# **Groupe PSA - Climate Change 2018**

## **C0. Introduction**

## **C0.1**

### **(C0.1) Give a general description and introduction to your organization.**

With its three world-renowned brands, PEUGEOT, CITROËN and DS AUTOMOBILES and its FREE2MOVE mobility services brand, Groupe PSA sold 3.63 million vehicles worldwide in 2017. The second largest carmaker in Europe, Groupe PSA recorded sales and revenue of €65.2 billion in 2017. The Group is one of the European leaders in terms of CO2 emissions, with an average of 104.7 grams of CO2/km for Passenger cars in 2017. Groupe PSA has sales operations in 160 countries.

It is also involved in financing activities (Banque PSA Finance) and automotive equipment (Faurecia).

Right from the design phases and for every life-cycle stage, our teams work to mitigate as much as possible the environmental impacts of vehicles (consumption management, CO2 emissions, pollutants, rational use of resources, better recyclability, etc.). Those strategic issues are handled through the roll out of our Push to Pass strategic plan.

Concerned with being fully compatible with sustainable development, Groupe PSA directs most of its research efforts towards clean technologies to address the major following issues:

- reducing fuel consumption and emissions of vehicles (CO2 and other particles);

- making vehicles lighter, which is virtuous in all aspects (consumption, reduced needs of raw materials, emissions);

- improving energy efficiency of vehicles.

All reported data and information cover exclusively Groupe PSA’s Automobile Division and its commercial network activities for its three brands. Data from Faurecia and our financing activities are not included. Additionally, please note that the brands OPEL and VAUXHALL are not included in the data reported since they were acquired recently (August 1st 2017) by Groupe PSA, unless stated otherwise. Nonetheless, the Group’s ambitions and the various targets (i.e.: 2018, 2025 and 2035 targets) described in particular in the Business strategy section as well as data relative to R&D investment and people include the two brands Opel and Vauxhall.

> PSA general greenhouse gas (GHG) emissions profile

A life cycle analysis conducted by the Group in 2015 (certified methodology, please refer to CSR report section 2.4.4.2) provided the distribution of the overall carbon footprint of vehicles produced by the group over a year. This analysis showed that Scope 3 represents 98% of our total emissions inventory.

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> PSA Scope 1 & 2 Emissions profile

The Automobile Division emissions from Scope 1 & 2 represent 569 ktCO2eq in 2017, which accounts for 92% of PSA total Scope 1 & 2 emissions.

These emissions include 34 PCA sites in France and outside France, SEVEL Nord and La Française de Mécanique (which is included in the inventory since 2014). These sites consist in production sites, R&D and tertiary buildings.

N.B.: our emissions inventory includes our foundry activities.

The remaining 8% of Scope 1 & 2 are related to our commercial activities, which cover our commercial network for our brands Peugeot, Citroën and DS Automobiles (headquarters of sales subsidiaries, commercial network specific to each brand, training centers, regional head offices, spare parts stores).

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> PSA Scope 3 Emissions profile

The direct use of our sold products is by far the major source of GHG emissions (73 MtCO2) and accounts for more than two thirds of our emissions. The related fuel upstream accounts for 11,2% of our emissions, and maintenance represents 1.4%. Therefore, more than 76% of our total footprint depends on the use of our sold products (including fuel upstream and sold vehicles’ maintenance).

As we are one of the leaders in terms of CO2 emissions of vehicles in Europe, our climate footprint per vehicle is one of the smallest on the European market.

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Groupe PSA considers CO2 emissions from vehicles and fuel consumption as the number 1 strategic CSR issue in the “sustainable mobility” category from its materiality analysis.

Following on from its 2016 commitment, PSA has published the measurement results from the test protocol established with Transport & Environment (T&E) and France Nature Environnement (FNE). This protocol has been used to measure consumption in real driving conditions for 60 Groupe PSA models under the supervision of the Bureau Veritas certification organization, which has certified the accuracy and integrity of the results.

The measurements obtained on the 60 models make it possible to estimate the consumption in real-world driving conditions for more than 1,000 versions of Peugeot, Citroën and DS vehicles. Those results are available on the brands website.

Additionally, each client will be able to estimate its own consumption based on the actual use of his vehicle (number of passengers, load, driving style, etc.), thanks to a dedicated application available on the brands website.

## **C0.2**

### **(C0.2) State the start and end date of the year for which you are reporting data.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Start date** | **End date** | **Indicate if you are providing emissions data for past reporting years** | **Select the number of past reporting years you will be providing emissions data for** |
| Row 1 | January 1 2017 | December 31 2017 | No | <Not Applicable> |
| Row 2 | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Row 3 | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Row 4 | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C0.3**

### **(C0.3) Select the countries/regions for which you will be supplying data.**

Argentina

Brazil

France

Portugal

Russian Federation

Slovakia

Spain

Other, please specify (Rest of the World)

## **C0.4**

### **(C0.4) Select the currency used for all financial information disclosed throughout your response.**

EUR

## **C0.5**

### **(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

Operational control

## **C-TO0.7/C-TS0.7**

### **(C-TO0.7/C-TS0.7) For which transport modes will you be providing data?**

Light Duty Vehicles (LDV)

## **C1. Governance**

## **C1.1**

### **(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

## **C1.1a**

### **(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.**

|  |  |
| --- | --- |
| **Position of individual(s)** | **Please explain** |
| Board/Executive board | Groupe PSA has a two-tier management structure comprising a Managing Board, responsible for strategic and operational management, and a Supervisory Board, responsible for oversight and control. The Supervisory Board ensures that the strategy proposed and applied by the Managing Board, including climate strategy, fits with PSA’s long-term vision. It reviews the medium-term strategic plan, including climate-related issues, and the capital expenditure plan as well as the budget as presented to it by the Managing Board. The Supervisory Board is also ensuring that climate risks are properly identified and managed. There is also a Strategic Committee whose function is to look at the long-term future and potential avenues for growth, and suggest to the Supervisory Board the Group’s general orientations. Within this committee, members also handle environmental issues, and in particular those relating to climate change (CO2 performance of vehicles) and air quality (NOx emissions of vehicles). |

## **C1.1b**

### **(C1.1b) Provide further details on the board’s oversight of climate-related issues.**

|  |  |  |
| --- | --- | --- |
| **Frequency with which climate-related issues are a scheduled agenda item** | **Governance mechanisms into which climate-related issues are integrated** | **Please explain** |
| Scheduled – all meetings | Reviewing and guiding strategy | ------- CEO and Executive committee (Board level) are guiding climate-related strategy through the review and the monitoring of strategic climate issues such as customers’ expectations and market risks, vehicle CO2 emissions. ------- In regards to carbon issues, a CO2 committee is planed every month (used to be every quarter up to 2017) in order to share with Board and Executive Committee the forecast of vehicles CO2 emission average from 2018 to 2025 in all countries/area (especially where CAFÉ/CO2 regulation exists), and decide action plans (technical enablers, product plan adaptation and strategy) in the case targets would not be reached. ------- Example 1: In line with the Group strategy to offer 100% of electric vehicles by 2025, the Board decided to create in July 2017 a separate department to handle the electric vehicle programmes. This was followed by the creation of a Low Emission Vehicles Business Unit in 2018, which will be responsible for defining and deploying the Group’s electric vehicle strategy and rolling out the related products and services. Headed by Alexandre Guignard, this BU will direct report its advances to Linda Jackson, member of the Board and CEO of the Citroen brand. ------- Example 2: In 2017, Groupe PSA launched the deployment of the brand Free2Move with the aim of providing new mobility solutions in order to respond the changing expectations of its stakeholders, be they consumers or host communities. The head of this dedicated business unit (named mobility services) is a member of Executive Committee, and the Board is regularly reviewing the progresses achieved on this topic of new mobility services. |
| Scheduled – all meetings | Reviewing and guiding major plans of action | ------- CEO and Executive committee (Board level) are guiding climate-related strategy through the review and the monitoring of strategic climate issues such as customers’ expectations and market risks, vehicle CO2 emissions. ------- In regards to carbon issues, a CO2 committee is planed every month (used to be every quarter up to 2017) in order to share with Board and Executive Committee the forecast of vehicles CO2 emission average from 2018 to 2025 in all countries/area (especially where CAFÉ/CO2 regulation exists), and decide action plans (technical enablers, product plan adaptation and strategy) in the case targets would not be reached. ------- Example 1: In line with the Group strategy to offer 100% of electric vehicles by 2025, the Board decided to create in July 2017 a separate department to handle the electric vehicle programmes. This was followed by the creation of a Low Emission Vehicles Business Unit in 2018, which will be responsible for defining and deploying the Group’s electric vehicle strategy and rolling out the related products and services. Headed by Alexandre Guignard, this BU will direct report its advances to Linda Jackson, member of the Board and CEO of the Citroen brand. ------- Example 2: In 2017, Groupe PSA launched the deployment of the brand Free2Move with the aim of providing new mobility solutions in order to respond the changing expectations of its stakeholders, be they consumers or host communities. The head of this dedicated business unit (named mobility services) is a member of Executive Committee, and the Board is regularly reviewing the progresses achieved on this topic of new mobility services. |
| Scheduled – all meetings | Monitoring implementation and performance of objectives | ------- CEO and Executive committee (Board level) are guiding climate-related strategy through the review and the monitoring of strategic climate issues such as customers’ expectations and market risks, vehicle CO2 emissions ------- In regards to carbon issues, a CO2 committee is planed every month (used to be every quarter up to 2017) in order to share with Board and Executive Committee the forecast of vehicles CO2 emission average from 2018 to 2025 in all countries/area (especially where CAFÉ/CO2 regulation exists), and decide action plans (technical enablers, product plan adaptation and strategy) in the case targets would not be reached. ------- Example 1: In line with the Group strategy to offer 100% of electric vehicles by 2025, the Board decided to create in July 2017 a separate department to handle the electric vehicle programmes. This was followed by the creation of a Low Emission Vehicles Business Unit in 2018, which will be responsible for defining and deploying the Group’s electric vehicle strategy and rolling out the related products and services. Headed by Alexandre Guignard, this BU will direct report its advances to Linda Jackson, member of the Board and CEO of the Citroen brand. ------- Example 2: In 2017, Groupe PSA launched the deployment of the brand Free2Move with the aim of providing new mobility solutions in order to respond the changing expectations of its stakeholders, be they consumers or host communities. The head of this dedicated business unit (named mobility services) is a member of Executive Committee, and the Board is regularly reviewing the progresses achieved on this topic of new mobility services. |

## **C1.2**

### **(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.**

|  |  |  |
| --- | --- | --- |
| **Name of the position(s) and/or committee(s)** | **Responsibility** | **Frequency of reporting to the board on climate-related issues** |
| Other C-Suite Officer, please specify (Chief Strategy Officer) | Both assessing and managing climate-related risks and opportunities | More frequently than quarterly |
| Chief Operating Officer (COO) | Both assessing and managing climate-related risks and opportunities | More frequently than quarterly |
| Chief Sustainability Officer (CSO) | Both assessing and managing climate-related risks and opportunities | Annually |

## **C1.2a**

### **(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.**

The Executive Committee and the Heads of department who serve among its members play a key role in the Group’s climate policy: the Executive Committee validates the medium- and long-term climate-related directions and ambitions, while the Heads of department are responsible for following the courses adopted and are the guarantors of the action plans necessary to attain the targets set.

-----------------------> Sustainability Officer:

(i) Position: The Sustainability officer, head of the Sustainable Development Delegation (sustainability committee), reports directly to the VP of Corporate Communications, who in turn reports to the Chairman of the Managing Board.

(ii) Responsibility: The role of the Sustainability officer and the Sustainable Development Delegation is: (1) to ensure that progress plans with the aim of improving the integration of sustainable development responsibilities within the Group’s strategy are implemented, by working with and coordinating a network of front-line correspondents present in all the Group’s departments who are experts in the different areas of Corporate Social Responsibility (human resources, environmental management, procurement, marketing, sponsorship, etc.); (2) to liaise on a daily basis with CSR rating agencies and SRI investors, in particular by making every effort to provide them with information in response to their requests; (3) to coordinate thinking and proposals for actions enabling the Group to prepare for the regulatory developments related to CSR.; (4) to be a proponent of actions serving to underscore the Group’s CSR commitments; (5) to orchestrate each year’s reporting on the Group’s environmental, social and governance performance, coordinate its verification by an independent third party and oversee the preparation of the CSR Report.

(iii) Rationale: Given the horizontal function of the Sustainability Officer and the Sustainable Development Delegation, and the relation with many head departments such as CO2 committee or materials & recycling committee, it is coherent and logical that the responsibility of better integrating and coordinating climate policy at management levels is assigned to the Sustainability Officer and the Sustainable Development Delegation.

-----------------------> Chief Strategy Officer (CSO):

(i) Position: The CSO, named Executive Vice-President of Programmes at Groupe PSA, is a member of the Executive Committee and is the head of the Automotive Programmes Department.

(ii) Responsibility: Its role and responsibility are to translate the Groupe PSA’s strategy into product plans and ensure their implementation by steering the development of vehicle and subassembly programmes and being responsible for their economic performance.

(iii) Rationale: The CSO is directly concerned with climate-related issues insofar as its primary function is to anticipate deep-seated changes in market structure and regulatory landscapes (including emissions and air quality), and secondly provides orientations on the development of new vehicles and in particular low-carbon vehicles.

-----------------------> Chief Operating Officer:

(i) Position: The COO, named Industrial Director at Groupe PSA, is a member of the Executive Committee and is the head of the Industrial Environment Department.

(ii) Responsibility: Its role and responsibility are to coordinate the deployment of the Group’s environmental policy for manufacturing and research sites. In addition, the COO and its Industrial Environment Department manages an annual investment plan that provides for plant compliance operations relating to regulatory changes and the reduction of pollution and environmental risks.

(iii) Rationale: Like the product strategy, where the emphasis is on the development of low-carbon vehicles, the COO and its Industrial Department have been assigned climate-related responsibilities since their programs and actions participate in the Group’s efforts to reduce its carbon footprint through a reduction of direct energy consumption.

## **C1.3**

### **(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

Yes

## **C1.3a**

### **(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.**

### **Who is entitled to benefit from these incentives?**

Other, please specify (Chief Strategy Officer)

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

The CSO, named Executive Vice-President of Programmes and Strategy is a member of the Executive Committee and has short term CO2 related targets for 2018: (1) integration of Opel-Vauxhall with faster roll-out of technologies in line with the PACE! Plan and (2) continued launch of new EMP2 models and 1st vehicle launch on the CMP platform. Those objectives are aligned with the long term ambition of the Group to reduce by 2035 average CO2 emissions of vehicles sold worldwide by 55% compared with 2012 levels. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Chief Operating Officer (COO)

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

The COO, named Executive Vice-president Industrial Director at Groupe PSA is a member of the Executive Committee and has short term CO2 reduction targets for 2018: (1) Energy consumption of 2.14 MWh, i.e. 370 kg CO2 eq. emitted per vehicle produced to ensure the ambition of carbon neutral industrial facilities by 2050; (2) Increasing the share of renewable energies in electricity consumption to 22%; (3) To meet the 33% reduction target for logistics between 2016 and 2035: for Peugeot, Citroën, DS, reduce CO2 emissions in the upstream and downstream supply chain worldwide, by 2.1% per year compared with 2016 and for Opel Vauxhall, define the roadmap for the reduction of CO2 emissions in upstream and downstream supply. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Other C-Suite Officer

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

The CPO (Chief Purchasing Officer), named Executive Vice-president Purchasing Director at Groupe PSA is a member of the Executive Committee and has short term CO2 reduction targets in 2018 (1) Increase the average environmental score for Group’s suppliers to 54/100; (2) 60% of strategic and core suppliers must demonstrate a CO2 trend compliant with the Paris agreement to ensure that Group’s suppliers are contributors to the achievement of Environmental targets of the Group. The CPO also has targets in 2018 (3) on levels of local sourcing, which is a CO2 emissions reduction factor. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Chief Sustainability Officer (CSO)

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

The Chief Sustainability Officer has a target related to the CSR performance of PSA which covers all CSR issues including environmental impacts. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Board/Executive board

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

PSA Managing Board and Executive Committee members have targets dealing with PSA’s leading position in car efficiency (lightering, energy consumption reduction and CO2 emissions reduction) and new mobility services development. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Energy manager

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

Managers operationally involved in facilities environmental management and energy saving, or CO2 emissions reduction of products, have targets related to energy savings or CO2 emissions reduction. These objectives are defined and reviewed during the annual performance review. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Environment/Sustainability manager

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

Managers operationally involved in facilities environmental management and energy saving, or CO2 emissions reduction of products, have targets related to energy savings or CO2 emissions reduction. These objectives are defined and reviewed during the annual performance review. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Facilities manager

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

Managers operationally involved in facilities environmental management and energy saving have targets related to energy savings or CO2 emissions reduction. These objectives are defined and reviewed during the annual performance review. Individual salary raises and bonuses are linked to annual performance evaluation.

### **Who is entitled to benefit from these incentives?**

Other, please specify (Vehicle Project Manager)

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

Vehicle project managers have targets based on weight improvements and fuel consumption (directly linked to the cars CO2 performance).

### **Who is entitled to benefit from these incentives?**

All employees

### **Types of incentives**

Recognition (non-monetary)

### **Activity incentivized**

Other, please specify (Various metrics linked to climatechange)

### **Comment**

PSA organizes internal events called Innovation Challenges in which employees can participate within teams on a voluntary basis. These challenges focus on specific topics: Climate Change is regularly one of them. A jury is dedicated to identify the best projects, and the winning teams receive prices.

## **C2. Risks and opportunities**

## **C2.1**

### **(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **From (years)** | **To (years)** | **Comment** |
| Short-term | 0 | 7 | Short term actions reflect the implementation of the strategic plan. The level of achievement is published in the annual CSR report. |
| Medium-term | 7 | 17 | The medium-term horizon (2025-2035) is monitored by the Group’s Executive Committee and presented to the Supervisory Board. |
| Long-term | 17 | 32 | Long term commitments (2035 and further) are monitored by the Group’s Executive Committee and presented to the Supervisory Board |

## **C2.2**

### **(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

## **C2.2a**

### **(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Frequency of monitoring** | **How far into the future are risks considered?** | **Comment** |
| Row 1 | Six-monthly or more frequently | >6 years | Climate change (CC) risks are identified and tackled in the same framework as all risks. Regular risks are considered for a time horizon of 3 years. But CC risks are specific (especially risks related to vehicle emissions), a dedicated team (the CO2 team in the Programme Division) led sensitivity analysis and they are considered for a longer time horizon (>6 years). Indeed, the development of vehicles is exposed to continuous changes in regulations, which impose stringent requirements, particularly in terms of CO2 emissions. The decision to develop new vehicle models is also backed by marketing and profitability studies carried out several years prior to their launch. In the context of an increasingly responsive automotive market, this time gap puts forecast volumes at risk and ultimately generates a financial risk. |

## **C2.2b**

### **(C2.2b) Provide further details on your organization’s process(es) for identifying and assessing climate-related risks.**

————————— > Definition of risks: PSA considers two types of risks, which can have an impact on the Company’s financial results: (1) physical risks – the consequences of more frequent extreme weather events or natural disasters, which can damage production facilities owned by the Group and its supply chain, disrupt production and lead to costly delivery delays for the end customer, result in plant repair costs, etc. (2) transition risks that would arise from a low carbon economy and that would alter the financial viability of a part of the capital stock and business models, such as regulatory risks, technological risks, market risks or reputation-related risks.

