Civic Wind Energy – Challenges, opportunities and constraints

Mark Bramah, Director of APSE Energy

1. BACKGROUND TO APSE ENERGY

Our Vision

“The vision is to form an effective collaboration of a large number of local authorities to enable and facilitate the local municipalisation of energy services. ***By this we mean the public and community, as well as private, ownership and managerial control of local energy generation, distribution networks and delivery of energy efficiency works.*** Local authorities working together in this way would have great influence and would be able to deliver economies of scale in green energy to promote economic growth and combat fuel poverty.”

Members of APSE Energy

1. **Aberdeen City Council**
2. Barnsley Metropolitan Borough Council
3. Bradford City Council
4. Bridgend County Borough Council
5. Buckinghamshire County Council
6. Cardiff City Council
7. **City of Edinburgh Council**
8. Cumbria County Council
9. Darlington Borough Council
10. Doncaster Metropolitan Borough Council
11. Derbyshire County Council
12. Dudley Metropolitan Borough Council
13. **East Dunbartonshire Council**
14. East Riding Council
15. **Fife Council**
16. Flintshire County Council
17. Gedling Borough Council
18. **Glasgow City Council**
19. Gloucestershire County Council
20. Guildford Borough Council
21. Knowsley Metropolitan Borough Council
22. Lancaster City Council
23. Middlesbrough Council
24. **Midlothian Council**
25. Newcastle City Council
26. Nottingham City Council
27. Nottinghamshire County Council
28. **North Ayrshire Council**
29. Northumberland County Council
30. Oxford City Council
31. Peterborough City Council
32. Portsmouth City Council
33. Preston City Council
34. Reading Borough Council
35. Sefton Metropolitan Borough Council
36. Selby District Council
37. Stevenage Borough Council
38. Southampton City Council
39. **South Lanarkshire Council**
40. Stockton-On-Tees Borough Council
41. Swansea City and County Council
42. Wakefield Metropolitan District Council
43. Warwickshire County Council
44. Wolverhampton City Council
45. York City Council


energy
Energy Strategy
PETERBOR
The Peterborough approach:-
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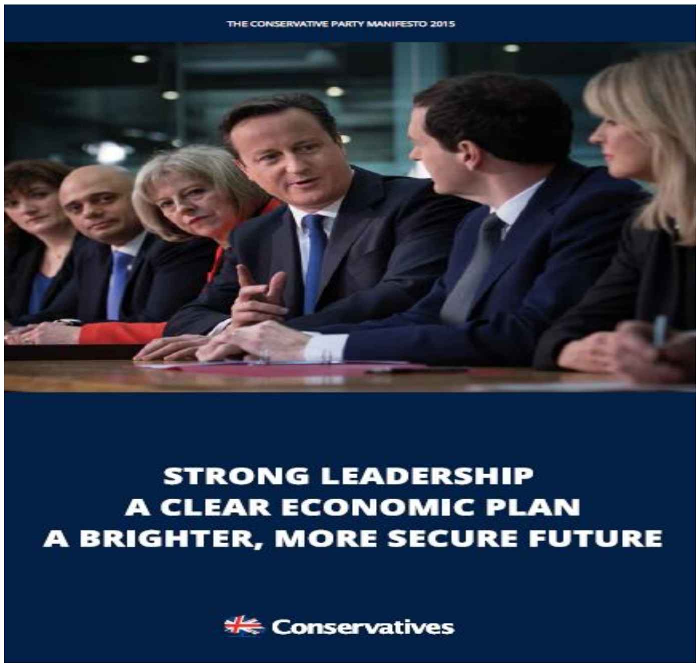
2. WIND ENERGY - POLICY CONTEXT

Politics

Westminster v Holyrood

A difference of policy



"We will…halt the spread of subsidised onshore wind farms"

"… we will press for onshore wind to continue to receive support through the lifetime of the next Parliament."

