



**Executive Committee: 16 July 2008**

## **Task and Finish Review into Renewable Energy and Energy Efficiency**

### **Report of Scrutiny Officer**

(This matter is the responsibility of Councillor Henley)

#### **Executive Summary**

This task and finish review has now been concluded. The final report has been submitted to the Overview and Scrutiny Board and was approved subject to some amendments, which have been made.

This cover sheet provides directions on how the Executive should deal with the task and finish report into affordable housing, particularly its 11 recommendations.

The final report of the task and finish review begins on the next page.

#### **1. The Executive is asked to do the following:**

- 1.1 Consider the report and its recommendations, and decide which, if any, of the recommendations it wishes to adopt.
- 1.2 If the Executive agrees to adopt any of the recommendations of the review, it should state who will be responsible for delivering each of the adopted recommendations. The Corporate Management Team (CMT) has had prior sight of the report and has identified a CMT member to take responsibility for each recommendation, if adopted.
- 1.3 If the Executive decides **not** to adopt any of the recommendations, it must specifically state why, as prescribed by the Local Government Act 2007.

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## **Task and Finish Review**

### **A Review into Renewable Energy and Energy Efficiency**

**July 2008**



“Don’t blow it - good planets are hard to find!”  
- Quote in “Time” Magazine

# **Taunton Deane Borough Council: Overview and Scrutiny Board**

## **A Task and Finish Review into Renewable Energy and Energy Efficiency**

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Introduction by Councillor Catherine Herbert  
Chair of the Renewable Energy and Energy Efficiency Task  
and Finish Review



“The quote on the previous page might seem flippant, but it’s absolutely true. This one planet is all we have, and all we have left. Looking after it is everybody’s responsibility. District councils have a role to play, which is why we wanted to do a review on renewable energy and energy efficiency.

We are under no illusions. Taunton Deane has a population of 105 thousand people, on a planet of over six billion! But we still have an obligation to do what we can, and district councils, county councils, regional assemblies, national governments, businesses, families and individuals are also doing their bit. We don’t really have a choice, and the best thing is, we can do quite a lot and often save money at the same time.

But this report isn’t just about turning the telly off rather than leaving it on standby. It’s not about putting cash in the bank either, though that’s a useful fringe-benefit! It’s about how Taunton Deane as an employer, business, and community leader can help reduce the amount of carbon dioxide and other greenhouse gasses we churn into the atmosphere, without compromising the ability of us all to get on with our lives.

There is no finger-wagging in this report: we’ve tried to avoid “do this, do that” recommendations. Taunton Deane is already doing a lot of good work, and should continue to lead by example. We can’t change the world in the space of this 5000 word report and its 10 recommendations, but we can say this: with a bit of thought, a little money, and a degree of effort, a useful difference can be made.

So, if the quote on the previous page is to be believed, then we have no choice but to do that thinking, commit that money, and make that effort.”

Councillor Catherine Herbert

Chair

Renewable Energy and Energy Efficiency Task and Finish Review

## **Acknowledgements**

**Sarah Jeffrey**

Bristol & Somerset Energy Efficiency Advice Centre

**Hugh Loxton**

Bical Biomass Industrial Crops Ltd

**Roger Mitchinson**

Senior Policy Officer, Planning Department, Taunton Deane Borough Council

**David Whitehead**

Housing Strategic Services Manager, Taunton Deane Borough Council

## **Definitions and Abbreviations**

### **Carbon Footprint**

A carbon footprint is a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced. Individuals and organizations can conceptualize their contribution to global warming by measuring their carbon footprint.

### **Carbon Neutral**

Counteracting release of carbon dioxide by maintaining a balance between producing and using carbon, especially balancing carbon dioxide emissions by activities such as growing plants to use as fuel or planting trees in urban areas to offset vehicle emissions, or through offsetting schemes.

### **Climate Change**

In recent usage, especially in the context of environmental policy, the term "climate change" often refers to changes in modern climate, is a corollary to the term "global warming," and is most commonly used to describe the effect on the environment of human actions; such as the emission of greenhouse gases.

Changes in average precipitation, temperature and wind patterns are all aspects of climate change.

### **DEFRA**

Department for Environment and Rural Affairs

### **Fuel Poverty**

A fuel poor household is one which cannot afford to keep adequately warm at reasonable cost. Fuel poverty is said to occur when a household needs to spend more than 10% of its income on fuel use in order to heat the home to an adequate standard of warmth. Affordable warmth also relates to the ability of a household to keep adequately warm.

