



# **The new municipal entrepreneurs**

## **Energy prices and supply: Municipal energy schemes**

Mark Bramah, Director of APSE Energy

[www.apse.org.uk](http://www.apse.org.uk)



# 1. THE ENERGY CHALLENGE

# APSE Energy – House of Commons launch 11 June 2014



- Over 60 people from a range of organisations including member local authorities, DECC, TCPA, LGA, Climate U.K. IPPR attended the launch.
- Addressed by Rt. Hon Ed Davey M.P. Secretary of State for Energy and Climate Change and Dr. Alan Whitehead M.P. the Chair of the All-party Parliamentary Renewables and Sustainable Energy Group (PRASEG).



# APSE Energy launch, 11 June 2014 – Ed Davey



- Energy Challenge – security, carbon, price - means we have to **change the way we approach energy** generation and use.
- Not just central Government, through legislation and regulation, but **local authorities too** are critical.
- It is an exciting year for community, decentralised and municipal energy.



**Rt. Hon Ed Davey M.P. Secretary of State for Energy and Climate Change**

# Local Government finance prospects



- Chancellor George Osborne has announced a further £62bn budget cuts between 2014/15 and 2017/18 beyond the next General Election.
- Shadow Chancellor Ed Balls has committed a future Labour Government to spending targets.
- Local Government funding in England will fall by a further 8.5% over the next 2 years on top of £20bn savings so far.
- Local government spending — excluding police, schools and housing benefit — is set to fall by nearly 30% in real terms between 2008 and 2015 in England.



