scale floating tidal turbine in the world. Three years later Scotrenewables opened its own production facility for electrical system testing and assembly in Orkney.

In 2016, after more than a decade of research, design and testing, Scotrenewables launched the 2MW SR2000 turbine, which is now the largest and most powerful tidal turbine in the world.

Scotrenewables employs 25 staff in its Orkney and Edinburgh offices.

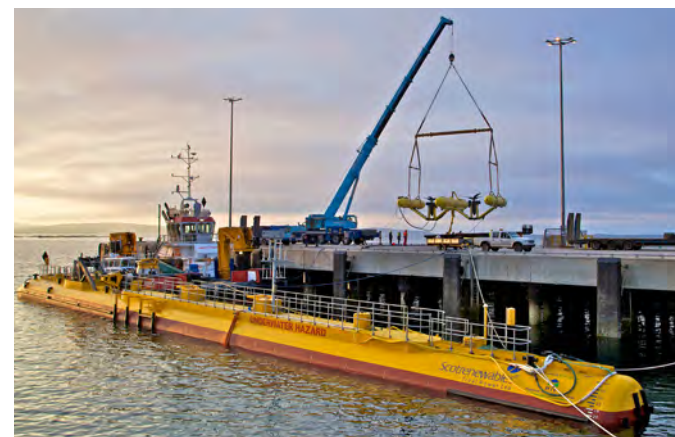
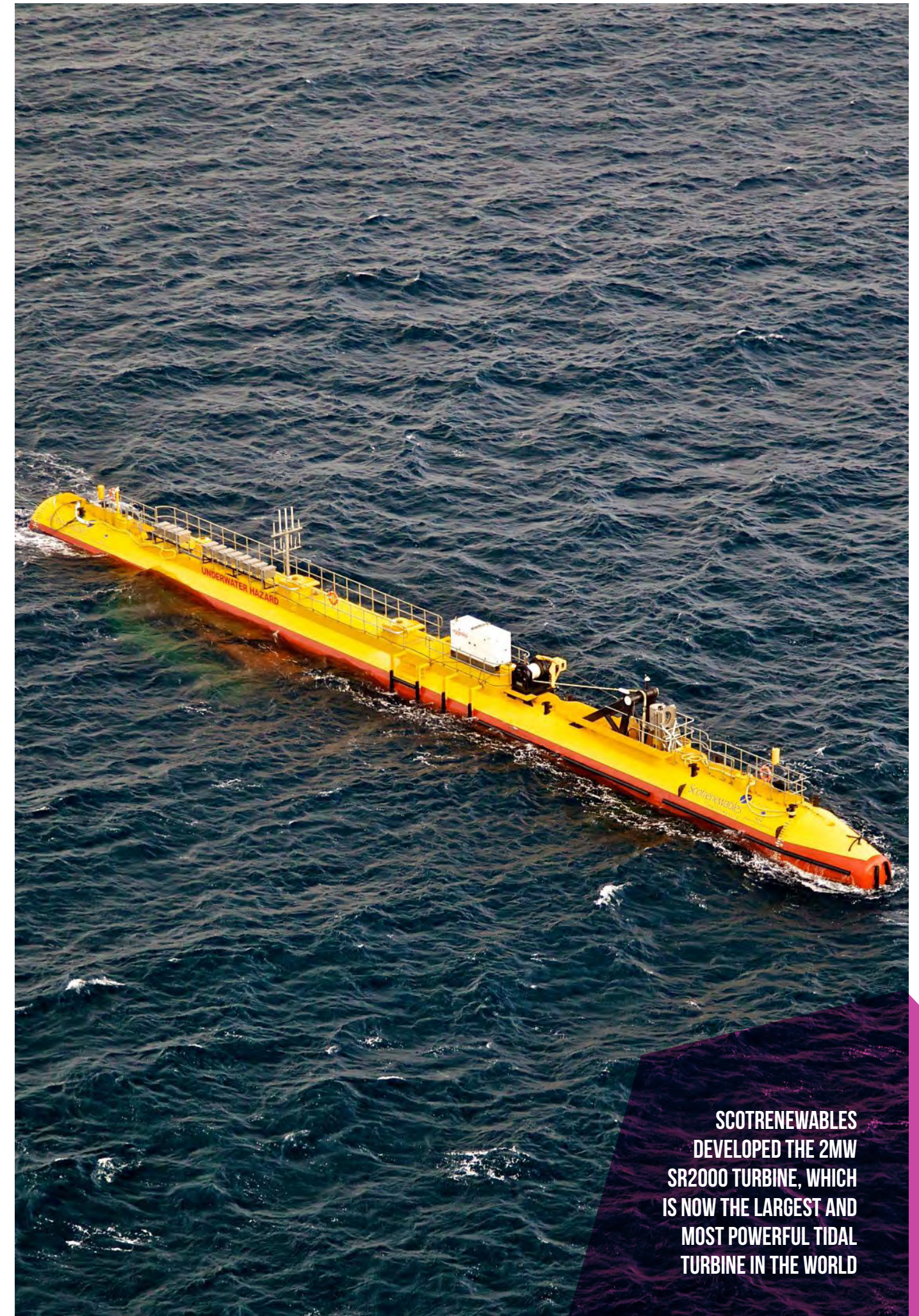


