



The prospects for municipal energy – Renewables Advisory Group 18 November 2015

**Mark Bramah, Director of APSE
Energy**



1. BACKGROUND TO APSE ENERGY

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.”

Aims



The aims of **APSE energy** are to support councils to deliver the local municipalisation of energy services and in doing so:

- address social objectives and deliver community benefits, such as a reduction in fuel poverty and increases in jobs and skills;
- save money and make money for local authorities to safeguard local services.

Members of APSE Energy



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



2. THE POLICY & REGULATORY ENVIRONMENT

Local Government finance prospects



- Local authorities have managed a 40% spending reduction during the last Parliament but are facing a £12.4bn funding shortfall by 2020.
- Post General Election – Emergency Budget 8 July
- The Conservatives are aiming to run a surplus in 2018/19 by making a further £30bn in savings from government spending over the next two financial years, including £12bn in cuts to welfare.
- Government spending to reduce to historically low levels not seen since the 1930's
- **WHERE IS THE MONEY GOING TO COME FROM?**



IMF Working paper – How large are Global Energy Subsidies



Energy subsidies:

- **damage the environment**, causing more premature deaths through local air pollution, exacerbating congestion and other adverse side effects of vehicle use, and increasing atmospheric greenhouse gas concentrations.
- **impose large fiscal costs**, which need to be financed by some combination of higher public debt, higher tax burdens, and crowding out of potentially productive public spending (for example, on health, education, and infrastructure), all of which can be a drag on economic growth.
- **discourage needed investments in energy efficiency**, renewables, and energy infrastructure, and increase the vulnerability of countries to volatile international energy prices.
- **are a highly inefficient way to provide support to low-income households** since most of the benefits from energy subsidies are typically captured by rich households.



‘Moon shot’ call on clean energy

A group of scientists and economists is calling for the equivalent of the Apollo space programme to produce cheap, clean energy. Their project is called Global Apollo. They say they have generated interest from major nations in their plan for an investment of 0.02% of their GDP into research, development and demonstration (RD&D) of clean electricity.

Their report, launched at London’s Royal Society, says on current projections the world will exceed the 2C danger threshold of climate change by 2035.

The academics are led by the UK’s former chief scientist Professor Sir David King: *“We have already discovered enough fossil fuels to wreck the climate many times over. There’s only one thing that’s going to stop us burning it – and that’s if renewables become cheaper than fossil fuels.”*

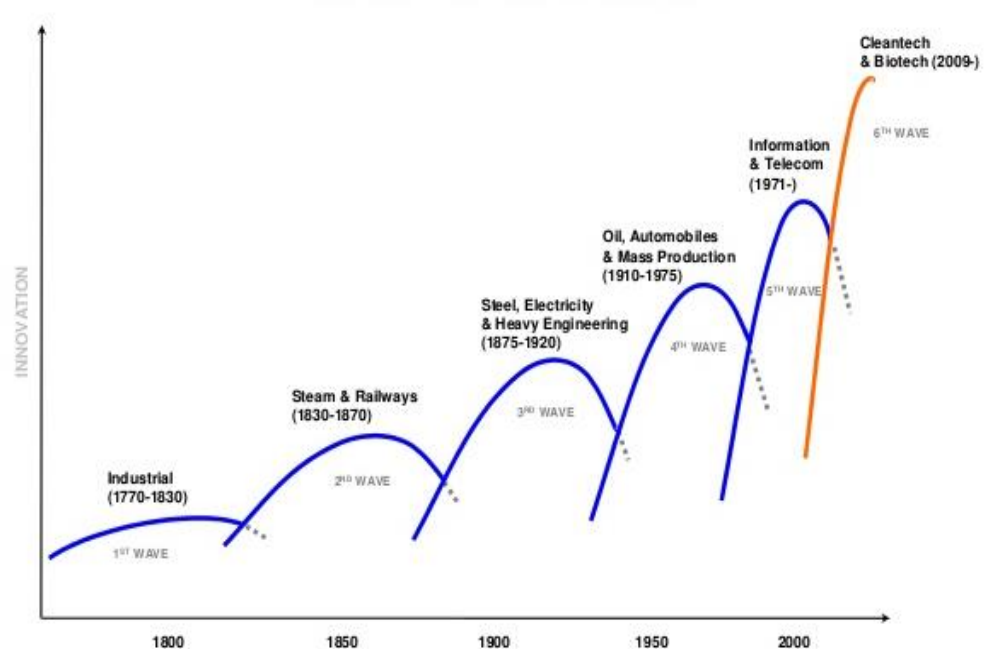


Why are we waiting?



“With good policy and strong commitment the low carbon transformation can be the real, dynamic growth story of the future. It could have still greater potential than previous technological revolutions to improve world living standards and quality of life.”

Nicholas Stern (2015)



Source: DONG Energy (2009); diagram based on Perez (2002) drawing on report by Merrill Lynch (2008) (schematic not precise quantitative vertical axis).



Grantham Research Institute on Climate Change and the Environment

An endless procession of bad news.....



