

# Energy Supply in an Independent Scotland



The Scotland Institute

80 Berkeley Street, Glasgow, G3 7DS, United Kingdom

T: 0141 354 1602 | F: 0141 354 1603 | [www.scotlandinstitute.com](http://www.scotlandinstitute.com)

# Contents

---

<b>1. Summary .....</b>	<b>8</b>
<b>2. Introduction.....</b>	<b>11</b>
<b>3. Electricity and Gas Generation, Costs and Market Structure .....</b>	<b>14</b>
3.1 Energy Generation .....	14
3.2 Costs for Scottish Consumers .....	18
3.3 Regulation and Market Structure.....	20
3.3.1 Regulation .....	21
3.3.2 Market Structure.....	25
3.4 A Single UK Market?.....	27
<b>4. Policy Options .....</b>	<b>29</b>
4.1 Energy Production .....	29
4.2 Ownership .....	29
4.3 Sector Regulation .....	30
4.4 A Single UK Market.....	30
4.5 Devo-Max .....	30
<b>5. Summary .....</b>	<b>31</b>
<b>References .....</b>	<b>32</b>

© 2014 The Scotland Institute. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without permission in writing from The Scotland Institute.

## About the Scotland Institute

The Scotland Institute is a progressive and independent think tank set up to deal with the changing face of Scotland. It aims to investigate the implications of devolution while finding innovative solutions to the old problems of social exclusion, and to encourage Scotland's competitiveness in the global market. Through high-quality comprehensive research and policy making it hopes to put Scotland on a path towards a more competitive, progressive, and optimistic future.

‘We look to Scotland for all  
our ideas of civilisation.’

---

Voltaire

## List of Abbreviations:

Name	Full Title
ACM	Autoreit Consument & Markt (The Dutch regulator for both utilities and consumer affairs)
DECC	Department of Energy and Climate Change
GWh	Giga-Watt hour (a useful measure of large scale energy generation and usage)
ofgem	The current UK wide regulator for electricity and gas industries
ofwat	The English and Welsh regulator for the Water industry
ORR	Office for Rail Regulation
SSE	Scottish and Southern Electricity
TWh	Terra-Watt hour (as with GWh often used to express energy supply and demand at a national level)
WICS	Water Industry Commission for Scotland

## List of Contributors

The Scotland Institute would like to thank all who commented on drafts of this report and provided additional material.

Contributors and respondents included:

Dr. David Toke (Aberdeen University)

Professor Mike Danson (Herriot Watt University)

Gavin Donaghue (Scottish Renewables)

Liam McArthur (MSP)

Murdo Fraser (MSP)

We would like to thank everyone who commented on earlier drafts of this paper.

# 1. Summary

---

At the moment, Scottish voters have been presented with diametrically opposed views of what independence might mean for energy prices. The UK Government suggests that consumer prices will increase between £38-£189 per annum<sup>1</sup> if Scotland becomes independent. On the other hand, the Scottish Government insists that, despite independence, a single energy market will remain across the UK and that prices in Scotland will either fall slightly<sup>2</sup> or remain the same. To add to this confusion, in 2013 a group of academics suggested that prices in Scotland would increase as a single energy market would not be agreed and thus the full cost of developing renewables would need to be met by Scottish consumers<sup>3</sup>. A year later, the same group of academics<sup>4</sup> now argue that the Scottish consumer will face lower prices on independence as they will not have to bear the costs of the UK Government's subsequent decision to subsidise the building of new nuclear power capacity<sup>5</sup>.

This paper is a contribution to the wider debate on the consequences and options for an independent Scotland. It reviews the existing evidence in non-technical terms and evaluates the Scottish Government proposals for the supply, organisation and regulation of energy in an independent Scotland<sup>6</sup>.

A key summary is there is no realistic reason to believe that an independent Scotland could fail to meet domestic energy demand, even if the current target of 100% of electricity production from renewables is retained. However, currently renewables account for around 47% of production<sup>7</sup> and will reach 67% by 2018<sup>8</sup> and filling the final part of the gap will require substantial state investment in both production facilities and connecting that production to the wider electricity grid<sup>9</sup>. Since the UK Government has indicated it has concerns with the idea of a single

- 
- 1 Department of Energy and Climate Change 2014. Scotland Analysis: Energy. London: DECC.
  - 2 Scottish Government 2014c. UK energy policy and Scotland's contribution to security of supply. Edinburgh: Scottish Government.
  - 3 Toke, D., Sherry-Brennan, F., Cowell, R., Ellis, G. & Strachan, P. 2013. Scotland, Renewable Energy and the Independence Debate: Will Head or Heart Rule the Roost? *The Political Quarterly*, 84, 61-70.
  - 4 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.
  - 5 Department for Business Innovation & Skills 2013. Long-term Nuclear Energy Strategy. London: DBIS.
  - 6 Scottish Government 2013c. Scotland's Future: Your Guide to an Independent Scotland. Edinburgh: Scottish Government, Scottish Government 2013a. Economic and Competition Regulation in an Independent Scotland. Edinburgh: Scottish Government.
  - 7 Scottish Government 2014c. UK energy policy and Scotland's contribution to security of supply. Edinburgh: Scottish Government., p. 10
  - 8 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.
  - 9 Snodin, H. 2014. Scottish Islands Renewable Project. Glasgow: Xero Energy.



energy market post independence<sup>10</sup>, the cost of this investment will have to be borne by Scotland alone (and, in compensation, Scotland will not have to fund the UK Government's decision to heavily subsidise new nuclear power facilities<sup>11</sup>). An immediate consequence of this will be that it is unlikely that Scotland alone can fund a significant increase in the use of wave and tidal energy<sup>12</sup> but can compensate for this mainly by on and off-shore wind and other forms of renewables.

The current Scottish Government model will see substantial subsidies handed to private companies<sup>13</sup> to build and connect infrastructure from which the private companies will then derive future financial benefits. An alternative would be to retain this provision, which will be effectively paid for by general taxation, in public ownership<sup>14</sup>, thus retaining the future financial benefits in public hands and helping to fund later replacement projects.

In general, this leads to the wider criticism of the Scottish Government proposals. It intends to replicate the current privatised model of multiple suppliers (and hope that consumer choice will restrain price rises) that has failed so dismally for the last 25 years<sup>15</sup>. If so, bills for Scottish consumers will remain higher than they should be under different models of industry structure and ownership. Alternatives include the Irish model of a single buyer of energy who then sells to the consumers (thus removing the mantra of consumer 'choice') and there is evidence this has led to substantially lower utility bills in Ireland compared to Scotland<sup>16</sup>. A second option is to return to the initial post-privatisation model of two regional monopolies and to emulate the close relationship that exists between Scottish Water and the Water Industry Regulator (WICS). It has been suggested this has led to water

10 Department of Energy and Climate Change 2014. *Scotland Analysis: Energy*. London: DECC.

11 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD, Scottish Government 2014c. UK energy policy and Scotland's contribution to security of supply. Edinburgh: Scottish Government.

12 Toke, D., Sherry-Brennan, F., Cowell, R., Ellis, G. & Strachan, P. 2013. Scotland, Renewable Energy and the Independence Debate: Will Head or Heart Rule the Roost? *The Political Quarterly*, 84, 61-70.

13 Scottish Government. 2014b. *£6 million for Scotland's wave and tidal industry* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-6-million-for-Scotland-s-wave-and-tidal-industry-b19.aspx> [Accessed 6 May 2014].

14 Morgan, G. 2013. *Costs and Rate of Return from Off-Shore Wind Farms*. Glasgow: Jimmy Reid Foundation.

15 Monaghan, A. 2013. *Ofgem not a 'toothless tiger' in fight against rising energy prices, insists boss* [Online]. London: Guardian. Available: <http://www.theguardian.com/business/2013/nov/26/ofgem-toothless-tiger-andrew-wright-energy-market> [Accessed 22 March 2014], Meek, J. 2012. How We Happened to Sell Off Our Electricity. *London Review of Books*, 34, 3-12, Davis, B. 2014. *Energy, pensions and banks: can we fix our broken markets for the long-term?* [Online]. blue & green tomorrow. [Accessed 21 March 2014], ofgem. 2014b. *Ofgem refers the energy market for a full competition investigation* [Online]. London: Ofgem. Available: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> [Accessed 4 July 2014].

16 NUMBEO. 2014. *Cost of Living Comparison between Glasgow and Dublin* [Online]. Available: [http://www.numbeo.com/cost-of-living/compare\\_cities.jsp?country1=United+Kingdom&city1=Glasgow&country2=Ireland&city2=Dublin](http://www.numbeo.com/cost-of-living/compare_cities.jsp?country1=United+Kingdom&city1=Glasgow&country2=Ireland&city2=Dublin) [Accessed 14 April 2014].

bills being £50 per annum lower in Scotland than in the rest of the UK<sup>17</sup>. The final option is to bring production and transmission back into public ownership as opportunities arise, an option the SNP is committed to in terms of Royal Mail and is exploring in terms of rail franchises.