Image: Colin Keldie



**SCOTRENEWABLES
DEVELOPED THE 2MW
SR2000 TURBINE, WHICH
IS NOW THE LARGEST AND
MOST POWERFUL TIDAL
TURBINE IN THE WORLD**

LEASK MARINE

Leask Marine is arguably the world’s most experienced marine energy supply chain business, and is one of a growing number of companies in Orkney which have diversified into renewable energy.

The company, founded in 1985, made its name providing full marine inspection services, surveys, salvage, towing and general workboat support tasks in the challenging waters around Orkney.

Over the past 13 years Leask Marine has worked with wave and tidal energy developers including Sustainable Marine Energy, Andritz Hydro, Nautricity, Wello Oy, Open Hydro, Scotrenewables, on Nova Innovation’s deployment of world’s first fully operational tidal array and on

MeyGen, the world’s largest tidal-stream project under construction.

Leask Marine employs over 30 people, with marine energy accounting for 23% of the company’s turnover during 2016.



BEATRICE OFFSHORE WINDFARM LIMITED (BOWL)

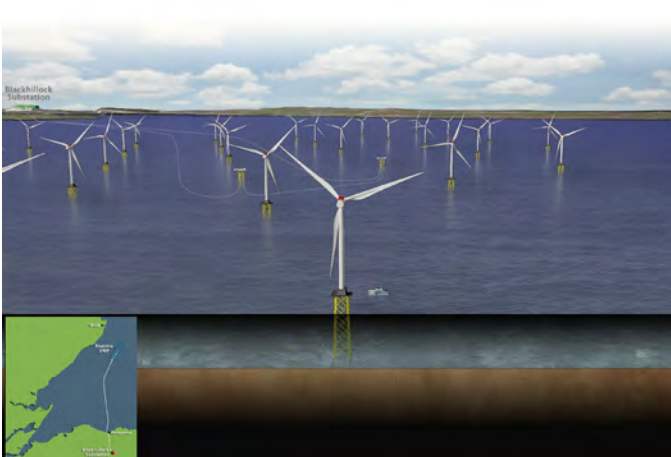
The £2.6 billion Beatrice offshore wind farm, a joint venture between SSE (40%), Copenhagen Infrastructure Partners (35%) and Red Rock Power Limited (25%), will provide direct employment for more than 890 people during its construction.

The 84-turbine, 588MW scheme-one of Scotland’s largest private infrastructure projects-is being developed with a supply chain which includes Seaway Heavy Lifting, Burntisland Fabrications, Subsea 7, Nexans and Siemens.

Beatrice is expected to deliver around £680 million to the UK and Scottish economies via employment and

supply chain opportunities during its construction phase and up to £525 million during the wind farm’s 25-year operational life.

Beatrice also means work for Wick Harbour in Caithness, where £10 million of investment is turning former British Fisheries Society buildings into the wind farm’s operations and maintenance base, providing 65 construction and 90 long-term jobs.



LEASK MARINE
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GROWING NUMBER
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AES SOLAR

AES Solar is the longest-established solar thermal manufacturer in Western Europe and the only company to both manufacture and install solar thermal systems.

In addition to solar thermal AES Solar installs PV of all sizes, ranging from individual retrofits and new self-builds to entire housing developments and commercial buildings.

The company received more enquiries in 2016 than ever before, contributing to a turnover of around £2 million.

AES employs 10 people in Forres, Moray, including three modern apprentices, and has recently taken part in two

major funded-research projects, showing innovation in solar is happening in Scotland.

Plans for coming years include developing an already-packed export order book by enhancing the company's capability to ship products overseas in bulk.

AES is currently working with the Scottish Manufacturing Advisory Service to create an efficient manufacturing line to deal with the increase in production this will entail.



LIBERTY HOUSE GROUP

Liberty House Group's interests in Scotland are tied to renewable energy.

The acquisition of two Lanarkshire steelworks and the UK's last remaining aluminium smelter in Fort William, along with two neighbouring hydroelectric plants which power it, could spark a renaissance in the country's manufacturing industry.