————————— > Assessment at company level: PSA uses a Group­wide risk analysis framework to assess, manage and report risk, including climate change risks. All departments are expected to identify and constantly update the risks inherent to their activities. They identify the major risks to which the Group is exposed. The “Top Risks” map is validated by the Board and presented to the Supervisory Board before decision­making. This risk management system also includes Action Plans and quality indicators, which are audited by the risk department of the company. The Risk Management and Control Department reports to the Corporate Secretary, who is more specifically in charge of identifying the environment and climate change regulation risks and opportunities. Concerning industrial risks, the Group has implemented assertive industrial risk prevention strategies designed to: prevent the occurrence of major incidents; limit high­risk situations; ensure that the various Group structures are capable of dealing with emergency and crisis situations; promote a risk prevention culture; optimize the transfer to the insurance market of high frequency risks.

————————— > Assessment at asset level: The deployment of the Risk Management System’s process is managed by Executive Risk Controllers and by the Site Risk Managers, backed as needed by a network of specialists capable of managing specific risks, such as financial risks and risks to physical assets. The Risk Management and Control Department works in close cooperation with the network of Executive Risk Controllers and Site Risk Managers, who submit the information that the Department consolidates and analyses to prepare an updated risk map.

————————— > Process used: The Group identified its CSR and climate-related risks when updating its materiality matrix. To identify the CSR issues and macro-risks, the Group availed itself of the business expertise of its network of CSR contributors, representing all of its business activities. The result was confirmed by a review of issues reported by industry peers, an analysis of worldwide CSR reference frameworks (including Global Reporting Initiative) and a review of information in the media, before a representative sample of the Group’s stakeholders were interviewed to ascertain their opinion.

————————— > Definition of the level of impact of risks: In order to evaluate and to compare the strategic impact of climate-related risks, Groupe PSA evaluates first the importance for business performance according to three criteria: (1) likelihood of the threat materializing and opportunities created by the issue, (2) the seriousness of the impact for the Group. For each issue, the opportunities and threats were put into three categories (business, operations and reputation) and their impact was quantified in monetary terms by the department affected, (3) impact on long-term performance. Secondly, Groupe PSA measures the importance of stakeholder expectations related to each climate risk, taking account of the legitimacy of each stakeholder to express an opinion on each issue.

## **C2.2c**

### **(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?**

|  |  |  |
| --- | --- | --- |
|  | **Relevance & inclusion** | **Please explain** |
| Current regulation | Relevant, always included | (i) Relevance explanation: Standards and regulations are becoming more stringent and prolific in response to climate change issues. This entails both large-scale investment in R&D and active monitoring to ensure that products and services fully conform to the regulations. Regulations are also deterring investors from investing in carbon-intensive activities, with the result that manufacturers must upgrade their production facilities and their product plan to make them less energy-intensive. Failing this, their assets will be devalued and their borrowing costs will increase. Given the major financial risks related to these regulations, Groupe PSA evaluates this risk as relevant in its global risk assessment. ii) Example of a specific risk: Since 1 September 2017, under EU regulations (EU 2017/1151) to obtain vehicle approval, two new measurement protocols must be applied: the WLTP (Worldwide harmonized Light vehicles Test Procedure), which is conducted in a laboratory; and the RDE (Real Driving Emissions) procedure, conducted on the road in “real-life driving conditions”, which measures pollutant emissions using a PEMS (Portable Emissions Measurement System) and calculates the admissible conformity factor (the permitted discrepancy between the real-life values in-use and the statutory WLTP thresholds). Additionally, since September 2017, the admissible NOx conformity factor has been 2.1 but this will be reduced to 1 in 2020 (excluding measurement dispersion which cannot exceed 0.5). In the event of a failure to obtain approval on NOx threshold, Groupe PSA would have to engage new investment in order to comply with these regulations. |
| Emerging regulation | Relevant, always included | (i) Relevance explanation: In the decade between 2015 and 2025, regulatory requirements such as CAFE (Corporate Average Fuel Efficiency) standards will be tightened worldwide and will be reflected in CO2 and fuel consumption targets that must be achieved on the average number of vehicles sold annually. Failure to achieve these annual targets will result in hefty fines or suspensions of sales, depending on the geographical area. Similarly, in October 2017, China officially published a new regulation to impose electric and hybrid vehicle quotas from 2019. Given the major financial risks related to these regulations, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: Europe set a target for each car manufacturer based on the average weight of vehicles sold (target for average car manufacturers: 95 g/km of CO2 in 2021. If these objectives are exceeded, a penalty will be applied amounting to €95 per g/km of CO2 and per vehicle. |
| Technology | Relevant, always included | (i) Relevance explanation: Changes in consumers’ mobility expectations due to environmental considerations amid rapid technological upheaval, the emergence of new competitors and financial penalties for carbon-intensive products require manufacturers to keep pace with the market (as a minimum) and to invest heavily in new environmental technologies. If not, they will inevitably disappear from the market and the value of their assets will plummet. For these reasons, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: studies project an autonomous car revolution amid technologies vehicle landscape. Fully autonomous cars could represent 10% of car sales by 2035 and a market of $42 billion by 2025. If this could represent an opportunity for Groupe PSA, this is also a major risk in the sense that new competitors are emerging on this market such as Google, Tesla and Uber. This represents a challenge and a technological risk for PSA and automotive manufacturers because new participants to the market (1) are multibillion dollar companies with strong research and development teams, regional or global market leadership positions, and an appetite for large, game-changing growth opportunities, and (2) are technology companies with know-how in apps and operating systems, while automotive manufacturers have been historically focused on the hardware of the vehicle rather than on the software. |
| Legal | Not relevant, included | (i) Relevance explanation: the Legal Affairs Department produces or checks the Group’s contractual commitments and ensures they comply with the relevant statutory and regulatory provisions, there is so far no disputes with third-parties in relation to climate change issues. In addition, PSA has implemented a robust compliance and ethics system, supported by an Ethics Committee and five Compliance Officers, which ensures that compliance programmes are effective in the most vital areas (Competition; Anti-corruption; Export control; Data privacy; Type approval). For this reason, Groupe PSA does not consider this risk as relevant in its global risk assessment. |
| Market | Relevant, always included | (i) Relevance explanation: there are market risks related to (1) the fall of diesel vehicles and the increase of new energy vehicles, and (2) the development of a new mobility markets. The first market risk, which partly arises from the recent media attention on NOx emission of vehicles, can lead to the decrease of demand for traditional products sold by PSA (i.e. diesel vehicles) and generate a change in revenue mix. The second risk is the changes in customer behaviors and expectations in mobility matters. Traditionally perceived as a tangible asset, the car is now more likely to be perceived as an object of mobility, especially by new generations. The risk for PSA is to maintain its core business model of selling petroleum and diesel vehicles, without answering this new consumer trend. This gap between the market and the potential business strategy of Groupe PSA would put forecast volumes at risk and ultimately generates a loss of fixed assets since production plants would be underutilized. For these reasons, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: towns and cities are reviewing their transport policies by increasingly discouraging the use of ICE (internal combustion engine) cars and encouraging investment and new mobility schemes. This is the case with Paris and Mexico City that decided in 2017 to implement a diesel ban in 2025 and incentivize the use of electric, hydrogen and hybrid vehicles. These local markets will be profoundly altered, which leads Groupe PSA and other automobile manufacturers to develop non-ICE vehicles as well as new mobility services in order to respond to these market changes. |
| Reputation | Relevant, always included | (i) Relevance explanation: The harmful effects of atmospheric pollutants on climate, ecosystems, natural habitats and agriculture as well as human and animal health are a major public concern. Although the automotive industry is progressively moving away from the emissions diesel scandal, this revelation and the on­going investigations can still undermine the confidence and trust in the automotive industry. These threats can have two potential consequences (1) Investors can still be reluctant to invest in the automotive industry as long as there will be suspected emissions frauds in some carmakers’ vehicles. (2) Consumers might still be influenced by the Volkswagens revelation and the on­going suspicions, and could alter their preferences to the benefit of petrol vehicles. Given the significant share of diesel vehicles in total sales, this situation could slow down PSA car sales, and decrease our economic performance. For this reason, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: this reputation risk is particularly relevant for the on-going debate on real-emissions procedure (RDE) versus the laboratory test procedure (WLTP). Manufacturers that lack transparency on this issue might see their vehicle sales decrease. This is the reason why Groupe PSA established a partnership with Transport & Environment (T&E) and France Nature Environnement (FNE) in order to publish the real-world fuel consumption for over 1,000 of the Group’s vehicle models. To date, Groupe PSA is the only car manufacturer to have made such a commitment of transparency towards its customers. |
| Acute physical | Relevant, always included | (i) Relevance explanation: More frequent extreme weather events or natural disasters can damage production facilities owned by the Group and its supply chain, disrupt production and lead to costly delivery delays for the end customer, result in plant repair costs, etc. These risks have also an impact on the cost of insurance. For these reasons, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: Groupe PSA has been recently impacted by the floods in the East of France, where its historical plant in Sochaux was temporarily shut down in January 2018. 900 vehicles could not be produced during this episode and 1,800 employees were forced to stop working because of failure of one of its suppliers. |
| Chronic physical | Not relevant, included | (i) Relevance explanation: Groupe PSA does not consider chronic climate events as a significant risk for our activity, insofar as a rise of temperature or a change in annual precipitations are progressive evolutions upon which Groupe PSA can be prepared. |
| Upstream | Relevant, always included | (i) Relevance explanation: The Group’s Automotive Division is exposed to upstream risks through its direct and indirect purchases of commodities. Indeed, the direct parts purchased represent more than 75% of a vehicle’s production cost. Based on this situation, the Group has identified two main types of raw materials risk: 1) the supply risk related to the availability of materials; 2) the economic risk relating to price fluctuations that could not be further passed on to the Group’s product selling prices. Whether it is a supply risk or economic risk, it could lead to an increase in operating costs and a decrease in revenue due to the interruption of production activity. For these reasons, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: the increasing part of electrified powertrains with batteries integrating rare raw material represents a risk of batteries procurement. This is particularly the case with cobalt resources that are used to manufactured lithium battery cathodes. According to a study of the MIT (Olivetti and al, 2017), the supply of cobalt would be at most 290,000 metric tons in 2025 while the demand for cobalt could reach 330,000 metric tons, mainly because of the surge of electric vehicles sales. There is in consequence a risk of resources shortage, which is compounded by geopolitical factors, since most of the production takes place in the politically unstable Democratic Republic of the Congo. |
| Downstream | Relevant, always included | (i) Relevance explanation: The impact of automobiles on the environment also occurs via the issue of their recycling at their end of life, i.e., the recycling of scrapped vehicles, electric batteries, etc. This issue of downstream activity is progressively becoming a serious risk for Groupe PSA insofar as consumers, stakeholders and regulators are asking for more transparency and advances on this topic. This downstream risk could generate fines in the situation of not complying with the regulation but also reputation risks, both having effects on the revenue and the operation costs. Moreover, there is a downstream risk related to the link of market uptake of alternatively-powered vehicles and the infrastructure roll-out. While automobile manufacturers including PSA are expanding their portfolio of electric cars, there are insufficient charging infrastructures so far, which in return do not foster market penetration of these vehicles. The consecutive risk is that the major investments undertaken by automobile manufacturers would not be met by customer demands. For these reasons, Groupe PSA evaluates this risk as relevant in its global risk assessment. (ii) Example of a specific risk: There is a growing regulatory pressure worldwide on the processing of end-of-life products, such as in China where the legislator is currently writing a directive on the operational treatment of ELVs (Electric Light Vehicles) and on recycling batteries from electric vehicles. |

## **C2.2d**

### **(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.**

— > Risks process: each climate-related risk is managed through specific and expert entities. Risks related to emissions of products are managed by the CO2 unit that monitors and reports on the emissions performance of vehicles developed by the Group. Risks related to technology are managed by the Quality and Engineering Department (QED) that leads the Group’s work on technological innovation and carries out eco-design, in particular, life cycle analysis and monitoring of the use of green or recycled materials.

— > Opportunities process: the process to manage climate-related opportunities is identical with the one used to manage risks, in the sense that they are embedded within the company’s business lines, with entities managing a specific climate issue that falls within their area of expertise.

— > Case study 1: in regard to water issues: each plant director has a mapping of its water consumption, which means that each building knows its main sources of consumption. Then, each plan director sets up a water consumption management plan that aims to reduce water withdrawal and increase recycling. For that, they regularly monitor the performance of their plants through the widespread use of metering systems and the evaluation of the water consumption per car produced. With the adoption of management plans associated with actions plan and performance objectives, plant directors are thereby managing this specific risk of water issues.

— > Case study 2: The diesel market share for Groupe PSA’s passenger cars is gradually decreasing, with now less than 50% of vehicles sold compared to more than 60% in 2010. This change in consumer preferences to the benefit of petrol and electric engines vehicles is directly impacting the output capacity of PSA and its industrial model. In reply, industrial processes are modified with the opening of new production lines and new plants (e.g.: Tremery) in order to cope with those risks.

## **C2.3**

### **(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

## **C2.3a**

### **(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

### **Identifier**

Risk 1

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type**

Transition risk

### **Primary climate-related risk driver**

Policy and legal: Enhanced emissions-reporting obligations

### **Type of financial impact driver**

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

### **Company- specific description**

(i) Clear Description: In the decade between 2010 and 2020, regulatory requirements have been tightened worldwide and are reflected in CO2 emission and fuel consumption targets. The risk is CO2 thresholds would be too stringent for car manufacturers, with two financial consequences. (1) Firstly, complying with these new regulations require to develop CO2 efficient technologies in a very short period. Therefore, capital cost is likely to dramatically increase, while change in revenue would not be sufficient to offset those additional costs. (2) Secondly, since CO2 thresholds are particularly stringent, car manufacturers might not be able to reach these thresholds in time. In case of non­ compliance with the CO2 emission thresholds, carmakers would have to pay fines and taxes. This triggers once again additional costs for car manufacturers. ———————— (ii) Specific: These risks apply for all car manufacturers. However, PSA is specifically exposed to those risks because of its geographic activities. PSA is selling light vehicles in countries where regulations on fuel consumption are severe: ­ CAFE Europe (Corporate Average Fuel Efficiency): objective for the average weighted CO2 emissions of car manufacturers of 95g/km in 2021 (95g/km on 95% of the fleet in 2020). ­ CAFE China: a target of 4.9l/100km in 2020. ­ CAFE Brazil, applicable as from 2017: if the target is exceeded, locally produced vehicles will be taxed at the same rate as imported vehicles, i.e. 30% more. ­ Other existing or forthcoming regulations: Canada, India, Iran, Japan, Korea, Mexico, Taiwan, Saudi Arabia, Switzerland, and United States. Tax incentives have also been set up in countries like France, the Netherlands, Germany and China, together with fuel efficiency labeling measures for vehicles in Brazil, India and Korea.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium-high

### **Potential financial impact**

4000000000

### **Explanation of financial impact**

A non­-control of operational risks (non-­approval of vehicles) and financial risks (payment of fines, increase in taxes) in case of non­compliance with the fuel consumption or CO2 emission thresholds set by regulations in the various Group markets could have negative financial implications. For example, CO2 regulations in Europe set a fine of €95 per vehicle sold for each gram over the set target in 2020. The annual risk for a group of PSA’s size is a shortfall of €1 to 2 billion in case of a failure to reach the regulatory targets in regards to European sales. For other non­European countries, the financial risk due to a non­-approval of new vehicles or the payment of fines is evaluated around 2 billion euros as well.

### **Management method**

To reach fuel consumption targets and CO2 thresholds, PSA is developing an increasingly low carbon offer drawing on a wide array of technological solutions, structured around 4 main objectives: 1. Deploying hybrid technologies with different size engines and battery capacity to meet a wide range of types of use and budgets; 2. Developing electric vehicles for both fleets and individual customers; 3. Optimizing powertrains, including more widespread use of Stop & Start systems; 4. Improving the overall fuel efficiency, in particular by optimizing vehicle equipment and architecture. This strategy is based on ambitious R&D and innovation programs. Almost 20300 employees are devoted to R&D, including the new R&D center in Germany (since the acquisition of Opel/Vauxhall) that will notably develop expertise on fuel cells and alternative fuels. For instance, in 2017, PSA developed more efficient solutions of gearbox (BVM6 and EAT8). With these 2 new gearboxes, emissions are respectively reduced by 1.5% for the BVM6 and by 4-7% for the EAT8. The “2l/100km Vehicle” project launched by the French government is also a good illustration of PSA capacity to significantly reduce CO2 emissions. The two demonstrators have reduced CO2 emissions by 50% resulting in a total reduction of 58g/km of CO2 and a drop in fuel consumption of more than 1.5l/100 km, thanks to the trial, in 2017 of a new technological building block to reduce the consumption of energy-intensive equipment.

### **Cost of management**

1160000000

### **Comment**

R&D and innovation programs regarding low emissions vehicles, that enable PSA to build the future, introduce exciting new concepts and offer a comprehensive range of innovative models, were backed by substantial budgets: 1,16 billion euros in 2017, or around 2% of the total revenue of the automotive division.

### **Identifier**

Risk 2

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type**

Transition risk

### **Primary climate-related risk driver**

Policy and legal: Mandates on and regulation of existing products and services

### **Type of financial impact driver**

Policy and legal: Increased costs and/or reduced demand for products and services resulting from fines and judgments

### **Company- specific description**

(i) Clear Description: Due to the intensity of smog pollution in urban areas, an increasing number of cities and governments are progressively adopting more stringent regulations towards automotive vehicles, by setting thresholds for fine particles and NOx emissions. This is the case in Europe, with the Air Quality Directive 2008/50/EC on ambient air quality and cleaner air. Additionally, many cities governments have recently announced their ambition to ban diesel vehicles in congested urban areas. For instance, the Mayor of Paris wants to ban diesel cars by 2020. Finally, France has recently adopted a new legislation called Crit’Air that imposes to have air quality certificates (round sticker) for every road vehicle, with the aim of restricting access of the most polluting vehicles from urban areas in periods of pollution peaks. The risk from these regulations is the loss of revenues for car manufacturers, at the benefit of soft and shared mobility services. ———————— (ii) Specific: Although all vehicles manufacturers are facing this risk, PSA is more exposed as a producer of diesel engines. In 2017, we have sold for example 1,147,066 diesel cars in Europe (LCV and PV perimeter), or almost 2/3 of the total of sold vehicles in Europe. Therefore, our sales and revenues could significantly be affected insofar as regulations tend to be strictly limited to diesel engines.

### **Time horizon**

Short-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium

### **Potential financial impact**

1000000000

### **Explanation of financial impact**

The non-approval of vehicles or the necessity to recall products with unstable performances could represent an annual financial loss of around 1 billion euros for Groupe PSA. In addition, more stringent regulations in terms of air pollutants impose car manufacturers to develop more efficient technologies that eventually increase the price of the vehicle (e.g.: the SCR (Selective Catalytic Reduction) system comes at an extra cost of €200 to €500 per car). The potential impact is either a decrease in Groupe PSA’ sales or a decrease in profitability if this higher cost is fully supported by the Group.

