

Energy and risk management

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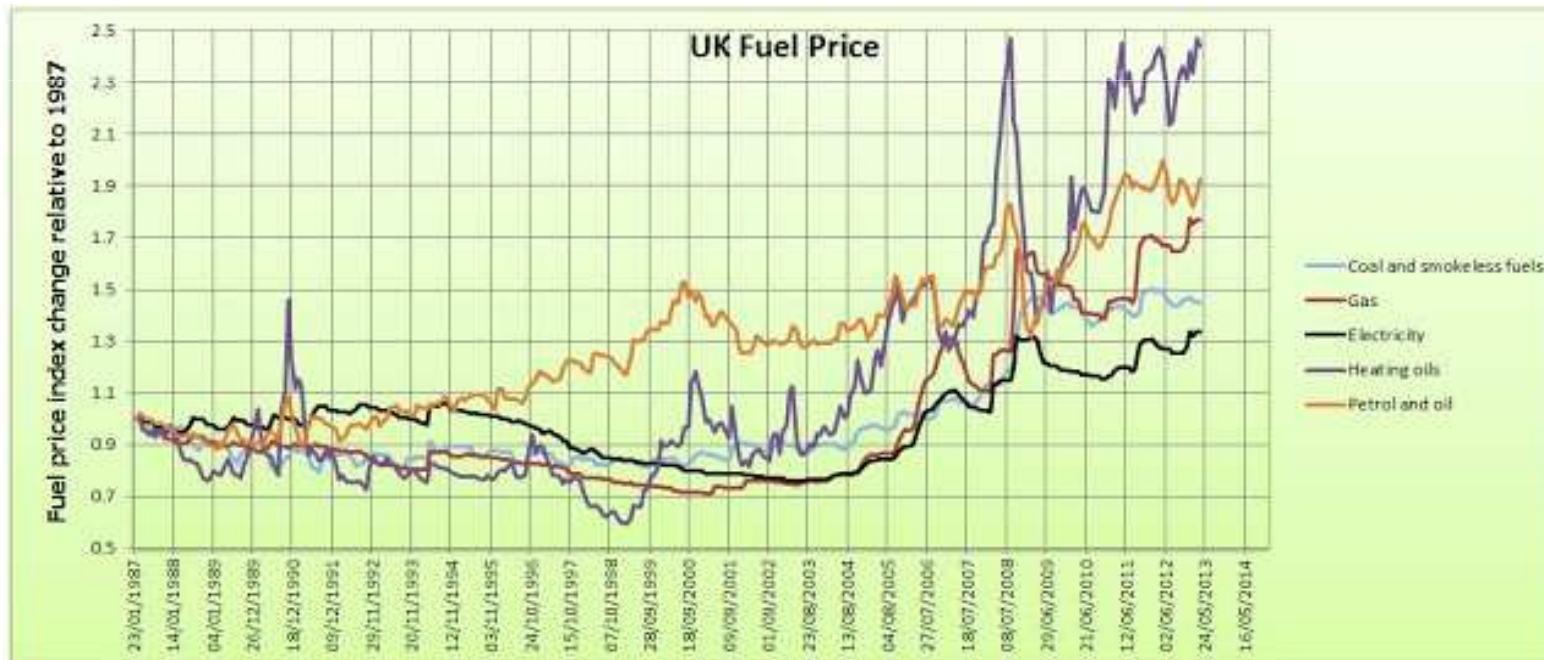
