



The role of Municipal Energy in developing new green infrastructure

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.

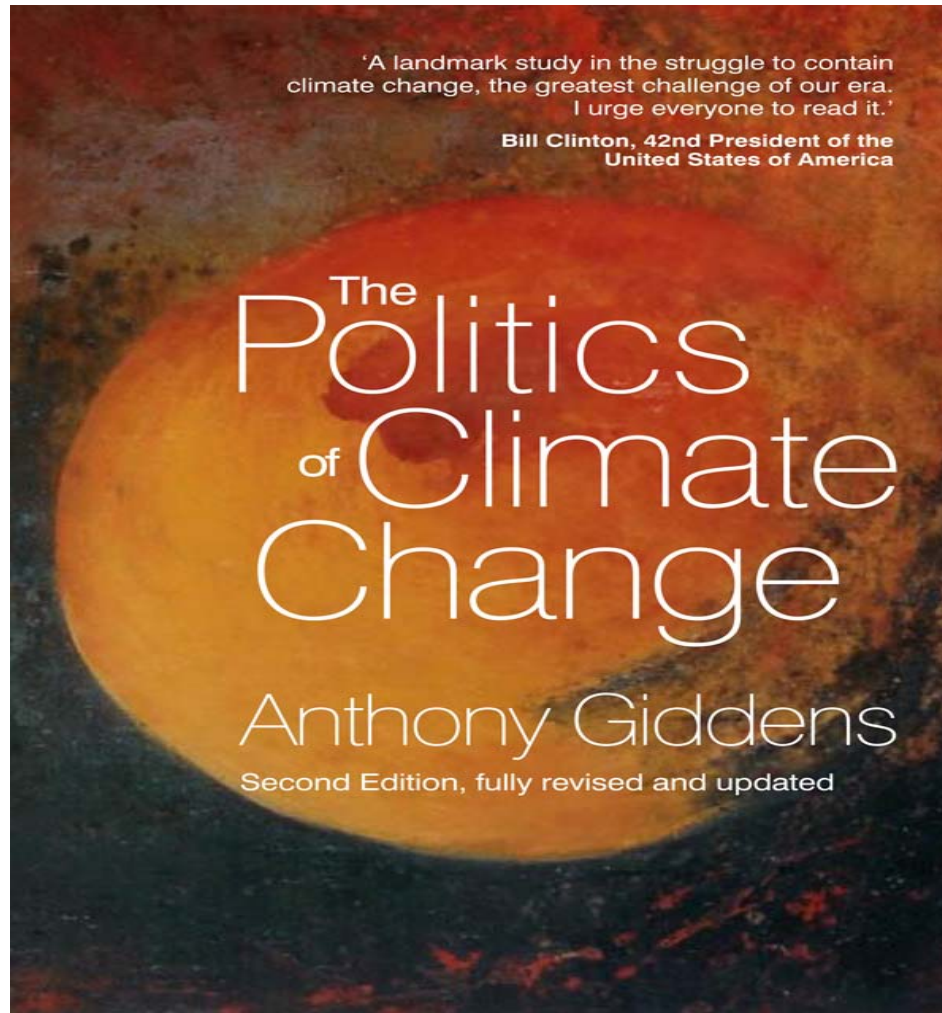
Members of APSE Energy



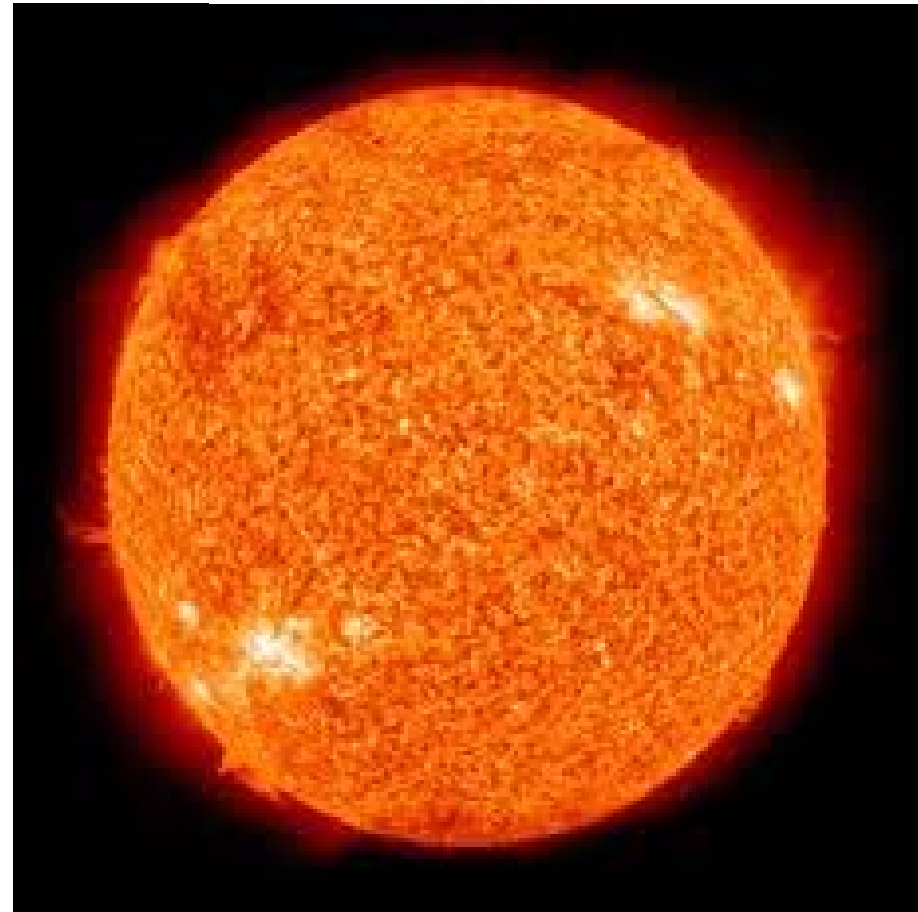
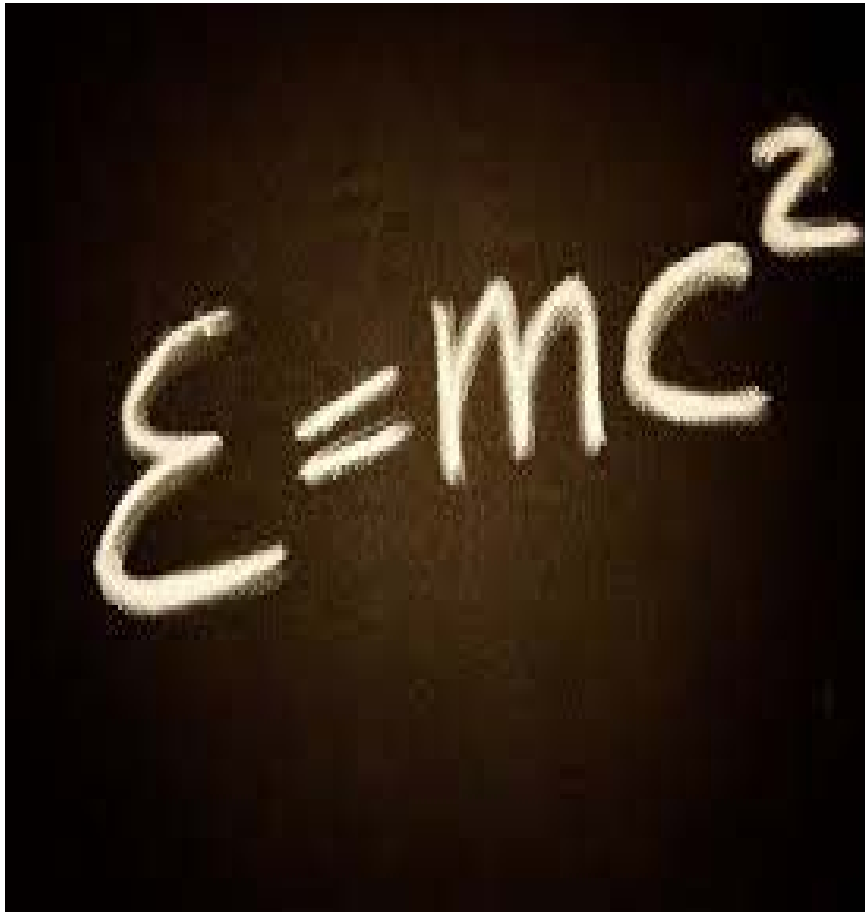
1. Aberdeen City Council
2. Barnsley Metropolitan Borough Council
3. Bradford City Council
4. Bridgend County Borough Council
5. Buckinghamshire County Council
6. Cardiff City Council
7. City of Edinburgh Council
8. Cumbria County Council
9. Darlington Borough Council
10. Doncaster Metropolitan Borough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