### **Management method**

PSA has included the issue of air quality in its R&D programs for many years now: Among the palette of developed solutions, two main disruptive technologies were introduced by PSA. (1) The first one is the Diesel Particulate Filter (DPF). The DPF, launched first by PSA in 2000, screens out all fine and ultrafine particles very effectively (more than 99.9% by particle number, more than 99% by mass). Today, more than 11.4 million Peugeot and Citroën vehicles are fitted with particulate filters. (2) The second technology is an after­ treatment system called the SCR (Selective Catalytic Reduction) solution, which eliminates up to 90% of nitrogen oxides (NOx) emitted by the engine. Both technologies have been successfully integrated in PSA industrial process, with the Blue HDi label. Launched in 2013 on the Peugeot 508 and Citroën C4 Picasso, BlueHDi was extended to the DV 1.6­ litre engine in 2014, before being rolled out across the Peugeot, Citroën and DS fleet. It represents 97% of diesel vehicles fitted with particulate filters in 2017 with more than 12,7 million cumulated vehicles sold worldwide at the end of 2017. As a result of this investment for clean technologies and breakthrough innovations, Groupe PSA will be releasing in 2017 two innovative diesel engines (DV5R and DW10) that incorporate the latest SCR technology and that are compliant with the Euro 6.2 standard.

### **Cost of management**

649000000

### **Comment**

More than 8,000 employees are involved in the research and implementation studies for low carbon products (mostly in the powertrain division) for a global cost of 649 million Euros in 2017, which represents 1.4% of the Automobile Division revenue.

### **Identifier**

Risk 3

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type**

Transition risk

### **Primary climate-related risk driver**

Technology: Substitution of existing products and services with lower emissions options

### **Type of financial impact driver**

Technology: Research and development (R&D) expenditures in new and alternative technologies

### **Company- specific description**

(i) Clear Description: With the combination of stringent regulations on CO2 threshold and the shift in consumer preferences, new technologies of vehicles have emerged, in particular plug-in hybrid vehicles (PHEVs) and battery-electric vehicles (BEVs) that generate low emissions if electricity is low carbon. Indeed, the registration of this new type of vehicles with alternative engines is skyrocketing, with a worldwide stock according to the International Energy Agency that surpassed 2 million vehicles in 2016 after crossing the 1 million thresholds in 2015. Automotive manufacturers that do not track and follow this rapid technological upheaval are facing the risk of lagging behind, with potential impacts of losing markets and eventually disappear. ———————— (ii) Specific: There is a technological risk specifically for Groupe PSA given the historical choices on vehicles technologies. Groupe PSA has been investing massively in internal combustion engine (ICE) and mostly in diesel vehicles. As a result, the diesel’s market share for Groupe PSA has always been superior to the European average market share. For instance, in 2017, diesel vehicles make up for 57% of PSA European sales while they only represent 40% of total sales in the European market. Given our greater dependency on diesel vehicles and the low penetration of BEVs and PHEVs in our annual sales, the technological risk is prominent.

### **Time horizon**

Short-term

### **Likelihood**

More likely than not

### **Magnitude of impact**

Medium

### **Potential financial impact**

1160000000

### **Explanation of financial impact**

PSA is currently investing 40% of its R&D budget (=1,16 billion euros) in clean technologies. Therefore, this risk is currently having an impact on the expenditures of the Group.

### **Management method**

The Automotive Programmes Department has a “Strategy” unit for anticipating deep-seated changes in market structure. This facility helps predict future-year changes in the energy mix (internal-combustion/PHEV/electric). In addition, Groupe PSA has created in 2018 a Business Unit dedicated to electric vehicles. The new BU will be responsible for defining and deploying the Group’s electric vehicle strategy and rolling out the related products and services. As a result of this management method, Groupe PSA is working on developing and extending two types of vehicles with low-emission vehicles: plug-in hybrid vehicles (PHEV), and electric vehicles (EV). Indeed, in its Push to Pass strategic plan, the Group has committed to put 7 PHEV and 5 EV vehicles with different-size engines and battery capacity on the market between 2019 and 2021. Groupe PSA is also targeting the development of 100% of its models marketing being electric by 2025. To help it meet these targets, the Group is developing an EV programme with DONGFENG MOTOR CORP. Based on an electric version of the CMP platform (e-CMP), it will spawn a new generation of versatile and spacious electric vehicles with lithium-ion battery technology. Groupe PSA is also developing electric mobility offers with the aim of encouraging the use of their EVs. For instance, the Group has a “ChargeMyPeugeot” and “ChargeMyCitroen” offer, whereby customers can charge their electric vehicles in an extensive network of public charging points.

### **Cost of management**

649000000

### **Comment**

Research and Development department has for objective to reduce the emissions of Groupe PSA products. For this specific purpose, more than 8,000 employees are involved in the research and implementation studies (mostly in the powertrain division) for a global cost of 649 million Euros in 2017, which represents 1.4% of the Automobile Division revenue.

### **Identifier**

Risk 4

### **Where in the value chain does the risk driver occur?**

Supply chain

### **Risk type**

Transition risk

### **Primary climate-related risk driver**

Market: Increased cost of raw materials

### **Type of financial impact driver**

Market: Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatement)

### **Company- specific description**

(i) Clear Description: Change in physical climate parameters could generate shortage or even scarcity for some natural resources. This includes basic natural resources such as water but also metal resources. If raw material shortages are a direct risk for suppliers, it is obviously an indirect risk for the automotive industry since changes in natural resources could lead to supply instability and therefore potential disruptions regarding the manufacturing of vehicles. ———————— (ii) Specific: PSA is highly exposed to this risk for two reasons: (1) As a car manufacturer, PSA needs precious metals and rare earth materials to produce its vehicles. It represented around 3% of total value of purchases. If we add aluminum, steel and copper, then more than 50% of the total value of purchases is dedicated to raw materials. (2) This risk of scarcity of natural resources is amplified by the fact that PSA supply chain for raw materials is spread all over the world. For instance, the Group has a contractual relationship with more than 8,000 suppliers, but 90% of purchases of direct material and spare parts are made with 133 supplier groups, representing 16% of the referenced supplier groups. Thus, it is even more difficult to reduce the dependency on suppliers.

### **Time horizon**

Medium-term

### **Likelihood**

More likely than not

### **Magnitude of impact**

Medium

### **Potential financial impact**

37000000

### **Explanation of financial impact**

If financial consequences of raw materials shortages are difficult to evaluate in the long term, PSA is able to estimate the additional expenses that would have to be done in the absence of a raw materials management strategy. In 2017, the financial losses would have amounted to almost €37 million, if any program of reduction and recycling of materials was developed by Groupe PSA. Another example is the massive purchases of raw materials for Europe activity, which amounted to nearly €5 billion (or around 30% of the purchasing budget). Natural resources are therefore a major financial risk that the Groupe PSA seeks to reduce by implementing a circular economy and sustainable material management strategy.

### **Management method**

In order to cope with natural resources scarcity, a Materials Strategy Committee, run jointly by the Heads of Purchasing and the R&D Department, has been set up to map materials risks, establishing a list of “strategic” materials in terms of their criticality, potential scarcity, and questionable CSR conditions. This mapping is designed to enable the Group to manage and secure its supply over the long term and focus its R&D work on replacement materials. Additionally, PSA is committed to using green materials. The average integration rate of green materials in vehicles sold in 2017 was more than 30%. It includes: (1) Recycled materials: PSA is using for instance recycled polypropylene and polyamide in its production process. (2) Bio­sourced materials: To spur faster development of the biomaterials industry, PSA is involved in a large number of scientific partnerships, such as the BIOMass for the future/Miscanthus project. The Group’s involvement consists of taking part in the validation tests of materials containing miscanthus fibres. (3) Natural materials, such as wood, plant fibers. This policy of expanding green materials, initially launched in Europe, has now been rolled out to Latin America where, for example, the vehicles have bumpers made from 100% recycled thermoplastics and rear seat trays made from locally sourced natural fibres. The use of green materials is also one of the selection criteria when choosing suppliers.

### **Cost of management**

649000000

### **Comment**

Research and Development department has for objective to improve the recovering and recycling process. For that, more than 8,000 people are involved in the research and implementation studies (mostly in the powertrain division) for a global cost of 649 million Euros in 2017, which represents 1.4% of the Automobile Division revenue.

### **Identifier**

Risk 5

### **Where in the value chain does the risk driver occur?**

Customer

### **Risk type**

Transition risk

### **Primary climate-related risk driver**

Reputation: Shifts in consumer preferences

### **Type of financial impact driver**

Reputation: Reduced revenue from decreased demand for goods/services

### **Company- specific description**

i) Clear Description: The economic crisis in Europe has substantially changed the people’s attitude towards vehicle ownership. In fact, with the decrease of the purchasing power, consumers are more reluctant to buy new cars, and are rather looking for new mobility services in order to optimize the use of individual cars. Carpooling is a good example of the on­going trend among the mobility market, with consumers preferring flexible and economical transportation solutions. The number of users of car- sharing services worldwide is expected to increase from 8 million to 36 million between 2015 and 2025. ­­ ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­ (ii) Specific: Given this potential shift from manufacturing a product to delivering a car service, PSA could face two principal risks. (1) As a car manufacturer, the primary risk for PSA is not to be able to define and offer the most accurate mobility solutions. This risk is particularly high in Europe, where many competitors are emerging on the market of mobility services. The byproduct of this risk would be the decrease of car sales. (2) The second risk is to engage investments for building a new business model, without knowing the financial returns. As a traditional carmaker, adapting to new customers’ expectations takes time (at least 5 years) and requires major development costs.

### **Time horizon**

Medium-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium

### **Potential financial impact**

300000000

### **Explanation of financial impact**

PSA projections see the European mobility market growing to more than €13.6 billion in 2020, from €7.7 billion in 2014, an explosion of over 56%. If Group PSA was not positioning itself on this emerging market (through the Push to Pass plan), it is estimated that the financial losses undergone by PSA would be around €300 million by 2021.

### **Management method**

PSA has developed a portfolio of mobility services that can be divided into 2 segments: 1. Free to use a car (1.1.) Urban car­sharing. Groupe PSA is participating in the development of several urban car-sharing solutions. For example, a car­sharing service was launched in Madrid in December 2016 (i.e. emov project), with a total number of users that reach 160,000 by the end of 2017. (1.2.) Short­term rental and driver service with PEUGEOT CITROEN, DS RENT and RENT & SMILE. This service aims at satisfying the new needs for professionals and individuals by providing short term rental cars for specific purposes such as getting around town or replacing vehicle when the driver’s own car is being serviced. At the end of 2017, PEUGEOT RENT had a fleet of 7,558 vehicles -------------- 2. Optimisation of the automotive budget. The Push to Pass strategic plan, presented on April 2016 by CEO Tavares, makes new mobility solutions a major pillar of PSA’s development. Following this plan, in November 2016, Groupe PSA introduced the new branch named Free2Move that includes Free2Move Lease, which is dedicated to long-term leasing with services that target a corporate clientele. Within this new brand, PSA also launched the service Free 2Move Fleetsharing in the last quarter of 2017. This service allows employees to reserve their vehicles online via a simple, user-friendly electronic platform, and access them without keys using an ID card system.

### **Cost of management**

6400000

### **Comment**

PSA has a dedicated business unit for mobility services: the “Connected Vehicles and Services & Mobility” business unit whose objective is to think through the future of connectivity and mobility. With 80 employees, this business unit represents a total cost of 6400k€ per year. Additionally, Short term rental is implemented in the Peugeot, Citroën and DS brands commercial networks where staff is dedicated to this service where staff is dedicated to this service. Moreover, as part of the Push to Pass plan, elaborated for the period 2016­2021, the Group intends to invest €100 million in risk capital in order to expand its portfolio of mobility solutions, primarily by investing in start­ups.

## **C2.4**

### **(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

## **C2.4a**

### **(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

### **Identifier**

Please select

### **Where in the value chain does the opportunity occur?**

Please select

### **Opportunity type**

Please select

### **Primary climate-related opportunity driver**

<Not Applicable>

### **Type of financial impact driver**

<Not Applicable>

### **Company- specific description**

### **Time horizon**

Please select

### **Likelihood**

Please select

### **Magnitude of impact**

Please select

### **Potential financial impact**

### **Explanation of financial impact**

### **Strategy to realize opportunity**

### **Cost to realize opportunity**

### **Comment**

### **Identifier**

Opp1

### **Where in the value chain does the opportunity occur?**

Customer

### **Opportunity type**

Products and services

### **Primary climate-related opportunity driver**

Development of new products or services through R&D and innovation

### **Type of financial impact driver**

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

### **Company- specific description**

(i) Clear Description: With the combination of stringent regulation on CO2 threshold and the shift in consumer preferences, new technologies of vehicles have emerged, in particular plug-in hybrid vehicles (PHEVs) and battery-electric vehicles (BEVs) that generate low emissions if electricity is low carbon. Indeed, the registration of this new type of vehicles with alternative engines is skyrocketing, with a worldwide stock according to the International Energy Agency that surpassed 2 million vehicles in 2016 after crossing the 1 million thresholds in 2015. ————————— (ii) Specific: In order to seize this opportunity, PSA has taken the lead in developing innovative alternative fuels. By developing breakthrough technologies such as plug­in hybrid and electric vehicles, PSA is providing efficient solutions to mitigate climate change issues. Those environmental innovations relating to the product can represent major sales development opportunities for PSA.

### **Time horizon**

Short-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium

### **Potential financial impact**

1900000000

### **Explanation of financial impact**

PSA evaluates that the deployment of plug-in hybrid and electric powertrains could reach up to 4% of the market depending on the region between now and 2020, generating 4% to 5% in additional revenue for PSA.

### **Strategy to realize opportunity**

In order to maximize the potential opportunity related to low-carbon and low energy-consumption vehicle, Groupe PSA has engaged a strategy that consists in deploying two major green technologies: (1) the plug-in hybrid-electric vehicle (PHEV) and (2) the battery electric vehicle (BEV). 7 PHEV and 4 BEV will be launched by 2021, with the first BEV reaching the market in 2019. PSA eventually aims to develop an electric offering covering its entire range by 2025. These objectives are supported by the creation of a separate department in July 2017, followed by the creation of Low Emission Vehicles Business Unit in 2018, whose function will be to define and deploy the Group’s electric vehicle strategy and rolling out the related products and services. In order to respond to these market developments and reach its targets, Groupe PSA is re-allocating its industrial process towards the development of electric powertrains. For instance, in December 2017, PSA and Nidec Leroy-Somer announced the creation of a joint venture with holding in the field of electric traction motors. The aim of the partnership is to design, develop, manufacture and sell a range of electric traction engines of the highest market standard. The joint venture will then engage R&D, manufacturing and sales for high-performance electric traction motors mainly to Groupe PSA, and to other OEMs. Production will begin in 2022, with a target of 900,000 units.

### **Cost to realize opportunity**

649000000

### **Comment**

More than 8000 people are involved in the research and implementation studies (mostly in the powertrain division) for a global cost of 649 million euros in 2017 which represents 1.4% of the Automobile Division revenue.

### **Identifier**

Opp2

### **Where in the value chain does the opportunity occur?**

Supply Chain

### **Opportunity type**

Resource efficiency

### **Primary climate-related opportunity driver**

Use of recycling

### **Type of financial impact driver**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

### **Company- specific description**

(i) Clear description: The automotive industry is a resource-intensive industry, insofar as the production of a vehicle requires energy, metals, rare earth materials etc. A McKinsey study evaluates that 101 million tons of materials were used for the production of vehicles in 2010 and it is estimated that the volume of materials will increase to 140 million tons by 2030. (ii) Specific description: This situation is also the case for Groupe PSA given that the direct parts purchased represent more than 75% of a PSA vehicle’s production cost. If this resource dependency is usually perceived as a risk for automobile manufacturers, Groupe PSA considers that resource management and efficiency allow to combine competitiveness with the preservation of resources.

### **Time horizon**

Short-term

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium

### **Potential financial impact**

6000000000

### **Explanation of financial impact**

The effort of recovery (Carry Over) has led to a 30% reduction in the capital expenditure to launch a new platform: by optimizing capital expenditure, depreciation expenses are reduced substantially, which helps to reduce the overall vehicle manufacturing cost. In three years, from 2012 to 2014, Groupe PSA reduced the unit cost of manufacturing each of its cars by approximately €700. The accumulated cost reduction multiplied by volumes generated savings of around 6,000 million euros.

### **Strategy to realize opportunity**

In order to exploit this opportunity of resource efficiency, the strategy of Groupe PSA is twofold: (1) Groupe PSA seeks to optimize production processes to reduce the use of resources by using only the quantity of raw materials necessary. Design efforts are initially carried out to optimize the packaging necessary to build a vehicle to avoid producing waste. The efforts of design have shown results since the weight of waste per vehicle produced has been reduced by 45% from 1995 to 2017. (2) When waste production is unavoidable, the most environmentally-friendly method of recycling or recovery should be identified and implemented, so that a portion of the Group’s waste is incorporated into the circular economy, where it is reused. The program Carry Over is a good example of resource efficiency action: the approach consists in recycling and adapting machines rather than purchasing new equipment. Machines and tools that are no longer used can be reused within the same plant, in other Group plants, or even sold outside of the Group. Carry Over practices helped to save 30% on capital expenditure costs to launch new projects in assembly plants in 2017. Another example is the use of recycled polypropylene and polyamide.

### **Cost to realize opportunity**

0

### **Comment**

The cost to realize this opportunity can be considered as 0 because there is no investment needed except maintenance and transportation of machines from one plant to another one.

### **Identifier**

Opp3

### **Where in the value chain does the opportunity occur?**

Customer

### **Opportunity type**

Markets

### **Primary climate-related opportunity driver**

Access to new markets

### **Type of financial impact driver**

Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks)

### **Company- specific description**

(i) Clear Description: the automotive industry is facing disruptive trends that range from the emergence of the mobility services market to the acceleration of new technologies such as the autonomous vehicle. The automotive aftermarket is for instance expected to grow at a rate of 3% per year through 2030 according to a McKinsey study (2017) with major changes related to changing consumer preferences, digitization etc. The autonomous vehicle market is also likely to grow in the future. According to an international study by KPMG, fully autonomous cars could represent 10% of car sales by 2035, or 12 million vehicles a year, and a market of $42 billion by 2025. If tech players and start-ups might play an important role in the development of this new market, it also represents a huge opportunity for traditional carmakers. (ii) Specific Description: this autonomous vehicle market is particularly attractive for Groupe PSA given its pioneer position in the development of communicating systems for cars, with the launch of emergency call service (eCall) in 2003. This historical capacity and agility of integrating innovative connectivity solutions will help the Group to exploit and maximize this market opportunity. The aftermarket also represents an opportunity for Groupe PSA since Groupe PSA consistently strives to ensure the sustainability of its products through various commercial repair channels.

### **Time horizon**

Short-term

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium

### **Potential financial impact**

6500000000

### **Explanation of financial impact**

According to an international study by KPMG, fully autonomous cars could represent 10% of car sales by 2035, so we considered the opportunity to represent 10% of our actual sales revenue.

