Sustainability performance, methodology and data 2017

Landsec reports sustainability performance in accordance with our corporate commitments and industry disclosure standards. We are committed to transparent reporting on our annual performance to further drive positive change.

Landsec

Corporate commitments and performance summary

Progress
- Complete
- On track
- Incomplete

Commitments
- Existing commitment (retained)
- Existing commitment (extended)
- New commitment

Creating jobs and opportunities

Employment

Commitment

Help a total of 1,200 disadvantaged people secure jobs by 2020

Performance

Since 2011 we have secured employment for 962 people from disadvantaged backgrounds. In 2016/17, 183 jobs have been secured (134 in London and 49 in Retail)

Fairness

Commitment

Ensure the working environments we control are fair and ensure that everyone who is working on our behalf – within an environment we control – is paid at least the Foundation Living Wage by 2020

Performance

Landsec received accreditation from the Living Wage Foundation in March 2017. We have a milestone programme now in place which ensures we will meet our 2020 commitment

Diversity

Commitment

Make measurable improvements to the profile – in terms of gender, ethnicity and disability – of our employee mix

Performance

We already meet the recent Hampton – Alexander recommendations for females at our Executive Committee and senior leader level (combined % of 33%) and female representation has increased by 1% overall. We've also seen an increase of 3% in employees identified as black, asian or mixed ethnicity

Efficient use of natural resources

Renewables

Commitment

Continue to procure 100% renewable electricity across our portfolio and achieve 3 MW of renewable electricity capacity by 2030

Performance

Our contract with SmartestEnergy has been in place since 1 April 2016, all electricity is from 100% renewable sources. We have agreed our new gas contract with Corona Energy which has taken effect from 1st April 2017. We are now procuring 15% of our total volume as green gas derived from 100% waste streams

We have set a new metric to achieve 3 MW of renewable electricity capacity by 2030. Our current capacity is 0.6 MW, following the completion of our installations at Trinity and White Rose this will rise to 1.4 MW

Waste

Commitment

Send zero waste to landfill with at least 75% recycled across all our operational and construction activities by 2020

Performance

In 2016/17 we diverted 99.9% of waste from landfill and recycled 70.8%. This is an improvement from the year before which was 99.3% and 70.3%. Our London portfolio continues to divert 100% from landfill with 77% of waste recycled. In our Retail portfolio, we are diverting 99.9% from landfill and recycling 68.4%. In construction activities for 2016/17, a total of 7,571 tonnes of construction waste was generated. Over 98% was recycled with less than 2% being sent to landfill

Carbon

Commitment

Reduce carbon intensity (kgCO_2/m^2) by 40% by 2030 compared to a 2013/14 baseline, for property under our management for at least two years

Performance

We have reduced portfolio carbon intensity by 18.5% compared to our 2013/14 baseline. This has been achieved via reductions in energy consumption and assisted by favourable changes in the UK's energy generation mix

Energy

Commitment

Reduce energy intensity (kWh/m^2) by 40% by 2030 compared to a 2013/14 baseline, for property under our management for at least two years

Performance

We have reduced portfolio energy intensity by 13.2% compared to our 2013/14 baseline. This has been achieved by savings realised from our active energy management programme

Sustainable design and innovation

Resilience

Commitment

Assess and mitigate site-specific climate change adaptation risks that are material across our portfolio

Performance

This is a new commitment for 2017 and work is in progress to assess our climate risks, and determine opportunities for mitigation. This work will be undertaken in collaboration with our Group Research and Insurance teams

Embodied carbon

Commitment

Carry out embodied carbon analysis to inform the selection and procurement of building materials to reduce environmental impacts. Achieve at least a 15% reduction in embodied carbon

Performance

Our Westgate, Oxford development set an ultra-low carbon target requiring the reduction of embodied carbon by 25,777 tonnes. We're delighted to report that we've met this target, avoiding over 30,000 tonnes of embodied carbon emissions. This equates to an 18% saving, exceeding our corporate commitment

Biodiversity

Commitment

Maximise the biodiversity potential of all our development and operational sites and achieve a 25% biodiversity net gain across our five sites currently offering the greatest potential by 2030

Performance

We are focussing our work on the five sites that offer the greatest biodiversity potential. These are Bluewater, Gunwharf Quays, St David's, The Galleria and White Rose. We have identified opportunities to enhance biodiversity at each of these sites and will seek to begin implementation next year

Reporting methodologies

All energy, carbon and waste data reported for the financial year is for the 12 months to the end of February, as March data is not available in advance of our reporting duties.

Quick reference

Corporate commitment performance

This section provides an overview of the methodologies used to calculate the performance for the following commitments:

- Reduce carbon intensity ($kgCO_2/m^2$) by 40% by 2030 compared to a 2013/14 baseline, for property under our management for at least two years, with a longer-term ambition of an 80% reduction by 2050
- Reduce energy intensity (kWh/m^2) by 40% by 2030 compared to a 2013/14 baseline, for property under our management for at least two years
- Send zero waste to landfill with at least 75% recycled across all our operational and construction activities by 2020

We plan to extend this report to include methodologies for all commitments in the future.

Energy and carbon

We report on sites where we have "operational control", where we directly purchase energy or appoint agents who control the purchase of energy. The boundary of our commitments includes all properties within our portfolio which have been under our management, or "operational control", for at least two years. We report on all energy procured by Landsec or appointed agents, including that consumed by our customers, and the emissions associated with this energy. Only the energy associated with non-recharged void units is excluded.

Energy consumption is normalised to account for changing conditions and to better communicate energy performance. Landsec uses three normalisation techniques:

kWh electricity equivalent: Natural gas consumption is adjusted so all energy consumption can be reported by one metric: kWh electricity equivalent. Following the Better Building Partnership's REEB methodology, the factor applied to 1 kWh of natural gas is 0.4, which accounts for the natural gas higher coefficient of production.

Degree day correction: Degree day normalisation ensures that the demand for heating (gas) and cooling (electricity) is reported relative to our baseline year. If our baseline year happened to experience, for example, record-breaking temperatures, inevitably our performance in later years would appear unrealistically improved, as we'd demand less heating/cooling as compared with our baseline. The heating degree days (HDD) we use quantify the number of days and the length of time that temperatures have dropped below a base temperature of 15.5°C and our cooling degree days (CDD) quantify the number of days and the length of time that temperatures have exceeded 15.5°C.

We obtain our degree days from www.degreedaysforfree.co.uk and each asset is assigned to its local region. Local degree days have been sourced for our 2013/14 baseline year and current period degree days are used to calculate a correction factor (base year DD/current period DD = normalisation factor). This normalisation is calculated for both HDD and CDD.

The HDD normalisation factor is then applied to natural gas consumption used for space heating, this is applied to all asset types. The CDD normalisation factor is only applied to London office buildings as these are the primary assets where electricity is used for cooling. In these assets we have calculated that 22% of all office electricity consumption can be attributed to cooling. This has been calculated by detailed analysis of a selection of buildings with adequate landlord sub-metering. The CDD normalisation factor is therefore only applied to 22% of office total electricity usage.