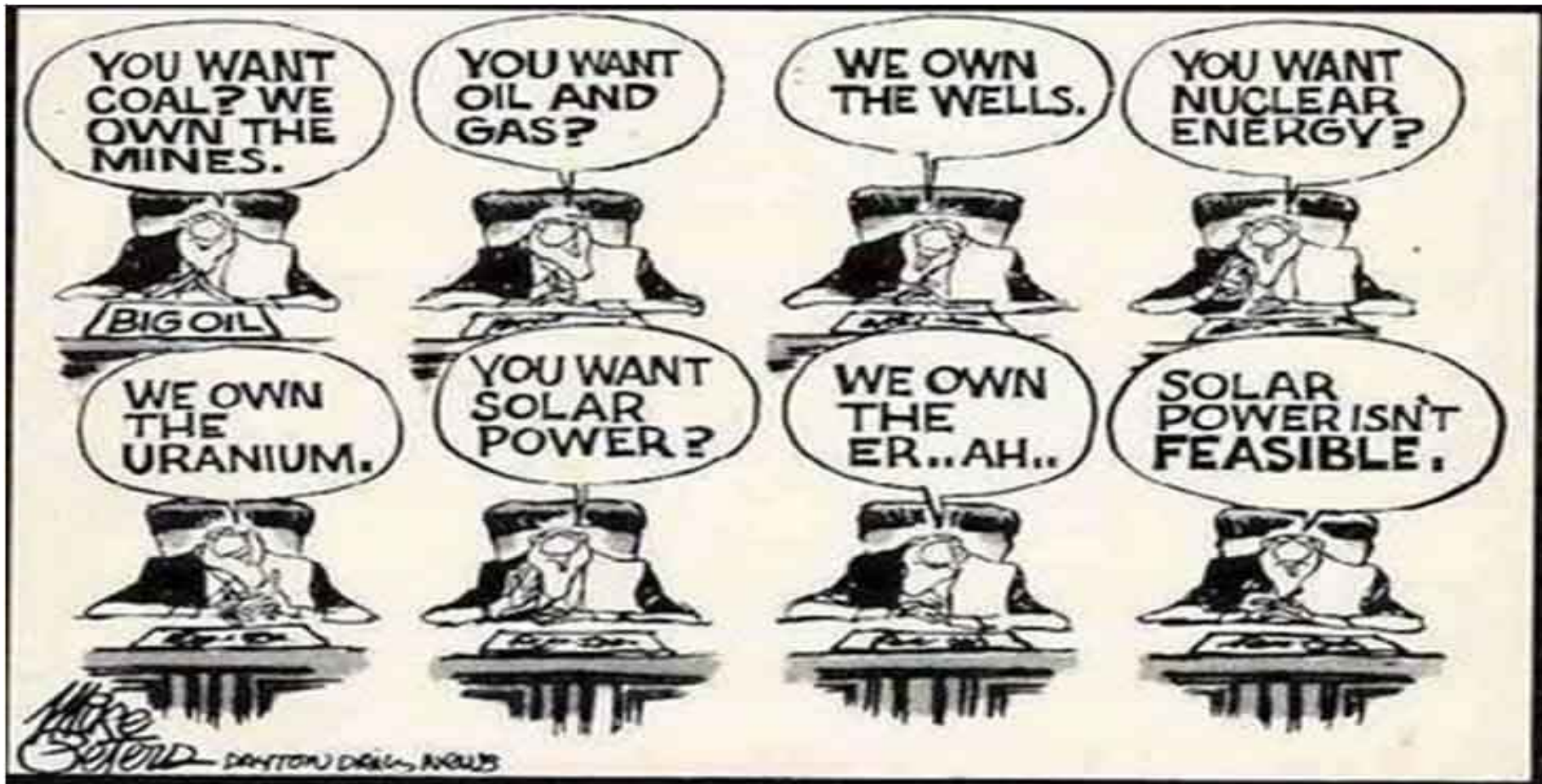
2. THE ENSURING COUNCIL – POLICY, POWERS AND OPPORTUNITIES



Energy is the starting point



They keep moving the goal posts.....



**Remember what happened
to the blood sucking
lawyer.....**



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.

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Source: IMF working paper WP/15/105

by David Coady, Ian Parry, Louis Sears, and Baoping Shang,
May 2015

‘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.”*



Source: BBC News 2 June 2015

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 2019/20 by making a further £37bn in savings from government spending over the next 3 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?**



Local Government powers



- Section 101, Local Government Act 1972 – Discharge of a function by a committee, sub-committee, officer or another local authority.
- Section 102, LGA 1972 – 2 or more local authorities may appoint a joint committee, sub-committee of those authorities.
- Section 111, LGA 1972 – local authorities may do anything within their powers “which is calculated to facilitate, or is conducive or incidental to, the discharge of any of their functions.”
- Local Authority (Goods and Services) Act 1970.

Other powers



