



Buckinghamshire County Council Select Committee

Transport, Environment and Communities Select Committee

Report to the Transport, Environment and Communities Select Committee

Title:	Energy and Growth - Future Demand, Challenges and Income Generating Opportunities
Committee date:	Tuesday 17 July 2018
Author:	Ed Barlow, Head of Energy & Resources
Contact officer:	Ed Barlow 01296 382300 ebarlow@buckscc.gov.uk
Cabinet Member sign-off:	Bill Chapple

Purpose of Agenda Item

Members will review key features of the draft strategy and the emerging priorities within it. Members will examine the national context and local approach to meeting the increasing energy demands of the county. They will consider the roles, responsibilities and relationships between the County Council and the Local Enterprise Partnerships in developing and implementing the strategy, and the key challenges and opportunities. Members will be able to provide their views on the emerging priorities to inform the action plan and implementation of the strategy.

Background

On 20 July 2015 Buckinghamshire County Council adopted its first Energy Strategy which set a framework for addressing challenges and maximising opportunities from energy projects and initiatives. A number of changes to UK energy policies shortly followed which had a significant impact on the context within which this Strategy operates. These include:

- The Feed-in Tariff (FIT) subsidy was reduced in February 2016 by up to 65% and a range of restrictions on its use were introduced.
 - Many community energy groups were reliant on this subsidy and so its reduction is a key factor in the closure or suspension of activities of many of these groups.
- The Renewables Obligation (RO – subsidy for larger renewable generation schemes) was closed to larger solar photo voltaic (PV) schemes from April 2015 and then smaller (<5MW) from April 2016.



- Changes to planning rules in June 2015 made new on-shore wind projects virtually unachievable, as sites would now need to be identified in Local or Neighbourhood plans for planning permission to be granted.
- In July 2015, both the Zero Carbon Homes Policy and the Green Deal were withdrawn; both policies were aimed at improving home energy efficiency.

The Energy & Resources team is working with BTVLEP to update the Energy Strategy to take into account the new national outlook as well as local changes, such as the greater clarity on the level of expected growth.

The Department for Business, Energy & Industrial Strategy (BEIS) is working with LEPs on its 'Local Energy Programme'. As part of this, regional 'Energy Hubs' are being set up which will help LEPs and Local Authorities to deliver energy projects. This updated Energy Strategy is intended to draw out a priority list of projects / actions which our regional Energy Hub can assist in delivering.

Summary

The updated energy strategy will consider baseline information on Buckinghamshire's energy position (e.g. energy consumption, carbon emissions, and infrastructure) as well as set out what actions we can take to respond to challenges and maximise opportunities.

Summarised below are some of the key issues facing both Buckinghamshire the place and Buckinghamshire County Council as an organisation.

Key issues

Electricity & Grid Infrastructure

- **Grid Capacity:** Some areas of Buckinghamshire have limited electricity grid capacity which can make connecting new developments costly and take a long time. In particular, Aylesbury, where the most growth is expected, has little spare grid capacity.
 - Financial support for grid improvements was part of last year's initial Housing Infrastructure Fund (HIF) Forward Funding bid from the Council; the detail of this bid is currently being developed.
- **Renewable Generation:** There is sufficient renewable electricity generation in Buckinghamshire to meet 27% of its total demand. This is broadly in line with meeting the national target of 30% by 2020. The Energy from Waste (EfW) facility at Greatmoor, accounts for over 1/3 of renewable generation in Bucks.
 - BCC has 14 sites with solar PV systems and 11 sites with biomass boilers, generating over £130k a year in revenue from renewable subsidies.
- **Energy Storage & Peak Power Demand:** The increase in renewable generation such as wind and solar is changing the way the electricity grid needs managing. The amount of electricity generated by solar and wind can change rapidly, as the wind drops or

clouds pass over solar panels. Large energy storage schemes, such as batteries, help to ensure supplies are not interrupted by releasing energy when solar / wind generation falls and absorbing excess power when there is too much.