Removal of cooking gas: It has been recognised that natural gas used for cooking, where cooking is the tenants' primary business function, can be directly correlated to their trade. Due to this direct correlation, we remove any natural gas consumption which is used for commercial cooking to better reflect the consumption where we have capacity and capability to drive reductions.

All normalisation techniques have been applied to our 2013/14 baseline year as well as the current reporting period.

Our commitments are measured by intensity based on floor area (m^2). Our methodology for calculating floor area directly matches the area reported to that served by the energy procured. A breakdown of the methods used to calculate floor areas for different types of asset can be found below:

- **Offices:** Office floor areas are based on Gross Internal Area (GIA) but deducting any floor area where Landsec provides no utilities/heating and cooling. Floor area for restaurants where Landsec is supplying natural gas for cooking only is excluded (as the gas is also excluded).
- **Retail and leisure parks:** Retail and leisure park floor areas are calculated using the number of car park spaces. We have calculated an average car parking space size of $11.8m^2$, this assumes 5% are disabled bays. The number of spaces is multiplied by $11.8m^2$ to calculate the base floor area. A further 20% is added to account for other landlord areas. Tenant floor area is included where Landsec supplies 100% of the energy to the demise. *The exceptions to this rule are Xscape Yorkshire and Xscape Milton Keynes which are treated as shopping centres due to their form and make-up.
- **Shopping centres:** Shopping centre floor areas are calculated using the same methodology for retail and leisure parks described above, however instead of using the additional 20% allocation for landlord areas, measured common parts area is used instead. Tenant floor area is included where Landsec supplies 100% of the energy feeding the demise.

These methods of calculating floor area have been utilised for both our 2013/14 baseline year as well as the current reporting period. They are used for all data reporting, including greenhouse gas emission reporting and our European Public Real Estate Association (EPRA) reporting.

Energy is reported as kWh/m^2 where kWh electricity equivalent is used. Carbon emissions are reported as tCO_2e/m^2. CO_2 is calculated using the "location-based" method as described by the WRI Greenhouse Gas Protocol utilising annually published UK government conversion factors.

Waste

We report on sites where we have "operational control", where we directly contract waste management services or appoint agents who control contracting of such services. Our commitment boundary includes all properties within our portfolio which are under our management, or "operational control". We include all waste services contracted by Landsec or appointed agents and the emissions associated with these, this includes services contracted on behalf of our customers.

Reported mixed recycling includes recyclable waste streams; glass, plastic, metals, paper, cardboard, and some hazardous waste (e.g. WEEE and fluorescent lamps). We endeavour to divert all waste from landfill except where necessary, such as Japanese Knotweed and asbestos. Confidential paper waste is also reported for some locations where we hold the management contract. This includes our own head office.

We report on different properties for waste and recycling compared to energy and carbon. This occurs as some waste is collated in shared loading bays for multiple buildings and because we do not manage the waste facilities and services for every tenant. We cross reference and check the reported property list with that used for energy and carbon reporting.

Waste performance is not currently normalised. However, this is being reviewed by the Landsec Sustainability team to account for changing conditions and to better communicate performance. Waste and recycling is reported in tonnes and associated carbon emissions are reported as tCO_2e, utilising annually published UK government conversion factors.

Landfill tax avoided is calculated by multiplying the relevant annual landfill tax rate by the total tonnes of waste diverted from landfill for the same year, through other processes including recycling, composting, anaerobic digestion and incineration.

Waste reporting for construction activities follows BREEAM Wst 01 reporting criteria, presenting the total volume of waste arising from the development, the recycling rates achieved and the diversion of waste from landfill. Data is compiled in this format by the nominated supply chain partner and submitted to Landsec on an annual basis. All construction waste from the commencement of the development until award of practical completion is included. Demolition and excavation waste is excluded.

Greenhouse gas emission reporting

We report our full greenhouse gas (GHG) emissions annually in accordance to the WRI GHG Protocol. Emissions are reported as tonnes of carbon dioxide equivalent (tCO_2e).

GHG emissions are broken down into three scopes, scope 1, 2 and 3.

Scope 1 emissions are direct emissions from activities controlled by us that release emissions into the atmosphere, whereas scope 2 emissions are indirect emissions associated with our consumption of purchased energy.

At Landsec, scope 1 comprises emissions from natural gas, refrigerant gases and company owned vehicles. Scope 2 emissions are from electricity purchased for common areas and shared services. All material sources of scope 1 and 2 emissions are reported. As the remaining sources (e.g. diesel used in generator testing) represent such a small proportion of total emissions we do not report them.

Scope 2 emissions are reported using both the "location-based" and "market-based" accounting methods. Location-based emissions are reported using UK Government Greenhouse gas reporting – Conversion factors 2016. Market-based emissions are reported using the conversion factor associated with each individual electricity supply as per the supplier's guidance. Scope 1 emissions are currently reported using only the location-based method.

Scope 3 emissions are those that are a consequence of our actions, but which occur at sources we do not own or control and which are not classed as scope 2 emissions. The GHG Protocol identifies 15 categories of which 8 are directly relevant for Landsec. The table below describes how each scope 3 category is treated in our reporting.

Scope 3 emission reporting methodology

Scope 3 category	Scope 3 category	Applicability	Methodology/justification for exclusion	Activity data source	Emission factor data source
1	Purchased goods and services	Yes	Emissions in this category are calculated by multiplying procurement spend by environmentally extended input output (EEIO) emission factors for each relevant economic sector of spend.	Primary procurement data from Landsec.	Carbon Trust, OPEN-IO Database
2	Capital goods	Yes	Landsec's capital assets can be classed into two major groups, as follows: 1. Developments – where the construction cost is >30% of the value of the asset 2. Portfolio Projects – where construction cost is <30% of the value of the asset Landsec works with a consultant to estimate the total embodied carbon emissions for each of our Developments until completion. Emissions are then allocated to the reporting year based on a curve showing typical embodied emissions throughout the lifetime of a Development project. Embodied carbon data is not available for Portfolio Projects. For these projects, emissions are calculated by multiplying procurement spend during the reporting year by environmentally extended input output (EEIO) emission factors.	**Developments** Primary data of construction materials applied in developments. **Portfolio Projects** Primary procurement data from Landsec.	**Developments** Sturgis Carbon Profiling **Portfolio Projects** Carbon Trust, OPEN-IO Database
3	Fuel and energy related activities	Yes	Calculation based on the location-based method of calculating Scope 1 and 2 emissions.	Primary energy data from areas managed by Landsec.	UK Government Greenhouse gas reporting – Conversion factors 2016
4	Upstream transportation and distribution	Yes	Procurement spend associated with upstream transportation and distribution has been matched to EEIO emission factors and the carbon emissions have been calculated. These emissions have not been split out, but are grouped under the Purchased Goods and Services category.	Primary procurement data from Landsec.	Carbon Trust, OPEN-IO Database
5	Waste generated in operations	Yes	Calculated by multiplying weight of waste and treatment method by UK emission factor.	Waste data from waste contractors.	UK Government Greenhouse gas reporting – Conversion factors 2016
6	Business travel	Yes	Calculated by multiplying distance and type of travel by UK emission factor.	Distance data provided by travel provider, combined with expenses data.	UK Government Greenhouse gas reporting – Conversion factors 2016
7	Employee commuting	Yes	Number of FTEs multiplied by average commuting distances and distribution across transportation modes. These distances were multiplied by transport emission factors published by UK Department for Business, Energy and Industrial Strategy (BEIS).	FTE data from Landsec.	UK Government – National Travel Survey 2015 UK Government Greenhouse gas reporting – Conversion factors 2016
8	Upstream leased assets	No (Covered in Scope 1 and 2)	Reported as Scope 1 and 2 emissions.	N/A	N/A

