

Recyclability is another important topic that the Company is tackling in cooperation with other entities through TARMAC Aerosave, a joint venture between Airbus SAS, Safran Aircraft Engines and Suez, providing state of the art services for the management of an aircraft's end of life.

### III. Risk Management

Environmental risk and opportunities are managed following the Company's ERM system and requirements defined within the ISO 14001:2015 certified EMS. Identification of specific environmental risks and opportunities is defined by internal guidance and it notably highlights the Life Cycle Perspective approach to be adopted and the inputs to be considered: environmental aspects and impacts, compliance obligations and other issues and requirements including stakeholders' expectations.

Risks and opportunities are reported quarterly to the Executive Committee of each Division and top risks are consolidated at Company level to be brought to the attention of top management.

#### 1. Climate Change Risk on Aircraft and Industrial Operations

The air transport market and Airbus business and operations may be disrupted by climate change, air emissions related impacts and stakeholders expectations including those of society, regulators and customers.

##### Climate Change Mitigation

Developing lower emission products and services to satisfy those expectations will require breakthrough advances in technology research (e.g. development of energy storage for electric aircraft, electrical distribution in the aircraft, power to weight ratio of electrical machines, etc.).

Airbus pursues incremental improvement of its programmes and has developed a dedicated organisation aimed at developing the future technologies that will be required. However, these technologies may not be available on time or may not deliver the required improvements to meet the climate objectives.

The Company's reputation may be affected if its or the sector's expected contributions on GHG emission reduction are not delivered as defined by ATAG to support the Paris agreements. Society's sensitivity to climate change leading to a change in passengers' behaviour including preference for alternative means of transport may change the market and demand for air travel. The Company may face reduced demand for its products and may need to adapt its business model in consequence.

##### Climate Change Adaptation

The foreseen consequences of climate change include harsher average weather conditions and more frequent extreme weather events, such as hurricanes, hail storms, heat waves or extreme cold spells. To cope with degraded operational conditions, more frequent redesigns may be required to meet more stringent regulation and certification criteria or standards.

Industrial operations and supply chain may also be affected by the consequences of climate change and require specific adaptation measures to remain operational.

### 2. Chemicals of Concern

Evolution of the hazardous chemicals' regulatory framework may lead to short- and long-term potential bans and result in business disruption across the Company's value chain.

With the aim of protecting human health and the environment, regulators at national and international level have developed a stringent set of legal requirements that are continuously evolving to ensure that hazards related to substances are under control or eliminated.

In order to mitigate the risk of disruption in its operations and supply chain, the Company's policy is to develop safe alternatives to the targeted substances and substitute these as soon as those alternatives have proven reliable enough to meet the stringent airworthiness criteria.

### IV. Initiatives

#### Industrial Operations

The Company is engaged in an industrial transformation to anticipate mid-term evolutions of its industrial systems as well as looking for longer term solutions to build its "factories of the future". This company-wide initiative will support the reduction of Airbus' environmental footprint on air, soil and water quality, climate change, biodiversity and resource availability. An evaluation of hotspots based on life cycle assessment studies of some Airbus products is also ongoing to help focus on appropriate topics.

In 2019, Airbus has rolled out High5+, a 2030 plan to reduce the footprint of all Airbus activities globally and reach out to the supply chain. High5+ engages all sites and functions, making sure that each area plays its part in delivering the global 2030 objectives. These objectives have been set in absolute value compared to 2015 levels to reduce energy consumption, CO<sub>2</sub> emissions, water consumption, VOC emissions and waste production as follows:

- energy and CO<sub>2</sub>: Following "Science Based Targets" methodology, reduce energy consumption by 20% and reduce direct (scope 1), indirect (scope 2) and oversize transportation (scope 3) GHG emissions by 40%. Reduction of oversize transportation impact will involve use of carbon offsetting to achieve overall ambition;
- waste and raw materials: divert 100% of the waste from landfilling and incineration without energy recovery, and reducing the amount of waste produced by 20%;
- air emissions: comply with air emissions regulations with 0% increase of air emission by 2030;
- water: develop strong maintenance and rehabilitation programs to improve reliability and lower costs in order to reduce water purchase by 50%, with no increase in water consumption; and
- deploy environmental requirements and risk evaluation across a targeted scope of the supply chain. Enhance the use of environmental risk evaluation for consideration as a quantitative input during selection, contracting and supply chain control phases.