Smith Commission recommendations

*"Within these overarching improvements to the devolution settlement, the Parliament will also assume a range of new, important, individual powers in policy areas such as taxation, welfare, employability, transport, **energy efficiency, fuel poverty, and onshore oil and gas extraction**."*

National Energy Infrastucture

34. The Scottish and UK Governments will draw up and agree a Memorandum of Understanding to ensure that such devolution is not detrimental to UK-wide critical national infrastructure in relation to matters such as defence & security, oil & gas and energy, thereby safeguarding the defence and security importance of the Crown Estate's foreshore and seabed assets to the UK as a whole.

Energy market regulation and renewables

41. There will be a formal consultative role for the Scottish Government and the Scottish Parliament in designing renewables incentives and the strategic priorities set out in the Energy Strategy and Policy Statement to which OFGEM must have due regard. OFGEM will also lay its annual report and accounts before the Scottish Parliament and submit reports to, and appear before, committees of the Scottish Parliament.

Parliamentary enquiry by the Economy, Energy and Tourism Committee March 2015

- ***On supply, if there is sufficient generation to meet demand, in particular to the end of the decade. What role will new generation that is under construction play? The Scottish Government aims to have a largely decarbonised electricity system by 2030. Are there sufficient tools in place to bridge the move from fossil fuels to renewables?***

- How predictable peak demand is at present and how likely this is to change in the coming decade? What impact will the development of demand side response have?

- A number of new transmission network projects are currently planned. What role will these have in securing electricity supplies and where should future investment be directed? What role might the distribution network and a single European electricity market play in securing supplies?

- A number of significant changes to the electricity market have recently been finalised and are being put in place to ensure competition and cost reflective prices for the consumer. Are policies such as the Capacity Mechanism under Electricity Market Reform adequate and what other long term signals might be necessary to ensure security of supply?

Financial austerity

- Accounts Scotland reports that Scottish council finances are under severe pressure and face “increasingly difficult challenges” in coming years, after a real-terms cut in government funding of 8.5% in the past three years.
- Scottish Council’s debts are now over £15bn after borrowing to survive budget cuts.
- Council Tax freeze since 2007 – 80p in every £1 of spending comes directly from the Scottish Government.
- Reported that some of Scotland’s largest councils will have to cut £150m between them in 2015/16.
- Where is the money coming from???

3. EMERGING MODELS FOR MUNICIPAL ENERGY

Drivers for Non-Traditional Business Models

"Business models offering new products or services, or new ways of delivering these, that are different to those traditionally provided in the existing energy market. Those offering such services have diverse motivations (technological, social and environmental as well as financial) and ownership arrangements, and operate at various scales. Over time NTBMs have the potential to transform the existing energy system."

