



Carbon Net Zero

September 2021

Make more possible. 

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Change Control

Version	Date	Change
1.0	29/09/2021	First issue.
1.1	15/11/2021	Emissions improvement project two completed: employee commuting survey completed, emissions data re-baselined for 2020/21. Improvement project two removed and reference numbers re-set.

Carbon Reduction Plan

Commitment

Our aim is to ensure that our continued growth as leaders in our field is realised through sustainable and environmentally responsible practice. APS Group is, therefore, committed to achieving net zero carbon emissions by 2040. This plan covers locations in the UK for which Allied Publicity Services (Manchester) Ltd and APS Group Scotland Ltd have operational control, comprising the below locations:

- Bird Hall Lane Head Office and Main Production Site, Cheadle
- Orion Business Park Unit C and Unit D, Cheadle
- APS Group Secured Solutions, Preston Brook
- APS Group, Grange Business Park, Leicester
- Baker's Yard, London
- Tennant Street, Edinburgh
- Jane Street, Edinburgh

Baseline Emissions

Baseline emissions are a record of the greenhouse gases that have been produced in the past and were produced prior to the introduction of any strategies to reduce emissions. The baseline emissions are the reference point against which emissions reduction can be measured.

Baseline Year	2020/21
Emissions	kgCO2-e
Scope 1	427,056.03
Scope 2: Location Based	713,174.66
Scope 2: Market Based	0
Scope 3 ¹	13,693,364.10
Total Emissions (inclusive of Scope 2 Location Based)	14,833,594.80

Emissions Methodology

The below table details how our emissions figures are calculated, including assumptions that have been made where uncertainties exist.

¹ This scope consists of the following sub-scopes: Upstream Transportation and Distribution; Waste Generated in Operations; Business Travel; Employee Commuting; Downstream Transportation and Distribution.

Scope	Sub-Item	Data Sources	Calculation	Notes
1	Natural gas consumption	Kilowatt hour (kWh) usage of heating gas, collected by half-hourly metering where possible or through monthly bills.	kWh x DEFRA conversion factor for KgCO ₂ -e in the reporting year.	Reported as a single figure for gas usage across the APS estate.
	Refrigerant gas leakage	Bi-annual inspections to air conditioning units on the APS estate, specifically where leakage has been identified and the 're-charge' volume required.	Kilograms of gas 'recharged' x DEFRA global warming potential factor for the reporting year.	There are three types of 'F-Gas' used in APS' air conditioning units: HFC R410A, HFC R407C and HCFC R22. F-Gas leakage is reported as a single figure for all three types of gas.
	Transport fuel consumption	Usage data from fuel cards showing litres of diesel, petrol, and liquefied petroleum gas (LPG) consumed by the transport and facilities teams.	Litres of fuel drawn x DEFRA conversion factor for KgCO ₂ -e in the reporting year.	Reported as a single figure for fuel consumption.
2	Purchased electricity	Kilowatt hour (kWh) usage of electricity, collected by half-hourly metering where possible or through monthly bills.	kWh x DEFRA conversion factor for KgCO ₂ -e in the reporting year.	APS purchases 100% of electricity from renewable sources supported by REGOs, consequently our market-based figure for Scope 2 emissions is set at zero.
3	Upstream Transportation and Distribution	Record of purchase orders raised in the reporting year, filtered to exclude the Travel, Electricity, and Gas item codes, and to include only deliveries where the purchase order has been raised against Allied Publicity Services (Manchester) Ltd. Travel and/or emissions	Kilometres x DEFRA conversion factor for KgCO ₂ -e for delivery vehicle used as 'average laden'. Where the delivery vehicle is not known (i.e. artic or rigid, and weight class) the 'all HGVs' factor is used instead.	This data is currently being compiled and will be added to this report as more responses are received from our suppliers. We have raised an objective (project #1) to cover this gap in our data, and therefore we will continue to review and update