- Withdrawal of the code for sustainable homes – March 2015.
- Closure of the Renewables Obligation to on-shore wind farms and changes to planning guidance – June 2015.
- Removal of the Climate Change Levy Exemption for Renewable Energy – Budget in July 2015.
- Zero carbon homes requirement and allowable costs withdrawn – July 2015.
- Green Deal funding ended – July 2015.
- Support for sub 5MW solar farms to be withdrawn and pre-accreditation for Feed-in-Tariff (FIT) to be removed – July 2015.
- Feed in Tariff slashed by 87% - August 2015.
- Enterprise Investment Scheme (EIS) & Social Investment Tax Relief (SITR) exclude community energy.
- Renewable Heat Incentive (RHI)???

With predictable consequences.....



Government Impact Assessment on its plans for the early closure of the Renewables Obligation to onshore wind:

- Lifetime CO₂ emissions could be up to 63MtCO₂e higher than they would otherwise have been
- Under the central estimate, total lost benefit to communities would be around £1m a year
- Under the central estimate, there would be around a £0.30 (0.05%) reduction on the average annual household electricity bill

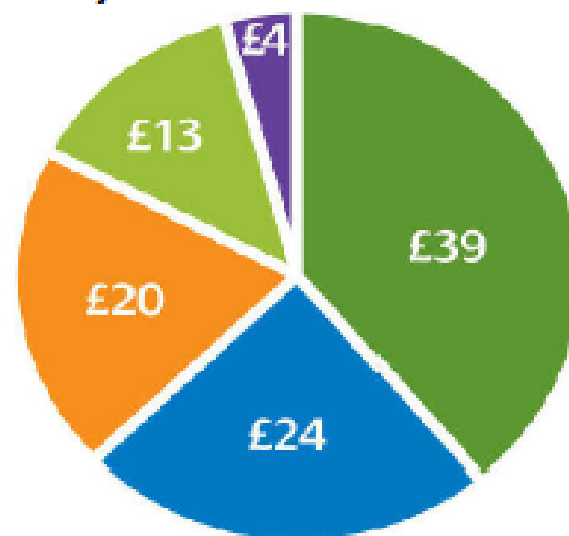
20% of domestic bill is so called green levies and VAT



Where does your money go?

Breakdown of costs for a typical £100 electricity bill in 2013*

£39	Cost of electricity
£24	Delivery to your home
£20	Green levies & VAT
£13	Customer service
£4	Profit

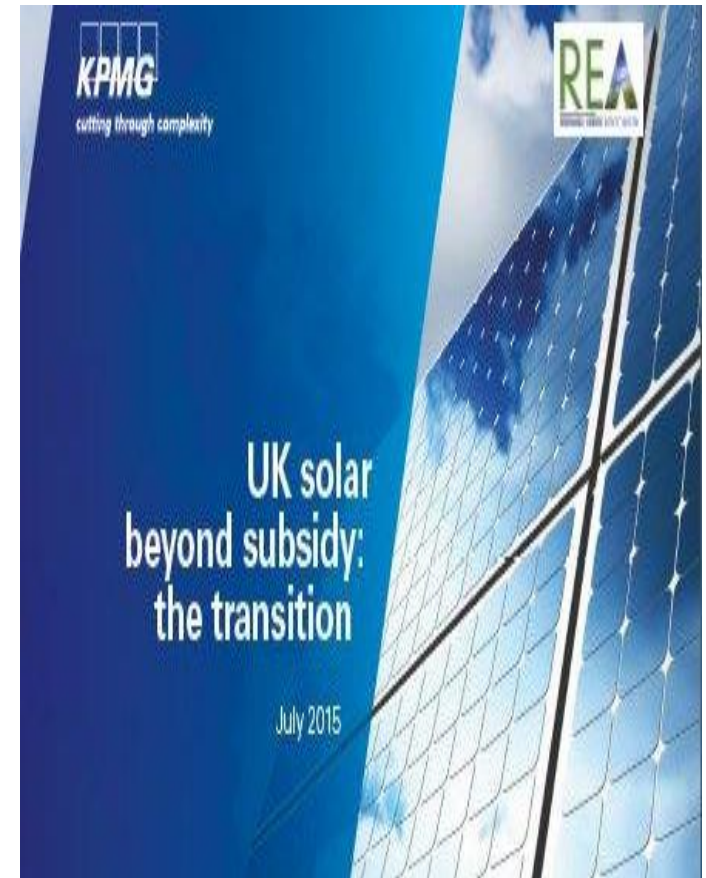


*This breakdown is an estimate of costs based on an average of all ScottishPower's domestic electricity customers across Britain covering all payment methods using Ofgem's annual average consumption (3,300kWh for standard rate electricity) and on existing known costs as well as our current estimation of commodity costs and expected changes in costs in 2013.

