

APSE Energy (Wales)

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ONE PLANET CARDIFF



Energy: 20,000 homes retrofitted by 2015 / £1.25m local energy projects / EFW/ Heat



Waste: Zero waste city by 2050



Transport: 50% of us will travel to work sustainably by 2014



Food: World's 1st Fair Trade Capital City / community food



Water: Flooding / supply / efficiency / etc



Place: Sustainable neighbourhoods / Quality of life / Green space / etc



People: A One Planet City Needs One Planet People

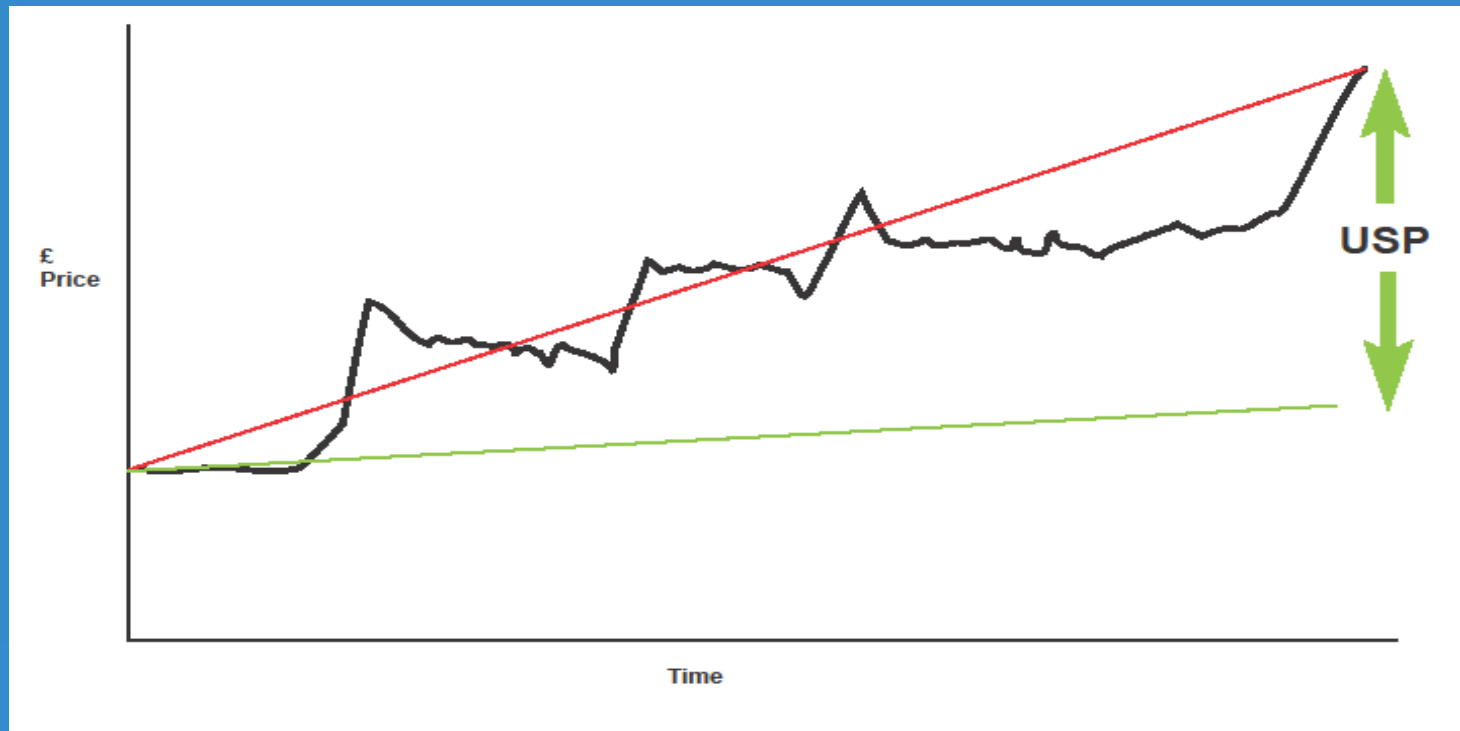


Cardiff Council & Energy - why should we care?.....



