

PERTH AND KINROSS COUNCIL

Strategic Policy and Resources Committee

20 April 2016

Energy Policy and Strategy

Report by Director (Environment)

This report provides an update on the current position relating to energy consumption within the property estate. It outlines the proposed policy to be adopted to reduce the overall energy consumption in the future. This is required to meet the annual energy reduction targets of the Service of 3% and to support the Scottish Government's carbon reduction agenda.

1. BACKGROUND / MAIN ISSUES

- 1.1 The Scottish Government has set a mandatory long-term target to reduce carbon dioxide emissions by 80% by 2050. Perth and Kinross Council are working towards mitigating the effects of climate change by embarking on best practice measures which are intended to reduce overall energy consumption throughout the property estate.
- 1.2 The current property estate is a mixture of building types with varying grades of overall condition and energy performance ratings. This includes both relatively new build design and older properties.
- 1.3 The main issues relating to poor energy consumption are the consequence of:
 - Poor building fabric and low air tightness
 - Low insulation values
 - Inefficient heating systems and controls
 - Inefficient electrical power and lighting systems
 - Lack of end user awareness
- 1.4 This report compares historical energy consumption and advises of measures that are necessary to reduce future requirements.
- 1.5 The information below identifies energy used in the financial year (2014/15) compared to 2013/14 as final 2015/16 usage is currently being compiled. The figures are presented in kWh for each utility type in the table below:

Utility Type	2013/14 kWh	2014/15 kWh	Difference	%
Electricity	20,986,052	19,744,628	-1,241,424	-6%
Gas	39,753,596	37,077,518	-2,676,078	-7%

Utility Type	2013/14 kWh	2014/15 kWh	Difference	%
Oil	4,660,761	4,025,448	-635,313	-14%
Biomass	5,099,460	4,107,597	-991,863	-19%
Totals	70,499,869	64,955,191	-5,544,678	-8%

1.6 The figures above demonstrate an overall decrease in total energy consumption during the period of examination from 2013/14 of 8%, with the most significant (in kWh terms) decrease being in the consumption of gas.

1.7 The reduction in energy to date is due mainly to:

- The completion of energy efficiency works identified by the Property Services energy team (including lighting upgrades for electricity reduction, Building Energy Management System controls, roof insulation, and biomass plant replacing oil installations)
- Milder weather in 2014/15 compared to that of the previous year (measured by degree days, 2014/15 was 6% milder than 2013/14)
- Implementation of energy reduction measures and improved energy housekeeping.

2. PROPOSALS

2.1 Property Services are committed to reducing energy consumption within the Council estate. A number of energy reduction measures have been identified in an Energy Policy and Strategy statement. This is attached as Appendix 1.

2.2 A number of measures will be carried out which will deliver greater energy reduction in the coming years, along with a consequential reduction in the Carbon Dioxide (CO₂) emissions.

2.3 These measures link to 5 key areas:

a) Improvements to ensure energy efficiency

- A continued programme of works to identify inefficient buildings and upgrade these to modern standard or replace them if they be deemed to be life expired.
- This will involve such measures as improving internal insulation and external building fabric. The upgrading and replacement of inefficient heating and electrical systems utilising new and innovative energy efficient products is key to this improvement area.

b) Build Better

- All new buildings will be built to standards higher than that required from the Scottish Building Standards Agency (SBSA). In order to meet the requirements of these Technical Standards, the baseline level for sustainability is Bronze level.
- It is expected that all new buildings to be delivered on behalf of Perth and Kinross Council shall exceed this standard as a minimum requirement.

c) Generate electricity from renewable sources

- Electricity generation using renewable sources such as the Photovoltaic (PV) systems are installed in a number of buildings at present. These systems are generating electricity and revenue through the Feed in Tariff (FIT) Scheme.
- It is anticipated that further schemes of this nature could be carried out utilising PVs and other renewable technologies such as Biomass Fuelled Combined Heat and Power systems (CHP) which also provide heat, in addition to electricity generation.

d) Implement Green Purchasing

- This involves the purchase of products that use less energy, last longer and are good for the environment. This may require initial additional investment but will create a spend to save approach which would help reduce future energy consumption.
- For example, all new or replacement light fittings within PKC buildings will utilise LED technology which has a minimum of 5 year warranty agreements, assisting with reduced future maintenance costs.

e) Energy Awareness and Housekeeping

- To fulfil the objectives that Perth and Kinross Council is trying to achieve, raising energy awareness is an essential requirement. This will involve educating all staff, ensuring end users and the wider community are aware of their responsibility to assist in addressing climate change for the better of the environment, the base setting of building heating to 19° centigrade across all properties (nursery and residential property excluded).
- An example of this is increased interaction with school pupils by Property Services Energy Team and energy partners to raise the profile of energy efficiency.