Scope	Sub-Item	Data Sources	Calculation	Notes
		data then provided by the suppliers.		this document as we improve the quality of our data capture.
	Waste Generated in Operations	Data obtained from waste transfer notes and weight reports provided by our waste management providers, including the total volume of waste collected and the 'end-of-life' process.	Tonnes of waste collected by type and end-of-life process x DEFRA conversion factor for KgCO2-e in the reporting year.	There are five possible end-of-life routes for waste produced by APS: Recycled, Reused, Treated, Refuse-Derived Fuel, and Landfill. Waste generated is reported as a single figure.
	Business Travel	Data obtained from: HR record of business mileage claimed, by vehicle type; KgCO2-e data supplied by main travel provider for air, rail, and hotel accommodation; purchase orders raised detailing start/end points of road, taxi, rail, air, and sea travel.	Total miles (or kilometres where required) per mode of transport x DEFRA conversion factor for KgCO2-e in the reporting year. In the interests of disclosing the fullest extent of our environmental impact we have chosen to include radiative forcing in our air travel, and account for this via the DEFRA conversion factor. Approximately 12% of the emissions for this sub-scope have been estimated. The quantity has been determined by taking the 'known' data line's CO2-e output and spend and using this to determine a CO2-e value per GBP spend.	Purchase order data typically includes only a start/end point of travel, rather than the correct number of miles travelled, consequently mileage is assumed as having taken the most direct route between the two points. Approximately 12% of the emissions associated with this factor have been estimated based on cost only, as certain purchase orders are raised as a cost and mode of transport only, with no further information. APS accepts that this is an imperfect calculation, and we recognise the need to reduce and preferably avoid any estimations.

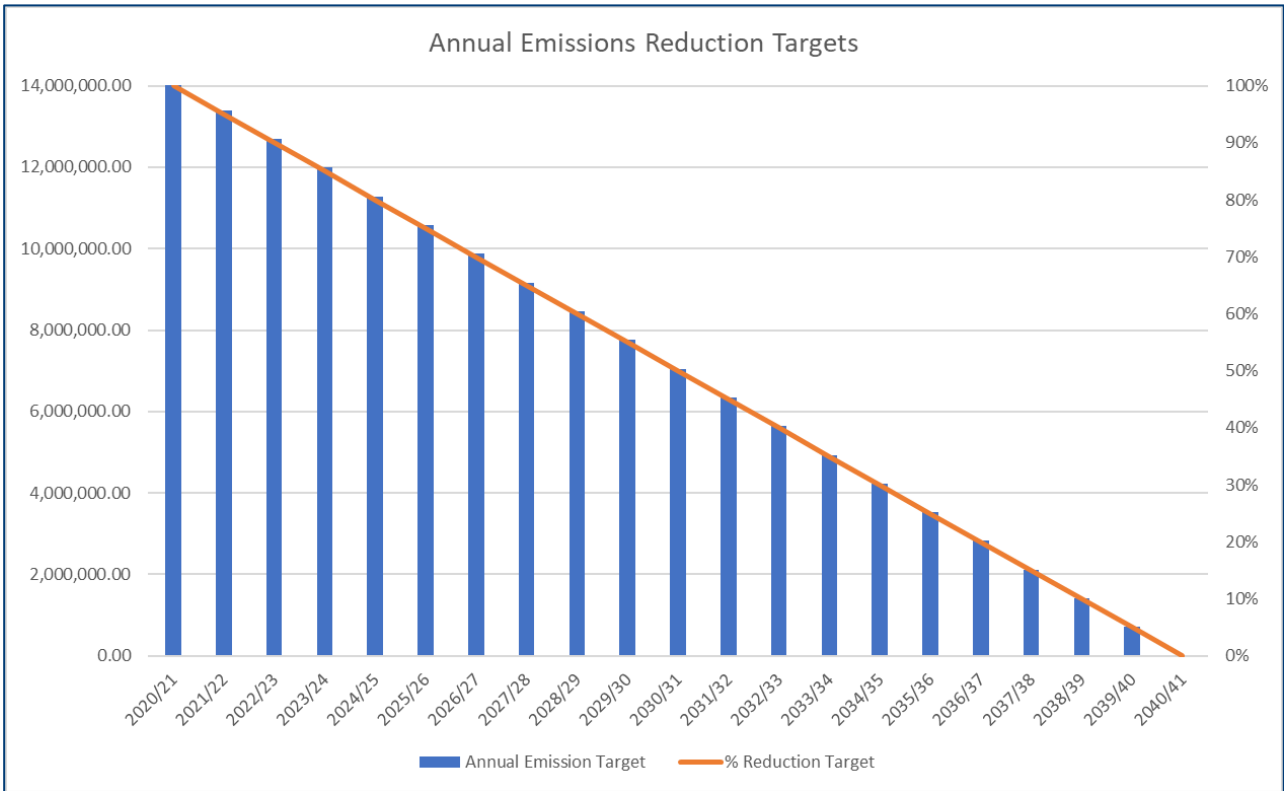
Scope	Sub-Item	Data Sources	Calculation	Notes
				An objective has been raised to support this (project #1).
	Employee Commuting	Data obtained from individual employee HR records detailing: how many times per week they travel to work; the mileage for the trip to and from work ('round trip'); and the most common mode of transport.	Total miles (or kilometres where required) per mode of transport x DEFRA conversion factor for KgCO ₂ -e in the reporting year.	Reported as a single figure for employee commuting for all APS Group employees, irrespective of which site they are based at. Of 902 employees within the scope of the assessment, 346 responded to the survey, conducted in October 2021; the data assumes the responses to be representative of the company as a whole.
	Downstream Transportation and Distribution	Job specification details entered onto APS' Operations Manager: including width, height, GSM, pages, and quantity. Where stocking method is set to 'All to stock' or 'Part to stock' then the delivery CO ₂ -e is set to zero and calculated on call-off. For all other jobs the CO ₂ -e is calculated when job is completed and moved to 'Invoiced' status on Operations Manager. The data is pulled through to APS' Sustainability Dashboard.	(Delivery weight (kg) x Delivery to KgCO ₂ -e conversion factor) + Delivery base CO ₂ -e factor. Delivery factor: 0.01 Base factor: 35	The figures used for delivery KgCO ₂ -e were determined by tests using a range of representative print specification variations, such as size, paper, colours and quantity and carried out on several different product groups across various delivery distances ranging from 10km to 150km and various modes of transport from small van to HGV using the DEFRA conversion factors for KgCO ₂ -e. The tests revealed common denominators which could be used to generate a delivery

