



The Scottish Parliament
Pàrlamaid na h-Alba

ECONOMY, ENERGY AND TOURISM COMMITTEE

AGENDA

13th Meeting, 2014 (Session 4)

Wednesday 30 April 2014

The Committee will meet at 9.30 am in the James Clerk Maxwell Room (CR4).

1. **Scotland's Economic Future Post-2014:** The Committee will take evidence from—

Martin McAdam, Chief Executive Officer, Aquamarine Power;

Eric Machiels, Chief Executive, Infinis Energy PLC;

Dr Nicola McEwan, Co-Director, Institute of Governance, University of Edinburgh;

Dr David Toke, Reader in Energy Politics, University of Aberdeen.

2. **Scotland's Economic Future Post-2014- Review of evidence heard (in private):** The Committee will review the evidence heard at the meeting.

Douglas Wands
Clerk to the Economy, Energy and Tourism Committee
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Edinburgh
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The papers for this meeting are as follows—

Agenda item 1

Note by the clerk

EET/S4/14/13/1

PRIVATE PAPER

EET/S4/14/13/2 (P)

Economy, Energy and Tourism Committee

13th Meeting, 2014 (Session 4), Wednesday, 30 April 2014

Scotland's Economic Future Post-2014

Introduction

1. This paper provides background information for the Committee's evidence session as part of its [inquiry into Scotland's economic future post 2014](#). The theme for this session is 'energy: renewables'.

2. The remit and call for evidence for this inquiry can be found online: [www.scottish.parliament.uk/S4_EconomyEnergyandTourismCommittee/Inquiries/Economic Future Inquiry - Remit and Call for Evidence.pdf](http://www.scottish.parliament.uk/S4_EconomyEnergyandTourismCommittee/Inquiries/Economic_Future_Inquiry_-_Remit_and_Call_for_Evidence.pdf)

3. Written submissions are attached (Annex A). A briefing by the Scottish Parliament Information Centre is attached at Annex B. The Financial Scrutiny Unit has published wider briefings of relevance to the inquiry. Links to these, for information, are below:

- Scotland's economy: recent developments
www.scottish.parliament.uk/parliamentarybusiness/72299.aspx
- Scotland's economy: future developments
www.scottish.parliament.uk/parliamentarybusiness/72297.aspx
- The currency of an independent Scotland
www.scottish.parliament.uk/parliamentarybusiness/74067.aspx

4. For information, a list of agreed further sessions is also attached (Annex C).

Fergus D. Cochrane
Senior Assistant Clerk to the Committee

Annex A

The following written submissions are available via the link below:

- Dr Nicola McEwen, University of Edinburgh
- Dr David Toke, Aberdeen University
- Martin McAdam, Aquamarine Power
- Eric Machiels, Chief Executive, Infinis

www.scottish.parliament.uk/parliamentarybusiness/CurrentCommittees/72692.aspx

Annex B**Background Information**

The Scottish Government has set CO₂ emissions reduction targets that are supported by targets for renewable energy. Achieving these outcomes will require ambitious changes in energy generation and use. Since the turn of the century, Scotland has experienced a rapid deployment of renewable electricity, with the percentage of gross consumption from these technologies increasing from around 15% in 2000 to over 40% in 2012; primarily due to the development of onshore wind.

These actions are in line with the most recent Intergovernmental Panel on Climate Change [Report](#) into strategies for curbing dangerous climate change, which endorses a “rapid scale up of low-carbon energy”.

The Climate Change (Scotland) Act 2009 sets a target of an 80% reduction of greenhouse gas emissions on 1990 levels by 2050, with an interim target of a 42% reduction by 2020.

