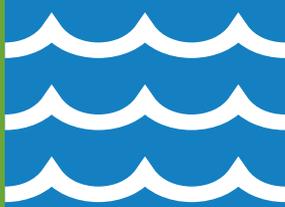


ACT NOW TO RE-ENERGISE UK RENEWABLES



UK renewables need research,
development, investment and
worker involvement



prospect.org.uk

ACT NOW

TO RE-ENERGISE UK RENEWABLES

The UK's electricity system is undergoing rapid, unprecedented change. The use of coal, once the mainstay of the UK power sector, has declined dramatically over the past five years while renewables have rapidly become a major part of our energy mix, supplying almost a third of our electricity in 2017.

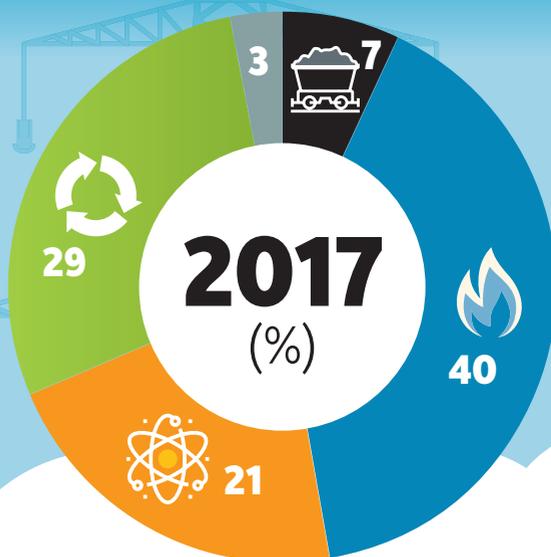
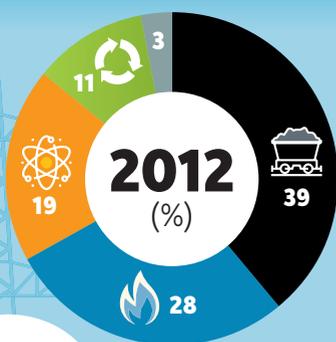
Total electricity generation from renewables has almost quadrupled since 2010, with particularly strong growth in solar and wind power generation.

This impressive expansion of renewable power has made the UK a global leader in power sector decarbonisation, with total greenhouse gas emissions from UK power stations falling by 55% in the last five years alone.

However, despite these significant steps forward, there is still a long way to go to achieve a secure, affordable and decarbonised energy system.

The UK has done well on some measures – particularly the growth of wind power and a sharp reduction in the use of coal – but it ranks near the bottom of European countries for the share of renewables in total energy use.

UK ELECTRICITY GENERATION



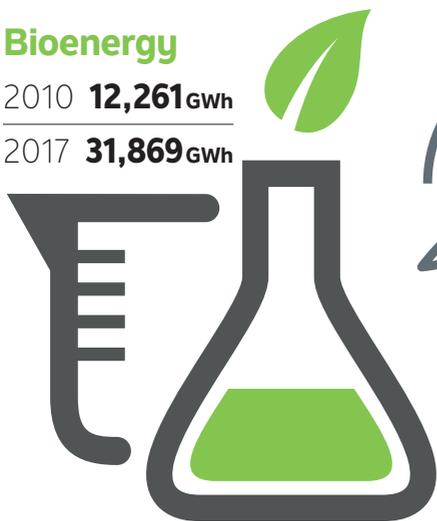
■ Coal ■ Gas
■ Renewables
■ Nuclear ■ Other

RENEWABLE GENERATION by type

Bioenergy

2010 **12,261** GWh

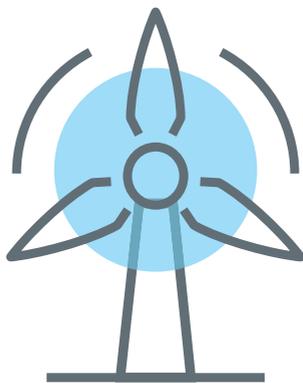
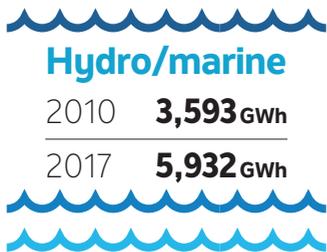
2017 **31,869** GWh



Hydro/marine

2010 **3,593** GWh

2017 **5,932** GWh



Onshore wind

2010 **7,226** GWh

2017 **29,088** GWh



Offshore wind

2010 **3,060** GWh

2017 **20,916** GWh



Solar

2010 **40** GWh

2017 **11,525** GWh

RESEARCH AND DEVELOPMENT

The UK has also significantly underspent on research into renewables technologies relative to its peers.