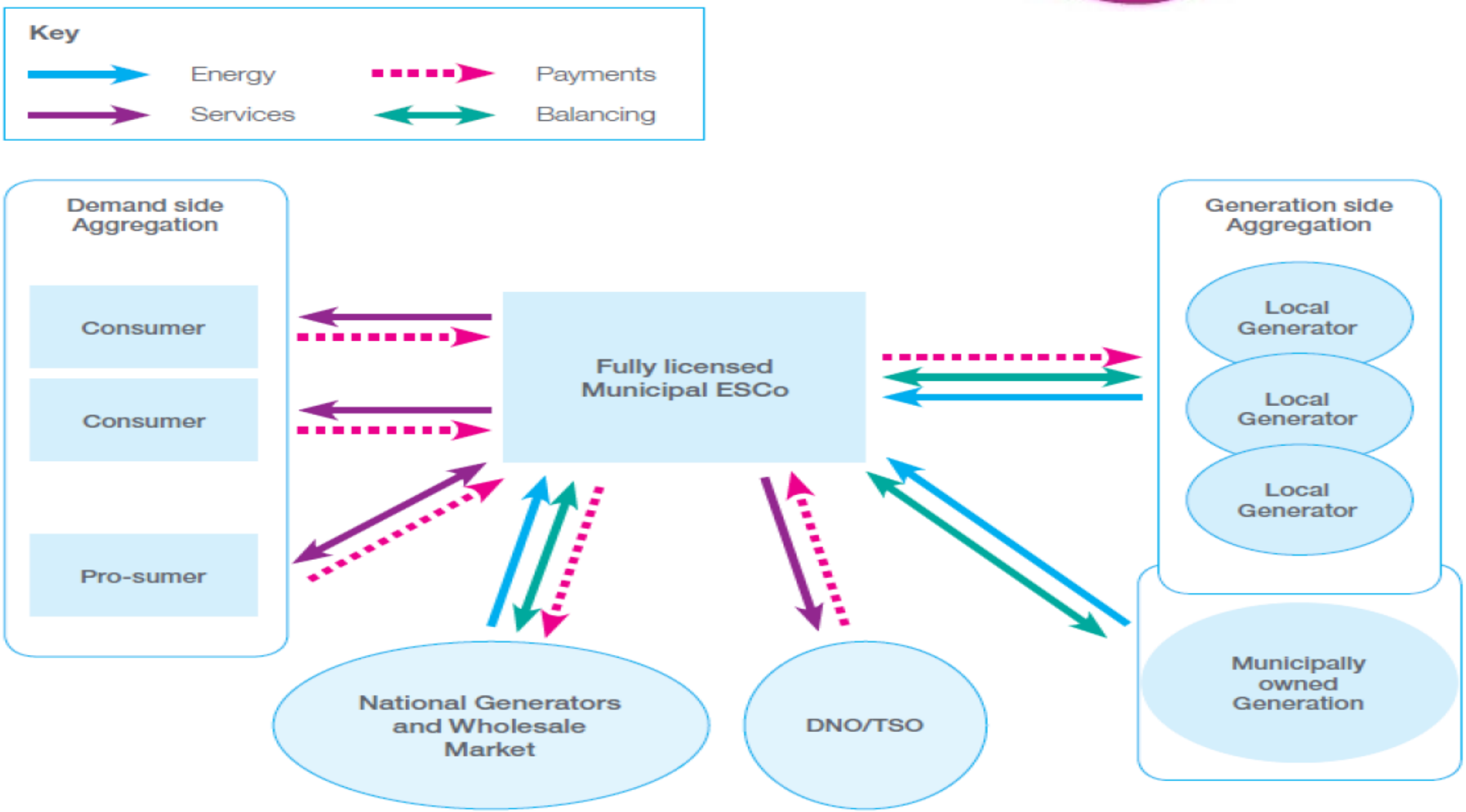
- **Low carbon Energy transition.**
- **Rapid Technological innovation.**
- **Lack of consumer engagement and trust.**
- **A greater focus on affordability and supporting vulnerable consumers.**

Ofgem: Discussion paper on Non-traditional business models: Supporting transformative change in the energy market, March 2015

The role of local authorities in the energy transition

- **Stadtwerke** – Municipally owned public utilities.
- **GLA** – Licence Lite
- **ESCOs** – Energy services.
- **Municipal energy companies** – Nottingham and Bristol.

