



Stellantis Green Bond Second Opinion

05 January 2023

Executive Summary

Stellantis is a global automotive group resulting from the merger of Fiat Chrysler Automobiles N.V. and Peugeot S.A. In 2021, Stellantis shipped more than 6 million vehicles, generated total revenues of EUR 152 billion, and employed a workforce of more than 280,000 employees.

Under its Green Bond Framework, Stellantis seeks to finance or refinance investments related to zero emission vehicle (ZEV) technologies. Stellantis aims to finance capital expenditures related to modifications and industrialisation of ZEV facilities and products, related research and development, and the manufacturing of ZEVs. The Issuer informs that production of ZEVs will rely on existing infrastructure, which could include fossil fuel energy, however no proceeds will be allocated to new fossil fuel-based assets, production lines, or platforms that could be shared between internal combustion engine (ICE)/plug-in hybrid electric vehicle (PHEV)/mild hybrid electric vehicle (MHEV) drivetrains and ZEV drivetrains. Zero emission transport solutions are vital for transitioning to a low-carbon and climate resilient society, although they may entail considerable life cycle emissions, (e.g., raw material sourcing and battery production, which depend on the electricity grid mix and factors such as vehicle size, weight, and power). Moreover, it should also be noted that the largest amount of carbon savings come from switching from individual modes of transport (e.g., private cars) to mass transit.

We rate the framework **CICERO Dark Green** and give it a governance score of **Excellent**. The overall Dark Green shading reflects the eligibility criteria's exclusive focus on zero emission vehicles, given the importance of zero emission transport in a 2050 future, and Stellantis' climate and environmental governance, which includes long-term climate targets and intermediary targets focusing on its production emissions, vehicle carbon intensity, and supply chain emissions.

Strengths

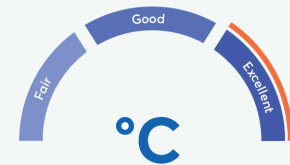
Stellantis has committed to clear climate targets, aiming to transition to zero emission vehicles by 2030. Stellantis' electrification roadmap has clear and ambitious targets and aims for 100% of sales (passenger cars) in the European Union and 50% of sales (passenger cars and light duty trucks) in the United States to be ZEVs by 2030. Further, the Issuer intends to fully account for and report on emissions stemming from the end-use of its vehicles, as well as other relevant scope 3 emissions by next year. It will employ life cycle assessments (LCA) to estimate the carbon footprint stemming from the end-use of its vehicles on a vehicle model basis, where all materials and components will be included. Such efforts will support transparent reporting on Stellantis' climate target commitments.

SHADES OF GREEN



°CICERO
Dark Green

GOVERNANCE ASSESSMENT



GREEN BOND PRINCIPLES

Based on this review, this framework is found to be aligned with the principles.



Stellantis is actively engaging with its suppliers on upstream emissions by evaluating the CO₂ performance of its key suppliers. The CO₂ performance metric has been introduced as a factor in sourcing decisions for key raw materials and components representing more than 80% of the CO₂ performance of a new vehicle. Stellantis is working with a leading provider of sustainability ratings for supply chains to implement such efforts. Stellantis informs that 55% of its key suppliers have committed to CO₂ emission reduction targets that comply with the Paris Agreement. CICERO Shades of Green encourages the Issuer to introduce such promising sourcing practices to its global operations.

Pitfalls

Though Stellantis states such cases are 'very limited', proceeds can finance outputs not specific to battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV), which could be deployed in PHEVs and ICE vehicles. This risk arises due to the potential dual usage of certain components that are common to several types of vehicles and which, according to Stellantis, is an intrinsic characteristic of the automotive industry's engineering processes. While such risks should be considered in light of Stellantis' electrification roadmap, the framework would be strengthened if Stellantis expressly considered them in the selection process and provided transparency on these where they arise.

