Environmental performance

In 2019, we introduced a new approach to measuring and assessing our environmental performance, using the Sectoral Decarbonisation Approach (SDA) methodology to set ourselves a number of new environmental targets, alongside more traditional environmental targets or key performance indicators (together, the KPIs). The SDA methodology is the only approach with transport sector-specific metrics, using climate science to enable organisations to set targets relevant to their industry. We set new SDA KPIs on traction energy usage, traction carbon emissions and total (Scope 1 & 2) carbon emissions, which at the time met the 2018 Intergovernmental Panel on Climate Change (IPCC) goal of controlling the increase in global warming to below 2°C. The SDA KPIs were set over an initial seven-year performance period – 2019 to 2025 – from a 2018 baseline. We supplemented these SDA targets with KPIs on site emissions, waste to landfill and water usage, which we also aim to achieve over the same seven-year performance period against a 2018 baseline.

Our intention is to review the SDA KPIs on a regular basis as climate science, technology and forecasting methods improve. In this context, we are already considering how best to recalibrate the SDA KPIs in light of the updated 1.5°C target arising from the recent revised climate agreement. At this stage the sectoral guidance has yet to be published. It should be noted that wherever these targets settle, we have committed to an overarching goal of achieving net zero (Scope 1 & 2 emissions) across the Group by 2040.

Summary 2021 performance

Since the beginning of the global pandemic in 2020, we have seen a significant impact on all aspects of our business, and the restrictions on mobility have had two marked impacts on our environmental KPIs:

1. absolute metrics have materially improved (i.e. emissions reduced) as we have travelled significantly fewer miles and sites have been closed for long periods; but

2. intensity metrics have worsened (i.e. emissions per passenger km have increased) driven by lower occupancy across the business and a mix away from long distance coach businesses and into urban bus businesses.

Reduction target description (metric)	Base year (2018)	2025 target	2020	2021	Change from base year	Change 2020-2021	Required to meet target
Traction Energy: (vehicle fuel and electricity) **MWh/mpkm**	66.92	58.72	71.40	86.19	28.8%	20.7%	(31.9)%
Traction Carbon Emissions **tCO_2e/mpkm**	17.67	15.45	22.28	24.15	36.7%	8.4%	(36.0)%
Total Scope 1 & 2 emissions **tCO_2e/mpkm**	19.26	16.45	23.60	25.34	31.2%	5.9%	(34.9)%
Site Scope 1 & 2 Emissions (building use only) **tCO_2e**	41,656	38,199	36,549	31,683	(23.9)%	(13.3)%	Met
Landfill Waste Disposal **tonnes**	7,711	5,783	5,773	4,491	(41.8)%	(22.2)%	Met
Water Consumption **m^3**	478,956	439,209	397,731	424,347	(11.4)%	6.7%	Met

As the table above shows, not only does 2021 represent a worsening in intensity metrics year-on-year, but they are materially worse than the base year, now requiring more than 30% improvement by 2025 in order to reach our targets. There remains scope for material improvement in our intensity metrics as occupancy (and business mix) returns to pre-pandemic levels and we continue to decarbonise the fleet.

To demonstrate the impact of occupancy on intensity metrics, we have normalised the UK Bus and UK Coach performance by setting occupancy to 2019 levels (holding all other factors fixed). Modelling traction carbon emissions with 2019 utilisation rates gives a normalised intensity metric similar to 2019 for UK Coach, and an 18% reduction versus 2019 for UK Bus as shown below:

Traction Carbon/mpkm	2019	2021	2021 (normalised)
UK Coach	24.84	27.62	24.79
UK Bus	98.98	136.74	81.64

These are the results we would expect as there has been limited change in fleet specification in UK Coach, whilst in UK Bus we have retired the oldest diesel vehicles and replaced them with Euro VI vehicles or ZEVs.

Absolute emissions

Our absolute traction emissions in 2021 are approximately 84% of the equivalent emissions in 2019 and we have seen significant improvement in site level (Scope 1 & 2) emissions, waste disposal and water usage.

Scope 1 emissions (from combustion of fuels) have increased by 27.8% in 2021 against 2020 as the business builds back towards pre-pandemic operating levels, but remain 20% below 2019. Scope 2 emissions (primarily electricity usage) have increased by 8.5%, primarily driven by the expansion of the German Rail business which mobilised an additional contract in the year. Scope 3 emissions comprise business travel, waste, water and certain upstream emissions. There is more work to be done to identify and quantify the Group's complete Scope 3 footprint. A project has been initiated with that aim in mind and we will report on progress in our 2022 Annual Report.

tCO_2e emissions by scope	2018	2019	2020	2021	Change (2020 vs. 2021)
Scope 1	808,650	823,582	514,106	657,239	27.8%
Scope 2	48,583	49,938	67,879	73,649	8.5%
Scope 3	7,627	8,221	8,641	5,762	(33.3)%
Total	**864,859**	**881,741**	**590,626**	**736,650**	**24.7%**

Environmental performance continued

Measuring Scope 2 emissions will become increasingly important as we move towards a more electrified fleet and we expect increasingly to use renewable energy to recharge our fleets, as we already do in the UK. We have previously noted the complexity in measuring Scope 3 emissions and we have initiated a project to fully capture and quantify our Scope 3 emissions and improve our processes in partnership with our biggest suppliers. The Group has a multiplier effect on reducing emissions through both modal shift out of cars as well as decarbonising our own fleet.

