

## ANGUS COUNCIL

## COMMUNITIES COMMITTEE – 15 AUGUST 2017

## ENERGY ANNUAL REPORT 2016/17

## 1. INTRODUCTION

This report presents the end of year status of the energy consumption, carbon emissions and expenditure on energy supplies for the Council non-housing properties for 2016/17. Compared to the 2015/16 outcome it shows a 4.8% reduction in energy consumption and a 11.5% reduction in carbon emissions.

## 2. BACKGROUND

2.1 Report No: 668/10, THE ESTABLISHMENT OF MANAGEMENT ARRANGEMENTS TO FULFIL THE REQUIREMENTS OF THE CARBON REDUCTION COMMITMENT ORDER 2010. Noted and approved by the Strategic Policy Committee at its meeting of 7 September 2010. Recommended management arrangements for establishing and implementing continuing appropriate carbon reduction strategies.

2.2 Report No: 611/11, CORPORATE ENERGY CONSUMPTION AND CARBON EMISSIONS REDUCTION TARGETS, noted and approved by the Strategic Policy Committee at its meeting of 06 September 2011 adopted the following Council uncorrected weather based reduction targets:

- 22.5% carbon dioxide emissions reduction by 2020 compared to the 2010/11 base
- 13.5% energy consumption reduction by 2020 compared to the 2010/11 base

2.3 Service Directorates have provision within their budgets for energy costs. However responsibility for the overall management of these budgets and the provision of budget monitoring information rests with the Head of Technical and Property Services.

2.4 Technical and Property Services currently manages the fuel contracts for all non-housing properties within the Council and maintains an overview, in conjunction with the Corporate Improvement and Finance Services, of the rate of expenditure on the associated budgets.

## 3. CURRENT POSITION

## Energy Consumption

3.1 The energy consumption status, as at 31 March 2017 is detailed in Table 1 and **Appendix 1**, these figures reflect only the consumption made against presented invoices.

<b>Table 1</b>	Total Budget Consumption kWh	Total Actual Consumption kWh	Difference kWh	Percentage Consumption to Budget
2014/15	73,438,726	68,270,033	5,168,963	93%
2015/16	71,920,236	66,493,247	5,426,989	92%
2016/17	71,364,359	63,300,290	8,064,069	89%
Reduction between years		-3,192,957	-4.8%	

See **Appendix 1** for the directorate breakdown of Table 1

3.2 Table 1 shows an encouraging 3,192,957 kWh reduction in energy consumption which equates to a 4.8% reduction compared with the previous financial year.

- 3.3 The performance by individual directorates is detailed in **Appendix 1**, notes have been added where there are significant differences between budgeted and the metered consumption.

### Carbon Emissions

- 3.4 The carbon emissions status, as at 31 March 2017 is detailed in Table 2 and **Appendix 2**, these figures reflect only the carbon emissions associated with the consumption made against presented invoices.

<b>Table 2</b>	Total Budget Emissions kg	Total Actual Emissions kg	Difference kg	Percentage Emissions to Budget
2014/15	24,185,145	22,147,886,	2,037,259	92%
2015/16	22,103,827	20,339,102	1,764,725	92%
<b>2016/17</b>	<b>20,234,096</b>	<b>18,007,127</b>	<b>2,226,969</b>	<b>89%</b>
	Reduction between years	-2,331,975	-11.5%	

See **Appendix 2** for the directorate breakdown of Table 2

- 3.5 Table 2 shows a 2,331,975kg reduction in carbon emissions compared to the previous financial year. This equates to an 11.5% reduction. The reduction is due to a combination of reduced energy consumption and a reduction in the conversion factor for electricity as the electricity generation becomes more decarbonised.

- 36 The performance by individual directorates, is detailed in **Appendix 2**, notes have been added where there are significant differences between budgeted and actual emissions.