Municipal archetypes



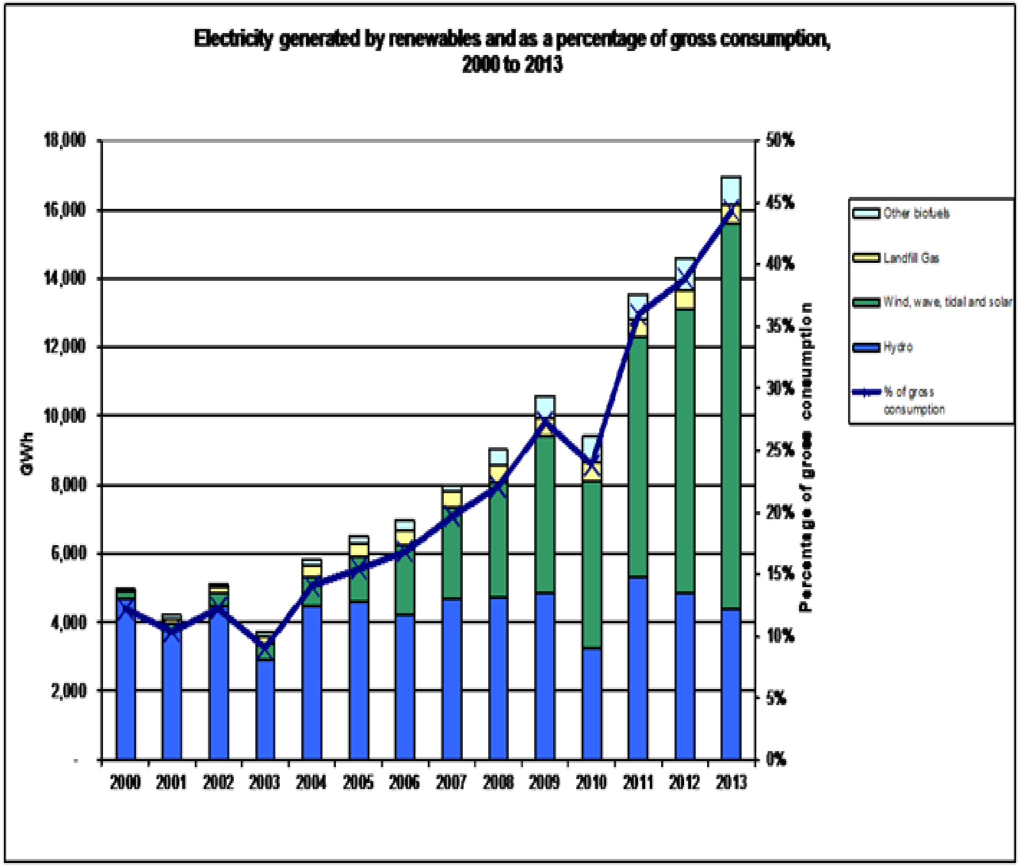
Source: Local electricity supply: Opportunities, archetypes and outcomes – Dr Stephen Hall & Dr Katy Roelich, University of Leeds, March 2015

Municipal energy future

- The role of cities and municipal government in the energy transition.
- Energy infrastructure and sustainable economic development.
- Technological change – Possibilities of smarter cities.
- General Election ???????