The Scottish Government’s [Climate Change Delivery Plan](#) identifies two transformational outcomes for the energy sector, as follows:

- a largely decarbonised electricity generation sector by 2030
- a largely decarbonised heat sector by 2050 with significant progress by 2030

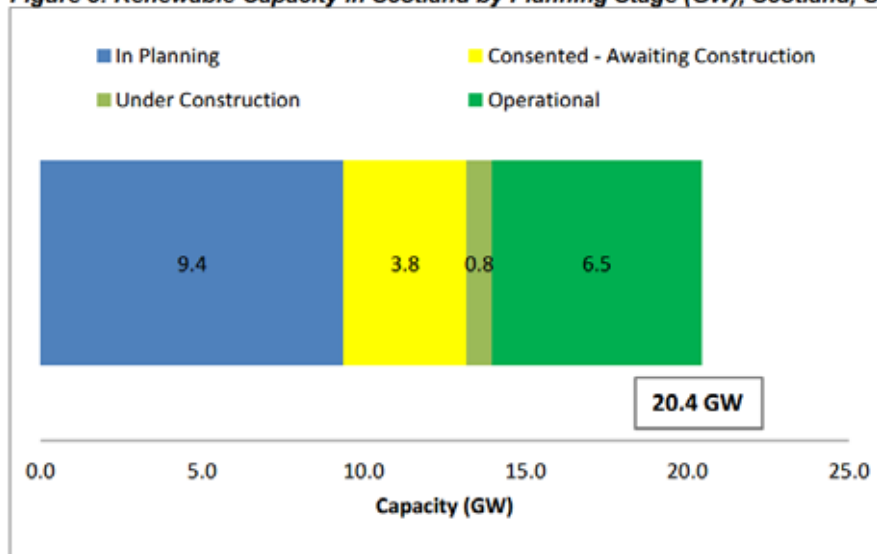
In terms of delivering a decarbonised electricity generation sector, both the [Electricity Generation Policy Statement](#), and the [2020 Routemap for Renewable Energy in Scotland](#) are key. Ambitions at a UK level are set out in the [Renewable Energy Roadmap](#).

Through its membership of the EU (and the requirements of the Renewables Directive), the UK aims to produce renewable energy equivalent to 15% of all energy consumption by 2020. To meet that goal, the UK Government expects that around 35% of all electricity will need to be renewable; at present, this stands at 15%.

The Scottish Government is not independently subject to the Renewables Directive, however has a target to generate the equivalent of 100% of Scotland's own electricity demand from renewable resources by 2020; in addition, as a result of surpassing the 2011 interim target of 31% for renewable electricity, a new interim target of 50% by 2015 has been set. The 100% target will require the market to deliver approximately 14-16 GW of installed capacity. The [most recent figures](#) show that in 2012, 40.3% of electricity consumption came from renewables.

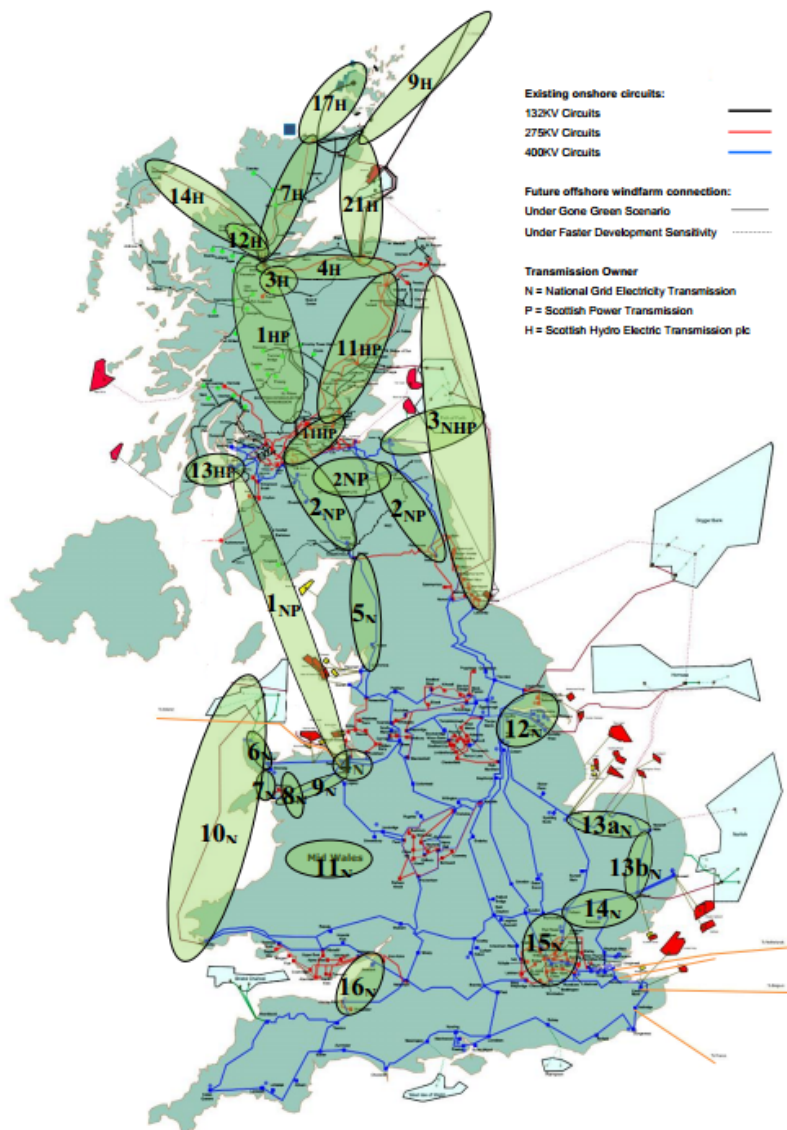
The 2020 Routemap provides the following table showing progress towards the 100% target. Whilst it appears that 20.4GW of installed capacity is possible, [recent evidence to the EET Committee](#) noted that not all of the projects that are in planning, or consented will be built, and that the cumulative impacts of various policy initiatives mean that there may be a shortfall.