### Expenditure on Energy

- 3.7 The expenditure status, as at 31 March 2017 is detailed in Table 3 and **Appendix 3**, these figures reflect only the payments made against presented invoices and end of year accruals

<b>Table 3</b>	Budget Volume £	Total Spend £	Difference £	Percentage Spend to Budget
2014/15	£6,055,000	£4,777,966	£1,277,034	79%
2015/16	£5,736,000	£4,520,964	£1,215,036	79%
<b>2016/17</b>	<b>£5,174,562</b>	<b>£4,533,876</b>	<b>£640,686</b>	<b>88%</b>
	Increase between years	+£12,912	0.3%	

See **Appendix 3** for the directorate breakdown of Table 3

- 3.8 Table 3 shows an underspend compared to the budget of £640,686 for 2016/17 and small increase of £12,912 in energy expenditure compared to the previous financial year.

- 3.9 The performance by individual directorates is detailed in **Appendix 3**, notes have been added where there are significant differences between the budgeted and spend amounts

- 3.10 A graph showing the overall progress made towards achieving the Council's carbon reduction target is detailed in **Appendix 4**. The graph shows that the Council has achieved its target three years ahead of profile. This was due to a combination of reduced energy consumption and a large reduction in the conversion factor for the generation of electricity which takes account of the increased use of sources of renewable electricity generation.

## **6. FINANCIAL IMPLICATIONS**

- 6.1 Table 3 and **Appendix 3** shows an underspend of £640,686 for 2016/17 and a small increase in energy expenditure of £12,912 compared to financial year 2015/16, across the various energy cost headings. This underspend has been progressed on a managed basis and absorbed within the cash limited budgets available to Council directorates.

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Appendix 1	2016/17 Energy Consumption Status
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Appendix 4	Overall Carbon Emissions Graph

## Appendix 1 2016/17 Energy Consumption Status

	Actual Consumption per Fuel in kWh							Budget (kWh)	% to Budget
	Electricity	Gas	Kerosene	Gas Oil	LPG	Biomass	Total (kWh)		
People Directorate	11,099,714	20,403,227	870,877	287,345		1,197,140	33,858,304	35,858,304	94%
Chief Executive	375,631	361,762					737,393	760,855	97%
Resources Directorate	778,556	617,580					1,396,136	1,764,977	79%
Communities Directorate	6,157,725	8,860,020	165,278		33,267	1,333,016	16,549,305	19,729,289	84%
Other Services	7,431						7,431	35,822	21%
<b>Sub Totals</b>	<b>18,419,057</b>	<b>30,242,589</b>	<b>1,036,155</b>	<b>287,345</b>	<b>33,267</b>	<b>2,530,156</b>	<b>52,548,569</b>	<b>58,219,076</b>	<b>90%</b>
Common Good	22,036						22,036	16,325	135%
Communities Directorate - HRA	1,524,057	3,323,540				283,176	5,130,773	5,628,958	91%
Communities Directorate - Street Lighting	5,598,912						5,598,912	7,500,000	75%
<b>Sub Totals</b>	<b>7,145,005</b>	<b>3,323,540</b>				<b>283,176</b>	<b>10,751,721</b>	<b>13,145,283</b>	<b>82%</b>
<b>Total</b>	<b>25,564,062</b>	<b>33,566,129</b>	<b>1,036,155</b>	<b>287,345</b>	<b>33,267</b>	<b>2,813,332</b>	<b>63,300,290</b>	<b>71,364,359</b>	<b>89%</b>

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### Notes:

Generally the reduction in consumption can be attributed to a combination of a reduction in the energy consumption associated with, street lighting, various energy conservation projects and adherence to the heating temperatures and times adopted by the Council.

- a The large percentage underspend was due to budgetary provisions for Christmas lighting not being required. The 2017/18 budgets have been adjusted accordingly.
- b The additional energy consumption was due the increased use of the bore hole pump at Keptie Pond in Arbroath.