4. RENEWABLE AND WIND ENERGY IN SCOTLAND

Electricity generated from renewables in Scotland



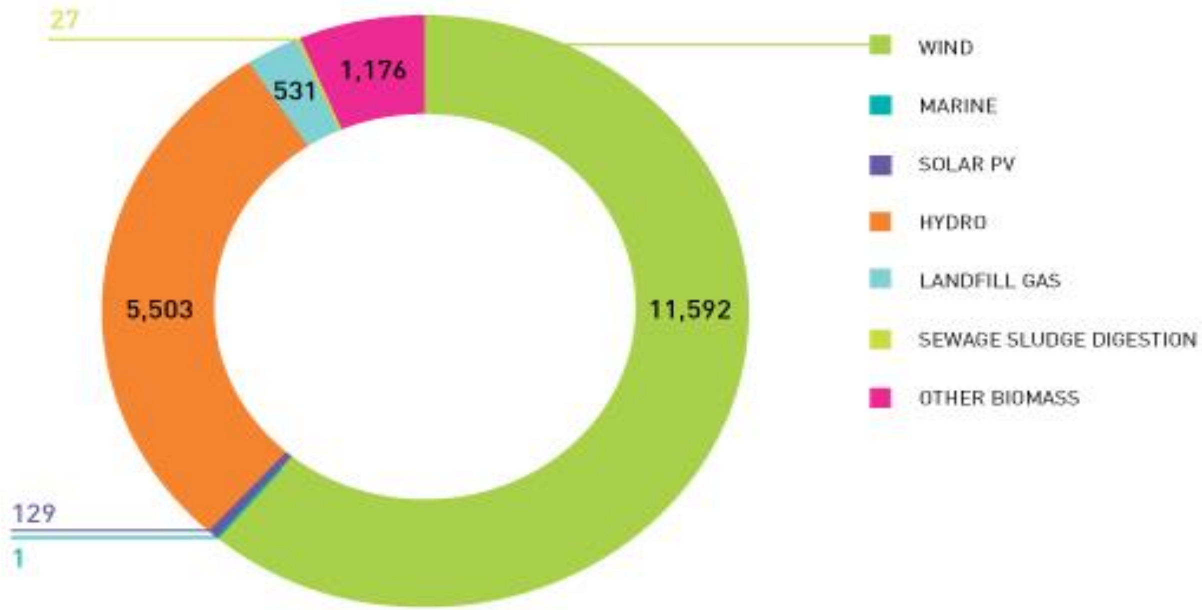
"The Scottish Government has set a National Indicator for the amount of electricity generated annually through renewable sources as a percentage of gross annual consumption to increase to 100% by 2020. The interim target of 31% by 2011 has now been met and a new interim target of 50% by 2015 has been set."

Source: Department of Energy and Climate Change (DECC)

Scottish renewables output

2014 ELECTRICITY OUTPUT BY TECHNOLOGY (GWh)

TOTAL = 18,959 GWh



Source: DECC Energy Trends

DECC Energy Trends report March 2015

Chart 6.7 Renewable electricity capacity, by UK country

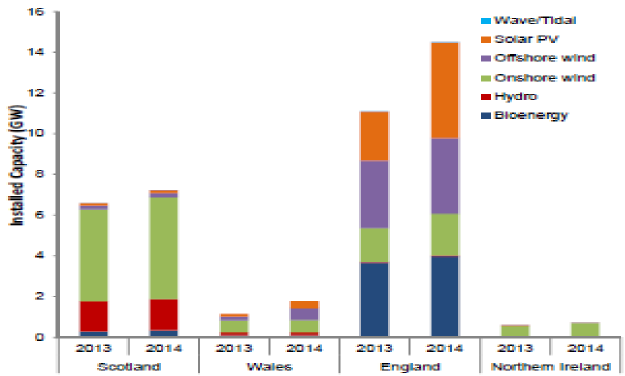
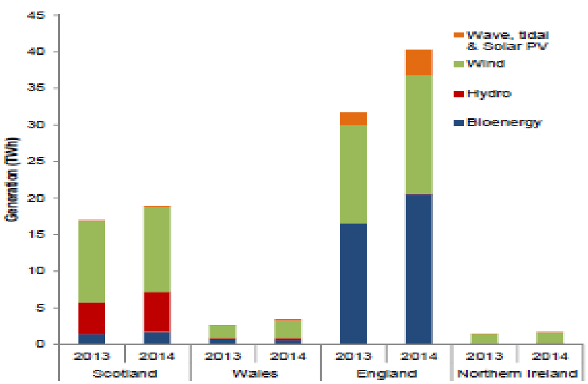
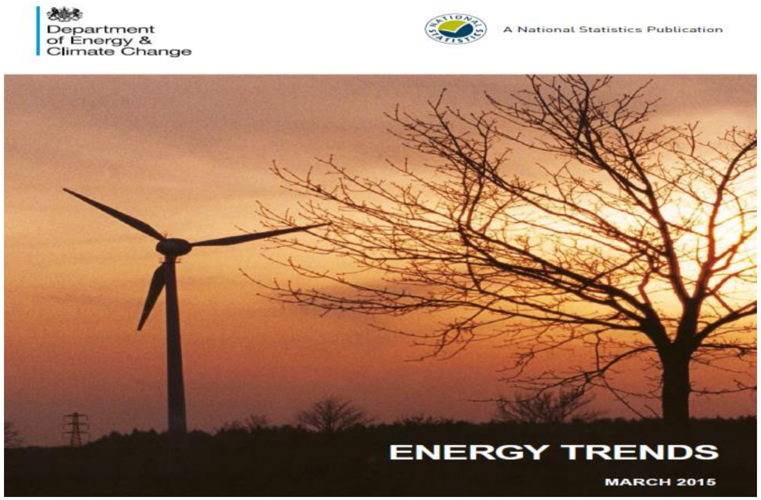


