Sustainable Consulting

Old Mutual Group

ESOS Assessment

Phase One (2011 - 2015)

Key Findings Report

17 November 2015

1. Executive summary

1.1 Introduction

This document outlines the approach taken by Old Mutual Group to ensure compliance with Phase One of the Government's Energy Savings Opportunity Scheme (ESOS) and presents the findings of all audits that were undertaken.

1.2 Total energy saving opportunities

The table below outlines ten of the most significant energy savings identified during the audits of all buildings and transport networks included in the significant energy consumption for Old Mutual Group in the 2014 calendar year (the 'ESOS reference period'):

Measure Number	Energy Saving Opportunity	Energy Consumption Category	Asset/ Business	Annual Saving (kWh)	Annual Cost Saving (£)
1	Outsource server room	Building	Old Mutual House	1,550,564	£144,802
2	Outsource server room	Building	One Kingsway	230,275	£24,470
3	Install Building Management System	Building	Sion Hall	177,277	£19,696
4	Amend heating setpoints	Building	Old Mutual House	141,834	£3,625
5	Amend fleet vehicle specification	Transport	Old Mutual Wealth	136,284	£20,454
6	Outsource server room	Building	Sion Hall	128,613	£14,289
7	Automatic energy monitoring and targeting	Building	Millennium Bridge House	118,390	£13,023
8	Replace current boilers with condensing	Building	Old Mutual Point	75,227	£7,824
9	Specify monitors from Energy Star	Building	Old Mutual Point	60,861	£6,330
10	Undertake specialist server room audit	Building	Millennium Bridge House	52,822	£6,089

The table above illustrates that when the results for each ESOS energy consumption category (buildings and transport) are combined, nine out of the ten most significant energy saving opportunities identified relate to buildings: four energy saving opportunities relate to reducing consumption from the server rooms; when these are combined for Old Mutual House, One Kingsway, Sion Hall and Millennium Bridge House, the savings achievable via outsourcing these are estimated to be in the region of 1,962,274 kWh or £189,651 per annum (p.a.). it is suggested it would be of great benefit to conduct a detailed energy audit at each property, particularly at Millennium Bridge House as 74% of all consumption is related to operating the server rooms.

The energy saving opportunity related to transport is achievable via amending the fleet vehicle specification for Old Mutual Wealth in Southampton; this would result in savings of 136,284 kWh and an associated cost saving of £20,400 p.a. This opportunity would likely be mirrored if detailed audits were undertaken across the Intrinsic and Quilter Cheviot transport fleets.

1.3 Director sign off

Page 11 of this document provides an Old Mutual plc Board Level Director with the opportunity to confirm that the findings of the assessment have been reviewed, and Old Mutual Group is, to the best of her knowledge, compliant with ESOS.

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2. Abbreviations & acronyms

The list below provides an explanation of the abbreviations and acronyms used in this report:

BMS	Building Management System
BS	British Standard
CIBSE	Chartered Institute of Building Service Engineers
DECC	Department of Energy and Climate Change
ESOS	Energy Saving Opportunity Scheme
EU	European Union
GHO	Group Head Office
ISO	International Standards Organisation
kWh	Kilowatt hour
LCCA	Lifecycle Cost Analysis
MBH	Millennium Bridge House
OMAM	Old Mutual Asset Management
OMEM	Old Mutual Emerging Markets
OMGI	Old Mutual Global Investors
OMH	Old Mutual House
OMP	Old Mutual Point
plc	Public Limited Company
SPP	Simple Payback Period
TCO_2e	Tonnes of Carbon Dioxide equivalent
VED	Vehicle Excise Duty

3. Introduction

This document outlines the approach taken by Old Mutual Group to ensure compliance with Phase One of the Government's Energy Saving Opportunity Scheme (ESOS) and presents the findings of all audits that were undertaken to provide the total energy saving opportunities identified.

3.1 Background to ESOS

The Energy Savings Opportunity Scheme (ESOS) is the Government's approach to meeting the requirements set out in Article 8 of the EU Energy Efficiency Directive. The Directive requires all Member States to introduce a programme of regular energy audits with the aim of increasing energy efficiency and aid in meeting the EU's carbon emission reduction targets. In June 2014, the UK Government published the ESOS Regulations 2014[1].

The Environment Agency is the administrator for ESOS in the UK. They have provided guidance on how to comply with ESOS in the document entitled *Complying with the Energy Savings Opportunity Scheme*[2].