Energy Security

- Energy prices on an ever upward trend
- The UK is vulnerable to shortages of gas and electric



Energy...why the UK is at risk

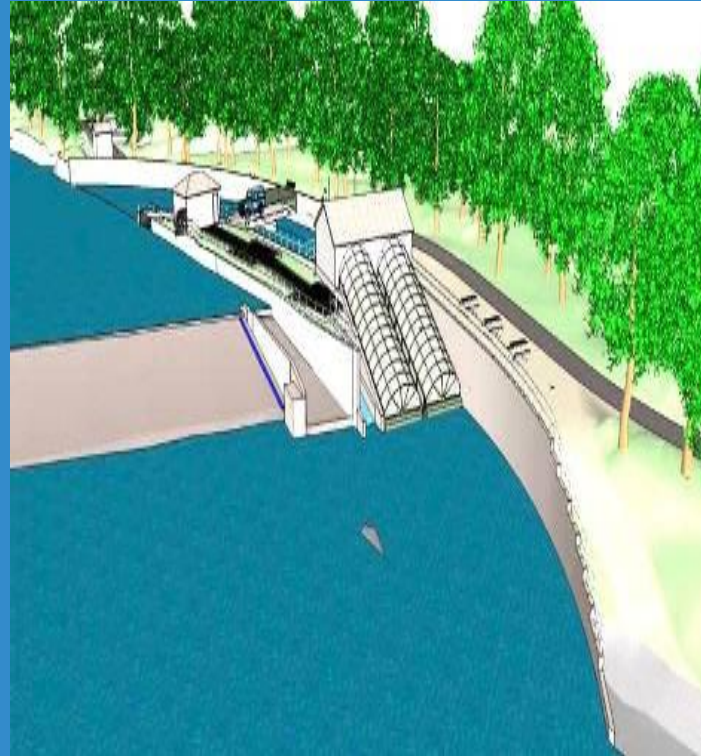
- Gas reserves 12 days
- Gas prices doubled in a month last winter
- 1MW energy in UK £80-100, in Germany around £32



Live Projects

Radyr Weir Hydro Electricity Scheme

- Equivalent power for around 500 houses/ 0.4MW
- Capital Cost £2.3m
- Income generation after loan repayment of £160k p/a
- At procurement - anticipated start on site - Summer 2015



Live Projects

Lamby Way Solar Farm

- 28 acres solar farm
- Land lease option preferred by Cabinet
- Enough electricity to power 1500 homes/
5MW
- Currently exchanging Heads of Terms with
preferred bidder
- Delivery by mid 2015
- Anticipated rental income £30k p/a



Live Projects

Lamby Way Solar PV (Roofs)

- 900 solar panels on the buildings at Lamby Way Depot
- Offsetting 10% of the site's electricity consumption
- Equivalent to powering 62 homes with electricity
- Contract Awarded
- Capital Cost £250k
- Income generation after loan repayment = £15k p/a
- Delivery in early 2015



Live Projects - Partnerships

Trident Park Energy from Waste Plant



- Completed. x5 Councils Proiect Gwyrd
- Residual Waste Treatment ERF Status
- 30MW of electricity
- Potential for 20MW of heat

Anaerobic Digestion Plant



- Contract- Preferred Bidder Status
- Partnership with VoG
- 1.5 MW of electricity
- Potential for Heat

Live Projects - Partnerships

HELES Hydrogen with ITM

£1m grant funded innovation project



Renewable Heat Network

DECC funded £370K



Future Projects

- Tidal Power – early discussions £2 Billion & 600MW
- Portable renewables (£1m grant funding approved)
- River hydro schemes (another 5 opportunities?)
- Shallow Geothermal (Funding bid submitted)
- Local energy and heat CHP at LDP sites (early discussions with developers and suppliers)