In order to better embed this ambition into the Company's performance management, the Executive Committee agreed in 2019 to include a CO<sub>2</sub> reduction target for 2020 of 2.7% on the same perimeter as part of the Company's top objectives. As such it will form part of the CEO's and other Executive Committee Members' remuneration in 2020.

	2030 Target	2015	2019	2019 v. 2015
Energy (MWh)	-20%	2 323 287	2 408 751	3,7%
CO <sub>2</sub> e (tonnes)	-40%	934 788	981 985	5,0%
Waste :				
Landfilled and incineration without energy recovery	0%	18%	26%	
Waste produced	-20%	67 115	68 997	2,8%
Air emissions				
VOC (tonnes)	0% increase	1 156	1 208	4,5%
NOX (tonnes)	0% increase	203	237	16,9%
SOX (tonnes)	0% increase	11,6	11,8	1,5%
Water				
Water purchase (m <sup>3</sup> )	-50%	2 606 859	3 006 246	15,3%
Water consumption (m <sup>3</sup> )	0% increase	2 944 677	3 454 085	17,3%

Perimeter : Airbus sites w/o subsidiaries. Airbus FAL in Mobile (US) & in Mirabel (Canada) were not operated in 2015 and therefore do not contribute to the baseline. 2017 data used as baseline for Airbus Tianjin & Oversize Transportation

The 2019 status shows a moderate increase compared to the 2015 baseline. This is expected and can be explained by the Company's significant industrial ramp-up over the same period combined with the introduction of the A220 FAL in Mirabel (Canada) in 2019. Compared to previous objectives that were calculated relative to revenue, the High5+ plan targets specific initiatives to achieve the absolute value reduction targets by 2030.

VOC emissions have been reduced by over 15 tonnes annually in Nantes by switching from liquid cleaning solutions to sprays and wipes.

The Company is also engaged on circular economy. Beyond waste reduction, the Company has been proactive in seeking ways to reuse and recycle materials beyond their initial life. Not only does the Company send nearly 60% of its waste to be recycled, but today, through the TARMAC Aerosave joint venture, more than 90% of an aircraft weight is recycled or reused through a selective dismantling (reverse manufacturing) process. As airplanes manufactured with large volumes of composites start retiring in the next few decades, Airbus is working in cooperation with several specialist companies involved in carbon fibre recycling, as part of an industry goal to determine the best processes and uses for recycled and reused carbon fibre materials.

Wherever its industrial activities have an impact on biodiversity, the Company is engaged with local partners on conservation and remediation projects to preserve the affected flora and fauna and ensure they are not adversely affected by the Company's activities.

In order to promote biodiversity and educate employees on environmental protection, a beehive has been installed on Airbus Helicopters' Marignane site with approximately 15,000 bees and a seedling nursery has produced 300 seedlings of gardening, fruits and native plants on the Itajuba site.

Noise around Airbus sites can also be an important topic for neighbouring communities. The Company is actively engaged with local authorities and the affected population to minimise its impact, by adapting operating times and actively seeking to reduce the noise at the source. In Toulouse, Airbus has launched the Median initiative regrouping actors in charge of flight activities around the airport to find the most effective solution to reduce noise levels.

Light pollution caused by Airbus activities has been deemed to be non-material to the Company's value chain.

The Company monitors and makes available data verified by external auditors, and publishes transparently its industrial performance. Environmental data has been externally audited since 2010. Below is a selection of externally reviewed environmental indicators.