3.2 ESOS qualification and timelines

ESOS is mandatory for 'large undertakings' in the UK – this encompasses enterprises that meet at least one of the below criteria as of 31 December 2014 (the 'qualification date'):

- 250 or more employees[3], or
- An undertaking with fewer than 250 employees, but:
    - Annual turnover in excess of €50m, and
    - A balance sheet exceeding €43m.

As Old Mutual Group meets these criteria, they are mandated to report compliance to the Environment Agency by 5 December 2015 (the 'compliance date').

3.3 Report contents

This report provides the following:

- ESOS compliance approach summary[4]
- Energy saving opportunities identified for audited buildings
- Energy saving opportunities identified for audited transport networks
- Total energy saving opportunities found across all audited buildings and transport networks
- A statement from the Lead Assessor, Clephane Compton, that confirms he has ensured that this assessment meets all ESOS related requirements for Phase One of the Scheme.

Page 11 of this document provides an Old Mutual plc Board Level Director with the opportunity to confirm that the findings of the assessment have been reviewed, and Old Mutual Group is, to the best of her knowledge, compliant with ESOS.

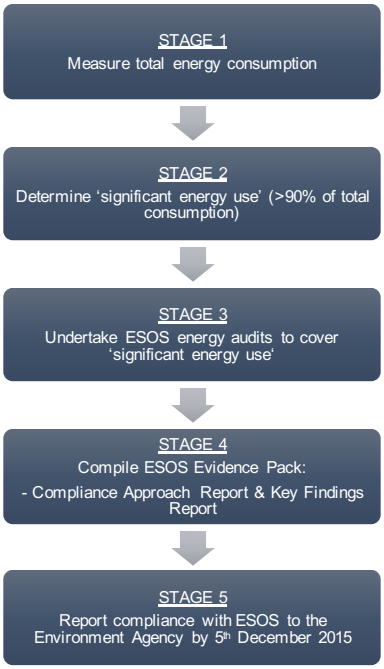
[1] http://www.legislation.gov.uk/uksi/2014/1643/contents/made
[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/428469/LIT_10094.pdf
[3] Defined as all contracted staff, owner managers and partners employed directly by the undertaking
[4] This report focusses on the energy saving opportunities identified with limited detail on the approach Old Mutual Group has adopted to comply with ESOS. For more detail on the compliance approach adopted, the *'Compliance Approach Report'* should be reviewed.

4. Compliance approach summary

Clephane Compton of Sustainable Consulting, as a Chartered Institute of Building Service Engineers (CIBSE) qualified ESOS Lead Assessor (see Appendix B for certificate), has undertaken all aspects of this ESOS Assessment in accordance with the guidance and recommendations made in the following publications to ensure that Old Mutual Group is compliant:

- Environment Agency (2015) '*Complying with the Energy Savings Opportunity Scheme*'[5]
- Department of Energy and Climate Change (DECC) (2015) '*Approaches to ESOS Audits*'[6]

The diagram below illustrates the main stages of ESOS via the energy audit route:



4.1 Stage 1: Total energy consumption

The table below illustrates total consumption of assets and processes in scope for ESOS in the 2014 calendar year - assessed by business:

Business	Total Consumption (kWh)	Percent of Total Consumption
Old Mutual Wealth	8,845,005	55%
Old Mutual plc	2,412,595	15%
Quilter Cheviot	2,104,771	13%
Intrinsic	1,762,511	11%
Rogge Global Partners	832,051	5%
Nedbank	125,174	1%
Total energy consumption	**16,082,107**	**100%**

Old Mutual Wealth therefore comprised the highest proportion of total energy consumption with 55% of the total, followed by Old Mutual plc at 15% and Quilter Cheviot at 13% of the total.

[5]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/404764/LIT_10094.pdf
[6]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416692/DECC_Approaches_to_ESOS_audits_guide_FINAL_20_03_15.pd

4.2 Stage 2: Significant energy use

An exercise was undertaken whereby, after having assessed total energy consumption in scope for ESOS, the *de minimis* 10% was identified in order to develop the significant energy use. The results are illustrated in the table below:

Site/ Asset	Consumption (kWh)	Percent of Total Consumption
Building - Old Mutual House	5,234,568	32.5%
Building - Millennium Bridge House	2,412,595	15.0%
Building - Old Mutual Point	1,972,146	12.3%
Transport - Wealth	1,638,292	10.2%
Transport - Intrinsic	1,305,374	8.1%
Building - Sion Hall	709,437	4.4%
Building - One Kingsway	688,385	4.3%
Transport - Quilter Cheviot	616,765	3.8%
Significant energy use	**14,577,562**	**90.6%**

Old Mutual Group have included 90.6% of the total consumption (14,577,562 kWh) as significant energy use: *de minimis* energy consumption is therefore 9.4%. Old Mutual House in Southampton consumed 32.5% of the total, Millennium Bridge House was 15% and Old Mutual Point, 12.3%.