# The scale of the challenge for local government

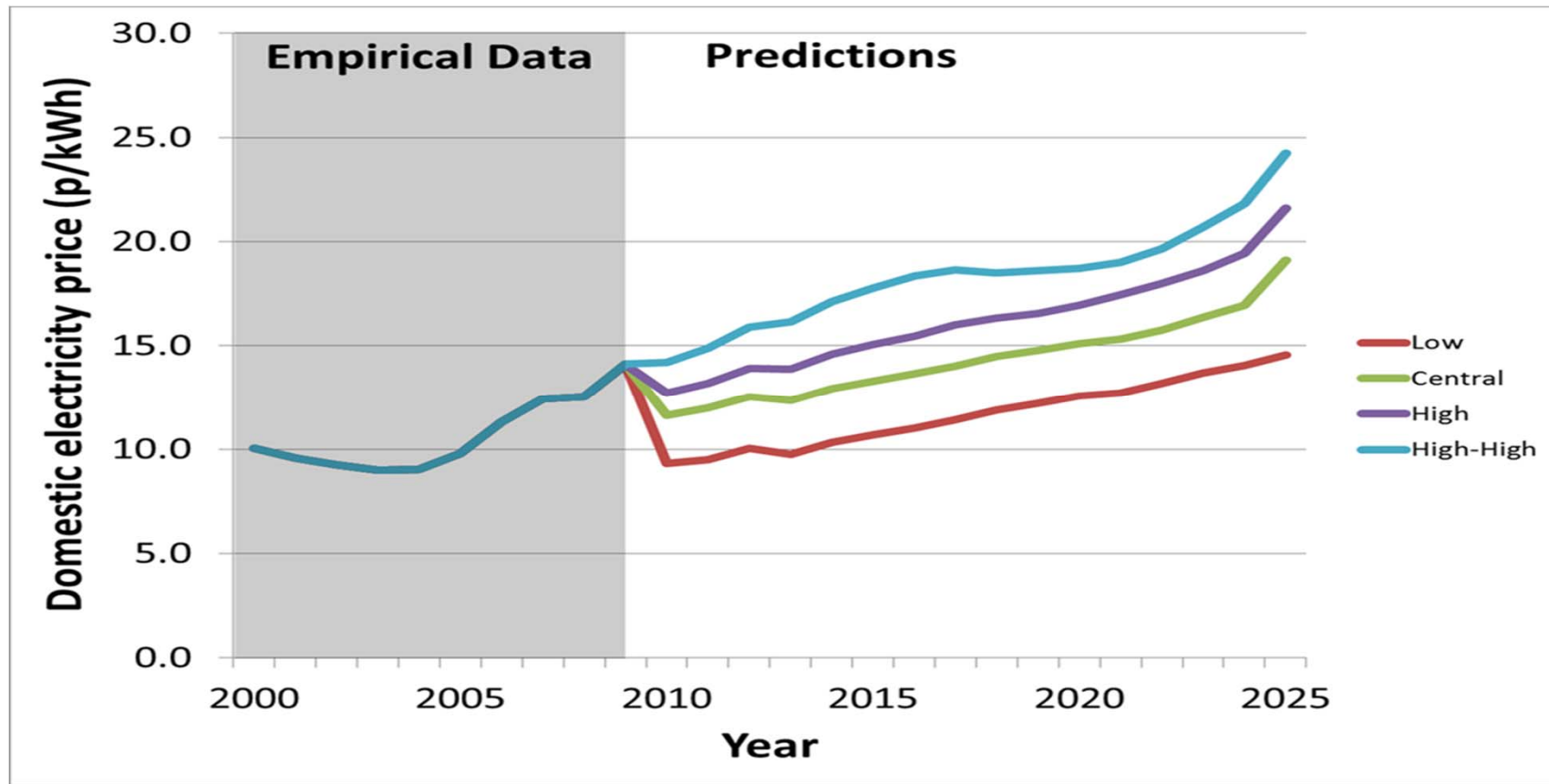


## According to the Carbon Trust:

- energy consumption of local authorities is estimated to be at least 26 billion kWh per year;
- Leading to annual CO<sub>2</sub> emissions of more than 6.9 Mt.
- energy expenditure in the order of £750 million per year; and
- councils can have annual energy bills in the range £8.5-12m, but this can be up to £24m for larger local authorities.



# Energy prices - trends



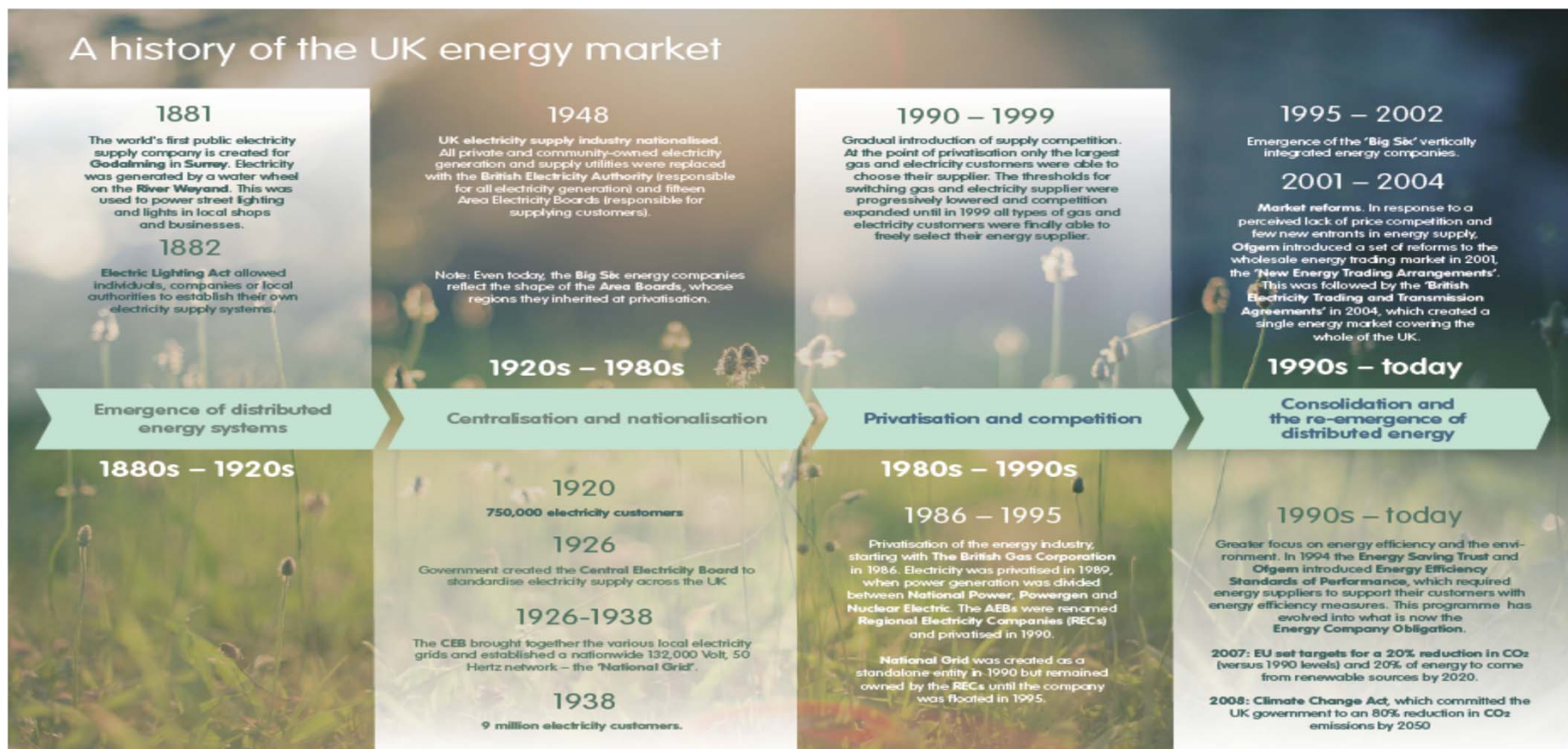
# The scale of the challenge & the opportunity