### **Global Warming**

Global warming is the increase in average temperature of the Earth's near-surface air and oceans, and its projected continuation.

According to the Intergovernmental Panel on Climate Change (IPCC) the average global air temperature near the Earth's surface increased  $0.74 \pm 0.18$  °C ( $1.33 \pm 0.32$  °F) during the hundred years ending in 2005. The IPCC concludes "most of the observed increase in globally averaged temperatures since the mid-twentieth century is very likely due to the observed increase in anthropogenic (man-made) greenhouse gas concentrations"

## **Greenhouse Gases**

Greenhouse gases are the gases present in the atmosphere which reduce the loss of heat into space, contributing to increased global temperatures through the greenhouse effect. Greenhouse gases are essential to maintaining the temperature of the Earth; without them the planet would be so cold as to be uninhabitable. However, an excess of greenhouse gases can significantly raise the temperature of a planet. Greenhouse gases are produced by many natural and industrial processes.

On earth, the most abundant greenhouse gases are, in order of relative abundance (chemical formula in brackets):

- Water vapour (H<sub>2</sub>O)
- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)
- Ozone (O<sub>3</sub>)
- Clouoroflouorocarbons (CFCs)

Since the industrial revolution, concentrations of all the long-lived greenhouse gases have increased due to human actions, principally carbon dioxide and methane.

Water vapour concentrations fluctuate regionally, but human activity does not directly affect water vapour concentrations except at local scales (for example, near irrigated fields).

## **Nottingham Declaration**

The Nottingham declaration is a voluntary pledge by local authorities to address climate change. It represents a high-level, broad statement of commitment that any council can make to its own community. The declaration was originally launched in Nottingham in October 2000 and most local authorities are now signatories.

## **Sustainable Development**

Sustainable development is a pattern of resource use that meets current human needs while preserving the natural environment, so that future human needs can also be met. "Sustainability" and "sustainable development" are largely interchangeable terms that refer to environmental, economic, or social/political sustainability. The term was coined by the Brundtland Report, a 1987 European Union report on the environment and development, which defined sustainability as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

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## **Background to the Review**

### **Why do a review on this subject?**

The “green” agenda is becoming more prominent in the policies of all major political parties. National and international responses to climate change and other environmental issues will have a major impact on councils, communities and businesses. Renewable power generation has a role to play in the green agenda, as does energy efficiency and reducing energy use.

Taunton Deane Borough Council is a signatory to the “Nottingham Declaration on Climate Change.” Signatories acknowledge that climate change is taking place and that it will have far-reaching consequences for the United Kingdom. The commitments that councils make when signing the declaration include:

- Working at a local level to deliver carbon dioxide reductions in line with the Kyoto Protocol.
- Reduce greenhouse gas emissions from local authority’s own operations.
- Encourage all sectors of the community to reduce their emissions and adapt to the impacts of climate change.

The 2007-08 Climate Change Bill is about to receive its first reading in the House of Commons. The Bill’s key provisions include commitments to significantly carbon dioxide emissions. Amongst other things it will:

- Require the Government to publish five yearly carbon budgets as from 2008.
- Create a Committee on Climate Change.
- Require the Committee on Climate Change to advise the Government on the levels of carbon budgets to be set, the balance between domestic emissions reductions and the use of carbon credits, and whether the 2050 target should be increased.
- Place a duty on the Government to assess the risk to the United Kingdom from the impacts of climate change.
- Provide powers to establish trading schemes for the purpose of limiting greenhouse gas emissions.
- Confer powers to create waste reduction pilot schemes.
- Amends the provisions of the Energy Act 2004 on renewable transport fuel obligations.

Taunton Deane Borough Council also has a corporate objective to safeguard and enhance the environment: Objective 17 of the 2008-2011 Corporate Strategy states that the Council will;

“...actively promote sustainability in Taunton Deane with a focus on climate change, energy efficiency and renewable energy, to reduce our carbon footprint on the environment.”

## **Membership of the Review**

Councillor Catherine Herbert (Chair)  
Councillor John Bone  
Councillor Norman Cavill  
Councillor Ken Hayward  
Councillor Peter Smith  
Councillor Vivienne Stock-Williams  
Councillor Phil Stone

Councillor Cavill was originally elected to chair this review. However, due to other, unavoidable commitments, he reluctantly stood down as chairman. He was succeeded by Councillor Herbert, who chaired this review from the second meeting onwards.