## ANNUAL REPORTING OF PERFORMANCE INDICATORS TABLE

Environmental performance	GRI	KPI	Unit	2019	2018
Energy	302-1	Total energy consumption (excluded electricity generated by CHP on site for own use) ✓	MWh	4,054,849	4,006,108
		Energy consumption from stationary sources ✓	MWh	1,359,018	1,304,338
		Energy consumption from mobile sources ✓	MWh	1,112,573	1,094,851
		Total electricity consumption, heat & steam consumption excluding CHP for own use ✓	MWh	1,583,258	1,606,919
		Of which purchased electricity from renewable sources (REC)	MWh	101,612	
		Generated electricity from CHP on-site for own use ✓	MWh	187,846	190,287
Air emissions	305-1	Total Scope 1 + Scope 2 CO <sub>2</sub> emissions ✓	tonnes CO <sub>2</sub>	927,529	959,825
		Total direct CO <sub>2</sub> emissions (Scope 1) ✓	tonnes CO <sub>2</sub>	569,838	553,887
		Total indirect CO <sub>2</sub> emissions (Scope 2) ✓	tonnes CO <sub>2</sub>	357,691	405,938
		Indirect CO <sub>2</sub> emissions Business Travel (Scope 3) ✓	tonnes CO <sub>2</sub>	109,403	111,666
	305-3	Indirect CO <sub>2</sub> emissions Oversize Transportation <sup>(1)</sup> (Scope 3)	tonnes CO <sub>2</sub>	198,526	185,500
		Total VOC emissions <sup>(2)</sup> ✓	tonnes	1,535	1,553
		305-7	Total SOx emissions	tonnes	15
Total NOx emissions	tonnes		280	323	
Water	303-5	Total water consumption ✓	m <sup>3</sup>	3,987,289	3,647,950
	303-4	Total water discharge	m <sup>3</sup>	3,740,566	3,338,712
Waste	306-2	Total waste production, excluding exceptional waste ✓	tonnes	99,280	98,631
		Material recovery rate ✓	%	54.0	57.8
		Energy recovery rate	%	21.2	20.7
EMS certification		Number of sites with ISO 14001 /EMAS certification <sup>(3)</sup> vs total number of covered by environmental reporting	Unit	62 / 80	60 / 71
		Workforce effectively covered by reporting over workforce subject to reporting according to the environmental guidelines <sup>(4)</sup>	%	94	89

2018 baseline has been recalculated to integrate changes in accounting methodology (emission factors & exclusion of close loop water consumption in Donauworth). Electricity Emission factors updated according to IEA 2018 v1.01 for 2019 data and IEA 2017 v1.03 for 2018 data.

Sites A220 FAL in Mirabel, Canada, Satair Copenhagen, Ashburn & Miami, AH Oxford, ATR Francal, are included in 2019 according to reporting rules.

✓ 2019 data audited by Ernst & Young et Associés. 2019 data covers 92% of total group employees.

(1) Oversize emissions cover transport of large and non standards shipments. Values cover aircraft commercial activities and are estimated.

(2) 2019 VOC emissions data is estimated and 2018 data actualised. The accurate 2019 data will be consolidated and available during March 2019

(3) Number of sites covered by the environmental reporting which are certified ISO 14001.

(4) Airbus environmental reporting guidelines include sites worldwide with a workforce on-site higher or equal to 50 employees. Note that only 100% consolidated entities are taken into account to calculate this 50 employee threshold. Coverage varies from 92% to 93% for waste, water, heat & refrigerants indicators.

As part of its plan to tackle scope 3 emissions, the Company has decided to offset all emissions linked to air business travel. In 2019, the Company has also started compensating emissions of activities for which reduction and use of renewable energy are not sufficient to meet the targets, such as air and sea logistics means.

In 2019, Airbus undertook an initial assessment of its scope 3 “Purchased Goods and Services” impact using a methodology developed by IAEG. The results of this assessment will be used to understand where the main impacts are in the Airbus supply chain in terms of GHG emissions and engage with suppliers on targeted projects to address them in the most effective way.

As can be expected, GHG emissions linked to the operation of Airbus’ products are among the areas of particular focus as they represent the main part of the value chain’s emissions. Recent internal studies, aiming at understanding the spread of GHG emissions of a commercial aircraft product over its current complete lifecycle, have concluded that over 97% of GHG emissions occur during the flight operations phase. As this phase is influenced by several factors beyond Airbus’ direct control and needs to be calculated as a projection of an aircraft’s operation over its entire service life, Airbus calls for a sectoral alignment on a methodology providing consistency to the way such impacts are calculated and communicated throughout the air transport sector.