



RENEWED AMBITIONS **DEFINING THE FUTURE** **OF RENEWABLE ENERGY** **IN SCOTLAND**

PRIORITIES FOR THE NEXT SCOTTISH GOVERNMENT



FOREWORD

The 2016 Scottish Parliament Election comes at a key time for Scotland's renewable energy sector. After years of growth, enabled by supportive policies at both Holyrood and Westminster, there is huge uncertainty ahead. Cuts to and closures of support schemes at the UK level and continued challenges for projects attempting to secure planning permission raise significant questions about the future.

The paradox is that the need to accelerate the shift to low-carbon energy has never been clearer, with world leaders agreeing to ambitious new measures to tackle climate change, and the UK Government required to set out how the country will meet its own emissions targets later this year.

These challenges mean that it is time to extend our own horizons, to lift our gaze beyond existing targets for 2020 and to set a new vision for renewable energy in Scotland out to 2030.

At its heart, that vision should be designed to continue the development of our established renewable technologies while supporting the growth of new parts of the industry. But it must also reflect the need for a more strategic approach to how we grow renewables' share of our energy needs, and the changes we need to make in the way we distribute, store and use energy as we move away from fossil fuels to cleaner alternatives.

We have set out our ideas for how Scotland can best achieve these new aspirations focusing on the need for ambition, leadership, increased competitiveness and innovation. Not only will these measures support growth in the next chapter of our industry, they will ensure that renewables can play a key role in meeting Scotland's climate change targets, and maximising the jobs and investment that our sector can bring to Scotland.

No one should be under any illusion: the challenges ahead are great, and no sector on its own can deliver the overall changes we need to make. However, we believe that continued growth of renewable energy *can, will, and should* be one of the defining features of our economy over coming years, and that our industry can be at the very centre of efforts to build the progressive, inclusive and successful Scotland we all want to see.

We look forward to the debate ahead and to working with the next Scottish Government on the hugely important task of defining the future of renewable energy in Scotland.



Niall Stuart
Chief Executive

It is time to extend our own horizons, to lift our gaze beyond existing targets for 2020 and to set a new vision for renewable energy in Scotland out to 2030



SUMMARY

In order to maximise the economic and environmental benefits of renewable energy to Scotland, we believe the next Scottish Government should:

Renew Our Ambitions

- Set a target for Scotland to produce the equivalent of at least 50% of all energy use from renewable sources by 2030 and develop and implement a strategy to achieve this

Lead From The Front

- Map out and plan for the future integration of electricity, heat and transport, and the opportunities and challenges this will bring
- Transform the heat sector through an integrated plan to accelerate the uptake of renewable and low-carbon heat
- Maximise the sustainable use of our renewable energy resources, both onshore and offshore
- Ensure Scotland's public sector acts as an exemplar for the wider economy and spearheads the growth of renewable energy
- Expand community and local ownership of renewable energy projects
- Continue to push for a joined-up energy strategy across the nations of the UK

Increase Competitiveness

- Work with industry and the UK Government to secure a viable investment framework for all forms of renewable energy
- Maximise the contribution of wind power to our energy needs by creating the conditions for Scottish onshore wind to be the lowest cost anywhere in the EU15
- Support Scottish-based supply companies to compete with other parts of the UK and Europe when bidding for manufacturing, assembly and fabrication work
- Avoid additional costs being placed on renewable energy generation in Scotland

Promote Innovation

- Develop an Energy Innovation Strategy to make Scotland an internationally-recognised centre of excellence in energy systems and storage, and to maximise the economic impact of renewable energy related R&D
- Support the development of new forms of renewable energy where Scotland has the potential to be a world-leader
- Accelerate the growth of sustainable transport

In 2013 there were 21,000 jobs in Scotland across nine renewable energy sectors

RENEWING OUR AMBITIONS

Scotland's ambitious climate change and renewable energy targets have signalled a clear intent for the country to lead the way in the transition to a low-carbon economy.

Ministerial leadership and cross-party political support have guided policies and practices, helped set strong objectives from government and attracted finance from across the globe to invest in Scotland's renewable energy sector.

This has undoubtedly driven progress, with renewables now the country's largest generator of power¹ and renewable heat quadrupling from 2009 to 2014². Together renewables now produce the equivalent of 15% of Scotland's energy use across electricity, heat and transport³.

Looking ahead, the importance of transforming our energy sector - and the challenges to realising this - will only become greater. Given renewable energy's central role in achieving our future climate change targets, it is now time to look beyond 2020 and for Scotland to set a stretching, but achievable, target for our renewable energy sector in 2030.

We believe this target should be for Scotland to source at least the equivalent of half its total annual energy use - across electricity, heat, and transport - from renewables by 2030.