We will also continue to report the decarbonisation impact of passengers choosing to travel on public transport rather than in private cars.

tCO_2e emissions by division	2018	2019	2020	2021	Change (2020 vs. 2021)
ALSA	317,812	324,007	234,477	368,714	57.3%
Bahrain	20,433	22,833	20,214	17,810	(11.9)%
Germany	25,367	29,269	52,347	58,939	12.6%
United Kingdom	230,354	227,380	142,769	147,789	3.5%
USA and Canada	269,916	276,693	140,168	142,800	1.9%
Business travel & leased vehicles	978	1,559	569	598	5.1%
Group total	**864,859**	**881,741**	**590,545**	**736,650**	**24.7%**

Note that the reduction in emissions in Bahrain is due to its refrigerant gas loss halving in 2021, which has more than offset a small rise in traction (diesel) emissions.

In the current year aggregate Scope 1 & 2 GHG emissions in our UK operations amounted to 122,578 tCO_2e (2020: 93,137 tCO_2e), and totalled 582,936 tCO_2e (2020: 441,532 tCO_2e) in our global (excluding UK) operations.

Intensity metrics

As our businesses gradually rebuild to normal operating levels, we are rebuilding service ahead of the full return of passengers – passenger kilometres for 2021 are 63% of the equivalent in 2019. The impact of this is a faster rise in carbon emissions than passenger numbers, which in turn has resulted in a rise (worsening) in intensity metrics between 2020 and 2021.

Intensity metrics	2018	2019	2020	2021	(2020 vs. 2021)
Group totals (million pass.km)	44,488	46,258	24,656	28,932	17.3%
Traction Carbon Emissions (Scope 1 & 2) tCO_2e/mpkm	17.67	16.69	22.28	24.15	8.4%
Total tCO_2e per million pass.km (Scope 1, 2 & 3)	19.46	19.06	23.93	25.34	5.9%

Carbon emissions per passenger kilometre (tCO_2e/million passenger km) increased by 6% between 2020 and 2021, from 23.93 tcO_2e/mpkm in 2020, to 25.34 tcO_2e/mpkm in 2021. It is important, however, to note that the data shows improvement through the year, with emissions intensity in the second half of 2021 showing signs of improvement as passenger numbers/load factors continued to recover at a faster rate to pre-pandemic levels.

Methodology

The method we have used to calculate GHG emissions is the GHG Protocol Corporate Accounting and Reporting Standard (revised edition), together with the latest emission factors from recognised public sources including, but not limited to, Defra, the International Energy Agency, the US Energy Information Administration, the US Environmental Protection Agency and the Intergovernmental Panel on Climate Change.

We have used a materiality threshold of 5%, have accounted for all material sources of GHG emissions and have reported emissions for the period 1 January 2021 to 31 December 2021 in line with our Financial Statements.

We are committed to ensuring that our GHG accounting system, results and accompanying reports remain robust, continue to enhance our Group-level emission performance year-on-year and are in compliance with the mandatory requirements of the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 (which Regulations implement the Government's policy on Streamlined Energy and Carbon Reporting (SECR)).

Streamlined Energy and Carbon Reporting

SECR regulations require the reporting (in MWh rather than tCO_2 in line with existing standards) of the aggregate of:

- the annual quantity of energy consumed from activities for which the Company is responsible, including the combustion of fuel and the operation of any facility; and
- the annual quantity of energy consumed resulting from the purchase of electricity, heat, steam or cooling by the Company for its own use.

MWh by division	2020	2021
ALSA	840,100	**1,325,774**
USA and Canada	529,482	**515,191**
United Kingdom	366,927	**489,515**
Germany	121,000	**137,700**
Bahrain	53,314	**54,950**
All	1,910,823	**2,523,130**
Energy consumed from the activities for which the Company is responsible, including the combustion of fuel and the operation of any facility	1,739,101	**2,333,066**
Energy consumed resulting from the purchase of electricity, heat, steam or cooling	171,721	**190,064**
All	1,910,822	**2,523,130**

Proportion of figure that relates to energy consumed in the UK and offshore area	2020	2021
Offshore	1,543,896	**2,033,615**
United Kingdom	366,927	**489,515**
UK proportion	19%	**19%**

This is another way of stating existing disclosures (as it is simply stating the same information in different measurement units) so the drivers of movement in tCO_2 and kWh for the Group should be broadly the same. The fact that, measured in MWh, emissions are up 32% year-on-year whereas measured in tCO_2 they are up 25% is driven by a combination of definitions, measurement standards and changes in energy 'mix'.

Building emissions and waste disposed to landfill have all shown a reduction between 2020 and 2021, but this trend will be skewed by lower occupancy of buildings. Increased water consumption between 2020 and 2021 reflects greater washing of vehicles as operations have increased.

During 2021 we have taken a number of steps to improve energy efficiency, including replacing diesel buses with zero emission equivalents. During 2020 the steps taken to improve energy efficiency included replacing diesel buses with zero emission equivalents and the switching of energy use in the UK to renewable energy sources.