Scope 3 emission reporting methodology continued

Scope 3 category	Scope 3 category	Applicability	Methodology/justification for exclusion	Activity data source	Emission factor data source
9	Downstream transportation and distribution	No	Landsec is a Real Estate Investment Trust who develop and manage property assets, which we lease to our customers. We do not manufacture products and therefore there are no emissions to report under this category.	N/A	N/A
10	Processing of sold products	No	Landsec is a Real Estate Investment Trust who develop and manage property assets, which we lease to our customers. We do not manufacture products and therefore there are no emissions to report under this category.	N/A	N/A
11	Use of sold products	No	Landsec is a Real Estate Investment Trust who develop and manage property assets, which we lease to our customers. We do not manufacture products and therefore there are no emissions to report under this category.	N/A	N/A
12	End-of-life treatment of sold products	No	Landsec is a Real Estate Investment Trust who develop and manage property assets, which we lease to our customers. We do not manufacture products and therefore there are no emissions to report under this category.	N/A	N/A
13	Downstream leased assets	Yes	**Tenants which Landsec procures energy for and recharge** Calculated by metered energy consumption from tenants multiplied by UK emission factors. **Tenants which procure their own energy** Emissions are calculated by multiplying the Net Lettable Area (NLA) of let space Landsec owns but does not have operational control over, by an energy benchmark. The benchmark is drawn from 'The non-domestic National Energy Data-Framework (ND-NEED)' published by DECC in 2014, relating to 2011 data. The benchmark used is the median value to account for asymmetric data distribution.	**Landsec procured** Primary data from tenants. **Tenant procured** Data on Net Lettable Areas (NLA) of let spaces.	**Landsec procured** UK Government Greenhouse gas reporting – Conversion factors 2016 **Tenant procured** DECC – 'The non-domestic National Energy Data-Framework (ND-NEED)
14	Franchises	No	Landsec is a Real Estate Investment Trust who develop and manage property assets, which we lease to our customers. There are no franchises within the business and therefore there are no emissions to report under this category.	N/A	N/A
15	Investments	No	Landsec is a Real Estate Investment Trust who develop and manage property assets, which we lease to our customers. There are no investments in addition to the investment in our own property portfolio and there are therefore no emissions to report under this category. Any Scope 3 emissions associated with our portfolio are reported under the appropriate emissions categories.	N/A	N/A

European Public Real Estate Association (EPRA) reporting

Landsec is committed to EPRA Best Practice Recommendations for Sustainability reporting. This common reporting standard is a framework developed by property companies to promote transparency in sustainability reporting. Landsec has won a gold award for EPRA disclosure every year since 2014.

There are 18 EPRA sustainability impact areas covering energy consumption, GHG emissions, water usage, waste generation and treatment method and sustainability certificate attainment. Please note that impact area 'district heating and cooling consumption', is not applicable to Landsec and so EPRA codes DH&C-Lfl and DH&C-Abs have not been included.

Each EPRA impact area is reported on in two portfolios; absolute and like-for-like.

- **Absolute portfolio:** The absolute portfolio includes all properties where Landsec has 'operational control', where we purchase energy or appoint agents who control the purchase of energy.
- **Like-for-like portfolio:** The like-for-like portfolio includes all properties which have been in the portfolio since 1 April 2015, but excluding those which were acquired, sold, or included in the development pipeline at any time since that date.

Please note that for 2016/17 Landsec is not disclosing the performance of its own office separately. The data has been included within the Absolute portfolio but due to a head office move mid-way through the year we have chosen not to disclose separately.

Corporate commitment performance

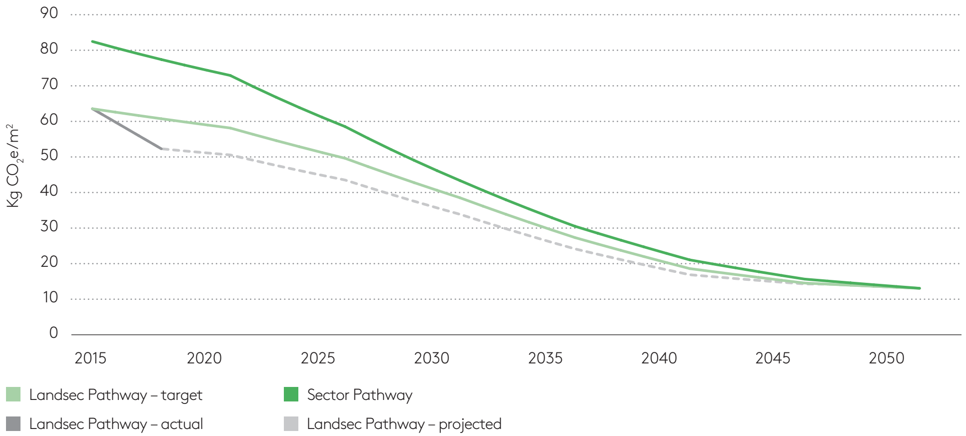
Commitment – Reduce carbon intensity ($kgCO_2/m^2$) by 40% by 2030 compared to a 2013/14 baseline, for property under our management for at least two years, with a longer-term ambition of an 80% reduction by 2050

Table 1

Impact area	Units of measure		London 2013/2014 Baseline	London 2016/17	London %	Retail 2013/2014 Baseline	Retail 2016/17	Retail %	Total 2013/2014 Baseline	Total 2016/17	Total %
Greenhouse Gas Emissions	annual tonnes CO_2e	Scope 1	6,530	8,486	30%	4,545	4,006	-12%	11,075	12,491	13%
		Scope 2	22,539	23,294	3%	16,395	18,922	15%	38,933	42,216	8%
		Scope 3	29,747	19,609	-34%	7,393	7,679	4%	36,809	27,288	-26%
		Total GHG Emissions	58,816	51,388	-13%	28,333	30,607	8%	86,817	81,995	-6%
	CO_2e /m²/year m²	GHG-Int	0.123	0.100	-19%	0.032	0.029	-10%	0.064	0.052	-18.5%
		Portfolio Area	476,400	513,963	8%	873,905	1,050,682	20%	1,350,305	1,564,645	16%

Landsec carbon emissions intensity pathway

Chart 2



We have reduced portfolio carbon intensity by 18.5% compared to our 2013/14 baseline. This has been achieved via reductions in energy consumption and assisted by favourable changes in the UK's energy generation mix. This chart indicates our performance against the required decarbonisation pathways of our portfolio and the wider sector. We are currently outperforming our target pathway and are on track for our 2030 commitment.