## Appendix 2 2016/17 Carbon Emissions Status

	Actual Emissions per Fuel in kg						Total (kg)	Budget (kg)	% to Budget
	Electricity	Gas	Kerosene	Gas Oil	LPG	Biomass			
People Directorate	4,957,354	3,746,951	224,525	78,046		31,126	9,038,002,	9,535,124	95%
Chief Executive	167,764	66,436					234,200	238,127	98%
Resources Directorate	347,719	113,415					461,134	609,927	76%
Communities Directorate	2,750,163	1,627,098	42,611		7,125	34,658	4,461,656	5,023,170	89%
Other Services	3,319						3,319	15,999	21%
<b>Sub Totals</b>	<b>8,226,319</b>	<b>5,553,900</b>	<b>267,136</b>	<b>78,046</b>	<b>7,125</b>	<b>65,784</b>	<b>14,198,311</b>	<b>15,422,348</b>	<b>92%</b>
Common Good	9,842						9,842	7,291	135%
Communities Directorate - HRA	680,674	610,351				7,363	1,298,388	1,454,807	89%
Communities Directorate - Street Lighting	2,500,586						2,500,586	3,349,650	75%
<b>Sub Totals</b>	<b>3,191,102</b>	<b>610,351</b>				<b>7,363</b>	<b>3,808,816</b>	<b>4,811,748</b>	<b>79%</b>
<b>Total</b>	<b>11,417,421</b>	<b>6,164,252</b>	<b>267,136</b>	<b>78,046</b>	<b>7,125</b>	<b>73,147</b>	<b>18,007,127</b>	<b>20,234,096</b>	<b>89%</b>

Generally the reduction in consumption can be attributed to a combination of a reduction in the energy consumption associated with, street lighting, various energy conservation projects and adherence to the heating temperatures and times adopted by the Council.

- a** The large percentage underspend was due to budgetary provisions for Christmas lighting not being required.
- b** The additional carbon emissions were due to the additional use of the bore hole pump at Keptie Pond in Arbroath.