Figure 3: Renewable Capacity in Scotland by Planning Stage (GW), Scotland, September 2013



Scotland does not consume all of the electricity that it generates, and has been a net exporter to England for some time. In 2000, 14% of total generation was exported, rising to 26% by 2012. Due to the current expansion (and recognised renewable resource), this potential is [currently being reinforced](#), with two new HVDC “Bootstraps” (Hunterston to North Wales in the west, and Peterhead to Tyneside in the east) increasing capacity by 6.6GW by 2016. The following map provides an update of the key areas where transmission upgrades are being carried out.

**MAP INDICATING APPROXIMATE LOCATIONS OF MAJOR PROJECTS
BEING PROGRESSSED IN RELATION TO THE 2012 UPDATED ENSG '2020 VISION' REPORT**



Estimates suggest that heat accounts for over 50% of current total energy demand in Scotland, and the 2020 Routemap sets a target of 11% of heat demand to be sourced from renewables by 2020. The [most recent figures](#) show that in 2012 this amounted to 4.1%.

Calculating the number of jobs in Scotland's renewables industry is not entirely straightforward, as the official system used to estimate employment by sector does not differentiate between those that straddle a number of different industries; it is therefore thought likely that a significant proportion of renewables jobs will fall under other classifications such as construction or manufacturing.

In 2012, the energy sector (including renewables) employed 63,400 people in Scotland (23% of all energy jobs in Great Britain – reflecting the scale of the oil and gas industry in Scotland). A more specific figure is presented by a [2013 study commissioned by Scottish Renewables](#) which estimates that there are 11,695 full time renewables jobs across 541 organisations.

The UK Government's Electricity Market Reform (EMR) programme (as legislated for in the Energy Act 2013) provides for a package of measures to incentivise the investment needed to replace the UK's ageing electricity infrastructure with a more diverse and low-carbon energy mix. The Department of Energy and Climate Change's (DECC) [EMR Delivery Plan](#) notes that up to "£110 billion of capital investment is needed from now until 2020".

The Government's objectives for EMR are to:

- ensure a secure electricity supply
- ensure sufficient investment in sustainable low-carbon technologies
- maximise benefits and minimise costs to taxpayers and consumers

EMR is designed to facilitate this investment by providing two new mechanisms:

- **Contracts for Difference (CfD):** CfDs aim to support low-carbon generation by giving eligible generators price certainty through a long-term contract, thereby removing exposure to volatile wholesale prices, and reducing investment risk. Generators will receive revenue from selling their electricity into the market and will also receive a top-up to a pre agreed 'strike price'. If the market price is over the strike price then the generator must pay back the difference.
- **Capacity Market:** This aims to give investors the certainty they need to install generating capacity and protect consumers against the risk of supply shortages. It does this by providing a predictable revenue stream to generators. In return they must commit to provide capacity when needed or face financial penalties.