## **Terms of Reference**

The Overview and Scrutiny Board commissioned this review on 4th October 2007, subject to the following terms of reference:

- To understand the advantages and disadvantages of different types of renewable energy, and how they might be applied in Taunton Deane.
- To “case-study” biomass as a renewable fuel. Biomass could offer a locally-sourced renewable energy supply, with a specific positive affect on the local and rural economy.
- To propose a policy framework that will allow Taunton Deane to enable and facilitate sustained development of low and zero carbon energy production.
- To identify good and best practice that can be implemented in Taunton Deane.
- To find out what concerns exist about different renewable energy technologies, whether they are well-founded, and what can be done to address those concerns.
- To make recommendations on how Taunton Deane can anticipate, meet, and possibly exceed renewable energy and low carbon obligations laid down by central government and other agencies.

At the first meeting of the review, the group distilled the broad terms of reference into the following statement:

“To understand the advantages and disadvantages of different types of renewable energy, their viability and funding and how that might be applied to Taunton Deane and promoted, especially with regard to: -

- Helping residents to embrace renewable energy;
- Helping developers to embrace renewable energy;
- What local authorities were able to go ahead and do. “

As the review progressed, it became apparent that energy efficiency was as important as renewable energy, and the group consciously looked less closely at renewables and more closely at energy efficiency.

## **Evidence Taken, Key Findings and Recommendations**

The evidence taken by the review group, its findings and recommendations, have been organized into themes. The recommendations are reproduced in full in appendix A.

The review group met a total of 5 times, between 26<sup>th</sup> November 2007 and 28<sup>th</sup> April 2008.

### **Energy Efficiency First, Renewable Energy Second**

The Regional Spatial Strategy (RSS) for the South West has the potential to significantly reduce energy use and carbon emissions. The government's Code for Sustainable Housing has increasing targets for sustainability meaning that by 2016 all new housing must be "zero carbon".

The RSS hopes to go further than the Code for Sustainable Housing, by demanding that housebuilders meet sustainability targets earlier. It is therefore unrealistic for Taunton Deane to "go it alone" because the work is already being done for us. In fact, the Council has already committed some funding to the Regional Development Agency to help the RSS along.

Although some housebuilders have objected to the RSS bringing forward sustainability ahead of time, the Inspector has not agreed with them. We now await approval – or not – by the Secretary of State.

In summary, there is little in a policy context that the Council do on top of the RSS and Code for Sustainability. As a planning authority we cannot replicate existing policies unless they add value: the existing policy already exists in the form of the Code for Sustainability, and the added value comes from the RSS which proposes to increase targets for meeting sustainability criteria.

Code 6 is the highest level of sustainability, and will require energy efficiency **and** renewable energy for homes to meet it.

The government requires Code 3 by 2010, and demands a 25% reduction in CO<sub>2</sub> emissions. This can realistically be managed by making homes more energy efficient. Code 4 is expected by government in 2013, but the RSS proposes that it be met between 2008 and 2010. Code 4 will likely require a renewable energy element on new housing developments.

The review group realized that regardless of how much renewable energy was made available, it was sensible to reduce energy use and waste first.

## **Feasibility of Major Renewable Energy ‘Types’**

### Wind

Wind power is a clean, renewable source of energy which produces no carbon dioxide emissions or waste products other than those created during the manufacturing process.

Wind turbines use the wind's lift forces to rotate aerodynamic blades that turn a rotor which creates electricity. The United Kingdom has 40% of Europe's total wind energy potential. But it is still largely untapped and only 0.5% of our electricity requirements are currently generated using wind power.

Large-scale wind energy production within Taunton Deane is however extremely limited because most areas are constrained by the need to place commercial turbines away from dwellings and microwave routes. There are very few sites in Taunton Deane that satisfy safety and windspeed requirements that are not in Areas of Outstanding Natural Beauty. Wind energy is not likely to be a major renewable energy source for Taunton Deane. Most potential sites are either inside Areas of Outstanding Natural Beauty or too close to homes or microwave infrastructure. In other areas average wind speeds are too unreliable or not strong enough for power generation. Nevertheless, where commercial generation is feasible, it should be supported.

#### **Recommendation 1**

The review group believes that the Council should encourage and be supportive of any efforts made to identify sites for viable commercial wind turbines.

For many building related applications there are small scale, local opportunities to capture wind energy. Small stand-alone turbines have hub heights from 6 to 30 metres and power ratings from 2.5 to 20 Kilowatts. It is important that structures are sited at a reasonable distance from obstructions such as buildings and tree belts that could impair the velocity of the wind.

Even smaller turbines are now available for attaching to buildings. However, these are not always suitable unless the building will tolerate vibration and the turbine itself can be placed a suitable distance above the roof line (around 2 metres above, in order to increase efficiency as winds are stronger further from the ground).