Together with energy efficiency measures this new target should form the very heart of the Scottish Government's plans to meet the country's future climate change targets and carbon budgets.

Achieving this ambitious new target will require strategic leadership from the next Scottish Government, and a comprehensive and joined-up energy strategy to lead the development of the sector, increase its competitiveness and to spearhead the development and deployment of new technologies.

A new stretching target and a strategy to achieve this will send a clear signal of Scotland's intent to lead the way in the development of renewable energy, and to growing the industry we need to deliver this.

Recommendation

Introduce a new target for the equivalent of at least 50% of all energy use in Scotland to come from renewables in 2030 and develop a comprehensive and integrated energy strategy for the production, distribution, storage and use of energy to meet this ambitious new objective.

Renewable sources generated 49.7% of Scotland's gross electricity consumption in 2014

¹ news.scotland.gov.uk/News/Renewables-now-largest-electricity-generator-20b3.aspx

² www.energysavingtrust.org.uk/renewable-heat-report-2014

³ www.scottishrenewables.com

LEADING FROM THE FRONT

Achieving an increased target for 2030 will require the next Scottish Government to lead from the front and bring an unrelenting focus to the use of all of our renewable energy resources and assets, as well as place a new emphasis on renewable and low-carbon heat and transport.

Done correctly, progress can further reduce carbon emissions, increase energy security and protect consumers from rising energy prices in the future. All of this, however, depends on a coordinated approach across generation, distribution and energy efficiency and in electricity, heat and transport. It will also require a strategic approach to the development of all Scotland's renewable energy resources, onshore and offshore, and to the management of our land and built assets.

There is also more we can do to ensure that government leads at every level. Our local authorities have the potential to play an important role in the transition to a low-carbon energy system, and in the provision of local energy infrastructure and systems. Likewise, we can go further to support communities that want to take forward their own projects and to widen the sense of ownership of the transformation in our energy sector.

With so much of the regulatory and financial frameworks that govern energy defined by Westminster, it is also crucial we have the right market arrangements in place across the UK. Recognising the importance of energy to Scotland's economy and the importance of Scotland to the UK's energy sector, the Smith Commission specifically recommended more intergovernmental working between the UK and Scottish governments on energy⁴.

Essentially, we need government at all levels to turn the challenge of changing the way we use energy into an opportunity for our economy and for communities across Scotland.

Recommendations

Map out and plan for the future integration of electricity, heat and transport, and the opportunities and challenges this will bring:

- Define Scotland's future energy demands across heat, electricity and transport, reflecting increased energy efficiency and the anticipated shift away from fossil fuels to power for heat and transport
- Plan for the increased demand for electricity here in Scotland and ensure that we continue to be a net exporter of power to the rest of the UK
- Identify and exploit the potential opportunities presented by new energy systems and storage

Transform the heat sector by accelerating the uptake of renewable and low-carbon heat:

- Use new powers over the Energy Company Obligation (ECO) to accelerate the roll out of low-carbon and renewable heating, including the growth of district heating
- Introduce more progressive planning policies such as that set out in the London Plan⁵, which requires development proposals to evaluate the feasibility of combined heat and power
- Introduce a national indicator to 'increase renewable heat production' as part of the National Performance Framework
- Take forward measures to accelerate the expansion of low-carbon heating into residential homes across Scotland
- Develop an appropriate regulatory and incentive framework for district heating which will protect developers and consumers and educate consumers about the benefits of joining such schemes
- Work with the Green Investment Bank to explore models for investing in district heating networks
- Introduce permitted development rights for air-source heat pumps to bring Scotland in line with the rest of the UK

⁴ www.smith-commission.scot/wp-content/uploads/2014/11/The_Smith_Commission_Report-1.pdf

⁵ www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-5/policy-55-decentralised

- Work with the Department of Energy and Climate Change on the continuation of the Renewable Heat Incentive in a way that unlocks Scotland's low-carbon heat potential
- Develop a joint industry-government action plan to ensure an increase in sustainable feedstocks for all forms of bioenergy, covering waste, forestry and fuel crops
- Reinforce the importance of heat with the publication of statistics within six months, in line with electricity statistics

Maximise the sustainable use of our renewable energy resources onshore and offshore:

- Identify and support the new infrastructure projects required to accelerate progress in renewable energy in the fourth National Planning Framework
- Ensure development plans and development management are implemented in line with Scottish Planning Policy (SPP)
- Develop a strategic approach to the assessment of the positive impacts of all forms of renewable energy development in terms of carbon savings, energy security, consumer bills and employment/investment in Scotland
- Undertake a comprehensive review of the offshore renewable consenting process to learn from and build on recent experience from both the UK and Scottish systems
- Recognise commercial-scale offshore wind developments as critical national infrastructure in the transfer of the Crown Estate assets to Scottish Ministers
- Retain Scottish involvement in offshore wind industry initiatives currently supported by the Crown Estate and ensure investment levels are maintained following the transfer of Crown Estate functions and assets