1. Risks
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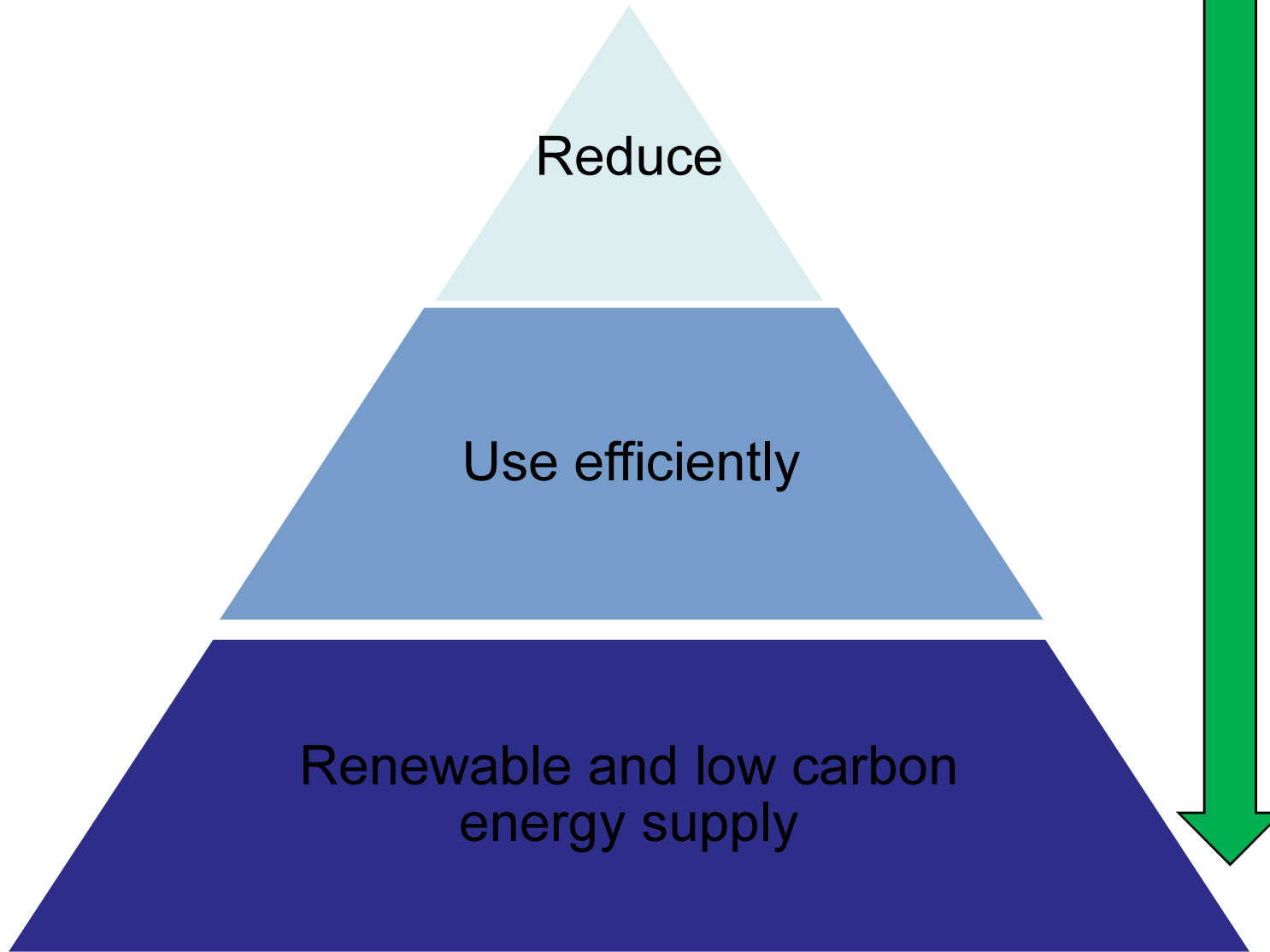
Risks