---

17 Scottish Government 2013a. Economic and Competition Regulation in an Independent Scotland. Edinburgh: Scottish Government.

## 2. Introduction

---

This paper summarises the complex debate on electricity and gas supply, production and industry regulation in an independent Scotland. As with much else around the independence debate in effect we are being presented by two competing visions.

The SNP's White Paper *Scotland's Future*<sup>18</sup> argues for retention of an integrated energy market across the UK, a separate approach to energy regulation (and other utilities) in Scotland<sup>19</sup> and for an energy policy that favours renewables (compared to the UK Coalition Government's preference for more expensive nuclear power). In particular it argues that since the UK will need access to Scottish renewable energy to meet international obligations, then the development costs should continue to be shared. In terms of cost, bills will be reduced in part by improving energy efficiency and in part by transferring some costs from fuel bills to general taxation.

In response the UK Government has produced a document *Scotland Analysis: Energy*<sup>20</sup> which is part of a series of similar papers responding to the SNP's white paper. It differs substantially from the SNP paper including the startling statement that "UK households pay some of the lowest prices for gas and electricity in Europe<sup>21</sup>", a view that is contested<sup>22</sup> by most commentators (but accepted by others<sup>23</sup>) and even the DECC's own reports suggest that prices in the UK are the fourth highest in the EU<sup>24</sup>. It then argues that there is no automatic reason for an integrated market (as the rUK could generate its own renewable energy or buy from elsewhere) and, in consequence, Scotland will need to fund the development of renewables from its own resources. In combination this will add extra costs of between £38-£189<sup>25</sup> per household per annum. However, the DECC, even on its own analysis<sup>26</sup>, acknowledges that Scotland will easily be able to cover its domestic energy needs post-independence.

18 Scottish Government 2013c. *Scotland's Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government., pp. 293-297

19 Scottish Government 2013a. *Economic and Competition Regulation in an Independent Scotland*. Edinburgh: Scottish Government.

20 Department of Energy and Climate Change 2014. *Scotland Analysis: Energy*. London: DECC.

21 *Ibid.*, p. 71

22 Monaghan, A. 2013. *Ofgem not a 'toothless tiger' in fight against rising energy prices, insists boss* [Online]. London: Guardian. Available: <http://www.theguardian.com/business/2013/nov/26/ofgem-toothless-tiger-andrew-wright-energy-market> [Accessed 22 March 2014].

23 McArthur, L. 16 June 2014. *RE: Electricity supply, regulation and market structure in an independent Scotland*. Type to Cook, R, Zemanik, M. 20 May 2014. *RE: Further devolution of energy policy?* Type to Cook, R.

24 Department of Energy and Climate Change 2013c. *Quarterly Energy Prices, June 2013*. London: DECC.

25 Department of Energy and Climate Change 2014. *Scotland Analysis: Energy*. London: DECC., p. 76

26 Department of Energy and Climate Change 2013a. *Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2009 to 2012. Energy Trends*. London: DECC.

This leaves, two key questions that need to be resolved:

1. How realistic is the SNP belief that a single UK-wide energy market is the natural outcome;
2. How robust are the various assumptions about differences in energy prices post-independence and in particular the varying claims about paying less or more as a result of a 'Yes' vote?

In the event of a Yes vote, there is also the question of what form of industry structure and approach to regulation that would serve Scotland best post-independence. The SNP's intent is to retain the current privatised model and create a single regulator to cover gas, electricity, other utilities and consumer protection<sup>27</sup>. It argues that this combination will make the energy market 'work for consumers' despite the evidence that such a market has been badly flawed ever since privatisation<sup>28</sup>. In the event of a No vote, the question that then arises is what additional devolution of powers would allow Scotland to make the best use of its abundant renewable sources of energy.

In terms of the likely cost impact, in the case of a Yes vote, one important conclusion is offered by two papers produced by David Toke and his colleagues. In a paper published in early 2013<sup>29</sup>, they more or less support the DECC case, arguing first that since creating capacity for further renewable energy will require direct state investment (or subsidy) and that, in the case of independence, these costs will be borne purely by Scottish consumers. However, a second report in 2014<sup>30</sup> came to the opposite conclusion. The reason for this shift was not a changed perception of the cost of bringing renewables to the market<sup>31</sup> but instead that between the dates of the two reports the UK Government committed to a renewed Nuclear Energy programme, in particular Hinkley C, Sizewell C and possibly others<sup>32</sup>. The cost of these to the consumer is such that Scottish consumers will gain on independence simply by being freed from responsibility for funding the DECC's decision to

27 Scottish Government 2013a. Economic and Competition Regulation in an Independent Scotland. Edinburgh: Scottish Government.

28 Meek, J. 2012. How We Happened to Sell Off Our Electricity. *London Review of Books*, 34, 3-12, Thomas, S. 2014. Who owns Britain's energy networks and does it matter? London: Public Services International Research Unit, ofgem. 2014b. *Ofgem refers the energy market for a full competition investigation* [Online]. London: Ofgem. Available: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> [Accessed 4 July 2014].

29 Toke, D., Sherry-Brennan, F., Cowell, R., Ellis, G. & Strachan, P. 2013. Scotland, Renewable Energy and the Independence Debate: Will Head or Heart Rule the Roost? *The Political Quarterly*, 84, 61-70.

30 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

31 Scottish Government 2014c. UK energy policy and Scotland's contribution to security of supply. Edinburgh: Scottish Government, Snodin, H. 2014. Scottish Islands Renewable Project. Glasgow: Xero Energy.

32 Department for Business Innovation & Skills 2013. Long-term Nuclear Energy Strategy. London: DBIS.

create a new generation of nuclear power. In addition, the recently announced funding regime for renewables<sup>33</sup> means that there will be less support for such developments in the UK rather than as planned for an independent Scotland.

This leads to the view that it is government policy, not underlying costs, that lead to different estimates of the benefits or costs to independence in terms of energy supply. In effect, independence will be broadly cost neutral in terms of the energy provision, if the current privatised industry structure is retained (there will be some increases but these will be lower than remaining part of the UK). There will be substantial short term costs (some of which would need to be paid if Scotland votes yes or no), a cost of around 7% per annum from 2020-2040 (to fund the development of the final generation of renewables<sup>34</sup>) and the Scottish Government intends to move some charges from consumers to general taxation<sup>35</sup>.

However, the underlying costs of the current model of privatisation will continue to be borne by Scottish consumers. As such, it is suggested that rather than simply accept the current settlement, the Scottish Government gives serious consideration to different forms of industry ownership. These can include the Irish model, where a single buyer exists for all electricity generation, removing the need for consumers to find the best deals<sup>36</sup> or consideration of returning the entire sector to public ownership. Thus, if the Scottish Government is committed to lowering consumer prices, there is a need to revisit the question of ownership and market structure, especially as privatisation is estimated to have added 10-20% to average bills<sup>37</sup>. This may well worsen in the coming period as the cost of raising the needed capital for the next generation of power facilities will be far more expensive if done by private firms (despite relying on state subsidies) than if raised directly by the Government<sup>38</sup>.

---

33 Department of Energy and Climate Change 2013b. Electricity Market Reform: Policy Overview. London: DECC.

34 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

35 Scottish Government 2013c. Scotland's Future: Your Guide to an Independent Scotland. Edinburgh: Scottish Government.

36 Commission for Energy Regulation 2013. SEM Committee Annual Report 2012. Dublin: CER.

37 Hall, D., Thomas, S. & Corral, V. 2009. Global Experience with Electricity Privatisation. Greenwich: PSIRU.

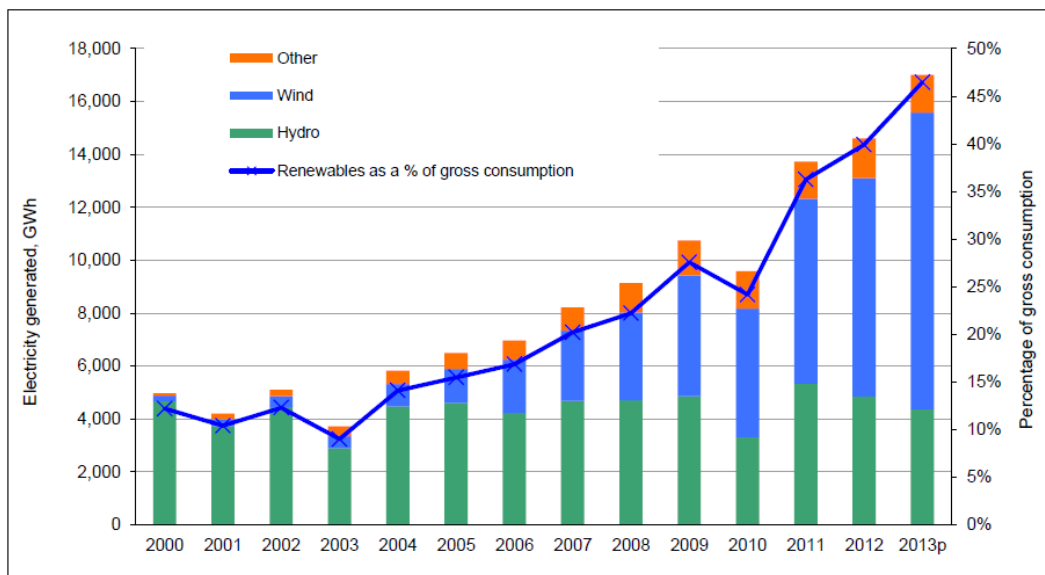
38 Cumbers, A., Danson, M., Whittam, G., Morgan, G. & Callaghan, G. 2013. Repossessing the Future: A Common Weal Strategy for Community and Democratic Ownership of Scotland's Energy Resources. Glasgow: Jimmy Reid Foundation.