- According to DECC in 2011 there were 4.5 million households in fuel poverty – Defined as spending more than 10% of family income on fuel.
- Energy price increases on average of between 8.5% & 11.1% in Autumn 2013 (House of Commons Library Energy Price Note Nov 2013).
- Committee on Climate Change estimate that average dual fuel bills will increase by 18% in real terms between 2010 and 2020.
- Npower state that the average dual fuel energy bill will increase from £1,123 in 2013 to £1,330 in 2020
- In 2009 buildings accounted for 43% of all carbon emissions. U.K. housing stock amongst the least energy efficient in Europe.
- UK Renewable Energy target 15% by 2020 – Latest figures 2011/12 show that just 3.94% of energy is generated from renewables against a target of 4.04%.
- For the U.K. to meet it's targets the annual growth rate in renewables year on year to 2020 would have to be 16.5%
- Renewables U.K estimate that more than 70,000 jobs in the renewable sector could be created over the next decade.
- Mainly SME's who employ staff in renewable sector.



# The UK Energy Market



# UK Energy Market to be investigated by Competition and Markets Authority (CMA)



- Vertical integration and barriers to entry and expansion;
- Possible tacit co-ordination;
- Profitability;
- Market segmentation and weak customer response;





## **2. WHY LOCAL GOVERNMENT?**

# (1) Why Local Government?



Today the industry is struggling to deal with an environment of rising energy costs, increased reliance on energy imports and ambitious carbon reduction targets. At the same time new forces are supporting the development of a different energy ecosystem. The rise of distributed energy, the growing role for consumer behaviour in driving system efficiency, and the development of network economies all mean that local energy systems are becoming not only increasingly viable, but also increasingly the preferred choice for communities.



## **(2) Why Local Government?**



“Local authorities are uniquely placed to assess the needs of their local areas and residents and to act as catalysts for change to improve the energy efficiency of, and reduce carbon emissions from buildings.”