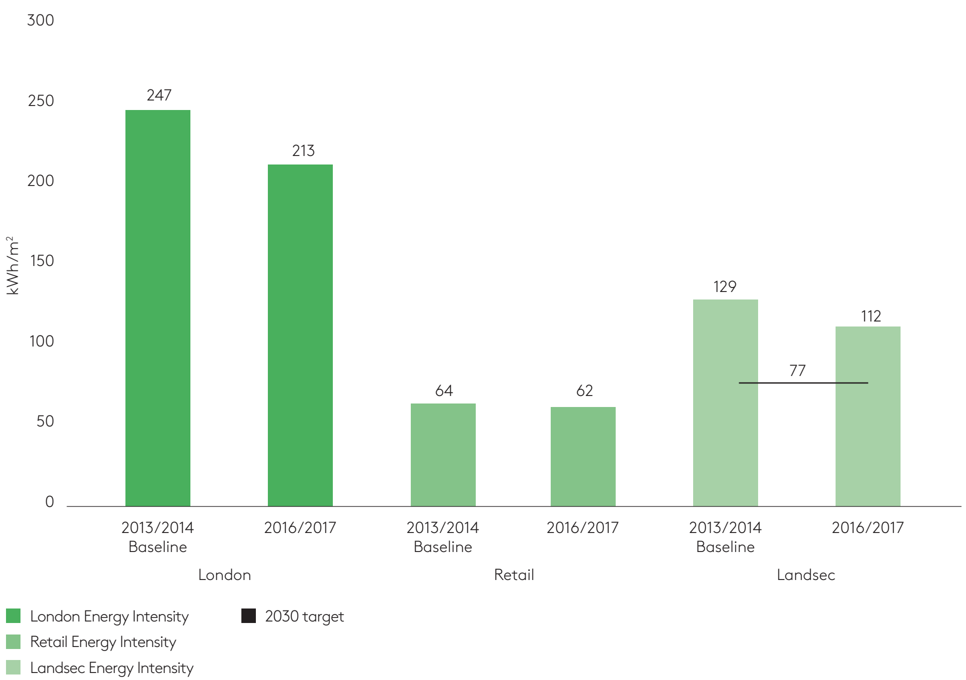
Commitment – Reduce energy intensity (kWh/m²) by 40% by 2030 compared to a 2013/14 baseline, for property under our management for at least two years

Table 3

Impact area	Units of measure	Indicator		London 2013/2014 Baseline	London 2016/17	London % change	Retail 2013/2014 Baseline	Retail 2016/17	Retail % change	Total 2013/2014 Baseline	Total 2016/17	Total % change
Energy	kWh	Fuels	for landlord shared services	13,964,698	19,576,911	40%	9,879,340	9,336,672	-5%	23,844,039	28,913,584	21%
			(sub)metered exclusively to tenants	73,836	60,697	-18%	111,842	77,790	-30%	185,678	138,486	-25%
			Total landlord-obtained fuels	14,038,535	19,637,608	40%	9,991,182	9,414,462	-6%	24,029,717	29,052,070	21%
		Electricity	for landlord shared services	49,837,264	54,426,793	9%	36,817,835	45,921,393	25%	86,655,099	100,348,186	16%
			(sub)metered exclusively to tenants	53,825,512	35,474,464	-34%	9,467,502	10,048,713	6%	63,293,014	45,523,177	-28%
			Total landlord-obtained electricity	103,662,776	89,901,257	-13%	46,285,337	55,970,106	21%	149,948,113	145,871,364	-3%
		Total energy	for landlord shared services	63,801,963	74,003,705	16%	46,697,175	55,258,065	18%	110,499,138	129,261,770	17%
			(sub)metered exclusively to tenants	53,899,348	35,535,161	-34%	9,579,344	10,126,503	6%	63,478,692	45,661,663	-28%
			Total landlord-obtained energy	117,701,311	109,538,865	-7%	56,276,519	65,384,568	16%	173,977,830	174,923,433	1%
	kWh/m²/year m²	Energy intensity	Energy int	247	213	-14%	64	62	-3%	129	112	-13%
			Portfolio area	476,400	513,963	8%	873,905	1,050,682	20%	1,350,305	1,564,645	16%

Landsec energy intensity progress

Chart 4

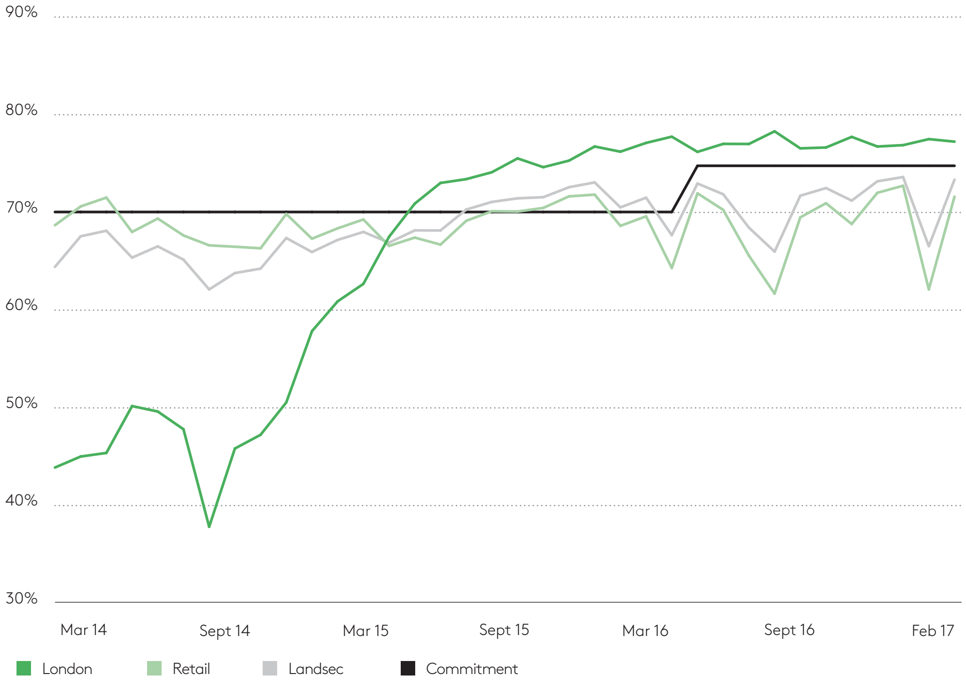


We have reduced portfolio energy intensity by 13% compared to our 2013/14 baseline. This has been achieved by savings realised from our active energy management programme.

This chart shows the energy intensity improvements we have made in our London and Retail portfolios and Landsec as a whole. Office buildings in London naturally have a much higher energy intensity than Retail assets and we have reduced London portfolio intensity by 14% since 2013/14. Our Retail portfolio intensity has reduced by 3%. Overall we have reduced combined portfolio intensity by 13% and are on track for our 2030 commitment.