3. CONCLUSION AND RECOMMENDATIONS

- 3.1 The Council has agreed to reduce overall energy consumption by at least 3% annually for the next three years as part of the 2016/17 budget. Annually, Perth and Kinross Council also has a responsibility to meet Scottish Government targets. As a result, it is essential that the recommendations set out in the attached Energy Policy and Strategy statement are implemented.
- 3.2 It is recommended that the Committee:-
- (i) Notes the target reduction of at least 3% per year for 2016/17 to 2018/19 in overall energy consumption.
 - (ii) Approves the policy in Appendix 1.

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Approved

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Barbara Renton	Director (Environment)	29 March 2016

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1. IMPLICATIONS, ASSESSMENTS, CONSULTATION AND COMMUNICATION

Strategic Implications	Yes/None
Community Plan / Single Outcome Agreement	Yes
Corporate Plan	Yes
Resource Implications	
Financial	None
Workforce	None
Asset Management (land, property, IST)	None
Assessments	
Equality Impact Assessment	Yes
Strategic Environmental Assessment	None
Sustainability (community, economic, environmental)	None
Legal and Governance	None
Risk	Yes
Consultation	
Internal	Yes
External	None
Communication	
Communications Plan	None

1. Strategic Implications

Community Plan / Single Outcome Agreement

- 1.1 The Perth and Kinross Community Planning Partnership (CPP) brings together organisations to plan and deliver services for the people of Perth and Kinross. Together the CPP has developed the Perth and Kinross Community Plan which outlines the key things we think are important for Perth and Kinross:
- (i) Giving every child the best start in life
 - (ii) Developing educated, responsible and informed citizens
 - (iii) Promoting a prosperous, inclusive and sustainable economy
 - (iv) Supporting people to lead independent, healthy and active lives
 - (v) Creating a safe and sustainable place for future generations
- 1.2 It is considered that the actions contained in this report contribute to objectives (ii), (iii) and (v).

Corporate Plan

- 1.3 The Councils Corporate Plan 2013-2018 outlines the same five Objectives as those detailed above in the Community Plan. These objectives provide a clear strategic direction, inform decisions at a corporate and service level and shape resource allocation. It is considered that the actions contained in the report contribute to objective (iii) and (v) outlined in paragraph 1.1.

2. Resource Implications

Financial

- 2.1 This report has no direct financial implications and does not request additional funding over the agreed energy budget for Property Services.

Workforce

- 2.2 This report has no workforce implications.

Asset Management (land, property, IT)

- 2.3 There are no asset management implications arising from this report.

3. Assessments

Equality Impact Assessment

- 3.1 Under the Equality Act 2010, the Council is required to eliminate discrimination, advance equality of opportunity, and foster good relations between equality groups. Carrying out Equality Impact Assessments for plans and policies allows the Council to demonstrate that it is meeting these duties.
- 3.2 The information contained within this report has been considered under the Corporate Equalities Impact Assessment process (EqIA) and has been assessed as **not relevant** for the purposes of EqIA.

Strategic Environmental Assessment

- 3.3 The Environmental Assessment (Scotland) Act 2005 places a duty on the Council to identify and assess the environmental consequences of its proposals.
- 3.4 The information contained within this report has been considered under the Act. However, no action is required as the Act does not apply to the matters presented in this report.

Sustainability

- 3.5 Under the provisions of the Local Government in Scotland Act 2003 the Council has to discharge its duties in a way which contributes to the achievement of sustainable development. Under the Climate Change (Scotland) Act 2009 the Council also has a duty relating to climate change and, in exercising its functions must act:
- In the way best calculated to delivery of the Act's emissions reduction targets;
 - In the way best calculated to deliver any statutory adaptation programmes; and
 - In a way that it considers most sustainable.
- 3.6 This report supports all of these objectives.

Legal and Governance

- 3.7 The Head of Legal and Governance Services has been consulted on this report.

Risk

- 3.8 The risks and implication of options and recommendations are explained within the report.

4. Consultation

Internal

- 4.1 Consultation with the Strategic Investment Group, TES Senior Management Team and Education and Children's Services.

External

- 4.2 There has been no external consultation in the preparation of this report.

5. Communication

- 5.1 The contents of this report will be communicated through ongoing discussions with occupiers of Council buildings.

2. BACKGROUND PAPERS

- 2.1 None.

3. APPENDICES

- 3.1 Appendix 1 – Energy Policy and Strategy Statement

Energy Policy and Strategy Statement

1. Policy Statement

- 1.1 Perth and Kinross Council is a signatory to Scotland's Climate Change Declaration (SCCD). This commits the local authority to a series of actions intended to both mitigate the effects of climate change and adapt to its consequences. Good practice in energy management throughout our Council estate is key to reducing carbon emissions and energy use from all user activities.
- 1.2 The Scottish Government has set a mandatory long-term target to reduce carbon dioxide emissions by 80% by 2050 (calculated from the base date of 1990). Additional regulatory measures including the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES) and the Energy Performance of Buildings Directive (EPBD) are imposing additional pressures on local authorities to improve energy efficiency.
- 1.3 This policy sets out to provide a clear focus for Perth and Kinross Council's objectives and be the formal expression of the Council's commitment to, and ownership of, energy issues within property.