### Photovoltaics

Photovoltaic cells convert solar energy into electrical energy using cells of one or two layers of a semi conducting material, usually silicon. Photovoltaic electricity can also be fed into the national grid.

Photovoltaic panels can be fixed to roofs or form an integral part of a roof covering. They tend to be one of the easiest renewable energy systems to install. These devices can be quite heavy and may therefore require strengthened roofs.

### Solar Water Heating

Solar panels or collectors containing fluid absorb the sun's heat and once hot, the fluid passes through a coil in a hot water cylinder and transfers the heat to the water in the cylinder. Solar collectors can be installed at low level or on the roof of a building or incorporated into the roof finish. Solar water heating systems provide up to 70% of the hot water requirements of a home over a year, depending upon the habits of the users.

Solar water heating can provide about a third of a home's hot water needs. The average domestic system reduces CO<sub>2</sub> by around 350kg per year and about £40 a year of a hot water bill, depending on the fuel replaced. Also, solar water heating systems tend to require little maintenance.

### Heat Pumps

The most common use of heat pumps is for ground source heating. Ground source heat pumps transfer heat from the ground into a building to provide space heating and, in some cases, to pre-heat domestic hot water.

The process involves a closed loop system of plastic pipes filled with water and anti freeze buried in the ground and pumped around the loop. The pump evaporates compresses and condenses the heat and delivers it into the heating distribution system of the building. The process exploits the stable temperature of the earth for both heating and cooling.

Whilst not totally renewable because a small level of power is required to operate the pump, it can assist in reducing the requirement for heat generation on site and it does not require storage of fuel, unlike conventional systems.

### Bio-fuels

Key sources of biomass energy generation in the United Kingdom are "short rotation coppice" willow, and miscanthus. Crop areas are increasing steadily across the country as fossil fuels and non-renewable energy sources become more expensive.

Energy crops can be grown for large or small-scale units. Large power generators are now co-firing with biomass, allowing them to claim "Renewables Obligation Certificates" for generation of renewable energy.

Farmers can become energy and fuel suppliers for local power users, on a domestic or district-heating system. Large heat users, such as hospitals, leisure centers and schools are ideal outlets for biomass energy. Installations of biomass boilers are becoming more frequent across the country.

Energy crops can currently be grown on set-aside land, assuming a contract is in place with a suitable end-user. Energy crops grown on non-set-aside land are eligible for an annual Energy Aid Payment of up to 45 Euros per hectare. For farmers interested in planting willow or miscanthus, establishment grants are available.

However, the increased global market for fuel derived directly from plants has sometimes led to further ecological damage and, potentially, an increase in carbon emissions. Further concerns exist that food production in some areas will be replaced by more lucrative bio-fuel cropping, with the consequent adverse effects on food availability and price.

### Anaerobic Digestion

A 2007 working paper by DEFRA stated that the government was interested in the potential of anaerobic digestion as a means of meeting the United Kingdom's climate change obligations. It stated that;

“Anaerobic digestion has significant potential to contribute to our climate change and wider environmental objectives. It can help us to meet three of the UK's needs at the same time by:

- Producing more renewable energy in the form of biogas for biomass heat and/or power or for transport fuel;
- Helping to mitigate methane emissions from agriculture; and
- Helping to divert other kinds of organic waste, especially food waste, from landfill or incineration. ”

Anaerobic digestion is a well-proven renewable energy technology. It can reduce greenhouse gas emissions by capturing methane from the decomposition of organic materials, such as livestock manures and slurries, sewage sludge and food wastes. Anaerobic digestion involves harnessing the natural process whereby organic matter is broken down by bacteria in the absence of oxygen. The materials ferment in a closed vessel and produce a biogas which is a mixture of about 60% methane and 40% carbon dioxide, with other trace gases, such as hydrogen sulphide. This can be used as a renewable energy source, both for heat and power, and as a transport fuel.

The treated liquid - known as digestate - can be used as a fertiliser. In certain circumstances, it may prove attractive to separate fibre from the digestate and sell this as a soil conditioner and low grade fertiliser. Anaerobic digestion can be carried out in small scale systems, for example located on the farm and operated by farmers, or to serve businesses or clusters of businesses. Alternatively it can be carried out in large centralised systems, for example to treat municipal food waste being diverted from landfill by local authorities or manures and slurries from several farms.