### **Strategy to realize opportunity**

In 2017, Groupe PSA introduced its AVA (“Autonomous Vehicle for All”) programme, bringing together all the functionalities of driving assistance to create a simple, intuitive autonomous vehicle that offers a safe and comfortable driving experience. This program aims to continue and accelerate the deployment of driving assistance systems until achieving the launch of autonomous vehicles. This program relies on the test and tine introduction innovative technologies. It began with level 1 functionality (Hands on) technology in 2016, and the Group plans to introduce in 2020 level 2 (Hands Off) and then level 3 (Eyes Off) technologies at low speeds and in high-traffic conditions. Fully automated level 4 (Mind Off) technologies will be marketed beginning in 2025. The strategic partnership signed in May 2017 between Groupe PSA and nuTonomy is a good example of this strategy of testing fully autonomous vehicle. The company nuTonomy is equipping the new PEUGEOT 3008 SUVs with its system in order to test autonomous vehicles on Singapore’s open roads. Regarding the aftermarket opportunity, the Groupe PSA has created in April 2018 the Circular Economy Aftermarket Business Unit, with the objective to leverage its industrial, technical, logistical and sales & marketing skill in order to provide its customers with a broad range of parts and services.

### **Cost to realize opportunity**

64900000

### **Comment**

In order to be capable of anticipating regulations, research and development activities were backed by substantial budgets in 2017, totaling around €649 million for the Automotive Division. The development of the autonomous vehicles represents around 10% of this amount (€64.9 million).

### **Identifier**

Opp4

### **Where in the value chain does the opportunity occur?**

Customer

### **Opportunity type**

Products and services

### **Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

### **Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

### **Company- specific description**

(i) Clear Description: In the next decade, regulatory requirements will be tightened worldwide and will be reflected in air pollutant emissions (NOx). One example of environmental standards is the second stage of Euro 6 with the mandatory inclusion of Real-test Driving Emissions (RDE). While many carmakers are currently facing the risk of being fined because their diesel cars emit substantially higher levels of pollution when tested in RDE, other car manufacturers that meet the new standards could have comparative advantage. (ii) Specific: Operationally speaking, this strategic advantage of PSA in terms of air pollutant emissions means that PSA is not facing additional operational cost in order to comply with these regulations. As a consequence, PSA is able to propose, due to its outstanding position in terms of air pollutant emissions, vehicles with competitive price, which is in the end likely to stimulate the demand for our products.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium-high

### **Potential financial impact**

0

### **Explanation of financial impact**

For approval of its new vehicles in Europe, Groupe PSA committed to meet a NOx conformity factor in RDE of less than 1 (excluding measurement dispersion which cannot exceed 0.5) from 1 September 2017, i.e. three years in advance of the 2020 statutory requirement. This represents an opportunity that could have positive financial impacts on operating costs, and thereby on sales. However, both for uncertainty of data and confidential reasons, Groupe PSA does not disclose the financial impact that could represent this leadership position in terms of air pollutant emissions vehicles.

### **Strategy to realize opportunity**

To reach and forestall the air pollution thresholds set by regulation, PSA has adopted a core-technology strategy that can be summarized in three steps: 1) Developing the most efficient emissions control technologies; 2) Deploying and expanding these technologies in all the products and geographic areas where PSA operates in order to improve financial returns; 3) Reinvesting in R&D programs so as to engage innovative technologies in favor of environment. This core-technology strategy is demonstrated with the Blue HDi label that consists of: - an additive particulate filter which enables the removal of 99.9% of particles in terms of number, - an after-treatment system called Selective Catalytic Reduction (SCR) that eliminates up to 90% of nitrogen oxides (NOx) emitted by the engine. Launched in November 2013, it represents 97% of diesel vehicles fitted with particulate filters in 2017. In preparation to the second stage of Euro 6 that will impose emissions test in “Real Driving Emissions” (RDE), PSA has also taken two main actions: (1) the initiative of measuring fuel economy and pollutants emissions in RDE with the partnership of the NGO Transport& Environment, and (2) the development of a new natural-regeneration particulate filter that reduces sharply particulate emissions of petrol vehicles.

### **Cost to realize opportunity**

649000000

### **Comment**

In order to be capable of anticipating regulations, research and development activities were backed by substantial budgets in 2017, totaling around €649 million for the Automotive Division. More generally, R&D expenditure amounts €2.9 billions in 2017, or around 6% of the total revenue of the automotive division.

## **C2.5**

### **(C2.5) Describe where and how the identified risks and opportunities have impacted your business.**

|  |  |  |
| --- | --- | --- |
|  | **Impact** | **Description** |
| Products and services | Impacted | (i) Description of the impact: climate risks and opportunities can impact our area of products and services because of market effects. The shift in vehicles technologies due to market changes requires Groupe PSA to develop new models of vehicles that would be aligned with the emerging regulation standards and with the consumer preferences. The Group is for instance developing an electric vehicle programme with DONGFENG MOTOR CORP that aims to extend our range of electric vehicles and to achieve the objective of launching 5 electric models by 2021. Likewise, with the change of consumer preferences towards mobility services, PSA seeks to develop new services in addition to new products. The Groupe PSA has for instance launched in 2017 its Free2Move mobility services brand which brings together all of its connected mobility services offerings, including B2C and C2C car-sharing; B2B car-sharing; networked fleet management; smart services; rental activity. (ii) Magnitude of the impact: the magnitude of impact is high since risks related to products and services area have the possibility to disrupt the core activity of PSA. Many business units are affected by the change or the reduction of products and services, notably the industrial department, the R&D department and the sales department. |
| Supply chain and/or value chain | Impacted | (i) Description of the impact: failure by suppliers to fulfil their commitments because of climate extreme events could lead to a serious risk of production stoppages. This situation would lead PSA to either find other suppliers with the risk of paying higher prices (which would induce an increase of operating costs) or to delay the commercial launch of new vehicles (which would induce a decrease in sales and consequently in revenue). (ii) Magnitude of the impact: the magnitude of impact is high because the parts and components purchased from suppliers represent more than 75% of a vehicle’s production cost. There is therefore a high exposure of PSA activity towards its suppliers, meaning that the impact could be dramatic if several suppliers from the same region would be facing production issues at the same time due to climate change phenomena. |
| Adaptation and mitigation activities | Impacted | (i) Description of the impact: climate risks, namely physical risks, have an increasing impact on adaptation activities related to water extraction and consumption. If previously, the water resource was inexpensive and available, the prospect of the Group’s establishment in more sensitive regions has changed this perception, and the consumption curve has begun to show a downward trend. To anticipate conflicts of use in water stressed areas, which could have significant repercussions (adverse environmental effects due to reduced water availability, change in ecosystem functioning, change in relations with stakeholders due to economic and social impacts), and to comply with a developing regulatory framework, the Group is continuing its efforts in this direction through more thorough assessments of its energy-consuming activities, by establishing less water-dependent processes, and by considering the recycling of its industrial water to target zero water withdrawals by 2050, with the exception of evaporated water during the manufacturing process. (ii) Magnitude of the impact: the magnitude of impact on adaptation and mitigation activities is low as only one plant is located in an area identified by the World Resources Institute as being at high risk of water stress. In addition, as for energy, each plant has its own water consumption management plan based on the widespread use of metering systems, displaying the least water-intensive operating parameters for each workstation, and using recycling systems. For these two reasons, the size of impact on the business of PSA would remain low. |
| Investment in R&D | Impacted | (i) Description of the impact: more stringent regulations combined with a shift in consumer preferences and the fierce competition for the development of new green technologies led automotive manufacturers to engage massive R&D projects. In addition, bearing in mind the growing scarcity and increasing cost of raw materials over the long-term, the R&D Department is directly concerned with the recyclability and replacement of materials in order to better manage and secure the Group’s supply of materials over the long term. (ii) Magnitude of the impact: the impact on the business of PSA is already high since 40% of the R&D budget is dedicated to the development of low-carbon products and services, from which €649 million is specifically spent for the development of innovative powertrains in 2017. In addition, the impact is evaluated as high given the proportion of business units affected. If the R&D department is the first department to be concerned, the Purchasing Department, the Sales Department as well as the Industrial Department are actively involved in the development of innovative solutions, and the absence or the adoption of inadequate solutions could have severe impacts on these various business units. |
| Operations | Impacted | (i) Description of the impact: the regulatory constraint and the stakeholder pressure to reduce direct CO2 emissions and increase the circular economy into PSA activity has and will continue to affect daily operations at PSA facilities. Although emissions and energy consumption used for the industrial production is limited compared to the emissions of sold products, the objective of achieving carbon-neutral plants by 2050 requires profound changes in the operations. For instance, there is an on-going plan to reduce surface areas through more compact workshops, while production lines are also optimized (e.g.: introduction of a single-line assembly). To say it differently, risks related to energy consumption and emissions generate a revision of the industrial organization and operations with eventually the aim of reducing energy consumption. The impact on operations can also be seen in the way PSA is incorporating the circular economy approach in the construction of new assembly plants. For instance, the program Carry Over consists in recycling and adapting machines rather than purchasing new equipment. As a result, Carry Over practices helped to save 30% on capital expenditure costs to launch new projects in assembly plants in 2017. (ii) Magnitude of the impact: the magnitude of impact is medium firstly because it has to do only with the industrial sphere with no interference with other departments. Moreover, changes brought in the industrial organization are gradual, which means that financial expenses or savings are not as significant as for investment in R&D. |
| Other, please specify | Please select |  |

## **C2.6**

### **(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.**

|  |  |  |
| --- | --- | --- |
|  | **Relevance** | **Description** |
| Revenues | Impacted | (i) Description of the impact: The market shows a strong trend towards new forms of mobility such as car-sharing, car-pooling, and connected services. This creates opportunities that are also available to new market entrants, mostly from the digital industry. These players from outside the automotive industry seek a positioning in the automotive value chain that directly competes with the “natural” place of car manufacturers. Insufficient control of the advances of these new players or the absence of the Groupe PSA from these new markets and consequently its lack of exposure to these new business models could generate a loss of revenues in the near and medium future for PSA. In addition, a failure to comply with social, societal and ethical standards in the supply chain could have major negative impacts on the Group revenue, since it could damage its reputation and force PSA to reduce the vehicle pricing in order to compensate the potential fall of sales. (ii) Magnitude of the impact: the impact associated with these risks and opportunities is very high since the capacity of sales could be significantly reduced in case of insufficient progress on these new mobility services. To say it differently, Groupe PSA could lose some economic markets with the direct impact of decreased revenue. |
| Operating costs | Impacted | (i) Description of the impact: operating costs are directly impacted by the current and emerging standards and regulations. The regulatory risk leads automotive manufacturers, including PSA, to dedicate specific human resources for ensuring that products and services fully conform to the regulations. At PSA, a special unit is responsible for coordinating the Group’s CO2 program, and a special department monitors the Group’s ELV (end-of-life vehicles) policy and its recycling and recovery performance. These departments increased the operational cost, and it is likely that operating costs would significantly increase in the future given the oncoming stringent regulations. At the opposite, actions to control energy consumption can help to reduce operating costs. For instance, in 2017, actions to control energy consumption led to savings of about €2 million on an overall bill of about €220 million, representing a cost saving of about 1%. (ii) Magnitude of the impact: the impact associated with these risks and opportunities is high since the difficulty of reducing energy and resources consumption could rise to an increase of the production cost and pricing, with potential risk in terms of sales. For instance, the production cost per vehicle would have been 3€ higher if Groupe PSA did not have implemented energy saving actions in the last years. |
| Capital expenditures / capital allocation | Impacted | (i) Description of the impact: climate risks and opportunities directly impact the capital expenditure of Groupe PSA because of market and technological effects. The shift in vehicles technologies as well as the emerging constraints on vehicle CO2 emissions require Groupe PSA to spend large capital expenditure in order to be able to provide adequate products. Indeed, PSA is designing and engineering more efficient industrial platforms that offer high-performance solutions in terms of modularity, versatility, equipment and reduction of CO2 emissions. This is the case with the Common Modular Platform that will be developed with DONFGENG MOTOR for a total investment of €200 million. Similarly, with the emerging trend of mobility services, Groupe PSA has to expand its portfolio of mobility solutions with the aim of satisfying this new consumer demand. As a result, PSA mobilizes capital investment, such as €100 million in risk capital primarily by investing in start-ups. This rise of capital investment for technology and service development will continue in the future. (ii) Magnitude of the impact: the impact associated with these risks and opportunities is very high since it has to do with the industrial choices of Groupe PSA. Engaging new industrial strategy requires enormous financial capital that has a deeper impact on the financial planning process than other risks and opportunities. For instance, the total investment for the Common Modular Platform and the new mobility services fund reaches €300 million. |
| Acquisitions and divestments | Impacted | (i) Description of the impact: The market shows a strong trend towards new forms of mobility such as car-sharing, car-pooling, and connected services. Given that this new mobility market is made up of many start-up and tech companies, traditional actors including Groupe PSA are reducing risks and exploiting opportunities through the acquisitions of promising and emerging companies. In line with this strategy, Groupe PSA created at the end of 2016 the Business Lab, with a program named Venture Development that aims to facilitate the establishment of partnerships with innovative start-ups and/or acquire minority equity stakes directly and through venture capital funds. The Groupe PSA has also set up a €100 million investment fund for start-ups, and has already announced partnerships in fields such as mobility and data. (ii) Magnitude of the impact: the impact associated with these risks and opportunities is medium because PSA is either taking a stake in or forming agile alliances with start-ups, but does not bear the full risk related to the development of disruptive solutions. As a consequence, the financial amount associated with the acquisitions is lower than in other financial areas. |
| Access to capital | Impacted | (i) Description of the impact: Current and emerging regulations related to climate change are deterring investors from investing in carbon-intensive activities, with the result that manufacturers must upgrade their production facilities and product plan to make them less energy-intensive. Risks related to reputation could also have some effects on the capacity to have access to capital. Investors and banks are increasingly taking into account the environmental performance and reputation into their choice of investments and lending. Automotive manufacturers that do not tackle climate change issues or even mislead consumers and stakeholders on the emissions of their sold products could have more difficulties in accessing financial markets due to the reluctance of financial actors, with a direct risk of a higher borrowing cost. (ii) Magnitude of the impact: the impact associated with these risks and opportunities is low since Groupe PSA is pursuing its financial performance targets through a sustainable business management that is recognized by its leadership position on major sustainability ratings. PSA also takes active position on the fight on climate change by being one of the leaders of fuel consumption and CO2 emissions. In addition, Groupe PSA took a unique approach to customer transparency by publishing its vehicles’ real (on the road) fuel consumption. Measurements were taken in accordance with a test protocol outlined by the NGOs Transport & Environment (T&E) and France Nature Environnement (FNE) and audited by Bureau Veritas, an internationally renowned independent organization. The two levers of actions have brought confidence to investors and thereby have helped to reduce the risks of financing. In February 2018, Institutional Shareholder Services Inc (ISS) published Groupe PSA Environmental & Social Quality score of 1-low risk In July 2017, the rating agency Moody’s Investors Service awarded Groupe PSA a rating of Ba1/outlook stable. This performance is notably based on: (a) a stable and balanced capital structure supporting the roll-out of strategic projects, (b) a robust strategic plan designed to meet the mobility needs of all of the Group’s customers. |
| Assets | Impacted | (i) Description of the impact: physical risks already have had and will continue to impact our assets worldwide. The increase of frequency and intensity of extreme events could impact the industrial facilities, could deteriorate the industrial equipment and could even disrupt the production process. For instance, Groupe PSA has been recently impacted by the floods in the East of France, where its historical plant in Sochaux was temporarily shut down in January 2018. 900 vehicles could not be produced during this episode and 1,800 employees were forced to stop working. (ii) Magnitude of the impact: the impact associated with these risks and opportunities is medium because not all the industrial assets would be affected by the change in climate variables. The most significant impacts are likely to occur in the Mediterranean region and in the South-East Asia region. Additionally, an interruption of activity in one asset would not stop the full production of Groupe PSA, which means that industrial activity could partially continue. As it is already instored in the Group, when a facility’s capacity is not sufficient to fulfill the production request (due to high commercial demand, technical failure…), production is transferred to another facility. In 2017, in order to meet higher European demand for EB engine than installed capacity in European plants, missing engines were produced in China’s plant until necessary capacity was installed in Europe. |
| Liabilities | Impacted | (i) Description of the impact: Insurers take into account two criteria for setting their premium rates for insurance and claims compensation: Insurers analyze the impact of natural events on their entire portfolio. This subject is all the more sensitive as the year 2017 was marked by large-scale disasters ($ 114M of costs for global insurers). High claims may lead insurers to raise their rates or at least refuse any premium. By natural events, it is understood the risks such as flood, storm, etc. but also earthquakes which are not climatic events but which are part of the risks taken into account by the insurers. The second criterion is the analysis of the exposure of the group's sites to natural events. This covers the values of direct damage and operating losses insured, the "grading" of exposures to natural risks by geographical area and claims history. For the Group; the most exposed countries are notably, Japan, Brazil, the Netherlands, Chile .. Insurers could operate other levers of adjustment than the premium, for example by asking for a reduction of limits, an increase in deductibles or a reduction in their participation in the insurance program. (ii) Magnitude of the impact: the impact associated with this risk is medium because the Group's DDPE insurance program has several lines with a number of co-insurers (16 in total) and therefore each of them has a perception of our risks (its own underwriting policy). |
| Other | Please select |  |

## **C3. Business Strategy**

## **C3.1**

### **(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

## **C3.1a**

### **(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?**

Yes, qualitative and quantitative

## **C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)**

### **(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

Yes

## **C3.1c**

### **(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.**

1.Influence on business strategy

PSA is deeply and actively integrating climate change (CC) issues into its business strategy through the definition of 6 key strategic commitments: (1) reducing vehicle CO2 emissions and fuel consumption to combat global warming; (2) reducing pollutant emissions to preserve air quality; (3) developing a responsible use of material in the vehicle life cycle from the extraction of raw materials to the recycling of end-of-life vehicles; (4) developing new mobility solutions to meet new customer needs (5) Reducing the industrial carbon footprint of its facilities, (6) Reducing CO2 emissions by ensuring supply chain and logistics environmental performance.

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2. Link between business strategy & emissions reduction target

In line with this strategy, PSA set ambitious targets both for its direct and indirect emissions. In regard to scope 1&2, PSA has defined a CO2 roadmap for manufacturing operations, namely a 60% reduction in CO2 emissions over the 2010-2050 period. PSA is targeting CO2 neutrality for all its plants through the use of renewable energies and the offsetting of residual emissions. In regard to scope 3, PSA has defined 3 targets: (1) the reduction of CO2 emissions for each vehicle transported by 33% between 2016 & 2035, and (2) the reduction of average CO2 emissions of vehicles sold worldwide by 55% compared with 2012 level, (3) the compliance of the CO2 trajectories in compliance with the Paris agreement for strategic and core suppliers.

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3. Substantial business decisions made

To best support it strategy of electric vehicles deployment, PSA created in July 2017 a department dedicated to electric vehicle programmes, followed by the creation of a Low Emission Vehicles Business Unit in 2018, which will be responsible for defining and deploying the Group’s electric vehicle strategy and rolling out the related products and services. In addition, PSA established a partnership 2017 with Nidec Leroy-Somer, with the aim of designing, developing, manufacturing and selling a range of electric traction engines. Production will begin in 2022, with a target of 900,000 units.

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4. CC aspects

CC related regulations are a key source of climate risks and opportunities for PSA, and a key factor influencing our business strategy.

Even if these specific risks and opportunities are mainly regulatory ones, other CC aspects also have an influence. For example, changing consumer behaviors are a great source of opportunities, with growing demands for car models with lower CO2 emissions and fuel consumption.

