

APPENDIX I

ANNUAL ENERGY REPORT 2015/16

Introduction

Energy's profile has risen in recent years and can be considered in the context of a number of national and Scottish Government initiatives including Scotland's Climate Change Programme, the Climate Change (Scotland) Act 2009, the Local Authority Carbon Management Programme, the Carbon Reduction Commitment Energy Efficiency Scheme, achieving sustainable development through Best Value and the Local Government Act 2003.

The Council's energy consumption at its 240 non domestic properties accounted for approximately £2,584,299 in 2015/16. Water and waste water costs of £541,125 were also incurred in 2015/16.

Aims and Objectives

The Community Planning Partnership's Moray 2026 "A Plan for the Future" details that the Sustainability and Communities and Partnership is responsible for a target of reducing energy consumption and CO₂ from use of buildings over 10 years by 20%.

Reducing energy consumption in the Council's non-domestic operational properties by 2% per annum is the main objective of the Council's Energy Policy and the Council's Carbon Management Programme.

Performance

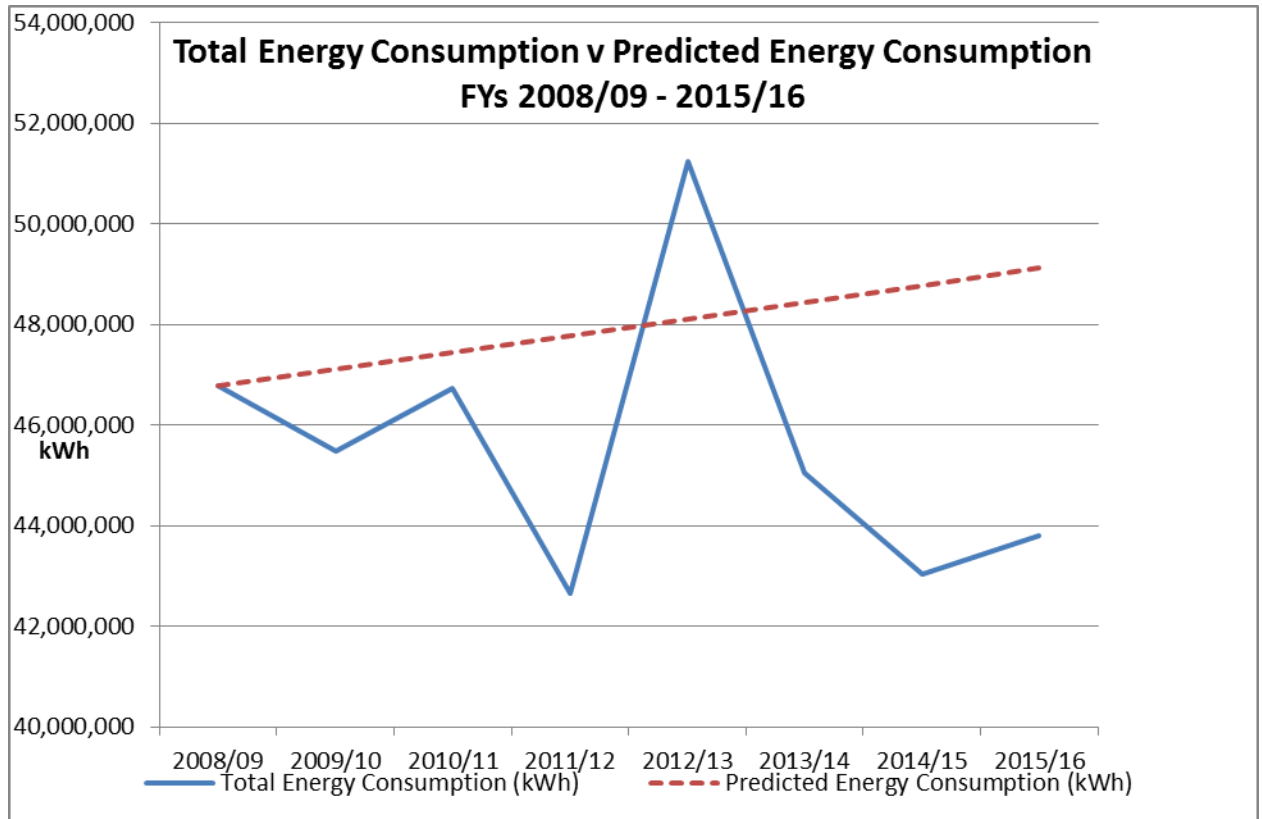
Energy Consumption

The Council's energy consumption for 2015/16 was 43,801,134kWh compared with consumption of 43,042,505kWh for 2014/15. This is a 758,629kWh (1.7%) increase on the previous years' consumption.

