

# Scottish Energy Strategy: The Future of Energy in Scotland

January 2017

## Summary

The draft Scottish Energy Strategy sets out the Scottish Government's vision for the future energy system in Scotland to 2050. It includes big proposals for change about the supply of energy for heat, power and transport. The Scottish Government are seeking views on the vision set out in the draft Energy Strategy and how to achieve this. This short summary has been prepared to identify the main points in the draft strategy. *You can read the full strategy and make a response here: <http://www.gov.scot/Publications/2017/01/3414>* . This is an important vision for a low carbon Scotland and we urge you to read and respond to it.

## A 2050 VISION FOR ENERGY

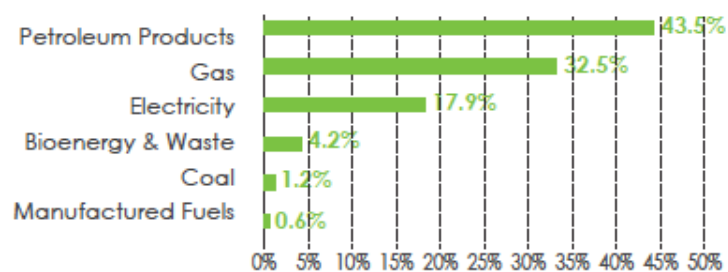
The Scottish Government vision is:

- A strong low carbon economy – sharing the benefits across our communities, reducing social inequalities, and creating a vibrant climate for innovation, investment and high value jobs.
- A modern, integrated, clean energy system, delivering reliable energy supplies at an affordable price in a market that treats all consumers fairly.

To achieve this the Scottish Energy Strategy sets out a

- holistic view of energy policy, examining where energy comes from and how it is used for power (electricity), heat and transport.
- stable, managed energy transition to a largely decarbonised energy system
- smarter model of local energy provision with the creation of local solutions to meet local needs

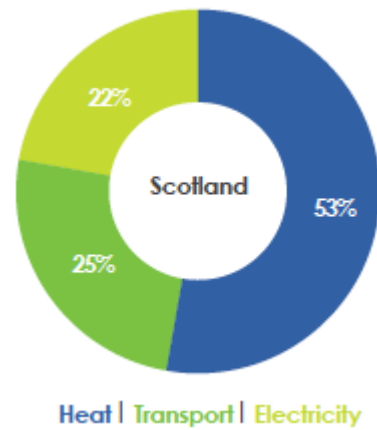
## UNDERSTANDING SCOTLAND'S ENERGY SYSTEM



Oil and gas account for 87% of total primary energy in Scotland in 2014; with most of Scotland's heating and transport needs supplied by fossil fuels. Scotland is the largest oil producer in the EU and produced 95% of the oil and 58% of the gas produced in the UK in 2015.

Electricity generation in Scotland is now largely decarbonised, with the closure of the last coal-fired power station, Longannet, in 2016. In 2015, renewables represented the biggest source of electricity production (42%) along with nuclear plants (35% of generation) with 4% generated by a gas-fired power station at Peterhead. In 2014 the greenhouse gases released in using one kilowatt hour had fallen to about 200 grammes carbon dioxide equivalent (200gCO<sub>2</sub>/kWh) and this figure will fall

further towards the target of 50gCO<sub>2</sub>/kW. Electricity consumption represents 22% of Scotland's overall energy demand; transportation fuels 25%. However the largest single demand is heating buildings; 53% of the energy consumed by Scotland's homes and businesses.



Scotland's heating requirements are supplied predominantly from natural gas with in 2015, an estimated 79% of homes used natural gas as their primary heating fuel. The Scottish Government has allocated over £650 million since 2009 on Fuel Poverty and Energy Efficiency programmes. This has contributed to a significant increase in energy efficiency with 42% of homes in 2015 rated EPC band C or above, an increase of 74% since 2010.

*This makes clear just how dependent the Scottish economy remains on oil and gas, which in 2015, were estimated to be worth £10 billion to the Scottish economy and supported an estimated 124,500 jobs across Scotland. However by 2014, the low carbon and renewable energy economy also supported 43,500 jobs in Scotland and generated £10.7 billion in turnover.*

## MEETING OUR ENERGY SUPPLY NEEDS

The vision of the Scottish Government is that by 2050 Scotland will achieve almost complete decarbonisation of the energy system and will be a world leader in renewable and low carbon technologies – but continues to offer technology solutions in oil and gas.

- Urban communities will benefit extensively from low carbon district heating networks;
- Carbon capture and storage (CCS) is operational at large-scale
- New forms of electricity generation and management services are widespread along with shared ownership of renewables and of local energy systems.

This will be achieved by a series of policies.