The company's 'Green Steel' vision involves using renewable energy to melt Britain's readily-available supply of scrap metal which could then be remanufactured into, among other things, wind turbine towers.

Liberty's purchase of the machinery from wind tower business Mabey Bridge in summer 2016 could mean a rapid move into that sector, but the £330 million

investment in Fort William and nearby Kinlochleven has already protected 170 jobs there.

Another 300 direct posts – and hundreds more in the supply chain – could be created if plans for a new auto components manufacturing facility at the site get the go-ahead, with any new plant powered by the company's 90MW of hydro assets in the area.



RENEWABLE PARTS

Supply chain specialist Renewable Parts is the UK's leading independent provider of wind turbine parts.

Boasting a 50% growth rate over the last 24 months the company has tapped into the rapidly expanding market for aging turbines which are no longer covered by manufacturer-backed service contracts.

Renewable Parts is able to source, deliver and install components for wind turbines which have mechanical problems, dramatically reducing revenue lost when the machines are not generating power.

The company, which was founded in 2011, employs 10 people in Lochgilphead and Glasgow.

Expansion of operations in 2017 is focussed on developing repair capability through a partnership with Strathclyde University and increasing inventory holding to ensure customers can access a wider range of parts more quickly, reducing downtime and maximising clean energy generation.



BURNTISLAND FABRICATIONS

At BiFab's Arnish facility near Stornoway, the capital of the Isle of Lewis, 80 local people are employed producing steel components for the Beatrice Offshore Windfarm.

BiFab has a contract to supply 28 'jackets' – foundations which will hold the towers to the seabed and sit under the Offshore Substation Platform – for Beatrice, with work taking place across three sites.

Steel plate is blasted and rolled into 'barrel sections' at Arnish. Each barrel section is then welded together to form the transition piece, which will eventually support the tower, nacelle and turbine blades, which at 154 metres are almost twice as wide as the wingspan of an Airbus A380, the world's largest passenger plane.

Once the barrel sections are complete they're transported to Burntisland and Methil, in Fife, where they're connected to the rest of the jacket structure and eventually shipped out to Beatrice's site in the Moray Firth.



HWENERGY

HWEnergy is one of the UK's leading biomass heat specialists.

The Highlands company provides turnkey design, build, installation, fuel supply and ongoing service of commercial and industrial biomass systems of all types, from straightforward single-boiler sites to complex district heating schemes.

HWEnergy has completed more than 270 commercial-scale projects totalling more than 50MW of renewable heat capacity and has acted as the main contractor on most of these schemes. Installations stretch from Shetland to Bradford and cover a wide range of sectors including food and drink, tourism, rural businesses, commercial premises, charities and public sector buildings.

HWEnergy were the first company in Scotland to receive accreditation under the non-domestic Renewable Heat Incentive scheme.

The company has since won numerous awards including a 2016 Scottish Green Energy Award for installing biomass boilers at schools in partnership with North Ayrshire Council and the H&V News Renewable Project of the Year 2014 for similar work with NHS Highland and NHS Ayrshire and Arran.

Headquartered in Fort William with an office in Bellshill, Lanarkshire, HWEnergy has a staff of 45 including engineers based across Scotland and England. The company services and maintains more than 300 sites across the country.



GLOBAL ENERGY GROUP, NIGG

Global Energy Group's Nigg Energy Park is one of the UK's finest deep water ports.

The site began life as a construction site for oil and gas platforms but a 'boom and bust' work cycle through the 1970s, 80s and 90s has now been replaced with more sustainable business across many energy and industrial sectors.

Global Energy Group took over the Nigg site in 2011 and has since spent £45 million developing its asset into a world-class port, yard and fabrication facility.

Nigg has been chosen by Siemens as a staging port for the Beatrice offshore wind farm and as the foundation and turbine assembly base for MeyGen, the world's largest tidal-stream project under construction.

The yard has also been contracted by Hexicon to fabricate and assemble the floating foundation of the world's first dual offshore wind turbine situated on a single structure. The project, known as Dounreay Tri, received planning permission in March 2017 and will sustain over 100 jobs at Nigg for a year.

Global Energy Group has recently applied for a Harbour Empowerment Order which would enable the company to operate Nigg themselves as a port, opening up the possibility of further expansion.



**NIGG ENERGY PARK
IS ONE OF THE
UK'S FINEST DEEP
WATER PORTS**

NORTH EAST SCOTLAND

ECOSSE SUBSEA SYSTEMS

Subsea and engineering technology company Ecosse Subsea Systems is an excellent example of a business which has its roots in oil and gas but has successfully transitioned to renewables.

Aberdeenshire-based ESS designs and manufactures a range of tools which are used in seabed excavation and route preparation for cabling deployed in UK and international wind farm, interconnector and power generation projects.