Local Authority Trading

- The Local Government Act (“LGA”) 2003, s.95 provides a power to trade for commercial purposes providing there is no statutory duty to provide the services and no other statutory power to trade

Localism Act

- The Local Government Act 2011 s.2 (1) repealed the wellbeing power but introduced a ‘**general power of competence**’ which would be the power used to set up an ESCO.

Other powers

- Incidental powers LGA 1972 s.111 and investment powers LGA 2003 s.12.
- The Sale of Electricity by Local Authorities (England and Wales) Regulations 2010 (SI 2010/1910). Sale of renewable electricity without heat.

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.”

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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.”

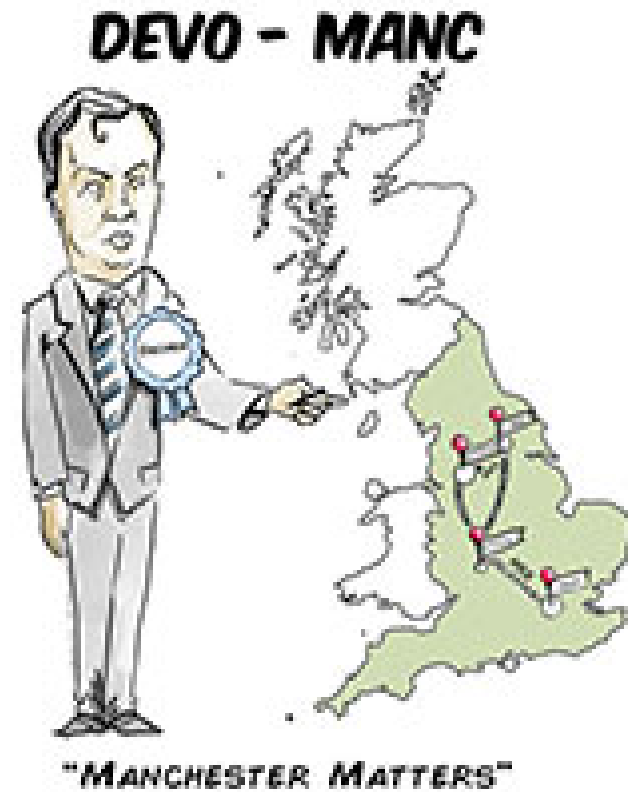
“Those who are prepared to organise to be more effective and more efficient should be able to reap substantially the rewards of that boldness, whether in costs saved, additional revenues generated, or powers that can be vested.”

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

Northern Powerhouse ???





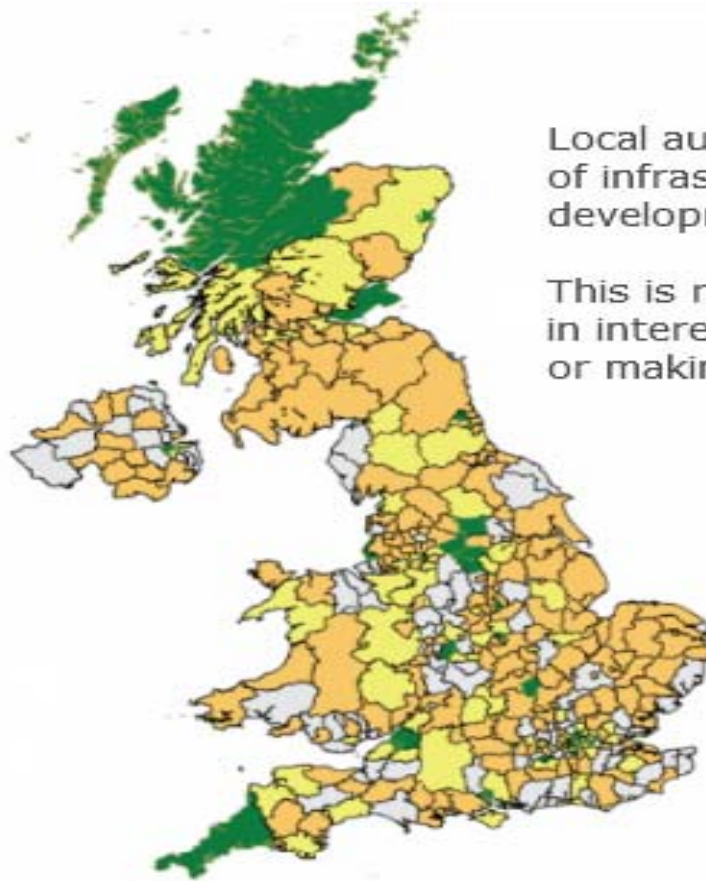
3. THE SCOPE FOR MUNICIPAL ENERGY

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.