Ensure Scotland's public sector acts as an exemplar for the wider economy and spearheads the growth in renewable energy:

- Set a target for renewable energy use in heat, power and transport by Scotland's public sector
- Use procurement policies to increase the market for renewable heat, power and transport, placing a value on the carbon savings, local jobs and investment supported
- Empower and equip local authorities to produce masterplans of renewable and low-carbon energy opportunities and implement actions to utilise these in line with SPP and national targets

Expand community and local ownership of renewable energy projects:

- Set new and ambitious targets for community and locally-owned renewable energy projects
- Continue funding the Renewable Energy Investment Fund (REIF), Community and Renewable Energy Scheme (CARES), and other associated advice and support schemes, as implemented by Local Energy Scotland
- Open up ownership of renewable energy through the creation of a Scottish Renewable Energy Bond which will:
 - i. Allow savers and investors across Scotland to generate a return on investment from the growth of the industry
 - ii. Bring in capital to finance future development at an attractive rate to developers

Continue to push for a joined-up energy strategy across the nations of the UK, with the aim of ensuring Scotland and the other devolved administrations can each play to their individual strengths whilst maximising their contribution to meeting UK carbon budgets and climate change targets.



INCREASING COMPETITIVENESS

As governments across the world seek to decarbonise their energy system at the lowest cost to consumers there is pressure on all forms of renewables to cut costs. In the UK, the introduction of an auction for long-term contracts for clean power has delivered significant reductions in the price of renewable electricity, with onshore wind and solar now significantly cheaper than nuclear power^{6,7}.

However, support for large scale onshore wind and solar projects has been completely removed, leaving both sectors with an uncertain future despite the potential for significant new capacity to contribute to the overall task of decarbonisation at the lowest cost to the consumer. We also continue to await details of the budget for, and timing of, future allocation rounds for offshore wind and projects on the Scottish islands.

The more mature technologies, including onshore wind and solar, are already on track to match or better the costs of other forms of new generation, on a comprehensive and complete assessment of all lifetime costs and benefits, by the end of this decade. But future growth, and cost reduction, will best be delivered by market interventions to support investment - just as we are seeing for new nuclear and gas-fired power.

Many of the less established technologies are also expected to deliver significant cost reduction by the mid-2020s. But again, long-term certainty is central to reducing costs, and continued access to Contracts for Difference is essential to support future development.

In this new competitive environment, future growth here in Scotland is dependent on making sure we create the conditions for projects to compete with other forms of energy and with other renewable energy projects across the UK.

The Scottish Government and its agencies have a key role to play in achieving this through the planning system, business rates and the wider regulatory framework that governs the growth of our industry, as well as schemes to support community investment.

Recommendations

Work with industry and the UK Government to secure a viable investment framework for all forms of renewable energy:

- Make the case for maintaining access to auctions for Contracts for Difference (CfD) for all technologies, with the potential for 'subsidy-free' contracts for onshore wind and solar PV
- Support DECC in obtaining State Aid clearance for the Remote Islands Contract for Difference and push for its inclusion in the upcoming allocation round
- Continue to make the case for viable returns on investment and deployment at scale through the Feed-in Tariff, which has been central to the recent renaissance in our hydro sector

Maximise the contribution of wind power to our energy needs by creating the conditions for Scottish onshore wind to be the lowest cost anywhere in the EU15⁸:

- Continued support through the planning system for low cost onshore wind projects in suitable areas of Scotland
- Ensure a strategic approach to the extension, refurbishment and re-powering of existing wind farm sites
- Work with industry to assess the benefits of the latest generation of onshore wind turbines and their potential to increase productivity and reduce costs

Scottish Renewables has estimated that total renewables investment in Scotland in 2014 was more than one billion pounds

⁶ www.gov.uk/government/uploads/system/uploads/attachment_data/file/407059/Contracts_for_Difference_-_Auction_Results_-_Official_Statistics.pdf

⁷ www.gov.uk/government/news/state-aid-approval-for-hinkley-point-c-nuclear-power-plant

⁸ stats.oecd.org/glossary/detail.asp?ID=6805



Support Scottish-based supply companies to compete with other parts of the UK and Europe when bidding for manufacturing, assembly and fabrication work:

- Invest in ports and harbour infrastructure to ensure Scottish sites are as competitive as possible
- Reinvigorate plans for enterprise zones for the offshore and marine renewables supply chain with incentives based on business rates, training and capital investment allowances or support

Avoid additional costs being placed on renewable energy generation in Scotland by:

- Maintaining the Renewable Energy Generation Relief Scheme
- Amending the business rates framework to remove disproportionate costs on:
 - i. District heating network infrastructure
 - ii. The generation and use of heat and electricity onsite
- Continue to monitor network charging arrangements for Scottish renewable generators to ensure they are proportionate and do not represent a barrier to competing in the GB market

In 2014, renewable heat generation equated to 3.8% of Scotland's non-electrical heat demand.