Chart 6.8 Renewable electricity generation, by UK country



- At the end of 2014 Scotland's renewable electricity capacity was 7.2 GW, an increase of 10 per cent (0.6 GW), the majority of which was due to increased on shore wind capacity.

- Generation in Scotland was 19.0 TWh, an increase of 11 per cent (1.9 TWh); wind increased by over one third and hydro also increased by 26 per cent.



Ownership of public estate in Scotland

Fig. 7 Public Land Ownership in Scotland

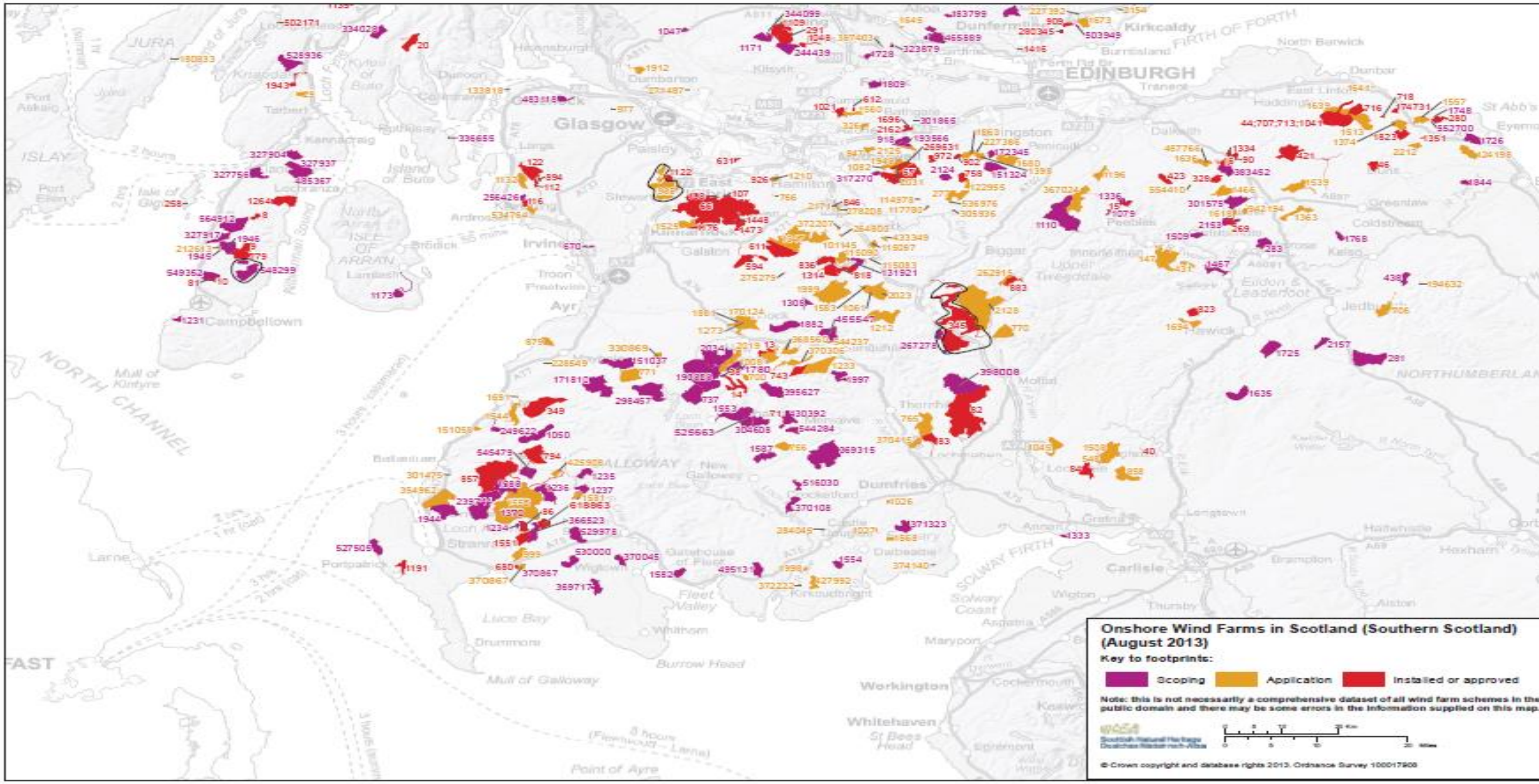
Owner	Property	Hectares
Crown	Crown Estate	35,500
Scottish Government	National Forest Estate	651,300
	Crofting Estates	95,200
	Scottish Natural Heritage	35,700
	Scottish Water	24,300
	Highlands & Islands Enterprise	4,000
	Estimated Other	10,000
Local Government	Estimated Total	33,000
	sub-total	889,000
UK Government	Ministry of Defence	25,000
	Total	**914,000**

