

APPENDIX I

ANNUAL ENERGY REPORT 2014/15

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 234 non domestic properties accounted for approximately £2,690,121 in 2014/15 and energy prices are set to rise in future years. Water and waste water costs of £533,444 were also incurred in 2014/15.

Aims and Objectives

The Community Planning Partnership's Moray 2023 "A Plan for the Future" states the Council will show leadership with regard to sustainability and climate change by reducing energy consumption and CO₂ from its use of buildings over 10 years by 20%. The energy efficiency aspect of the Plan is being lead by the Communities and Sustainability Partnership.

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

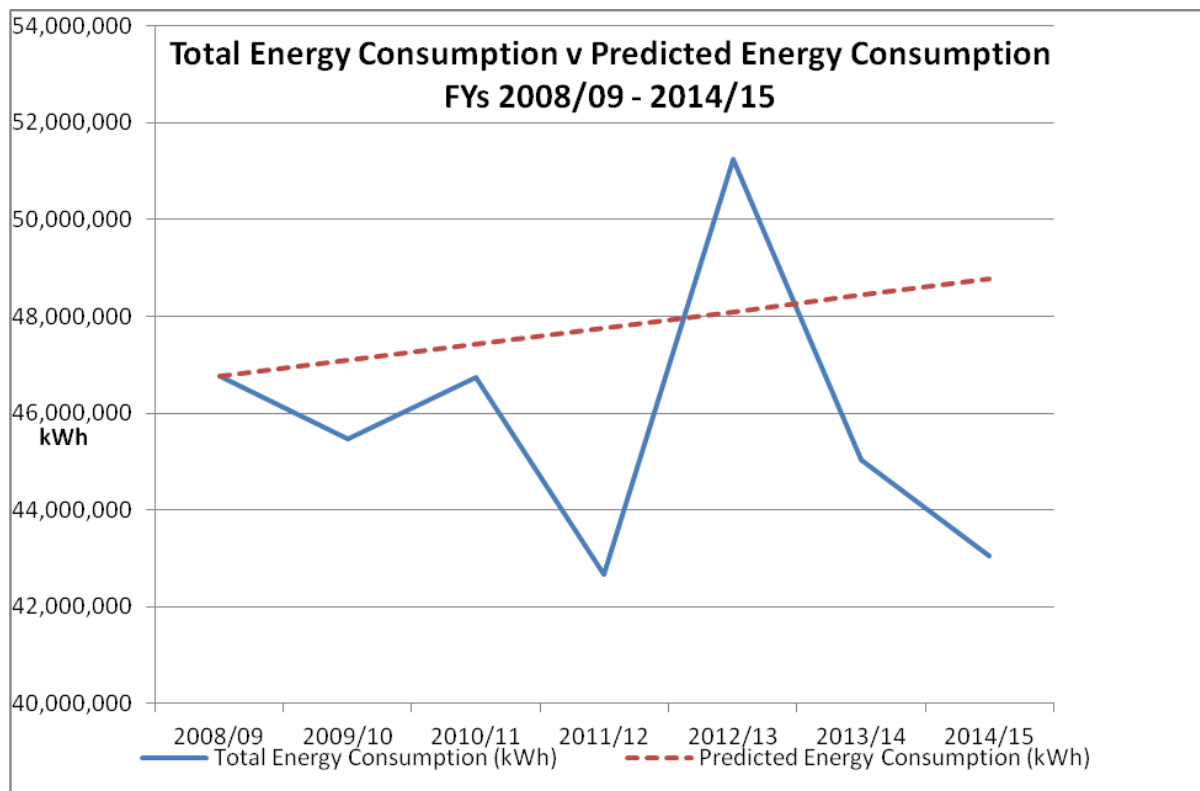
Energy Consumption

The Council's energy consumption for 2014/15 was 43,042,505kWh compared with consumption of 45,040,545kWh for 2013/14. This is a 1,998,040kWh (4.4%) decrease on the previous years' consumption.