Commitment – Send zero waste to landfill with at least 75% recycled across all our operational and construction activities by 2020

Landsec monthly portfolio recycling rates 2014–2017 Chart 5



In 2016/17 we diverted 99.9% of waste from landfill and recycled 70.8%. This is an improvement from the year before which was 99.3% and 70.3%. Our London portfolio continues to divert 100% from landfill with 77% of waste recycled. In our Retail portfolio, we are diverting 99.9% from landfill and recycling 68.4%.

Greenhouse gas emission reporting

CO_2e conversion factors – location-based*

Table 6

	2015/16	2016/17	% change
Electricity	0.57492	0.51680	-10.1%
Natural gas	0.20928	0.20899	-0.1%

* Combined conversion factor including well-to-tank and transmission and distribution factors

The above table outlines the "location-based" emission factors used for the 2016/17 year and how they compare to the previous year.

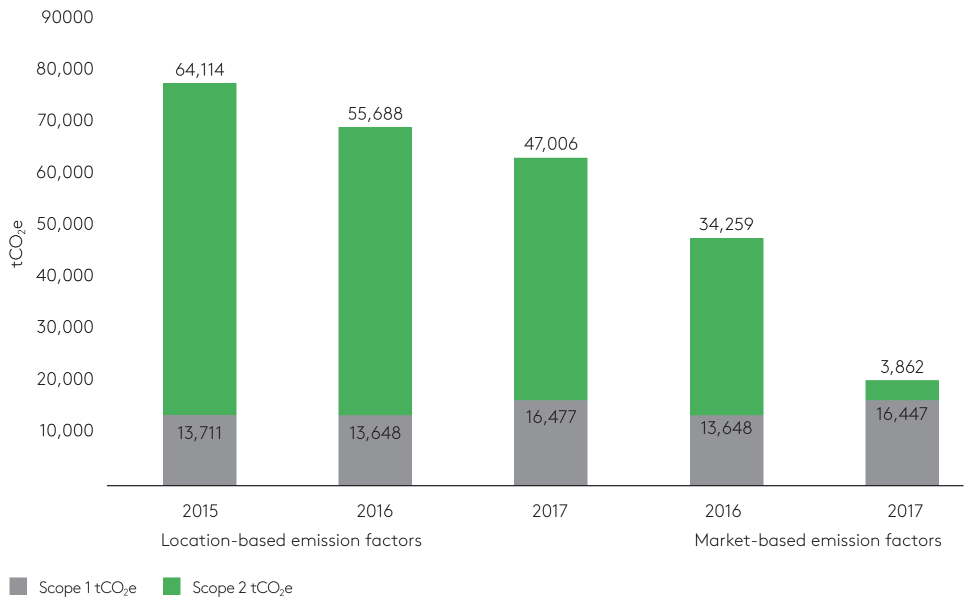
Landsec – Scope 1 and 2 emissions 2015-2017

Table 7

Scope 1 and 2 mandatory reporting	Location-based emission factors			Market-based emission factors		
Emissions	**2015**	**2016**	**2017**		**2016**	**2017**
Scope 1 tCO_2e	13,711	13,648	16,477	Scope 1 tCO_2e	13,648	16,477
Scope 2 tCO_2e	64,114	55,688	47,066	Scope 2 tCO_2e	34,259	3,862
Scope 1 and 2 tCO_2e	77,825	69,336	63,543	Scope 1 and 2 tCO_2e	47,907	20,338
Intensity						
Scope 1 and 2 tCO_2e/m^2	0.041	0.038	0.038	Scope 1 and 2 tCO_2e/m^2	0.026	0.012

Landsec Scope 1 and 2 emissions 2015-2017

Chart 8



* Landsec did not report market-based emissions in 2015. Therefore, this data is not included.

Total GHG emissions using location-based emission factors have dropped by 8% since the previous year. This has been driven by a reduction in electricity consumption and the drop in national emission factors due a cleaner energy mix. In terms of market-based emissions we have seen a significant reduction of 58%. This has been due to our move to 100% renewable electricity via our contract with SmartestEnergy.

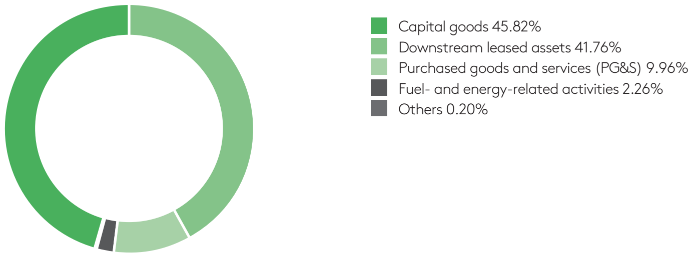
This is the first year where we have fully reported our Scope 3 emissions having worked with the Carbon Trust to establish an accurate and repeatable methodology. We believe it was important to do so to fully understand and disclose the total emissions associated with our business. This table provides a breakdown of our entire emission inventory including Scope 3.

Landsec Scope 1, 2 and 3 emissions 2016/17 Table 9

GHG Scope	Category	Emissions (t CO_2e)	% of total emissions
Scope 1	Scope 1	16,477	2%
Scope 2	Scope 2	47,066	7%
Scope 3	1. Purchased goods and services (PG&S)	61,647	9%
	2. Capital goods	283,570	42%
	3. Fuel- and energy-related activities	13,982	2%
	4. Upstream transportation and distribution	Grouped under PG&S	0%
	5. Waste generated in operations	740	0%
	6. Business travel	360	0%
	7. Employee commuting	182	0%
	8. Upstream leased assets	Not applicable	0%
	9. Downstream transportation and distribution	Not applicable	0%
	10. Processing of sold products	Not applicable	0%
	11. Use of sold products	Not applicable	0%
	12. End-of-life treatment of sold products	Not applicable	0%
	13. Downstream leased assets	258,428	38%
	14. Franchises	Not applicable	0%
	15. Investments	Not applicable	0%

The GHG Protocol splits Scope 3 emissions into 15 categories. We assessed each one individually and decided which ones were applicable to our business. For the categories that are applicable we have obvious hot spots which are highlighted below:

Landsec Scope 3 emissions 2016/17 Chart 10



The two largest contributing categories are Capital goods and Downstream leased assets, making up 80% of our entire emissions. Capital goods include the emissions associated with the manufacture and transport of materials used within our construction activity and Downstream leased assets are those associated with our customers within our assets. We are working to reduce our impacts in these categories by working closer with our supply chain partners and customers on reduction strategies.