Table 1 and the graph below show the Council's total energy consumption for the last 8 years, compared to the predicted increases, based of Department of Energy and Climate Change advice.

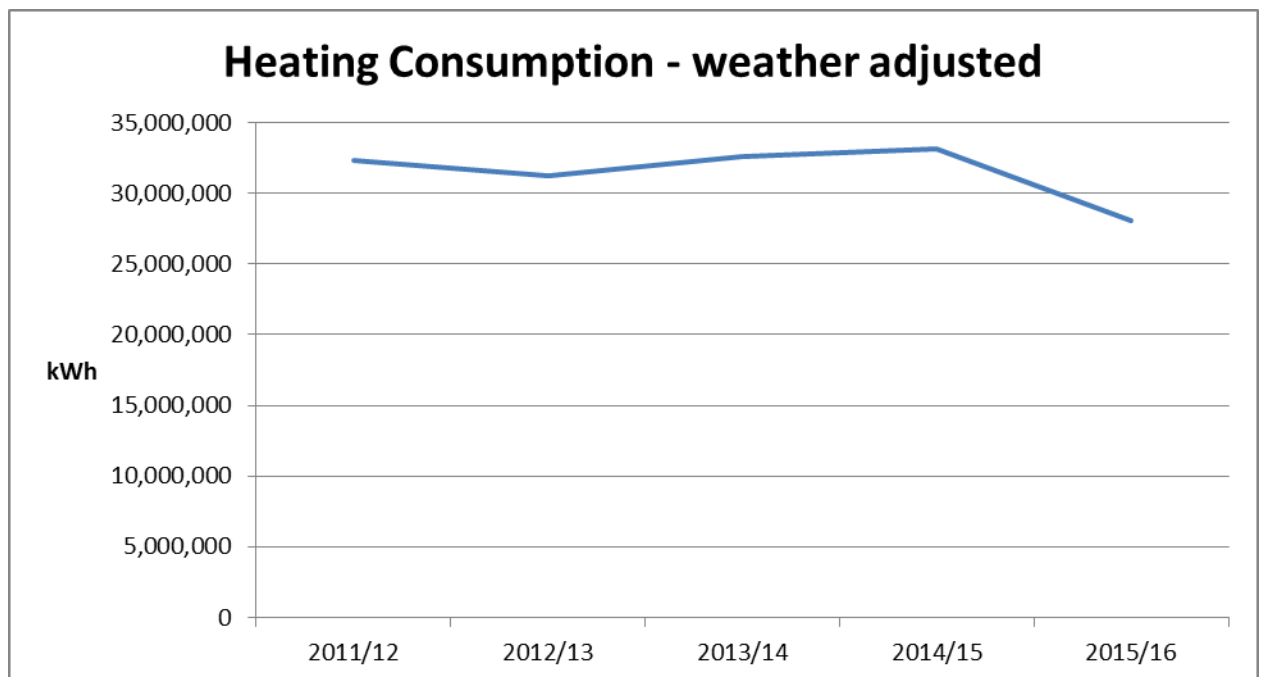
Table 1

	Elect	Gas	Oil	Heat	Total	Predicted
	kWh	kWh	kWh	kWh	kWh	kWh
2008/09	14,852,732	25,515,388	6,406,259	0	46,774,379	46,774,379
2009/10	14,288,713	25,724,064	5,466,141	0	45,478,918	47,101,800
2010/11	14,401,565	26,533,266	5,792,689	0	46,727,520	47,431,512
2011/12	13,574,972	23,412,913	5,621,488	50,220	42,659,593	47,763,533
2012/13	15,151,195	29,781,709	6,249,229	52,900	51,235,033	48,097,878
2013/14	14,022,554	25,204,926	4,286,330	1,526,735	45,040,545	48,434,563
2014/15	13,620,156	23,340,006	3,978,934	2,103,409	43,042,505	48,773,605
2015/16	13,668,381	24,044,179	4,063,998	2,024,576	43,801,134	49,115,020



The above energy consumption is not adjusted to take into account weather conditions; it is based on actual consumption.