The Scottish Government has executively devolved powers over the current system of renewables support (Renewables Obligation (RO)) in Scotland, however it is expected that some of these powers will be re-reserved under a Renewables Obligation Closure Order (allowed for following a late amendment to the Energy Act); Scottish Ministers have expressed "profound dismay" over developments in the EMR process, and the Scottish Minister for Energy, Enterprise and Tourism [wrote to](#) the UK Secretary of State for Energy and Climate Change on this matter in November 2013.

CfDs will replace the RO, which closes to new capacity in April 2017. **The operation of CfDs is overseen by the UK Government, effectively removing the Scottish Government's role in setting support rates for renewables technologies. The Delivery Plan states:**

The Scottish Government has a consultative role in EMR as set out in the Energy Act – in the design and delivery of the CfD, as well as a consultative role within the accompanying institutional framework. Scottish Ministers have been consulted throughout the Delivery Plan process on the CfD aspects of the analysis and strike prices.

Scotland's Future

The Scottish Government's white paper on independence, [Scotland's Future](#), notes that the operation and regulation of energy markets is currently reserved, however that "successive Westminster governments have lacked a coherent approach [...]". Therefore, in "a country of Scotland's energy wealth, it is unacceptable that consumers now face rising prices, increased fuel poverty and the risk that our renewable energy ambitions are not fulfilled".

Furthermore:

Underinvestment in energy generation over decades has led to a looming security of supply crisis. Spare generating capacity throughout the UK is now at its lowest level for a generation, and Ofgem forecasts that it will contract even further. The Westminster Government's proposals to reform the electricity market are intended to address these concerns, but they present major risks. Scotland's ability to provide for our own long-term energy requirements may be compromised – and our status as a provider of reliable supplies to the rest of the UK is now endangered.

The main section of Scotland's Future relating to energy markets (p293) proposes that independence provides "the opportunity to maximise the benefits of our energy wealth", including:

- enhancing security of supply for Scottish consumers
- promoting decarbonisation of electricity generation, supporting Scotland's climate change ambitions, maintaining Scotland's non-nuclear stance, and delivering greater long-term stability in energy prices for consumers
- growing a thriving Scottish energy sector, specialising in areas of competitive advantage and creating new jobs
- tackling fuel poverty in Scotland more effectively, addressing the specific needs of Scottish consumers
- developing new models of community ownership and community benefit from energy generation and delivering real community empowerment

The white paper proposes that, providing security of supply is not jeopardised, "Scotland will continue to participate in the GB-wide market for electricity and gas, reflecting the integrated transmission networks between Scotland and the rest of the UK". It further proposes that, because of the amount of electricity that Scotland exports, "an independent Scotland will require a far greater degree of oversight of the market arrangements for energy and firmer safeguards over Scottish energy security".

Therefore the "Scottish Government plans to establish an Energy Partnership with the Westminster Government, ensuring that we jointly steer the approach to the energy market and that Scotland's long term interests are better served". This partnership aims to ensure that "new investment in Scottish generation is not compromised by the Westminster Government's proposals to overhaul the structure

of the electricity market and enter into expensive, long-term contracts for new nuclear generation”.

More detailed proposals include:

- meeting the costs of energy efficiency programmes like the Energy Company Obligation and Warm Homes Discount from central resources; allowing a reduction in consumer bills, and more directly tailored programmes for Scottish housing conditions
- bringing together economic regulatory functions in the communications, energy, transport, and water sectors into one combined economic regulator
- reviewing the management of the Crown Estate, and introducing a leasing system for offshore and foreshore renewables, designed to increase investment and production while benefiting local communities

More recently, two papers have been published that set out the debate about possible future arrangements for the GB electricity market. In April 2014, the Scottish Government published [UK energy policy and Scotland's contribution to security of supply](#), and the UK Government published [Scotland Analysis: Energy](#). Some key points from these are summarised below.