### 3. Electricity and Gas Generation, Costs and Market Structure

#### 3.1 Energy Generation

There is no reason to doubt that Scotland has the means to meet its domestic demand for energy in the case of independence<sup>39</sup>, however the key issue is whether or not the SNP’s stated target of 100% renewable production by 2020 is achievable<sup>40</sup>. At the moment (figure 3.1) renewables make up 47% of Scottish energy consumption and if current commitments are taken into account this is assumed to reach 67% of consumption by 2018<sup>41</sup>.

Figure 3-1: Production of Renewable Energy in Scotland<sup>42</sup>



39 Department of Energy and Climate Change 2013a. Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2009 to 2012. *Energy Trends*. London: DECC.

40 Scottish Government 2014c. UK energy policy and Scotland’s contribution to security of supply. Edinburgh: Scottish Government, Scottish Government. 2014b. *£6 million for Scotland’s wave and tidal industry* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-6-million-for-Scotland-s-wave-and-tidal-industry-b19.aspx> [Accessed 6 May 2014], Scottish Government. 2014a. *£4.8 million boost to marine energy sector* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-4-8-million-boost-to-marine-energy-sector-9c6.aspx> [Accessed 6 May 2014].

41 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. *Is an independent Scottish electricity system good for renewable energy and Scotland?* Aberdeen: DREUD.

42 Scottish Government 2014c. UK energy policy and Scotland’s contribution to security of supply. Edinburgh: Scottish Government., p. 10

This will leave about 12.3 TWh<sup>43</sup> being produced from other sources<sup>44</sup> (including the nuclear power plants at Torness and Hunterston B). Some existing capacity can be converted to use biomass instead of coal or gas as the fuel source and the balance will come from additional onshore and offshore wind<sup>45</sup> generation. The Scottish Government argues that wave and tidal energy<sup>46</sup> will play a major role but this is less likely unless the wider issue of industry structure and funding is addressed<sup>47</sup>. However, one source that is under estimated is solar energy<sup>48</sup>. This may sound strange for cloudy Scotland but Germany managed to produce 5.1 TWh in July 2013 (and this matched the 5 TWh that Germany's wind farms produced in the same month) so substantial production is feasible. While clearly not a reliable year round source of power, it could be an important addition to Scotland's renewable energy mix and make use of existing proven technologies.

Overall there is no doubt that the capacity to meet Scotland's energy needs exists, nor of the Scottish Government's commitment<sup>49</sup> to increasing the share of renewable energy, but post-independence, there will be real costs that need to be faced in developing renewables and in particular linking energy production to the overall power grid. Recent developments in the Orkney Islands, Western Isles and Shetland indicate the need to cover this funding gap and ensure new production is properly linked into the wider network<sup>50</sup>.

The Orkney project has faced a problem of lacking the local infrastructure specifically to convert wave and tidal energy to the wider grid. In effect the costs of developing this new technology and the costs of integration to the grid has led to a situation where the project does "not appear [to] have the financial strength to sponsor major grid upgrades in tandem with developing the technology. This funding gap will not be solved through altering industry rules and regulations to

43 TWh is a Terra-Watt per hour, commonly used to measure national levels of demand and supply for energy.

44 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

45 Ibid.

46 Scottish Government. 2014b. *£6 million for Scotland's wave and tidal industry* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-6-million-for-Scotland-s-wave-and-tidal-industry-b19.aspx> [Accessed 6 May 2014], Scottish Government. 2014a. *£4.8 million boost to marine energy sector* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-4-8-million-boost-to-marine-energy-sector-9c6.aspx> [Accessed 6 May 2014].

47 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

48 Shahan, Z. 2013. *Germany broke world solar power generation record in July with 5.1 TWh, leaving U.S. in dust* [Online]. CleanTechnica. Available: <http://cleantechnica.com/2013/08/19/germany-breaks-monthly-solar-generation-record/> [Accessed 15 May 2014].

49 Dobson, J. 2014. How Scotland is setting the pace on Climate Justice. Available from: <http://www.jrf.org.uk/blog/2014/05/scotland-setting-pace-climate-justice> [Accessed 23 May 2014].

50 Snodin, H. 2014. Scottish Islands Renewable Project. Glasgow: Xero Energy.

rebalance grid risks, because until the technology is proven, the key risk is a generation technology one<sup>51</sup>". For the Western Isles, there has been progress in developing onshore wind capacity but again there is a need to address the funding gap between investment in capacity and actual production. The Shetland project has signed contracts with a major onshore wind project (Viking Energy), but again there are funding problems, in part connected to Viking Energy being half owned by a community trust leaving them reliant on bank finance and leading to a "funding gap [that] is being driven by the timing of construction of the grid connection, not the wind farm<sup>52</sup>".

Each of these projects faces unique issues but there is a common message. Such projects fail to attract commercial capital unless there is also a state subsidy (and this will be worse after 2017 given recent UK Government changes<sup>53</sup>). In consequence, there is a need for state investment both in the actual generation and to ensure that the energy is then connected to the wider grid. The current model (both of the UK Government and the SNP) calls for state investment in the activities of private companies who will then gain the long term profits.

One alternative is to consider state commissioning, initially using private sector building expertise, of the required production<sup>54</sup>. In effect, if the taxpayer (ultimately) has to bear the costs of developing renewable energy, there is a strong case to argue they should also gain all the benefits of production, rather than see bills inflated by profit taking and will help ensure clarity in terms of the final price charged to consumers<sup>55</sup>. A report by Gordon Morgan<sup>56</sup> argues for the creation of a state owned company to develop wind energy and to fund this using Government bonds at a rate of around 3.5% per year. This will cover the costs of development, expansion, maintenance and subsequent replacement and ensure that future revenues are retained in the public sector.

On balance, there is no doubt that an independent Scotland can meet the key goal of supplying the energy required by domestic consumers. If the target of 100% renewables is to be met, there will be substantial costs (though since these are partly mandated by international treaties, they would also apply if Scotland votes no), especially in bridging the gaps between investment and generation and production and wider transmission. So far the Scottish Government has limited

---

51 Ibid., p. 67

52 Ibid. p. 68

53 Department of Energy and Climate Change 2013b. Electricity Market Reform: Policy Overview. London: DECC.

54 Morgan, G. 2013. Costs and Rate of Return from Off-Shore Wind Farms. Glasgow: Jimmy Reid Foundation.

55 Scottish Government 2014c. UK energy policy and Scotland's contribution to security of supply. Edinburgh: Scottish Government.

56 Morgan, G. 2013. Costs and Rate of Return from Off-Shore Wind Farms. Glasgow: Jimmy Reid Foundation.



itself to considering how to subsidise<sup>57</sup> private firms to carry out this work (leaving them with the infrastructure) and has not considered the advantages of retaining the subsequent capacity in public ownership. A second issue is that there are reasons to doubt if Scotland will be able to bear the costs of creating large scale wave or tidal energy<sup>58</sup> without the existence of cross-subsidies from a UK wide energy market<sup>59</sup>.

In effect, the likely cost to Scottish consumers, and how this will compare between rUK and Scotland, is as much a matter of government policy as reflecting underlying costs, but in summary:

“Increases in Scottish energy prices to fund this [ie expansion of renewables] will be less than remaining in a UK-wide electricity system in which Scottish consumers would have to fund both renewable energy and the UK Government’s projected nuclear power construction programme. In an independent Scottish system the Scottish Government could use its discretion to fund some offshore renewable whilst restricting price increases to less than may be the case in a UK-wide system<sup>60</sup>”

Scotland is investing substantially in a new network to connect sources of renewable energy to the regions where there is a need for electricity<sup>61</sup>.