Solar PV - Beyond subsidy KPMG Report for the REA



- Grid Parity for Solar PV by 2020 if Government provide a “smooth transition”.
- Need for a “National Energy Strategy” to include a comprehensive overview of the national grid and the importance of storage technologies alongside solar, and the need to investigate the potential of alternative ways to support the solar industry financially.
- potential of certain tax breaks for solar projects instead of specific subsidies, which would reduce the burden on the over-budget Levy Control Framework, as well as net-metering schemes that have helped nurture other international markets such as the US.



How can we make renewable projects pay?



- Falling costs of technology.
- Rising energy prices.
- Energy storage.
- Power sales and/or use.
- Smart grids.
- Scale.
- Wider social and economic benefits.



3. DEVOLUTION AND THE MUNICIPAL ENERGY AGENDA

Councils need to think BIG

“It is up to the local government sector to reach out rather than retrench, working with other councils, businesses, communities and with other public sector organisations to redesign public services to meet their specific, local needs.

They need to bring a coherent, persuasive case for the change they can offer to central government, and demonstrate that they are more than capable enough, and accountable enough, to deliver on that offer.

With the chance of greater responsibility, there will undoubtedly come greater expectation and greater scrutiny. The upside of the buck stopping with local government is that we can really make a difference.

The potential risk is that councils will carry the can if things do not happen as they would hope. This is a trade-off most people in local government would grab with both hands. I have no doubt that councils will rise to this challenge.”

www.apse.org.uk



Sir Bob Kerslake, President of the Local Government Association in Guardian article 1 July – ‘Councils Need to have big local ambitions’

Communities secretary tells councils ‘be masters of your own destiny’

The government’s **Cities and Local Government Devolution Bill** proposes new powers transferred from ministers to town halls.

“This is the chance of a lifetime to direct the future economic prosperity and social flourishing of your area. To make life better for even more people than you can now.”

“Those who are prepared to organise to be more effective and more efficient should be able to reap substantially the rewards of that boldness, whether in costs saved, additional revenues generated, or powers that can be vested.”

www.apse.org.uk



Rt. Hon Greg Clarke, Secretary of State for Communities and Local Government speaking to the LGA Conference

Northern Powerhouse ???





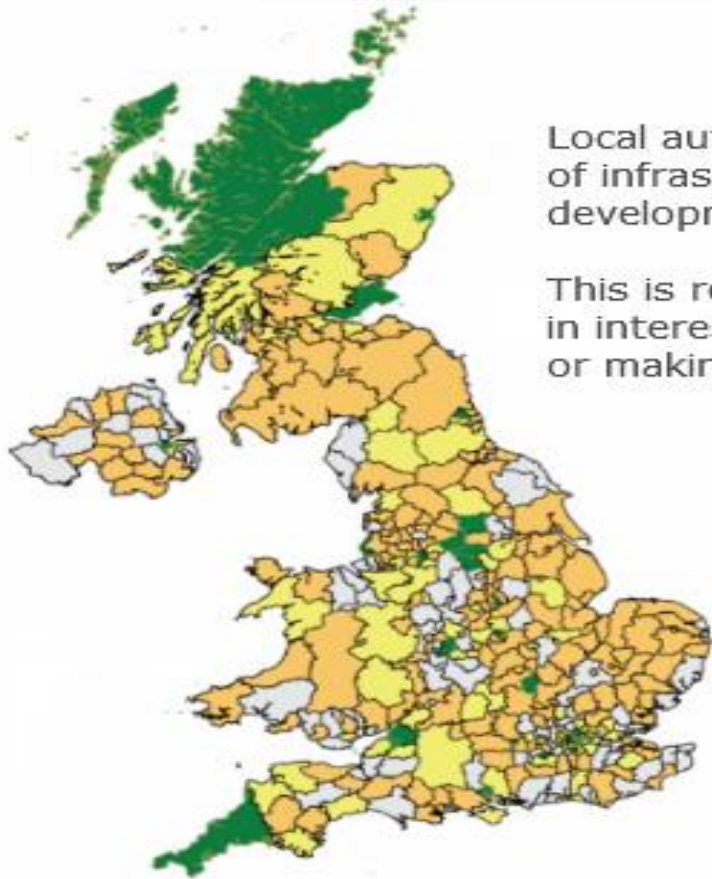
4. THE SCOPE FOR MUNICIPAL ENERGY

Barriers – APSE Energy Survey Nov 2014



- **Engagement** – In some Councils 'energy' is not seen as a political, corporate and community priority.
- **Policy** - Concerns about the policy environment within which they are operating and the need for more consistency at Government level to afford local authorities the ability to properly plan and implement their programmes.
- **Procurement** – There are clearly issues about procurement and EU rules. Many local authorities feel that procurement can be quite prohibitive and are therefore looking for access to trusted 'frameworks' in order to source external support.
- **Regulation** – Problems encountered with regard to the regulation of the energy market and perceived and actual difficulties in terms of accessing the market to supply energy and over grid connection and capacity.
- **Resources** – A lack of both internal and external resource to support the development of local programmes and to implement projects. This is particularly the case in terms of access to technical, financial and legal expertise to support projects and revenue funding to undertake initial feasibility and business cases.