However, the graph below shows the Council's weather adjusted (Degree Days) heating consumption for the last 5 years. The weather in 2015/16 was significantly colder than in 2014/15.



Heating accounts for 69% of the Council's energy consumption and the graph above shows a weather adjusted decrease in heating consumption of 15.5% since 2014/15. This is despite many very old heating systems that are operating inefficiently.

It is very difficult to identify exactly why the adjusted heating consumption has fallen, but it is believed the following were contributory factors:-

- Implementation of the Corporate Heating Strategy
- Energy saving projects
- School upgrading works
- Staff energy awareness campaigns, including monthly articles in the Connect magazine
- Energy Champions

The 1.7% overall increase in consumption is considered to represent good performance in the context of colder weather and Department of Energy and Climate Change predictions of increasing consumption.

Climate change is likely to exacerbate fluctuations in weather conditions in future.

Table 2 below gives details of the Council's energy consumption (per square metre floor space) by property type.

Table 2

Property Type	Energy Consumption (kWh/m ²)		
	2014/15	2015/16	% Change
Schools Estate	176	178	+ 1.14%
Corporate Offices	216	210	- 2.77%
Other Operational Properties	354	365	+ 3.11%

Property Asset Management

Energy performance is an important factor in measuring/assessing the overall performance of property assets, as part of the Council's developing framework of property asset management planning. This was highlighted in the Property Asset Performance Annual Report 2015 which was considered by the Policy and Resources Committee at its meeting on 7 June 2016 (paragraph 14 of the Minute refers).

PROCUREMENT/BILLING

Centralised Contract for Energy Procurement

Contracts through Scottish Procurement started on 1 April 2013 with EDF for electricity and on 1 April 2014 with Total for gas. EDF changed their billing and electronic data systems in January 2015 which has caused major ongoing problems for invoicing. This matter has yet to be fully resolved, but the Energy Team is continuing to identify and resolve issues as and when they arise.

Anglian Water replaced Business Stream for water services on 1 March 2016 – there have been significant difficulties with the information and format of their invoicing and management information reports, which the company has advised it is continuing to try and resolve.

Utility Invoices

All utility invoices go directly to the Energy Team for verification and validation prior to centralised authorisation and payment. The vast majority of utility invoices are received electronically and uploaded directly onto the Council's monitoring and targeting system. The software has been set up to automatically perform validation checks on the data received, highlighting any abnormalities for the Energy Team to investigate.

The monitoring and targeting system produces consolidated information for the Energy Team to pass to the Finance Section to facilitate payment. Currently 2 officers in Accountancy have access to the system to allow financial investigations and specific reports to be handled. The Council receives a discount of 0.3% for paying its electricity and gas invoices by direct debit – this also removes the potential for late payment charges.

Budget Monitoring

Budget Managers currently receive monthly budget reports including details of utility spend from the Finance Department. The Energy Team supplies utility consumption data in various formats to budget holders and carries out energy audits, walkrounds and briefings as requested. The TEAM Sigma monitoring and targeting system was updated in January 2015 and has the ability to allow budget holders (and any other interested party) direct access to consumption data via a web based browser. At present the Council's 6 Energy Champions have access.

"Smart" Meters

Smart meters (AMR's) have been partially rolled out across the Council's properties, with 91 (23 electricity, 44 gas and 24 water) installed to date. These meters record actual consumption on a half-hourly basis and transfer the data to a central data centre to allow accurate invoices to be raised.

The Energy Team monitor the data from AMRs to identify any abnormalities and take remedial action in early course. In addition the potential benefits of AMR's are:

- Increased performance in data collection.
- Utility bills are based on actual consumption.
- Avoids manual data entry or manual data transfer, eliminates a potential source of error.