## Appendix 3 2016/17 Expenditure on Energy Status

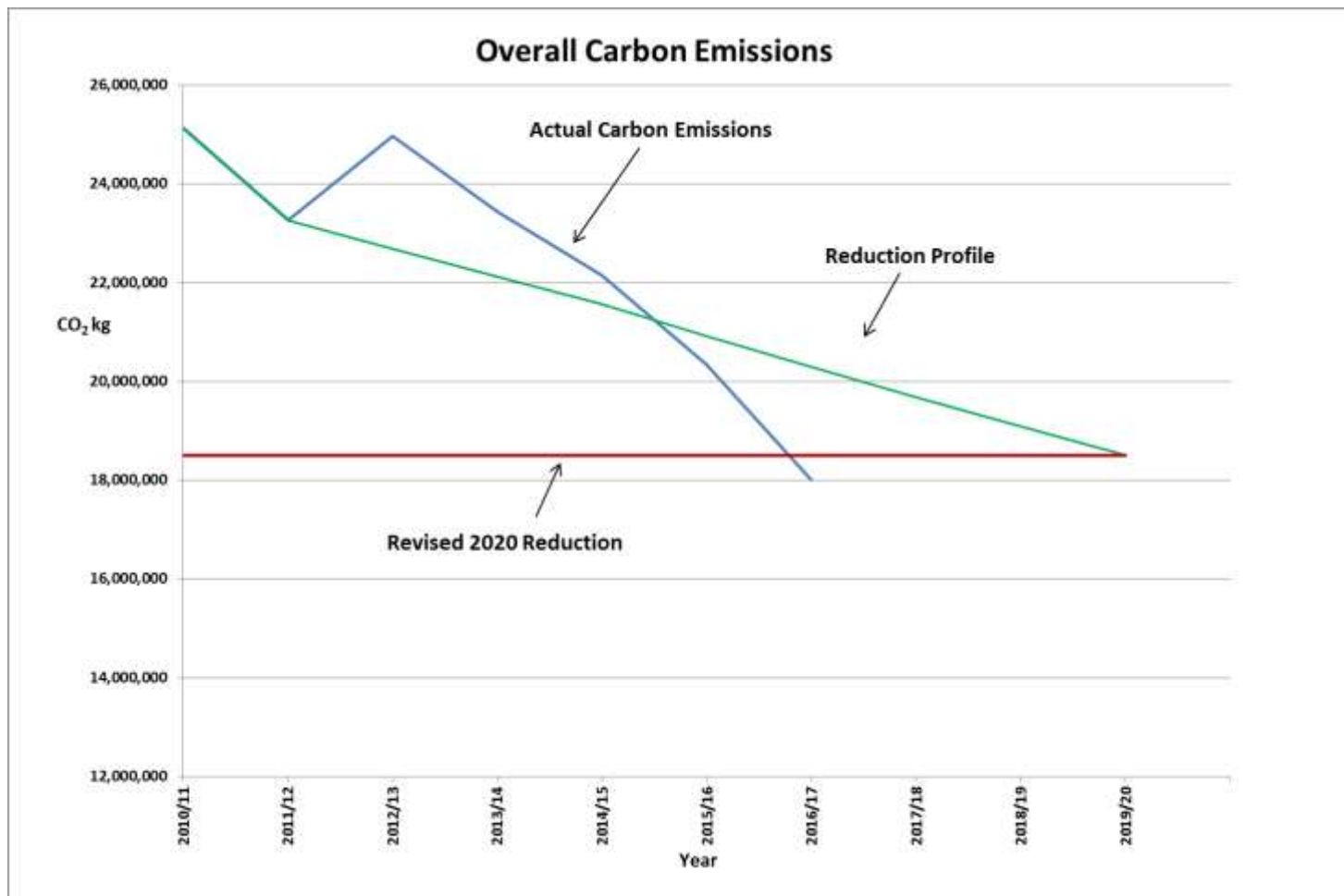
	Actual Expenditure per Fuel in £						Budget (£)	% to Budget
	Electricity	Gas	Oil	LPG	Biomass	Total (£)		
Centralised Energy Management						£153,574	£169,000	91%
Central Energy Efficiency Fund	£61,148	£19,670	£894	£43		£81,755	£81,755	100%
People Directorate	£1,438,584	£502,278	£44,691		£81,627	£2,067,181	£2,280,168	91%
Chief Executive	£49,002	£9,599	£776			£59,377	£60,253	99%
Resources Directorate	£101,297	£16,950				£118,247	£162,081	73%
Communities Directorate	£777,565	£216,642	£5,793	£3,378	£57,199	£1,060,577	£1,236,191	86%
Other Services	£2,771					£2,771	£5,845	47%
<b>Sub Totals</b>	<b>£2,430,367</b>	<b>£765,139</b>	<b>£52,154</b>	<b>£3,421</b>	<b>£138,826</b>	<b>£3,543,482</b>	<b>£3,995,293</b>	<b>89%</b>
Common Good	£3,197	£69				£3,266	£3,831	85%
Communities Directorate - HRA	£185,924	£75,284			£14,114	£275,321	£331,154	83%
Communities Directorate - Street Lighting	£711,807					£711,807	£844,284	84%
<b>Sub Totals</b>	<b>£900,928</b>	<b>£75,353</b>			<b>£14,114</b>	<b>£990,394</b>	<b>£1,179,269</b>	<b>84%</b>
<b>Total</b>	<b>£3,331,295</b>	<b>£840,492</b>	<b>£52,154</b>	<b>£3,421</b>	<b>£152,939</b>	<b>£4,533,876</b>	<b>£5,174,562</b>	<b>88%</b>

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Notes:

a The underspend was due to budgetary provisions for Christmas lighting not being required.

## Appendix 4 Overall Carbon Emissions Graph



The graph shows that the 2020 carbon reduction target has been achieved. The rapid reduction was due to a combination of reduced energy consumption and a large reduction in the conversion factor for the generation of electricity, which takes account of the increased use of sources of renewable electricity generation.