DECC/CLG – Improving Energy Efficiency in buildings: Resources for local authorities (2012)

## **(3) Why Local Government?**



- Trust
- Local Benefits
- Behavioural change

## **(4) Why Local Government?**



### **“The 3 P’s”**

- People**
- Poverty**
- Pounds**



John Harrison, Executive Director of Resources, Peterborough City Council



### **3. FINANCIAL, SOCIAL, ECONOMIC AND COMMUNITY BENEFITS**



# Ways of financing Local Authority Energy schemes



	Generalist	Low carbon
Local authority	<ul style="list-style-type: none"> <li>• Central Government funding</li> <li>• Council tax</li> <li>• Bank loans</li> <li>• Public Works Loan Board</li> <li>• Bonds</li> </ul>	<ul style="list-style-type: none"> <li>• Low carbon grants (e.g. LCF)</li> <li>• Supplier obligation</li> <li>• EU grants (e.g. ELENA)</li> </ul>
Finance vehicle with private sector finance	<ul style="list-style-type: none"> <li>• Bank loans</li> <li>• Partner balance sheet</li> <li>• Infrastructure and other equity funds</li> </ul>	<ul style="list-style-type: none"> <li>• Low carbon equity funds</li> <li>• Specialist lenders</li> <li>• Social impact bonds/other bonds</li> <li>• Grants</li> </ul>

↓ Shift

# Stockton - External Wall insulation programme



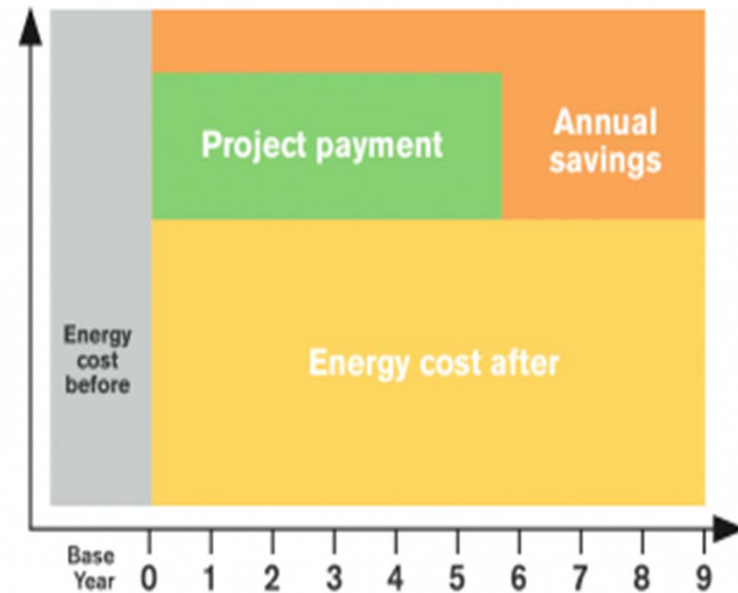
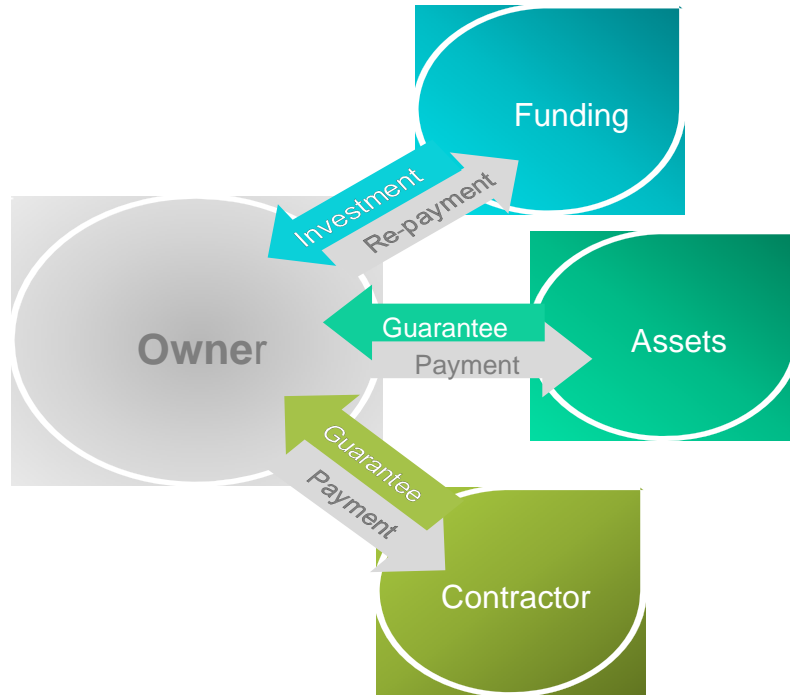
- Set up by the Council in 2011 to improve the energy efficiency of older solid wall private housing.
- 1000 homes in Parkfield and Town Centre Wards benefitting from £3.85m investment.
- Funded by CESP up to 2012 which is normally targeted at social housing providers.
- Now 2500 houses now retrofitted under CESP and ECO.
- Through a local delivery partner GoWarm, part of the Community Energy Solutions CIC group.
- package of measures is offered to qualifying households, including external wall insulation, cavity wall insulation, new heating systems, boiler replacements, heating controls, energy efficiency and benefits advice.