European Public Real Estate Association (EPRA) reporting

Like-for-like portfolio energy

Table 11

Impact area	EPRA Sustainability Performance Measures				London			Retail			Landsec		
	EPRA codes	Units of measure	Indicator		2015/16	2016/17	% change	2015/16	2016/17	% change	2015/16	2016/17	% change
Energy	Elec – Lfl	kWh	Electricity	for landlord shared services	40,677,569	40,217,646	-1%	45,977,905	45,900,874	0%	86,655,474	86,118,520	-1%
				(sub)metered exclusively to tenants	28,138,084	27,305,932	-3%	9,943,458	10,048,713	1%	38,081,542	37,354,645	-2%
				Total landlord-obtained electricity	68,815,653	67,523,577	-2%	55,921,363	55,949,587	0%	124,737,016	123,473,165	-1%
	Fuels – LfL	kWh	Fuels	for landlord shared services	25,448,497	28,448,748	12%	17,785,433	21,769,961	22%	43,233,930	50,218,709	16%
				(sub)metered exclusively to tenants	3,312,380	2,291,458	-31%	11,439,703	11,896,101	4%	14,752,083	14,187,559	-4%
				Total landlord-obtained fuels	28,760,876	30,740,206	7%	29,225,136	33,666,063	15%	57,986,013	64,406,268	11%
	Total energy – LfL	kWh	Total energy	for landlord shared services	66,126,066	68,666,393	4%	63,763,339	67,670,835	6%	129,889,404	136,337,229	5%
				(sub)metered exclusively to tenants	31,450,464	29,597,390	-6%	21,383,161	21,944,814	3%	52,833,625	51,542,204	-2%
				Total landlord-obtained energy	97,576,529	98,263,783	1%	85,146,500	89,615,650	5%	182,723,029	187,879,433	3%
	Energy – Int	kWh/m^2/year	Energy intensity	Total building energy intensity	256	258	1%	81	85	5%	128	131	3%

2016/17 – % of total Lfl assets included: 100%
2016/17 – % of data estimated: 1%

Absolute portfolio energy

Table 12

Impact area	EPRA Sustainability Performance Measures				London			Retail			Landsec		
	EPRA codes	Units of measure	Indicator		2014/15	2015/16	2016/17	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17
Energy	Elec – Abs	kWh	Electricity	for landlord shared services	75,330,235	74,317,784	68,665,371	52,509,945	48,159,947	48,512,975	127,840,180	122,477,730	117,178,346
				(sub)metered exclusively to tenants	61,464,551	54,479,700	41,424,327	9,040,635	99,433,60	10,048,713	70,505,186	64,423,060	51,473,041
				Total landlord-obtained electricity	136,794,786	128,797,484	110,089,698	61,550,580	58,103,306	58,561,688	198,345,367	186,900,790	168,651,386
	Fuels – Abs	kWh	Fuels	for landlord shared services	46,021,170	48,696,565	57,398,425	21,651,698	18,230,208	22,058,795	67,672,868	66,926,773	79,457,220
				(sub)metered exclusively to tenants	3,674,757	3,805,667	2,716,191	10,680,277	11,439,703	11,896,101	14,355,034	15,245,370	14,612,292
				Total landlord-obtained fuels	49,695,928	52,502,231	60,114,616	32,331,974	29,669,911	33,954,896	82,027,902	82,172,143	94,069,513
	Total energy – Abs	kWh	Total energy	for landlord shared services	121,351,405	123,014,348	126,063,796	74,161,643	66,390,155	70,571,770	195,513,048	189,404,503	196,635,566
				(sub)metered exclusively to tenants	65,139,308	58,285,367	44,140,519	19,720,912	21,383,063	21,944,814	84,860,220	79,668,430	66,085,333
				Total landlord-obtained energy	186,490,714	181,299,715	170,204,314	93,882,554	87,773,217	92,516,584	280,373,268	269,072,932	262,720,899
	Energy – Int	kWh/m^2/year	Energy intensity	Total building energy intensity	274	253	279	77	78	87	148	146	157

Please note that in 2016/17 we updated our floor area calculation methodologies as described in the "Reporting methodologies" section of this report. We have retrospectively used these methodologies to calculate floor area and intensity results for previous years and so have restated these data points above.

2016/17 – % of total assets included: 100%
2016/17 – % of data estimated: 1%

Like-for-like portfolio greenhouse gas emissions (energy)

Table 13

Impact area	EPRA codes	Units of measure	Indicator		London 2015/16	London 2016/17	London % change	Retail 2015/16	Retail 2016/17	Retail % change	Landsec 2015/16	Landsec 2016/17	Landsec % change
Greenhouse Gas Emissions	GHG – Dir – LfL	annual tonnes CO_2e	Direct	Scope 1	4,694	5,234	12%	3,281	4,006	22%	7,974	9,240	16%
	GHG – Indir – LfL		Indirect	Scope 2 (local-based)	17,911	16,572	-7%	21,251	18,913	-11%	39,162	35,485	-9%
				Scope 3 (local-based)	25,836	22,432	-13%	15,123	14,414	-5%	40,958	36,846	-10%
				Scope 2 (market-based)	10,380	842	-92%	14,166	1,780	-87%	24,546	2,622	-89%
				Scope 3 (market-based)	20,197	11,809	-42%	13,192	10,527	-20%	33,388	22,337	-33%
	GHG-Int	$tCO_2e/m^2/year$	GHG Intensity	Total GHG emission intensity (local-based)	0.127	0.116	-9%	0.038	0.036	-6%	0.062	0.057	-7%
				Total GHG emission intensity (market-based)	0.092	0.047	-49%	0.029	0.016	-47%	0.046	0.024	-48%

2016/17 – % of total Lfl assets included: 100%
2016/17 – % of data estimated: 1%

Absolute portfolio greenhouse gas emissions (energy)

Table 14

Impact area	EPRA codes	Units of measure	Indicator		London 2014/15	London 2015/16	London 2016/17	Retail 2014/15	Retail 2015/16	Retail 2016/17	Landsec 2014/15	Landsec 2015/16	Landsec 2016/17
	EPRA Sustainability Performance Measures												
Greenhouse Gas Emissions	GHG – Dir – Abs	annual tonnes CO_2e	Direct	Scope 1	9,161	9,020	10,561	4,005	3,363	4,059	13,166	12,383	14,620
	GHG –Indir – Abs		Indirect	Scope 2 (local-based)	37,855	33,429	26,858	26,259	22,259	20,207	64,114	55,688	47,066
				Scope 3 (local-based)	55,748	47,778	36,809	17,479	15,380	14,750	73,227	63,158	51,560
				Scope 2 (market-based)		19,378	1,626		14,881	2,236		34,259	3,862
				Scope 3 (market-based)		37,193	19,438		13,449	10,858		50,642	30,296
	GHG-Int	$tCO_2e/m^2/year$	GHG Intensity	Total GHG emission intensity (local-based)	0.151	0.126	0.121	0.039	0.037	0.037	0.079	0.071	0.068
				Total GHG emission intensity (market-based)		0.092	0.052		0.028	0.016		0.053	0.029

Please note that in 2016/17 we updated our floor area calculation methodologies as described in the "Reporting methodologies" section of this report. We have retrospectively used these methodologies to calculate floor area and intensity results for previous years and so have restated these data points above.