Revenues in 2016-17 are expected to double from £12 million to £25 million with profits of around £5 million, while staff numbers will exceed 50.

ESS has invested £1.4 million on its latest SCAR 2 seabed preparation system, which is the largest boulder clearing tool in the world, and is designing and building a £3 million carousel on behalf of a major infrastructure group for use in the wind farm sector.

ESS has agreed a multi-million-pound revolving credit facility with Handelsbanken which will underpin expansion in emerging markets in the Baltic Sea, Far East and USA. The company recently received the Engineering Excellence Award at the Scottish Green Energy Awards.

EUROPEAN OFFSHORE WIND DEPLOYMENT CENTRE

Swedish utility Vattenfall has signed leases totalling 24 years with Aberdeen Harbour Board to establish the port as its centre of operations for the cutting-edge 92.4MW European Offshore Wind Deployment Centre.

As Scotland's largest offshore wind test and demonstration facility, the EOWDC is already fast becoming a hub of innovation. Construction started in October 2016, with first power expected in summer 2018.

A team of at least 11, including skilled offshore wind technicians, will be based at the harbour during the 20-year lifetime of the project, with a number of these

personnel likely to have transferred skills from the oil and gas industry.

Originally conceived by Aberdeen Renewable Energy Group in partnership with Vattenfall, the EOWDC will reinforce the north-east's global energy status by leading the industry drive towards generating clean, competitive wind energy.



MID SCOTLAND AND FIFE

GREEN HIGHLAND RENEWABLES

Hydropower developer Green Highland Renewables has delivered Scottish projects worth £117 million since 2010, the majority of which has been spent with local businesses and suppliers.

The firm, which employs around 20 people at its base in Perth and across Scotland, has a full order book for 2017 with more than £40 million planned investment in the pipeline.

Green Highland Renewables' project at Loch Arkaig, Lochaber, boasts one of the largest Archimedes screw installations in the UK, while

at Loch Tay, Perthshire, the company has run a submarine cable across the loch at a depth of 150 metres – greater than that found in most of the North Sea.



SSE

SSE owns and operates the UK and Ireland's largest renewable energy portfolio: 3,275MW of capacity including hydro, pumped storage, onshore and offshore wind.

SSE is headquartered in Perth, and its operational renewable assets and development pipeline is spread across the whole of Scotland.

SSE is currently constructing over 500MW of onshore renewables projects in Scotland and Ireland. The £2.6 billion Beatrice offshore wind farm joint venture in the Moray Firth, at 588MW, is the company's largest-ever renewables project and will be capable of powering around 450,000 homes.

Since 2007 SSE has invested £4 billion in renewable generation and is proud to be the leading operator of such assets in the UK and Ireland.

SSE directly employs over 800 people to support its renewables development and operations activities, with contractors on construction sites currently numbering over 1,000.



WEST SCOTLAND

WHITELEE OPERATIONS CENTRE, WHITELEE WINDFARM

ScottishPower Renewables’ £1 million Operations Centre is based at Whitelee Windfarm, the UK’s largest.

The state-of-the-art facility monitors around 1,000 wind turbines which can power the equivalent of around 750,000 homes.

The Operations Centre can remotely oversee all of ScottishPower Renewables’ windfarm developments, from Cornwall to Caithness.

Operators use weather prediction software to plan maintenance as well as responding to calls from National Grid to alter the generation provided by the company’s wind farms at times of high or low demand.

The Operations Centre was opened by Scotland’s First Minister, Nicola Sturgeon, in March 2015 and can host up to 30 employees.



WINDHOIST

Windhoist’s fleet of cranes and skilled technicians travel the world installing wind turbines, supporting the global shift to clean energy from the company’s Ayrshire base.

Technicians who travel with the machines are trained to work at height and on the most complex turbine systems available, providing an end-to-end solution for clients including Siemens, Vestas, Senvion and Nordex.

To date the company has erected more than 5,300 turbines in 16 countries with an installed capacity of over 10GW – more than the total amount of onshore wind currently installed in the UK.

The Irvine business employs 155 people, with most working away from their base for extended periods, and is part of a Scotland-headquartered group employing 360 people.



Images: Michael Wanley

THE COMPANY HAS
ERECTED MORE THAN
5,300 TURBINES IN
16 COUNTRIES

CENTRAL SCOTLAND

GAMESA

Spanish wind turbine manufacturer Gamesa’s maintenance and support divisions employ 80 people at two sites in North Lanarkshire – the company’s main facilities in the UK.

Gamesa has over 550MW of wind turbines in various stages of operation and construction across the UK. Those projects, as well as others in the Republic of Ireland, are all supported from Lanarkshire.