# Outcomes



- £20m of Energy Company Investment.
- Reduction in fuel poverty.
- Made 300,000+ tonnes of lifetime domestic carbon savings.
- Improved local environment and pride of residents in their areas.
- Changes to ECO have impacted on programmes.

# Peterborough – Energy performance Contract



Capital investment paid out of guaranteed energy savings



# Benefits



Short Term	Long Term	Non Financial
<ul style="list-style-type: none"><li>• Updated plant, systems and fabric</li><li>• Reduced capital budget requirement</li><li>• More predictable energy consumption</li><li>• Reduced exposure to carbon taxes</li></ul>	<ul style="list-style-type: none"><li>• Reduced energy bills</li><li>• Infrastructure to control and distribute energy</li><li>• Creation of new incomes lines for LA</li><li>• Regeneration</li></ul>	<ul style="list-style-type: none"><li>• Socio-economic benefit</li><li>• Behavioural change</li><li>• Increased awareness to carbon change</li></ul>

# Financial Savings



	Phase 1	Phase 2	Phase 3	Phase 4
Number Of Sites	8	2	23	25
Type Of Sites	Leisure / Admin Offices / Multi Storey Car Parks	Theatre / Swimming Pool	Schools / Corporate Buildings	Schools
<u>Costs</u>				
Capital Investment	£2.0m	£0.6m	TBD	TBD
Operational Costs	£1.3m	£0.5m	TBD	TBD
Total Cost	<b>£3.3m</b>	<b>£1.1m</b>	TBD	TBD
<u>Savings Over The Contract</u>				
Revenue	£3.0m	£1.4m	TBD	TBD
Capital Avoidance	£2.0m	£0.1m	TBD	TBD
Total Savings	<b>£5.0m</b>	<b>£1.5m</b>	TBD	TBD
<b>NET SAVING:</b>	<b>£1.7m</b>	<b>£0.4m</b>		
<b>ANNUAL CO2 SAVING –TONNES</b>	<b>895</b>	<b>528</b>	TBD	TBD

# 5 Mw Solar farm illustration of financial benefits



## Renewables: Business Case Example – 5MW Solar Farm

PV Assessment		
ITEM	UNIT	VALUE
Land Area	Acres	30
Solar Irradiation	Hours	850
Plant Size	MW	5
Yr 1 Energy Yield	MWh	4165
CapEx	£m	£4.76m
O&M Cost p.a.	£m	£0.14m
CO2 avoided	tonnes	2.3m

PV Assessment		
ITEM	UNIT	VALUE
Yr 1 FIT @ £63.80 / MWh	£m	£0.29m
Yr 1 PPA @ £54 / MWh	£m	£0.24m
Lifetime Incentive Income	£m	£6.80m
Lifetime PPA Income	£m	£9.05m
Lifetime Operating Costs	£m	£3.24m
Lifetime Funding Costs	£m	£3.28m
<b>Total Net Position</b>	<b>£m</b>	<b>£4.19m</b>

*Assumes: Grid connection of £25,000/MW; self-funded via PWLB at ~4.4%*

*Business Rates - £0.72m in addition to the above if Council is the planning authority.*

# Preston City Council – Civic Wind Energy Project



- Preston Council has signed a £250,000 contract with engineering and design consultancy, Hyder Consulting (UK) Limited for the construction of wind turbines near Preston Docks.
- 80 metre test mast erected on the Wallsend Road site.
- Tests commenced in January. If the project is viable after the test plans will be submitted to build three or four turbines, each up to 120 metres tall.
- In civic energy schemes, profits made by selling the energy to the national grid are re-invested back into the local area. Preston Council believes the project could benefit the local economy by up to £50m over the next 25 years.
- Issues – Subsidy for on-shore wind and radar.
- Ambition is to provide wider social and economic benefits through the sale of energy.