Local Authority Engagement in the U.K. Energy system



Local authorities are recognising the importance of infrastructure to their function in economic development and social welfare.

This is resulting in a corresponding upsurge in interest in engaging in energy provision or making a start.

Categories of engagement

-  Energy Leader
-  Running Hard
-  Starting Blocks
-  Yet to Join

Three stage approach to energy management

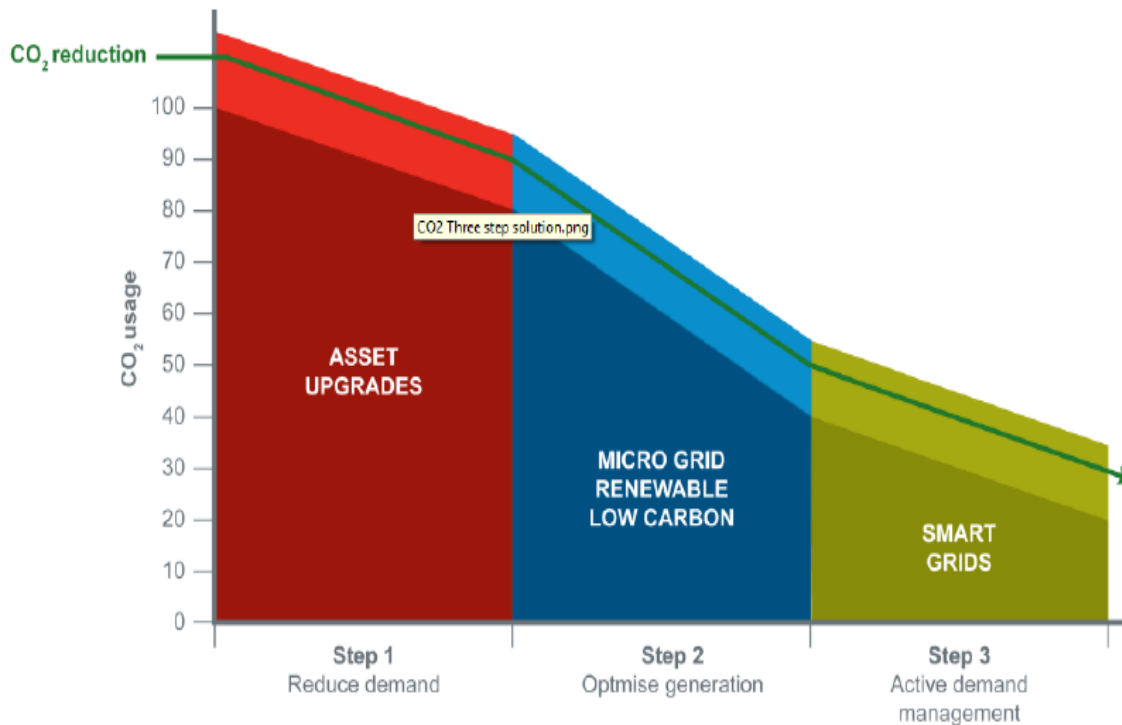


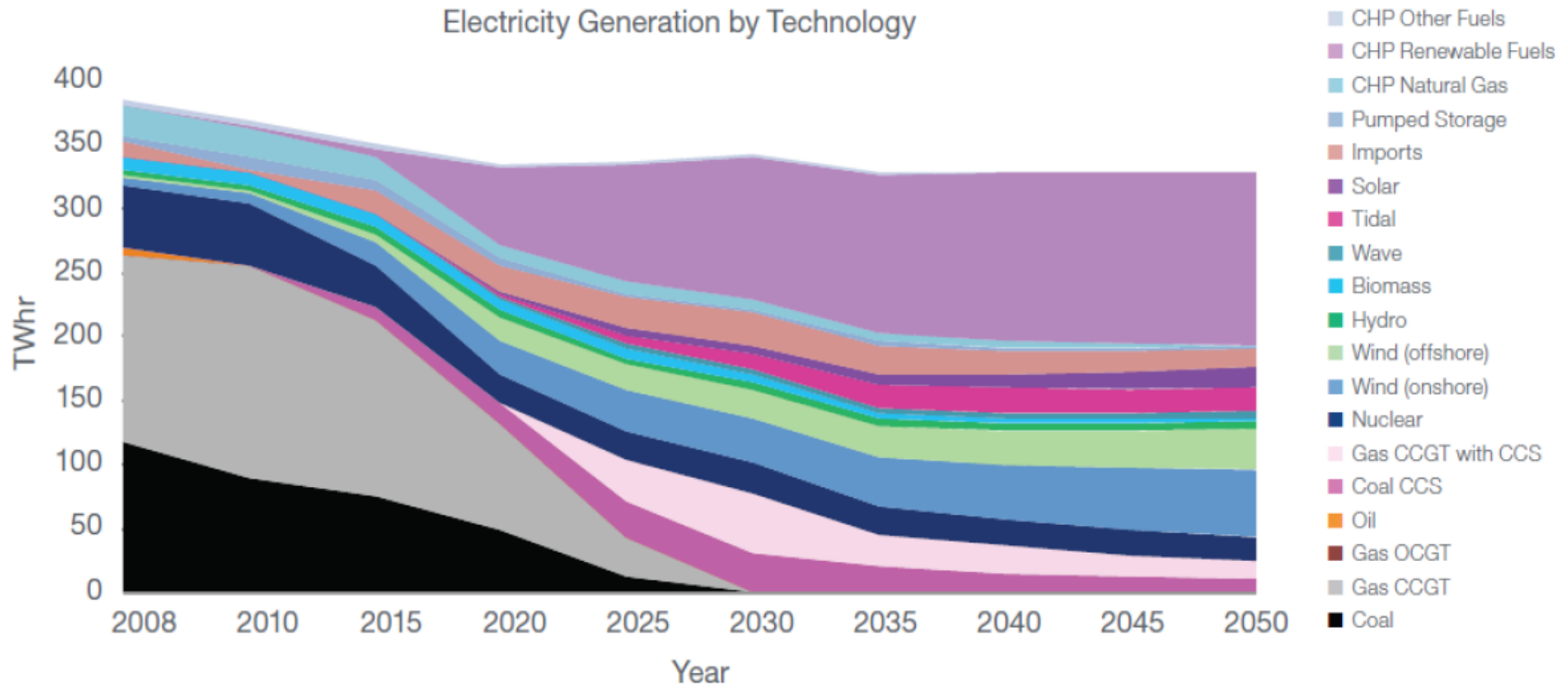
Figure X: The stylised technological transition that municipal authorities take when engaging in the energy sector with savings made in reducing demand being used to capitalise generation. Further efficiencies are then found via active demand management which is facilitated by smart systems.

