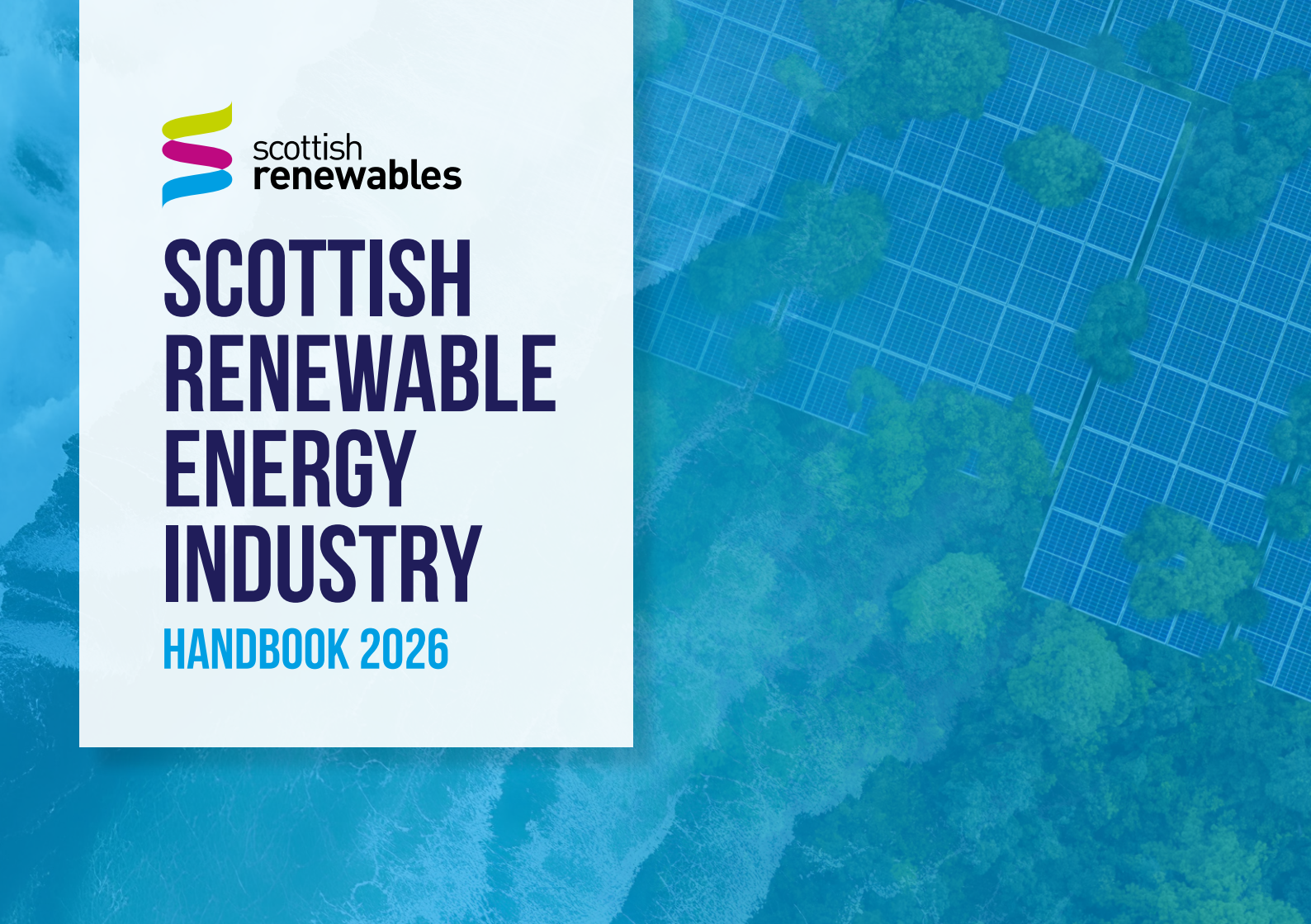
scottish renewables

SCOTTISH RENEWABLE ENERGY INDUSTRY

HANDBOOK 2026



EXECUTIVE SUMMARY

Scotland's energy future is being built on the choices we make now.

In an increasingly uncertain world, shaped by geopolitical pressures and the accelerating impacts of climate change, homegrown renewable energy provides a path to our energy security, more affordable bills, long-term economic growth and environmental resilience. And Scotland is ideally placed to turn this into reality, with abundant natural resources, world-class skills and a strong industrial base.

This transition is already underway. Renewable energy now provides over half of the UK's electricity, with Scotland generating more than a quarter of that output – reflecting a shift in the energy mix thanks to sustained policy support from the Scottish and UK governments and high levels of public support for renewable energy. Together, this is powering progress across our energy independence, our economy and industrial growth and our natural environment while delivering a just transition for our communities and workers.