Scottish Government Paper

The Scottish Government cites Ofgem’s most recent [Electricity Capacity Assessment Report](#), which notes that “the risks to electricity security of supply will increase in the next five winters [...] primarily because of a significant reduction in electricity supplies from coal and oil plants which are due to close under European environmental legislation”. At present, approximately 20% of UK generation is expected to close by 2020. The Assessment Report goes on to present a benchmark scenario whereby GB’s capacity margin falls to 4% by 2015/16, and a high demand scenario where the margin falls to below 2% in the same time frame. Using the same methodology, the Scottish Government has calculated that the equivalent margin for Scotland alone in 2015/16 would be approximately 20%.

This picture of a tightening electricity market means that, as installed capacity falls, prices can be expected to rise. The Scottish Government therefore states that “governments must ensure sufficient reserve energy is available in the system at all times and under all foreseeable circumstances”.

The expected reduction in domestic electricity capacity is not expected to be alleviated by the presence of international interconnectors (the UK has transmission connections with Ireland, France and the Netherlands), as their capacity and availability is limited. The Scottish Government states:

Relative to total generation capacity, interconnectors account for only about 5 per cent of GB capacity (3.8GW compared with circa 80GW of total GB capacity in 2012) – which is well below the European benchmark for interconnection of 10 per cent of generation capacity.

The direction in which power flows across international interconnectors on any given day is determined by energy traders and power will flow into the GB market only when wholesale prices are higher here than elsewhere, such that trade is profitable.

Investor confidence, and policy uncertainty is also considered to be an issue for generators seeking to build electricity capacity, with several major overlapping processes of regulatory change ongoing; including Electricity Market Reform (EMR) and Ofgem's review of network charges (Project TransmiT), as well as the recently announced [joint assessment of competition in the energy market](#).

In comparison to the uncertainty surrounding the development of some technologies (renewables, and those where carbon can be captured and stored (CCS)), the Scottish Government highlights the UK Government's very clear "determination to support the development of new nuclear generation". In particular, the recent deal with EDF to build and operate two new reactors at Hinkley Point in Somerset involves a contract length twenty years greater than those which will be available to generators of renewable energy. The Scottish Government states:

The £92.50 per unit of power agreed for Hinkley – double the current wholesale price of electricity – is index-linked and could on reasonable assumptions rise to around £120-£130 by the time the station begins generating in 2023. The commissioning date of Hinkley Point is also too far distant to have any bearing on the security of supply concerns and capacity crunch facing the GB market in this decade.

The huge scale and long duration of the package of support offered by the UK Government to EDF for Hinkley has created significant uncertainty amongst longterm investors in renewable technologies – such as offshore wind, wave and tidal. Investors have concerns about the levels of support that will be available to support the development of renewables technology after 2020 once payments for Hinkley – and potentially many other nuclear stations – are due to commence.

At present, this deal is being investigated by the European Commission on state aid grounds, and [Alex Salmond recently wrote to David Cameron](#) about the matter.

As previously noted, Scotland exports approximately a quarter of domestically generated electricity, and the Scottish Government's position is that, due to the concerns outlined above, this is needed in the GB system to ensure that there are reasonable capacity margins, a guaranteed security of supply, and that legally binding climate change and renewable energy targets are reached; therefore the continuation of a single GB wide energy market is both logical and desirable.

UK Government Paper

The paper focusses on the following areas.

Benefits of the single energy market in GB: EMR will bring up to £110 billion in investment across the UK electricity sector by 2020, and the UK's integrated regime gives investors the certainty they need to deliver electricity generation at least cost to

consumers. This will boost the economy and generate skills, expertise and thousands of jobs in this sector as the UK reduces its dependence on fossil fuels.

In the event of independence, the integrated GB market could not continue in its current form, and decisions should be taken which represent the best interests of separate nations and their consumers. In particular, the continuing UK would seek to increase use of interconnectors with mainland Europe. The UK Government states that “the continuing UK is unlikely to be prepared to continue to make additional financial contributions – such as support for low carbon technologies – to what would be a separate country, over and above the market price for the energy in question”.