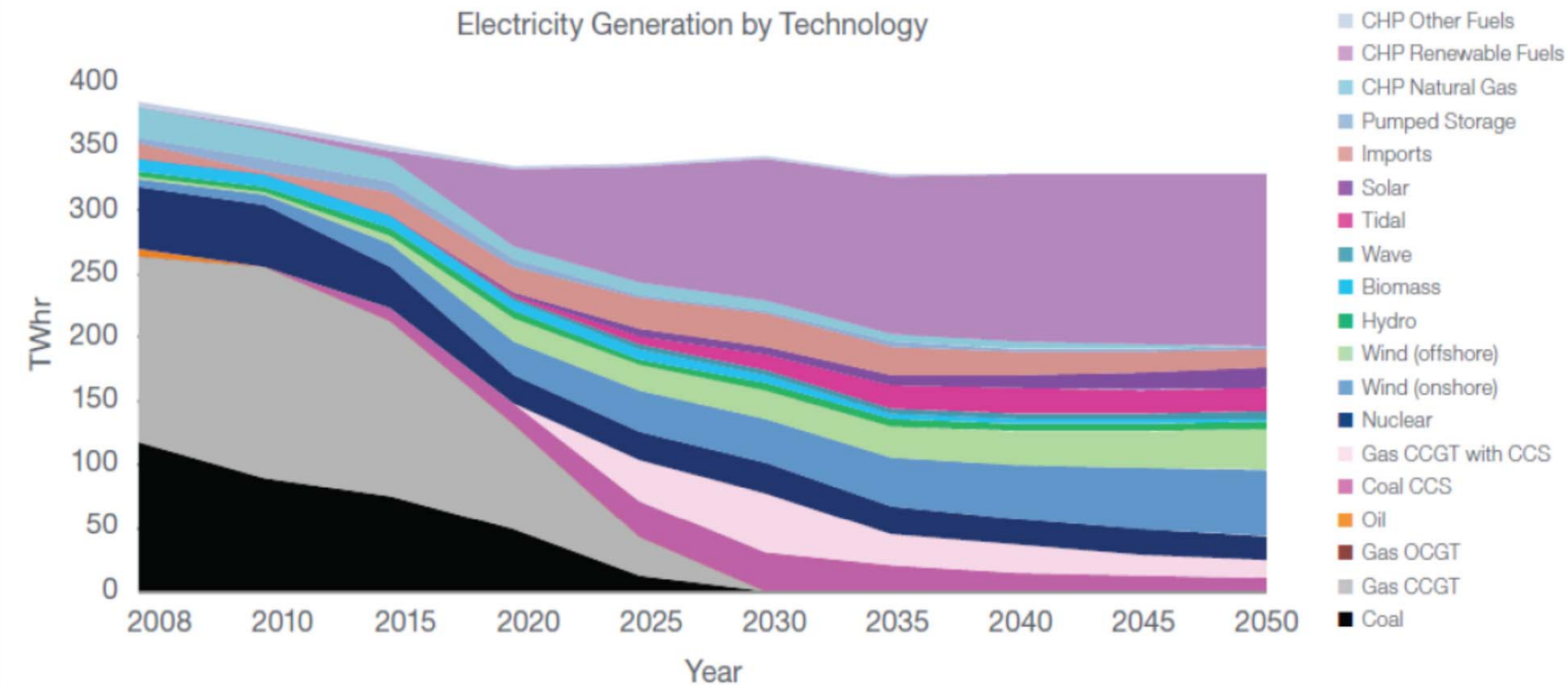
Categories of engagement

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

Distributed energy by technology



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



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.

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Non- Traditional Business Models