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5.Short-­term

PSA short-term strategy has been influenced by CC in 2 different ways:

> Product development

Regulatory changes and new customer demands related to CC led PSA to develop a specific strategy related to electric mobility. Indeed, in its Push to Pass strategic plan, the Group has committed to putting 7 plug­in hybrid vehicles (PHEV) and 4 electric vehicles (EVs) on the market between 2019 & 2021.

> Services development

In 2017, PSA launched the deployment of the brand Free2Move, which brings together all of the Group’s mobility and connected services in response to major societal changes and the emergence of new collaborative use.

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6.Long­-term

PSA long-term strategy has been influenced by CC in 2 different ways:

> Developing zero-impact plants

The PSA industrial department is working to achieve by 2050 zero-carbon, zero waste and zero water withdrawals for all manufacturing operations. These ambitious targets will be attained through efficient industrial organization, use of renewable energy, optimization of materials uses in processes and recovery of waste produced.

> Incorporating new technologies

In line with its target of reducing average CO2 emissions of vehicles sold worldwide by 55% in 2035 compared with 2012 levels, PSA has defined long-term orientations that include the development of a plug-in hybrid petrol-electric powertrain; a new range of EVs and a range of high-performance engines and lighter vehicle platforms. In 2025, 100% of models marketed will include an electric version.

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7.Advantages

Our environmental innovations offer strategic advantage over our competitors. Indeed, reducing the fuel consumption and CO2 emissions of our products addresses opportunities generated by the combined effect of consumer preference for flexible and efficient mobility and stricter environment standards.

Advances in clean technology also have a favorable economic impact for our customers, which is a great competitive advantage. For example, the PureTech engine saves a B2B customer in France about €170 a month in the costs of vehicle use compared with the previous model of the same car.

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8. Paris Agreement (PA)

PA on climate change led PSA to have its CO2 pathway validated by a tier; it did not change the CO2 strategy since PSA has been considering climate change as a key issue for many years. Its CO2 leadership results from years of investment in clean technologies.

## **C3.1d**

### **(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.**

|  |  |
| --- | --- |
| **Climate-related scenarios** | **Details** |
| Other, please specify (Green Constraint Scenario (BIPE)) | Scenarios identification: marketing and products division teams are using various climate-related scenarios developed by the French consulting company named BIPE. The main scenario used by Groupe PSA is the "Green Constraint" reference scenario, which takes into account moderate economic growth and stringent environmental regulation. In this scenario, green technologies are gradually developed and are transferred by the private sector to developing countries. In addition, in this scenario, global agreements on climate action are found between major countries, including the USA and China. Please note that consistency checks were performed with the 2DS scenario of the IEA, and demonstrate that mix projections by energy and technologies from the Green Constraint Model were relatively similar to the results found in the 2DS scenario. Methodology used: the model used to carry out the scenario analysis is based on the WAPO bottom-up model. This model incorporates various inputs that can be summarized in 4 categories: macro-economic variables (e.g.: population, density of population, GDP), technological variables (e.g.: weight, performance and specifications of vehicles, cost of technologies), energy variables (e.g.: resources, prices of fuels, hydrogen and electricity), and regulation variables (e.g.: fuels taxes, air pollutants regulation). Time horizons: the scenario analysis is carried out from today to 2035. The Groupe PSA has considered this specific time horizon 2018-2035 for two reasons: the changes that are on-going in the automotive market take time, which means that new services or technologies such as the fuel cell or the autonomous vehicle will generate significant effects on the Groupe’s business only in the medium term (2025-2035). In addition, forecasting changes in our business leads to the adoption of strategic choices and massive investment plans that need to be considered and thought in the medium future. Perimeters: this scenario analysis was carried out at Group-level. All geographies and entities were considered, with a specific emphasis on the divisions related to products and services, which are headed by the Programs and Strategy Division. Scenario Results: the output of this scenario is the potential market evolution by energy and technologies from today to 2035 and for 14 different geographical zones. As an example, the model predicts the proportion of battery-electric vehicles in the light-duty vehicles market in Europe for the 2030 year. Impact on the strategy: The energy/technology mix projections resulting from this scenario make it possible to apprehend, for example, at what speed the diesel mix will fall, in Europe and worldwide, and on which markets and at which speed the electrified vehicle mix (BEV, PHEV, MHEV, Fuel cell...) will increase. These mix projections by energy and technology (potential markets) are shared across the Group. Within the Programs and Strategy Division, they are used to make strategic choices related to the product development plan: decision to invest in an e-CMP electric platform, commitment to offer 100% electrified models in 2025, adaptation of the means of production in coherence with the sales mix projections (increase of the production capacities of EB PureTech petrol engines to offset the fall of diesel sales, creation of a Joint Venture with the Nidec Leroy-Somer holding company to support the transition from diesel to electric, etc...). Case study: The analysis of the different scenarios made it possible to frame the potential sales mix of electrified vehicles (min-max) and to identify accordingly the share of effort to be made to optimize CO2 emissions on conventional thermal vehicles, in order to reach our target relating to the average CO2 emissions of our vehicles. Following this work, the Groupe PSA is planning to offer 100% electrified vehicles by 2025 and achieve more than 50% of electric, fuel cells and hybrid vehicles in the Group’s sales. |

## **C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e**

### **(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization’s low-carbon transition plan.**

------- As an environmental pioneer in CO2 emissions from passenger cars, the Groupe PSA has defined in 2017 an ambitious roadmap that will help to achieve a full low-carbon business in the long term. This roadmap has two main levers: (1) the attainment of carbon neutrality for its direct operations (scope 1&2) in 2050 and (2) the development of a range of increasingly fuel-efficient and low-carbon cars, with the objective of reducing CO2 emissions associated with sold products by 55% from 2012 to 2035.

------- In order to track and monitor progress to these climate-related targets, Groupe PSA has defined some intermediate targets. Regarding its direct operations, the industrial department must follow the pace of 2.1% annual decline from 2010 to 2050 in order to achieve this target. Regarding its indirect emissions, PSA set the target of achieving more than 50% of Group’s sales with electric, fuel cells and hybrid vehicles with an emission-free mode in 2020 and 100% in 2025.

------- PSA identified several challenges that could inhibit the successful implementation of our low-carbon transition plan. Regulation changes are the most prominent challenges, in the sense that the success of the electric vehicles offer would only be met if (1) enough stringent regulations are adopted in terms of CO2 emissions intensity of vehicles; and (2) if Europe and worldwide long-term climate regulatory objectives are linked to future infrastructure. In other words, an insufficient support for electric vehicle charging infrastructure might hamper the uptake of electric vehicles market, which would prevent Groupe PSA to achieve its environmental commitments.

------- In order to implement its target related to its sold products, the Group is investing in four type of technologies that will help to reduce emissions from sold products:

(1) the deployment of electric technologies with different-size engines and battery capacity to meet a wide range of types of use and budgets. To support its ambition to offer 100% of electric models by 2025, the Group is developing a range of electric vehicles with Dongfeng Motor. Based on an electric version of the CMP platform (e-CMP), it will spawn a new generation of versatile and spacious electric vehicles with ion-lithium battery technology, enabling them to run for up to 450km on one charge and offering ultra-rapid charging solutions providing an off-vehicle charge range (OVC) of up 12km per minute. Five electric versions will be marketed by 2021, the first of which in 2019.

(2) the optimization of internal combustion powertrains, with solutions such as downsizing (reducing engine size and number of cylinders); increasing torque while reducing maximum power; reducing mechanical friction.

(3) the improvement of the overall fuel efficiency of its vehicles, in particular by optimizing vehicle architecture and equipment (tires, aerodynamics, mass, power management, etc.). For instance, the development of lightweight vehicles involves optimizing vehicle architecture, using lower density materials and innovative techniques that help to lighten the car body, whilst improving shock resistance. The new Peugeot 3008, named 2017 car of the year, benefits from the new EMP2 platform architecture, combined with genuine optimization of the weight/size/performance ratio at every level, making it possible to gain an average of 100kg on the previous generation of vehicles. The Group is also investigating fuel cells and alternative fuels in its research center in Russeilsheim.

(4) the launch of 48V motor Hybrid Electric Vehicles (MHEV), notably by cooperating with the company Punch Powertrain that has developed innovative electrified dual clutch transmission (DCT) systems, which allow for fewer components, and hence a lighter and more compact transmission system. In addition, it delivers outstanding performance and a very favorable fuel economy at a competitive cost. This newest generation of e-DCT systems, expected for 2022, will support the Groupe PSA’s electrification plan.

## **C4. Targets and performance**

## **C4.1**

### **(C4.1) Did you have an emissions target that was active in the reporting year?**

Both absolute and intensity targets

## **C4.1a**

### **(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

### **Target reference number**

Abs 1

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

90

### **% reduction from base year**

26

### **Base year**

2012

### **Start year**

2013

### **Base year emissions covered by target (metric tons CO2e)**

681409

### **Target year**

2025

### **Is this a science-based target?**

No, but we are reporting another target that is science-based

### **% achieved (emissions)**

66

### **Target status**

Underway

### **Please explain**

This target is based on the boundary of our PCA Division worldwide (with foundry activities), which comprised 90% of our total Scope 1+2 emissions in 2012. PCA is Groupe PSA’s Automobile Division. This is not a science-based target because PSA chose not to disclose future output projections beyond 2020 due to the confidentiality of these strategic data. We reported the same target last year, under the same reference Abs1.

## **C4.1b**

### **(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

### **Target reference number**

Int 1

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

90

### **% reduction from baseline year**

26

### **Metric**

Metric tons CO2e per vehicle produced\*

### **Base year**

2012

### **Start year**

2013

### **Normalized baseline year emissions covered by target (metric tons CO2e)**

339

### **Target year**

2025

### **Is this a science-based target?**

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

### **% achieved (emissions)**

90

### **Target status**

Underway

### **Please explain**

Our intensity target is set to 250 kg CO2eq per painted vehicle in 2025 with foundry activities. This target is based on the boundary of our PCA Division worldwide, which comprises 93% of our total Scope 1+2 emissions. Emissions from commercial activities are not covered by the target. We chose an intensity target with foundry activities because it corresponds to our activity even if other car manufacturers do not have foundry activities. Please note that for the calculation of change in absolute scope 1&2 emissions, it is assumed that the production does not vary between 2012 and 2025 due to confidential data. This target on scope 1&2 has been built in accordance with SBTi requirements and comply with these requirements. The global proposal of SBT objectives was however not approved by the SBTi due to the inadequacy of the scope 3 target. The scope 3 target will be defined and reviewed and once the SBT transport methodology is published. Please note that the same target was reported last year, under the same reference: Int 1.

### **% change anticipated in absolute Scope 1+2 emissions**

-26

### **% change anticipated in absolute Scope 3 emissions**

0

### **Target reference number**

Int 2

### **Scope**

Scope 3: Use of sold products

### **% emissions in Scope**

77

### **% reduction from baseline year**

30

### **Metric**

Grams CO2e per kilometer\*

### **Base year**

2012

### **Start year**

2013

### **Normalized baseline year emissions covered by target (metric tons CO2e)**

153.3

### **Target year**

2025

### **Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

### **% achieved (emissions)**

59

### **Target status**

Underway

### **Please explain**

The chosen target covers emissions from the ‘consumption of sold products’ and the related consumed ‘fuel upstream’. Indeed, the ‘Use of sold products’ emissions is actually the addition of three sources from the PSA 2014 Life Cycle Analysis: ‘direct consumption of sold vehicles’, ‘related consumed fuel upstream’ and ‘maintenance’. While emissions associated with maintenance are also the consequence of the use of PSA sold products, they are not included in PSA target for two reasons. Firstly, emissions from sold vehicles’ maintenance are significantly low (1.4% of LCA emissions). Secondly, maintenance activities are not strictly correlated to PSA sales, as opposed to ‘related consumed fuel upstream’. Please note that for the calculation of change in absolute scope 3 emissions, it is assumed that vehicles sales do not vary between 2012 and 2025 due to confidential data. The same target was reported last year, under the same reference: Int 2.

### **% change anticipated in absolute Scope 1+2 emissions**

0

### **% change anticipated in absolute Scope 3 emissions**

-30

### **Target reference number**

Int 3

### **Scope**

Scope 3: Use of sold products

### **% emissions in Scope**

77

### **% reduction from baseline year**

55

### **Metric**

Grams CO2e per kilometer\*

### **Base year**

2012

### **Start year**

2013

### **Normalized baseline year emissions covered by target (metric tons CO2e)**

153.3

### **Target year**

2035

### **Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

### **% achieved (emissions)**

32

### **Target status**

Underway

### **Please explain**

The chosen target covers emissions from the ‘consumption of sold products’ and the related consumed ‘fuel upstream’. Indeed, the ‘Use of sold products’ emissions is actually the addition of three sources from the PSA 2014 Life Cycle Analysis: ‘direct consumption of sold vehicles’, ‘related consumed fuel upstream’ and ‘maintenance’. While emissions associated with maintenance are also the consequence of the use of PSA sold products, they are not included in PSA target for two reasons. Firstly, emissions from sold vehicles’ maintenance are significantly low (1.4% of LCA emissions). Secondly, maintenance activities are not strictly correlated to PSA sales, as opposed to ‘related consumed fuel upstream’. Please note that for the calculation of change in absolute scope 3 emissions, it is assumed that vehicles sales do not vary between 2012 and 2035 due to confidential data.

### **% change anticipated in absolute Scope 1+2 emissions**

0

### **% change anticipated in absolute Scope 3 emissions**

-55

## **C4.2**

### **(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**

### **Target**

Renewable energy consumption

### **KPI – Metric numerator**

% of renewable electricity in the total electricity consumption

### **KPI – Metric denominator (intensity targets only)**

0

### **Base year**

2010

### **Start year**

2013

### **Target year**

2025

### **KPI in baseline year**

12

### **KPI in target year**

24

### **% achieved in reporting year**

21

### **Target Status**

Underway

### **Please explain**

The group is involved in reducing its carbon footprint and therefore, to use more renewable energy. This target covers the production units of the group. Our goal is to be carbon neutral by 2050.

### **Part of emissions target**

### **Is this target part of an overarching initiative?**

Other, please specify (PSA ambition to be CO2 neutral by 2050)

### **Target**

Other, please specify (Use of recycled materials in the car)

### **KPI – Metric numerator**

% of recycled materials used in the vehicle construction

### **KPI – Metric denominator (intensity targets only)**

0

### **Base year**

### **Start year**

2014

### **Target year**

2035

### **KPI in baseline year**

### **KPI in target year**

30

### **% achieved in reporting year**

### **Target Status**

Underway

### **Please explain**

We are targeting to reach a minimum of 30% of recycled and natural materials in the average group vehicle production in 2035.

### **Part of emissions target**

### **Is this target part of an overarching initiative?**

Other, please specify (PSA ambition to foster circular economy)

## **C4.3**

### **(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

## **C4.3a**

### **(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

|  |  |  |
| --- | --- | --- |
|  | **Number of projects** | **Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked \*)** |
| Under investigation | 0 | 0 |
| To be implemented\* | 33 | 2841 |
| Implementation commenced\* | 6 | 109 |
| Implemented\* | 8 | 8001.8 |
| Not to be implemented | 0 | 0 |

## **C4.3b**

### **(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

### **Activity type**

Process emissions reductions

### **Description of activity**

New equipment

### **Estimated annual CO2e savings (metric tonnes CO2e)**

400.5

### **Scope**

Scope 1

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

39500

### **Investment required (unit currency – as specified in CC0.4)**

500

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

6-10 years

### **Comment**

We replaced a cupola furnace by a new, more efficient one on the French site of Sept Fons.

### **Activity type**

Process emissions reductions

### **Description of activity**

Other, please specify (Obsolete furnace removed)

### **Estimated annual CO2e savings (metric tonnes CO2e)**

110

### **Scope**

Scope 1

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

72200

### **Investment required (unit currency – as specified in CC0.4)**

0

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

We stopped one electric furnace in the French site of Sept Fons.

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Heat recovery

### **Estimated annual CO2e savings (metric tonnes CO2e)**

3132.5

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

427000

### **Investment required (unit currency – as specified in CC0.4)**

1108000

### **Payback period**

1-3 years

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

We started to recover the heat from the painting chimney in our Spanish site of Vigo.

### **Activity type**

Energy efficiency: Building fabric

### **Description of activity**

Maintenance program

### **Estimated annual CO2e savings (metric tonnes CO2e)**

83.6

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

62220

### **Investment required (unit currency – as specified in CC0.4)**

0

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

Ongoing

### **Comment**

We cleaned the cold water circuits in one of our French sites. This action was identified as a maintenance operation: no investments were needed, only production cost. Therefore, there is no calculation of payback period.

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Process optimization

### **Estimated annual CO2e savings (metric tonnes CO2e)**

224.6

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

32000

### **Investment required (unit currency – as specified in CC0.4)**

0

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

We reduced by 5% the final temperature of hot water in the processes.

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Process optimization

### **Estimated annual CO2e savings (metric tonnes CO2e)**

2156.6

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

310000

### **Investment required (unit currency – as specified in CC0.4)**

1500000

### **Payback period**

4 - 10 years

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

We reduced the temperature of hot water in the processes in our construction site in Vigo, Spain.

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Compressed air

### **Estimated annual CO2e savings (metric tonnes CO2e)**

394

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

95000

### **Investment required (unit currency – as specified in CC0.4)**

45000

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

We installed a drain valve on the pressurized air network of our site of Charleville, in France.

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Combined heat and power

### **Estimated annual CO2e savings (metric tonnes CO2e)**

1500

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

21000

### **Investment required (unit currency – as specified in CC0.4)**

0

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

11-15 years

### **Comment**

We subscribed to a cogeneration heat system contract for our site of Sevel Nord, in France which will help to reduce CO2 direct emissions of the plant.

## **C4.3c**

### **(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Compliance with regulatory requirements/standards | Groupe PSA is anticipating and financing compliance with all climate change regulations in all countries where it operates. |
| Dedicated budget for other emissions reduction activities | 40% of Groupe PSA’s total R&D investment, which equals around 944 million Euros, is dedicated to projects related to vehicle emissions reduction and disruptive technologies. |
| Partnering with governments on technology development | Groupe PSA is involved in 4 automotive clusters where governments, companies and universities’ research departments work together on specific R&D projects related to low carbon mobility. Additionally, PSA has participated to the launch of VEDECOM (Carbon-free and Communicating Vehicle and its Mobility). VEDECOM is an energy transition institute which represents a unique research ecosystem in France made up of nearly 40 members that forms an unprecedented collaboration between companies from the automotive and aeronautic sectors, infrastructure and service operators from the mobility ecosystem, academic and local government research institutions in the Paris region. This ITE addresses the challenges of the autonomous vehicles and mobility of the future. Its role is to actively drive innovation, research and training applied to transport and responsible mobility. To reach its goal of becoming a European leader, VEDECOM focuses its research on the following three areas: - Electrification of vehicles; - Self-driving cars and connectivity; - Shared mobility and energy. |
| Other | Partnerships with energy suppliers to incite them to provide the Group with less emitting energy and to use renewable energy. Partnership with our suppliers to promote energy efficiency initiatives. |

## **C4.5**

### **(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

## **C4.5a**

### **(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

Our core business is to produce light cars for passenger and commercial transport. We are now producing low carbon vehicles, with an average of 104.7 gCO2/km per passenger cars in Europe 22, while the European average is 118.5 gCO2/km. Therefore, we are now below the European average. It means that emissions from the use of our cars are the lowest in the market.