Energy Security: The UK Government states that “UK energy security is high”, and cites the [2012](#) International Index of Energy Security Risk which ranks the UK as the second most secure amongst 35 large energy using countries (after Mexico), however the most recent figures from [2013](#) show that the UK has slipped to fourth (behind Norway, Mexico and New Zealand). Nevertheless, the UK’s energy security has been ranked amongst the top five globally since 1980, with a significantly lower risk than the OECD average. As previously noted, the UK has interconnectors which link electricity transmission systems in France, the Netherlands and Ireland; the Index ranked France in 10th place and the Netherlands in 22nd in 2012. Because Ireland is not a large energy using country, it was not ranked; however figures show that it has a similar risk ranking to Japan, which sits in 19th place.

The UK Government’s paper goes on to state that their analysis shows that Scottish generation is not essential to keeping “the lights on in the continuing UK”. This is because the aforementioned Capacity Mechanism “will find the most cost effective way to maintain security”, which Scotland will benefit from if it remains in the union. Furthermore:

[...] even in a hypothetical scenario where there were no flows of electricity between an independent Scottish state and the continuing UK – there would only be minimal impacts on security of supply in England and Wales. This is because the lack of access to Scottish generated electricity under such a scenario would be balanced by the removal of Scottish peak demand from the system, so would not heighten the risk of blackout or brownout in the continuing UK.

Of the 26% of electricity that Scotland currently exports, this only represents 4.59% of demand in England and Wales.

Investment, jobs and affordability: The UK Government cites Ernst and Young’s [Renewable Energy Country Attractiveness Index](#) (where the UK is fifth behind the US, China, Germany, and Japan) to support its statement that the UK “is one of the most attractive destinations in the world for renewable energy investment and in first place for offshore wind [...]”.

At present, Scotland accounts for approximately 10% of UK electricity sales, however because of increased renewables capacity received 28% (£560 million) of the total paid by all UK consumers to support renewable generators through the RO in 2012-13. The UK Government states that:

The reality of independence is that Scottish low carbon energy is unlikely to be able to rely on the current levels of financial support provided by all UK energy bill payers.

For this reason, the current 100% electricity target is more likely to be achievable and affordable as part of the UK; otherwise energy bills would have to rise. These rises could range from £38 - £189 per annum per household, and approximately £100 - £600k for manufacturing businesses. The reason for this wide ranging estimate is set out below:

The extent of the impact on Scottish consumer bills would depend on how much of the cost of incentivising the Scottish Government's ambitions for 100 per cent renewable electricity generation could be recuperated from the sale of renewable energy credits to EU Member States. The price of renewable credits in 2020 is impossible to predict and consequently relying on the sale of credits would be high-risk for an independent Scottish state given the potential for it to be highly burdensome for consumers in Scotland.

Other competitions and grants provided by the UK Government and supported by the UK's consumer and tax base are also considered conducive to supporting investment and employment across a broad green economy, including:

- the commercialisation of Carbon Capture and Storage projects, for which £1 billion has been set aside, with £100 million currently available to projects in Aberdeenshire and Yorkshire for engineering and design work ahead of final investment decisions
- the UK Green Investment Bank which is underpinned by £3.8 billion of UK Government funding, and considered to be an institution of the continuing UK

Regarding an independent Scotland's renewables targets, the UK Government states that "it is difficult to be sure what Scotland's European Union renewable energy target would be as an independent Scottish state would have to negotiate the terms of its membership of the EU".

Regarding the continuing UK's renewables targets, they "would need to consider carefully how to meet a new target", and that the "UK's need to meet renewable targets [is not] a reason why the continuing UK would wish to establish a single energy market with Scotland". Options available include increasing domestic investment in renewable energy generation, importing from Scotland at market rates (or buying renewable credits), or by supporting projects elsewhere in the EU to get credit towards its target, depending on which sources proved to be the cheapest and most reliable.

Energy Networks: At present, extensive energy infrastructure upgrades are needed in Scotland; these are financed across all GB consumers, and include approximately £6 billion to 2021 for Scottish electricity transmission projects. The UK Government states:

In the event of independence, these costs would need to be negotiated between an independent Scottish state and the continuing UK. It is highly

unlikely that the current levels of integration and the GB-wide approach to maintaining and improving the transmission network could continue since it is underpinned by the principle of shared costs across GB and the integrated GB energy market, which could not continue in its current form.

