

Swindon's Energy Future

Cabinet

Date: 23rd October 2013

Author: Cabinet Member for Strategic Planning and Sustainability
Board Director, Commissioning

Wards: All

Locality Affected: All

Parishes Affected: All

1. Purpose and Reasons

- 1.1 The report seeks approval for future energy objectives and energy projects in Swindon.
- 1.2 The Council is faced with a number of key opportunities to lead the development of a local, affordable and sustainable energy supply in Swindon, and reinforce a key "low carbon" sector of Swindon's economy.
- 1.3 The low carbon economy is one of five priority areas in the Swindon Economic Strategy and this report provides a practical way in which the Council can act to help secure local economic benefits. Such an approach will directly contribute towards supporting the local economy, the One Swindon priority "We can all benefit from a growing economy and a revitalised town centre" and the Corporate objective, "Right skills, right jobs in the right place".

2. Recommendations

Cabinet is recommended to:

- 2.1 Approve the following energy objectives:
 - 2.1.1 Swindon Borough Council will lead the development of renewable energy projects that demonstrate clear local economic benefits, and will aim for Swindon to generate sufficient low carbon energy to power all residential properties by 2020, through actions detailed in paragraphs 3.7 and 3.8.
 - 2.1.2 By 2020, Swindon will be recognised as a UK centre of excellence for hydrogen energy technologies, creating new job opportunities by building on Swindon's emerging strength in hydrogen energy storage.
- 2.2 Authorise the Board Director, Resources to:
 - 2.2.1 Develop a business model for investment in solar development on Council land that maximises local economic benefit.
 - 2.2.2 In consultation with the Leader's Asset Management Advisory Group, to engage the relevant external expertise to prepare individual business cases for sites which conform with the business model and the design

Further information on the subject of this report can be obtained from Stephen Cains, (01793) 466405, scains@swindon.gov.uk.

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criteria at paragraph 3.12 and where the business case is positive, to submit such schemes to the Cabinet for approval.

- 2.3 Authorise the Head of Planning, in consultation with the Cabinet Member for Strategic Planning and Sustainability, to investigate and, if appropriate, progress a Local Development Order that would help to facilitate new renewable and low carbon infrastructure developments.
- 2.4 Approve the Swindon Hydrogen Roadmap (**Appendix 1**) and the formation of the Swindon Hydrogen Group, which will identify key projects and initiatives by Spring 2014.

3. Detail

- 3.1 In 2011, Cabinet endorsed the Swindon Sustainable Energy Framework and Delivery Plan (Cabinet Minute 49, 2011/12 refers). The purpose of the Sustainable Energy Framework was to ensure that renewable energy projects progressed in a co-ordinated way with benefits to local businesses and communities in Swindon through new jobs and skills in the low carbon economy.
- 3.2 The commitment to sustainable energy was included in Swindon's Economic Strategy adopted in 2012, which set the low carbon economy as a priority sector for the Borough, with hydrogen technologies as a particular focus. Also in 2012, Swindon's Future Cities bid to the Technology Strategy Board presented a view of Swindon's future with hydrogen technology as a key element.
- 3.3 Since this time, Swindon has seen a significant increase in renewable energy, focussed around large scale solar Photovoltaic (PV) and combined heat and power installations. Momentum has gathered around the low carbon economy agenda with notable developments including the launch of an expanded hydrogen refuelling station and hydrogen van project at Honda, and a unique building research facility at the Science Museum in Wroughton, involving Bath University and the Building Research Establishment.
- 3.4 Looking to the future, the alignment of the low carbon technology agenda with the engineering focus of Swindon's new University Technical College presents a key opportunity to increase skills in this important growth sector.
- 3.5 The Council is now faced with a number of key opportunities to lead the development of a local, affordable and sustainable energy supply in Swindon, and reinforce a key "low carbon" sector of Swindon's economy, namely:
 - 3.5.1 Accelerating an increase in renewable energy by using Council owned assets for energy production, focussed on large scale solar PV;
 - 3.5.2 Maximising the economic benefits of energy production at the local level; and