- Continuing to support North Sea oil and gas “The Scottish Government remains committed to maintaining domestic oil and gas production and maximising economic recovery from the oil and gas fields in the North Sea and west of Shetland.”
- Exploring the role of new energy sources including hydrogen and unconventional oil and gas.
- Supporting the demonstration and commercialisation of CCS which the Scottish Government believes is an essential low cost climate mitigation technology.
- Increasing the generation of renewable and low carbon energy. The Scottish Government proposes an interim ‘all energy’ renewables target: to deliver the equivalent of 50% of Scotland's heat, transport and electricity consumption from renewable sources by 2030. The equivalent figure was 15.2% in 2014, more than double the share in 2009. To do this the strategy proposes support for a range of technologies: see table below.

<b>Increasing the generation of renewable and low carbon energy</b>	
<b>Technology</b>	<b>Opportunity</b>
<b>Onshore wind</b>	Onshore wind currently provides lowest cost renewable electricity at scale. There will be a new Onshore Wind Policy Statement; work to help deliver onshore wind without subsidy; and make the case for remote island wind being a distinct technology;
<b>Offshore wind</b>	25% of Europe's offshore wind resource can be found around Scotland's coastline and offshore wind is a large-scale technology with the potential to play a pivotal role in coming decades and to position Scotland as a world centre for energy innovation.
<b>Hydro power</b>	Hydro power in Scotland is a mature and reliable source of electricity - accounting for 27% of all renewable electricity generated in 2015. The Scottish Government will reinforce its commitment to encourage and promote hydro power support small scale and community hydro power in Scotland.
<b>Marine renewables</b>	Scotland has a third of UK's tidal stream resources and the potential exists to generate more electricity than we currently need from the waters around the Scottish coast. Scotland is home to the world's leading wave and tidal test centre (The European Marine Energy Centre); the world's largest planned tidal stream array (MeyGen); and the world's largest tidal turbine (Scotrenewables). The Scottish Government will work to demonstrate the strong industrial potential of marine energy and support through finance and other mechanisms.
<b>Solar PV</b>	Solar Photovoltaic (Solar PV) capacity in Scotland is estimated to be enough to power the equivalent of approximately 50,000 homes. The Scottish Government will consider the on-going role for solar as part of a further review of energy standards within building regulations.
<b>Bioenergy</b>	Biomass (wood) provides almost all (90%) of existing renewable heat in Scotland - sustaining rural employment and biogas is currently used for heat but could also provide a renewable feedstock for electricity production. The Scottish Government will commit to the development of a Bioenergy action plan.

The strategy will lead to increased use of electricity for heat and transport; and electricity demand could increase by approximately 30%. This will require new renewable generating capacity, new grid enhancements and new 'smart' grid management, for example, for new renewable capacity in island communities to be brought into production .

## **TRANSFORMING SCOTLAND'S ENERGY USE**

Through the development of Scotland's Energy Efficiency Programme (SEEP) the Scottish Government argue that by 2050 the energy efficiency and heating of buildings will have been transformed so that, where technically feasible and practical, buildings are near zero carbon. This will have multiple benefits: buildings will be easier to heat, and by reducing energy demand, help tackle fuel poverty, and help businesses improve their energy productivity. *This design and development of this huge and ambitious programme (SEEP) will be a priority in coming years.* It will include:

- consulting on energy efficiency standards for homes in the private rented sector
- financial incentives which secure private sector investment
- new regulations to support the development of district heating networks.

A range of other measures are proposed to help energy consumers to manage their energy use, supporting the introduction of lower carbon alternatives for transport; and enhanced competitiveness and improved energy efficiency in Scotland's manufacturing and industrial sectors.

## **DELIVERING SMART LOCAL ENERGY SYSTEMS**

The Scottish Government is committed to developing community and local energy economies. Local energy projects across Scotland now account for more than 500 MW of generating capacity but future development will be restricted by changes in UK regulation and to feed in tariffs. Shared ownership and smart local energy schemes may offer one way forward. The Scottish Government will support demonstration projects and new developments. It will also promote new energy systems through partnership between communities, the private and public sectors.

## **DELIVERY, MONITORING AND ENGAGEMENT**

The Scottish Government plans to publish an Annual Energy Statement in the summer of each year and will deepen public engagement to:

- Raise awareness and improve understanding of the choices, opportunities and challenges facing Scotland as we move towards decarbonising the energy system;
- encourage a greater sense of ownership and control amongst communities and individuals as consumers, producers and investors in their energy system; and
- improve the design of programmes and initiatives through sharing ideas and listening to and feeding in the views of the public in designing policy.

## **WHY YOU SHOULD MAKE A RESPONSE**

To put into effect the Scottish Energy Strategy will require fundamental changes such as

- replacing gas fired central heating in homes with new low carbon heating technologies
- transforming Scotland's transport system from one dependent on petrol and diesel to low carbon alternatives

These are very significant changes to everyday life but, if we are to meet our commitment to reduce the emission of greenhouse gases, they are vital. Yet the strategy continues to support the North Sea oil and gas industry. How do you react? We urge you to look at the draft strategy and respond.

*You can read the full strategy and make a response here:*

<http://www.gov.scot/Publications/2017/01/3414>. The consultation is open until 30 May 2017.

*Adrian Shaw, Climate Change Officer, Church of Scotland*

*March 2017*

*ashaw@churchofscotland.org.uk*