Electric vehicles entail significant embodied emissions, mainly from sourcing raw materials and energy use in battery production. Investments in battery production or related investments in battery technology are not part of the framework. However, battery production is highly energy intensive and should be considered part of the BEV production value chain. According to recent studies, the carbon footprint of the production of batteries ranges from 61 to 106 kgCO₂e/kWh,¹ where the difference depends mainly on the electricity mix for cell production. From an LCA perspective, battery production accounts for roughly 25% of a passenger car's total carbon footprint in Europe over its lifetime² and raw materials for battery production therefore constitute a considerable part of the vehicle's total emissions. Mining of lithium, cobalt and rare earth metals can have substantial adverse environmental (including significant water use) and social impacts. To minimise such risks, Stellantis has published a list of suppliers that include the country of origin and mining site for key raw materials,³ and mines based in less well-regulated jurisdictions.

¹ [IVL - Lithium-Ion Vehicle Battery Production, 2019](#)

² [Transport & Environment – analysis of electric car lifecycle CO₂ emissions](#)

³ [Stellantis – list of refiners in our direct material supply chain for high-voltage batteries](#)



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1 Stellantis environmental management and green bond framework

Company description

Stellantis N.V (“**Stellantis**” or the “**Company/Issuer**”) is a global automotive group resulting from the merger of Fiat Chrysler Automobiles N.V. (“**FCA**”) and Peugeot S.A. (“**PSA**”), which was completed in 2021. The Company is headquartered in Amsterdam, Netherlands, and is publicly traded at three exchanges; Milan, Paris, and New York. Stellantis’ brand portfolio includes Abarth, Alfa Romeo, Chrysler, Citroën, Dodge, DS Automobiles, Fiat, Fiat Professional, Jeep, Lancia, Maserati, Opel, Peugeot, Ram and Vauxhall. Stellantis offers financing, leasing, and rental services through subsidiaries arranged by third party financial institutions. Stellantis operates in the components and production systems sectors through its subsidiaries Teksid and Comau.

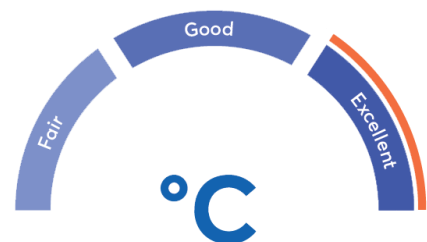
In 2021, Stellantis shipped more than 6 million vehicles, generated total revenues of EUR 152 billion, and employed a workforce of more than 280,000 employees.

Governance assessment

Stellantis has established excellent management and governance structures, including implementing various policies and initiatives to support its overall sustainability approach and targets. Stellantis has defined clear climate targets, where it aims to be carbon net zero by 2038, with a single digit percentage compensation of remaining GHG emissions. Incentive plans and financial bonus schemes for all eligible employees are anchored to dedicated CO₂ emission targets, further supporting the implementation of climate targets. Stellantis reports on sustainability-related issues in its annual CSR report, including ongoing initiatives and its future vision.

The Issuer is developing its data collection and methodologies to accurately report scope 3 emissions, which it intends to disclose by 2023. The Issuer reports on climate risks referring to the TCFD, where key risk mitigation initiatives and opportunities are transparently disclosed.

Stellantis has established a green bond committee to select and monitor the eligible assets under the framework, where environmental competence is represented through the CSR unit. Decisions are made by voting, excluding veto power. The framework and selection process is well-structured and is found to be in alignment with the Green Bond Principles, where all key considerations are included.



The overall assessment of Stellantis governance structure and processes gives it a rating of **Excellent**.



Sector risk exposure

Physical climate risks. Science shows that extreme weather events are becoming more frequent and intense, that incremental climatic changes are highly likely to happen, and that their impacts are expected to grow more severe over the coming years and decades. The impacts of physical risks are uncertain in probability, magnitude, and timing. Stellantis informs that flood events are among the most relevant natural hazards that could affect its sites. Furthermore, water shortages represent a direct risk for Stellantis since its manufacturing sites use water for production processes. In 2021, 31% of the Issuer's production volume came from plants in a high water-stressed area. Stellantis' global supply chain will also be at increased risk from extreme weather events, where general disruption to raw materials delivery and the technologies necessary to manufacture zero emission vehicles are of concern.