The Bellshill facility houses the company’s Operation and Maintenance Management, Construction Management and Commercial teams.

A storage location in Tannochside hosts separate Operations and Maintenance warehousing.



BY THE END OF 2016
ENERCON UK WILL HAVE
INSTALLED AROUND 150
WIND TURBINES IN 70
SEPARATE PROJECTS

ENERCON

By the end of 2016 ENERCON UK will have installed around 150 wind turbines in 70 separate projects, totalling 265MW – enough to power the equivalent of every home in Aberdeen and Dundee combined.

ENERCON holds a unique place in the UK market, supplying both large-scale developers and utilities and small single-turbine projects.

Large projects in 2016 include the 69MW Corriegarth wind farm in the Highlands and the 51MW Harburnhead site close to Edinburgh.

Single turbines have been supplied to independent landowners, businesses and community projects across the UK mainland and islands looking to decarbonise.

ENERCON now employs 270 people in the UK, with numbers at its head office in Edinburgh growing from 25 to 45 in two years. The company's Scottish field-based workforce has also grown from 55 to 120, spread over 10 service stations in roles such as installation, commissioning and service engineering.



EDF ENERGY RENEWABLES

EDF Energy Renewables is one of the UK's leading green energy companies.

The business, a 50:50 joint venture between EDF Energy and EDF Energies Nouvelles, employs 150 people to develop, build and operate generation projects, with a focus on onshore and offshore wind and battery storage technology.

EDF Energy Renewables is committed to continuing the growth of its renewables business in Scotland – where it already operates 319MW of green power projects. The company's new office in Edinburgh was opened by First Minister Nicola Sturgeon in January 2017, creating 35 new jobs.

The company's pipeline of Scottish projects includes delivery of the 177MW Dorenell wind farm in Moray.

The site is the largest onshore wind project granted a Contract for Difference by the UK Government and is scheduled for completion in 2018.

EDF Energy Renewables is also developing an additional 400MW of consented onshore wind projects, with a further 700MW in planning or in the early stages of development.



ITPENERGISED

Energised Environments was established in Edinburgh in 2013 to provide environmental and energy consultancy services and asset management to the renewables development and investment sectors and to corporates seeking to improve their energy efficiency and management.

The business re-branded to ITPnergised following the acquisition of IT Power Consulting in May 2016, which increased the number of staff employed by the business to 50 and has contributed to an increase in turnover of 165% in the last two years.

In addition, ITPnergised established ownership of a number of overseas companies, creating the ITPnergised Group, which employs over 100 staff.

Today, ITPnergised is a world-leading consultancy offering energy, environmental, engineering, technical advisory and renewables asset management services.

The ITPnergised Group, which is still headquartered in the Scottish capital, has a permanent presence in Glasgow, London, Bristol, Australia, New Zealand, India, Portugal and Argentina and is also involved in a joint venture in China.



LIMPET TECHNOLOGY

Although wind turbines are designed to require little maintenance, when they do it's a skilled job in a potentially dangerous environment.

Technicians must climb ladders to access components, and as turbine towers can be more than 80 metres tall it's easy to see what a challenging job that can be.

The Limpet system's 'Intelligent Climb Assist' mode automatically measures the worker's weight and provides an upwards pull equal to 90% of their mass, making ladders much easier to climb. It also integrates fall prevention and rescue features, meaning emergency situations are more easily and quickly managed.

The Limpet was originally developed as a rope management system for indoor rock climbing, and diversification into renewables brought revenue and recognition. Further expansion into concert staging and heavy industry has followed.

The family-owned business now employs ten highly-skilled employees in its Leith office and has a growing band of distributors and resellers around the world.

Annual revenues are approaching seven figures and it is hoped the development of a new product specifically designed for offshore wind is likely to boost orders as that sector continues to grow.



GLASGOW

SCOTTISHPOWER RENEWABLES

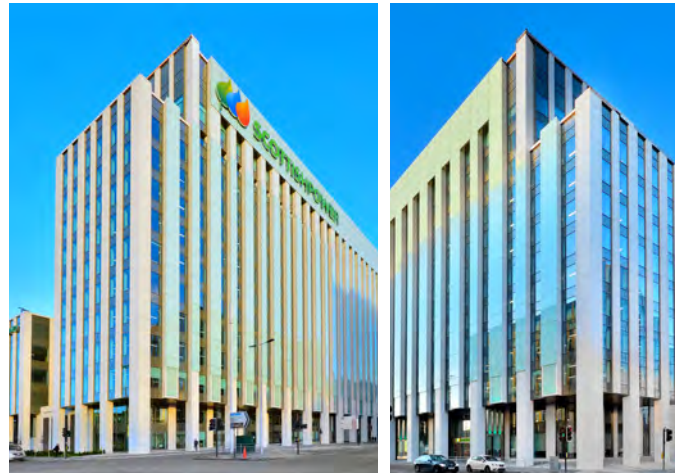
ScottishPower Renewables manages its worldwide fleet of offshore wind farms from Glasgow.