This handbook provides an overview of Scotland's renewable energy landscape, from how the system works today to the scale of the opportunities and challenges ahead, alongside key facts and figures, planned reforms and frequently asked questions. This is a true testament to the pace, breadth and scale of change in the last two decades which have positioned Scotland as a global leader in renewable energy.

But Scotland's continued leadership is not guaranteed. It will require further political support and action to ensure a stable policy framework that provides long-term investment certainty, a faster and fully resourced planning and consenting system, a skills and education pipeline aligned to industry needs and clear, consistent communication on the benefits of renewable energy to the public.

The opportunity is clear and the decisions that will be taken in the next few years will shape how that opportunity is realised. Let's secure Scotland's energy future together.

SCOTTISH RENEWABLES IS THE LEADING VOICE OF SCOTLAND'S RENEWABLE ENERGY INDUSTRY.

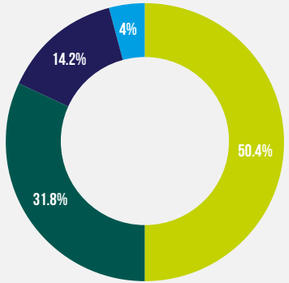
Our members are at the forefront of building Scotland's future energy system — delivering sustainable solutions to heat and power homes and businesses across the country. We work to lead and inform the debate on how the growth of renewable energy will strengthen energy security, improve affordability and drive long-term prosperity.

We represent more than 350 organisations spanning the full energy landscape — from major suppliers, network operators and manufacturers to small developers, installers and community groups, as well as businesses across the wider supply chain. They deliver investment, create skilled jobs, reduce carbon emissions and provide social value to communities across Scotland.

Our members are active across all renewable energy technologies, including onshore and offshore wind, hydropower, hydrogen, low-carbon heat, solar, tidal stream and wave energy and electricity networks, operating in Scotland and across the world.

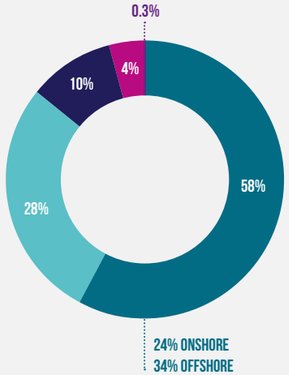
RENEWABLE ENERGY PROVIDED OVER 50% OF THE UK'S ELECTRICITY DURING 2024 – TRIPLING IN THE PAST 10 YEARS AND INCREASING TENFOLD SINCE 2000.

The UK is undergoing a major change, with clean power being the cornerstone of our new energy mix. After two decades of increasing reliance on imports to keep the lights on, we are transforming into a renewable energy powerhouse with the potential of exporting surplus electricity to our neighbours.



WHERE DOES UK ELECTRICITY COME FROM?

- Renewable Energy
- Fossil Fuels
- Nuclear
- Other

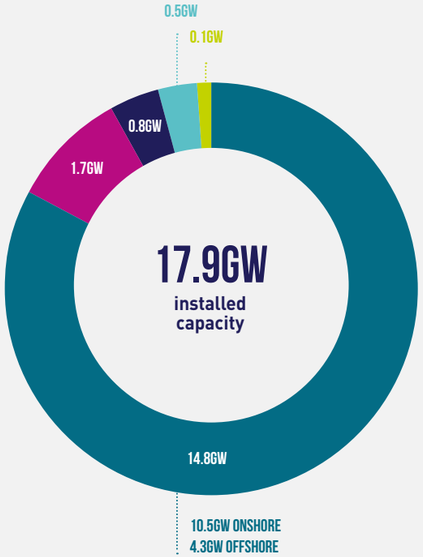


WHAT RENEWABLE ENERGY TECHNOLOGIES DOES THE UK USE?

- Wind
- Bioenery
- Solar
- Hydro
- Other

Source: DESNZ: The Digest of UK Energy Statistics (DUKES) 2025

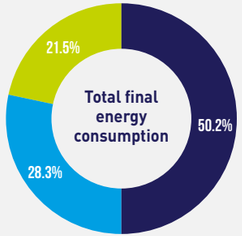
SCOTLAND PROVIDES OVER 18% OF THE UK'S ELECTRICITY WHICH ACCOUNTS FOR MORE THAN A QUARTER (26%) OF THE UK'S TOTAL RENEWABLE ENERGY GENERATION.



WHERE DOES SCOTLAND'S RENEWABLE ELECTRICITY COME FROM?