Distributed energy by technology



Box 1: What a UK Distributed Energy Centric Future System might look like in 2050²⁷.

Electricity Generation by Technology



The role of cities in the energy transition



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



Non- Traditional Business Models

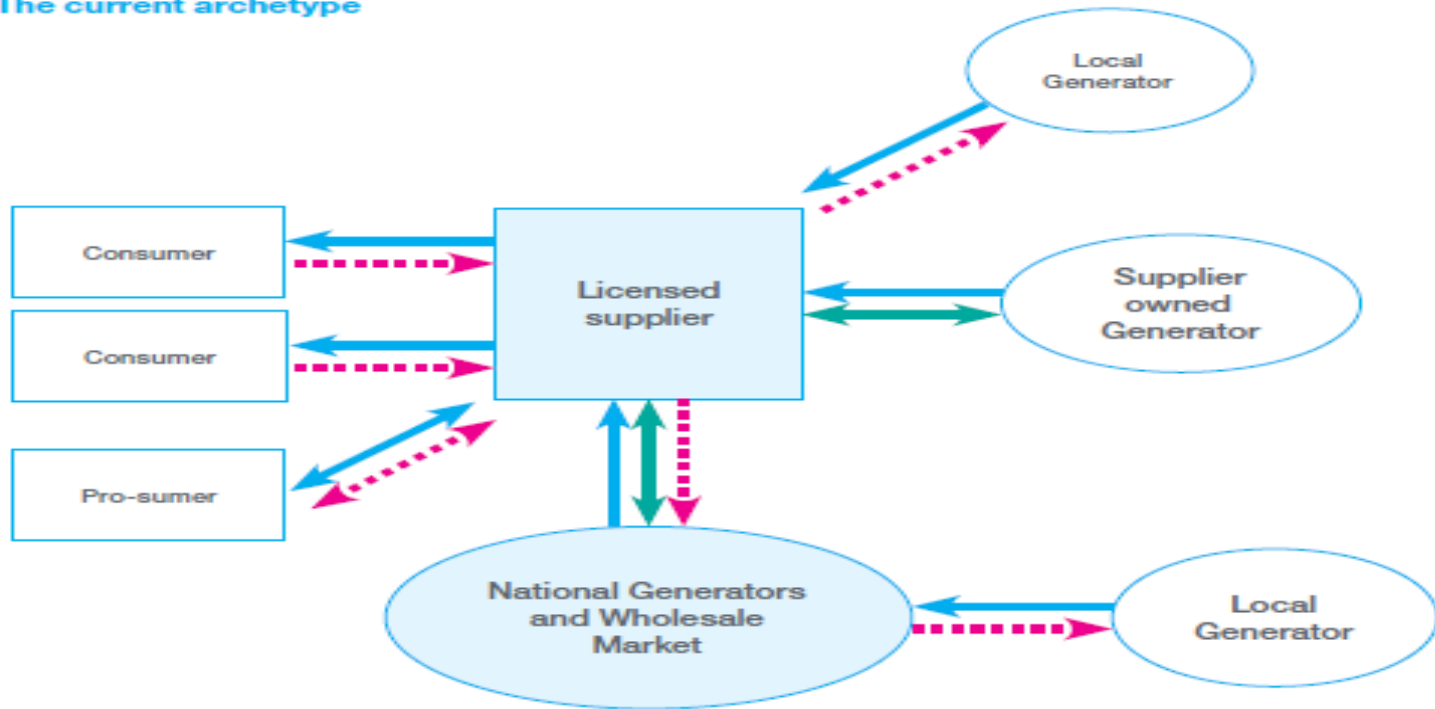


Local services	Bundled services	Customer participation
<ul style="list-style-type: none">• Community• Municipal• Housing Associations	<ul style="list-style-type: none">• Energy Service Companies• Multi-service providers• Market services	<ul style="list-style-type: none">• Peer-to-peer• Demand side flexibility• Prosumers• Next generation intermediaries