Source: Land Reform Review Group Final report May 2014

Ownership of public estate cont…

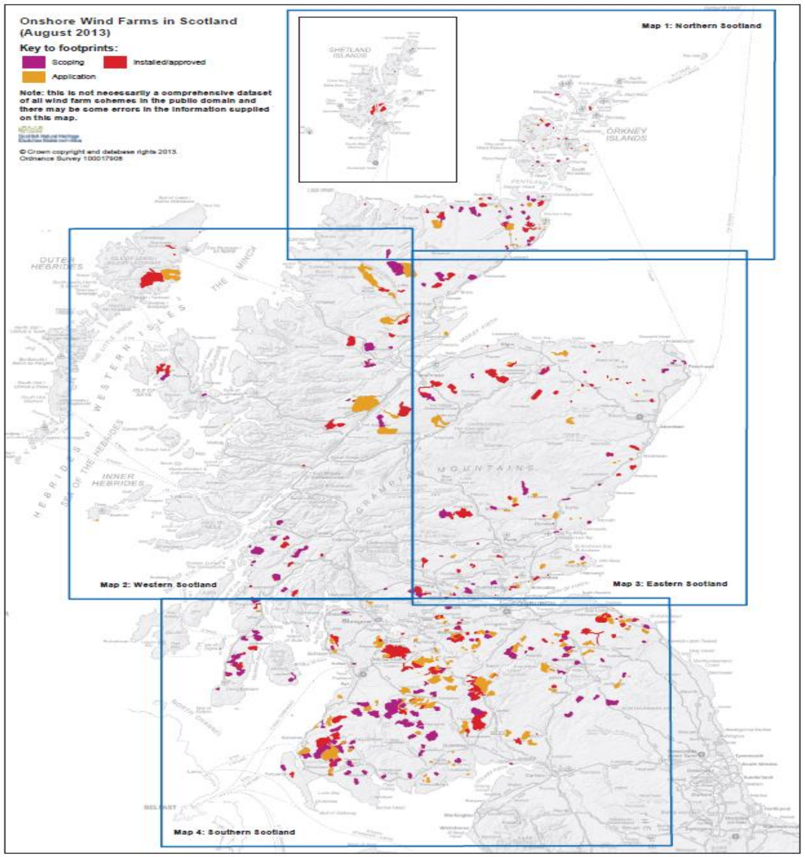
- Scotland's territorial area is 168,500 Sq. kms.
- Modernisation of Scotland's land ownership laws – e.g. Abolition of Feudal Tenure etc (Scotland) Act 2000,Long Leases (Scotland) Act 2012, Land Registration etc (Scotland) Act 2012
- Review Group identified slow progress in Scotland's land register a major issues.
- Rights over 'ownerless land' common land and commonties in Scotland.
- Compulsory Purchase Orders (CPO) - "*compulsory purchase can play a vital role. It can help deliver urban and rural regeneration, revitalised communities, creating jobs and encouraging business*".
- Local authorities own 33000 hectares or 81500 acres in Scotland (3.61% of total).