2016/17 – % of total assets included: 100%
2016/17 – % of data estimated: 1%

Like-for-like portfolio water, waste and refrigerant gases

Table 15

Impact area	EPRA Sustainability Performance Measures				London			Retail			Landsec		
	EPRA codes	Units of measure	Indicator		2015/16	2016/17	% change	2015/16	2016/17	% change	2015/16	2016/17	% change
Water	Water – Lfl	m^3	Water	for landlord shared services	209,584	212,736	2%	465,664	441,313	-5%	675,248	654,049	-3%
				(sub)metered exclusively to tenants	17,269	15,796	-9%	190,904	207,262	9%	208,173	223,059	7%
				Total landlord-obtained water	226,852	228,533	1%	656,568	648,575	-1%	883,421	877,108	-1%
	Water – Int	m^3/m^2/year	Water intensity	Total building water intensity	0.59	0.60	1%	0.62	0.62	-1%	0.62	0.61	-1%
Waste	Waste – Lfl (recycled)	annual metric tonnes	Waste	Total weight of waste – Recycled	4,014	4,248	6%	17,296	16,646	-4%	21,309	20,894	-2%
	Waste – Lfl (EfW)		Waste	Total weight of waste – Energy from Waste	1,590	1,400	-12%	6,789	7,535	11%	8,379	8,935	7%
	Waste – Lfl (landfill)		Waste	Total weight of waste – Landfill	0	0	0%	251	34	-86%	251	34	-86%
	Waste – Lfl (recycled)	proportion of total waste %	Waste	Proportion of waste – Recycled	72%	75%	5%	71%	69%	-3%	71%	70%	-2%
	Waste – Lfl (EfW)		Waste	Proportion of waste – Energy from Waste	28%	25%	-13%	28%	31%	12%	28%	30%	7%
	Waste – Lfl (landfill)		Waste	Proportion of waste – Landfill	0%	0%	0%	1%	0%	-86%	1%	0%	-86%
Refrigerant gases	Refrigerant gases – Lfl	annual tonnes CO_2e	Direct	Refrigerant gases – annual metric tonnes CO_2e	487	498	2%	316	519	64%	803	1,018	27%

2016/17 – % of total Lfl assets included: Water – 100%, Waste – 100%, Refrigerant gases – 75%
2016/17 – % of data estimated: Water – 5%, Waste – 0%, Refrigerant gases – 100% (estimated using the 'screening' methodology)

Absolute portfolio water, waste and refrigerant gases

Table 16

Impact area	EPRA Sustainability Performance Measures				London			Retail			Landsec		
	EPRA codes	Units of measure	Indicator		2015/16	2016/17	% change	2015/16	2016/17	% change	2015/16	2016/17	% change
Water	Water – Abs	m³	Water	for landlord shared services	365,623	345,839	406,688	406,635	432,194	443,129	772,258	778,032	849,817
				(sub)metered exclusively to tenants	76,419	70,155	21,786	210,497	199,782	207,262	286,916	269,937	229,048
				Total landlord-obtained water	442,042	415,994	428,473	617,132	631,976	650,391	1,059,175	1,047,969	1,078,865
	Water – Int	m³/m²/year	Water intensity	Total building water intensity	0.65	0.58	0.70	0.51	0.56	0.61	0.56	0.57	0.64
Waste	Waste – Abs (recycled)	annual metric tonnes	Waste	Total weight of waste – Recycled	2,935	6,123	6,908	19,687	18,512	17,824	22,621	24,635	24,732
	Waste – Abs (EfW)		Waste	Total weight of waste – Energy from Waste	3,011	2,186	1,985	8,686	7,939	8,180	11,697	10,125	10,165
	Waste – Abs (landfill)		Waste	Total weight of waste – Landfill	0	0	0	441	256	37	441	256	37
	Waste – Abs (recycled)	proportion of total waste %	Waste	Proportion of waste – Recycled	49%	74%	78%	68%	69%	68%	65%	70%	71%
	Waste – Abs (EfW)		Waste	Proportion of waste – Energy from Waste	51%	26%	22%	30%	30%	31%	34%	29%	29%
	Waste – Abs (landfill)		Waste	Proportion of waste – Landfill	0%	0%	0%	2%	1%	0%	1%	1%	0%
Refrigerant gases	Refrigerant gases – Abs	annual tonnes CO_2e	Direct	Refrigerant gases – annual metric tonnes CO_2e	425	897	1,311	96	333	530	434	1,230	1,841

Please note that in 2016/17 we updated our floor area calculation methodologies as described in the "Reporting methodologies" section of this report. We have retrospectively used these methodologies to calculate floor area and intensity results for previous years and so have restated these data points above.

2016/17 – % of total assets included: Water – 100%, Waste – 100%, Refrigerant gases – 75%
2016/17 – % of data estimated: Water – 5%, Waste – 0%, Refrigerant gases – 100% (estimated using the 'screening' methodology)

Like-for-like portfolio greenhouse gas emissions (other)

Table 17

Impact area	EPRA Sustainability Performance Measures				London			Retail			Landsec		
	EPRA codes	Units of measure	Indicator		2015/16	2016/17	% change	2015/16	2016/17	% change	2015/16	2016/17	% change
Greenhouse Gas Emissions	GHG – Dir – LfL	annual tonnes CO_2e	Direct	Scope 1	487	498	2%	316	519	64%	803	1,018	27%
	GHG – Indir – LfL		Indirect	Scope 3	374	376	0%	1,370	1,414	3%	1,744	1,790	3%

Scope 1 includes emissions from Refrigerant gas
Scope 3 includes emissions from Waste and Water usage

2016/17 – % of total Lfl assets included: Water – 100%, Waste – 100%, Refrigerant gases – 75%
2016/17 – % of data estimated: Water – 5%, Waste – 0%, Refrigerant gases – 100% (estimated using the 'screening' methodology)

Absolute portfolio greenhouse gas emissions (other)

Table 18

Impact area	EPRA Sustainability Performance Measures				London			Retail			Landsec		
	EPRA codes	Units of measure	Indicator		2015/16	2016/17	% change	2015/16	2016/17	% change	2015/16	2016/17	% change
Greenhouse Gas Emissions	GHG – Dir – Abs	annual tonnes CO_2e	Direct	Scope 1	449	932	1,327	96	333	530	544	1,265	1,857
	GHG – Indir – Abs		Indirect	Scope 3	1,059	1,180	1,060	1,555	1,441	1,455	2,614	2,621	2,516

Scope 1 includes emissions from Refrigerant gas and Passenger Vehicles
Scope 3 includes emissions from Waste, Water usage and Business travel
Emissions from Passenger vehicles and Business travel are included in London

Please note that in 2016/17 we updated our floor area calculation methodologies as described in the "Reporting methodologies" section of this report. We have retrospectively used these methodologies to calculate floor area and intensity results for previous years and so have restated these data points above.

2016/17 – % of total assets included: Water – 100%, Waste – 100%, Refrigerant gases – 75%
2016/17 – % of data estimated: Water – 5%, Waste – 0%, Refrigerant gases – 100% (estimated using the 'screening' methodology)

Absolute portfolio – sustainability certification

Table 19

EPRA code – Cert-Tot

Our BREEAM rated space	Feb-16	Feb-17
Total common and tenanted space (m^2)	2,681,066	3,021,432
Total space with BREEAM rating (m^2)	583,919	996,585
Percentage of total which is BREEAM rated	22%	33%

Absolute portfolio – sustainability certification

Table 20

EPRA code – Cert-Tot

BREEAM rating	Area m^2	% of our total space
Outstanding	4,864	0.2%
Excellent	534,490	17.7%
Very Good	218,959	7.2%
Good/Pass	238,272	7.9%

Independent Assurance Statement to the management of Land Securities Group PLC

We have performed a limited assurance engagement on selected performance data and statements presented in the Land Securities Group PLC ('the Group') 2017 Sustainability Report ('the Report').