Table 1 and the graph below show the Council's total energy consumption for the last 7 years, compared to the predicted increases, based of Department of Energy and Climate Change advice.

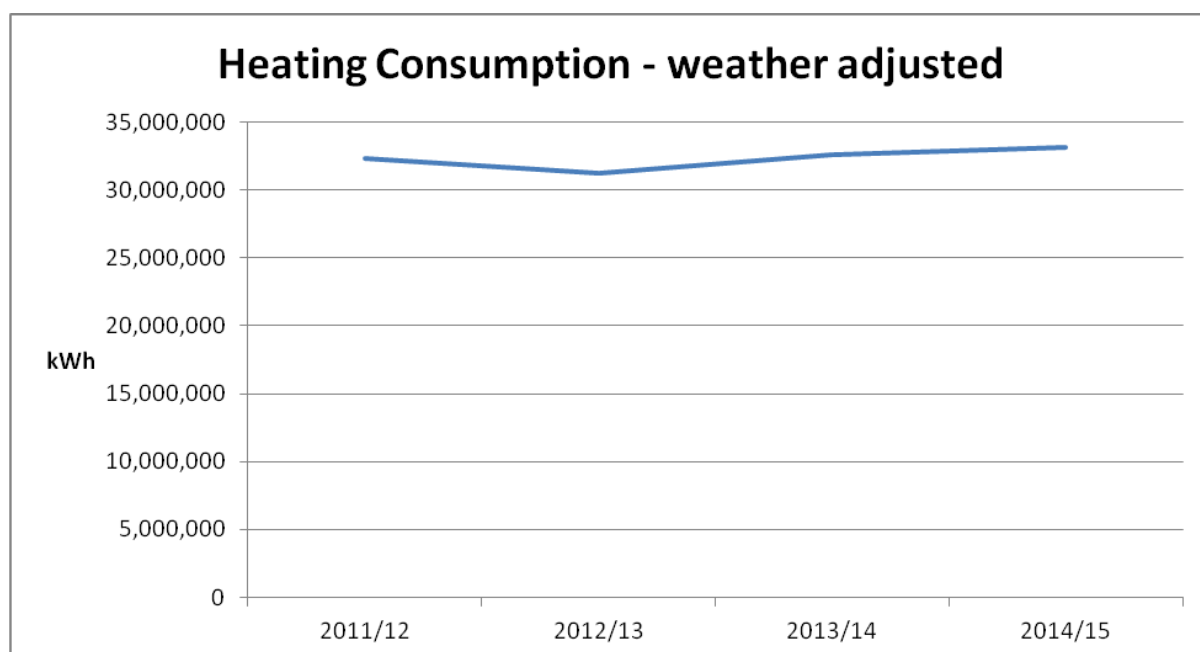
Table 1

	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



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 4 years. The weather in 2014/15 was overall slightly warmer than in 2013/14.



The weather adjusted graph above shows a slight increase in heating consumption since 2012/13. This could be caused by a variety of factors:

- Many heating systems are very old and are operating inefficiently.

- Sites unwilling to lower heating over winter holidays and week-ends to prevent possible frost damage.
- Thermostats not turned down when weather improves.
- Degree Day adjustment figures for Moray are part of a large geographical area of North and East Scotland - with significant temperatures fluctuations between locations.

This may indicate that the overall fall in consumption in 2014/15 of 4.4% is in part due to a relatively mild winter.

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

Property Asset Management

Energy performance will be 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 General Property Portfolio Annual Report 2014 which was considered by the Policy and Resources Committee at its meeting on 4 November 2014 (paragraph 9 of the Minute refers). It is understood the Operational Property Portfolio Annual Report 2015 will be presented to this Committee later in the year.