Spread of onshore wind – Southern Scotland (August 2013)



Source: Scottish Natural Heritage

Scottish Government – Onshore wind turbines planning advice May 2014



"Nationally there are now approximately 80 operational wind farms with turbines up to 140/150m high. Feed in tariffs continue to drive applications for groups of wind turbines and single wind turbines below 5MW. Onshore wind energy generation capacity on November 29, 2011 was 2784.67MW (Scottish Renewables website) and is expected to continue to grow. ***Planning authorities are more frequently having to consider turbines within lower-lying more populated areas, where design elements and cumulative impacts need to be managed.*** In a wider context, electricity grid reinforcements are supporting the growth in onshore wind"

Suggested areas of focus for planning authorities

- Provide greater clarity on where groups of wind turbines can be located by ensuring that a spatial framework for wind farms > 20MW has been set out in the development plan and addressing the potential below 20MW where appropriate
- Detail criteria to be applied in assessing wind turbine applications
- Establish protocol and key consultees for involvement in spatial planning, policy making, pre-application work and applications for wind turbines
- Identify proportionate levels of information to service pre-application discussions and to assess applications on wind turbines
- Secure support from local communities, wind power operators and other stakeholders on policies and procedures
- Ensure planning conditions and agreements for wind turbine approvals are reasonable and proportionate

Public opposition to wind farms

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5. DEVELOPING LOCAL AUTHORITY SCHEMES

Options for developing civic wind energy

The main options are:

- A Council owned facility;
- Land assembly and then sale;
- Land lease for a project.

The Council owned option can be broken down into three or four categories as follows:

- Small scale wind developments at numerous sites owned by the Council;
- Larger systems (but still under 5 MW) utilising the FITs regime;
- Very large systems (over 5 MW) utilising the Renewables Obligation;
- More than one of the above in combination.

Financial mechanisms

- **The Renewables Obligation -** the Government's chief mechanism for incentivising renewable electricity generation in the UK. It is also an important part of the Government's programme for securing reductions in carbon dioxide emissions, working in support of other policy measures such as the EU Emissions Trading System.
- **The Feed in Tariffs (FIT's) -** introduced from April 2010 the FIT is divided into the 'generation tariff', which as the name suggests is payable for generating power, and the 'export tariff' which is payable on top of that to any party that exports electricity generated from renewable sources to the grid.
- **Power Purchase Agreement (PPA)** – An agreement for the sale of electricity through a licensed supplier.
- **Contracts for Difference (CfD) –** Introduced as part of Electricity Market Reform from 2014. A CfD is a bilateral contract between two parties. The counter party is a limited company owned by the Government and funded by a levy on licensed suppliers. Annual auction process of 15 years duration.

Issues for Civic Wind energy

- Corporate and political support.
- Site selection and pre-feasibility.
- Business case.
- Project finance.
- Procurement.
- Planning.
- Ecology.
- Community engagement and consultation.
- Community benefit.
- Timescales – Have you got the stamina?

Contact details

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INVESTOR IN PEOPLE

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ISO 27001 REGISTERED FIRM GB 14074

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