PROMOTING INNOVATION

The growth in Scotland's renewable energy sector over the last decade has been driven by onshore wind and other more mature technologies such as solar and hydro.

While there is further growth to come from these technologies, achieving future climate change targets will also require an increased focus on new sources of energy and new forms of distribution, storage and management.

Indeed, the ultimate goal of complete decarbonisation of the energy system is likely to depend on them.

Scotland has punched above its weight in terms of innovation and R&D in areas such as floating offshore wind and marine energy, but we need a new level of focus if we are to accelerate the development of the latest forms of generation.

Similarly, countries like Scotland are at the leading edge of the challenge we face in managing electricity networks as we transition to a low carbon economy, and in optimising investment in and the operation of the grid.

There are global opportunities for the countries and businesses that develop the solutions to these problems. Our ambition should be no less than to become a world-leading centre of excellence and expertise in systems and storage, just as our oil and gas sector is for subsea engineering.

Finally, with transport accounting for 23% of our energy use, we need to look at how we accelerate the shift away from fossil fuels to the emerging fleet of low-carbon options including hydrogen and electric vehicles. Norway has shown that small changes can deliver big impacts, with the country now the world's leading market for electric vehicles⁹.

Recommendations

Develop an Energy Innovation Strategy to work across business and academia to make Scotland an internationally-recognised centre of excellence in energy systems and storage and to maximise the economic impact of renewable energy related R&D:

- Work alongside the UK Government to define and focus research work and funding on our key strengths and opportunities for the future, building on existing expertise in the areas of network management and battery and chemical storage in business and academia
- Join together existing research funding from Scottish and UK bodies, such as the Scottish Funding Council, enterprise agencies and Innovate UK, and maximise success in bidding for European funding
- Set out ambitious objectives for the development and deployment of energy storage capacity
- Inform ongoing work by Ofgem and others to develop a market model that recognises the benefits of investment in energy storage, defines a value for energy storage capacity and use, and which creates a viable business case for investment
- Work with energy suppliers and the regulator to encourage the development of new market models that open up new ways of trading renewable power
- Build on existing initiatives by industry, regulators and academia to define and develop the role of new technology and processes in the active management of our electricity grid, and implement new regulations which will best deliver these

⁹ www.evnorway.no/

Support the development of new forms of renewable energy where Scotland has the potential to be a world leader:

- Work with industry to define the appropriate long-term revenue support structures that enable innovative technologies to scale-up and operate on a commercial basis
- Assess how best to use the powers gained from the transfer of The Crown Estate assets to support the development of offshore wind and wave and tidal power
- Offshore wind
 - i. Continue and expand the Scottish Innovative Foundation Technologies Fund to support innovation in offshore wind turbine foundations
 - ii. Work with the Offshore Renewable Energy Catapult and Scottish Enterprise to maximise the opportunities for innovation support across the industry from existing test facilities
 - iii. Develop a national strategy to target EU funding to support floating offshore wind research and development in Scotland
- Wave and tidal stream
 - i. Continue to show leadership and commitment by spearheading UK-wide strategies for wave and tidal energy, building on the considerable success of the European Marine Energy Centre
 - ii. Continue to pursue the delivery of a grid connection and appropriate charging framework to support the research, development, demonstration and ultimate commercial deployment of wave and tidal energy devices in Orkney Waters and the Pentland Firth
 - iii. Work with industry to secure and maximise all EU funding opportunities
 - iv. Commit to future funding of Wave Energy Scotland and, working with partners, ensure its actions are aligned with other wave innovation programmes around the UK and Europe

Accelerate the growth of sustainable transport:

- Build on existing incentives for sustainable vehicles (electric, hydrogen and sustainable biofuel) by allowing use of bus lanes, providing free parking in public sector-owned and managed zones and facilities, and expanding the provision of charging and re-fuelling points

The UK Government has stated that Scotland's renewable electricity industry displaced 12.3 million tonnes of CO2 in 2014

Scottish Renewables is the representative group for the renewable energy industry in Scotland.

For more information on our work go to **www.scottishrenewables.com**

To get involved email **info@scottishrenewables.com**



6th Floor, Tara House, 46 Bath Street, Glasgow, G2 1HG
☎ 0141 353 4980 🐦 @ScotRenew
✉ info@scottishrenewables.com
www.scottishrenewables.com