- Security of energy supply
- Increasing energy costs
- Impact on services
- Impact on residents



Source: DECC

Energy Hierarchy



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Carbon Management Plan



Carbon Reduction at the Heart of Everything we do



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Salix and Salix-plus

SALIX:

- Interest free capital provided to the public sector to improve energy efficiency.
- Ring-fenced revolving loan fund for use on energy efficiency projects with a payback of up to 5 years (Revolving = energy bill savings repay initial loan)
- Successful OCC bid won in 2008 - 50% matched by Oxford City Council.
- Original total fund value of £405k with annual targets to find energy efficiency projects (ca £150k spend target each year).
- Invested ca. £700k to date since 2008. Avoided cost in annual energy bills estimated at £285k per year; equivalent to 1420tCO₂ per year reduced
- Based on original £205k OCC investment in 2008 – return is c. 139%/year



Salix and Salix-plus

SALIX-PLUS:

- Is a City Council owned in-house ring-fenced revolving fund covering a wider range of projects than Salix
- Ring-fenced revolving loan fund for use on projects with
 - a payback of longer than 5 years (Revolving = energy bill savings repay initial loan)
 - Projects not covered by SALIX such as renewable energy installations, water and fleet fuel reduction measures
- Salix-plus provides an additional £200k/year over the next three years.
- Salix and Salix-plus can be used where Oxford City Council pays the energy bill directly (or water in the case of Salix-plus).



Energy Management



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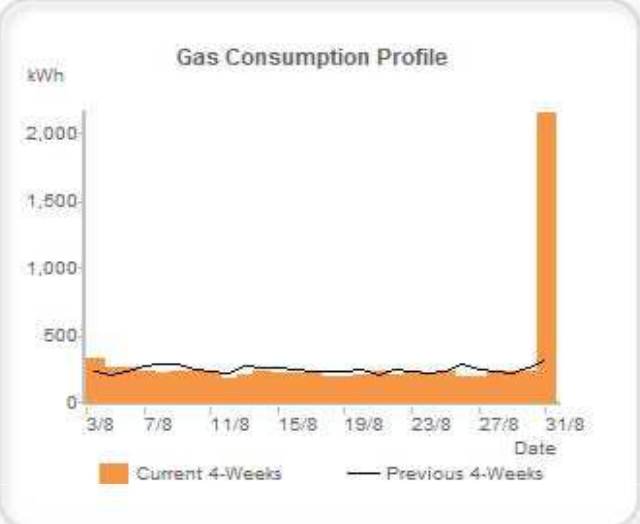
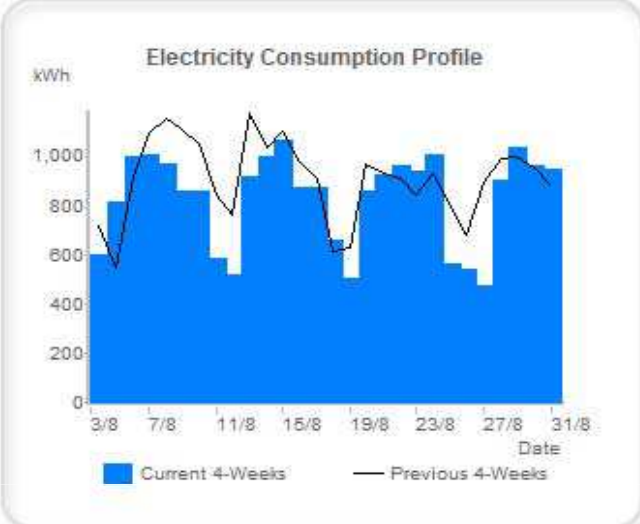
Each year the Council spends...

c. £1,400,000 on gas and electricity

c. £800,000 on fuel for vehicles

c. £250,000 on water

We have installed Smart Meters in our main buildings to monitor gas and electricity usage on a half-hourly basis



Electricity Summary	
4 Week Total - Current (kWh)	23,261
4 Week Total - Previous (kWh)	25,482
% Diff	-8.72
Daily Average (kWh)	831
MD (kW)	84.50

Gas Summary	
4 Week Total - Current (kWh)	8,357
4 Week Total - Previous (kWh)	7,076
% Diff	18.09
Daily Average (kWh)	298
Max 30 Minute Interval (kWh)	569.35