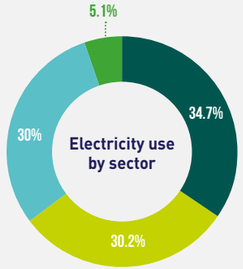
- Wind
- Hydro
- Solar
- Bioenery
- Other

HOW MUCH ENERGY DO WE USE IN SCOTLAND?



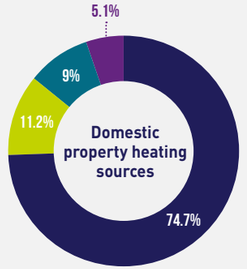
- Heat
- Transport
- Electricity

HOW IS ELECTRICITY USED IN SCOTLAND?



- Domestic
- Industry
- Services
- Transport

HOW DO WE HEAT OUR HOMES IN SCOTLAND?



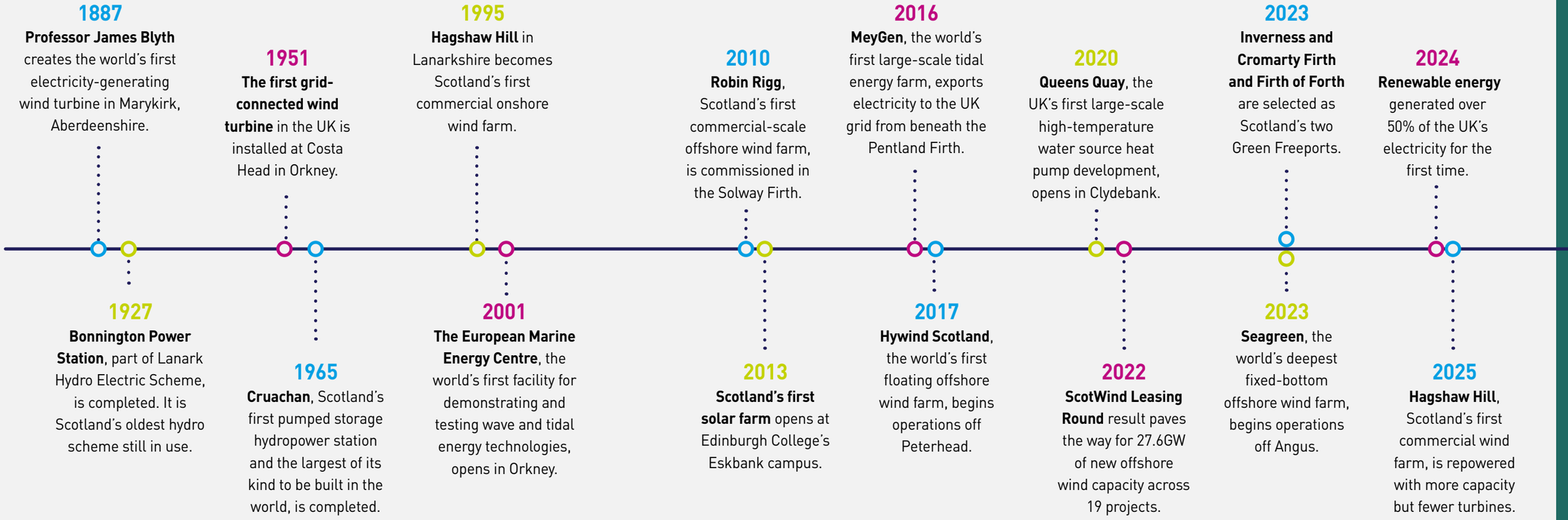
- Gas and central heating
- Other
- Electric central heating (Including storage heaters)
- Oil central heating

Source: DESNZ: Energy Trends December 2025

Source: DESNZ: The Digest of UK Energy Statistics (DUKES) 2025, Scottish Government: Scottish Energy Statistics Hub 2023, Scottish Government: Heat in Buildings progress report 2025

SCOTLAND'S LEADERSHIP IN THE ENERGY TRANSITION

Scotland's ambition builds on its enduring legacy as a global energy leader. From its pioneering achievements in North Sea offshore energy, the nation is now harnessing its experience, expertise and capabilities to drive a new era of sustainable growth through renewable energy.



SCOTLAND'S FUTURE ENERGY ASPIRATIONS

Renewable energy is Scotland's biggest economic opportunity. To realise it, the Scottish and the UK governments have set ambitious targets to build strategically planned clean energy infrastructure, reform the electricity market and grow the economy.

KEY DATES

2030

The UK aims to meet 95% of its electricity demand with energy from low-carbon sources.

Scotland aims to have 20GW of operational onshore wind, as set out in the 2023 Scottish Onshore Wind Sector Deal.