Scope	Sub-Item	Data Sources	Calculation	Notes
				<p>carbon impact based on the weight of the item as a 'ready-reckoner', as the estimated KgCO₂-e fell within a tolerance of +/- 20% of the actual KgCO₂-e. Consequently, in accordance with the Precautionary Principle of the 'Rio Declaration', we have taken the decision to add 20% to our assessed total for Downstream Transportation, thereby ensuring that we do not under report.</p> <p>We assessed that the calculation begins to fall out of an acceptable range where a delivery exceeds 50 tonnes, estimating a higher KgCO₂-e than would be calculated manually, however are comfortable with this as it will result in over-reporting of our carbon emissions, thereby introducing an element of 'carbon negative' offsetting. It is for this same reason that we have added an uplift of 20% to the figure for delivery KgCO₂-e, representing the upper threshold of the tolerated range which</p>

Scope	Sub-Item	Data Sources	Calculation	Notes
				<p>ensures that APS will 'over report' as a minimum.</p> <p>We recognise that calculation of delivery by weight of product is an imperfect method of assessing carbon emissions, and as such are reviewing how best to collect the necessary data to align our calculations fully with the DEFRA conversion factors.</p>

Emissions Reduction Targets

To continue our progress to achieving net zero we are targeting, as a minimum, a 5% fall in carbon emissions year-on-year to take us on a linear path to the financial year 2040/41.



As we continue to refine our data reporting, and as the impacts resulting from the projects described below become known, we will continue to update this chart showing actual performance against the original target.

Emissions Reduction Projects

APS Group is committed to a programme of continual environmental performance in support of both our overall ambition of achieving carbon neutrality by 2040, and in accordance with the core principles of our ISO 14001: 2015 accreditation. Recognising these commitments, we are exploring the following improvement strategies:

Improvement		Detail
1	Continue to refine and improve data	Due to missing, or only partially available data in certain scope 3 items we have had to approximate elements of downstream transportation/distribution, employee business travel and