This means we can quickly see where energy is being wasted, and can act to do something about it

Energy Procurement

- We currently purchase our energy through LASER (Local Authority South East Region) energy buying group (Kent County Council)
- The bulk of our energy is procured via Flexible purchase contracts which is widely regarded as a best practice approach now in volatile energy markets
- The risk of a higher energy contract price is mitigated because the price is based on the purchase of energy from the wholesale market over several months at times when the price is falling
- This is compared to the previous approach of fixed-term fixed price contracts where the energy price was based on how the market was performing on one day (high risk in current volatile market conditions)



Energy Procurement

- Existing energy contracts expire 30 Sept 2016 so in early preparation for selection of new contracts (following due procurement process and final CEB approval)
- Currently reviewing and approaching other energy buying groups available on the market ahead of new contract - and assessing LASER performance
- Increasing number of buying groups in existence now offering flexible procurement options compared to previous years
- LASER has performed well however and returned prices consistently below average market prices (e.g. electricity price 4.4% lower and gas price 2.7% lower during 2009 to 2013)

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Energy Procurement

- We currently processes about 4000 energy and water related invoices per year. (OGC estimates cost of £28 to process each individual invoice)
- All energy supplies are now being brought on to group contracts towards a move to centralised validation and processing
- All Energy /water bills are now in the process of being moved to an in-house bill validation system using an in-house operated energy bureau system (Sigma)
- Currently in the process of moving to group electronic billing of energy/water invoices
- Benefits include reduced bill processing effort by Council staff, improved controls, data quality, monitoring and energy budgeting/forecasting



Energy Generation

- First large Solar PV systems installed on 5 large sites in March 2012 (ca 150kWp)
- Domestic PV pilot (ca 20kWp) on 5 housing units in OCC housing stock in March 2014
- Feed-in-Tariff (FIT) and Renewable Heat Incentive (RHI) is an income for the council (better returns than alternative financial investments)
- We currently generate only a small percentage of our own energy through existing renewable energy installations (<1%)
- There is significant potential to increase Council on-site energy generation building on the work to date





We installed solar panels on two leisure centres and three sheltered housing sites to generate our own green electricity. These reduce our electricity bills and also generate extra income through the feed-in tariff scheme

Energy Generation

Coming up:

- Blackbird Leys Competition pool: Solar PV (120kWp), 195kW biomass wood chip boiler (with aspiration to use our own parks arisings as fuel);
- Rose Hill Community Centre Solar PV (30 to 40kWp)
- Identify and implement other FIT/RHI opportunities across estate (Salix-plus funding) whilst FIT/RHI rates are good
- Solar PV, Solar Thermal, Biomass, Heat pumps
- Recently won Heat Network Distribution Unit funding (Part of DECC). OCC working with the Building Research Establishment (BRE) to investigate local opportunities for district heat networks



OxFutures

- **European funded programme aimed at mobilising local energy investment**
- **Joint programme between the City and County Council**
- **June is the mid point of the 3 year programme**
- **Partnership with the Low Carbon Hub who are delivering:**
 - Community led schemes such as Osney Lock Hydro, Abingdon + Goring Hydro, Sandford Hydro plus a range of solar schemes throughout the county
 - Hub led schemes such as Oxford Bus Company solar PV array
 - Solar Schools programme throughout the County
 - Warming Barton project
- **Pipeline has a total value of nearly £30m – beyond the initial project target of £25m**



Forthcoming Work

Energy Management Plan for the Council

- Bring us into line with EU procurement rules which demand lifecycle costing for public sector capital projects
- Develop an approach to understand the energy costs for new buildings over their life
- Set out our approach to energy management and Salix/Salix-plus funding
- Set out our approach to procuring energy in line with members expectations to avoid Tar Sands and ‘fracked’ sources of gas.
- Link and embed Energy Management plan with Carbon management plan.
- Ensure we continue to mitigate on risks on energy cost and supply



ANY QUESTIONS?

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