CARBON REDUCTION COMMITMENT ENERGY EFFICIENCY SCHEME

The Carbon Reduction Commitment Energy Efficiency Scheme (CRC) is a scheme designed to incentivise large commercial and public sector organisations to implement cost effective energy efficiency opportunities at non domestic properties and street lighting. The charge per tonne (allowance) of CO₂ is due to increase in future years and varies dependant on when the allowance is purchased.

The Moray Council purchased 15,000 allowances at £15.60 each in April 2015 for the reporting period 2015/16, at a cost of £234,000. The actual amount of allowances required for the year was 14,231 and the Council is therefore able to carry forward 769 allowances.

It is more expensive to purchase allowances at the end of a financial year and by purchasing the bulk of the allowances early in 2015/16 the Council saved approximately £10,500.

In the 2016 budget the Government announced that the CRC scheme is to be abolished from April 2019 and that the Climate Change Levy will increase from 1 April 2019 to cover the cost of the CRC abolition.

The Council's Internal Audit Team carried out an audit of the CRC aspects of the Energy Team's operation, in accordance with a directive from the Environment Agency. The audit reviewed various aspects of the processes and concluded that all elements complied with the requirements. Audits of further aspects of the Energy Team's CRC operations will be scheduled in consultation with the new Energy Officer.

ENERGY POLICY AND STRATEGY – NON DOMESTIC PROPERTIES

The Council's current Energy Policy and Strategy was first produced in 2005 and subsequent revisions have been agreed by this Committee and made available publicly via the Council's Energy Internet website. In accordance with the Carbon Trust Management guide CTC733 "An energy management best practice model for Scottish local authorities" the Policy and Strategy document is now reviewed annually. The annual review has been carried out and no changes are proposed to the current document, which is attached as **APPENDIX II**.

CORPORATE HEATING STRATEGY

A Corporate Heating Strategy containing guidelines on the use and responsibilities for heating at Council buildings was agreed by this Committee at its meeting on 9 September 2014 (paragraph 4 of the Minute refers). This document gives clarity and advice to building occupiers, whilst allowing sufficient flexibility to facilitate local and/or changing circumstances.

The Energy Team monitor heating use and consumption and investigate any inconsistencies and discrepancies with the Heating Policy.

Building Energy Management Systems (BEMS)

In 2015/16 the Energy Team, working with ICT managed to resolve connectivity issues at a number of properties and all 25 of the Council's BEMS are now connected to the Energy Team in HQ. This allows the Energy Team to regularly monitor temperatures in buildings, identify anomalies early and adjust heating settings accordingly.

ENERGY AWARENESS

Energy Website

The Energy website on the internet and intranet continues to be reviewed and updated. The pages detail how to help the environment by following simple energy saving tips for your home, workplace or school. In March 2016 a link to the WWF Earth Hour website was incorporated along with details of how to sign up to this event. Copies of the Council's latest energy saving posters and the corporate heating strategy are also available on the website.

Monthly articles were included in the Connect magazine during 2015/16, covering a variety of energy issues, which are continuing in 2016/17.

Corporate Training

Energy Awareness briefings form part of the Corporate Staff Induction Training programme.

A total of 102 staff and 744 primary school pupils attended energy awareness events in 2015/16, this included 4 staff induction sessions, 1 team meeting, 5 school eco groups and 3 school assemblies.

6 staff volunteered as Energy Champions and received training on the role. Data shows typically annual reductions in energy consumption of around 5% at those properties with Energy Champions and it is intended to try and attract further volunteers to these roles.

The Energy Month initiative in November 2015 included open sessions at HQ and the Annexe and a challenge to staff to reduce energy usage in their places of work.

Energy Team Training

The Energy Team have participated in training to improve the benefits provided by the TEAM Sigma energy monitoring & targeting system. Further training in the CRC module of the system has been carried out to allow the production of the necessary reports for compliance with the scheme. Both Energy Assistants have successfully completed their European Computer Driving Licence (ECDL) training.

Energy Team staff regularly attend Scottish Energy Officers Network meetings.

ENERGY AUDITS

In 2015/16 the Energy Team carried out audits of the following 8 sites – Beechbrae, Ashgrove offices/depot, Alves Primary School, Burghead Primary School, Craigellachie Primary School, Inveron Primary School, Newmill Primary School and Mosstodloch Primary School. These audits resulted in several energy saving projects and energy saving measures being identified at each property. A series of follow up visits to gauge the implementation of the energy saving measures recommended was carried out and showed that the majority of the recommendations have been implemented.