Recent Commentary

Given the importance of energy systems and policy to the current debate, the views of relevant experts have been widely reported. In addition, the Scottish Government's [Expert Commission on Energy Regulation](#) is expected to publish its final report by the end of April 2014.

The following summary provides an outline of key points.

In January 2013, an Economic and Social Research Council report on [Delivering Renewable Energy Under Devolution](#) (DREUD) stated that:

Tracing the relationship between devolution and renewable energy is simultaneously vital yet problematic. It is vital because a high proportion of the potential renewable energy resources of the UK are deemed to lie within the territories of Northern Ireland, Scotland and Wales and the extent to which they are realised will affect whether UK renewable energy and decarbonisation targets are met.

It is problematic because devolution is a complex process and promoting renewable energy requires the pulling together of an array of factors – economic, technological, social and political – which operate at multiple spatial scales. Tracing causal connections between actions arising from devolution and renewable energy outcomes is difficult to do and requires great care.

In short, the research concluded that it is likely to be more expensive to reach the Scottish Government's renewable energy targets in the case of independence, and that this would push up electricity prices for Scottish consumers.

However, in December 2013, the report's authors [reviewed their findings](#), noting that "two new factors radically change the context of our earlier analysis", as follows:

- the 'deal' for a new twin reactor at Hinkley C, and possibly a second twin reactor at Sizewell C will increase prices for UK consumers for over 30 years; however this increase would not have to be paid by consumers in an independent Scottish electricity system
- incentive levels for renewable energy from 2017/18 under EMR seem unlikely to support the major deployment of Scottish offshore renewables; therefore, if operating an independent system, Scotland would be free to set its own incentives for development of offshore and onshore renewable schemes – given that the costs of these new technologies is likely to fall, Scottish consumers will be at an advantage over English and Welsh counterparts due to their need to continue to support new nuclear

They state:

[...] the notion of Scotland having its own renewable energy support mechanism (and indeed its own electricity market arrangements) is no longer necessarily detrimental to the prospect of renewable energy in the long term. On the contrary, on the basis of the evidence we have considered, we believe that Scotland's renewable energy programme would now benefit from having an independent electricity system and support arrangements for supporting non-fossil fuel sources of electricity.

Also, in December 2013 the Oxford Institute for Energy Studies published [Energy Policy for an Independent Scotland – Continuity or Change](#), which examined many of the previously explored arguments relating to markets, affordability and pricing, and considered that the DREUD Report conclusion relating to an independent Scotland being able to meet its renewables targets at lower cost due to Westminster's decision to invest in nuclear, was "one possible scenario"; however:

[...] it is not the most likely one; Scottish policies are likely to add significantly to electricity prices (depending to a large extent of course on the outcome of the negotiations [...]). Nuclear power may be expensive but at the prices on offer it is well below the cost of, say, offshore renewables. If Scotland can avoid the cost of nuclear, it will presumably by the same token have to bear the cost of its own renewables sources, which is likely to increase the overall costs of its system. Furthermore, the calculations in the DREUD report make a number of optimistic assumptions about renewables and largely ignore the system and resource costs – for instance, they assume that capacity prices for Scotland will be in line with the rest of the UK and that wholesale market prices will be unaffected. A more likely outcome therefore, taking account of these factors, is that consumer prices in Scotland will continue to rise and could well be higher than in rUK.

Writing on the BBC News [website](#) in February 2014, Professor of Economics at Aberdeen University Euan Phimister analysed the debate as follows:

Energy Bills: Bills are going to rise in all cases due to increased subsidy to renewables and nuclear (in the UK case), replacement of infrastructure and of power plants which are coming offline due to environmental regulations.

How much they will rise is ultimately uncertain. It is true that if an independent Scotland chose to support renewables at the current level and no subsidy was coming from the rUK, this would represent a burden either for Scottish bill payers or for Scottish taxpayers. However, an independent Scotland would have choices, for example cutting some subsidies which could alleviate this.

UK Wide Energy Market: Independence would clearly change the relationship and there could be no guarantee that electricity produced in Scotland would definitely be bought by consumers in rUK. However, [...] OFGEM predictions about the low margins of capacity over demand over the next few years are correct and it [is] likely that rUK electricity demand for Scottish electricity overall would remain significant.