Between 2006 and 2016, the UK consistently lagged behind its G7 counterparts in spending on renewables R&D according to data from the International Energy Agency.

Public funding for research and development into renewables in the UK has been cut by more than 70% since 2010 – the peak year.

INVESTMENT

There are also worrying signs that the UK's renewables boom is coming to an end. New investment in UK renewables fell by 56% between 2016 and 2017 – its lowest level since 2008.

A major factor behind this sharp decline in investment is the lack of clarity on UK energy policy and the government's decision to sharply curtail support for new renewables deployment.

Support for solar and other small and mid-scale renewables technologies under the Feed-in-Tariff (FIT) scheme was slashed in 2016, leading to a sharp fall in new installations.

Source: BEIS Digest of UK Energy Statistics 2018

GREENHOUSE GAS EMISSIONS

UK POWER STATIONS

2012
158 MtCO₂e

2017
72 MtCO₂e

DOWN 55%

Source: BEIS Greenhouse Gas Emission Statistics 2018

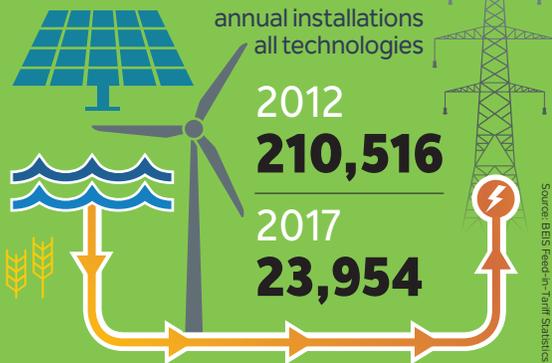
INVESTMENT

UK renewables (£ billions at 2017 exchange rates)

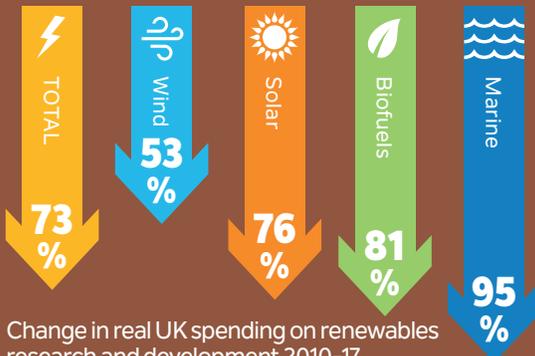


Source: Bloomberg New Energy Finance

FEED-IN TARIFF



UK R&D SPENDING



Source: International Energy Agency (IEA)

TOTAL USE

Share of renewables in total energy use (%)

Top/bottom five

72.6% Iceland
69.4% Norway
53.8% Sweden
41.5% Montenegro
38.7% Finland

9.3% UK
8.7% Belgium
6% Malta
6% Netherlands
5.4% Luxembourg



Source: Eurostat



“The energy transition creates important opportunities to expand high quality sustainable employment across all regions of the UK. This will best be achieved through social partnership”

Sue Ferns, Prospect deputy general secretary

As well as the closure of the FiT scheme, the Renewables Obligation, which was previously the main support mechanism for large-scale renewables, was closed to new applicants in 2017.

The Contracts-for-Difference (CfD) programme, which replaced the RO as the main subsidy scheme, has been credited with lowering the cost of renewables. But it has not yet delivered the volume of new projects we need to meet our binding carbon targets.

This picture needs to change. The UN Intergovernmental Panel on Climate Change’s 2018 report said the window of opportunity to put in place measures that will deliver on our climate ambitions is fast closing and bold action is urgently needed. Failure to do so will leave us exposed to the catastrophic consequences of unmitigated climate change.

As well as avoiding the devastating effects of climate change, investment in renewables offers huge opportunities for jobs and economic growth.

Recent estimates suggest that offshore wind could support up to 60,000 jobs in the UK by 2032, with much of this new employment concentrated in coastal communities in the east of England and Scotland.

The UK renewables sector as a whole currently generates around £14.5bn in turnover – and with the right policy support, this could grow substantially by the end of the next decade.

UNIONS – GOOD FOR WORKERS AND FOR BUSINESS

To ensure that the renewables industry supports high-quality employment and safe working conditions, it is essential that staff are able to collectively organise and represent their interests to management.

Although unions are present in the sector, much more needs to be done to break down barriers to effective workforce representation.

There are growing concerns about employment conditions in parts of the renewables industry and widespread problems with high workloads and a culture of long working hours.

The benefits of a stronger union presence are clear – and not just for staff themselves.

Unions enable healthier and more productive workplaces and play a crucial role in change management – essential for a fast-changing industry like renewables.

