



**Friends of  
the Earth  
Scotland**

# Scotland's draft Energy Strategy

A response from Friends of the Earth Scotland

30 May 2017

## About Friends of the Earth Scotland

Friends of the Earth Scotland exists to campaign, with partners here and across the globe, for a just transition to a sustainable society. We work in Scotland for socially just solutions to environmental problems and to create a green economy; we campaign to end the degradation of our environment and to create a society which cherishes and protects the natural world on which we depend; we think globally and act locally, enabling people to take individual and collective action. We are part of Friends of the Earth International - the world's largest grassroots environmental network, uniting 74 national member groups, over 2 million members and 5,000 local activist groups around the world. We are an independent Scottish charity with a network of thousands of supporters, and 10 active local groups across Scotland. Friends of the Earth Scotland's vision is of a world where everyone can enjoy a healthy environment without exceeding their fair share of the planet's resources, now and in the future.

## Summary of our comments on the draft Energy Strategy

**Friends of the Earth Scotland (FoES) welcomes a number of aspects of the draft Scottish Energy Strategy, including:**

- the targets for renewables and decarbonisation,
- that there are targets for sales of low-carbon cars,
- that no supply from fracking or any form of unconventional fossil fuels is envisaged,
- there are no plans for new nuclear reactors,
- that support for community ownership of energy resources is expressed,
- the emphasis on energy storage as an important part of the mix,
- references to transition and to jobs and skill,
- discussion of a Government-Owned Energy Company and Renewable Energy Bonds,
- plans for large-scale energy efficiency programmes,
- the use of the TIMES model and the joined up approach on power, heating and transport

**However, we are concerned about a number of aspects of the draft strategy, including:**

- the fact that continuing unqualified support for the oil and gas sector is not consistent with climate change ambitions; there is no recognition of the need to phase out subsidies for fossil fuels, or plan for phase out these sectors,
- the over-reliance on Carbon Capture and Storage (CCS),

- suggestions of new thermal generation (with CCS),
- the over-reliance on UK and EU actions and the lack of discussion of the implications of Brexit,
- lack of any demand reduction or modal shift plans for transport, and insufficient ambitions on the transition to electric vehicles,
- it is often not clear how a specific goal will be achieved either in terms of strong enough policies or funding

**We recommend that the final Energy Strategy:**

- spells out a planned and just transition from oil and gas reliance in all sectors, including a ban on future exploration in Scottish waters, giving confidence that there will be reliable, high quality employment in a productive low-carbon economy;
- includes more ambitious plans for emissions reductions from transport, including more ambition on demand management and modal shift, and aims higher on the transition to electric vehicles, as recommended by UKCCC and in line with other leading European nations;
- accelerates the transition to low carbon heating retrofit rather than waiting for 2025 to act, and specifies that all new buildings should use low-carbon heating or district heating;
- increases ambition on energy efficiency, storage and renewable energy to eliminate any need to rely on carbon capture and storage;
- commits to sectoral implementation plans to be prepared and driven forward by government with oversight by a Scottish Just Transition Commission to advise the government and engage all sectors including engagement of/dialogue with workforces through trade unions;
- includes enhanced support for communities to both create and jointly own renewable energy projects;
- leads to better integration of transport and land use modelling in the TIMES model;
- includes commentary on the possible impacts of Brexit;
- leads to a revision of the Economic Strategy to make delivering a zero-carbon economy a key objective.

## Introductory comments

The draft Energy Strategy shows a welcome shift towards planning the transition to a low-carbon economy, taking as its starting points the overall supply and demand of energy alongside the need for decarbonisation. Key features include targets for energy from renewables and decarbonisation, a sectoral approach to support for creating new employment in growing sectors, references to jobs and to the skills needed, and suggestions of a Government-Owned Energy Company and Renewable Energy Bonds.