Transition risks. Due to the profound changes needed to limit global warming to 2°C, transition risk affects all sectors. The number, scope, and ambition of regulatory requirements regarding greenhouse gas emissions are expected to increase significantly in the future for the automotive sector, especially concerning vehicle fuel efficiency regulations and emissions standards, as well as regulations that apply to the Issuer's production facilities of its suppliers. A failure to comply may lead to fines, vehicle recalls, and the suspension of sales and may adversely affect the Issuer's reputation. Furthermore, the market size and demand for critical minerals and rare earth metals are projected to grow almost sevenfold between 2020 and 2030. This could pressure an already tightly pressed supply chain of raw materials, consequently reducing available supply and increasing prices. In addition, an overall gradual decline in government subsidies for EVs is expected as the technology advances, which may dampen demand for BEVs.

Environmental risks. Stellantis has a large and complex global supply chain with far-reaching impacts. Local environmental impacts such as air and noise pollution, wastewater discharge, ground pollution and other related impacts may lead to fines and hurt the Issuer's reputation. While mining is crucial to facilitating the large-scale implementation of new BEVs and other zero emission technologies, it involves key risks to the local environment. Such risks include air pollution and wastewater polluting local lakes, streams, and rivers, and all these factors can adversely affect local biodiversity.

Social risks. Electric vehicles rely to a large extent on the sourcing of scarce resources, which brings social risk, especially in less well-regulated jurisdictions. Mining activities can pose risks relating to local opposition. A global presence and deep supply chain can also lead to human rights and labour risks.

Environmental strategies and policies

In 2021,⁴ Stellantis reported scope 1 and scope 2 emissions. Scope 1 emissions amounted to 1,641,028 tons,⁵ which equals 42% of total accounted emissions of carbon dioxide equivalents (CO₂eq) while scope 2 emissions amounted to 2,233,459 tons of CO₂eq, or 58% of total accounted emissions of CO₂eq. The Issuer does not fully account for indirect scope 3 emissions, but indicates that overall, emissions stemming from their indirect up and downstream activities, account for roughly 99% of the Company's total emissions. For scope 3, Stellantis works closely with its suppliers and partners to reduce overall indirect emissions from up and downstream activities. For instance, one

⁴ The company informs that 2021 emissions were lower than usual due to the COVID-19 pandemic and notes that this result is atypical. Historical data for absolute emissions are also challenging to reconcile, as the merger between FA and PSA was completed in 2021

⁵ Stellantis informs that due to the nature of its global business, scope 1 emissions exclude emissions generated from the flow of logistics and other relevant logistics emissions. Such emissions are included under scope 3.



of the Issuers' initiatives in this regard is to utilise a CO₂ performance metric for its top 200 suppliers to monitor and track the progress of its indirect emission sources. In the future, Stellantis plans to report on scope 3 emissions and its geographical carbon footprint as part of its FY2022 CSR report in 2023.

In 2021, several plants sourced 100% renewable energy, which according to Stellantis led to emission avoidance of 109,099 tons of CO₂e. Emission offset mechanisms have been utilised, where such certificates have been certified by a third party. 61% of all plants have been qualified as zero waste to landfill facilities, and 100% of metal waste is recycled.

Stellantis has established an ESG committee that oversees the monitoring, evaluation and reporting on sustainable policies and practices, management standards, strategy, performance, and governance globally of the company and its subsidiaries. The committee advises the board of directors and reports directly to the company management. Furthermore, incentive plans and financial bonus schemes for all eligible employees are anchored to dedicated CO₂ emission targets, where such targets vary based on role and function of the employee.

Sustainability strategy and climate targets

In 2022, Stellantis unveiled its new strategic plan,⁶ which looks forward to 2030. The plan includes commitments to GHG reduction emissions targets. The 1.5C scenario has been taken as reference for Stellantis' targets. The targets include:

- 2030 - intermediate target aiming to decrease overall emissions by 50%, compared to 2021 levels by:
 - A combined reduction of absolute scope 1 and 2 tCO₂eq emissions by 75%, focusing on:
 - Reducing GHG emissions from industrial sites and real estate by 75% (scope 1)
 - Using 100% decarbonised electricity, including the use of emission offset mechanisms (scope 2)
 - A 50% reduction in intensity emissions for scope 3 measured by tCO₂eq/vh, focusing on:
 - BEV sales of 100% of total sales in Europe, and 50% in the US.
 - Actively engage with suppliers to reduce carbon footprint of purchased parts in order to reduce the overall carbon footprint of such parts by 40% for BEVs
 - Improving BEV efficiencies, including developing standardised and modular BEV platforms, which can be rolled out on a larger scale compared to vehicles powered by conventional drivetrains.
 - Improving fuel consumption for remaining internal combustion engine (ICE) vehicles
- 2038 - Carbon net zero, with a single digit percentage compensation of remaining GHG emissions.