Finally, Scotland is already a substantial exporter of expertise and services connected with energy extraction<sup>62</sup>. The skills acquired from developing the next generation of renewable production, and in linking that to a redesigned national grid will not just produce substantial jobs in the short term<sup>63</sup> but also ensure Scotland is well placed to export that expertise over the longer term.

57 Scottish Government. 2014b. *£6 million for Scotland’s wave and tidal industry* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-6-million-for-Scotland-s-wave-and-tidal-industry-b19.aspx> [Accessed 6 May 2014].

58 Scottish Government. 2014a. *£4.8 million boost to marine energy sector* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-4-8-million-boost-to-marine-energy-sector-9c6.aspx> [Accessed 6 May 2014].

59 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD, Toke, D., Sherry-Brennan, F., Cowell, R., Ellis, G. & Strachan, P. 2013. Scotland, Renewable Energy and the Independence Debate: Will Head or Heart Rule the Roost? *The Political Quarterly*, 84, 61-70.

60 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD., pp 3-4

61 SSE. 2014. *SHE Transmission awards £450 million of contracts to upgrade the electricity network in the north of Scotland* [Online]. Scottish and Southern Energy. Available: <http://www.ssepd.co.uk/PressReleases2014/450MContractsAwarded/> [Accessed 23 May 2014].

62 Scottish Government 2013b. Oil and Gas Analytical Bulletin. Edinburgh: Scottish Government.

63 SSE. 2014. *SHE Transmission awards £450 million of contracts to upgrade the electricity network in the north of Scotland* [Online]. Scottish and Southern Energy. Available: <http://www.ssepd.co.uk/PressReleases2014/450MContractsAwarded/> [Accessed 23 May 2014].

### 3.2 Costs for Scottish Consumers

Despite the claim by the DECC that “UK households pay some of the lowest prices for gas and electricity in Europe<sup>64</sup>” the wider consensus is that UK consumers pay high prices<sup>65</sup>, set opaquely<sup>66</sup> by a sector that is poorly regulated<sup>67</sup>. In response to a request, the Scottish Conservatives<sup>68</sup> and Liberal Democrats<sup>69</sup> argued that recent EU data backed up this assertion<sup>70</sup> even though this indicates the UK is in the middle of the range and faces particularly high production costs compared to the EU average.

The current situation is not in the interests of Scottish consumers and a recent report<sup>71</sup> has noted that “the proportion of consumers reporting that they ‘sometimes or always struggle to pay for energy’ rose from 26 per cent to 35 per cent between early 2010 and early 2012<sup>72</sup>” and Scotland has higher rates of fuel poverty (almost 28%) compared to 16.4% in England (reflecting a combination of a cooler climate and poorer housing stock).

Furthermore, energy prices to consumers bear little relation to variations in the costs of energy production or the price that companies pay on the wholesale market (where, quite often, they are actually buying their own production). As shown in figure 3-2, the average annual bill has risen by £150 from 2009-2012 and wholesale costs have dropped by £35. The main reason for the increase is ‘other charges’ and ‘profits’:

64 Department of Energy and Climate Change 2014. *Scotland Analysis: Energy*. London: DECC., p. 71

65 ofgem 2014c. *State of the Market Assessment*. London: Ofgem.

66 Meek, J. 2012. *How We Happened to Sell Off Our Electricity*. *London Review of Books*, 34, 3-12.

67 Monaghan, A. 2013. *Ofgem not a ‘toothless tiger’ in fight against rising energy prices, insists boss* [Online]. London: Guardian. Available: <http://www.theguardian.com/business/2013/nov/26/ofgem-toothless-tiger-andrew-wright-energy-market> [Accessed 22 March 2014].

68 Zemanik, M. 20 May 2014. *RE: Further devolution of energy policy?* Type to Cook, R.

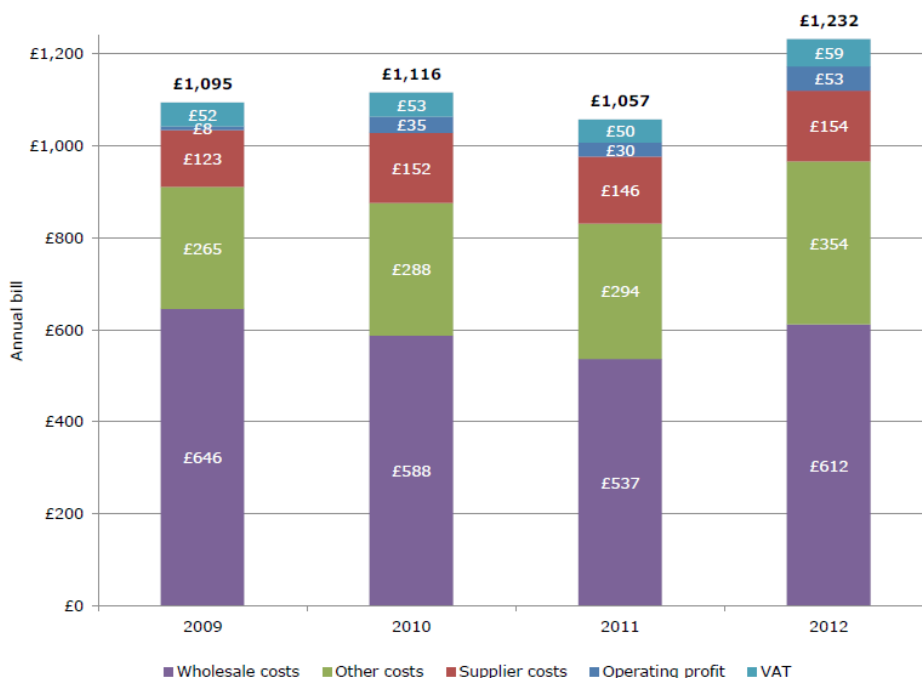
69 McArthur, L. 16 June 2014. *RE: Electricity supply, regulation and market structure in an independent Scotland*. Type to Cook, R.

70 Eurostat. 2014. *Electricity and natural gas price statistics* [Online]. Brussels: European Commission. Available: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Electricity\\_and\\_natural\\_gas\\_price\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Electricity_and_natural_gas_price_statistics) [Accessed 25 May 2014].

71 Consumer Futures 2014. *Energy policy, constitutional change and consumers in Scotland*. Consumer Futures.

72 Ibid. p.6

Figure 3-2: Make up of energy costs for the UK<sup>73</sup>



The wholesale costs partly reflect production and of transmission and distribution of energy. At the moment it is estimated that transmission costs are 2% for gas and 4% for electricity while distribution accounts for around 16% of the total cost. The latter is variable across Scotland with ‘Western Highland and Skye’ one of the highest cost regions in the UK and ‘North Scotland’ the lowest. However, this reflects a contested model, drawing primarily on the costs of distributing traditional rather than renewable energies<sup>74</sup>. As discussed above, one of the challenges in exploiting the full benefits of renewable energy will be to connect production (often in the more remote areas of Scotland) to the main urban centres of Scotland<sup>75</sup>, including the controversial Beaulieu-Denny line<sup>76</sup>.

The Scottish Government<sup>77</sup> proposes to reduce average bills by a combination of improving energy efficiency and shifting the costs of programmes such as the Energy Company Obligation and the Warm Homes Discount from energy bills to

73 ofgem 2014c. State of the Market Assessment. London: Ofgem., p. 5  
 74 Scottish Government. 2011. *Transmission Charging* [Online]. Edinburgh: Scottish Government. Available: <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/TransmissionCharging> [Accessed 1 May 2014].  
 75 BBC. 2012. *Scottish Power and SSE's power upgrade fast-tracked* [Online]. Glasgow: BBC. Available: <http://www.bbc.co.uk/news/uk-scotland-16685623> [Accessed 23 May 2014].  
 76 BBC. 2013. *First section of Beaulieu to Denny power line switched on* [Online]. Glasgow: BBC. Available: <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-23447401> [Accessed 23 May 2014].  
 77 Scottish Government 2013c. *Scotland's Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government.

wider taxation. As noted, independence will mean that Scottish consumers do not have to pay the cost of the recent UK decisions to expand nuclear and reduce support for renewables<sup>78</sup>, but there will be costs connected with the development of renewable energy. Again the Scottish Government is suggesting these will be met from general taxation, not individual energy bills:

“The Scottish Government plans that, in an independent Scotland, funding for ‘green investment’ would transfer from energy bills to central government budgets. By passing on these cost reductions to their consumers, energy companies would be able to reduce bills by around five per cent or approximately £70 every year. ...<sup>79</sup>”

However, although the Scottish Government is also proposing a new regulation model (section 3.3.1), there is no particular reason to believe this will lead to cost reductions for consumers given the current privatised industry structure<sup>80</sup>. If the intention is to reduce costs, and ensure that state subsidy to energy generation is used for the common good, there is a need to think about different market structures (see section 3.3). Even if the popular option<sup>81</sup> of bringing these utilities back into public ownership is discounted, the example of the Irish Single Electricity Market<sup>82</sup> (which covers the Republic and Northern Ireland) is instructive. This retains private sector provision of energy to a central pool where it is sold onto consumers at the lowest price in marked contrast to the UK norm where it is expected that consumers will ‘shop around’ for the best deals trying to make sense of opaque and shifting information<sup>83</sup>.