FoES warmly welcome the overall vision of the draft Energy Strategy:

*“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.”*

We have worked with RSPB and WWF to produce a series of reports on Scotland’s energy future. The most recent showed how to reach at least 50% of all energy from renewables by 2030,<sup>1</sup> a target we are pleased to see adopted in the draft Energy Strategy. We note that a previous report focused on the power sector and showed how Scotland phase out all fossil fuel and nuclear power by 2030, maintain a secure electricity supply and generate significant revenue from renewable exports.<sup>2</sup>

<sup>1</sup> The Energy of Scotland: Heating, moving and powering our lives from here to 2030, December 2016, [http://assets.wwf.org.uk/downloads/ricardo\\_energy\\_report\\_web.pdf](http://assets.wwf.org.uk/downloads/ricardo_energy_report_web.pdf)

<sup>2</sup> The Power of Scotland Secured, April 2011, <http://www.foe-scotland.org.uk/power-secured>

The Energy Strategy makes a number of welcome commitments on decarbonising electricity and heat, and has a strong focus on renewables, including community renewables. We are sceptical that carbon capture and storage will become viable so a strong drive for efficiency, storage and renewables is needed for the mid-2020s. Overall, however, we are concerned that the measures proposed are not sufficient to achieve the ambitions in the document nor to ensure a *just* transition to a low-carbon economy.

## **The need for a planned, and just transition to a Low Carbon Economy**

A rapid transition requires the mobilisation of large-scale resources and government leadership, yet there is insufficient attention to the economic and industrial policies and the scale and sources of investment needed to make it happen. Sectoral implementation plans should be prepared which should plan for overall growth in employment and seek to ensure a fair geographical distribution of employment changes, with the active participation of local authorities. The scale of financial investments needed should be assessed; and supply of and demand for these funds to be addressed.

This will require creation of a Scottish National Investment Bank, Renewables Energy Bonds, Pension Funds investment; and public-sector-led delivery vehicles like a Government-Owned Energy Company with a remit for generation and transmission as well as supply and energy efficiency, and its local equivalents. In parallel the Economic Strategy to be revised with zero-carbon economy incorporated as a key objective.

Government support for all industrial sectors, including oil and gas, should be designed to enable the decarbonisation of the economy in such a way that workers' interests are respected. There will be major changes in the types, contents and numbers of jobs in many parts of the economy, including the growth of the new sectors which will enable the planned decarbonisation – workers and communities dependent on fossil fuels need confidence that these will grow fast enough to enable a just transition. Hence there is a need to engage workers and their unions in the planning and delivery of the transition, including workforce plans supported by SDS, SFC, universities and FE colleges and drawing on the expertise of union learning reps in the anticipation of occupational changes and the vocational training and advice needed. The communities most affected also should be engaged actively in the planning and delivery of the energy transition to ensure that there is no repeat of the damage done by the earlier, unplanned shift away from coal.

The process should be driven forwards by government with oversight by a Scottish Just Transition Commission to advise the SG and engage all sectors including dialogue with workforce through trade unions.

## **Oil and gas**

**North Sea oil and gas** - to have a reasonable chance of stabilising global temperatures at 2°C various studies estimate that between 80 and 100% of current fossil fuel reserves need to stay in the ground. This means we need a rapid phase-out of oil and gas production in Scotland. Clearly a properly planned and just transition to a low-carbon economy is much preferable to a disruptive collapse of the industry, including a bill of many billions falling to the tax payer for decommissioning North Sea infrastructure. There should be no future exploration for oil and gas in the North Sea.

The transition to a low carbon economy offers the chance to build a fairer, more equal Scotland. It is our view that involving workers and communities currently dependent on jobs in oil and gas and

other high carbon sectors, as well as broader civil society in planning for this transition, is essential to its success and resilience.

We urge the Scottish Government and Parliament to use the Energy Strategy and the Climate Change Plan as the foundation of an industrial plan which marshals the investment needed for a just transition to a modern low-carbon economy, in ways which protect workers' livelihoods and tackle disadvantage in the labour market here in Scotland. A Just Transition Commission that includes union, community and environmental representatives should be set up to advise the Scottish Government and engage all sectors in the transformation to a low-carbon economy. Organising this Just Transition must involve the active participation of workers' representatives in the anticipation of vocational and occupational changes and the planning of training and advice needed, drawing on the expertise of union learning reps where they are in place.

**Unconventional oil and gas and fracking** – we welcome the exclusion of unconventional oil and gas from the future plans in the Energy Strategy. Since the Scottish Government implemented a moratorium on fracking in January 2015, evidence of the potentially harmful impacts of UOG extraction has only continued to grow, while at the same time the urgency of the climate crisis, and therefore the need to phase out fossil fuels has critically increased. Meanwhile, the industry patently remains unable to demonstrate the safety of hydraulic fracturing and other techniques used to extract unconventional oil and gas in relation to impacts on human health and the environment, as the precautionary principle demands.