The offshore team based in the company's new HQ building is managing the development of over 4,000MW of offshore projects across Europe.

The company, part of Iberdrola, is one of the leading developers and generators of wind power in the UK. With close to 2,000MW of installed capacity, ScottishPower Renewables manages over 30 wind farms from Glasgow.

A 2016/17 investment programme will see eight new onshore projects constructed, with investment of £650 million. £2.5 billion is also being invested to build a 714MW offshore wind farm off the coast of East Anglia.

Around 250 people based in Glasgow oversee all project development, construction and operations. Currently over £3 billion of renewables investment is being delivered from the Glasgow office.



SGURREENERGY

SgurrEnergy, part of Wood Group's clean energy business, is a leading renewable energy and grid integration consultancy.

With over 300 experienced staff the company provides engineering and technical advisory services in onshore and offshore wind, solar and energy storage projects.

To date SgurrEnergy has assessed 60GW of renewable energy projects in more than 90 countries on six continents, including the USA's first consented offshore wind farm, the first western-designed wind farm in China and Jordan's largest solar PV plant.

Headquartered in Glasgow, the company's first international office was opened in Beijing in 2006,

followed by an office in Pune, India in 2007. SgurrEnergy now has offices in Ireland, France, Canada, USA, Norway, Brazil, Germany, South Africa, Chile, Mexico, Hong Kong and the United Arab Emirates.



NEO ENVIRONMENTAL

Neo Environmental has been involved in the production of environmental reports and technical assessments for more than 400 renewable energy projects, from small wind turbine developments to large-scale wind and solar farms.

The company has produced studies, assessments and reports for more than 600MW of green energy and saw its turnover increase 500% in the two years to 2015. Over the same period the company's headcount rose from two to 16.

Neo's Glint and Glare computer model allows potential reflection issues from solar PV panels and other sources anywhere in the world, on any day of the year, to be modelled.

The company has been commissioned on projects across the UK, Ireland and abroad, and has worked on two of the largest solar farms in the UK and Ireland.

Neo Environmental, which is headquartered in Glasgow, now has offices in Scotland, England, Northern Ireland and the Republic of Ireland.



SOUTH SCOTLAND

CLYDE WIND FARM

SSE’s 152-turbine Clyde wind farm is the UK’s second largest, and will grow by almost 50% to 523MW when a 54-turbine extension is completed in summer 2017.

Analysis carried out by PwC shows the construction phase of the extension, which began in May 2015, will contribute £108.2 million to the UK economy and support the equivalent of 1,830 man-years of employment.

Approximately 76% of the contribution to UK GDP from the turbines will stay in Scotland, as will more than 70% of the total UK contribution from construction. During the operational phase of the site those figures are 71% and 74%.

With the addition of the community benefit fund for the extension the total Clyde Community Fund will be in excess of £60 million over the lifetime of the project.