The 2030 strategy has established targets for BEV sales as a percentage of total sales: by 2030, 100% of passenger cars sold in the European Union and 50% of passenger cars and light duty trucks sold in North America will be fully electric. The corresponding targets for 2038 are 100%. Stellantis has also determined intermediate sales targets for BEV unit sales, where it aims to sell a total of 1 million BEVs in 2024 by offering 45 different BEV models, 3 million total BEV sales by 2027 by offering 70+ different BEV models, and finally selling a total of 5 million BEVs in 2030 by offering 75 BEV models. In 2021, Stellantis sold roughly 200,000 BEVs, which accounted for roughly 3.3% of total sales.

Developing a modular BEV platform⁷ is an important part of Stellantis' 2030 strategy. Stellantis aims to develop four such modular platforms, where it informs that the three largest platforms could potentially still be shared and used for some ICE and mild hybrid car (MHEV) drivetrains. In this respect, Stellantis confirms that these three platforms that can be shared between conventional ICE/PHEV drivetrains will not be eligible for funding under

⁶ [Stellantis – Dare Forward 2030 Strategic plan](#)

⁷ [Stellantis – Accelerating the Drive to Electrification](#)



this framework. For its plants and industrial sites, Stellantis informs that it may add renewable energy capacity such as roof-top solar and wind power to further reduce its carbon footprint.

PSA's initial climate targets have been assessed by the Science Based Targets initiative (SBTi). However, due to new methodology developments for assessing the use phase of scope 3 in the automotive industry, SBTi has paused target validations and target updates.⁸ Stellantis may continue its work with SBTi going forward when SBTi target setting and validation for the transport sector resumes.

Climate risk

The Issuer conducts annual risk assessment and reports on key environmental and climate related risks, using the Task force on Climate related Financial Disclosures (TCFD) guidelines as a reference. In 2021, several risks were identified, including transitional and physical risks. More stringent CO₂ emission regulations for car manufacturers, an insufficient supply of critical materials to produce BEV vehicles, and increased frequency of extreme weather events such as floods as well as water shortages have been highlighted as key risk factors. Such key risks are presented to Stellantis' Audit Committee and its Board of Directors. Stellantis utilises scenario analysis to explore climate-related risks facing its business, relying on external scenarios developed by climate specialists and its business partners to benchmark and assess such risks. Despite considering all the above, Stellantis informs that it has not experienced any climate related operational outages or other related losses to date.

Supply chain

Approximately 85% of the Issuer's vehicle production costs are the value of purchased parts. Stellantis informs that up to 90% of emissions from its supply chain come from 25 different commodities, using a 'cradle-to-grave' life cycle assessment (LCA) approach. Key commodities include flat steel, aluminium, and various interior components such as seats, instrument panels, and glass.

To manage general climate and environmental risks related to its value chain, Stellantis uses various approaches to ensure a proper selection of suppliers. Further, Stellantis has started to assess its suppliers' 'CO₂ performance', where this performance metric will be used as a critical decision-making factor for sourcing raw materials and components. Stellantis relies on an external database provided by the Carbon Disclosure Project (CDP)⁹ to appraise such performance metrics. Further, Stellantis informs that it aims to assess 80%¹⁰ of its sub-suppliers by the CO₂ performance metric and is confident that its sub-suppliers will gradually meet the Paris-aligned targets to which the CO₂ performance metric is derived.

For sourcing of essential input factors for high-voltage batteries, such as lithium, cobalt, and nickel, Stellantis has published a list of suppliers that includes the country of origin and mining site for each type of input factor.¹¹ The Issuer informs that it is currently working in partnership with a sustainability ratings provider (EcoVadis) for its supply chain, as well as a global audit company (RCS Global) specialised in the assessment of supply chain of high-voltage batteries to ensure that environmental and human rights considerations are taken into account when assessing suppliers, with audits taking place across the value chain. Moreover, the Issuer aims to supplement its list of raw materials suppliers with impact studies covering impacts on the local population and land.