2040

Scotland aims to have 40GW of operational offshore wind, as set out in the 2025 Offshore Wind Policy Statement.

2045

Scotland aims to reach net-zero greenhouse gas emissions, as set out in the 2019 Climate Change Act.

2050

The UK aims to reach net-zero greenhouse gas emissions, as set out in the 2008 Climate Change Act.

KEY PLANS

Clean Power 2030 Action Plan: The UK Government's flagship strategy to ensure 95% of Great Britain's annual electricity demand is supplied by low-carbon power by **2030**. It sets actions to accelerate renewable energy deployment, upgrade networks, reform electricity markets and strengthen system flexibility to support a secure, affordable energy system.

Strategic Spatial Energy Plan (SSEP): A high-level national plan commissioned by the UK, Scottish and Welsh governments in 2024 to coordinate where future energy generation, storage and transmission infrastructure should be located after 2030. It will identify optimal mixes of renewable energy technologies per region, ensure operational efficiency and align energy infrastructure with long-term climate targets. **Due in 2027**

Regional Energy Strategic Plans (RESPs): The SSEP will inform eleven regional plans across the UK that coordinate energy infrastructure across local authorities. It will focus on distribution networks, regional decarbonisation and practical delivery challenges to ensure a joined-up approach between national and regional levels. **Due in 2028**

Beyond 2030 Network Plan: A national blueprint that sets out the transmission network reinforcements required to connect large volumes of offshore wind and other low-carbon generation. Published in 2024, it coordinates optimal offshore transmission pathways to reduce costs, minimise environmental impacts and deliver timely grid capacity.

Centralised Strategic Network Plan (CSNP): A unified, system-wide plan to coordinate long-term transmission and distribution investment. It integrates electricity and gas network needs, ensures efficient whole-system planning, and provides a single, strategic view of the infrastructure required to meet future demand and decarbonisation goals. **Due in 2029**

Accelerated Strategic Transmission Investment (ASTI): A framework was introduced by Ofgem to fast-track the delivery of 26 strategic transmission projects. The identified projects represent £20 billion in investment and are intended to help deliver 50GW of offshore wind by **2030.**

Reformed National Pricing: A programme of reform for Great Britain's electricity market that retains a single national wholesale price for power while introducing new incentives to guide investment into locations that improves system efficiency and the overall rollout of clean energy generation. **Due in 2029**

Connections Reform: The UK's grid connections queue stood at more than 738GW, far exceeding the 200–225GW of clean generation capacity required by 2030. Connections Reform is underway to streamline connection queues and enhance grid efficiency by shifting from a reactive "first come, first served" approach to a more strategic "first ready, first needed, first connected" model.

SPOTLIGHT ON SCOTLAND'S SUPPLY CHAIN

Scotland's position at the forefront of the energy transition reflects the strength and diversity of the supply chain companies delivering the renewable projects that will power the nation and enhance energy security. This supply chain brings together organisations of all sizes — from agile SMEs to original equipment manufacturers (OEMs) and major contractors — driving investment, supporting high-quality jobs and generating economic activity across Scotland.

£25 million deep-water facility at Kishorn Port

Navantia UK's **£4.8 million** Arnish Yard fabrication facility in Stornoway

Aurora's **£30 million** Renewable Energy Training Centre in Inverness

£400 million Ardersier Energy Transition Facility

£350 million Sumitomo high-voltage cable factory at the Port of Nigg

£50 million investment at the Inverness and Cromarty Firth Green Freeport

£140 million North Star Renewables O&M base at the Port of Aberdeen

Hitachi Energy's **£3 million** Engineering Centre of Excellence in Glasgow

£50 million investment at the Forth Green Freeport

Verlume's **£18 million** world-first subsea power management and storage system

Source: RenewableUK: EnergyPulse – UK supply chain map (April 2026)

SPOTLIGHT ON SCOTLAND'S ELECTRICITY NETWORKS

The majority of our electricity networks was built between the 1930s and 1960s and is now well beyond its intended operational lifetime. This is why we need a massive grid expansion and modernisation, backed by multi-billion-pound private and public sector investment.