# Rochdale Wind Energy Strategy



“four 2.5 MW turbines will create the equivalent of a 3.5% council tax cut each year for 25 years”

Cllr Colin Lambert  
(LGC Article Published Oct 2013)

Each medium scale turbine will deliver £320k of new cash to Rochdale annually

# Rochdale's first community wind turbine



# Other examples



- Nottingham City Council – District Energy Network.
- Aberdeen City Council – District heating and hydrogen economy.
- Oxford City Council – Low Carbon Oxford.
- Reading Borough Council – Roof based solar PV.
- Southampton City Council – Low carbon energy programme.



## **4. APSE'S LOCAL AUTHORITY ENERGY COLLABORATION**

# 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. Cumbria County Council
8. Darlington Borough Council
9. Doncaster Metropolitan Borough Council
10. Derbyshire County Council
11. Dudley Metropolitan Borough Council
12. East Dunbartonshire Council
13. East Riding Council
14. Flintshire County Council
15. Gedling Borough Council
16. Guildford Borough Council
17. Knowsley Metropolitan Borough Council
18. Lancaster City Council
19. Middlesbrough Council
20. Newcastle City Council
21. Nottingham City Council
22. Nottinghamshire County Council
23. North Ayrshire Council
24. Northumberland County Council
25. Oxford City Council
26. Peterborough City Council
27. Portsmouth City Council
28. Preston City Council
29. Reading Borough Council
30. Southampton City Council
31. Stockton-On-Tees Borough Council
32. Swansea City and County Council
33. Warwickshire County Council
34. Wolverhampton City Council
35. York City Council

# Services provided



- **Advocacy and brokerage**
  - Government
  - Energy industry
  - Partnerships
- **Capacity**
  - Strategic advice
  - Feasibility
  - Time banking arrangements
- **Knowledge**
  - Resource portal
  - Technical and policy updates
  - Free legal helpline
- **Learning**
  - Practical workshops
  - Round tables
  - Secure networking
  - Conferences and seminars



# How do the services fit together?



*A programme for municipalised energy*

## Policy and strategy

- Lobbying
- Briefings
- Networking
- Round tables

## Feasibility

- Strategic advice
- Time banking
- Legal advice
- Resource portal

## Business case

- Learning events
- Resource portal
- Intelligence
- Research

## Development

- Frameworks and supply arrangements
- Pipeline of projects

# APSE Energy Events and activities



**apse** APSE Energy workshop with OVO energy  
**Decentralised energy:  
An opportunity for councils**  
Free event for members of APSE Energy, taking place at The Hospitium, York Museum Gardens on 26 June 2014



[www.apse.org.uk](http://www.apse.org.uk)

**apse energy**  
**APSE Energy Seminar**  
From industrial legacy to future energy: Transforming the use of former industrial land for energy projects  
Free event for members of APSE Energy and the Derbyshire and Nottinghamshire LAEP



Image:  
Hamburg Energy Hill

A working seminar organised by APSE Energy in partnership with the Town and Country Planning Association SPECIAL project and the Nottinghamshire and Derbyshire Local Authority Energy Partnership (LAEP)

Thursday 3 July 2014, County Hall, Matlock, Derbyshire

Supported by:



**apse energy**  
**APSE Energy workshop**  
**Energy Efficiency:  
Structures for local authorities**  
Free event for members of APSE Energy, taking place at Emirates Old Trafford, Lancashire Cricket Ground on Monday 7 July 2014



Supported by:



# Dave Angel Eco Warrior





## Contact details

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