In the context of the climate crisis, for a hydrocarbon rich country like Scotland to open up a new source of fossil fuels while it remains committed to continued exploitation of North Sea oil and gas reserves would be completely irresponsible; it would jeopardise our carbon reduction commitments and run counter to the Scottish Government's efforts to be a world leader on climate action. In view of all of this, the only reasonable course of action for the Scottish Government is to ban all forms of unconventional oil and gas extraction.

## Energy technologies and solutions

**Renewables** – we welcome the commitment to have 50% of Scotland's total energy come from renewables by 2030. However, because we do not think that carbon capture and storage is likely to develop at scale, even if it were desirable, the government needs to go much further with renewable energy production, interconnectors, storage and energy efficiency measures. We would hope to see greater ambition for 2030 and beyond in the final version of the Strategy.

**Community ownership** – we very much welcome the confirmation of the revised 2020 and 2030 targets for community and locally-owned renewables, and the commitment to shared ownership for renewable energy schemes. The idea of greater public procurement of energy from community and small scale projects is welcome but we are concerned that the proposed tendering arrangement may be too complex for widespread take up.

**Decarbonising heat** – the Strategy has a welcome high level of ambition on decarbonising heat - beyond 2025 a rapid transition away from gas heating is proposed for both domestic and non-domestic properties. Many modern properties are already in a position to make this kind of change to, for instance, air source heat pumps, when they next replace their heating system, so there is an element of this policy which could be facilitated before 2025. All new construction should install only low-carbon heating or be connected to district heating.

**Carbon Capture and Storage** – in setting 2050 decarbonisation targets, the Strategy is highly reliant on Carbon Capture and Storage (CCS) technology becoming viable on a large scale in the post 2030 period. The risk in this assumption is that Scotland could invest in fossil fuelled

infrastructure but CCS might never materialise.

The Scottish Government's plan is to 'seek to influence the UK Government's CCS strategy so that it is aligned with Scottish energy priorities'. Yet, having cancelled a £1bn grant competition at the end of 2015, after almost 10 years the UK Government's approach to CCS appears to be going in the opposite direction of the Scottish Government on this point. Meanwhile, the only two projects in contention for that grant award are no longer being developed following the cancellation of the prize, demonstrating the technology's heavy reliance on taxpayer support.

Even in ideal conditions CCS still releases 10% of the fossil fuel being burnt or processed, and its utility in reducing emissions requires the final storage solution to be 100% leak proof.

Not only is the viability of CCS on a large scale doubtful but pursuing this technology could direct investment away from more credible and economical solutions in efficiency, renewables and storage.

**Hydrogen** – although hydrogen could be produced from water using electricity from surplus renewables capacity it could also be produced from oil or natural gas, prolonging the life of the fossil fuel industry in Scotland and relying on the (unlikely) development of large-scale CCS capacity (as noted above). Using hydrogen as a transport fuel would require an extensive new infrastructure and using it in the gas grid for domestic heating and cooking would require extensive replacement of appliances and extra safety measures. Except possibly in limited applications like powering HGVs there seems no good reason to invest in hydrogen when electric solutions can deliver all we need.

**Nuclear** – we welcome the exclusion of new nuclear power from the future plans in the Energy Strategy. Given their difficulties around the world, it is almost unthinkable that any nuclear company would propose new reactors in Scotland. Nuclear power is the ultimate unsustainable form of energy, and the only energy technology where normal economics do not apply, with every new example costing much more than the last. There are two reactors being built in Europe, both are years late and billions over budget and major nuclear companies repeatedly make huge losses. In a country as well endowed with renewable energy potential as Scotland, new nuclear makes no sense. Even if we were not worried about leaving a dangerous legacy for 1,000 generations, the risk of accidents, terrorist threats or incredible construction delays, the eye-watering cost of nuclear should make it a complete non-starter in any sensible energy strategy.

## Transport

This draft Strategy shows a low level of ambition and credibility in relation to transport, building in an expected increase in transport demand without setting out any clear plans to reduce that demand. This requires an urgent reappraisal if the final Energy Strategy is to be credible on transport.

Technological change in transport is important but we can see from the draft Climate Change Plan that the numbers in the Energy Strategy rely almost entirely on changing vehicles and fuels, rather than more fundamental demand management options. Getting more people walking and cycling and onto public transport would have multiple benefits, including improving air quality more quickly, reducing congestion (with 12.5% of all journeys delayed by traffic congestion in 2015 according to Transport Scotland), improving public health and thriving urban centres.