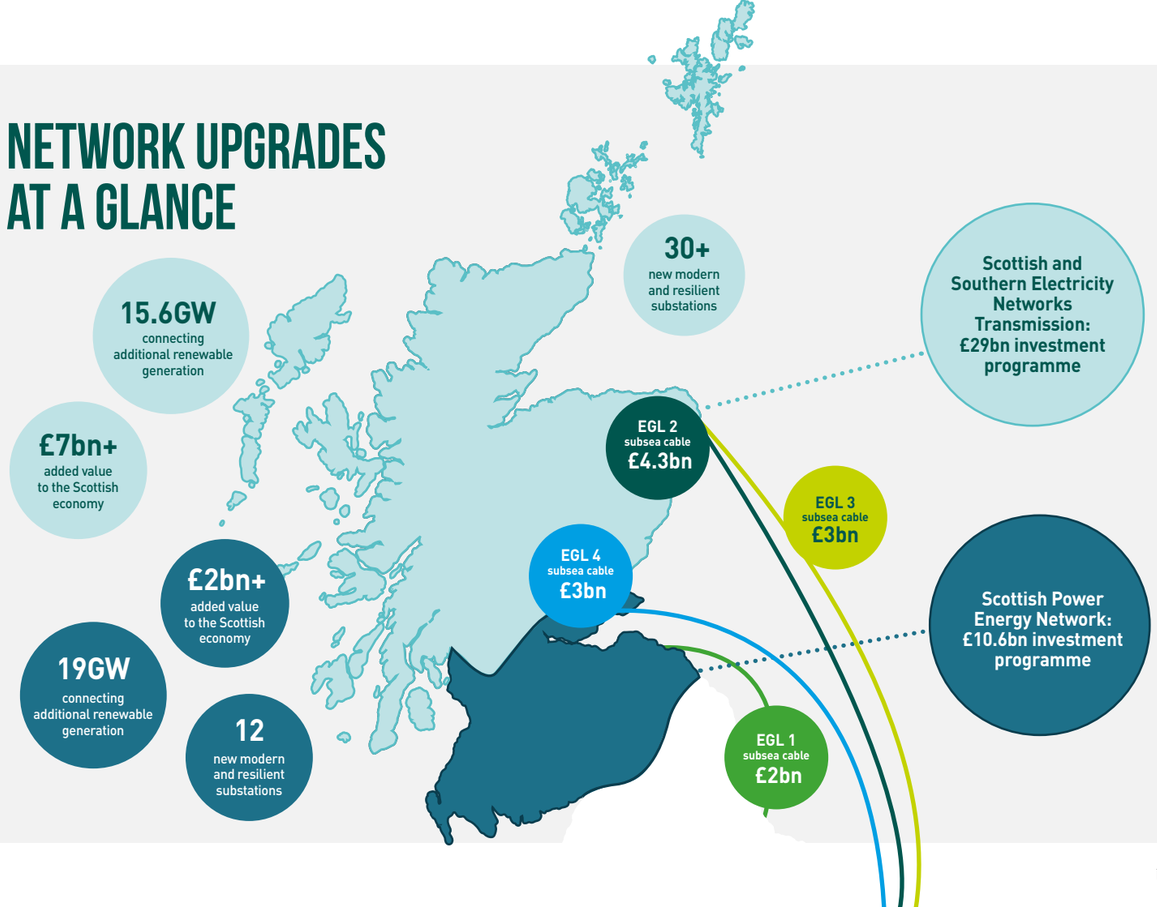
Upgrading our electricity networks will enable the UK to maintain a secure and affordable supply from a geographically diverse energy mix of clean energy projects. All sectors of the economy rely on access to the grid, and the investment underway right now will ensure we can support a growing, resilient and electrified economy in the future. Scotland has two transmission operators, SSEN Transmission and SP Energy Networks, who are regulated utilities that operate our electricity networks.

Together, they are delivering one of the largest investment programmes in Scottish history:

- **48,000+**
  high value UK jobs, including approximately 50% in Scotland
- **£100+ million**
  in community benefits to support local and regional projects
- **1,000+**
  new permanent homes in the North of Scotland, including 60% for affordable housing stock
- **£100+ million**
  for nature restoration and biodiversity

They are committed to advancing Scotland's energy transition and creating a positive legacy with thousands of skilled jobs, investment in local supply chains and transformational funding for local communities.

NETWORK UPGRADES AT A GLANCE



HOW DOES THE INDUSTRY MAKE ENERGY MORE AFFORDABLE?

AFFORDABILITY AT A GLANCE

Reducing volatility

Domestic renewable generation reduces our exposure to fossil fuels which are traded on global markets, protecting households from global price hikes.

Lowering prices

New renewables are cheaper than new fossil fuels, so as they make up more of the energy system, they lower the market price for electricity and reduce overall costs.

Providing stability

Government mechanisms such as Contracts for Difference set long-term, predictable pricing for renewable energy, protecting households from electricity market fluctuations.

Renewable energy is now one of the cheapest and fastest ways to generate electricity at scale. It uses domestic natural resources, unlike oil and gas, which are globally traded and subject to volatile prices. Expanding renewables reduces exposure to imported gas, whose price is set on international markets — even when sourced domestically from the North Sea.