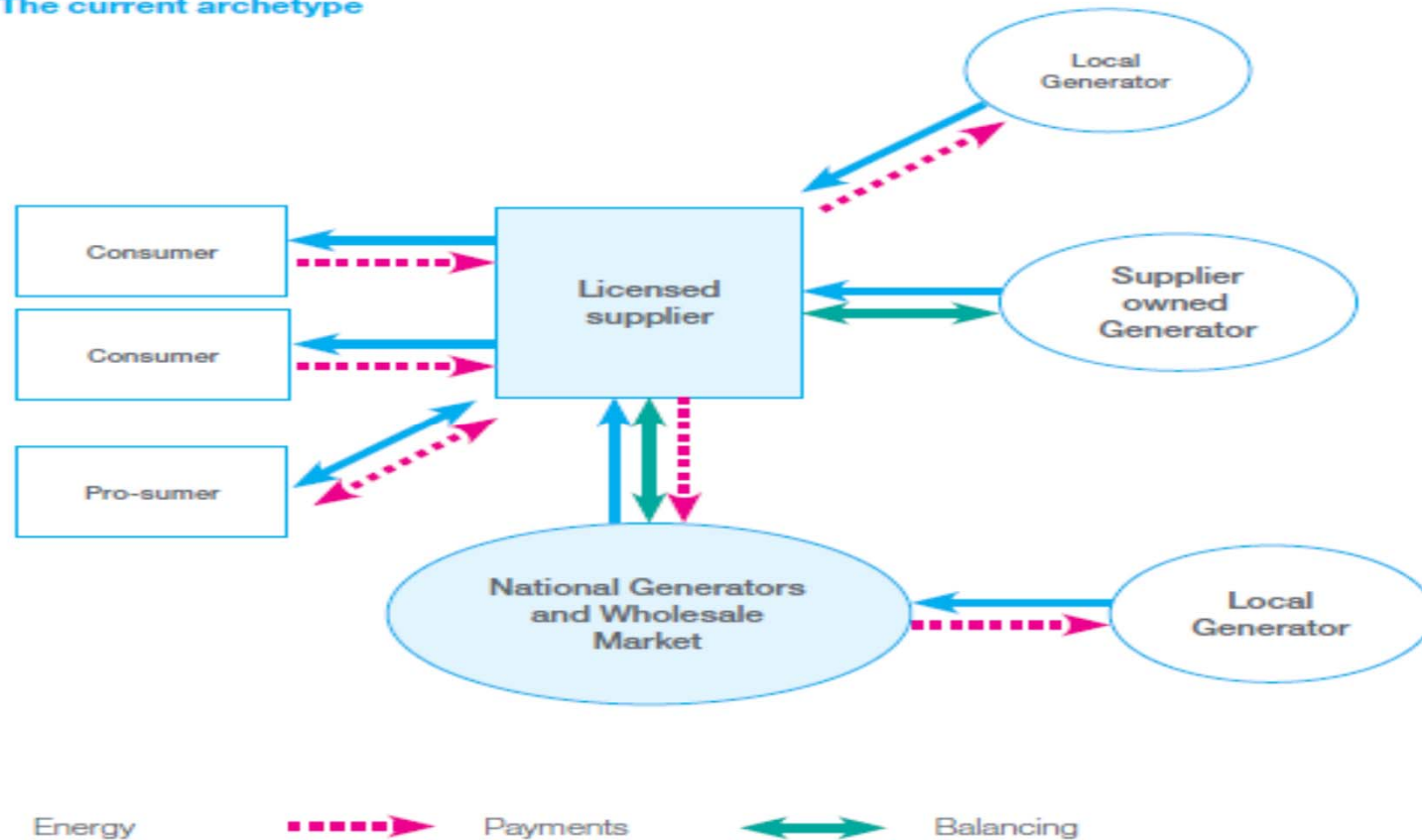


Local services	Bundled services	Customer participation
<ul style="list-style-type: none">• Community• Municipal• Housing Associations	<ul style="list-style-type: none">• Energy Service Companies• Multi-service providers• Market services	<ul style="list-style-type: none">• Peer-to-peer• Demand side flexibility•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