Electricity supply – current model

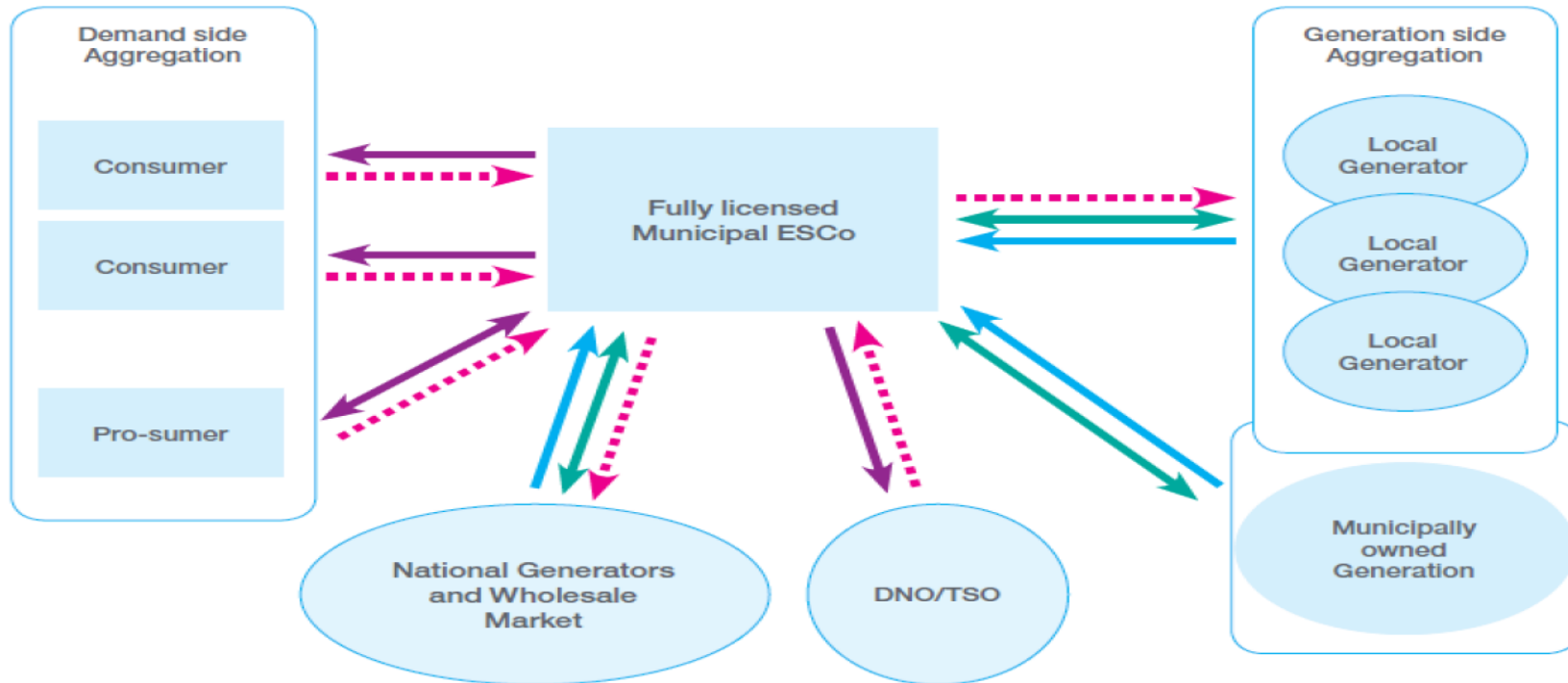
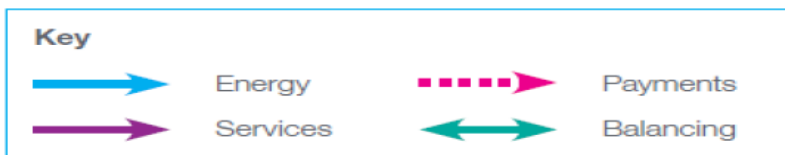


Diagram: The current archetype



Key
→ Energy - - - - - Payments ↔ Balancing

Electricity supply – Fully licensed municipal ESCO



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

Nottingham City Council – 1st Municipal energy company since 1948



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A close-up photograph of a gas burner with a bright blue flame.