2. Main Objectives

- 2.1 The policy details Perth and Kinross Council's strategy for reducing carbon emissions over the next financial year and identifies the responsibilities and internal resources required to deliver the programme. The main objectives of the plan are:
 - To take a whole business approach so that carbon management is adopted as a key objective.
 - Full engagement with clients and end users to ensure that carbon reduction is fully integrated throughout the Council.
 - Reduce carbon emissions by at least 3% annually.
 - All decisions relating to energy management within Perth and Kinross Council are considered as part of a corporate wide approach.

3. Our Approach

3.1 Property Services will develop a comprehensive Carbon Management Plan with targets and timetables for substantially reducing carbon and its impact on the environment. The core themes within the plan include:

- Upgrade Energy Efficiency – continue to upgrade inefficient buildings and replace inefficient systems and equipment.
- Build Better – all new buildings will be built to standards higher than that required from the Scottish Building Standards.
- Implement Green Purchasing – buy products that use less energy, last longer and are good for the environment. Move to clean power – buy or generate electricity from renewable sources.
- Sustainability – reinforce requirement for cultural change towards improvement.
- Energy Awareness – create a culture of conservation awareness Council wide.

3.2 These themes create a number of opportunities and challenges. Critical to the success of the carbon reduction is achieving the understanding and buy-in of staff and all other energy users throughout the Council.

3.3 An effective communication plan will facilitate this, and it is important to maintaining the profile of energy reduction both now and in future years. The following objectives have been set for this strategy. These are to:

- Raise awareness of energy use and associated environmental impact.
- Obtain buy-in to the plan from all stakeholders.
- Inform staff and all other end-users of progress and key milestones.
- Ensure there is an opportunity to contribute to the project through consultation and feedback.
- Champion a low-carbon approach to the wider community by publicising our successes.
- Explore and identify areas which may benefit from renewable energy.

4. Carbon Reduction Measures

4.1 The following provides a summary of the main initiatives which will deliver a substantial part of the carbon reduction target. The recommendations are split into technical, enabling and feasibility projects. The start point will focus on our secondary schools given these have been identified as being amongst the highest energy using buildings within the Council estate.

4.1.1 Technical Measures

- Better energy management by installation of automatic and sub-metering to facilitate more accurate data collection. Feasibility studies to be carried out by Energy partners making use of available grant funding where possible.
- Investment and development of Building Energy Management System (BEMS) to allow more accurate energy monitoring and control. Engage with Energy partners to support core Energy team.
- Council wide policy for the control and switching of external lighting to the Property estate.
- Heating systems condition survey programme.
- Installation of energy effective lighting (LED lighting and lighting controls).
- Installation of renewable technologies – photovoltaics (PVs), solar thermal, ground source heat pumps, biomass and wind generation.
- Waste minimisation – leak detection, switching off energy using equipment when not in use (computer control software, 'night watchman' or similar).
- Removal of unnecessary electric heaters and set a baseline accommodation standard of 19° centigrade across all premises (nursery and residential property excluded).
- Installation of improved insulation.
- Reduce energy consumption through the installation of voltage optimisation and combined heating and power units (CHP).

4.1.2 Enabling Measures

- Re-establish roles and responsibilities of staff within the Energy team to ensure that sufficient resources are in place to meet the objectives of this policy.
- Energy Awareness Campaign – engage with Building Managers, set up ECO groups, invite sponsors, introduce energy mascot to demonstrate to primary school pupils, create energy website, posters, energy information packs and issue reports on energy targets.
- Reduce temperatures and re-establish 'heating off periods'. Maintain temperatures in line with current regulations relevant to each particular building type.
- Align energy reduction measures and works with Capital and Revenue programmes of works.
- Closer and improved working relations between Energy and Engineering staff and all relevant stakeholders.
- Make greater use of proprietary software for invoicing and billing.
- Consumption monitoring and financial reporting.
- Improved procurement processes.
- Nearly zero energy buildings (by 2018).
- Ensure training needs of energy management staff are met and that energy awareness of all staff is raised and maintained.

4.1.3 Feasibility Studies

- Carry out thermal imaging surveys of worst performing buildings to identify remedial action required.
- Engage with Energy partners to carry out energy audits and surveys of worst performing buildings. Identify enhancements required for improved performance.
- Map all buildings against government benchmark standards. Identify energy improvement measures required.
- Explore options for adopting new in-house energy monitoring software to facilitate more accurate energy monitoring.
- Engage with energy partners and sponsors to introduce energy competitions in the school estate.
- Engage with IT professionals to establish IT strategy to support energy benefits.

5. Policy and Strategy Review

- 5.1 The above policy and strategy document will be reviewed annually by the Property Service Manager (Corporate Landlord) and will be revised as directed by the Director (Environment).