PROCUREMENT/BILLING

Centralised Contract for Energy Procurement

New contracts through Scottish Procurement for electricity started on 1 April 2013 with EDF and a new gas contract started on 1 April 2014 with TOTAL. EDF changed their billing and electronic data systems in January 2015 which caused major problems for invoicing. This matter has yet to be fully resolved, but the Energy Team has worked very hard to correct errors and manually input data, to ensure that it is as accurate as possible. The water contract with Business Stream was extended for one year, to conclude on 31 March 2015 and a further extension to 1 October 2015 was implemented due to contract renewal issues. Scottish Procurement has assured local authorities that the problems with renewing the water contract will not affect supplies.

Utility Invoices

All utility invoices go directly to the Energy Team for verification and validation prior to centralised authorisation and payment. The centralisation of this work within the Energy Team along with electronic billing and data transfer is benefiting the Council, as it has significantly reduced the amount of utility paperwork handled and allowed easier tracking of payments and rectification of incorrect invoices. A new dedicated server for the monitoring and targeting system was purchased in January 2015 and all data has been transferred over. This new server provides a faster, more robust platform for the software.

The majority of utility invoices are now 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. Electricity and gas invoices are paid by Direct Debit reducing the handling charges applied to the Council by 0.3% for electricity. Based on 2014/15 charges this equates to annual savings of £4,948 on electricity costs. There are no handling charges on gas invoices.

Government agencies and major energy suppliers advise that on average electronic billing achieves savings of £2.63 per invoice by reducing the amount of time and resources spent in physically handling the invoices in an organisation. Moray Council has 777 different utility accounts and handled approximately 3,600 invoices per annum - this equates to an annual non cashable saving of approximately £9,500 from the introduction of electronic billing.

The Council obtained a discount of 13.5% (£83,165) in 2014/15 from consolidated water invoices, paying annually in advance and utilising electronic billing.

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 now allows budget holders (and any other interested party) direct access to consumption data via a web based browser.

“Smart” Meters

Smart meters (AMR's) have been partially rolled out across the Council's properties, with 102 (23 electricity, 44 gas and 35 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 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.
- React quicker in abnormal situations and monitor demand and consumption closely.

At present however, whilst some useful information is available via the suppliers' website for monitoring purposes, the data is generally not sufficiently consistent to achieve the full benefits of the AMRs fitted to date. This problem has also been encountered by other public sector organisations and in December 2012 the UK Government announced a review of the programme. Suppliers have now been informed by the Scottish Government

that they are required to complete the roll out of AMRs by 2020. The Council has not been advised when the roll out is likely to begin in Moray.

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.

Phase 2 of the Scheme runs from 1 April 2014 to 31 March 2019. The most significant changes made in Phase 2 are the reduction in the number of reportable fuels from 27 to 2 (electricity and natural gas); 100% of Carbon Dioxide (CO₂) emissions are now reportable (Phase 1 had a 90% reporting level) and the inclusion of all unmetered electrical supplies (amounting to approx. 6,377,000kWh, 3,400tCO₂ for the Council).

In addition, the charge per tonne (allowance) of CO₂ increases each year and varies dependant on when the allowance is purchased. The Moray Council purchased 15,000 allowances at £15.60 each in April 2014 for the reporting period 2014/15, at a cost of £234,000. The actual amount of allowances required for the year was 15,313 and 313 allowances were subsequently purchased at the "Buy to Comply" price of £16.40. Purchasing the bulk of the allowances early in 2014/15 saved the Council approximately £12,000. The cost per allowance has increased for 2015/16 and the Council has purchased 15,000 allowances at £16.10 each. Any unused allowances can be carried forward to the next financial year, whilst any shortfall of allowances would be purchased at the end of the financial year at a rate of £16.90 per allowance.

In February 2015 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 the Evidence Pack and Gas Supplies and concluded that all elements complied with the requirements. A minor observation into the use of electronic validation was made and the validators have consequently been updated.

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 some minor changes to the current document are proposed, as shown on the revised document, as set out in **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. This document is available publicly on the Council's website.

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

Building Energy Management Systems (BEMS)

In 2014/15 the Energy Team, working with ICT managed to resolve connectivity issues at a number of properties. This allows the Energy Team to monitor temperatures in buildings and adjust heating settings accordingly.