Anaerobic digestion can lead to significant reductions in methane emissions from manures and slurries. Agriculture accounts for 7% of all UK greenhouse gas emissions of which about a third is due to methane emissions. Methane is a greenhouse gas with a global warming potential 21 times that of carbon dioxide over a 100 year time period. About 86% of this methane comes from enteric fermentation in the digestive system of animals, and 14% from manures and slurries. Anaerobic digestion offers the opportunity to capture methane from manures and slurries and so can lead to reductions in emissions to the atmosphere.

The Senior Planning Policy Officer has done some work looking at the feasibility of constructing an anaerobic digester in Taunton Deane. The reasoning behind this work is that the Somerset Waste Partnership does not currently have in place a method of collecting and composting commercial food waste, several hundred thousand tons of which is produced every year. Also, there are several very large dairy farms in Somerset which could potentially provide slurry to any anaerobic digestion plant, producing energy as well as fertilizer.

Nitrates, phosphates and other nutrients can be obtained from this form of recycling instead of being washed away by surface run-off into rivers; particularly considering the limitations imposed upon fertilizer use and the cost of purchasing fertilizer.

#### **Recommendation 2**

The Council should promote a trial of anaerobic digestion as a means of producing energy. A feasibility study should be carried out to determine the usefulness of commercial food waste for this purpose, which is currently land-filled.

#### **Case Study: Biomass – Miscanthus**

Hugh Loxton, a local farmer and businessman, gave a very interesting presentation on the growth of miscanthus, which has the potential to be a very useful source of fuel in the south west and beyond.

Miscanthus is a perennial grass, which is increasingly being seen as an ideal energy crop for heat and electricity generation. It has a high dry matter yield, regrows each year, is an efficient user of nitrogen and water; in fact, it will grow almost anywhere with minimum fuss. It also suffers from very few pests or diseases. There is no need to till the soil more than once. The crop is cut then left to regrow – which means that birds and other animals are able to make use of both the crop and the ground for protection, nesting etc. A recent government report stated that;

“...because the crops were harvested in March and the land is not disturbed by cultivation every year, the fields were used as over-wintering sites for birds, small mammals and invertebrates suggesting immediate benefits for biodiversity.”

The table below shows how miscanthus compares to other arable crops, and shows the energy equation for each. Miscanthus is a more productive energy crop.

Crop	Energy in (MJ/ha)	Energy out (MJ/ha)	Ratio
Miscanthus	9,224	300,000	+ 32.53
Willow	6,003	180,000	+ 29.99
Hemp	13,298	112,500	+ 8.46
Wheat	21,465	189,338	+ 8.82
Oil Seed Rape	19,390	72,000	+ 3.76

The crop appears to be profitable and environmentally friendly. Once established it yields for over 10 years without the need to be replanted and with no input such as fertiliser or pesticides.

Drax Power Limited, operator of the second largest coal-fired power station in Europe, is committed to using miscanthus as a biomass material combined with coal because of its low cost and efficiency.

Where a market for miscanthus exists or appears, Bical sets up local co-operatives of farmers who will grow and harvest the crop, pelletise it, and distribute it. Because these co-operatives are set up as close as possible to the market, carbon emissions are kept to a minimum when transporting the fuel to the customer.

Miscanthus is recognised and supported by the Department of Environment, Food and Rural Affairs and it was now being grown across other parts of Europe and in the United States.

Whereas some other bio-fuels are responsible for a lot of environmental damage when forest is destroyed to make way for crops such as palm oil, or food production is eschewed in favour of more lucrative bio-fuel crops, miscanthus can be grown in the united kingdom and is a viable alternative for many farmers who do not make a worthwhile profit from food production.

The review group is aware that the headlong rush to bio-fuels has in some cases had a negative impact on the environment **and** climate change. However the case of miscanthus appears to satisfy the accepted definition of sustainability: it allows us to produce the energy we need without compromising the environment, economy, or our future needs.

Policy G in the emerging Regional Spatial Strategy for the south west refers to renewables. Fuel-fired energy production - rather than passive measures such as solar - are only as renewable as the fuel being used. There could be a role for miscanthus or other renewable crops.

**Recommendation 3**

The Council should look for and pursue opportunities to deliver viable biomass power generation on future developments where the Council has the power to influence; this should include its own buildings and housing stock. The review group was particularly impressed by the potential of miscanthus as an energy crop. West Somerset District Council's recent work using waste wood-chip could also be a worthwhile bio-mass fuel.

**Good Practice in Other Local Authorities**

Uttlesford District Council has introduced a scheme, in association with the Essex Energy Efficiency Advice Centre, where all householders were encouraged to complete a Home Energy Efficiency Questionnaire. In return they received two free energy efficiency light bulbs and a customised energy efficiency report for their home. The questionnaire and light bulbs were available at various offices and community information centres.