### ■ 3.3 Regulation and Market Structure

This leads to the issue of how the Scottish Government intends to regulate energy in particular and the wider utilities sector in an independent Scotland and why different industry structures are not under consideration.

78 Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

79 Scottish Government 2013c. Scotland’s Future: Your Guide to an Independent Scotland. Edinburgh: Scottish Government. pp 406-407

80 Davis, B. 2014. *Energy, pensions and banks: can we fix our broken markets for the long-term?* [Online]. blue & green tomorrow. [Accessed 21 March 2014], Meek, J. 2012. How We Happened to Sell Off Our Electricity. *London Review of Books*, 34, 3-12.

81 YouGov. 2013. *The majority of the British public – including the majority of Conservative voters – support nationalising the energy and rail companies* [Online]. London: YouGov. Available: <http://yougov.co.uk/news/2013/11/04/nationalise-energy-and-rail-companies-say-public/> [Accessed 30 March 2014].

82 Commission for Energy Regulation 2013. SEM Committee Annual Report 2012. Dublin: CER.

83 Thomas, S. 2014. Who owns Britain’s energy networks and does it matter? London: Public Services International Research Unit.

### ■ 3.3.1 Regulation

The overall approach to regulation in the White Paper<sup>84</sup> and related evidence<sup>85</sup> is to bring together the existing patchwork of consumer affairs and competition authorities with the range of industry specific regulators to form a single regulator. The *Economic and Competition Regulation* report sets out the goal as:

“However, the current UK regulatory model is not the only way of delivering these functions, and many countries have adopted different regulatory frameworks that merge functions across a wide range of sectors. ... An independent Scotland has the opportunity to improve on the UK regulatory model, streamlining and reinvigorating these functions to make them compatible with and reflective of our values and ambitions. The current UK framework is not focused on our distinct Scottish circumstances, and independence will allow us to deliver a more targeted regulatory framework”<sup>86</sup>

At the moment, quite different arrangements are in place across the UK for different sectors. In terms of the water industry, the Water Industry Commission for Scotland<sup>87</sup> and Scottish Water already operate completely independent of the UK wide structures<sup>88</sup> (managed by ofwat). The energy regulator (ofgem<sup>89</sup>) has an office in Glasgow<sup>90</sup> that deals with the Scottish market, but energy supply is via a range of companies that operate across the UK (see section 3.3.2). Other regulators for rail<sup>91</sup>, civil aviation and media are constituted as a single UK wide entity as are the Competition and Mergers Authority and the Office of Fair Trading<sup>92</sup>.

84 Scottish Government 2013c. *Scotland’s Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government.

85 Scottish Government 2013a. *Economic and Competition Regulation in an Independent Scotland*. Edinburgh: Scottish Government.

86 Ibid. p. 2

87 WICS. 2014. *About us* [Online]. Edinburgh: Water Industry Commission. Available: <http://www.watercommission.co.uk/> [Accessed 16 March 2014].

88 Scottish Water. 2014. *How the water industry is run in Scotland* [Online]. Available: <http://www.scottishwater.co.uk/about-us/governance/water-industry-in-scotland> [Accessed 17 April 2014].

89 ofgem. 2014a. *About Us* [Online]. ofgem. Available: <https://www.ofgem.gov.uk/> [Accessed 15 March 2014].

90 ofgem. 2009. *Energy Regulator Moves to New Offices in Glasgow* [Online]. London: Ofgem. Available: <https://www.ofgem.gov.uk/ofgem-publications/76397/pr35160909.pdf> [Accessed 26 March 2014].

91 ORR. 2014. *About ORR* [Online]. London: Office of Rail Regulation. Available: <http://orr.gov.uk/> [Accessed 20 March 2014].

92 Scottish Government 2013a. *Economic and Competition Regulation in an Independent Scotland*. Edinburgh: Scottish Government.

### ■ 3.3.1.1 Logic to the Proposals

The argument is that by bringing these together, the combined body will share a philosophy about the role of regulation and have a strong consumer focus, thus avoiding the criticism targeted at ofgem that it has been too close to the energy producers<sup>93</sup>. In addition, there is a pragmatic argument that the new agency will have a staff of around 200 and an estimated budget of £100m (at 2011 prices). Spread across seven organisations, if the current configuration was retained, then regulation would be fragmented and there will be duplication of support costs and miss the scope to bring a single regulatory concept across Scotland.

More importantly, it is argued that by focussing on the realities of the Scottish market these bodies will address the problem of supply of public goods from a purely Scottish perspective rather than taking into account the various demands from across the UK. In this respect, it is claimed<sup>94</sup> that WICS has produced lower bills and more efficient provision than Ofwat in England and Wales. The final argument is that the case for a single regulator is not just a pragmatic response to avoid a number of small organisations but is an effective choice in its own right.

### ■ 3.3.1.2 Similar Models in Other countries

The Dutch Authority for Consumers and Markets (ACM) is cited in the competition report as perhaps the closest body to their proposed model for a single regulator<sup>95</sup>. It was established in 2013 with a remit both to oversee the privatised public utilities (water, telecommunications, energy and rail) and to assess the competition issues in a variety of markets<sup>96</sup>. A common theme in their strategy is to protect the consumer as: “by protecting these public interests, welfare for Dutch consumers and for Dutch society is increased<sup>97</sup>”. Although only in existence for a year, the ACM claimed to have saved Dutch consumers €1.85m in 2013-14 as a result of its interventions<sup>98</sup>. The unified body employs 520 individuals and is funded by a mixture of industry levies and state support.

93 Monaghan, A. 2013. *Ofgem not a ‘toothless tiger’ in fight against rising energy prices, insists boss* [Online]. London: Guardian. Available: <http://www.theguardian.com/business/2013/nov/26/ofgem-toothless-tiger-andrew-wright-energy-market> [Accessed 22 March 2014].

94 Scottish Government 2013a. *Economic and Competition Regulation in an Independent Scotland*. Edinburgh: Scottish Government. p. 6

95 Autoriteit Consument & Markt. 2014a. *Home Page* [Online]. Den Haag: ACM. Available: <https://www.acm.nl/en/> [Accessed 30 March 2014].

96 Autoriteit Consument & Markt 2013. *Strategy Document: The Netherlands Authority for Consumers and Markets*. Den Haag: ACM.

97 Ibid. p. 6

98 Autoriteit Consument & Markt. 2014b. *Toezicht ACM levert consumenten 1,85 miljard euro voordeel op* [Online]. Den Haag: ACM. [Accessed 30 March 2014].

New Zealand's Commerce Commission<sup>99</sup> is another instance of a unified regulator combining fair trading, the regulation of consumer credit, business competition and what are described as 'regulated industries' (energy, telecommunications, airports and dairy production) where 'competition is not possible'. It is mostly funded directly by the Government with a budget of NZ\$130m<sup>100</sup> (roughly £67m) and 175 staff<sup>101</sup>.

A further instance of the single regulator model is Australia's Competition and Consumer Commission<sup>102</sup>. Again this brings together market regulation, consumer protection and oversight of privatised public utilities such as rail, air, port, energy and telecommunications. It has almost 900 staff and an annual budget of AUS\$175bn<sup>103</sup> (roughly £97bn) making it the largest of the single regulator models and is mostly funded by state grants.

### ■ 3.3.1.3 Set Up Costs

The regulation report suggests that the combined agency would have a budget of around £100m (at 2011 prices). This is derived from assigning the existing budgets of the various bodies to Scotland on a pro-rata basis and assuming a 10% saving due to efficiencies of shared provision.

However this ignores the likely costs both of merging the various organisations and creating a new body. Audit Scotland<sup>104</sup> has reviewed the evidence from a number of mergers of public organisations in Scotland and found the costs range from 2-15% of the annual budgets. However, given that only WICS and Ofgem have a base in Scotland, this maybe higher in this instance if existing staff are unwilling to transfer to Scotland (and there is also a risk of loss of expertise). Voluntary early release schemes have been a major cost in every recent merger in the Scottish public sector.

There will also be start up costs. Accommodation costs will depend on the choice to rent, refurbish or for new build. In the latter case, cost assumptions indicate

99 Commerce Commission. 2014. *Home Page* [Online]. Wellington: ComCom. Available: <http://www.comcom.govt.nz/> [Accessed 30 March 2014].