5 key recommendations for government

Prospect's case for concerted action to expand the UK renewables sector

1

Action on the energy skills crisis

- Government, industry and workforce representatives need to work together to develop a coherent sector skills strategy with adequate resourcing.
- Ensure that skills needs in the renewables sector are not simply met at the expense of the rest of the power industry – this strategy needs to be holistic and cover the power sector as a whole. To facilitate the movement of skilled labour, the sector should also seek to develop common standards and accreditation schemes where appropriate.
- Unions like Prospect are already actively engaged in sector skills bodies like the National Skills Academy for Power and the Nuclear Skills Strategy Group. This kind of approach to skills policy, underpinned by social partnership and active workforce participation, is critical to successful skills outcomes.

Current skills issues:

- *The energy sector is in the grip of a protracted skills crisis, with growing*

shortages of skilled staff in a range of critical specialties. This is also an ageing workforce, with retirements set to peak in the middle of the next decade – even as demand for labour is set to rise with the growth of renewables.

- *Skills shortages in renewables are a global problem. A 2017 global study of renewables found that 80% of HR managers believed the industry is in the midst of a skills crisis and blame a lack of skilled recruits and poor planning for skills retention and knowledge transfer within the sector.*
- *It will not be possible to meet our ambitious targets for the growth of renewables without a skilled workforce in place.*

2

Adequate support for an accelerated roll-out of renewable energy infrastructure

- The government should conduct an independent review of renewables subsidies and consider direct public investment in new renewable energy infrastructure to allow support for renewables to be funded more efficiently and equitably.

- Direct public investment would also ensure that a greater proportion of the economic benefits of renewables growth flow to UK companies and suppliers – and the local communities where the renewables industry is situated.

Current infrastructure issues:

- Existing support mechanisms are proving to be inadequate for the scale of the challenge and investment in UK renewables is falling just at the moment when we need to accelerate deployment to meet our decarbonisation targets.
- Left to the private sector alone, the level of investment we need is likely to come at a very high cost to consumers. Subsidy payments to private renewables operators are already a growing proportion of consumer bills.

3 Expand public investment in renewables research and development

- Reducing costs, while improving the efficiency and safety of renewables infrastructure requires properly funded research and development programmes. The government must commit to increasing UK renewables R&D spending in line with the G7 average.
- Funding for renewables R&D should be targeted at areas where the UK has an opportunity to develop high-value manufacturing capability – eg in new storage technologies or wind turbine designs. There is also an

opportunity to target funding to support good quality jobs in all parts of the UK.

Current R&D issues:

- UK investment in renewables R&D is significantly below that of its peers and the UK risks losing out on the opportunity to be at the cutting edge of this globally important industry.
- Since 2010, UK public spending on renewables R&D has been cut dramatically. Spending on all renewables research has fallen by around 70% in real terms; spending on wind power R&D has declined by more than 50%.

4 Ensure the highest standards of safety and workforce well-being in UK renewables

- Given the lack of robust, independent data gathering on health and safety in the renewables sector and the overlapping jurisdictions of different regulatory bodies, especially in offshore renewables, the government should undertake a comprehensive review of safety regulation in the industry to ensure current monitoring and enforcement procedures are fit for purpose.
- Building a safe and healthy work culture in renewables will depend on a high level of employee engagement. The government should work with employers and unions to establish company and sector-level health and safety bodies.



Current safety and well-being issues:

- *The UK power sector has witnessed important improvements in health and safety standards in recent decades, thanks in large part to the active engagement of the workforce in driving forward safety and well-being initiatives*
- *But big challenges remain, particularly in renewables. At UK offshore wind farms, for example, the rate of accidents is approximately four times higher than in the offshore oil and gas sector. There are also growing concerns about a culture of long hours leading to high levels of stress and fatigue.*

5

A coherent, whole-system approach to energy policy is urgently needed

- **The government must ensure that adequate sources of reliable, low-carbon power are available to balance the intermittency of renewables and make maximum use of the UK's plentiful renewable resources, at least cost to consumers.**
- **It must also ensure that our grid infrastructure is robust enough to transport renewable power around the UK in the most efficient way.**

- **A high-level energy planning commission to take ultimate responsibility for developing a coordinated, long-term strategic plan for the UK as it navigates the energy transition should be appointed. Such a body would help make UK energy policy more coherent and insulate planning from the disruptive effects of short-term political imperatives.**

Current approach issues:

- *While the impressive growth of UK renewables has allowed for a sharp decline in power sector carbon emissions, it is creating concerns around grid stability and affordability, especially during extended periods of low wind.*
- *Conversely, the UK's existing grid infrastructure is unable to cope during periods of high wind output. In 2017/18 National Grid paid more than £100m to UK wind farms to shut down during high wind periods because networks could not handle the additional load.*

For more info, to get involved or to join online, visit

prospect.org.uk/joinus