### **Are these low-carbon product(s) or do they enable avoided emissions?**

Avoided emissions

### **Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify (PSA own methodology)

### **% revenue from low carbon product(s) in the reporting year**

25

### **Comment**

Thanks to the use of its low emission vehicles, Groupe PSA estimates that 167 MtCO2e will be avoided over a period covering 13 years (2012-2025). The method for calculating avoided emissions is based on a comparison between the average emissions of Group vehicles worldwide in 2012 (153 g/km of CO2) and 2017 (126 g/km of CO2), i.e. a reduction of 3.9% per annum. Based on an assumption of a 3% reduction per year, in line with our target of 30% between 2012 and 2025, and with an assumption of 3 million vehicles sold, with an average of 15,000 km travelled per year per vehicle and an average of ten years of use of a car, the quantity of avoided CO2 emissions between 2012 and 2025 is as follows: in 2013: 2.1 Mt; in 2014: 4.1 Mt; etc.; in 2025: 22.6 Mt, for a total of 167 million tonnes of CO2 avoided.

## **C5. Emissions methodology**

## **C5.1**

### **(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

### **Scope 1**

### **Base year start**

January 1 2012

### **Base year end**

December 31 2012

### **Base year emissions (metric tons CO2e)**

446214

### **Comment**

### **Scope 2 (location-based)**

### **Base year start**

January 1 2012

### **Base year end**

December 31 2012

### **Base year emissions (metric tons CO2e)**

235196

### **Comment**

### **Scope 2 (market-based)**

### **Base year start**

January 1 2017

### **Base year end**

December 31 2017

### **Base year emissions (metric tons CO2e)**

119512

### **Comment**

## **C5.2**

### **(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

## **C6. Emissions data**

## **C6.1**

### **(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO2e?**

### **Row 1**

### **Gross global Scope 1 emissions (metric tons CO2e)**

426737

### **End-year of reporting period**

<Not Applicable>

### **Comment**

## **C6.2**

### **(C6.2) Describe your organization’s approach to reporting Scope 2 emissions.**

### **Row 1**

### **​Scope 2, location-based​**

We are reporting a Scope 2, location-based figure

### **Scope 2, market-based**

We are reporting a Scope 2, market-based figure

### **Comment**

## **C6.3**

### **(C6.3) What were your organization’s gross global Scope 2 emissions in metric tons CO2e?**

### **Row 1**

### **Scope 2, location-based**

182548

### **Scope 2, market-based (if applicable)**

119512

### **End-year of reporting period**

<Not Applicable>

### **Comment**

Emissions from the market-based approach are lower than the location-based approach because our suppliers use a significant proportion of low-carbon energy in the electricity generated. In addition, Groupe PSA signed contracts in Slovakia and Brazil that ensure the supply of 100% renewable electricity to cover all of their electricity requirements.

## **C6.4**

### **(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

## **C6.4a**

### **(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

### **Source**

Cars refrigerants (HFC)

### **Relevance of Scope 1 emissions from this source**

Emissions are not relevant

### **Relevance of location-based Scope 2 emissions from this source**

No emissions excluded

### **Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions excluded

### **Explain why the source is excluded**

Replacement of fluorinated gas R134a (with GWP of 1430) by HFO 1234yf (GWP 4) is done in all car plants. Consumption of R134a is now below 2% of the total consumption of refrigerant. Therefore, emission by use of this refrigerant are non-significant.

## **C6.5**

### **(C6.5) Account for your organization’s Scope 3 emissions, disclosing and explaining any exclusions.**

### **Purchased goods and services**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

18281839

### **Emissions calculation methodology**

(i) Types and sources of data: PSA conducted in 2016 a Life Cycle Analysis (LCA), within the framework defined in the ISO 14040/044 standards, on its vehicles and components. This study analyses the multi-criteria environmental footprint of a vehicle and validates its components and materials design. This LCA was carried out in 2016, for all the vehicles produced by the Group over 2016 year. ———————— (ii) Methodologies, assumptions, allocations: This LCA assessment takes into account, over one year of activity, emissions from: >Production of materials and components for the vehicles manufactured; >The Group’s manufacturing plants and tertiary sites; >Fuel extraction and production necessary to use the vehicles manufactured; >Use phase of the vehicles manufactured; >Vehicle end of life ————————— (iii) Specific for the source of ’Purchased Goods and Services’: 2017 emissions were calculated as a ratio of emissions from the source of “Use of sold products”. PSA is not able to calculate emissions from the ‘Purchased Goods and Services’ on an annual basis. However, PSA knows, with the LCA analysis that the source ‘Purchased Goods and Services’ accounts roughly for 25% of emissions from the ‘Use of Sold Products’. Therefore, we multiply this percentage by the 2017 emissions from the ‘Use of Sold Products’ (25%\* 72 556 048 tCO2).

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our ‘Purchased goods and services’ Scope 3 emissions are significant, since they account for almost 20% of total Scope 3. Although the main source of Scope 3 emissions is by far the ‘Use of Sold Products’ (77.1% of our Scope 3 emissions), we consider this source of ‘Purchased goods and services’ as “relevant”.

### **Capital goods**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Groupe PSA considers this source of Scope 3 emissions as ‘not relevant’ for two reasons: (1) The LCA carried out in 2016 evaluated all the potential sources of emissions. This source of ‘Capital Goods’ was not identified as a relevant source of Scope 3 emissions. (2) Additionally, Groupe PSA is considering Scope 3 sources, upon which we can have an influence on its emissions reduction. In this case, PSA’s influence is very limited, and does not enable us to estimate accurate CO2 emissions.

### **Fuel-and-energy-related activities (not included in Scope 1 or 2)**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Groupe PSA considers this source of Scope 3 emissions as ‘not relevant’ for two reasons: (1) The LCA carried out in 2016 evaluated all the potential sources of emissions. This source of ‘Fuel-and-energy-related activities’ was not identified as a relevant source of Scope 3 emissions. (2) Additionally, Groupe PSA is considering Scope 3 sources, upon which we can have an influence on its emissions reduction. In this case, PSA’s influence is very limited, and does not enable us to estimate accurate CO2 emissions.

### **Upstream transportation and distribution**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

1047397

### **Emissions calculation methodology**

(i) Types and sources of data: PSA conducted in 2016 a Life Cycle Analysis (LCA), within the framework defined in the ISO 14040/044 standards, on its vehicles and components. This study analyses the multi-criteria environmental footprint of a vehicle and validates its components and materials design. This LCA was carried out in 2016, for all the vehicles produced by the Group over 2016 year. -------(ii) Methodologies, assumptions, allocations: This LCA assessment takes into account, over one year of activity, emissions from: >Production of materials and components for the vehicles manufactured; >The Group’s manufacturing plants and tertiary sites; >Fuel extraction and production necessary to use the vehicles manufactured; >Use phase of the vehicles manufactured; >Vehicle end of life ----------(iii) Specific for the source of ’Upstream transportation and distribution’: PSA is not able to calculate emissions from the ’Upstream transportation and distribution’ on an annual basis. However, PSA knows, with the LCA analysis that the source ’Upstream transportation and distribution’ accounts roughly for 1,4% of emissions from the ‘Use of Sold Products’. Therefore, we multiply this percentage by the 2017 emissions from the ‘Use of Sold Products’ (1,4%\* 72 556 048 tCO2).

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our “Upstream transportation and distribution" Scope 3 emissions are very low when compared to emissions generated by the “Use of our sold products”. They account for less than 1% of total Scope 3, while the source ‘Use of Sold Products’ represents more than 73 million tons of CO2e and 77.1% of our Scope 3 emissions. Therefore, we reached the conclusion that this source of Scope 3 emissions is considered as “not relevant”.

### **Waste generated in operations**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Groupe PSA considers this source of Scope 3 emissions as ‘not relevant’ for two reasons: (1) The LCA carried out in 2016 evaluated all the potential sources of emissions. This source of ‘Waste generated in operations’ was not identified as a relevant source of Scope 3 emissions. (2) Additionally, Groupe PSA is considering Scope 3 sources, upon which we can have an influence on its emissions reduction. In this case, PSA’s influence is very limited, and does not enable us to estimate accurate CO2 emissions.

### **Business travel**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

16829

### **Emissions calculation methodology**

(i) Types and sources of data: This category includes emissions from the transportation of employees for business-related activities, for air and train travels. Groupe PSA has gathered mileage data from its travel agency. PSA has applied the methodology provided in the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (also referred to as the Scope 3 Standard). ————————— (ii) Methodologies, assumptions, allocations: The calculation methodology is standard: we use travel emission factors in kg CO2 per passenger per km. Then, we multiply them by the distance travelled by our employees.

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our “Business travel" Scope 3 emissions are very low when compared to emissions generated by the “Use of our sold products”. They account for less than 1% of total Scope 3, while the source ‘Use of Sold Products’ represents more than 73 million tons of CO2e and 77.1% of our Scope 3 emissions. Therefore, we reached the conclusion that this source of Scope 3 emissions is considered as “not relevant”.

### **Employee commuting**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

64050

### **Emissions calculation methodology**

(i) Types and sources of data: This category includes emissions from the employee commuting. Two types of data were needed: (1) First, the number of employees. We obtained this data from the Human Resources Department. (2) Second, the distance travelled by employees to go to work. Any real data was available, and we use the last National Survey on Transport and Travel (ENTD in French) carried out in 2008 by the French Ministry for Transport, INSEE and the National Institute for Research on Transport and Transport Safety. Because of the lack of data, we assume equivalent distances travelled for employees working in other countries. ————————— (ii) Methodologies, assumptions, allocations: The calculation methodology is standard: we use travel emission factors in kg CO2 per passenger per km. Then, we multiply them by the commuting distance done by our employees. As said in (i), this distance is not real data but an average from the NSTT survey. Sources of emission factors come from the French Agency ADEME.

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our “Employee commuting" Scope 3 emissions are very low when compared to emissions generated by the “Use of our sold products”. They account for less than 1% of total Scope 3, while the source ‘Use of Sold Products’ represents more than 73 million tons of CO2e and 77.1% of our Scope 3 emissions. Therefore, we reached the conclusion that this source of Scope 3 emissions is considered as “not relevant”.

### **Upstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Groupe PSA considers this source of Scope 3 emissions as ‘not relevant’ for two reasons: (1) The LCA carried out in 2016 evaluated all the potential sources of emissions. This source of ‘Upstream leased assets’ was not identified as a relevant source of Scope 3 emissions. (2) Additionally, Groupe PSA is considering Scope 3 sources, upon which we can have an influence on its emissions reduction. In this case, PSA’s influence is very limited, and does not enable us to estimate accurate CO2 emissions.

### **Downstream transportation and distribution**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

380872

### **Emissions calculation methodology**

(i) Types and sources of data: PSA conducted in 2016 a Life Cycle Analysis (LCA), within the framework defined in the ISO 14040/044 standards, on its vehicles and components. This study analyses the multi-criteria environmental footprint of a vehicle and validates its components and materials design. This LCA was carried out in 2016, for all the vehicles produced by the Group over 2016 year. -------(ii) Methodologies, assumptions, allocations: This LCA assessment takes into account, over one year of activity, emissions from: >Production of materials and components for the vehicles manufactured; >The Group’s manufacturing plants and tertiary sites; >Fuel extraction and production necessary to use the vehicles manufactured; >Use phase of the vehicles manufactured; >Vehicle end of life ----------(iii) Specific for the source of ’Downstream transportation and distribution’: PSA is not able to calculate emissions from the ’Downstream transportation and distribution’ on an annual basis. However, PSA knows, with the LCA analysis that the source ’Downstream transportation and distribution’ accounts roughly for 0,5% of emissions from the ‘Use of Sold Products’. Therefore, we multiply this percentage by the 2017 emissions from the ‘Use of Sold Products’ (0,5%\* 72 556 048 tCO2).

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our “Downstream transportation and distribution" Scope 3 emissions are very low when compared to emissions generated by the “Use of our sold products”. They account for less than 1% of total Scope 3, while the source ‘Use of Sold Products’ represents more than 73 million tons of CO2e and 77.1% of our Scope 3 emissions. Therefore, we reached the conclusion that this source of Scope 3 emissions is considered as “not relevant”.

### **Processing of sold products**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Groupe PSA considers this source of Scope 3 emissions as ‘not relevant’ for two reasons: (1) The LCA carried out in 2016 evaluated all the potential sources of emissions. This source of ‘Processing of sold products’ was not identified as a relevant source of Scope 3 emissions. (2) Additionally, Groupe PSA is considering Scope 3 sources, upon which we can have an influence on its emissions reduction. In this case, PSA’s influence is very limited, and does not enable us to estimate accurate CO2 emissions.

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

72556048

### **Emissions calculation methodology**

(i) Types and sources of data: PSA conducted in 2016 a Life Cycle Analysis (LCA), within the framework defined in the ISO 14040/044 standards, on its vehicles and components. This study analyses the multi-criteria environmental footprint of a vehicle and validates its components and materials design. This LCA was carried out in 2016, for all the vehicles produced by the Group over 2016 year. ———————— (ii) Methodologies, assumptions, allocations: This LCA assessment takes into account, over one year of activity, emissions from: >Production of materials and components for the vehicles manufactured; >The Group’s manufacturing plants and tertiary sites; >Fuel extraction and production necessary to use the vehicles manufactured; >Use phase of the vehicles manufactured; >Vehicle end of life ————————— > (iii) Specific for the source of ‘Use of Sold Products’: The methodology to estimate our ‘Use of Sold Products’ emissions is to multiply the amount of vehicles sold in 2017 by the average CO2 intensity per km and by the expected lifetime of the vehicle and by the average distance traveled by the vehicle per year. In 2017, the Group sold a total of around 3,6 million vehicles. In 2017, the average CO2 emission factor per km was 126.3 gCO2e / km. The expected lifetime of sold products is 10 years. We account an average distance of 15 000 km traveled per year by the vehicle. The result is 61,174,707 tCO2e for this emissions category in 2017. In addition to that, we add emissions from the ‘related consumed fuel upstream’ and ‘maintenance of vehicles’ (which are calculated as a ratio of emissions from the direct ‘Use of Sold Products’ [18%] based upon the 2016 LCA).

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our ‘Use of sold products’ Scope 3 emissions are significant, since they account for almost 80% of total Scope 3 (77.1% of our Scope 3 emissions).

### **End of life treatment of sold products**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

1142615

### **Emissions calculation methodology**

(i) Types and sources of data: PSA conducted in 2016 a Life Cycle Analysis (LCA), within the framework defined in the ISO 14040/044 standards, on its vehicles and components. This study analyses the multicriteria environmental footprint of a vehicle and validates its components and materials design. This LCA was carried out in 2016, for all the vehicles produced by the Group over 2016 year. (ii) Methodologies, assumptions, allocations: This LCA assessment takes into account, over one year of activity, emissions from: >Production of materials and components for the vehicles manufactured; >The Group’s manufacturing plants and tertiary sites; >Fuel extraction and production necessary to use the vehicles manufactured; >Use phase of the vehicles manufactured; >Vehicle end of life (iii) Specific for the source of ‘End of Life Treatment of Sold Products’: 2017 emissions were calculated as a ratio of emissions from the source of “Use of sold products”. PSA is not able to calculate emissions from the ‘End of Life Treatment of Sold Products’ on an annual basis. However, PSA knows, with the LCA analysis, that the source ‘End of Life Treatment of Sold Products’ accounts roughly for 1.6% of emissions from the ‘Use of Sold Products’. Therefore, we multiply this percentage by the 2017 emissions from the ‘Use of Sold Products’ (1,6%\* 72 556 048 tCO2).

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Our “End of life treatment of sold products" Scope 3 emissions are very low when compared to emissions generated by the “Use of our sold products”. They only account for 1.2% of total Scope 3, while the source ‘Use of Sold Products’ represents more than 73 million tons of CO2e and 78% of our Scope 3 emissions. Therefore, we reached the conclusion that this source of Scope 3 emissions is considered as “not relevant”.

### **Downstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

Groupe PSA considers this source of Scope 3 emissions as ‘not relevant’ for two reasons: (1) The LCA carried out in 2016 evaluated all the potential sources of emissions. This source of ‘Downstream leased assets’ was not identified as a relevant source of Scope 3 emissions. (2) Additionally, Groupe PSA is considering Scope 3 sources, upon which we can have an influence on its emissions reduction. In this case, PSA’s influence is very limited, and does not enable us to estimate accurate CO2 emissions.

### **Franchises**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

We do not have franchises activities.

### **Investments**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

We do not have investments activities.

### **Other (upstream)**

### **Evaluation status**

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

### **Other (downstream)**

### **Evaluation status**

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

### **Explanation**

## **C6.7**

### **(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

Yes

## **C6.7a**

### **(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.**

702974

## **C6.10**

### **(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

### **Intensity figure**

0.00001353

### **Metric numerator (Gross global combined Scope 1 and 2 emissions)**

609285

### **Metric denominator**

unit total revenue

### **Metric denominator: Unit total**

45028000000

### **Scope 2 figure used**

Location-based

### **% change from previous year**

21.7

### **Direction of change**

Decreased

### **Reason for change**

An internal study has been managed in 2016 to build the path of CO2 emission reduction of industrial activities, and identify the main parameters which influence energy consumption. This study proposes targets for 2025, 2035 and 2050. To reach these objectives, PSA’ strategy takes into account the following elements, which contribute to reduce influence of some parameters on energy use: - Daily control of energy consumption to identify deviation and implement immediate corrective action - Implementation of processes using less energies, for new processes, but also by improving existing processes - Surface reduction of plants. - Use of an increasing part of renewable energies. In 2017, CO2 per car was significantly reduced, even though part of renewable was not as high as expected, because of underperformance of EDF in supply of such energies. As a complement, plants of Trnava and Porto Real have specific contract to receive electricity 100% from renewables.