Get a quote for your
Home energy

A photograph of a laptop screen displaying various data charts and graphs.

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Why is Robin Hood Energy Different?





5. ECONOMIC AND SOCIAL BENEFITS OF MUNICIPAL ENERGY

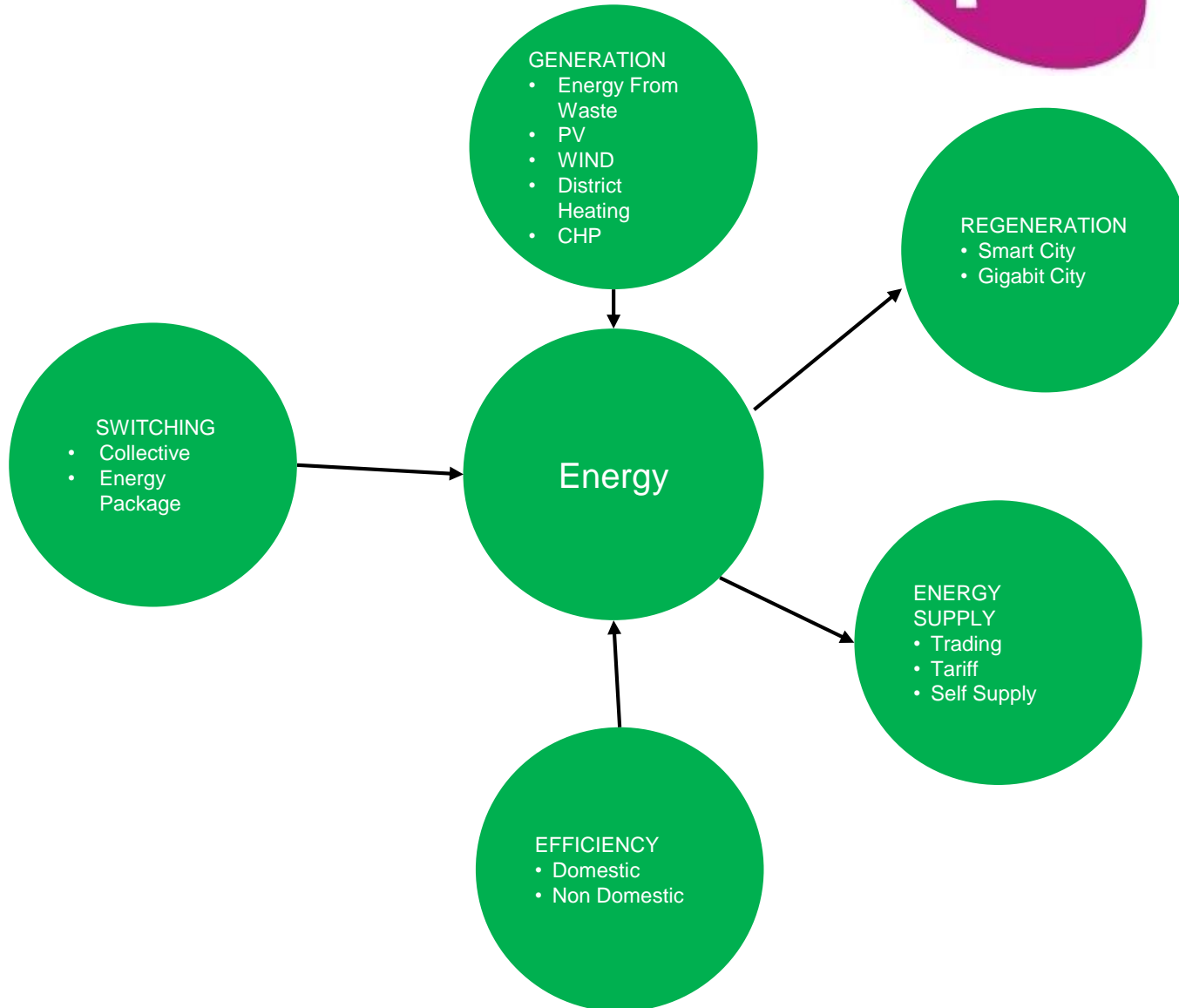
What are the motivations for Councils



Motivation	
Social	Fuel poverty
	Community development
	Regeneration
Environmental	Carbon emissions
	Air quality
Economic	Local growth
	Revenue
	Job creation
Self determination	Local control
	Energy Independence