The Element Energy report,<sup>3</sup> which informed much of the development of proposals and policies for

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<sup>3</sup> Element Energy, January 2017, *Greenhouse Gas Emissions Reduction Potential in the Scottish Transport Sector From Recent Advances in Transport Fuels and Fuel Technologies*

transport in the input to the TIMES model is specifically about technological changes in the transport sector. The 70-page report contains one rather trivial page on reducing vehicle use. No proper research seems to have been commissioned by Transport Scotland into demand management, active travel or modal shift. Work commissioned for the first Report on Proposal and Policies showed that some demand management options, including workplace parking levies, speed limit reductions and increased public parking charges are, for instance, four or five times more cost effective at reducing carbon emissions than investment in electric vehicles, yet no demand measures are given any serious consideration in the Climate Change Plan.<sup>4</sup>

Transport Scotland used their own model for transport to feed into TIMES, with the starting assumption that there would be 27% more car km driven in 2035 than today, and no increase in the use of buses. The predictions of increased distances driven are justified in the Climate Change Plan thus: "As historically, so in future we expect economic and population growth to increase the demand for the movement of goods, services and people." Transport Scotland's view of history is clearly rather odd. When the Scottish Executive published its 2006 transport strategy it predicted that traffic levels would grow by 22% between 2005 and 2015, presumably on the same basis and using the previous version of the same model as today.<sup>5</sup> The actual growth in traffic levels was 6% between 2005 and 2015.<sup>6</sup> A similar prediction of 27% growth between 2001 and 2021 made in 2002 will prove equally wide of the mark.<sup>7</sup> The kind of 'predict and provide' approach being used by Transport Scotland was discredited more than 20 years ago in the UK Government's SACTRA report on generated traffic.<sup>8</sup>

The fundamental assumptions used to create the transport numbers fed into the TIMES model are clearly nonsense. The input of transport figures to the TIMES model should be recalculated with more realistic assumptions about traffic levels instead of on a fantasy 'predict and provide' basis. Transport strategy needs to include policies which will help people choose walking and cycling for short journeys, and buses and trains for longer journeys, instead of cars, including workplace parking levies and parking charges at large retail car parks. Active travel funding should rise from 2% to at least 10% of the overall transport budget,

Even where technical fix measures are desirable and necessary the proposals underlying the Energy Strategy look weak in terms of both delivery and international comparisons. Transport Scotland have proposed that 40% of all new cars sold will be ultra-low emissions by 2032, yet the UK Committee on Climate Change recommended that Scotland should aim for 65% by 2030.<sup>9</sup> Meanwhile, Belgium, the Netherlands, Germany and Norway are all discussing or committed to targets of 100% by 2025 or 2030.

We welcome the caution applied to the use of biofuels for use in transport and the stipulation that sustainability criteria should be used to judge the proportion of biofuel that could be used in Scotland.

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<http://www.transport.gov.scot/system/files/documents/reports/j202258.pdf> and technical annex

<http://www.transport.gov.scot/system/files/documents/reports/j202352.pdf>

4 Scottish Government, 2009 *Mitigating Transport's Climate Change Impact in Scotland: Assessment of Policy Options*. <http://www.gov.scot/resource/doc/282791/0085548.pdf>

5 Scottish Executive, 2006, *Scotland's National Transport Strategy*, <http://www.gov.scot/Resource/Doc/157751/0042649.pdf>, p11

6 All vehicles and all roads, latest figures available, Transport Scotland, 2017, *Scottish Transport Statistics 2016* Table 5.5 <https://www.transport.gov.scot/media/33814/sct01171871341.pdf>

7 Scottish Executive, 2002, *Transport Delivery Report*, <http://www.gov.scot/Resource/Doc/159245/0043337.pdf>

8 Standing Advisory Committee on Trunk Roads, 1994, *Trunk Roads and the Generation of Traffic*.

<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/economics/rdg/nataarchivedocs/trunkroadstraff.pdf>

9 UKCCC, 2016 *Reducing emissions in Scotland – 2016 progress report*. <https://www.theccc.org.uk/publication/reducing-emissions-in-scotland-2016-progress-report/>

## **The TIMES Model**

Although the TIMES model has not been without its problems, and political horse trading has been applied to its results, the use of the TIMES model has been helpful in exploring options, looking at energy and climate change together, and systematically defining limits for each sector. The Scottish Government should continue to use the TIMES model or similar system but the transport and land use emissions and energy use should be more fully integrated into TIMES in future.

### **For further information contact Friends of the Earth**

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