100 Commerce Commission 2013. *Performance Information 2013/14: Year to date*. Wellington: ComCom.

101 Antitrust source. 2013. *Interview with Mark Berry, Chair, New Zealand Commerce Commission* [Online]. Washington: American Bar Association. Available: [http://www.americanbar.org/content/dam/aba/publishing/antitrust\\_source/jun13\\_berry\\_intrvw.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/jun13_berry_intrvw.authcheckdam.pdf) [Accessed 30 March 2014].

102 Australian Competition & Consumer Commission. 2014. *Home Page* [Online]. Canberra: ACCC. Available: <http://www.accc.gov.au/> [Accessed 30 March 2014].

103 Australian Competition & Consumer Commission 2013. *Annual Report 2012-2013*. Canberra: ACCC.

104 Audit Scotland 2012a. *Learning lessons of public body mergers*. Edinburgh: Audit Scotland.

this will be around £700 per square meter (including build, outfitting and VAT)<sup>105</sup> while a refurbishment can be estimated at around £400. If this is to accommodate around 150 staff then there will be a need for around 2,300m<sup>2</sup> of space, if 200 then around 2,700m<sup>2</sup>. In combination this will give a cost range of £1.6m-1.9m (new build) or £0.9m-1m (refurbishment).

The second major cost will be the creation of an integrated ICT system. WICS is currently spending around £320k per annum on ICT indicating they have relatively straightforward needs in terms of specialist software and systems. However, Audit Scotland<sup>106</sup> has identified significant weaknesses in many major ICT projects, especially where management oversight has been lacking or there is a lack of clarity as to the purpose. Both risks exist when setting up an ICT system for a new organisation that is coming together as part of a complex merger and where the component parts will all have their own systems.

In summary this indicates that the set up costs will be between £81m and £112m. While this is not a major sum, it will need to be paid very early in the period post-independence (in reality mostly in the period between September 2014 and May 2016<sup>107</sup> so the new body is in place come independence). Equally such a merger will be complex, bringing together a disparate set of organisations in a short period of time. Even within Scotland as of now, WICS is based in Stirling and Ofgem in Glasgow. However, on the other hand, it is also likely to see an increase in employment opportunities in Scotland.

#### ■ 3.3.1.4 Evaluation

Overall there is no evidence that either the single regulator model or the individual industry model automatically deliver the most effective outcomes. Australia provides compelling evidence that the choice is not simply a matter of scale and instances from the UK, such as Ofgem<sup>108</sup>, provide ample evidence that the single industry model has flaws. What matters is the focus, and the Dutch ACM stands out with its clear decision to work from consumer and user needs when evaluating proposals and regulating what were once public utilities.

105 ARCADIS 2011. Building Cost Guide. London: ARCADIS UK.

106 Audit Scotland 2012b. Managing ICT contracts: An audit of three public sector programmes. Edinburgh: Audit Scotland.

107 Scottish Government 2013d. Scotland's Future: from the Referendum to Independence and a Written Constitution. Edinburgh: Scottish Government.

108 Monaghan, A. 2013. *Ofgem not a 'toothless tiger' in fight against rising energy prices, insists boss* [Online]. London: Guardian. Available: <http://www.theguardian.com/business/2013/nov/26/ofgem-toothless-tiger-andrew-wright-energy-market> [Accessed 22 March 2014].



### ■ 3.3.2 Market Structure

A theme that runs across this paper is to question the logic of retaining the current pattern of privatised provision. In the White Paper, there is a belief that a different model of regulation can overcome the weaknesses in previous attempts to regulate the utility sector, as:

Under the Government’s proposals, the Scottish regulator will ensure that the regulation of energy delivers reliable supply, a fair outcome for Scottish consumers, the continued decarbonisation of energy generation, and the conditions for the continued sustainable growth of the energy industry in Scotland. This model rests upon open and competitive energy markets, and the adequate supply of energy to meet demand and deliver a comfortable capacity margin<sup>109</sup>.

In addition, the question and answer section of the White Paper, stresses the importance of ensuring transparency in billing and repeats the current UK Government commitment to ‘switching<sup>110</sup>’ as the means by which customers can reduce their costs:

*“Will an independent Scotland be able to take steps to ensure that consumers’ interests are taken into account when energy policy is set?”*

Yes. The powers of independence will allow energy policy to be designed to protect the interests of consumers and make sure people are treated transparently and fairly. Appropriate information on energy tariffs will help customers decide which company to go with, and help make prices competitive<sup>111</sup>.

In effect, provision will continue as now, provided by a range of private sector companies, most operating on a UK wide basis but subject to a different regulatory approach in Scotland<sup>112</sup>. In this respect, the relationship between WICS and Scottish Water<sup>113</sup> is misleading as an example of what is intended as there will be multiple providers of energy to consumers and business.

109 Scottish Government 2013c. *Scotland’s Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government. p. 298-9

110 Davis, B. 2014. *Energy, pensions and banks: can we fix our broken markets for the long-term?* [Online]. blue & green tomorrow. [Accessed 21 March 2014], ofgem. 2014b. *Ofgem refers the energy market for a full competition investigation* [Online]. London: Ofgem. Available: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> [Accessed 4 July 2014].

111 Scottish Government 2013c. *Scotland’s Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government. pp 406-407

112 BBC. 2014. *Scottish independence: SSE says single energy market ‘likely’ post Yes* [Online]. BBC: London. Available: <http://www.bbc.co.uk/news/uk-scotland-scotland-politics-26750110> [Accessed 3 May 2014].

113 Scottish Water. 2014. *How the water industry is run in Scotland* [Online]. Available: <http://www.scottishwater.co.uk/about-us/governance/water-industry-in-scotland> [Accessed 17 April 2014].

Elsewhere in the White Paper, there is an argument for the return of key services to public ownership. There is a clear pledge in terms of the Post Office<sup>114</sup> and hinted at in terms of the rail franchises when they are renewed in 2025<sup>115</sup> but not even discussed for the utility companies. Even if the option of returning such utilities to state ownership is discounted, then alternative models, such as the creation of a single provider for consumers (to which the private producers sell their output) has the capacity to significantly reduce prices and aid transparency for users.

This would have some basis in the approach previously adopted in Scotland for electricity, even on privatisation, which retained integrated producers (ie they produced and distributed energy) with a geographical split between South and North. These were run respectively by the South of Scotland Electricity Board (SSEB), and the North of Scotland Hydro-Electricity Board (NoSHEB) and each was responsible for generation, transmission, distribution and retail<sup>116</sup>. These were privatised intact as Scottish Power and Scottish Hydro respectively and subsequently both bought regional companies in England and Scottish Hydro became Scottish and Southern Electricity (SSE). Scottish Power was bought by Iberdola (a Spanish energy company) in 2005.

Up to privatisation, gas supply across the UK was in the hands of British Gas<sup>117</sup> and production, distribution and transmission remained as a single business up to 2000. Most of Scotland's distribution network is now owned by Scotia Gas Networks which is 50% owned by SSE.

Overall, there is no reason to accept the argument in the White Paper that improving the approach to regulation will resolve the problems of over-charging, opaque prices and perception of excess profits that characterises the current public attitude towards the privatised utility companies<sup>118</sup>. With a background of over 25 years of failed attempts to regulate the sector so that the market 'works for consumers' independence offers a chance to radically rethink the market organisation<sup>119</sup>. This is even more relevant given the substantial level of state subsidy that will need to be invested in the creation of renewable energy sources in the next 10-15 years.

---

114 Scottish Government 2013c. *Scotland's Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government., pp. 326-328.

115 Ibid., pp. 125-6

116 Meek, J. 2012. *How We Happened to Sell Off Our Electricity*. *London Review of Books*, 34, 3-12.

117 Thomas, S. 2014. *Who owns Britain's energy networks and does it matter?* London: Public Services International Research Unit.

118 ofgem 2014c. *State of the Market Assessment*. London: Ofgem.

119 Davis, B. 2014. *Energy, pensions and banks: can we fix our broken markets for the long-term?* [Online]. blue & green tomorrow. [Accessed 21 March 2014].

With this in mind, an independent Scotland should explore a combination of three different options:

1. adopt the Irish model where producers sell to a single body and that then sets consumer prices<sup>120</sup>, at the very least this will remove the onus on consumers to ‘shop around’ and there is some evidence it has led to lower prices in Ireland;
2. Consider state ownership of new facilities being developed, especially as these will be dependent on state support throughout their development and state funding to link production to distribution via the wider energy network<sup>121</sup>;
3. Return to the original model, even post-privatisation, in Scotland of regional monopolies, thus replicate the relationship between WICS and Scottish Water as a template for the energy sector<sup>122</sup>.

Not only does Scotland already have a growing commitment to community ownership of resources but there are ample examples from Germany where municipalities are bringing electricity generation, transmission and supply back into public ownership<sup>123</sup>.