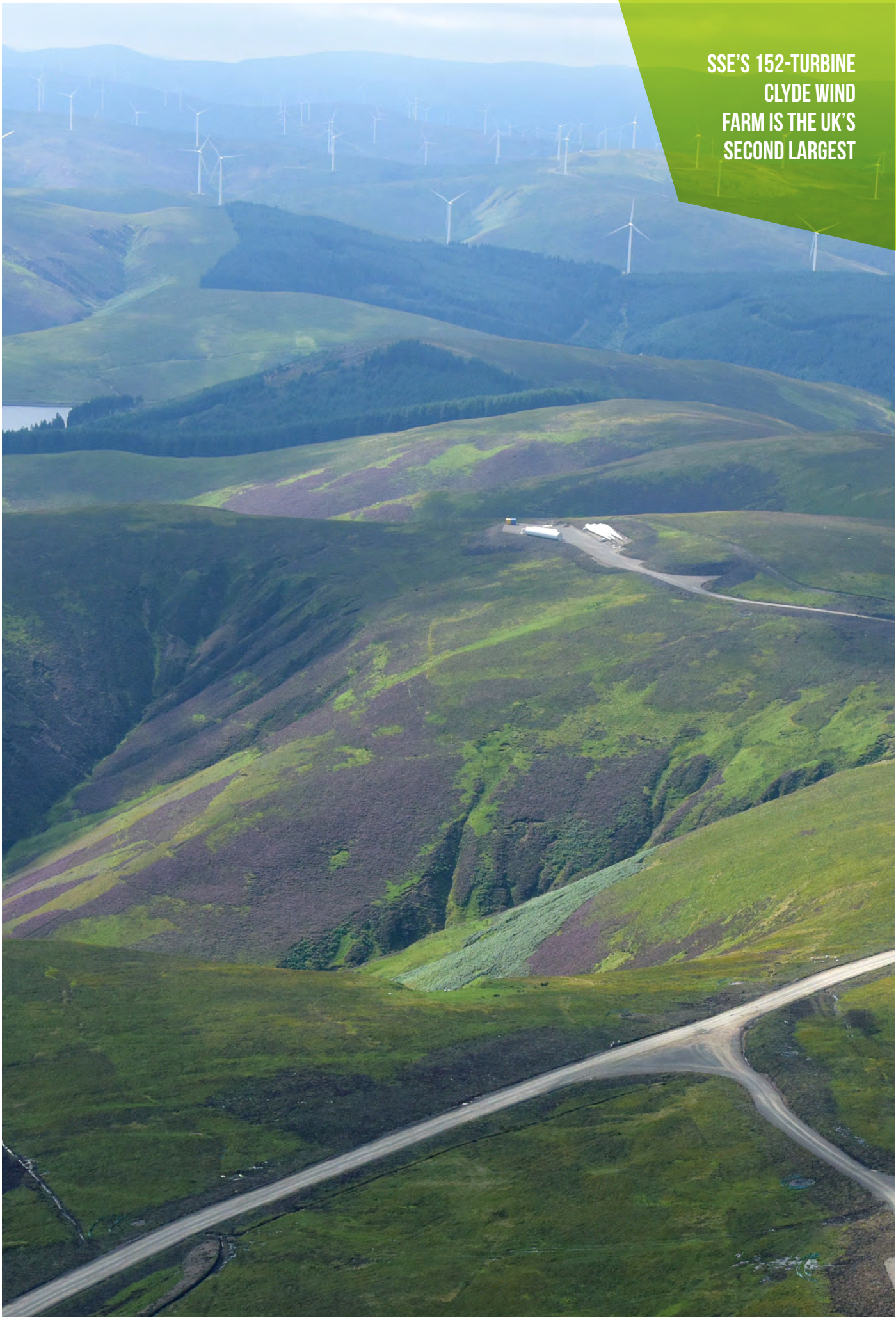


MUIRHALL ENERGY

Muirhall Energy is a small but growing onshore wind development business.

The company, which employs 13 people full time and has a turnover of more than £5 million per year, is based in a converted farmhouse in the South Lanarkshire countryside, close to some of the original wind farms with which it was involved.

With 16 consented projects and plenty more currently in planning the company is continuing to invest in onshore wind energy in Scotland.



SSE’S 152-TURBINE
CLYDE WIND
FARM IS THE UK’S
SECOND LARGEST

NATURAL POWER

Independent renewable energy consultancy Natural Power manages around one in five of the UK's wind turbines – or 1.9GW – from its headquarters in rural Dumfries and Galloway.

Almost 90 employees are based at the company's Global Headquarters, known as The Green House, and Natural Power is one of the largest employers in this rural area.

Across the world 334 people are employed in 11 offices by the business, which has worked in 32 countries on 75GW of projects (the equivalent of almost half the EU's wind power capacity).