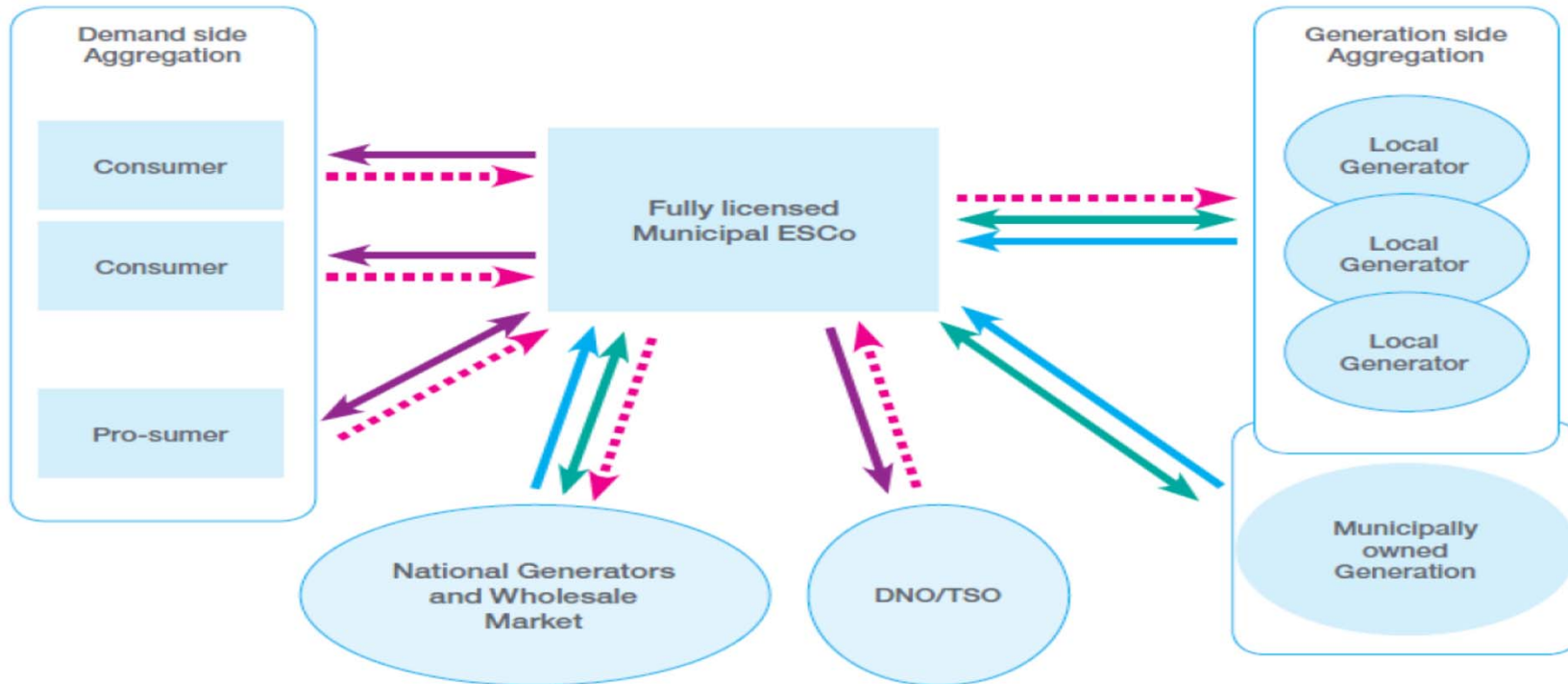
Electricity supply – current model



Diagram: The current archetype



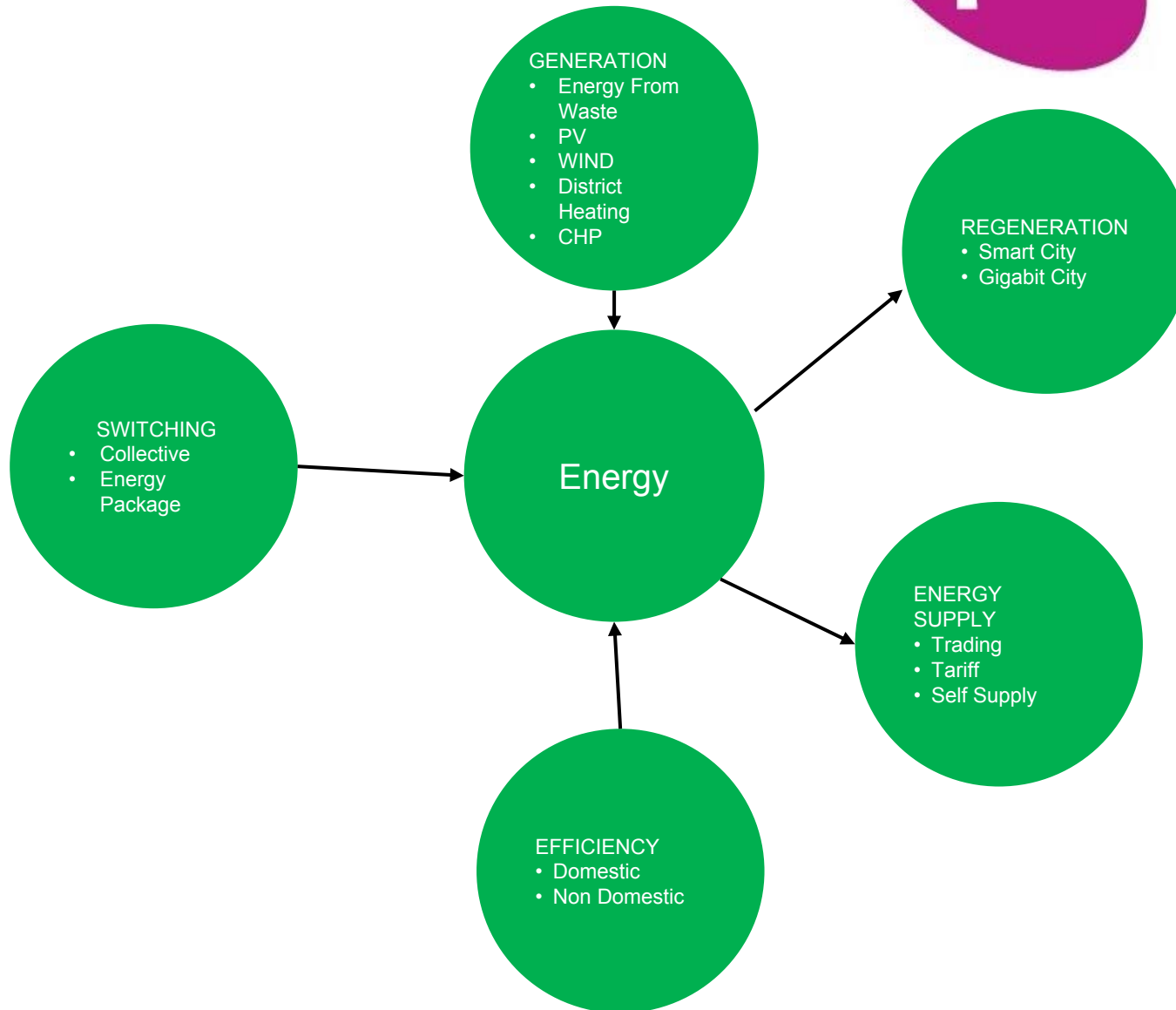
Electricity supply – Fully licensed municipal ESCO