**Recommendation 4**

Taunton Deane Borough Council should implement this scheme in association with the relevant local Energy Efficiency Advice Centre to encourage and enable households to save energy and reduce their carbon footprint.

Uttlesford also encourage home-owners to embrace energy efficiency when extending their homes. Their Planning Department requests that all applicants who wish to add extensions to their property complete a Home Energy Efficiency Questionnaire which is analysed to produce an energy efficiency report. The applicant then undertakes to carry out energy efficiency improvements to their home as a condition of planning consent. Taunton Deane's Planning Department explained that it might not be possible to implement this policy as a condition of planning consent, but could be carried out on an advisory, or good practice, basis.

**Recommendation 5**

The Planning department should prepare and publish a supplementary planning document, or similar policy or best practice guide, requesting or requiring those who submit planning applications to extend dwellings, to complete energy efficiency improvements as a requirement of receiving planning permission: where possible and practical. This requirement / guidance should include, but not be limited to, the following:

- Cavity, wall, loft and floor insulation;
- Replacement of boiler if over a certain age;
- Upgrade of heating controls;
- Hot water insulation package;
- Draught stripping; and
- Energy efficient lighting.

## Partnership Working

The Housing Strategy Manager provided information to the review on how energy suppliers are expected to meet their climate change obligations.

The government originally placed an obligation on utility companies in the form of an energy efficiency commitment. This legislation has recently been replaced with a strengthened “Carbon Energy Reduction Target” which has doubled utility companies’ obligations towards energy efficiency.

As well as providing grants and advice, utilities also provide large numbers of energy efficient light bulbs to local authorities, for them to distribute. Taunton Deane has been offered tens of thousands of energy efficient light bulbs, and is obliged to distribute them principally to households with low incomes.

The review group explored the possibility of setting up a company to purchase and sell energy efficient light bulbs on an at-cost basis. However, the review group decided that this would not be necessary: utility companies are already supplying them for free.

The Bristol and Somerset Energy Efficiency Advice Centre is a free and independent advice service run by the Centre for Sustainable Energy. It offers advice on making homes more energy efficient and reducing fuel bills to householders in the Bristol, Somerset and South Gloucestershire areas. This includes providing information on grants and discounts that may be available for heating and insulation measures.

Energy efficiency advice centres will also help local authorities find the best ways to promote energy efficiency, including advice on setting up open days, “light-bulb amnesties” and other good practice from elsewhere in the region and country.

The review group felt that despite all the work being done by government, its agencies and by local government, the message wasn’t necessarily reaching everyone, or not being acted upon.

The review group agreed that the council should take advantage of the services provided by energy efficiency advice centres to raise awareness of the climate change and energy efficiency agenda, and especially the advantages to households of embracing energy efficiency.

### **Recommendation 6**

The council should work with the local energy efficiency advice centre to set up an energy efficiency open day, perhaps in the style of the successful affordable housing open day, to promote energy efficiency, renewable energy and energy saving as it affects residents and businesses in Taunton Deane. This open day should be specifically set up to provide practical assistance for residents and businesses as well as information on the climate change agenda. This event must be properly advertised and promoted.

The review group believes that the emerging Pioneer Somerset arrangements have a key role to play in the way that Somerset tackles climate change.

The emerging Pioneer Somerset structure has the potential deliver Somerset's Local Area Agreement targets with greater economies of scale than if each district and the County Taunton Deane pursued them separately.

### **What Else Could Taunton Deane Do?**

The review group spent a lot of time discovering what work Taunton Deane currently does, what its obligations are, and how they are being met.

At the end of 2006 Taunton Deane Borough Council became a signatory to the Nottingham declaration, making a commitment to tackle climate change. Part of that commitment is to produce a Climate Change Strategy. The first stage of doing this is to identify what the carbon footprint of the Council is, before working out how to reduce it. This baseline includes carbon emissions from the Council's buildings and vehicles. This data is then inputted into a Carbon Trust database, who calculate the baseline carbon footprint. The Energy Savings Trust will help the Council to identify ways of reducing the carbon footprint.

According to the figures, the carbon output of Taunton Deane Borough Council was 3499 tons in 2006-07 costing £611,000 in fuel. This is expected to increase by £252,000 in 2007-08 due to increasing fuel costs. Aside from the undesirability of carbon emissions, energy efficiency can have a significant effect on council budgets.