Respective responsibilities

The Group's management are responsible for the collection and presentation of the information within the Report. Management are also responsible for the design, implementation and maintenance of internal controls relevant to the preparation of the Report, so that it is free from material misstatement, whether due to fraud or error.

Our responsibility, in accordance with management's instructions, is to carry out a 'limited level' assurance engagement on selected data and performance claims in the Report ('the subject matter information'). We do not accept or assume any responsibility for any other purpose or to any other person or organisation. Any reliance any such third party may place on the Report is entirely at its own risk.

What we did to form our conclusions

Our assurance engagement has been planned and performed in accordance with ISAE3000 (Revised)[1] and to meet the requirements of a Type 2 assurance engagement as defined by AA1000AS (2008).[2] The criteria we have used to evaluate the Report ("the Criteria") include the AA1000AS (2008) assurance principles of Inclusivity, Materiality and Responsiveness; and, for selected data, Landsec's own criteria as set out in the Report and in the Environmental Reporting Methodology document.

The procedures we performed were based on our professional judgement and included the steps outlined below:

1. Interviewed a selection of the Group's management and reviewed company-level documents to understand the progress made in the area of sustainability during the reporting period and test the coverage of topics within the Report.

2. Conducted site visits at two sites (Nova and Westgate) to understand how the sustainability agenda is being managed at the site-level.

3. Reviewed the Group's approach to stakeholder engagement through interviews with employees with responsibility for managing engagement activities and reviewed selected associated documentation.

4. Reviewed the Group's process for determining material issues to be included within the Report.

5. Reviewed the coverage of key issues within the Report against the key issues raised in external media reports and the sustainability reports of the Group's peers, as well as the topics discussed in our management interviews, site visits and by the Sustainability Committee and other internal working groups.

6. Interviewed staff responsible for data reporting and carried out the following activities to review selected sustainability data:

— Reviewed the guidance on data reporting, key processes and quality assurance performed.

— Selected a sample of data points from across the business and sought documentary evidence to support the data.

— Conducted a walk-through of data reported from a sample of sites to test consolidation.

— Reviewed any explanations provided for significant variances.

— Reviewed the Report for the appropriate presentation of the data including limitations and assumptions.

Our review of data processes was limited to the following selected data sets:

— **Community employment:** People into jobs through the Community Employment Programme

— **Greenhouse gas emissions:** Direct GHG emissions ($MtCO_2e$), Indirect GHG emissions ($MtCO_2e$), and GHG intensity from building energy ($tCO_2e/m^2/year$)

— **Waste:** Waste diverted from landfill (tonnes) and percentage of waste recycled

7. Reviewed information or explanation about selected data, statements and assertions regarding the sustainability performance of the Group.

The limitations of our review

Our evidence gathering procedures were designed to obtain a 'limited level' of assurance (as set out in ISAE3000 Revised) on which to base our conclusions. The extent of evidence gathering procedures performed is less than that of a reasonable assurance engagement (such as a financial audit) and therefore a lower level of assurance is provided.

Completion of our testing activities has involved placing reliance on the Group's controls for managing and reporting sustainability information, with the degree of reliance informed by the results of our review of the effectiveness of these controls. We have not sought to review systems and controls at the Group beyond those used for selected sustainability data (as presented in the table above).

We have only sought evidence to support the 2016/2017 performance data. We do not provide conclusions on any other data from prior years.

Our conclusions

Based on the scope of our review our conclusions are outlined below:

Inclusivity

Has the Group been engaging with stakeholders across the business to develop its response to sustainability issues?

— We are not aware of any key stakeholder groups that have been excluded from dialogue.

— We are not aware of any matters that would lead us to conclude that the Group has not applied the inclusivity principle in developing its response to sustainability issues.

Materiality

Has the Group provided a balanced representation of key topics concerning its sustainability performance?

— We are not aware of any key topics concerning the sustainability performance of the Group which have been excluded from the Report.

— Nothing has come to our attention that causes us to believe that the Group's management has not applied its processes for determining material issues to be included in the Report.

Responsiveness

Has the Group responded to stakeholder concerns?

– We are not aware of any matters that would lead us to conclude that Landsec has not applied the responsiveness principle in considering the matters to be reported.

Completeness and accuracy of performance information

— We are not aware of any material reporting units that have been omitted from the stated scope of the company-level sustainability data.

— Nothing has come to our attention that causes us to believe that the data relating to the above topics has not been collated properly from company-level systems.

— We are not aware of any errors that would materially affect the data as presented in the Report.

How plausible are the statements and claims within the Report?

— We have reviewed information or explanation on selected statements regarding the Group's sustainability activities presented in the Report and we are not aware of any misstatements in the assertions made.

Observations and areas for improvement

Our observations and areas for improvement will be raised in a report to the Group's management. Selected observations are provided below. These observations do not affect our conclusions on the Report set out above.

— Through our interviews with management we noted that Executives at Landsec are engaged in the company's key sustainability programmes, and are aware of the business's sustainability priorities. The importance of sustainability to Landsec has been conveyed by the CEO, and this top-down leadership has enabled sustainability awareness to be cascaded across the company and further embedded into operations.

— This is the first year Landsec has reported measurable diversity metrics, which are designed to drive improvement across the business. At this time, outcome metrics have only been developed for gender diversity. We note that Landsec is leading a cross-industry collaboration to increase engagement and performance on diversity in the real estate sector. We would encourage Landsec to consider developing outcome-based targets for other prioritised aspects of diversity, such as ethnic diversity.

— Landsec continues to have well-structured processes for collecting and analysing portfolio energy consumption data through the Optima Energy Management System. At this time, other environmental data, such as refrigerants, waste and water consumption, are captured manually in spreadsheets, which introduces a higher risk of human error than an electronic data system. Landsec may want to consider more automated data systems to capture environmental data beyond energy.

Our independence

We have implemented measures to comply with the applicable independence and professional competence rules as articulated by the IFAC Code of Ethics for Professional Accountants and ISQC1.[3] Ernst & Young's independence policies apply to the firm, partners and professional staff. These policies prohibit any financial interests in our clients that would or might be seen to impair independence. Each year, partners and staff are required to confirm their compliance with the firm's policies.

We confirm annually to the Group whether there have been any events including the provision of prohibited services that could impair our independence or objectivity. There were no such events or services in 2016/17. Our assurance team has been drawn from our global Climate Change and Sustainability Services Practice, which undertakes engagements similar to this with a number of significant UK and international businesses.

Ernst & Young LLP, London
12 June 2017

1. International Federation of the Accountants' International Standard for Assurance Engagements (ISAE3000) Revised, Assurance Engagements Other Than Audits or Reviews of Historical Financial Information.
2. The 2008 edition of AccountAbility's AA1000 assurance standard.
3. Parts A and B of the IESBA Code; and the International Standard on Quality Control 1 (ISQC1)