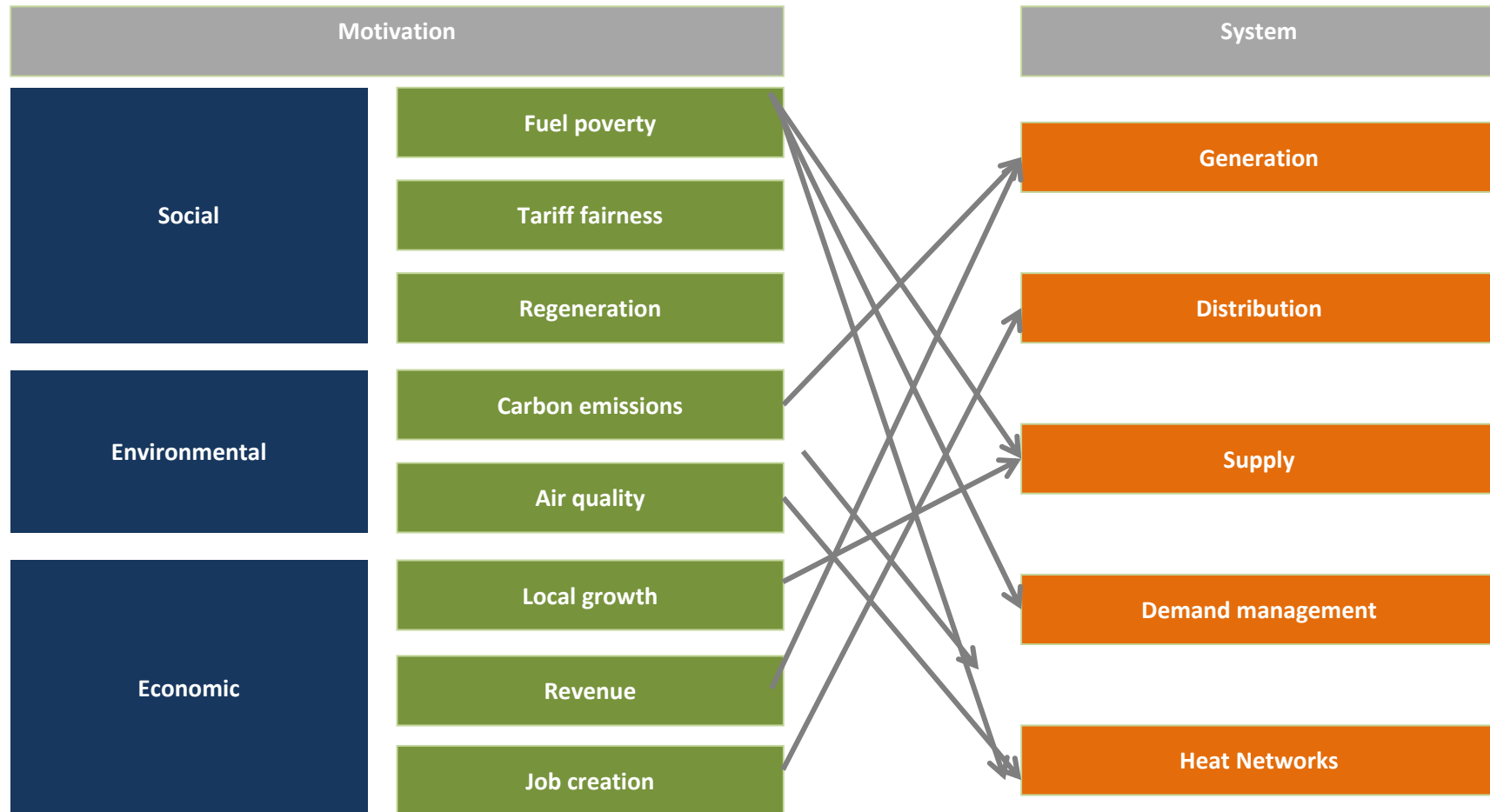


4. ECONOMIC AND SOCIAL BENEFITS OF MUNICIPAL ENERGY

Energy The Driver – Peterborough City Council



Why Municipal ESCOs?



Source: Dr Katy Roelich, Dr Catherine Bale and Roxanne Neall, University of Leeds Dec 2014

Three stage approach to energy management

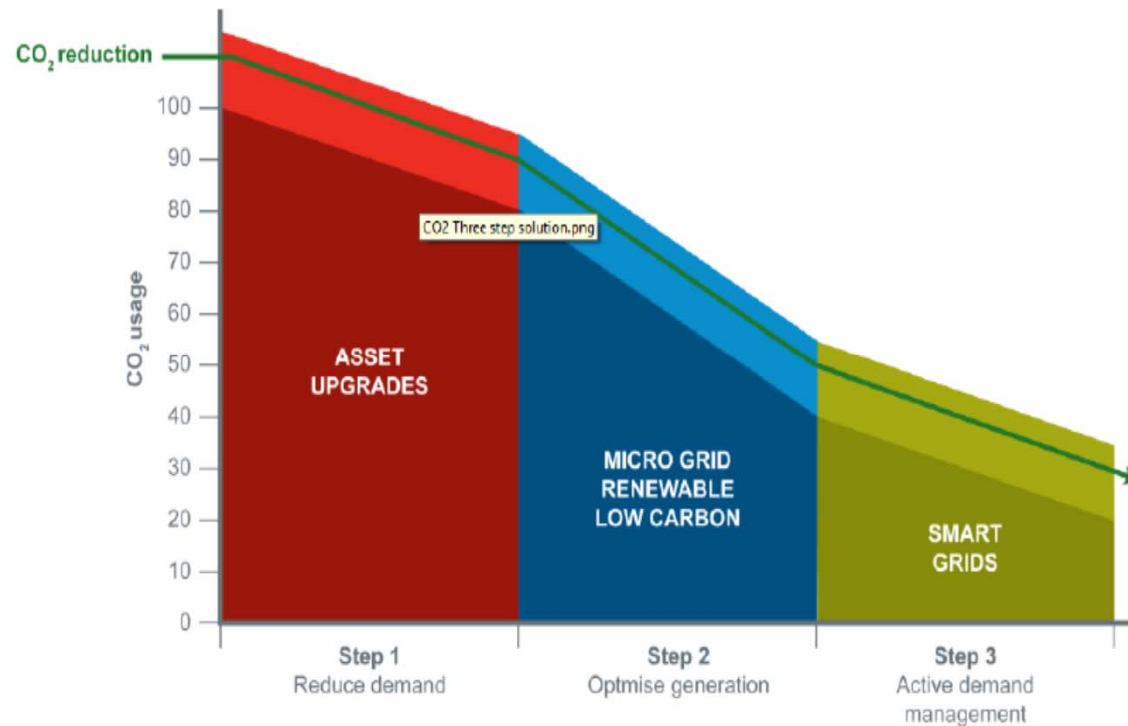


Figure X: The stylised technological transition that municipal authorities take when engaging in the energy sector with savings made in reducing demand being used to capitalise generation. Further efficiencies are then found via active demand management which is facilitated by smart systems.