Taunton Deane does not have an officer with specific and dedicated responsibility to address the obligations and challenges associated with "green issues" and the Climate Change Strategy. The review group heard that these obligations will only increase over time.

#### **Recommendation 7**

Taunton Deane should explore the possibility of appointing a Climate Change Officer. This post should include the following responsibilities and be appropriately placed in the structure of the organization to have the greatest impact and influence.

- To promote the council's corporate objective on climate change, renewable energy and energy efficiency (Objective 17, 2008-11 Corporate Strategy).
- To lead Taunton Deane's input into meeting the Local Area Agreement targets relating to climate change.
- To lead on producing, implementing and monitoring documents relating to climate change, renewable energy and energy efficiency; such as the Carbon Management Plan and Climate Changes Strategy.
- Service the "Green Groups" and keep them informed – see recommendations 10 and 11.

The review discussed how to reach the public in a cost effective way. The value of a “one-stop-shop” to provide information and guidance was noted. The review concluded that with a large number of similar websites in existence, one more would not help. A webpage on the Taunton Deane website containing basic advice and useful links to other organizations and funding authorities would be more useful and cheaper to create and maintain.

#### **Recommendation 8**

Taunton Deane should create a webpage to promote energy efficiency, renewable energy and the wider climate change agenda, with a direct link placed on the [www.tauntondeane.gov.uk](http://www.tauntondeane.gov.uk) front page. This webpage should contain information on energy efficiency, renewable energy, the Council's approach to climate change, and a list of contact details for relevant organizations and funding authorities.

Members also agreed that if a leaflet could be included in the council tax demands, a wide range of people could be reached for minimum cost, and that a leaflet showing ways of saving money would be popular when compared to the council tax demand it was accompanying!

#### **Recommendation 9**

A leaflet containing details on how householders can access grants and other assistance to make their homes more energy efficient should be compiled. It should be distributed with the annual Council Tax demand. The leaflet should direct householders to the Energy Savings Trust website, and provide contact information to help householders not only make their homes more environmentally friendly, but possibly save money by doing so.

**This recommendation was made during the review as an interim recommendation. It was adopted by the portfolio holder for Planning and Transportation and the leaflet was distributed with the 2008-09 Council Tax demand.**

The panel believes that the leaflet should now be distributed to all Council offices and, where possible, to officers who have direct contact with the public. In particular, the leaflet could have a role in tackling fuel poverty, and in correspondence between the planning department and applicants.

During the review, Councillors became increasingly aware that a lot of work is already being done to tackle climate change and promote energy efficiency and renewable energy. Money and resources are available in many instances; however the missing element was often awareness or the prevalence of the “can’t be bothered” factor.

In order to foster awareness, inside the council as well as in the community, two “green groups” should be set up to champion the green agenda. Their remit should include all elements of environment sustainability.

**Recommendation 10**

The Council should set up a small informal “green group” of interested Councillors who can promote the green agenda within the council, amongst other Members, and in the community at large. It should also act as a mechanism for feeding back the views and attitudes of the public, and be given the opportunity – without prejudice to other methods of consultation – to give feedback on “green” strategies that the council develops, such as the Climate Change strategy. This green group should be linked to the role of the Climate Change Officer (if recommendation 7 is adopted).

The review group felt that the maxim “put your own house in order first” was useful in developing Taunton Deane’s approach to the climate change agenda. Plenty of work has already been done but the review group felt that more could be done to encourage Council employees to embrace the climate change agenda in the work they do.

**Recommendation 11**

In light of the financial **and** environmental cost of the CO<sub>2</sub> footprint of Taunton Deane Borough Council, the council should set up an informal volunteer “green group” amongst officers to promote and champion energy saving, green awareness at the Council to create an environmentally sustainable working environment.

**Conclusion**

This review has made 11 recommendations, principally around the two themes of energy efficiency and renewable energy, but also in relation to the wider climate change agenda. Most of the recommendations fall under heading of “enabling” or “partnership.” Some recommendations have a significant cost attached to them, such as the recommendation to create a new officer post. Other recommendations, such as those suggesting that “green groups” be set up to promote the green agenda, will have small costs attached to them but, if successful, could ultimately save the council money. In terms of reducing our energy bills and CO<sub>2</sub> footprint, the proposed climate change officer post might also pay for itself.

This review is now concluded, but the review group wishes to make clear that they have only scratched the surface of the issues and challenges associated with energy efficiency, renewable energy, and climate change. Nevertheless, if the group’s recommendations are accepted and acted upon, a useful contribution can be made, not just in Taunton Deane, but across Somerset.