### ■ 3.4 A Single UK Market?

This is another area where the Scottish Government and the UK Government offer different assessments. The Scottish Government argues a single market is a logical outcome as it will reflect the ongoing links (both in terms of energy flows and of the same companies operating north and south of the border)<sup>124</sup>. By contrast, the DECC cites different approaches to regulation, to funding policy (ie favouring renewables over nuclear) and the Scottish Government’s stated opposition to new nuclear power as reasons why a shared market is not feasible<sup>125</sup>. In the end this is a matter for negotiation between Governments rather than something that will be settled purely on the basis of an argument about the merits of different approaches.

120 Commission for Energy Regulation 2013. SEM Committee Annual Report 2012. Dublin: CER.

121 Morgan, G. 2013. Costs and Rate of Return from Off-Shore Wind Farms. Glasgow: Jimmy Reid Foundation.

122 Scottish Water. 2014. *How the water industry is run in Scotland* [Online]. Available: <http://www.scottishwater.co.uk/about-us/governance/water-industry-in-scotland> [Accessed 17 April 2014].

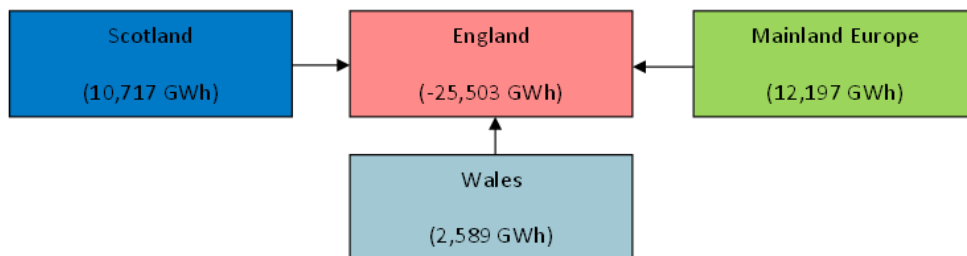
123 Cumbers, A., Danson, M., Whittam, G., Morgan, G. & Callaghan, G. 2013. *Repossessing the Future: A Common Weal Strategy for Community and Democratic Ownership of Scotland’s Energy Resources*. Glasgow: Jimmy Reid Foundation.

124 Scottish Government 2014c. UK energy policy and Scotland’s contribution to security of supply. Edinburgh: Scottish Government.

125 Department of Energy and Climate Change 2014. *Scotland Analysis: Energy*. London: DECC., see paragraphs 1.66-1.85.

However, regardless of the existence of a single market, there will remain substantial cross border energy flows. At the moment, England imports just over 25,000 GWh of energy with Scotland providing 10,700 of this.

Figure 3-3: Cross Border Energy Flows<sup>126</sup>



The UK market is poorly integrated with the rest of Europe so it is unlikely that that source can be significantly expanded in the near future. Equally, England would be helped to meet its UN climate change targets by using renewable energy generated in Scotland. The reality is also slightly more complex as at certain times and/or geographical locations, Scotland imports electricity from England in order to meet specific needs.

Overall, it appears that the Scottish Government should abandon its goal of a single integrated market and seek a purely commercial position as a major energy supplier. This has implications in terms of the funding of renewable energy and the probable lack of investment to generate significant amounts of wave and tidal power<sup>127</sup>, but has the advantage of clarity and of breaking the links between the decisions of the Westminster Government and the Scottish energy production market.

126 Scottish Government 2014c. UK energy policy and Scotland’s contribution to security of supply. Edinburgh: Scottish Government., p. 9

127 Toke, D., Sherry-Brennan, F., Cowell, R., Ellis, G. & Strachan, P. 2013. Scotland, Renewable Energy and the Independence Debate: Will Head or Heart Rule the Roost? *The Political Quarterly*, 84, 61-70, Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

## 4. Policy Options

---

From the analysis in Section three, a number of policy recommendations can be drawn.

### ■ 4.1 Energy Production

While it is clear that Scotland can meet its domestic demand for energy, and that the 100% renewable target remains realistic, there is a need to rethink how this will be achieved. The loss of a single integrated market will make significant development of wave and tidal energy financially too much of a challenge and the focus should fall on wind as the primary source and use secondary sources such as solar to spread the range of production.

Since, creating the next generation of renewable production, and connecting it to the grid, will require substantial state investment, this leads to the next recommendation.

### ■ 4.2 Ownership

Even if bringing the energy utility sector back into public ownership is rejected, serious consideration should be given to ensuring that the state investment in the next generation of production leads to public ownership of the facilities that will be built (thus retaining the cash flow in the public sector). This may also fit well with the concept of community ownership that is becoming popular in many areas of the Highlands and Islands<sup>128</sup>.

Equally, rather than replicate the current situation of a multitude of suppliers, consideration should be given to either the Irish single supplier model or a return to the original Scottish framework of regional, integrated, monopolies. The latter will at least create the relationship that exists between WICS (the regulator) and Scottish Water (a single provider) and that operates to the advantage of the Scottish consumer.

---

128 Murphy, J. 2010. *At the edge: community ownership, climate change and energy in Scotland*. York: Joseph Rowntree Foundation.

### 4.3 Sector Regulation

The evidence from other countries is that the proposed ‘single regulator’ model works effectively. However, there is no reason to believe that revising the regulation model will resolve the deep seated problems that affect the UK privatised energy sector. Thus rather than seek to resolve this via a reformed model of regulation, as above, it is more effective to review how the industry is structured, especially given the level of public subsidy that will be provided in the near future.

### 4.4 A Single UK Market

From the DECC report, and ministerial statements, it is clear there is no interest by the current UK Government to make such a structure work. On that basis, it would be more practical to commence planning on the basis of a commercial supplier relationship and accept that developments of the Scottish energy sector will need to be funded purely within Scotland.

### 4.5 Devo-Max

If Scotland votes no, there is a need to consider if further devolution of powers would be helpful in ensuring that Scotland can develop its energy resources and hold down consumer prices. The Scottish Conservatives have argued against this on the grounds that “Scotland already has powers over planning, energy efficiency schemes and elements of the Renewables Obligation and we believe this is appropriate<sup>129</sup>”. On the other hand, Scotland’s strength lies in its capacity to generate renewable energy rather than in terms of nuclear or fossil fuel production. Equally, as discussed earlier, Scotland faces particular problems in terms of fuel poverty. For both these reasons, greater devolution in respect of energy policy would assist in meeting the specific needs of Scotland.

---

129 Zemanik, M. 20 May 2014. *RE: Further devolution of energy policy?* Type to Cook, R.

## 5. Summary

---

This paper has evaluated the contrasting views put forward by the Scottish and UK Governments about the implications of independence for the Scottish electricity and gas sectors and consumer prices. In summary, there is no reason to doubt that Scotland will be able to meet its domestic needs for energy (from renewable sources) and will be a net exporter. In that respect alone, retaining close ties to the wider rUK energy market is a sensible option for both partners. In terms of consumer prices, independence will have little effect (adverse or positive). The SNP proposes to move some charges from individual power bills to general taxation which will reduce energy bills but does not mean that there is any less state support to the private utility companies. However, the main reason why Scottish prices will not be adversely affected (in comparison to staying in the UK) is not really the SNP proposals but the decision of the UK Coalition Government to heavily subsidise a new generation of nuclear power plants.

In one key respect, the SNP's White Paper and other documents can be seen as being too optimistic. The UK Government has indicated substantial concerns about the continuation of a single market (and thus of cross-subsidy of the cost of creating capacity) and it would be better to plan on this basis, even if this is dismissed as little but a negotiating position that will be amended in the course of discussions. The positive aspect is it means Scottish consumers will not need to meet the costs of expensive subsidies to the nuclear industry. On the other hand, this does mean that Scotland will need to fund the next phase of renewable energy (both for production and distribution). This is perfectly feasible with the key exception of wave and tidal energy which may prove too expensive to bring into production from Scotland's own resources.

This leads to the largest criticism of the SNP approach. Despite needing to offer substantial state subsidies and investment, there is no discussion of the option of then retaining ownership of the resulting infrastructure. Instead these will be built with public money and left in private hands once they are financially viable. More widely, the SNP is content to retain the current market structure (hoping that a different approach to regulation will solve the problems that have been endemic ever since privatisation) with no consideration of either different ownership models (in particular use state investment as a means to retain new facilities in public ownership) or creating a single state run buyer (who can buy from both private and public generators) who then sells onto consumers at uniform, transparent prices.

## References

---

Antitrust source. 2013. *Interview with Mark Berry, Chair, New Zealand Commerce Commission* [Online]. Washington: American Bar Association. Available: [http://www.americanbar.org/content/dam/aba/publishing/antitrust\\_source/jun13\\_berry\\_intrvw.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/jun13_berry_intrvw.authcheckdam.pdf) [Accessed 30 March 2014].

ARCADIS 2011. *Building Cost Guide*. London: ARCADIS UK.

Audit Scotland 2012a. *Learning lessons of public body mergers*. Edinburgh: Audit Scotland.