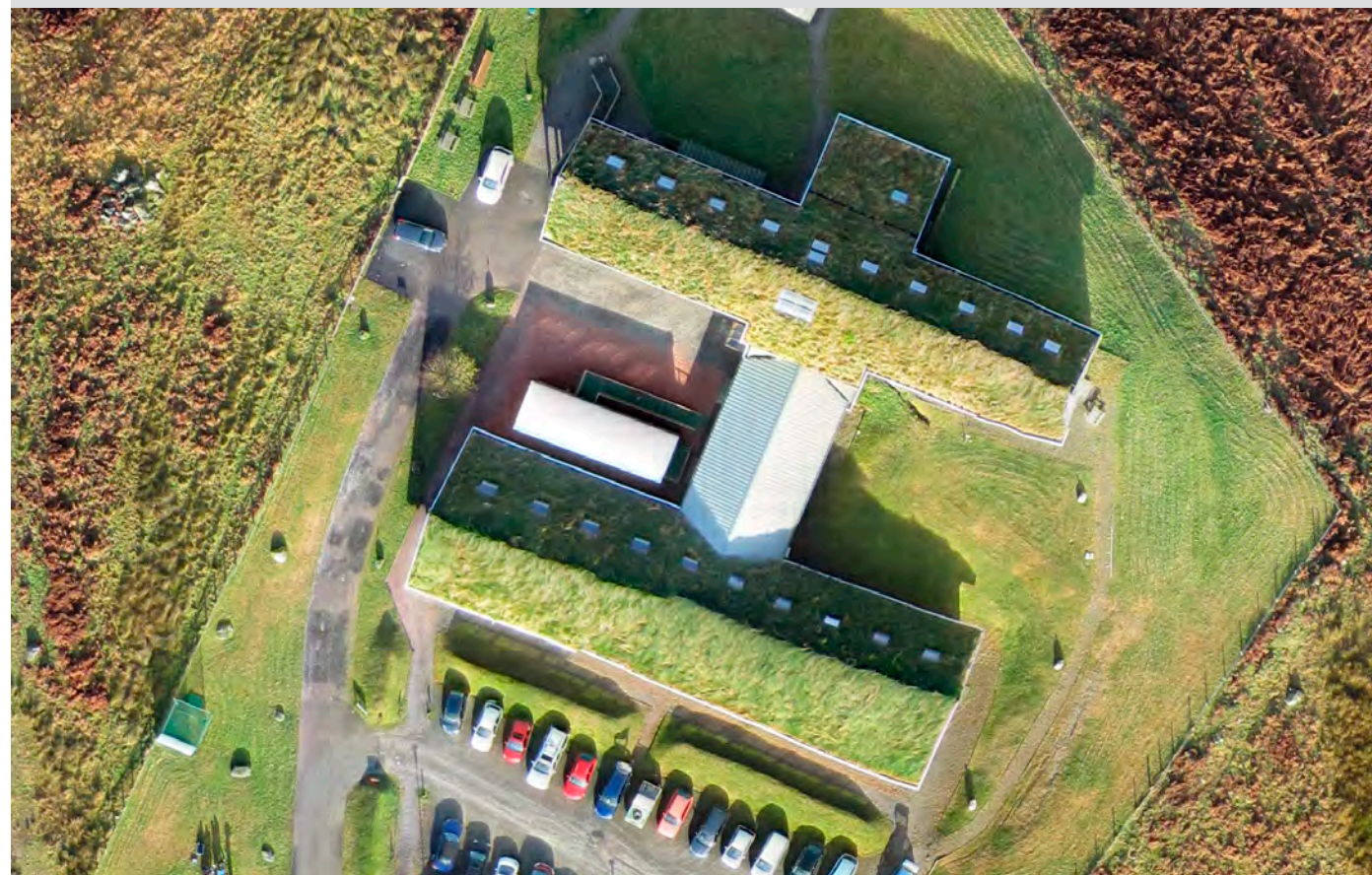
Established in the mid-1990s, Natural Power has been at the heart of many groundbreaking projects, products and portfolios for close to two decades, assisting project developers, investors, manufacturers, research houses and other consulting companies.

Providing planning and environmental analysis, construction and geotechnical, operations and asset management and due diligence services, Natural Power is uniquely a full life-cycle consultancy – from feasibility to finance and every project phase in between.

In 2016 Natural Power secured what is believed to be the world's first planning consent for a kite power technology test and development site, just 40 miles from its Scottish HQ.



**GREEN CAT GROUP
EMPLOYS 75 PEOPLE
ACROSS FIVE COMPANIES
AND HAD A COMBINED
TURNOVER OF MORE THAN
£15 MILLION IN 2016**



GREEN CAT GROUP

Green Cat group employs 75 people across five companies and had a combined turnover of more than £15 million in 2016.

Green Cat Renewables was formed in 2005 to develop wind, small-scale hydro and solar energy projects. That company alone now employs 50 staff across four sites: 11 in Biggar, South Lanarkshire, 13 in Livingston, West Lothian, four in Thainstone, Aberdeenshire and 24 in Edinburgh.

Green Cat Renewables has delivered over 200 projects with a combined capacity of more than 250MW. It has also assisted with more community and locally-owned projects than any other company in Scotland.

Green Cat Contracting is a civil engineering contractor which builds access tracks and drainage, concrete structures and earthworks for wind energy projects up to 10MW and small-scale hydro schemes. Green Cat Contracting employs 17 people from a base in Livingston, although many of the operators and labourers are based at sites across the UK.

Specialist high voltage electrical contractor Prelec is also part of the Green Cat group and works to connect renewable energy projects to the grid. Prelec employs eight people from a base at the Midlothian Innovation Centre near Edinburgh.

Green Cat Renewables Canada Corporation is a new venture which will supply the same service GCR provides in Scotland in the Alberta Province of Canada. Much of its work will be done by the existing Scottish workforce.



Scottish Renewables

6th Floor, Tara House
46 Bath Street, Glasgow
G2 1HG

t. 0141 353 4980

e. info@scottishrenewables.com

w. www.scottishrenewables.com