[...] it is [...] important to distinguish between existing capacity and new capacity. Existing capacity across the UK already supplies the electricity market on a 'commercial basis' and that would remain the case, even if the subsidy was cut because all the capital costs have already been made. However, for investment to be made in new renewable capacity (or nuclear) by commercial companies, then they do still need the promise of subsidy. So the threat after independence is possibly more to the future development of renewables rather than paying for existing installed capacity.

Energy Security: Both are right [about Scotland balancing English capacity, and vice versa] but also somewhat miss the point about markets. The whole point of a market for energy is that it is balanced across the system at any point in time, so there will always be parts of the system which are in deficit or surplus. Markets work better when they are integrated, which explains why at European level (EU plus Norway) they are attempting to construct a market to allow a wider system to balance.

Patterns of trade can change over time and it is quite possible in the longer term that in a pan-European market, Scotland's production of electricity would be less important for the rUK, but the argument also holds the other way too, i.e. the rUK market would be less important for Scotland's exports.

Renewables Targets: [...] Renewable electricity production is a key part of attaining [the UK's renewable energy target] target, so while it may be possible for the rUK, without the output from Scotland it would be much more difficult to achieve. Also, implementation of the current Electricity Market Reforms (EMR) plus the proposed cap on wholesale market prices if Labour wins the next election, have increased uncertainty and arguably negatively affected the investment plans of the energy firms. If so, this will have made the targets even more difficult to meet.

Energy Networks/Imports: The rUK doesn't decide who it imports from, the consumers do and they would want to have electricity at the lowest price. So supply would sometimes be from France, the Netherlands, Norway or Scotland, depending on relative prices across the various markets.

[...]

The wider point is that the attempt to construct a European-wide market (including Norway) is to make it easier to balance the system at any point in time. This will increasingly be a problem - and already is in Germany - when there is significant amounts of electricity coming from wind and solar power. This is also why a capacity market is being introduced within the UK system. This is where new generating plants, which can react quickly when demand is very high, will be paid for simply by being available, i.e. when they are not producing.

More recently, in April 2014, one of the authors of the aforementioned DREUD Report, Peter Strachan Professor of Energy Policy at Robert Gordon University, [stated on Radio Scotland](#) that:

[...] under no scenario can I see in an independent Scotland electricity bills increasing. In an independent Scotland, even with an integrated electricity market, Scotland would be able to sell its electricity at commercial rates.

What would also be very helpful for Scotland's renewable energy industry as well is that an independent Scotland would also be able to offer discretionary spend, so that you could see a great expansion, for example, of offshore wind.

At the moment, what we are seeing with the coalition government is the offshore renewable industry effectively being strangled at birth.

Writing in April 2014, the BBC's Economics Correspondent [summarises](#) this intricate and hotly contested policy debate as follows:

It is certainly true that Scotland depends on the rest of the UK to buy its green energy at a subsidised price in order to sustain its big renewables industry.

But it is also true that the UK depends on Scotland to supply them with enough energy to feed a growing demand and to meet its European targets for renewable power.

The reality of this double dependency means that some kind of deal is likely to be struck if Scotland votes for independence, but the details of that deal and how much customers in Scotland would end up paying are far from clear.

Alasdair Reid
SPICe Research
25 April 2014

Note: Committee briefing papers are provided by SPICe for the use of Scottish Parliament committees and clerking staff. They provide focused information or respond to specific questions or areas of interest to committees and are not intended to offer comprehensive coverage of a subject area.

Annex C

Future Committee evidence sessions:

Date/theme	Witnesses
7 May 2014 International/lessons from abroad & Civic Scotland	Panel 1: International/lessons from abroad session: <ul style="list-style-type: none"> • Dr Mary Hilson, University College London • Professor Michael Keating, University of Aberdeen • Professor Ailsa Henderson, University of Edinburgh • John Nugée, Chatham House Panel 2: Civic Scotland session:

	TBC
21 May 2014 Campaign groups	<u>Panel 1</u> Better Together <u>Panel 2</u> Yes Scotland
11 June 2014 Closing session UK and Scottish governments	<u>Panel 1</u> UK Government <u>Panel 2</u> Scottish Government