## **C7. Emissions breakdowns**

## **C7.1**

### **(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?**

Yes

## **C7.1a**

### **(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

|  |  |  |
| --- | --- | --- |
| **Greenhouse gas** | **Scope 1 emissions (metric tons of CO2e)** | **GWP Reference** |
| CO2 | 420834 | IPCC Fourth Assessment Report (AR4 - 100 year) |
| CH4 | 28.8 | IPCC Second Assessment Report (SAR - 100 year) |
| N2O | 17.15 | IPCC Second Assessment Report (SAR - 100 year) |

## **C7.2**

### **(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

|  |  |
| --- | --- |
| **Country/Region** | **Scope 1 emissions (metric tons CO2e)** |
| France | 320262 |
| Spain | 36769 |
| Portugal | 3529 |
| Slovakia | 20817 |
| Russian Federation | 6567 |
| Argentina | 8575 |
| Brazil | 7267 |
| Other, please specify (Rest of the world) | 22951 |

## **C7.3**

### **(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By business division

## **C7.3a**

### **(C7.3a) Break down your total gross global Scope 1 emissions by business division.**

|  |  |
| --- | --- |
| **Business division** | **Scope 1 emissions (metric ton CO2e)** |
| Automotive division | 403786 |
| Automotive trade | 22951 |

## **C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4**

### **(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Gross Scope 1 emissions, metric tons CO2e** | **Net Scope 1 emissions , metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility generation activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 426737 | <Not Applicable> |  |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C7.5**

### **(C7.5) Break down your total gross global Scope 2 emissions by country/region.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country/Region** | **Scope 2, location-based (metric tons CO2e)** | **Scope 2, market-based (metric tons CO2e)** | **Purchased and consumed electricity, heat, steam or cooling (MWh)** | **Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)** |
| France | 75261 | 37389 | 1841854 | 121239 |
| Spain | 48181 | 39267 | 155422 | 28753 |
| Portugal | 3751 | 2153 | 12100 | 5155 |
| Slovakia | 0 | 0 | 97795 | 97795 |
| Russian Federation | 8326 | 5990 | 19052 | 3887 |
| Argentina | 24561 | 12244 | 45926 | 14040 |
| Brazil | 0 | 0 | 53233 | 53233 |
| Other, please specify (Rest of the world) | 22468 | 22468 | 247605 | 20900 |

## **C7.6**

### **(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

By business division

## **C7.6a**

### **(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

|  |  |  |
| --- | --- | --- |
| **Business division** | **Scope 2, location-based emissions (metric tons CO2e)** | **Scope 2, market-based emissions (metric tons CO2e)** |
| Automotive Division | 160080 | 97044 |
| Automotive Trade | 22468 | 22468 |

## **C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7**

### **(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Scope 2, location-based, metric tons CO2e** | **Scope 2, market-based (if applicable), metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 182548 | 119512 |  |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C-TO7.8**

### **(C-TO7.8) Provide primary intensity metrics that are appropriate to your indirect emissions in Scope 3 Category 11: Use of sold products from transport.**

### **Activity**

Light Duty Vehicles (LDV)

### **Emissions intensity figure**

0.000126

### **Metric numerator (Scope 3 emissions: use of sold products) in Metric tons CO2e**

61174707

### **Metric denominator**

p.km

### **Metric denominator: Unit total**

484257150000

### **% change from previous year**

-2

### **Vehicle unit sales in reporting year**

3228381

### **Vehicle lifetime in years**

10

### **Annual distance in km or miles (unit specified by column 4)**

15000

### **Load factor**

1

### **Please explain the changes, and relevant standards/methodologies used**

----------------- Changes: The group is taking actions to reduce the average CO2 emissions of vehicles sold worldwide by 55% in 2035 compared to 2012. 40% of the R&D budget is devoted to clean tech. In 2017, the group launched a new generation of engines (Euro 6 step 2) and 2 new gearboxes, as well as a new model, the DS7 Crossback on the EMP2 energy efficient platform. The group maintained its trend for lower average CO2 emissions on all vehicles (passenger and commercial) despite a slight deterioration of the situation for passenger vehicles in Europe due to a fall in the diesel market share and the upscaling of vehicles. ----------------- Methodology: (i)Types and sources of data: PSA conducted in 2016 a Life Cycle Analysis (LCA), within the framework defined in the ISO 14040/044 standards, on its vehicles and components. This study analyses the multi-criteria environmental footprint of a vehicle and validates its components and materials design. This LCA was carried out in 2016, for all the vehicles produced by the Group over 2016 year (ii) Methodologies, assumptions, allocations: This LCA assessment takes into account, over one year of activity, emissions from: >Production of materials and components for the vehicles manufactured; >The Group’s manufacturing plants and tertiary sites; >Fuel extraction and production necessary to use the vehicles manufactured; >Use phase of the vehicles manufactured; >Vehicle end of life (iii) Specific for the source of ’Purchased Goods and Services’: 2017 emissions were calculated as a ratio of emissions from the source of “Use of sold products”. PSA is not able to calculate emissions from the ‘Purchased Goods and Services’ on an annual basis. However, PSA knows, with the LCA analysis that the source ‘Purchased Goods and Services’ accounts roughly for 25% of emissions from the ‘Use of Sold Products’. Therefore, we multiply this percentage by the 2017 emissions from the ‘Use of Sold Products’ (25%\*61,174,707tCO2e).

## **C7.9**

### **(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Decreased

## **C7.9a**

### **(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Change in emissions (metric tons CO2e)** | **Direction of change** | **Emissions value (percentage)** | **Please explain calculation** |
| Change in renewable energy consumption | 1968 | Decreased | 0.3 | In 2017, the Group consumed less renewable energy consumption overall but it led to a decrease of CO2. The reason why is that the decrease in renewable energy consumption is mainly due to the situation in France, where renewable production was reduced to the benefit of nuclear production. Given the low emission factor of nuclear electricity, it did not generate additional emissions. Meanwhile, in other countries such as in Portugal and in Argentine, the renewable energy consumption increased and substituted gas power generation for Argentina and coal power generation in Portugal, which contributed to reduce emissions. In total, 1 968 tons of CO2 were reduced due to the change in renewable energy consumption. Since scope 1&2 emissions (i.e. perimeter considered: automotive division and trade) in 2016 amounted for 610658 tCO2, we estimate that PSA emissions reduction activities have contributed to reduce Scope1&2 emissions by 0.1% Calculation: ([-1968] / 2016 scope 1&2). |
| Other emissions reduction activities | 14400 | Decreased | 2.4 | In 2017, the Group engaged in strong actions to optimize its processes and decrease its energy consumption. 7 200 tCO2eq were saved by gas use optimization this year. We also applied strong good practices, defined with our experts, to decrease our emissions of another 7 200tCO2eq. Since scope 1&2 emissions (i.e. perimeter considered: automotive division and trade) in 2016 amounted for 610658 tCO2, we estimate that PSA emissions reduction activities have contributed to reduce Scope1&2 emissions by 2.4% Calculation: ([-14400] / 2016 scope 1&2). This calculation is valid, because we use constant emission factors from 2014 up to 2018. |
| Divestment | 0 | No change |  |  |
| Acquisitions | 0 | No change |  |  |
| Mergers | 0 | No change |  |  |
| Change in output | 12448 | Increased | 2 | In 2017, the Group faced around 6.7% production increase. This increase of vehicles produced resulted by an increase of 35 383 tCO2e emissions. As a complement, this increase of production helped to better engage production lines, which offered a reduction of around 19 200 tCO2e. In addition, emissions associated to the automotive trade division decreased by 3 735 tCO2e between 2016 and 2017 due to the change in output. In total, it gives an increase of 12 448 tCO2e (35 383 – 19 200 – 3 735) due to the change in output. Since scope 1&2 emissions (i.e. perimeter considered: automotive division and trade) in 2016 amounted for 610658 tCO2, we estimate that the change in output have contributed to increase Scope1&2 emissions by 2 %. Calculation: (12 448 / 2016 scope 1&2). |
| Change in methodology | 0 | No change |  |  |
| Change in boundary | 0 | No change |  |  |
| Change in physical operating conditions | 2800 | Increased | 0.5 | The 2017-year was slightly colder than 2016. Indeed, our ‘degree day’ indicator used for measuring temperature variations has increased by 11% between 2016 and 2017, which induced more energy used for heating. This sensitivity of energy consumption to weather conditions generated an increase in emissions of roughly 2 800 tCO2e. Since scope 1&2 emissions (i.e. perimeter considered: automotive division and trade) in 2016 amounted for 610 658 tCO2, we estimate that the change in physical operating conditions have contributed to increase Scope1&2 emissions by 0.5% Calculation: (2 800 / 2016 scope 1&2). |
| Unidentified | 0 | No change |  |  |
| Other | 0 | No change |  |  |

## **C7.9b**

### **(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

## **C8. Energy**

## **C8.1**

### **(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 0% but less than or equal to 5%

## **C8.2**

### **(C8.2) Select which energy-related activities your organization has undertaken.**

|  |  |
| --- | --- |
|  | **Indicate whether your organization undertakes this energy-related activity** |
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | No |
| Consumption of purchased or acquired steam | Yes |
| Consumption of purchased or acquired cooling | No |
| Generation of electricity, heat, steam, or cooling | No |

## **C8.2a**

### **(C8.2a) Report your organization’s energy consumption totals (excluding feedstocks) in MWh.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Heating value** | **MWh from renewable sources** | **MWh from non-renewable sources** | **Total MWh** |
| Consumption of fuel (excluding feedstock) | LHV (lower heating value) | 15968 | 1966445 | 1982413 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 345001 | 1965898 | 2310899 |
| Consumption of purchased or acquired heat | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 162088 | 162088 |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Total energy consumption | <Not Applicable> | 360969 | 4094431 | 4455400 |

## **C8.2b**

### **(C8.2b) Select the applications of your organization’s consumption of fuel.**

|  |  |
| --- | --- |
|  | **Indicate whether your organization undertakes this fuel application** |
| Consumption of fuel for the generation of electricity | No |
| Consumption of fuel for the generation of steam | No |
| Consumption of fuel for the generation of cooling | No |
| Consumption of fuel for co-generation or tri-generation | No |

## **C8.2c**

### **(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

### **Fuels (excluding feedstocks)**

Natural Gas

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

1874118

### **MWh fuel consumed for the self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

<Not Applicable>

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

### **Fuels (excluding feedstocks)**

Fuel Oil Number 1

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

5177

### **MWh fuel consumed for the self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

<Not Applicable>

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

### **Fuels (excluding feedstocks)**

Fuel Oil Number 2

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

417

### **MWh fuel consumed for the self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

<Not Applicable>

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

### **Fuels (excluding feedstocks)**

Coke

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

86733

### **MWh fuel consumed for the self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

<Not Applicable>

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

### **Fuels (excluding feedstocks)**

Wood

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

15968

### **MWh fuel consumed for the self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

<Not Applicable>

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

## **C8.2d**

### **(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

### **Coke**

### **Emission factor**

2.55

### **Unit**

metric tons CO2e per metric ton

### **Emission factor source**

PSA GUIDE TO THE CALCULATION OF ATMOSPHERIC EMISSIONS

### **Comment**

### **Fuel Oil Number 1**

### **Emission factor**

3.12

### **Unit**

metric tons CO2 per metric ton

### **Emission factor source**

PSA GUIDE TO THE CALCULATION OF ATMOSPHERIC EMISSIONS

### **Comment**

### **Fuel Oil Number 2**

### **Emission factor**

3.12

### **Unit**

metric tons CO2e per metric ton

### **Emission factor source**

PSA GUIDE TO THE CALCULATION OF ATMOSPHERIC EMISSIONS

### **Comment**

### **Natural Gas**

### **Emission factor**

185

### **Unit**

kg CO2e per MWh

### **Emission factor source**

PSA GUIDE TO THE CALCULATION OF ATMOSPHERIC EMISSIONS

### **Comment**

The exact unit is: kg CO2 per MWh SCP.

### **Wood**

### **Emission factor**

0.092

### **Unit**

metric tons CO2e per GJ

### **Emission factor source**

PSA GUIDE TO THE CALCULATION OF ATMOSPHERIC EMISSIONS

### **Comment**

## **C8.2f**

### **(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.**

### **Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities (e.g. green tariff), not supported by energy attribute certificates

### **Low-carbon technology type**

Wind

Hydropower

Nuclear

### **MWh consumed associated with low-carbon electricity, heat, steam or cooling**

1841854

### **Emission factor (in units of metric tons CO2e per MWh)**

0.015

### **Comment**

PSA energy suppliers provide low carbon energy, whether renewable or nuclear. For instance, nuclear energy accounts for 87% of total electricity generated by our French supplier in 2017.

### **Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

### **Low-carbon technology type**

Wind

Hydropower

Biomass (including biogas)

### **MWh consumed associated with low-carbon electricity, heat, steam or cooling**

151028

### **Emission factor (in units of metric tons CO2e per MWh)**

0

### **Comment**

Groupe PSA signed contracts in Slovakia and Brazil that ensure the supply of 100% renewable electricity to cover all of their electricity requirements.

## **C-TO8.4**

### **(C-TO8.4) Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.**

### **Activity**

Light Duty Vehicles (LDV)

### **Metric figure**

0.259

### **Metric numerator**

tCO2e

### **Metric denominator**

Production: Vehicle

### **Metric numerator: Unit total**

563866

### **Metric denominator: Unit total**

2174204

### **% change from previous year**

-6

### **Please explain**

PSA follows very carefully the quantity of CO2e emitted per vehicle painted. This ratio decreased compared to 2016 (276kgCO2e/vehicle). This is due to the group’s efforts to manage its energy consumption and use renewable energy.

## **C9. Additional metrics**

## **C9.1**

### **(C9.1) Provide any additional climate-related metrics relevant to your business.**

### **Description**

Waste

### **Metric value**

122

### **Metric numerator**

kg

### **Metric denominator (intensity metric only)**

Painted vehicle

### **% change from previous year**

4.3

### **Direction of change**

Increased

### **Please explain**

### **Description**

Energy use

### **Metric value**

1.95

### **Metric numerator**

MWh

### **Metric denominator (intensity metric only)**

Painted vehicle

### **% change from previous year**

7

### **Direction of change**

Decreased

### **Please explain**

## **C-TO9.3/C-TS9.3**

### **(C-TO9.3/C-TS9.3) Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.**

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Fleet adoption

### **Technology**

Plug-in hybrid vehicle (PHEV)

### **Metric figure**

443

### **Metric unit**

Other, please specify (Number of vehicles (sold in 2017))

### **Explanation**

The number of PHEV vehicles includes all the PHEV vehicles sold worldwide in 2017. This information is in line with the SASB standard (Sustainability Accounting Standards Board) [code TR0101-10] that requires automobile manufacturers to disclose the number of vehicles sold during the fiscal year that can be classified as: (1) Zero Emission Vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Fleet adoption

### **Technology**

Battery electric vehicle (BEV)

### **Metric figure**

6231

### **Metric unit**

Other, please specify (Number of vehicles (sold in 2017))

### **Explanation**

The number of BEV vehicles includes all the BEV vehicles sold worldwide in 2017. This information is in line with the SASB standard (Sustainability Accounting Standards Board) [code TR0101-10] that requires automobile manufacturers to disclose the number of vehicles sold during the fiscal year that can be classified as: (1) Zero Emission Vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Fleet adoption

### **Technology**

Vehicle using bio-fuel

### **Metric figure**

44622

### **Metric unit**

Other, please specify (Nr. of cars (in 2017 in Latin America))

### **Explanation**

The number of bio-fuel vehicles includes all the bio-fuel vehicles sold in Latin America in 2017.

## **C-TO9.6/C-TS9.6**

### **(C-TO9.6/C-TS9.6) What is your investment in research and development (R&D), equipment, products and services and which part of it would you consider a direct investment in the low-carbon transition?**

### **Activity**

Light Duty Vehicles (LDV)

### **Investment start date**

January 1 2017

### **Investment end date**

December 31 2017

### **Investment area**

R&D

### **Technology area**

Other, please specify (All products and services included)

### **Investment maturity**

Large scale commercial deployment

### **Investment figure**

2900000000

### **Low-carbon investment percentage**

21-40%

### **Please explain**

Mindful of sustainable development, the Group devotes more than 40% of its research & development budget to clean technologies. There are a number of R&D focuses: powertrain efficiency (IC, hybrid or electric) and depollution systems; making vehicles lighter and more ecological in every respect (consumption and reduced need for raw materials); vehicle energy efficiency etc. This high portion of low-carbon investments has a concrete impact on the deployment of new vehicles models. For example, seven plug-in petrol hybrid vehicles will be launched in Europe and China between 2019 and 2021. These will enable emission thresholds of under 50 g/km of CO2, i.e. 2 l/100 km in all areas and will run 50 km in fully electric mode in city and suburban environments (WLTP procedure). In addition, five electric vehicles will be launched in Europe and China from 2019. Ultimately, with this low-carbon investment plan, between now and 2025, 100% of the models marketed by the Group worldwide will be offered in electric or plug-in hybrid versions.

## **C10. Verification**

## **C10.1**

### **(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

|  |  |
| --- | --- |
|  | **Verification/assurance status** |
| Scope 1 | Third-party verification or assurance process in place |
| Scope 2 (location-based or market-based) | Third-party verification or assurance process in place |
| Scope 3 | Third-party verification or assurance process in place |

## **C10.1a**

### **(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.**

### **Scope**

Scope 1

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[FY2017 PSA\_CDP report\_Grand Thorton certification.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/FQ7qYjRG6UO3ZaM_-EoxuQ/FY2017PSACDPreportGrandThortoncertification.pdf)

### **Page/ section reference**

P.299 / Environmental quantitative information: Scope 1 and 2 greenhouse gas emissions (GHG)

### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

### **Scope**

Scope 2 location-based

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[FY2017 PSA\_CDP report\_Grand Thorton certification.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/FQ7qYjRG6UO3ZaM_-EoxuQ/FY2017PSACDPreportGrandThortoncertification.pdf)

### **Page/ section reference**

P.299 / Environmental quantitative information: Scope 1 and 2 greenhouse gas emissions (GHG)

### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

## **C10.1b**

### **(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

### **Scope**

Scope 3- at least one applicable category

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Attach the statement**

[FY2017 PSA\_CDP report\_Grand Thorton certification.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/FQ7qYjRG6UO3ZaM_-EoxuQ/FY2017PSACDPreportGrandThortoncertification.pdf)

### **Page/section reference**

P.299 / 2.4. Environmental impact of materials and end of life: sustainable management of materials at every stage of the life cycle

### **Relevant standard**

ISAE3000

## **C10.2**

### **(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

Yes

## **C10.2a**

### **(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Disclosure module verification relates to** | **Data verified** | **Verification standard** | **Please explain** |
| C8. Energy | Other, please specify (Overall Energy consumption) | ISAE 3000 | The global energy consumption is verified annually by a third-party, which provides an opinion on the data published. The data relative to energy consumption is verified since it is a key metric to measure our industrial efficiency. This data is mentioned in the question C8.2a. |

## **C11. Carbon pricing**

## **C11.1**

### **(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

Yes

## **C11.1a**

### **(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

EU ETS

## **C11.1b**

### **(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.**

### **EU ETS**

### **% of Scope 1 emissions covered by the ETS**

64

### **Period start date**

January 1 2017

### **Period end date**

December 31 2017

### **Allowances allocated**

361375

### **Allowances purchased**

0

### **Verified emissions in metric tons CO2e**

273664

### **Details of ownership**

Facilities we own and operate

### **Comment**

## **C11.1d**

### **(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?**

Long­-term compliance strategy, the third phase of the EU Emissions Trading Scheme (2013­2020):

PSA implemented the third phase of the EU Emissions Trading Scheme (2013­2020). The scheme involves 10 plants (Sochaux, Mulhouse, Rennes, Poissy, Vesoul, Vélizy, Sevel Nord and Sept-Fons in France and Vigo in Spain).

At the moment, the automotive sector is assessed by European regulations as “at risk of carbon leakage” since 2015. As a result, free quota allocations for PSA and other automakers will remain constant at 80% of a benchmark value (based on a European benchmark) until 2020.

PSA is therefore preparing to reduce its CO2 emissions.