4.3 Stage 3: ESOS energy audits

Sustainable Consulting used an energy auditing methodology based on the processes outlined in the following publications:

- ISO 50002: *Energy audits — Requirements with guidance for use*,
- BS EN 16247 (2012): *The European Standard for Energy Auditing*,
- CIBSE Guide F (2012): *Energy Efficiency in Buildings*.
- DECC (2015): *Approaches to ESOS Audits*[7].

The following table illustrates when each of the energy audits was undertaken:

Business	Process & Asset	Audit Undertaken?	Date
Old Mutual Wealth	Building - Old Mutual House	Yes	24.06.2015 - 25.06.2015
Old Mutual plc	Building - Millennium Bridge House	Yes	13.10.2015
Old Mutual Wealth	Building - Old Mutual Point	Yes	26.06.2015
Old Mutual Wealth	Transport - Wealth	Yes	31.07.2015
Intrinsic	Transport - Intrinsic	Old Mutual Wealth audit results	N/a
Rogge Global Partners	Building - Sion Hall	Yes	04.06.2015
Quilter Cheviot	Building - One Kingsway	Yes	31.07.2015
Quilter Cheviot	Transport - Quilter Cheviot	Old Mutual Wealth audit results	N/a

In total, six detailed energy audits were undertaken, with an additional two audits for Intrinsic and Quilter Cheviot transport networks where the results of the detailed transport audit undertaken for Old Mutual Wealth in Southampton were scaled up. All site visits for the energy audits were completed between 04.06.2015 and 13.10.2015. The final reports, calculations and annexes are contained in the relevant folder in the Evidence Pack.

[7]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416692/DECC_Approaches_to_ESOS_audits_guide_FINAL_20_03_15.pdf

5. Energy saving opportunities: buildings

This section illustrates ten of the most significant energy saving opportunities identified across Old Mutual buildings that were audited as part of ESOS:

Measure Number	Energy Saving Opportunity	Applicability	Annual Saving (kWh)	Annual Cost Saving (£)	Payback Assessment Method (SPP/ LCCA)[8]	Return on Investment (Years)
1	Outsource server room	Old Mutual House	1,550,564	£144,802	SPP	N/a
2	Outsource server room	One Kingsway	230,275	£24,470	SPP	N/a
3	Install Building Management System	Sion Hall	177,277	£19,696	SPP	1.5
4	Amend heating setpoints	Old Mutual House	141,834	£3,625	SPP	0.8
5	Outsource server rooms	Sion Hall	128,613	£14,289	SPP	N/a
6	Automatic energy monitoring and targeting	Millennium Bridge House	118,390	£13,023	SPP	1.2
7	Replace current boilers with condensing	Old Mutual Point	75,227	£7,824	SPP	4.1
8	Specify monitors from Energy Star	Old Mutual Point	60,861	£6,330	SPP	0.0
9	Undertake specialist server room audit	Millennium Bridge House	52,822	£6,089	SPP	1.6
10	Amend plant on/ off times	Old Mutual Point	48,738	£5,069	SPP	0.0

Four of the top ten energy saving opportunities relate to reducing consumption from the server rooms, as IT communications equipment is currently maintained in house at each audited building. When the total energy saving opportunities are combined for Old Mutual House, One Kingsway, Sion Hall and Millennium Bridge House (MBH), the savings achievable via outsourcing server rooms are estimated to be in the region of 1,962,274 kWh or £189,651 per annum.

If it is decided that this equipment and the information that it handles is too sensitive to outsource, we maintain that it would be of great benefit to conduct a ISO 50002 Type 2 energy audit at each property as we believe this is the area where large energy saving opportunities can be achieved. Key sites where we believe this would be of most benefit are MBH and Sion Hall; at other sites, the servers and air conditioning equipment used to cool them are more efficient.

For Sion Hall, at the time the audit was undertaken, there was no Building Management System (BMS) in place. Having a BMS is considered standard practice as, amongst other uses, it manages the temperature of particular areas within a building. However, we are aware that a substantial refurbishment was planned for late summer 2015 at which point a BMS was due to be installed.