The cost of technologies like wind and solar has fallen sharply over the past decade as they have grown in scale. New onshore wind is about half the cost of new gas and new offshore wind around 40% cheaper. By cutting reliance on fossil fuel imports and limiting exposure to global price shocks, renewable energy improves energy security and provides more stable costs for consumers. Combined with storage, flexible demand and grid upgrades, they can also reduce overall system costs. The UK Government is also introducing a series of measures to further limit the impact of gas volatility on electricity prices.

Source: DESNZ: Contracts for Difference (CfD) Allocation Round 7 results

HOW DOES THE INDUSTRY BOOST THE ECONOMY?

The energy transition is the economic opportunity of the 21st century. Global investment in the energy transition hit record levels in 2025 and activities linked to net-zero in the UK are growing three times faster than the wider economy. Scotland has major growth opportunities with a highly skilled energy workforce, abundant natural resources and centres of excellence across innovation, science and finance.

47,000 JOBS

Scotland's renewable energy industry supports more than 47,000 jobs. Offshore wind supports more than 40% of these employment opportunities with 19,580 full-time equivalent roles, followed by onshore wind (16,865), renewable heat (4,095) and hydropower (3,560).

£15.5 BILLION

Scotland's renewable energy industry supported an economic output worth £15.5 billion in 2022. The UK's low-carbon and renewable energy economy supported an economic output worth £77 billion in 2024. Each gigawatt of new offshore wind capacity delivers £2-3 billion to the economy alone.

Sources: Fraser of Allander Institute, Office for National Statistics and Energy & Climate Intelligence Unit.

HOW DOES THE INDUSTRY DELIVER ENERGY SECURITY?

Energy security means maintaining a reliable and affordable energy supply while reducing exposure to global price shocks and geopolitical risks. Expanding domestic renewable electricity strengthens this by cutting reliance on imported fossil fuels, whose prices are set on volatile international markets. Technologies like wind and solar are now among the cheapest forms of new power generation in the UK and can be deployed rapidly at scale, helping to stabilise costs and improve long-term resilience.

While the UK will continue to rely on oil and gas for years to come, the North Sea is a maturing basin with declining output. This makes it essential to manage the transition effectively. By investing in growing sectors such as offshore wind, the UK can remain globally competitive while supporting jobs and redeploying the skills and expertise of its energy workforce into future industries. Without this shift, the UK would remain exposed to rising import costs and supply risks.

HOW DOES THE INDUSTRY SUPPORT LOCAL COMMUNITIES?

Around 80% of the UK public support renewable energy, reflecting strong backing for the transition to a cleaner energy system. However, renewable energy developers must always engage with and support the communities that host infrastructure. New developments should enhance the natural environment, reduce impacts where possible and deliver clear benefits through local jobs, apprenticeships and supply chains.

> In Scotland, onshore wind projects have contributed over £200 million to local communities through dedicated community benefit funds since 1990.

> Electricity network upgrades are expected to provide an additional £100+ million in community benefits.

Underpinned by the Good Practice Principles, this funding has supported a huge range of community-led initiatives across the country such as employment support, nature restoration, energy efficiency and public facilities. Looking ahead, substantial economic benefits and job creation will support the prosperity of local economies and supply chains across the country.

Community benefit commitments are currently voluntary, but Scottish Government guidance recommends a minimum annual contribution of £5,000 per megawatt (MW) for onshore wind. The contribution of the renewable energy sector to these funds is unmatched by any other sector of the economy. The UK Government is currently consulting on the introduction of mandatory community benefits, while the Scottish Government is considering an updated annual recommendation of £6,000 per MW.

Source: DESNZ Public Attitudes Survey

HOW DOES THE INDUSTRY HELP THE CLIMATE AND NATURE?

Renewable energy is one of the best tools we have to combat the climate change which not only threatens the natural environment but our entire economy. By displacing the need to generate electricity from polluting fossil fuels, renewable energy significantly cuts carbon emissions that cause climate change. Strict planning and environmental assessments, overseen by statutory bodies responsible for land, marine and historic environments, also ensure new developments minimise impacts.

Whilst emissions from electricity generation have reduced significantly in the UK, other sectors of the economy have not decarbonised at the same pace which will demand more renewable generation in the years ahead to meet the increased demand for electricity. The industry is a critical partner in delivering, and developers are also spending tens of millions of pounds on biodiversity enhancement, tree planting and peatland restoration.

WHAT COMES NEXT?