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- 3.5.3 Creating new job opportunities by building on Swindon's emerging strength in hydrogen energy storage technology.
- 3.6 The energy objectives at paragraph 2.1 are focussed on these opportunities, with a time horizon of 2020, a key date for UK and European energy targets. The aspiration for Swindon to produce enough low carbon energy to power all residential properties amounts to around 200MW of installed capacity.
- 3.7 The Council will play a direct role in achieving this by seeking to bring forward solar development on Council owned sites, with an estimated contribution of up to 10MW per year to at least 2016. Bringing these sites forward will demand a co-ordinated approach across relevant Council departments and Swindon Commercial Services Ltd.
- 3.8 The Council can also play a wider leadership role in facilitating private energy schemes by progressing a robust but encouraging planning regime and engaging in wider discussions on crucial issues such as grid capacity with Scottish and Southern Energy (SSE). Whilst this report is focussed on solar PV, the role of wider renewable technologies is recognised and the Council will engage in discussions on how such technologies can contribute to Swindon's sustainable energy aspirations.

Utilising Council assets for energy generation

- 3.9 The Council is a major landowner in the Borough with property assets ranging from schools and homes to farms and car parks. These assets are used in the discharge of the Council's duties, but also present opportunities for the Council to take a lead in generating more local renewable energy.
- 3.10 Solar PV presents the most immediate opportunity for the Council to accelerate a programme of renewable energy projects across its property portfolio due to the comparatively low impact nature of the technology and the type of assets that the Council owns. Solar PV installations have already been designed and installed by Swindon Commercial Services Ltd (SCS) across a range of Council buildings including the Civic Offices, Thamesdown Transport Ltd's depot and schools throughout the Borough.
- 3.11 The development of larger scale solar installations on appropriate sites such as farmland, landfills and car parks represents an opportunity to scale up the level of renewable energy in the Borough. The Council's recent decision to re-focus SCS Ltd. on renewable energy offers an obvious opportunity to use the company's skills in this sector to progress any identified opportunities.
- 3.12 However, the Council is keenly aware of the importance of progressing infrastructure projects in a way that integrates with, and creates maximum benefit for local communities. It is therefore proposed that energy projects on Council owned land will be developed according to the following criteria:

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- Maintain the best agricultural land for productive agricultural use,
- Utilise non-productive sites such as landfills, and potentially augmenting existing use sites such as farms and car parks,
- Contribute to wider objectives around issues like biodiversity and education where appropriate,
- Comply with planning requirements and best practice community involvement,
- Contribute to the local economy by prioritising local skills and expertise,
- Provide an effective way for residents to source renewable electricity and reduce their exposure to annual above inflation energy bill increases.

Local economic benefit

- 3.13 According to RegenSW, around £204m is spent annually in Swindon by businesses, organisations and residents on energy bills. The Bloomberg New Energy Finance and Commission on Climate Change prediction estimate that this will rise to between £244m and £270m by 2020, an increase of between 20% and 32%.
- 3.14 Only 1.6% of Swindon's energy comes from local, renewable sources of energy according to RegenSW. Whilst this figure is low, it is important as it indicates the size of opportunity to retain a large proportion of current energy spend within the local economy.
- 3.15 Traditionally, renewable projects are progressed in a way where the benefits accrue mainly to the landowner, developer and large scale investors. Schemes that allow local investment are slowly becoming more popular, but to date no Council has proposed a large-scale programme with a significant local investment.
- 3.16 There are a number of different operating models for the development of solar sites, which provide for local investment. It is proposed to develop an overarching business model setting out parameters for Council and wider local investment in solar development on Council land. An individual business case will be undertaken for each potential Council site and, where the business case is positive, and the scheme reflects the criteria at paragraph 3.12, a report will be brought back to the Cabinet for approval.

Local Development Order: energy infrastructure

- 3.17 Energy development on Council land will need to be accompanied by wider development of energy infrastructure if targets are to be met. The Council seeks to encourage private investment in energy schemes to support the local economy.
- 3.18 With this in mind, and building on the existing Local Development Orders for the employment areas around Swindon and the partnership arrangements with
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companies like Honda and BMW, it is proposed that a Local Development Order which allows minor schemes / proposals for energy infrastructure for energy infrastructure in suitable locations is investigated and, if practicable, progressed.