Income generation/savings from municipal energy schemes



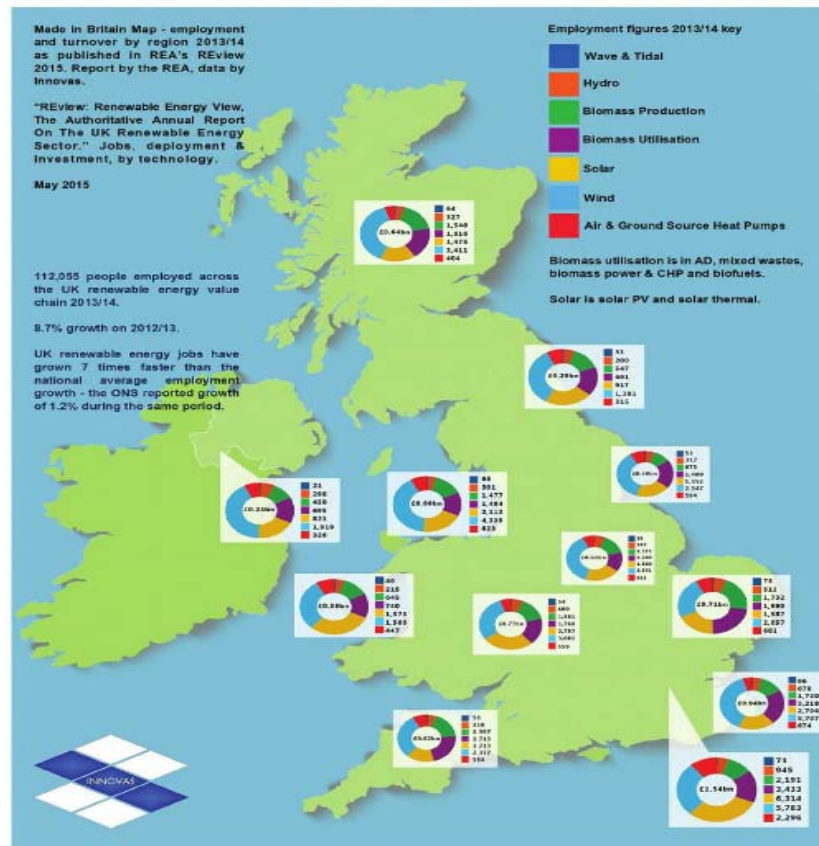
Local authority	Scheme	Project scope	Cap Ex	Savings/income	Economic/social/community benefit
Peterborough City Council	Energy Performance Contracting	Corporate estate	£5.6m	£8.032m	1791 tonnes of CO2 saved
Preston City Council	Wind Energy	3 x 3MW wind turbines	£12m	£2m net per annum	Regeneration/PPA/sale of electricity
Wrexham CBC	Solar PV	Solar PV on 2700 council houses	£12.5m	Gross income £1.3m Net income £550k per annum	3000 tonnes of CO2 saved pa/ average tenant savings on energy bills £100-£300 pa, local jobs created
Cardiff Council	Hydro	Radyr Weir 2 x Archimedes screws	£2.3m	£160k per annum net	391Kw capacity generating 1.6GWh electricity annually. Equivalent power for around 500 houses/ 0.4MW
Rochdale MBC	Wind	11kw wind turbine	£70k	£170k or £5k net per annum	CO2 savings 14 tonnes
Stockton on Tees Council	Energy Efficiency	External wall insulation to 1670 private sector rented homes	£3.85m investment through CESP/ECO		Households in fuel poverty has fallen from a level of 20.8% in 2009 to 15.3% in 2012. Average fuel bill savings of up to £700 pa. 300 jobs created. Health improvement outcomes
ANother	Solar PV	5MW solar farm	£4.76m	£7.82m net	5100Mw hours, 2.3m tonnes of CO2 avoided

Renewable Energy – Jobs and growth

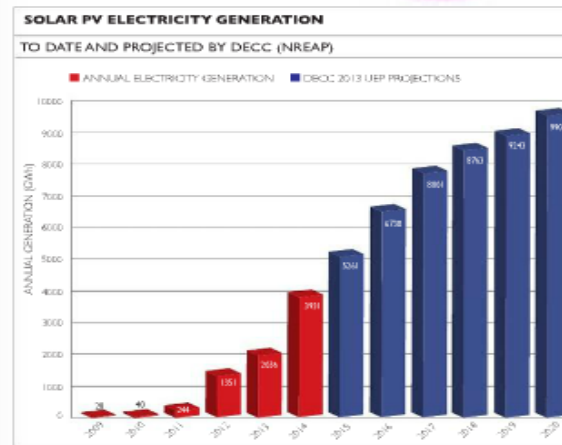


Renewable Energy MADE IN BRITAIN

Employment and turnover by region and technology 2013/14



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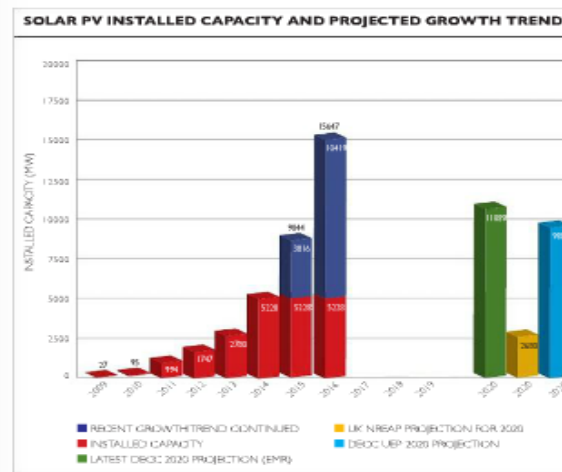


SIZE OF THE UK SOLAR PV SECTOR

	2011	2012	2013
	-2012	-2013	-2014
Sector Turnover (£ millions)	1,800	2,200	2,307
No. of people employed across UK supply chain	15,650	15,620	16,103
No. of UK companies across supply chain	2,200	2,180	2,088

JOB IN SOLAR PV

MANUFACTURING AND DESIGN
 Design engineer; Systems engineer; Production manager; Production supervisor; Electrical engineer; Laboratory technician; Quality assurance; Assembler line personnel; Chemist; Surveyor; Materials scientist; Warehousing/logistics personnel.

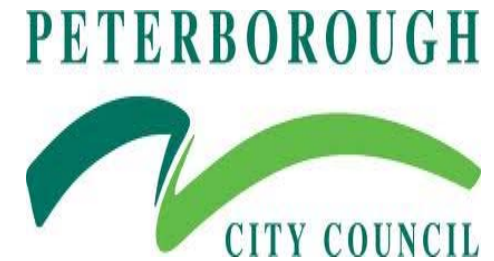


INSTALLATION AND MAINTENANCE
 Planning and environmental consultant (ground mounted schemes); Roofer; Electrician; Instrumental engineer; Controls and electrical systems technician; Installation engineers; Installation supervisor; Scaffolder; Service engineers; Panel cleaners; Security.

GENERAL MANAGEMENT, SALES & ADMIN
 Sales/purchase administrators; Sales and business development team; Logistics drivers, packers, warehouse staff; Marketing team.

Source: Renewable Energy Association – Annual Report on the UK Renewable Energy Sector 2015

Ambitious Councils





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