The remaining 5 stand alone BEMS are programmed to be connected to the Energy Team in HQ during 2015/16.

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 2015 a link to the WWF Earth Hour website was incorporated along with details of how to sign up to this event.

A monthly article is being produced for the Connect magazine during 2015, covering a variety of energy issues.

Corporate Training

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

A total of 286 staff and 389 primary school pupils attended energy awareness events in 2014/15. In addition, during November 2014 (Energy Month), 5 staff awareness sessions were carried out at various sites throughout the council, attended by 120 staff.

Schools are by far the largest energy consumers of all the Council's properties, accounting for around 71% of the total. The Energy Team attended 7 school eco group meetings and 8 other energy awareness sessions at schools in 2014/15 (many invites following a briefing on energy awareness given by the Energy Team to a Head Teachers' meeting), as well as acting as mentors for the Go4SET team at Elgin High School.

The Energy Team provided briefings to Head Teachers, on potential energy savings at schools, as well as awareness training sessions for Janitors and Hall Keepers in 2014/15. In January 2015 the Energy Team accepted an invitation to make a presentation to Post Graduate teaching trainees at Moray College.

CIFAL Scotland has been assisting the Council with its energy awareness raising initiatives.

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. Building Energy Management System training was provided by the TREND system provider, to allow the Energy Team to interrogate the present system to monitor heating levels and operating times. Both Energy Assistants are currently carrying out European Computer Driving Licence (ECDL) training to enhance their spreadsheet handling skills.

ENERGY AUDITS

In 2014/15 the Energy Team carried out audits of the following ten sites – Auchernack, Forbes; Findochty Town Hall; Fishermen's Hall, Buckie; Botriphnie Primary School; Hopeman Primary School; Logie Primary School; Milnes Primary School; Mosstowie Primary School; Portknockie Primary School and St Sylvester's 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 2014/15, including the anticipated savings in kWh and £'s for each. **APPENDIX III** also lists further energy saving projects being considered.

A 10 year programme of works, with an overall budget of £30M to the school estate is underway, to raise the condition and suitability of the Council's schools to B ratings. A substantial proportion of the planned works centre on mechanical and electrical systems, which should improve the energy efficiency of the systems.

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, a programme to install new heat recovery systems and upgrade the fabric of four of the Council's swimming pools, starting at Forbes, will substantially improve the energy efficiency of those properties.

EXTERNAL CONSULTANTS

This Committee at its meeting on 10 June 2014 (paragraph 7 of the Minute refers) authorised the appointment of external expertise to develop innovative solutions for carbon and energy reduction in Moray. The Energy Team has taken an active role in assisting the appointed advisers in this work and the

main recommendations from the report relating to energy are as set out below:-

- (1) Energy audits to be carried out at all poorly performing sites and implement viable energy saving opportunities.
Officers Comment – a programme of prioritised audits of poorly performing properties has been in place for several years and a programme for 2015/16 is in place. Viable energy saving opportunities are highlighted for implementation and follow up visits are arranged to monitor compliance with recommendations.
- (2) Operational Energy Ratings should be adopted to report on energy performance and engage building users.
Officers Comment – a form of Operational Energy Ratings has been in place at primary schools since 2012/13 and was trialled at a number of secondary schools in 2014/15. This is to be rolled out to all the Council's schools in 2015/16.
- (3) Marginal Abatement Costing (MAC) methodology be adopted to help the Council to prioritise its investment decisions for reducing CO₂ emissions.
Officers Comment – this is a method for prioritising projects on the basis of their environmental impact. Energy projects have been evaluated by the Council primarily based on financial benefits. The Consultants have stated that the MAC methodology is as a help rather than a main tool. It would appear to have more relevance to carbon management than purely energy initiatives.
- (4) An Action Plan should be offered for consideration to key stakeholders.
Officers Comment – the proposed Action Plan specifies issues 1, 2 and 3 above. The Council has an Energy Policy and Strategy in place which is reviewed on an annual basis and the relevant Consultant's recommendations are already being developed and implemented.