## **C11.2**

### **(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

Yes

## **C11.2a**

### **(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.**

### **Credit origination or credit purchase**

Credit origination

### **Project type**

Forests

### **Project identification**

The Peugeot carbon sink project in the Amazon

### **Verified to which standard**

VCS (Verified Carbon Standard)

### **Number of credits (metric tonnes CO2e)**

702974

### **Number of credits (metric tonnes CO2e): Risk adjusted volume**

632676

### **Credits cancelled**

Yes

### **Purpose, e.g. compliance**

Voluntary Offsetting

## **C11.3**

### **(C11.3) Does your organization use an internal price on carbon?**

Yes

## **C11.3a**

### **(C11.3a) Provide details of how your organization uses an internal price on carbon.**

### **Objective for implementing an internal carbon price**

Navigate GHG regulations

### **GHG Scope**

Scope 1

Scope 2

### **Application**

The internal carbon price is applied at industrial level, led by the Group Industrial division and followed by industrial managers. The financial business unit will also be involved in 2018 due to the major financial implications associated with the new European GHG regulations.

### **Actual price(s) used (Currency /metric ton)**

14

### **Variance of price(s) used**

Given the recent reform of the ETS market (new EU directive 2021-2030 that reduces the quantity of allowances) and the ambition of the European Commission to increase the carbon price to 100€/tCO2 in the next few years, the Groupe PSA foresees to regularly increase the price of carbon in the future. 2019-2020: 20€/tCO2 2021-2023: 25€/tCO2 2024-2025: 30€/tCO2

### **Type of internal carbon price**

Shadow price

### **Impact & implication**

The head of industrial division is using a shadow price of carbon in order to reveal the future risks associated with GHG regulations. This price and its evolution in the future is shared with all industrial facilities, which uses it to draw up their master plan (3-5 years projections) and make decisions related to performance actions and investment plans.

### **Objective for implementing an internal carbon price**

Other, please specify (Staff awareness on internal CO2 price)

### **GHG Scope**

Scope 1

Scope 2

Scope 3

### **Application**

The work on this internal price on carbon was carried out by the Sustainability division at corporate level. Given the exploratory dimension of this work, there is so far no direct application in other divisions.

### **Actual price(s) used (Currency /metric ton)**

135

### **Variance of price(s) used**

In 2017, Groupe PSA made a first attempt to value its social and environmental impacts. In the absence of standard widely used methodologies, we chose the methods that seemed more mature depending on the type of impacts measured raw material, own operations, use of products). This led us to use different CO2 values. For raw materials and our own operations environmental footprint, the impacts to the natural environment have been valued with the valuation factors published by the Chalmers University of Technologies of Sweden, applying the EPS methodology (Environmental Priority Strategies in Product Design) and the estimated carbon value of 135 €/ton. This value is rather high compared to other impacts valuations methodologies. For the usage of the vehicle, we chose the methodology of CE-Delft with an estimated carbon value of 146 €/ton for the high scenario.

### **Type of internal carbon price**

Other, please specify (Awareness)

### **Impact & implication**

Several implications could derive from this work. For the internal price in regard to direct operations, when applied to industrial facilities, the environmental cost could be compared plant by plant. An internal fee could also be collected for each ton of CO2 emitted by facility, which would lead to a collected revenue that could be reinvested into clean industrial technologies. As for the usage of the vehicle, this exploratory work has not yet provided any new findings for PSA, mainly because those impact study do not value any positive externality.

## **C12. Engagement**

## **C12.1**

### **(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

## **C12.1a**

### **(C12.1a) Provide details of your climate-related supplier engagement strategy.**

### **Type of engagement**

Compliance & onboarding

### **Details of engagement**

Climate change is integrated into supplier evaluation processes

### **% of suppliers by number**

8

### **% total procurement spend (direct and indirect)**

70

### **% Scope 3 emissions as reported in C6.5**

20

### **Rationale for the coverage of your engagement**

The Groupe PSA has decided to prioritize on the direct material suppliers that represent 78% our procurement spend.

### **Impact of engagement, including measures of success**

Regarding the suppliers assessed, on the environmental topic, we have an improvement of the number of suppliers compliant + 3% between 2016 and 2017 .

### **Comment**

EcoVadis assessed our main suppliers in 2017, 73% of the Group’s suppliers assessed by EcoVadis set up a reporting process for energy consumption or greenhouse gas emissions.

### **Type of engagement**

Compliance & onboarding

### **Details of engagement**

Included climate change in supplier selection / management mechanism

### **% of suppliers by number**

8

### **% total procurement spend (direct and indirect)**

70

### **% Scope 3 emissions as reported in C6.5**

20

### **Rationale for the coverage of your engagement**

The Groupe PSA has decided to prioritize on the direct material suppliers that represent 78% our procurement spend.

### **Impact of engagement, including measures of success**

Regarding the suppliers assessed, on the environmental topic, we have an improvement of the number of suppliers compliant + 3% between 2016 and 2017

### **Comment**

EcoVadis assessed our main suppliers in 2017, 73% of the Group’s suppliers assessed by EcoVadis set up a reporting process for energy consumption or greenhouse gas emissions.

### **Type of engagement**

Compliance & onboarding

### **Details of engagement**

Other, please specify (Alignment with Paris Agreement)

### **% of suppliers by number**

0.2

### **% total procurement spend (direct and indirect)**

25

### **% Scope 3 emissions as reported in C6.5**

20

### **Rationale for the coverage of your engagement**

The strategic suppliers and core suppliers represented 58% of the total procurement spend in 2017. For strategic suppliers and some core suppliers, the Group has decided to monitor the environmental roadmap, the action plans follow-up regarding the alignment with the Paris Agreement.

### **Impact of engagement, including measures of success**

The Purchasing Department will measure this impact next year.

### **Comment**

## **C12.1b**

### **(C12.1b) Give details of your climate-related engagement strategy with your customers.**

### **Type of engagement**

Education/information sharing

### **Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

### **Size of engagement**

100

### **% Scope 3 emissions as reported in C6.5**

78

### **Please explain the rationale for selecting this group of customers and scope of engagement**

100% of our customers are likely to take part in this engagement since our web-based application enables all customers to get access to the real consumption of Groupe PSA’s vehicles. The application is now available on the brands’ websites in 12 European countries. It is an engagement of transparency on the real consumption of our vehicles and addressed to our existing and potential customers.

### **Impact of engagement, including measures of success**

Groupe PSA takes 2 major climate-related engagement with its customers: 1- Transparency related to the real-world fuel consumption of its vehicles, and tools that permit for each customer to evaluate its own fuel consumption 2- Propose on its vehicles onboard functions aimed at reducing fuel consumption In 2017, using measurements of fuel consumption in real-world driving conditions on 1000 versions (with a protocol defined with NGOs), PEUGEOT, CITROËN and DS AUTOMOBILES launched a web-based application on their websites, allowing customers to: - view the fuel consumption data for their model by entering its characteristics (body type, trim level, engine, gearbox and type of tires); - estimate their own consumption based on the actual use of their vehicle (number of passengers, load, driving style, etc.) using an online configurator.

### **Type of engagement**

Collaboration & innovation

### **Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

### **Size of engagement**

100

### **% Scope 3 emissions as reported in C6.5**

78

### **Please explain the rationale for selecting this group of customers and scope of engagement**

100% of our customers are likely to take part in this engagement given that our new models will be equipped with these onboard functions. This engagement aims to give the capacity to every customer to act itself on its vehicle consumption and thereby on the environment. By encouraging the change in driving behaviors, CO2 emissions from vehicles could be dramatically reduced.

### **Impact of engagement, including measures of success**

In 2018, Groupe PSA launches two new onboard functions aimed at reducing fuel consumption: 1- “Eco-coaching” function which, in real time and with a consumption report at the end of the trip, informs and advises customers via the vehicle’s dashboard about gear changes, optimal braking, the use of the Stop&Start function and managing acceleration to help them improve their eco-driving; 2- “ECO mode” function, which allows the driver to select a fuel efficient operating mode (activating the freewheeling function, for example). These functions, each of which offer potential fuel savings of around 5%, will be gradually rolled out to all future lines.

## **C12.1c**

### **(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.**

Climate Engagement strategy: In accordance with the commitments made under its Global Framework Agreement, the Group presents a review of its application of said agreement with respect to the Groupe PSA's social responsibility every year at the plenary meeting of the Group’s European Works Council (expanded to include the Global Works Council with Argentina, Brazil and Russia).

Example of action: During those annual meetings discussions are held on the initiatives undertaken under commitment No. 15 of the agreement, namely ENVIRONMENTAL PROTECTION.

Measures: Furthermore, worldwide indicators (water and energy use, greenhouse gas emissions, volatile organic compound emissions, waste production and recovery rates) are presented to the employee representatives and compared with the Group’s commitments in the field. Corrective action plans and good practices are presented and debated.

Other partners: The Group’s European Works Council (expanded to include the Global Works Council with Argentina, Brazil and Russia) is a body for dialogue and discussion between management and employee representatives including the IndustriALL Global Union and IndustriALL European Union trade union federations.

## **C12.3**

### **(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

Direct engagement with policy makers

Trade associations

Funding research organizations

Other

## **C12.3a**

### **(C12.3a) On what issues have you been engaging directly with policy makers?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Focus of legislation** | **Corporate position** | **Details of engagement** | **Proposed legislative solution** |
| Other, please specify (CO2 fleet regulation) | Support with minor exceptions | (1) Name of legislation: post 2020 CO2 emissions target regulation in Europe which will amend EC 443/2009 (CO2 emissions target based on NEDC procedure) (2) Geographies of legislation: Europe (3) Type of engagement: Groupe PSA engaged discussions, meetings, influence strategies activities towards MEEM (Ministère de l’Environnement, de l’Energie et de la Mer) and European Commission for proposing solutions to define a CO2 emissions target based on WLTP procedure derived of CO2 emissions target based on NEDC. | The Worldwide Harmonized Light Vehicles Test Procedure (WLTP) is a new procedure and replaced the NEDC procedure in Europe on September 2017. The WLTP procedure is more representative of real-life conditions: measured CO2 emissions will be increased. Groupe PSA supports WLTP introduction to restore its customers’ trust and has proposed a formula to calculate CO2 emissions target on WLTP based on CO2 emissions target on NEDC (95 g/km in 2020). For Groupe PSA, key factors are iso-stringency between NEDC and WLTP, and additive corrections (instead of multiplicative corrections). |
| Other, please specify (Air quality, low emission zone) | Support with minor exceptions | (1) Name of legislation: decree 23th of June 2016 (DEVR1612572A) Classification of vehicles according to their levels of air pollutant emissions (2) Geographies of legislation: France (3) Type of engagement: Groupe PSA engaged discussions, meetings, influence strategies activities towards MEIN (Ministère de l’Economie, de l’Industrie et du Numérique) and MEEM (Ministère de l’Environnement, de l’Energie et de la Mer) for proposing solutions to define new classification for vehicles (passenger cars and light commercial vehicles). | Regarding passenger cars, the latest generation of Diesel engines (Euro 6.2 Diesel engines) should be eligible for the 1st classification (as Euro 6.2 gasoline engines), because their emissions limits are similar to gasoline engines limits. Regarding light commercial vehicles, Groupe PSA supports a progressive approach to avoid too much pressure on small businesses. |
| Other, please specify (CO2 & fuel consumption fleet regulation) | Support with minor exceptions | (1) Name of legislation: Off Cycle Technologies regulations (GB/T XXXX.1-XXXX Eco-driving indicator device, GB/T XXXX.2-XXXX Start-stop system, GB/T XXXX.3-XXXX High efficiency air conditioning, GB/T XXXX.4-XXXX Braking energy recovery) in China which will amend “Phase IV” fleet regulation (GB 27999-2014) from 2016 to 2020 (2) Geographies of legislation: China (3) Type of engagement: Groupe PSA with its joint venture DPCA with Dongfeng engaged discussions, meetings, influence strategies activities towards MIIT (Ministry of Industry and Information Technology) and CATARC for proposing solutions to define future regulations concerning Off Cycle Technology. Groupe PSA is the pilot for the start-stop system regulation drafting, whereas DPCA is the pilot for eco-driving indicator device regulation drafting. --- Note: « XXX » refers to an unknown number of regulation given the related text is not officially published yet. | The proposed regulation provides flexibilities and incentives towards introduction of advanced fuel-saving technologies. Groupe PSA promotes flexibilities and incentives for advanced technologies like in other markets (Europe), especially those that provide fuel-savings in real-life conditions. Indeed, plenty of solutions are not well taken into account in the classical measurement procedure (type I test). |

## **C12.3b**

### **(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

## **C12.3c**

### **(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

### **Trade association**

ACEA – European Automobile Manufacturers’ Association

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

The main topics are the vehicles’ fuel ­consumption efficiency and carbon emissions reduction of vehicles and processes. ACEA calls as well for greater balance between climate objectives and global competitiveness. For example, in 2016 ACEA worked on changes to introduce in the type ­approval of vehicles modalities in order to switch to measuring in real-­life conditions.

### **How have you, or are you attempting to, influence the position?**

Three specialized Departments (Public Affairs, Sustainability, Industrial Direction) are tasked with representing Groupe PSA in trade associations as ACEA. This way, Groupe PSA is actively participating in working groups to influence common positions.

### **Trade association**

CCFA – Comité des Constructeurs Français d’Automobiles

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

CCFA supports the implementation of CSR policies in the automotive industry, by identifying the CSR best practices at each member company and standardizing them across working group members. Regarding environmental issues, the main topics tackled are regulations on the vehicles’ fuel ­consumption efficiency and carbon emissions reduction of vehicles and processes. For example, the French car manufacturers’ committee (CCFA), with the French government’s automotive industry platform (PFA) renewed the CSR Charter for the automotive sector on 6 October 2016. The purpose of the Charter is to formally set out the industry’s responsibilities and to foster a CSR approach throughout the supply chain so that it effectively boosts performance and competitiveness.

### **How have you, or are you attempting to, influence the position?**

Three specialized Departments (Public Affairs, Sustainability, Industrial Direction) are tasked with representing Groupe PSA in trade associations as CCFA. This way, Groupe PSA is actively participating in working groups to influence common positions on regulations related to fuel ­consumption and CO2 emissions of vehicles. In addition, the Groupe PSA has signed the second joint CSR Charter of the CCFA and PFA in October 2016.

## **C12.3d**

### **(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

Yes

## **C12.3e**

### **(C12.3e) Provide details of the other engagement activities that you undertake.**

Regarding the engagement with universities:

1) Method of engagement: Since 2016, Groupe PSA has a scientific partnership with the Bourgogne ­Franche ­Comté region, the French National Scientific Research Centre (CNRS), the Université de Franche ­Comté, the Université de Technologie de Belfort Montbéliard and the École Nationale Supérieure de Mécanique et Microtechnique de Besançon. In July 2017, the group signed a new partnership with 5 Moroccan universities, 2 American universities in Morocco, 1 Moroccan engineering school and the international university of Rabat.

2) Topic of engagement: this long­term collaboration with regional university research laboratories will explore clean technologies, the autonomous vehicle, vehicle appeal and the plant of the future. The new OpenLab launched with Moroccan universities is focused on “Sustainable Mobility for Africa”.

3) Nature of the engagement: the partnership will take the form of collaborative projects, funding for doctoral students and assistance with creating start­ups. In addition, as part of the agreement, Groupe PSA employees will speak at the partner universities and scientific study will be promoted.

4) Actions advocated: ­ support academic and research projects in order to identify the breakthrough technologies of the vehicle of the future. ­ help to accentuate innovation in the Bourgogne­ Franche­ Comté region and in Morocco, and therefore enhance both region’s economic and social appeal.

Regarding the engagement with stakeholders:

1) Method of engagement: PSA organized several stakeholder dialogues in 2017, that brought together actors from civil society such as NGO representatives, researchers, economists, sociologists, etc.

2) Topic of engagement: the stakeholders dialogue tackled in particular 3 topics: sustainable mobility, economic development of host regions and harnessing talent and paving the way for success

3) Nature of engagement: from the various dialogues about the future mobility, the Groupe PSA is developing a range of connected and mobility services in response to changes in customer behavior and expectations and, through dialogue with civil society, PSA is inventing the transport of the future by incorporating digital into vehicle DNA and installing driver assistance systems to improve safety and traffic flow, with the aim of bringing the autonomous car within reach of as many people as possible.

Regarding the engagement with VEDECOM:

1) Method of engagement: PSA is a member of the VEDECOM (Carbon­-free and Communicating Vehicle and its Mobility) Institute. This energy transition institute (ITE) represents a unique research ecosystem in France made up of nearly 40 members that forms an unprecedented collaboration between companies from the automotive and aeronautic sectors, infrastructure and service operators from the mobility ecosystem, academic and local government research institutions in the Paris region.

2) Topic of engagement: autonomous vehicles and mobility of the future by actively driving innovation, research and training applied to transport and responsible mobility.

3) Nature of engagement: in the VEDECOM Institute, Groupe PSA works with aeronautic and IT companies on: ­ future hybrid and electric engines (optimisation of the “powertrain”, engine + gearbox + steering) and developments around fuel hydrogen (in particular as a complement to battery­ operated electric engines whose autonomy will increase); ­ the autonomous vehicle connected to its environment; ­ inter modal transport, infrastructure, Smart Grids. For example, in developing autonomous vehicles, VEDECOM manufacturers and equipment suppliers have teamed up to reduce the duration of processes (authorisations to conduct road experiments were granted in 5 months instead of 12), their complexity and their cost (a single application was filed to register the patents rather than one application for each patent).

4) Actions advocated: support of research covering engines and connectivity of post 2020 vehicle to promote individual, low­-carbon and sustainable mobility.

## **C12.3f**

### **(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

All CSR issues are mapped and validated by the Executive Committee. The Executive Committee allocates resources according to the weight of each issue in the materiality matrix (which is public). CO2 emissions, i.e. climate change, rank first in the strategic issues. Influence strategies are conducted by the Public Affairs Department. The Public Affairs Department manages relations with governments, ministries, parliaments, public agencies and enterprises, local authorities, European Union institutions, foreign governments and, by extension, the business and professional communities and non­governmental organizations. This Department also represents the Group’s positions on climate change related issues.

The Public Affairs Department is under the responsibility of the Corporate Secretary, who is member of the Executive Committee and reports directly on these issues to the Chairman of the Managing Board. Finally, the Public Affairs Department may be audited by the Group Audit and Risk Management Department, which acts completely independently. As mentioned earlier, this Risk Management Department is also in charge of climate change risks assessment.

In Latin America, China and Russia, dedicated external relations officers report directly to the Regional Chief Executive, who is a member of the Managing Board or reports to it.

Besides, for any regions where Groupe PSA operates, consistency on climate change is also ensured at the Managing Board level, since Olivier Bourges, who is a member of the Executive Committee, holds direct and specific responsibility on climate change related issues. Olivier Bourges is Executive Vice President, Programs & Strategy.

## **C12.4**

### **(C12.4) Have you published information about your organization’s response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

### **Publication**

In mainstream reports

### **Status**

Complete

### **Attach the document**

[2017\_CSR\_Report\_final\_English\_Version.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/MAyfbqiUKEqHvzEURUl6zw/2017CSRReportfinalEnglishVersion.pdf)

### **Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

### **Publication**

In mainstream reports in accordance with TCFD recommendations

### **Status**

Complete

### **Attach the document**

[2017\_CSR\_Report\_final\_English\_Version.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/MAyfbqiUKEqHvzEURUl6zw/2017CSRReportfinalEnglishVersion.pdf)

### **Content elements**

Emissions figures

Emission targets

## **C14. Signoff**

## **C-FI**

### **(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

## **C14.1**

### **(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

|  |  |  |
| --- | --- | --- |
|  | **Job title** | **Corresponding job category** |
| Row 1 | Senior Vice President, Programmes and Strategy | Board/Executive board |