There is a high likelihood that simultaneous heating and cooling is taking place at Old Mutual House (OMH), as the district heating system (which provides space heating) is not fully linked to the chillers which provide space cooling and it is likely there are times when both are operating in the same areas.

It is suggested that an energy monitoring and targeting system is installed at MBH, as it is expected that large energy savings can be achieved simply via monitoring consumption and acting on the outcomes to reduce energy. A typical saving achieved via energy monitoring and targeting in a commercial property is 5% of total consumption.

[8] LCCA = life-cycle cost analysis, SPP = simple payback period

6. Energy saving opportunities: transport

This section illustrates ten of the most significant energy saving opportunities identified across the Old Mutual transport networks that were audited as part of ESOS[9]:

Measure Number	Energy Saving Opportunity	Applicability	Annual Energy Saving (kWh)	Annual Cost Saving (£)
1	Amend fleet vehicle specification	Old Mutual Wealth	136,284	£20,454
2	Amend fuel purchase policy	Intrinsic	39,161	£11,607
3	Eco driver training	Intrinsic	39,161	£11,607
4	Fuel policy and acquisition	Old Mutual Wealth	28,650	£7,360
5	Eco driver training	Old Mutual Wealth	28,650	£7,360
6	Amend fuel purchase policy	Quilter Cheviot	18,503	£6,556
7	Eco driver training	Quilter Cheviot	18,503	£6,556
8	Fuel monitoring and management	Intrinsic	14,054	£3,869
9	Fuel monitoring and management	Old Mutual Wealth	12,217	£2,454
10	Fuel monitoring and management	Quilter Cheviot	6,168	£2,185

As stated in Section 4.3 of this document, one detailed audit was undertaken to assess energy saving opportunities for transport; this was for Old Mutual Wealth (OMW) in Southampton. The reason this business was chosen was because the data collection processes in place are superior to those of other businesses. The results of the transport audit undertaken for OMW in Southampton have been aggregated up to Intrinsic and Quilter Cheviot[10]. As detailed audits have not been undertaken for Intrinsic and Quilter Cheviot, the results should be seen as indicative.

The opportunity assessed to provide the largest energy saving is for OMW: amending the specification of company car fleet vehicles to more efficient alternatives. If all fleet vehicles are replaced with vehicle excise duty (VED) band 'F' or below, potential energy savings of 136,284 kWh p.a. could be achieved, with an associated annual cost saving of £20,454 p.a.[11]

Further to the above, the second largest energy saving that can be achieved is via amending the fuel acquisition policy for Intrinsic; this is estimated to provide a potential annual reduction of 39,161 kWh and resultantly a cost saving of approximately £11,607 p.a., based on guidance from the Energy Saving Trust's Fleet Review which can be found in the annex of the folder containing the OMW energy audit.

The third highest energy saving was also for Intrinsic: savings in the region of 39,161 kWh (3% of total consumption, as per amending the fuel purchasing policy above), equating to £11,607 p.a. are likely to be achieved if an annual eco driver training exercise was to be implemented across all employees.

[9] No return on investment was provided for these opportunities as, in the majority of cases, there was no cost other than for administration.
[10] A percentage of identified savings was used as the methodology – for instance, if it was found that OMW could save 3% of total energy via fuel monitoring and management, this percentage was applied to the Intrinsic and Quilter Cheviot.
[11] As no fleet vehicle specifications were provided for Intrinsic or Quilter Cheviot, the results have not been aggregated for them: the only instance where a calculation was possible was for OMW in Southampton.

7. Energy saving opportunities: buildings and transport

The table below illustrated the energy saving opportunities for both buildings and transport networks in scope of ESOS:

Measure Number	Energy Saving Opportunity	Energy Consumption Category	Asset/ Business	Annual Saving (kWh)	Annual Cost Saving (£)
1	Outsource server room	Building	Old Mutual House	1,550,564	£144,802
2	Outsource server room	Building	One Kingsway	230,275	£24,470
3	Install Building Management System	Building	Sion Hall	177,277	£19,696
4	Amend heating setpoints	Building	Old Mutual House	141,834	£3,625
5	Amend fleet vehicle specification	Transport	Old Mutual Wealth	136,284	£20,454
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9	Specify monitors from Energy Star	Building	Old Mutual Point	60,861	£6,330
10	Undertake specialist server room audit	Building	Millennium Bridge House	52,822	£6,089

The table above illustrates that, when the results for each energy consumption category (buildings and transport) are combined, nine out of the top ten most significant energy saving opportunities relate to buildings.