The proposed Action Plan requires Departments to invest in energy saving measures identified in building audits and this will require them to make bids for capital investment.

A summary of the consultant's findings were recently presented to the Communities and Sustainability Partnership and it is understood that the Head of Development Services intends to present a report on the Consultant's findings to the appropriate Council Committee(s)

BIOMASS

Biomass boilers are now operational at Speyside High and Milne's High Schools. Speyside High School has been registered with OFGEM and the Council had received £54,500 of Renewable Heat Incentive payments at July 2015. Milnes High School's registration is in progress. Biomass systems are now considered as part of boiler upgrading project feasibility studies, with West End Primary School, Elgin and Aberlour Primary School programmed for 2015/16.

ENERGY PERFORMANCE CERTIFICATES

The Council has obtained Energy Performance Certificates (EPC) for its qualifying public buildings with floor areas above 500m². 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 to 250m². EPCs for the 18 buildings this brought into scope have been 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

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 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 now 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 schools in Scotland. Moray Council's Energy Officer is part of SEON's working group on this issue.

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) Participation in the Carbon Reduction Commitment Energy Efficiency Scheme.
- (d) Raising corporate awareness and corporate training.
- (e) Targeting worst performing schools.
- (f) Better utilisation of Building Energy Management Systems and other systems to analyse accurate energy data and identify energy saving opportunities.

BUDGETS

Revenue

In 2014/15 the Councils' energy bill for properties totalled £2,690,121 – an overall decrease of £108,773 (3.9%) compared to 2013/14. Table 2 below gives a breakdown of costs between different fuel types.

Table 2

	Total Energy Costs	Total Electricity Costs	Total Gas Costs	Total Oil Costs	Total Biomass Costs

2013/2014	£2,798,894	£1,645,766	£817,485	£259,509	£76,134
2014/2015	£2,690,121	£1,649,384	£743,856	£192,165	£104,716
Difference	-£108,773	+£3,618	-£73,629	-£67,344	+£28,582

Carbon Reduction Commitment Energy Efficiency Scheme (CRC)

The above figures do not include CRC costs for 2014/15 emissions of £239,133. The cost per tonne is to rise annually during this phase.

Pricing structure

The structure of energy pricing on non domestic properties changed on 1 April 2013. Although unit charges for energy consumption reduced, the indirect charges increased dramatically. In 204/15 indirect charges accounted for approximately 46% of the Council's electricity costs (£758,717) and 21% of gas costs (£156,210)

Indirect charges are a mixture of fixed charges and others which relate to energy usage (including transmission, distribution and metering charges, as well as government taxes such as fossil fuel levy, green charges and climate change levy charges).

Although the price of unit charges has fallen recently, indirect charges are predicted to continue to increase appreciably in future years, as energy consumers rather than taxpayers, meet the costs of moving to a low carbon society, as well as infrastructure improvements.

Funding of Energy Initiatives

Central Energy Efficiency Fund (CEEF) - money for projects involves a loan being taken from the fund by a Council department and paid back from the calculated savings made. This arrangement was a requirement placed on the Council by the Scottish Government in 2005. However from 31 March 2016 the terms and conditions applying to CEEF will cease and the Council will be able to spend the remaining CEEF balance as it sees fit (at the beginning of 2015/16 the fund stood at £168,345); although the Scottish Government "strongly encourages the Council to continue to maintain a revolving energy efficiency fund after the expiry of CEEF in March 2016, to support future carbon saving and energy efficiency projects across the Moray Council estate."

Officers regarded the CEEF regulations as cumbersome and are considering the nature of future funding of energy saving initiatives. Proposals will be brought forward through the Council's budget setting process.

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 2015/16 capital plan specifically for energy saving projects and will be utilised to carry out a small programme of lighting upgrades.