Amidst heightened geopolitical instability, renewable energy will strengthen our national resilience in the years ahead. To achieve this, government should deliver:

1. Policy consistency guiding long-term investment signals.
2. Efficient and fully resourced planning and consenting system.
3. Skills and education system effectively aligned to economic priorities.
4. Clear messaging on the benefits of renewable energy to the public.

In return, the industry can deliver:

1. Stable and affordable energy bills – empowering consumers and businesses with security of supply and new flexibility of their energy use.
2. Competitive and investable projects – building a home-grown energy system that powers an electrified economy and growth across all sectors.
3. Stronger supply chains and workforce – aligning a stable flow of investment and contracts with local businesses and skills providers.

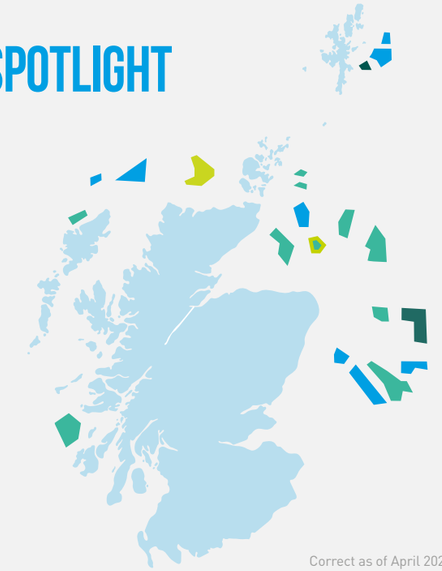
WIND IN THE SPOTLIGHT

Scotland is a pioneer in offshore wind with 4.3GW of already operational capacity and with a significant ScotWind pipeline in depevelopment.

Operational: 4.3GW

ScotWind projects

- Under Construction: 1.1GW
- Consented: 7.4GW
- In Planning: 16.6GW
- Lease Awarded: 14.5GW
- Lease Relinquished: 2.5GW



Correct as of April 2026

Onshore wind (GW)

Correct as of April 2026

Source: Biggar Economics: The Impact of Planning Delays

FAQS

Why do we need more energy infrastructure?

The UK's energy system was largely built for an era dominated by fossil fuels where generation and demand were located close together. As we move towards an energy system powered by renewable energy, generation will become more geographically diverse and the electricity networks that transport this energy across the country need upgraded as a result. We also need to build more generation ahead of the sharp rise in electricity demand in future as we electrify transport, heating and industry. Estimates predict electricity demand will increase by 50% in the next decade and doubling by 2050.

Is the cost of electrification worth it?

The UK and Scottish governments have consistently recognised the long-term opportunities that come with the transition to a modern, clean energy system built largely on renewables. The transition is being driven by significant private investment in power generation and networks, delivering our energy security and independence alongside long-term, sustained economic growth, high-value jobs, lower bills over time, and progress on our climate targets. The cost of these investments is recovered through retail and industrial bills, but they are based on competitive processes and subject to robust regulation to ensure value for money. The cost of inaction will leave us exposed to energy, economic and climate insecurity for longer and at the mercy of geopolitical events beyond our control.

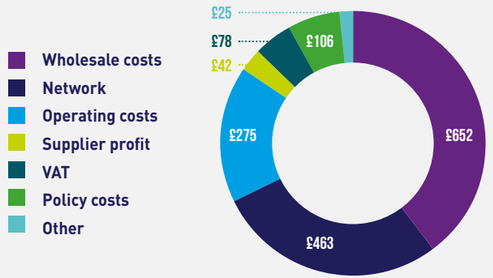
What if the wind doesn't blow and the sun doesn't shine?

While renewable energy output can vary with weather conditions, this does not mean supply is unreliable. A balanced system – combining different technologies, storage and a more flexible grid – can manage this variability and maintain a consistent supply of electricity. Practical solutions include long-duration energy storage sites, such as pumped storage hydro which can store and release energy supply. The UK is also interconnected with countries including Belgium, Norway and France which enables us to import electricity at times of high demand and export it at times of high generation.

What's in an energy bill?

Our energy bills are made up of wholesale costs and non-commodity costs. The largest part of the bill, around 40%, is wholesale costs – this reflects the price that suppliers paid to buy electricity and gas. The remaining 60% is set by non-commodity costs, which include the cost of building, operating and maintaining the electricity and gas grids, the cost of the UK Government's social and environmental schemes, taxes and various supplier costs.

The average annual energy bill of £1,641 (from April 1, 2026) can be broken down into:



Source: Ofgem – Energy price cap explained

Why are energy bills so high?