Source: University of Leeds, Dr. Katy Roelich

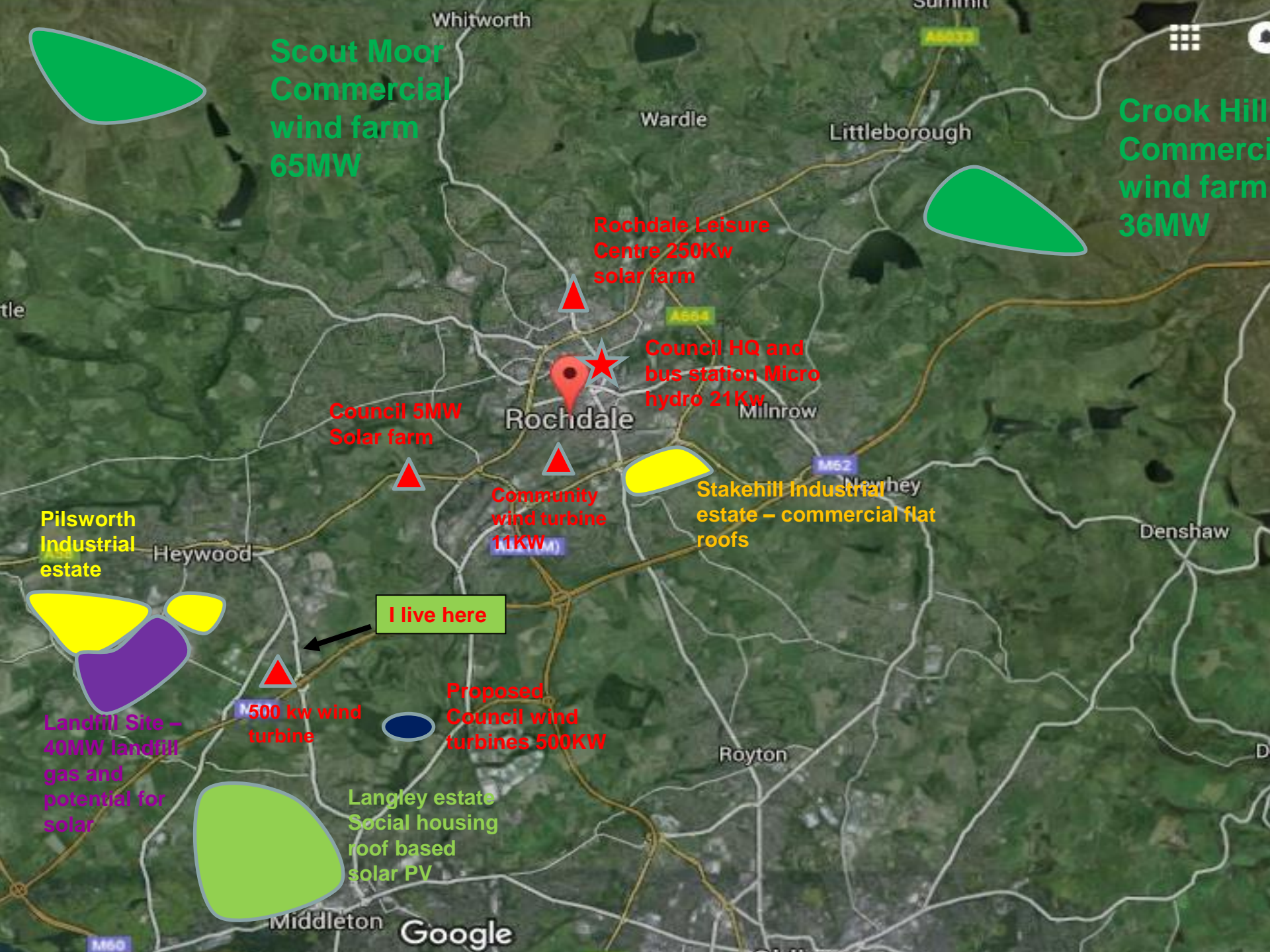
Energy The Driver – Peterborough City Council



Jobs and growth



EMPLOYMENT AND TURNOVER SUMMARY FOR RENEWABLE ENERGY SECTORS 2013/14			
<i>Renewable Energy Sub Sectors</i>	<i>2013/14 Turnover £millions</i>	<i>2013/14 Employment Numbers</i>	<i>2013/14 Company Numbers</i>
Air & Ground Source Heat Pumps	1,097	8,315	417
Anaerobic Digestion	340	2,828	148
Biofuels	522	3,829	211
Biomass Boilers	684	5,379	244
Biomass CHP	356	2,389	146
Biomass Dedicated Power	546	3,830	187
Energy from Waste	866	7,109	363
Hydro	595	5,390	276
Offshore Wind	2,693	19,478	913
Onshore Wind	2,493	18,191	844
Solar PV	2,307	16,103	2,088
Solar Thermal	1,008	8,639	372
Wave & Tidal	103	635	36
Production of biomass including wood for fuel	1,322	9,913	567
Totals	14,931	112,028	6,812



Scout Moor
Commercial
wind farm
65MW

Crook Hill
Commercial
wind farm
36MW

Rochdale Leisure
Centre 250Kw
solar farm

Council HQ and
bus station Micro
hydro 21Kw

Council 5MW
Solar farm

Community
wind turbine
11KW

Stakehill Industrial
estate – commercial flat
roofs

Pilsworth
Industrial
estate

I live here

500 kw wind
turbine

Proposed
Council wind
turbines 500KW

Landfill Site –
40MW landfill
gas and
potential for
solar

Langley estate
Social housing
roof based
solar PV

Ambitious Councils





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