Both the initial findings and follow up reports are provided to the particular school and copied to the Educational Resources Manager and the Head of Schools and Curriculum Development.

ENERGY PROJECTS

APPENDIX III lists the energy saving projects carried out in 2015/16, including the anticipated savings in kWh and £'s for each. **APPENDIX III** also lists further energy saving projects being considered.

The project to refurbish, upgrade and extend 4 of the Council's Primary Schools includes a number of measures which will substantially improve the energy efficiency of those properties.

In addition the installation of a new heat recovery system and upgrade of the fabric of Forres Swimming Pool will substantially improve the energy efficiency of that property.

However the policy to “make do and mend” for future maintenance of Council properties is likely to restrict opportunities to reduce energy consumption.

BIOMASS

Biomass boilers are operational at Speyside High and Milne’s High Schools. The Council has to date received Renewable Heat Incentive payments of £51,922 and £39,225 respectively.

Biomass systems are now considered as part of boiler upgrading project feasibility studies.

ENERGY PERFORMANCE CERTIFICATES

In July 2015 the statutory threshold for the floor area of public buildings for which the Council is statutorily obliged to provide Energy Performance Certificates (EPC) reduced from 500m² to 250m². EPCs for the 18 buildings this brought into scope were obtained, at a cost of £4,226.

In addition the Council remains obliged to provide EPCs for all properties for lease or sale (including Housing Revenue Account dwellings).

BENCHMARKS

United Kingdom wide benchmarks are available for different property types. However these are now dated and make no allowance for location and are considered of limited merit in assessing the Council’s properties.

Sustainability Scotland developed benchmarks for schools in Scotland a number of years ago, based on a limited number of properties. In the absence of better comparative data Moray Council used these to help assess its schools’ energy performance. These are now dated and there are no reliable Scottish benchmarks for energy performance. However the public sector Scottish Energy Officers Network (SEON) is currently working with Resource Efficient Scotland to collate energy consumption data from all Scottish Local Authorities, with a view to developing a reliable set of benchmarks for Local Authority properties in Scotland. It is envisaged that, once available, the benchmarks will be used to re-assess all Council properties with respect to energy performance.

FUTURE ENERGY SAVINGS

Although significant progress has been made in recent years in reducing the Council’s energy consumption it is considered that there is scope to achieve further significant reductions, principally as a result of:-

- (a) Further energy saving projects.
- (b) Rationalisation of the Council’s property assets.
- (c) Raising corporate awareness and corporate training.
- (d) Targeting worst performing schools.

- (e) Better utilisation of Building Energy Management Systems and other systems to analyse accurate energy data and identify energy saving opportunities.

BUDGETS

Revenue

In 2015/16 the Council's energy bill for properties totalled £2,584,299– an overall decrease of £105,822 (3.9%) compared to 2014/15. Table 2 below gives a breakdown of costs between different fuel types.

Table 3

	Total Energy Costs	Total Electricity Costs	Total Gas Costs	Total Oil Costs	Total Biomass Costs
2014/2015	£2,690,121	£1,649,384	£743,856	£192,165	£104,716
2015/2016	£2,584,299	£1,621,512	£716,630	£148,577	£97,580
Difference	-£105,822	-£27,872	-£27,226	-£43,588	-£7,136

Carbon Reduction Commitment Energy Efficiency Scheme (CRC)

The above figures do not include net CRC costs for 2015/16 emissions of £234,812 – a reduction of £10,196 from 2014/15. The cost per tonne is likely to continue to rise.

Funding of Energy Initiatives

The Central Energy Efficiency Fund (CEEF) ceased on 31 March 2016. The balance of £123,000 was allocated to the upgrading works at Forres Swimming Pool.

Meantime Spend to Save initiatives will continue to be prepared and in addition a sum of £15,000 has been allocated in the Council's 2016/17 capital plan specifically for energy saving projects and will be utilised to carry out a small programme of lighting upgrades.

In addition a revenue budget of £2,500 is available for small energy saving projects.