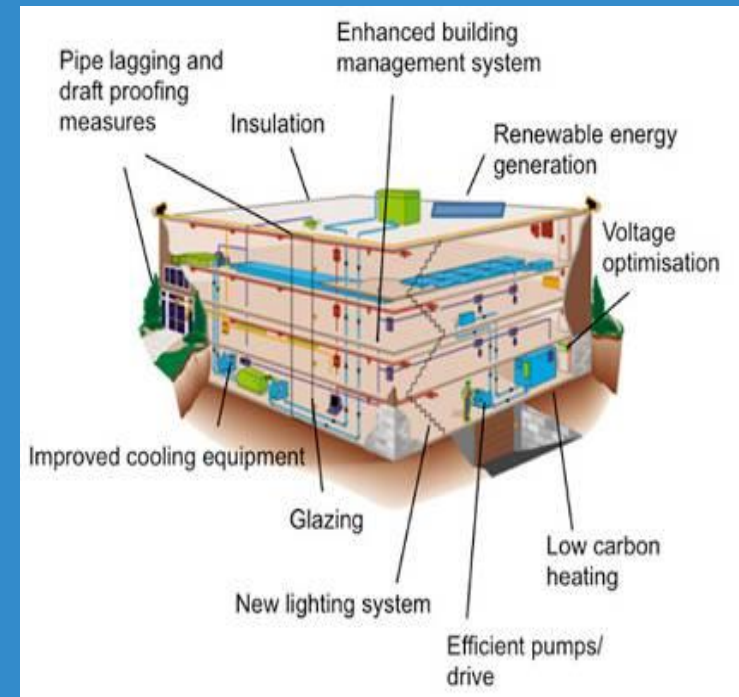
Energy in the Council's Estate

Re:Fit

- Output based framework
- Provides guaranteed energy savings through a mixture of building measures
- Currently going out to tender, £4m contract value
- Expected contract placement early 2015

Identified first tranche of buildings:

- Fitzalan High School
- Radyr Comprehensive School
- Willows High School
- Lamby Way Cleansing Depot
- City Hall
- Cardiff Castle



Energy in the Council's Estate

Solar Installations (schools and housing)

ARBED/ECO - Retrofitting the Council's Housing Estate

– (incl recent additional £2m grant fro WG)

Carbon Culture

- Real time energy data published online
- First LA to adopt
- Used extensively in schools to manage out of hours consumption





3 year project – co-operative Councils approach
Funded by £180K Welsh Government Regional Collaboration Fund grant

Key partners:

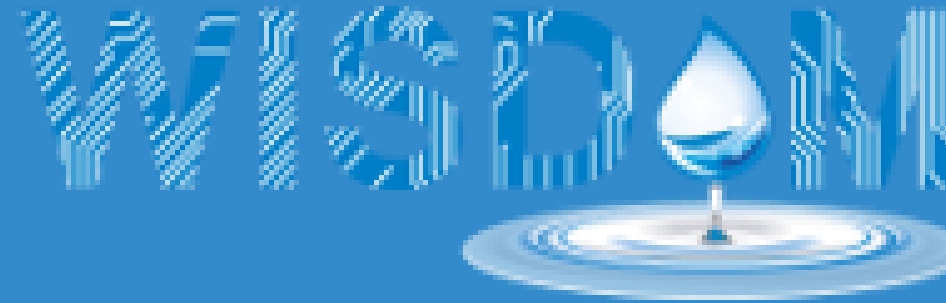
City of Cardiff Council / Vale of Glamorgan Council / Energy Saving Trust

- Over 6,800 people registered interest in the scheme
- Over 1,500 switching to a new tariff deal
- £185 average saving per household
- Over £284,000 total savings for Wales
- £19,000 community fund generated for Wales
- **Drive to achieve an all Wales approach for the next phase**



Research and Innovation

WISDOM



- FP7 – European Funding
- 11 partners across Europe
- CCC, Welsh Water and Cardiff University locally
- ICT solutions to drive efficiencies across the water value chain and especially the “water/energy nexus”



Research and Innovation

PERFORMER

- FP7 European Funding
- 14 partners across Europe
- CCC, UPL, BRE and Cardiff University locally
- ICT solutions to drive improve the delivery of high energy performance in buildings



Research and Innovation

Heritage Retrofit

- Funded via WG/Innovate UK – SBRI
- To fund new technologies and solutions
- Sensitive Retrofit for listed and other historic buildings

SBRI
Government challenges.
Ideas from business.
Innovative solutions.



Research and Innovation

Portable Renewables

- Funded via WG/Innovate UK – SBRI
- To fund new technologies and solutions
- For use on vacant/redundant sites as a “meanwhile use”



Energy Prospectus and Strategy

(Environmental Manifesto for Jobs and Growth)

- Strategic overview
 - Council Ambitions
 - Investment sense check
- Some 25 projects in Cardiff
- If you include Severn Estuary possibilities up to £4bn investment and 4,000 jobs.
- Policy approved by Cabinet in July



Route to Market

- Where do we find £4bn?
- How do we package projects and within what vehicle
- How to capture the right investors?
- Procurement complexity, or partnership approach?
- Community investment?
- Priorities? Early investor discussions Jan 15
- How do we harness the energy produced and help control cost to the whole City?
- WG funds for investment opportunity review
- All Wales ambition