A focus on hydrogen and fuel cell technology

- 3.19 The transition to a low carbon economy is creating demand for new industries, from the design of new large-scale energy projects, to the installation of energy saving measures in the home. Swindon is well placed to benefit from these opportunities and is developing a particular expertise around hydrogen technology.
- 3.20 In essence, hydrogen is an energy carrier which can be used to power vehicles and buildings, and could provide a vital “energy store” in smoothing out the intermittent nature of renewables such as wind and solar. The innate flexibility of hydrogen to be used across a range of applications makes it a valuable tool in the future energy solution for Swindon.
- 3.21 Whilst hydrogen technology represents a major opportunity over the longer term, projects are already happening with significant progress locally. Swindon is also home to key companies involved in this growth sector. The potential of hydrogen is recognised in Swindon's Economic Strategy as a priority focus.
- 3.22 In 2011, the first open access hydrogen refuelling station was unveiled at Honda. Plans are underway to expand this facility and launch a fleet of hydrogen-powered vehicles in Swindon during October 2013. Further projects are being planned, but the development of hydrogen technologies is not without its challenges, which makes Council involvement valuable. The challenges are detailed further in the attached hydrogen roadmap, which sets out the following key themes as a focus for future activity.
- Hydrogen-powered vehicles and associated infrastructure
 - Hydrogen production and storage
 - Stationary and early market applications
 - Education and communication.
- 3.23 The Swindon Hydrogen Roadmap at **Appendix 1** proposes the formation of a Swindon Hydrogen Group, made up of stakeholders from the public and private sector tasked with identifying key projects by spring 2014.

4. Alternative Options

- 4.1 The alternative option would be for the Council to allow renewables schemes and economic development opportunities to proceed in an ad hoc way, without the

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local benefits that would be accrued through a proactive and co-ordinated local approach.

5. Implications, Diversity Impact Assessment and Risk Management

Financial and Procurement Implications

- 5.1 Investment in solar schemes will be undertaken on a site-by-site basis in accordance with an overarching business model setting out parameters for Council investment and achieving best value in the development of such schemes.
- 5.2 The financial implications of developing outline business cases for individual sites are relatively minor and are covered in the separate report on the agenda related to Swindon Commercial Services Ltd. Any further financial implications arising as projects are recommended to be taken forward will be scoped and brought back to members for decision(s).
- 5.3 There are no financial or procurement implications currently arising from the Swindon Hydrogen Strategy.

Legal and Human Rights Implications

- 5.4 Legal and Human Rights considerations have been taken fully into account in compiling this report. It is considered that the steps taken by the Council in relation to the development of a local, affordable and sustainable energy supply in Swindon are proportionate and compatible with convention rights.

All Other Implications (including Staff, Sustainability, Health, Rural, Crime and Disorder)

- 5.5 Sustainability is key to this report and such implications are set out in the body of the report and in its recommendations. No other specific implications have been identified at this time.

Diversity Impact Assessment

- 5.6 The infrastructure proposals in this report do not require a Diversity Impact Assessment (DIA) as the main mechanism for assessing and coordinating proposals for new energy infrastructure is the Swindon Borough Local Plan and Development Management Policies, which have already undergone Diversity Impact Assessments. No negative impacts were identified.
- 5.7 It is proposed that a DIA will be undertaken in respect any local business model to cover how benefits, whether financial or otherwise, are realised.

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Risk Management

- 5.8 A risk assessment will be established in respect of each project area as it is developed.

6. Consultees

- 6.1 The Board Director, Resources (Section 151 Officer) and Director of Law and Democratic Services (Monitoring Officer) are consulted in respect of all reports. The Board Director, Delivery, the Head of Property Assets and the Head of Planning have also been consulted.

7. Background Papers

- 7.1 None

8. Appendices

- 8.1 Appendix 1: Swindon Hydrogen Strategy.

9. Key Decision/Decision in Forward Plan

- 9.1 This is a Key Decision and is included in the Cabinet Work Programme and Forward Plan for October 2013.