Audit Scotland 2012b. *Managing ICT contracts: An audit of three public sector programmes*. Edinburgh: Audit Scotland.

Australian Competition & Consumer Commission 2013. *Annual Report 2012-2013*. Canberra: ACCC.

Australian Competition & Consumer Commission. 2014. *Home Page* [Online]. Canberra: ACCC. Available: <http://www.accc.gov.au/> [Accessed 30 March 2014].

Autoriteit Consument & Markt 2013. *Strategy Document: The Netherlands Authority for Consumers and Markets*. Den Haag: ACM.

Autoriteit Consument & Markt. 2014a. *Home Page* [Online]. Den Haag: ACM. Available: <https://www.acm.nl/en/> [Accessed 30 March 2014].

Autoriteit Consument & Markt. 2014b. *Toezicht ACM levert consumenten 1,85 miljard euro voordeel op* [Online]. Den Haag: ACM. [Accessed 30 March 2014].

BBC. 2012. *Scottish Power and SSE's power upgrade fast-tracked* [Online]. Glasgow: BBC. Available: <http://www.bbc.co.uk/news/uk-scotland-16685623> [Accessed 23 May 2014].

BBC. 2013. *First section of Beaully to Denny power line switched on* [Online]. Glasgow: BBC. Available: <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-23447401> [Accessed 23 May 2014].

BBC. 2014. *Scottish independence: SSE says single energy market 'likely' post Yes* [Online]. BBC: London. Available: <http://www.bbc.co.uk/news/uk-scotland-scotland-politics-26750110> [Accessed 3 May 2014].



Commerce Commission 2013. Performance Information 2013/14: Year to date. Wellington: ComCom.

Commerce Commission. 2014. *Home Page* [Online]. Wellington: ComCom. Available: <http://www.comcom.govt.nz/> [Accessed 30 March 2014].

Commission for Energy Regulation 2013. SEM Committee Annual Report 2012. Dublin: CER.

Consumer Futures 2014. Energy policy, constitutional change and consumers in Scotland. Consumer Futures.

Cumbers, A., Danson, M., Whittam, G., Morgan, G. & Callaghan, G. 2013. *Repossessing the Future: A Common Weal Strategy for Community and Democratic Ownership of Scotland's Energy Resources*. Glasgow: Jimmy Reid Foundation.

Davis, B. 2014. *Energy, pensions and banks: can we fix our broken markets for the long-term?* [Online]. blue & green tomorrow. [Accessed 21 March 2014].

Department for Business Innovation & Skills 2013. Long-term Nuclear Energy Strategy. London: DBIS.

Department of Energy and Climate Change 2013a. Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2009 to 2012. *Energy Trends*. London: DECC.

Department of Energy and Climate Change 2013b. Electricity Market Reform: Policy Overview. London: DECC.

Department of Energy and Climate Change 2013c. Quarterly Energy Prices, June 2013. London: DECC.

Department of Energy and Climate Change 2014. Scotland Analysis: Energy. London: DECC.

Dobson, J. 2014. How Scotland is setting the pace on Climate Justice. Available from: <http://www.jrf.org.uk/blog/2014/05/scotland-setting-pace-climate-justice> [Accessed 23 May 2014].

Eurostat. 2014. *Electricity and natural gas price statistics* [Online]. Brussels: European Commission. Available: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Electricity\\_and\\_natural\\_gas\\_price\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Electricity_and_natural_gas_price_statistics) [Accessed 25 May 2014].

- Hall, D., Thomas, S. & Corral, V. 2009. *Global Experience with Electricity Privatisation*. Greenwich: PSIRU.
- McArthur, L. 16 June 2014. *RE: Electricity supply, regulation and market structure in an independent Scotland*. Type to Cook, R.
- Meek, J. 2012. How We Happened to Sell Off Our Electricity. *London Review of Books*, 34, 3-12.
- Monaghan, A. 2013. *Ofgem not a 'toothless tiger' in fight against rising energy prices, insists boss* [Online]. London: Guardian. Available: <http://www.theguardian.com/business/2013/nov/26/ofgem-toothless-tiger-andrew-wright-energy-market> [Accessed 22 March 2014].
- Morgan, G. 2013. *Costs and Rate of Return from Off-Shore Wind Farms*. Glasgow: Jimmy Reid Foundation.
- Murphy, J. 2010. *At the edge: community ownership, climate change and energy in Scotland*. York: Joseph Rowntree Foundation.
- NUMBEO. 2014. *Cost of Living Comparison between Glasgow and Dublin* [Online]. Available: [http://www.numbeo.com/cost-of-living/compare\\_cities.jsp?country1=United+Kingdom&city1=Glasgow&country2=Ireland&city2=Dublin](http://www.numbeo.com/cost-of-living/compare_cities.jsp?country1=United+Kingdom&city1=Glasgow&country2=Ireland&city2=Dublin) [Accessed 14 April 2014].
- ofgem. 2009. *Energy Regulator Moves to New Offices in Glasgow* [Online]. London: Ofgem. Available: <https://www.ofgem.gov.uk/ofgem-publications/76397/pr35160909.pdf> [Accessed 26 March 2014].
- ofgem. 2014a. *About Us* [Online]. ofgem. Available: <https://www.ofgem.gov.uk/> [Accessed 15 March 2014].
- ofgem. 2014b. *Ofgem refers the energy market for a full competition investigation* [Online]. London: Ofgem. Available: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> [Accessed 4 July 2014].
- ofgem 2014c. *State of the Market Assessment*. London: Ofgem.
- ORR. 2014. *About ORR* [Online]. London: Office of Rail Regulation. Available: <http://orr.gov.uk/> [Accessed 20 March 2014].

Scottish Government. 2011. *Transmission Charging* [Online]. Edinburgh: Scottish Government. Available: <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/TransmissionCharging> [Accessed 1 May 2014].

Scottish Government 2013a. *Economic and Competition Regulation in an Independent Scotland*. Edinburgh: Scottish Government.

Scottish Government 2013b. *Oil and Gas Analytical Bulletin*. Edinburgh: Scottish Government.

Scottish Government 2013c. *Scotland's Future: Your Guide to an Independent Scotland*. Edinburgh: Scottish Government.

Scottish Government 2013d. *Scotland's Future: from the Referendum to Independence and a Written Constitution*. Edinburgh: Scottish Government.

Scottish Government. 2014a. *£4.8 million boost to marine energy sector* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-4-8-million-boost-to-marine-energy-sector-9c6.aspx> [Accessed 6 May 2014].

Scottish Government. 2014b. *£6 million for Scotland's wave and tidal industry* [Online]. Edinburgh: Scottish Government. Available: <http://news.scotland.gov.uk/News/-6-million-for-Scotland-s-wave-and-tidal-industry-b19.aspx> [Accessed 6 May 2014].

Scottish Government 2014c. *UK energy policy and Scotland's contribution to security of supply*. Edinburgh: Scottish Government.

Scottish Water. 2014. *How the water industry is run in Scotland* [Online]. Available: <http://www.scottishwater.co.uk/about-us/governance/water-industry-in-scotland> [Accessed 17 April 2014].

Shahan, Z. 2013. *Germany broke world solar power generation record in July with 5.1 TWh, leaving U.S. in dust* [Online]. CleanTechnica. Available: <http://cleantechnica.com/2013/08/19/germany-breaks-monthly-solar-generation-record/> [Accessed 15 May 2014].

Snodin, H. 2014. *Scottish Islands Renewable Project*. Glasgow: Xero Energy.

SSE. 2014. *SHE Transmission awards £450 million of contracts to upgrade the electricity network in the north of Scotland* [Online]. Scottish and Southern Energy. Available: <http://www.ssepd.co.uk/PressReleases2014/450MContractsAwarded/> [Accessed 23 May 2014].

Thomas, S. 2014. Who owns Britain's energy networks and does it matter? London: Public Services International Research Unit.

Toke, D., Sherry-Brennan, F., Cowell, R., Ellis, G. & Strachan, P. 2013. Scotland, Renewable Energy and the Independence Debate: Will Head or Heart Rule the Roost? *The Political Quarterly*, 84, 61-70.

Toke, D., Strachan, P., Cowell, R., Ellis, G. & Sherry-Brennan, F. 2014. Is an independent Scottish electricity system good for renewable energy and Scotland? Aberdeen: DREUD.

WICS. 2014. *About us* [Online]. Edinburgh: Water Industry Commission. Available: <http://www.watercommission.co.uk/> [Accessed 16 March 2014].

YouGov. 2013. *The majority of the British public – including the majority of Conservative voters – support nationalising the energy and rail companies* [Online]. London: YouGov. Available: <http://yougov.co.uk/news/2013/11/04/nationalise-energy-and-rail-companies-say-public/> [Accessed 30 March 2014].

Zemanik, M. 20 May 2014. *RE: Further devolution of energy policy?* Type to Cook, R.