Four energy saving opportunities relate to reducing consumption from the server rooms. When these are combined for Old Mutual House, One Kingsway, Sion Hall and Millennium Bridge House, the savings achievable via outsourcing these are estimated to be in the region of 1,962,274 kWh or £189,651 per annum (p.a.). it is suggested it would be of great benefit to conduct a detailed energy audit at each property, particularly at Millennium Bridge House as 74% of all consumption is related to operating the server room.

The energy saving opportunity related to amending the fleet vehicle specification for Old Mutual Wealth is the largest transport related energy saving opportunity: if this was undertaken, we would suggest that consumption would be reduced by 136,284 kWh, resulting in a cost saving of £20,400 p.a We would suggest that this opportunity would likely be mirrored if a detailed audit was undertaken across the Intrinsic and Quilter Cheviot transport fleets.

For a full list of all energy saving opportunities identified for both buildings and transport, see Appendix A.

8. ESOS Lead Assessor sign off

In his capacity as ESOS Lead Assessor, Clephane Compton of Sustainable Consulting has ensured that this assessment meets the all ESOS related requirements for Phase One of the Scheme.

Signature:

……

Printed:

Clephane Compton
……

Dated:

29/10/2015
……

9. Old Mutual Director sign off

I, Ingrid Johnson, Group Finance Director at Old Mutual:

- Have reviewed the recommendations made in this ESOS Assessment,
- Am satisfied to the best of my knowledge that Old Mutual Group is in scope of the Scheme,
- Am satisfied to the best of my knowledge that Old Mutual Group is compliant with the Scheme,
- Am satisfied to the best of my knowledge that the information provided in Old Mutual Group's notification is correct.

Signature:

……

Printed:

……

Dated:

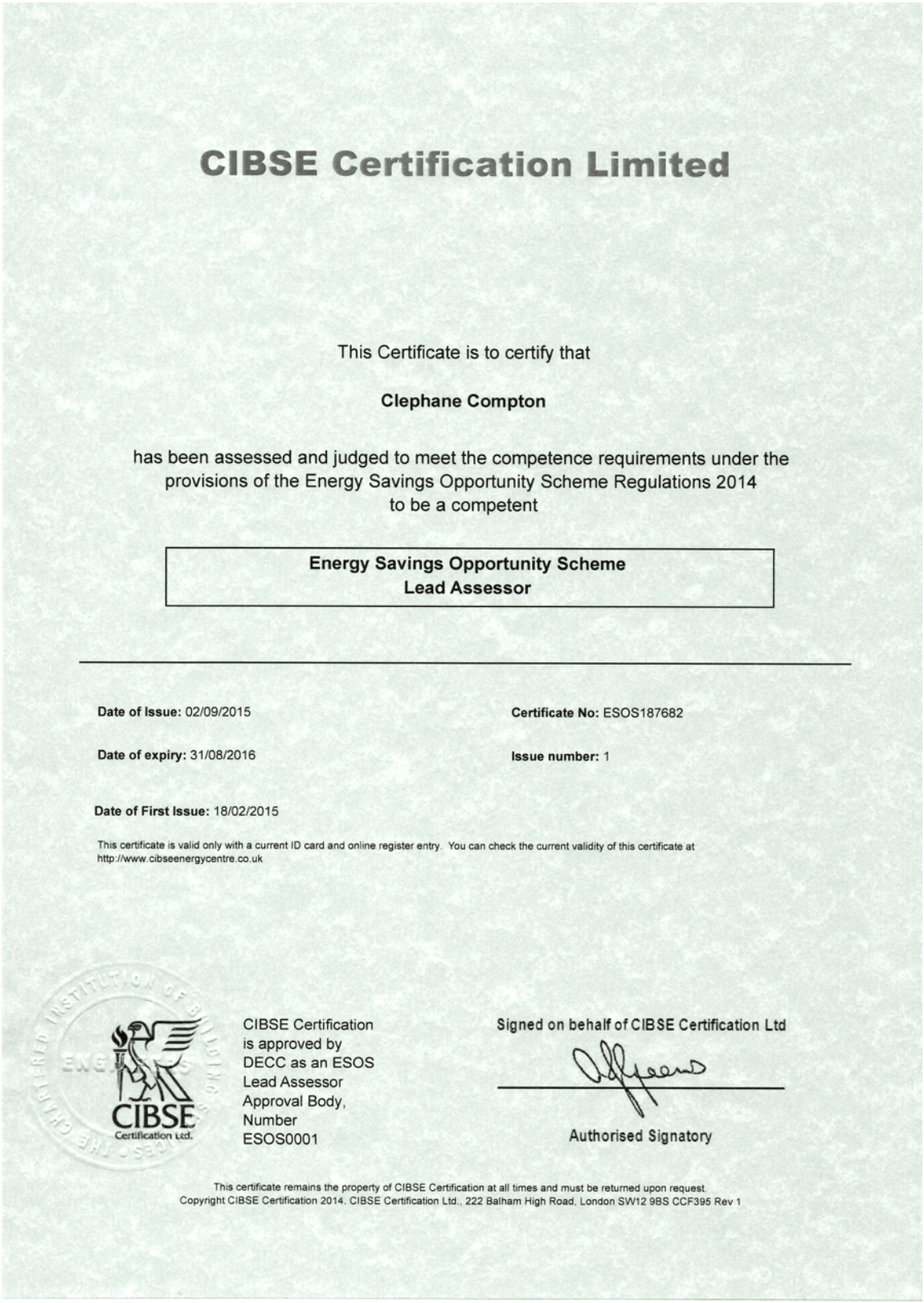
……

Appendix A: All energy saving opportunities identified

Energy Saving Opportunity	Energy Consumption Category	Asset/ Business	Annual Saving (kWh)	Annual Cost Saving (£)
Outsource server room	Building	Old Mutual House	1,550,564	£144,802
Outsource server room	Building	One Kingsway	230,275	£24,470
Amend fleet vehicle specification	Transport	Wealth	136,284	£20,454
Install Building Management System	Building	Sion Hall	177,277	£19,696
Outsource server room	Building	Sion Hall	128,613	£14,289
Automatic energy monitoring and targeting	Building	Millennium Bridge House	118,390	£13,023
Amend fuel purchase policy	Transport	Intrinsic	39,161	£11,607
Eco driver training	Transport	Intrinsic	39,161	£11,607
Replace current boilers with condensing	Building	Old Mutual Point	75,227	£7,824
Eco driver training	Transport	Old Mutual Wealth	48,650	£7,360
Amend fuel purchase policy	Transport	Old Mutual Wealth	16,217	£7,360
Amend fuel purchase policy	Transport	Quilter Cheviot	18,503	£6,556
Eco driver training	Transport	Quilter Cheviot	18,503	£6,556
Specify monitors from Energy Star	Building	Old Mutual Point	60,861	£6,330
Undertake specialist server room audit	Building	Millennium Bridge House	52,822	£6,089
Amend plant on/ off times	Building	Old Mutual Point	48,738	£5,069
Fuel monitoring and management	Transport	Intrinsic	13,054	£3,869
Amend heating setpoints	Building	Old Mutual House	141,834	£3,625
Fuel monitoring and management	Transport	Old Mutual Wealth	16,217	£2,454
Fuel monitoring and management	Transport	Quilter Cheviot	6,168	£2,185
Turn off desktops overnight	Building	Millennium Bridge House	13,718	£1,638
Turn small power equipment overnight	Building	Millennium Bridge House	10,796	£1,231
Stairwell heater - improved controls	Building	Old Mutual Point	8,064	£839

Turn off small power items overnight	Building	One Kingsway	6,910	£734
Install presence detection systems in stairwells	Building	Old Mutual Point	4,516	£470
Install LED GU10 Spotlights	Building	Old Mutual House	3,353	£313
Install LED lamps in atrium & reception	Building	Old Mutual House	3,064	£286
Install presence sensors in server room	Building	One Kingsway	1,264	£134

Appendix B: ESOS Lead Assessor certificate



CIBSE Certification Limited

This Certificate is to certify that

Clephane Compton

has been assessed and judged to meet the competence requirements under the provisions of the Energy Savings Opportunity Scheme Regulations 2014 to be a competent

Energy Savings Opportunity Scheme
Lead Assessor

Date of Issue: 02/09/2015

Certificate No: ESOS187682

Date of expiry: 31/08/2016

Issue number: 1

Date of First Issue: 18/02/2015

This certificate is valid only with a current ID card and online register entry. You can check the current validity of this certificate at http://www.cibseenergycentre.co.uk

CIBSE Certification Ltd.

CIBSE Certification is approved by DECC as an ESOS Lead Assessor Approval Body, Number ESOS0001

Signed on behalf of CIBSE Certification Ltd

Authorised Signatory

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