Improvement		Detail
	capture of Scope 3 items.	employee commuting, all of which have been detailed in the 'Emissions Methodology' table. APS Group will continue to refine our data capture of scope 3 with the goal of eliminating the need to sample or estimate emissions. We will achieve this through the ongoing project to develop our Sustainability Dashboard and seek assistance from third parties where necessary.
2	Obtain and calculate the necessary data to calculate waste impacts from our Edinburgh, Leicester, and Baker's Yard sites.	At this time we do not yet have the required waste data from several waste management providers, however we are working to close this gap. Once this data has been received and validated, we will add this to the total Scope 3 baseline figure.
3	Have our reporting data and methodology verified by an independent third party.	We recognise that independent verification of our data capture, calculation and reporting methodology will both support Improvement Strategy #1 and will provide APS Group with assurances that we are capturing the full terms of our reporting obligation.
4	Appointment of an Energy Management Team.	The business collects half-hourly gas and electricity data for most of its sites, and within the last 12 months has engaged the services of a single broker, who provides a reporting dashboard for monitoring and analysing consumption. The business may benefit from a formalised approach to periodically reviewing this data to identify negative trends and take appropriate actions.
5	Exploration of Building Energy Management Systems.	Good quality data is fundamental to improving energy management processes, and without this information it is difficult to assess what initiatives should be pursued. We are exploring a BEMS solution which will include digital air sensors; synchronous burner control; electrical sub-metering for production equipment; and ensuring all electricity and gas consumption within the APS estate is reported half hourly. This information may be reported as a separate BEMS module or could be configured to feed into the existing half hourly consumption dashboard. We anticipate savings in kWh gas and electricity consumption of between 25% and 40%.
6	Continue to offer hybrid working as a business standard where possible.	The business has offered hybrid working to all staff whose job roles allow. Although this was initially implemented as part of the COVID-19 response we intend to keep this in place where possible.
7	Introduce electrical vehicle charging	We have already installed EV points as part of the commissioning of our new Preston Brook production site. We are proposing to

Improvement		Detail
	points across our main office and production sites.	install EV points at our head office in Cheadle as a means of incentivising our workforce to gradually replace their combustion vehicles with hybrid/electrical.
8	Continue and complete the replacement of the lighting systems across our sites with LED lighting as a minimum, and where possible PIR lighting.	Modern LED lighting offers significant energy savings over older lamp types. It also gives staff a better quality of light and therefore improves staff comfort conditions. Our sites already have LED lights installed to varying degrees, replacing old technology of sodium, halogen and T8/T12 Florescent. There is a rolling program underway to replace all remaining lighting across the APS estate.
9	Programme of 'energy efficiency' training.	Awareness training can enable staff to appreciate and use the energy of APS buildings more effectively. We are exploring the use of energy efficiency training as a means of focussing staff attention on energy efficient practices and of empowering them to identify and feedback on potential improvements.
10	Explore Carbon Offsetting projects.	We recognise that, as a manufacturing business with an extensive network of suppliers and multiple UK sites, it is unlikely that carbon emissions will be fully removed without investment in carbon offsetting projects. We are investigating partnerships with charities and social enterprises that will allow us to offset a portion of our carbon emissions in a verifiable way that delivers both environmental and social benefits.
11	Introduce the full suite of scope 3 items to our reporting system	As our carbon emissions strategy continues to evolve, we recognise the need to go further than the requirements introduced by both the Streamlined Energy and Carbon Reporting (SECR) Regulations and PPN 06/21 to achieve true net zero carbon emissions. We therefore propose to introduce carbon monitoring across the remaining ten activities within the scope 3 framework not already covered by this report.

Progress against these objectives, and details any new schemes under discussion or planned, will be reported annually in APS Group's Carbon Reduction and Sustainability Report. A copy of the report will be publicly available on via the APS Group website.

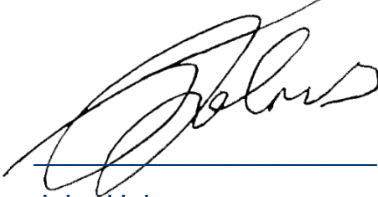
Declaration and Sign-Off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard² and uses the appropriate Government emission conversion factors for greenhouse gas company reporting³. Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard⁴.

This Carbon Reduction Plan has been reviewed and signed off by a member of the Board of Directors on behalf of the Board.

Signed and Authorised

A handwritten signature in black ink, appearing to read 'John Holmes', is written over a horizontal line.

John Holmes

Executive Director

29 September 2021

² <https://ghgprotocol.org/corporate-standard>, accessed 29 July 2021.

³ <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>, accessed 29 July 2021.

⁴ <https://ghgprotocol.org/standards/scope-3-standard>, accessed 29 July 2021.