Finally, the review group would like to thank everyone who has been involved in this interesting and challenging review.

**Chair of the Review**

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## **Appendix A – Full List of Recommendations**

### **Recommendation 1**

The review group believes that the Council should encourage and be supportive of any efforts made to identify sites for viable commercial wind turbines.

### **Recommendation 2**

The Council should promote a trial of anaerobic digestion as a means of producing energy. A feasibility study should be carried out to determine the usefulness of commercial food waste for this purpose, which is currently land-filled.

### **Recommendation 3**

The Council should look for and pursue opportunities to deliver viable biomass power generation on future developments where the Council has the power to influence; this should include its own buildings and housing stock. The review group was particularly impressed by the potential of miscanthus as an energy crop. West Somerset District Council's recent work using waste wood-chip could also be a worthwhile bio-mass fuel.

### **Recommendation 4**

Taunton Deane Borough Council should implement this scheme [where all householders are encouraged to complete a Home Energy Efficiency Questionnaire in return for two free energy efficiency light bulbs and a customised energy efficiency report for their home] in association with the relevant local Energy Efficiency Advice Centre to encourage and enable households to save energy and reduce their carbon footprint.

### **Recommendation 5**

The Planning department should prepare and publish a supplementary planning document, or similar policy or best practice guide, requesting or requiring those who submit planning applications to extend dwellings, to complete energy efficiency improvements as a requirement of receiving planning permission: where possible and practical. This requirement / guidance should include, but not be limited to, the following:

- Cavity, wall, loft and floor insulation;
- Replacement of boiler if over a certain age;
- Upgrade of heating controls;
- Hot water insulation package;
- Draught stripping; and
- Energy efficient lighting.

### **Recommendation 6**

The council should work with the local energy efficiency advice centre to set up an energy efficiency open day, perhaps in the style of the successful affordable housing open day, to promote energy efficiency, renewable energy and energy saving as it affects residents and businesses in Taunton Deane. This open day should be

specifically set up to provide practical assistance for residents and businesses as well as information on the climate change agenda. This event must be properly advertised and promoted.

#### **Recommendation 7**

Taunton Deane should explore the possibility of appointing a Climate Change Officer. This post should include the following responsibilities and be appropriately placed in the structure of the organization to have the greatest impact and influence.

- To promote the council's corporate objective on climate change, renewable energy and energy efficiency (Objective 17, 2008-11 Corporate Strategy).
- To lead Taunton Deane's input into meeting the Local Area Agreement targets relating to climate change.
- To lead on producing, implementing and monitoring documents relating to climate change, renewable energy and energy efficiency; such as the Carbon Management Plan and Climate Changes Strategy.
- Service the "Green Groups" and keep them informed – see recommendations 10 and 11.

#### **Recommendation 8**

Taunton Deane should create a webpage to promote energy efficiency, renewable energy and the wider climate change agenda, with a direct link placed on the [www.tauntondeane.gov.uk](http://www.tauntondeane.gov.uk) front page. This webpage should contain information on energy efficiency, renewable energy, the Council's approach to climate change, and a list of contact details for relevant organizations and funding authorities.

#### **Recommendation 9**

A leaflet containing details on how householders can access grants and other assistance to make their homes more energy efficient should be compiled. It should be distributed with the annual Council Tax demand. The leaflet should direct householders to the Energy Savings Trust website, and provide contact information to help householders not only make their homes more environmentally friendly, but possibly save money by doing so.

**This recommendation was made during the review as an interim recommendation. It was adopted by the portfolio holder for Planning and Transportation and the leaflet was distributed with the 2008-09 Council Tax demand.**

The panel believes that the leaflet should now be distributed to all Council offices and, where possible, to officers who have direct contact with the public. In particular, the leaflet could have a role in tackling fuel poverty, and in correspondence between the planning department and applicants.

#### **Recommendation 10**

The Council should set up a small informal "green group" of interested Councillors who can promote the green agenda within the council, amongst other Members, and in the

community at large. It should also act as a mechanism for feeding back the views and attitudes of the public, and be given the opportunity – without prejudice to other methods of consultation – to give feedback on “green” strategies that the council develops, such as the Climate Change strategy. This green group should be linked to the role of the Climate Change Officer (if recommendation 7 is adopted).

**Recommendation 11**

In light of the financial **and** environmental cost of the CO<sub>2</sub> footprint of Taunton Deane Borough Council, the council should set up an informal volunteer “green group” amongst officers to promote and champion energy saving, green awareness at the Council to create an environmentally sustainable working environment.