- Similarly, new 'peak power generation' is required to ensure there is enough electricity available when wind and solar are not producing (e.g. still winter evenings when wind and solar do not generate).
- Opportunities to lease BCC land for such projects are being pursued with 3 potential sites progressing at the moment. If successful, these could generate over £250k a year in revenue.
- **Demand Side Response (DSR):** This is an approach used to avoid consuming electricity at the most costly times of day and so reduce costs to the Council. This can be achieved by turning equipment off or by meeting electricity demand onsite at these times (either from generators or potentially battery storage systems).
 - Options for deploying DSR technology at County Hall are being investigated as this is the largest energy consuming site.
- **Increasing cost of delivered electricity:** The Council faces an ever growing electricity bill. The Council's street lighting and buildings costs £1.2m and £750k per year in energy. This cost is set to rise for the foreseeable future, with the increase driven by the 'non-energy' parts of the bill, such as distribution costs and green taxes.
 - Annual savings from energy efficiency projects (funded via the Salix ring-fenced fund) at the Council exceed £675k and the 60 schools we have delivered projects with are saving a further £140k a year.

Heat

Reducing energy consumption and carbon emissions from heating systems has been challenging to address in the UK. The relatively low cost and wide availability of natural gas as a heating fuel has made wide scale improvements difficult to achieve. In addition, the cost and inconvenience of improving buildings puts many off – for example the need to empty a loft to install new insulation.

- **Energy efficiency in new properties:** Whilst new buildings are far more efficient than older buildings, current technology would allow these to be more efficient than they typically are.
 - Through Aylesbury Garden Town initiative, we are promoting the role of more energy efficiency buildings as well as the inclusion of onsite generation, principally solar panels.
- **Energy efficiency in existing homes:** This is arguably the biggest challenge nationally when looking to reduce carbon emissions. Previous initiatives have been largely ineffective in delivering the step change required, for example the Green Deal.
 - South Bucks and Chiltern Districts are the largest domestic gas consuming areas in England and Wales (ranked 1 and 2 respectively), using 47% more gas on

average per household. This is partly due to these areas having larger than average homes (more rooms on average) though poor efficiency is also a factor.

- **Heat Networks:** An alternative approach to heat provision is through a heat network, where the heating systems of multiple buildings are linked and served by central heating equipment. These can lead to lower heating bills for customers, however these are only delivered under the right circumstances – for example where housing density is high.
 - A heat network opportunity is being investigated for the Woodlands development, though work so far indicates that this may be limited to the central area where the buildings (and therefore heat demand) density is higher.

Transport

Transport is the single largest source of carbon emissions in Buckinghamshire, greater than those from both domestic and non-domestic buildings.

- **Charging Infrastructure:** Government policy is to phase out conventional petrol and diesel cars by 2040. This change will require electric vehicle charging infrastructure to be installed in appropriate locations. This includes residential provision, at ‘destinations’ such as town centre car parks / train stations and on major routes such as motorways and A roads.
 - The Council has installed 3 EV charging points in Marlow and has applied for £100k in grant funding to install a further 27 in residential locations with on street parking.
- **Public Transport:** Buckinghamshire currently has no electric bus routes in operation or fully electric taxis (though hybrids are commonplace). Oxford and Milton Keynes are both deploying electric bus routes which can also support air quality improvements.
- **Council mileage and fleet:** The Council does not currently have EV charging facilities for staff and none of our fleet vehicles are electric, though operational requirements can often make these inappropriate due to long charging times.
 - Over 80% of transport related carbon emissions at the Council come from staff mileage in their own vehicles (over 800 tonnes CO₂ per year) with the remainder made up from the owned vehicle fleet.

Next steps

Feedback from the Committee will be fed into the drafting and prioritisation process, with the aim of the update being completed by September 2018. BTVLEP will host a roundtable discussion with local business in the coming weeks to understand their priorities in this area, with the outcomes also feeding into the final document.

It is BTVLEP’s intention to adopt the updated Energy Strategy as part of their role with the BEIS Local Energy programme. The document will also feed into the Local Industrial Strategy, currently being developed.