In the UK, the price of gas – which is set internationally – is linked to the price of electricity. The gas price sets the electricity price the vast majority of the time under a market structure known as 'marginal pricing'. This makes bills for both household and industrial users vulnerable to global gas price shocks, despite more of our electricity coming from renewable energy sources. Another recent increase in our energy bills is due to the costs required to build, maintain and operate the UK's electricity and gas networks which provide a secure and reliable supply of energy to all homes and businesses. However, investment in generation has outstripped investment in networks so these costs will rise in the years ahead to ensure we can reduce constraints on energy generation and improve overall efficiency of the energy system so that costs are stable in future.

Why does gas set the price of electricity?

In most economies, electricity is traded on regional or international markets. This relies on a system called 'marginal pricing' where the most expensive power source needed to meet total demand sets the price for all

other generation. For the UK, the most expensive fuel is usually gas, so even when it now provides a minority of our energy, its high market price dictates the wholesale cost for the entire system. For example, in 2021, gas set the UK electricity price 97% of the time despite only providing 28% of energy. NESO, the national energy system operator, predicts that a clean power system in 2030 could reduce the frequency of gas setting the marginal price from 90% to just 30%. Burning less gas will financially decouple its costs from electricity prices, with reductions in wholesale costs lowering energy bills. In April 2026, the UK Government also announced a series of measures to further limit the impact of gas volatility on electricity prices.

Do energy suppliers make big profits?

The energy price cap, set by the regulator Ofgem, limits what energy suppliers can charge for the supply of electricity and gas to homes. Within this cap, suppliers are allowed to make a maximum of 2.5% profit per account. Separate from retail pricing, wholesale electricity generation is subject to strict regulatory price controls and standalone windfall taxes to protect consumers from costs whilst ensuring the UK can attract billions of pounds of private investment to build new infrastructure. This includes the Electricity Generator Levy (EGL), an additional 45% (rising to 55% from July 1, 2026) tax on exceptional profits from renewable and nuclear electricity generation during periods of high prices (higher than £75/MWh). Many renewable energy projects are supported through the Contracts for Difference (CfD) scheme, which shields consumers from volatile wholesale prices by providing a fixed price for each megawatt hour (MWh) of electricity generated. Projects that sell electricity through the CfD scheme can not make exceptional profits and therefore are not subject to the EGL. In April 2026, the UK Government announced that it will consult on introducing new voluntary contracts (Wholesale CfD) for electricity generators on the legacy Renewable Obligation scheme.

Source: NESO: Advice on achieving clean power by 2030

Do we pay too much in subsidies?

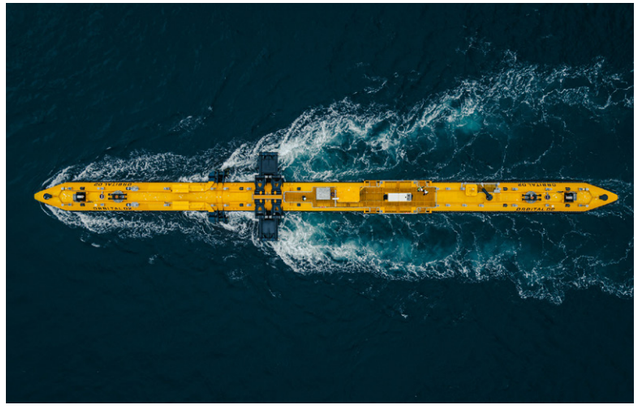
Government support for renewable energy has been vital in helping to scale up various technologies, which has drastically reduced their costs when deployed at scale such as onshore wind. The primary subsidy, the Renewable Obligation (RO) scheme, has been closed to applicants since 2017 and all support to existing projects will cease by 2037. The primary scheme for renewable generation is now Contracts for Difference (CfD), which was introduced in 2014. These subsidies, including RO, CfD and a variety of other schemes, now account for less than 6.50% of an average bill.

Source: Ofgem – Energy price cap explained

What are Contracts for Difference?

The Contracts for Difference (CfD) scheme is designed as a price stabilisation mechanism, rather than a subsidy. CfD reduce the cost of renewable energy technologies by providing developers with a fixed price over contracted period, of up to 25 years, for each megawatt hour (MWh) of electricity generated. These prices are agreed through annual competitive auctions. CfDs help to attract the private investment required to build new infrastructure, such as offshore wind farms, and it also prevents profiteering. When the market price is higher than the strike price, the generator pays back the difference to the consumer. When they are low, the scheme provides generators with some support to maintain investor confidence. This mechanism has helped prevent big price increases landing on consumer bills with electricity generators and has supported the expansion of renewable energy in the UK. During the Russia-Ukraine crisis, renewable energy projects returned £500 million to consumers while the UK Government spent £44 billion protecting households from high gas prices.

Source: DESNZ: Record breaking funding for clean energy in Britain (2024)



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