Reporting, policies, and corporate responsibility

Stellantis provides an annual Corporate Social Responsibility (CSR) report.¹² The report is subject to independent audits. Stellantis is a signatory to the UN Global Compact (UGC) and has incorporated its CSR reporting against

⁸ [SBTi - The SBTi has paused automaker target validations and target updates](#)

⁹ [CDP – About Us](#)

¹⁰ Currently, 55% of Stellantis' suppliers are deemed to be aligned with the Paris Agreement.

¹¹ [Stellantis – list of refiners in our direct material supply chain for high-voltage batteries](#)

¹² [Stellantis – CSR Disclosures](#)



the ten UGC. Stellantis refers to the OECD guiding principles and the International Labour Organization (ILO) rules for human rights, child labour and forced labour.

Stellantis has established various policies meant to support implementing its sustainability initiatives, including an environmental policy, anti-corruption policy and public code of conduct¹³ which outlines the company's values and principles.

Green bond framework

Based on this review, this framework is found to be in alignment with the Green Bond Principles. For details on the Issuer's framework, please refer to the Green Bond Framework dated December 2022.

Use of proceeds

The proceeds from issuing green bonds through this Framework can be used to finance projects that meet the criteria determined for the clean vehicles project category.¹⁴

Selection

Stellantis has established a Green Bond Committee (GBC) to evaluate and select projects identified to be in line with the criteria set forth by the Framework. The GBC comprises the relevant finance, strategy and sustainability expertise, including but not limited to the Group Treasurer and the Head of CSR. A minimum of one representative from finance and CSR will constitute a quorum, where decisions are made in consensus by voting and without veto power. The Issuer informs that the CSR representative could exercise a casting vote in the event of deadlock.

The GBC is set to meet at least once a year and will review proposed allocations and ensure that allocations align with the specified project category eligibility criteria. Projects found to no longer meet the eligibility criteria will be replaced by the GBC.

The GBC is responsible for:

- Validating and keeping the Green Bond Framework updated;
- Selecting the projects that are eligible to green bond financing and monitor their alignment to the eligibility criteria of the Green Bond Framework;
- Manage tracking and reporting on allocation and;
- Coordinate the publication of the impact reporting.

Management of proceeds

The Issuer will manage the allocations of an amount equivalent to the net proceeds of any green bond issued under the framework to the eligible project category. The Issuer will establish a register of eligible projects and track allocations matched to any green bond proceeds and ensure on a best effort basis that the register exceeds, or at least is equal to, the net amount of green bonds outstanding. The Issuer's finance department will manage these processes.

In the case of divestment or if an eligible project no longer meets the determined eligibility criteria, the proceeds will be reallocated to other eligible projects. On a best effort basis, the Issuer will seek to substitute any projects that the GBC deems no longer meet the eligibility criteria as soon as reasonably practicable once an appropriate substitution option has been identified.

¹³ [Stellantis - Code of Conduct](#)

¹⁴ Please refer to table 2 in section 2 for further details



Unallocated proceeds, which are pending the full allocation of an amount equivalent to the net proceeds of the green bond to the eligible projects, will be invested temporarily in accordance with the relevant internal treasury policies in cash, cash equivalents or similar short-term liquid instruments.

Reporting

Once any green bond has been issued, the Issuer will provide a Green Bond Investor Report (GBIR) on an annual basis, within one year of issuance, and at least until full allocation of the net proceeds, and thereafter in case of any material change to the allocation. The GBIR intends to include an allocation report, and an impact report of eligible financed projects under the framework.

Allocation Reporting

The allocation report will, to the extent feasible, include the following components:

- Aggregated amount of the net proceeds allocated to eligible green projects
- A description of the portfolio of eligible green projects;
- The outstanding amount of green bonds;
- Information on the split between new financing and re-financing;
- Information about how unallocated proceeds, if any, have been held in line with the internal treasury policies.

Impact Reporting

The Issuer will report on the environmental impact of the eligible projects financed under the framework when feasible and subject to data availability on an aggregated portfolio basis. The allocation reporting and impact reporting will be available on Stellantis' corporate website.

Category	Examples of impact indicators
Green vehicles	<ul style="list-style-type: none">▪ Estimate of GHG emissions avoided per BEV / FCEV, by comparison with equivalent ICE vehicles

Table 1. Example impact indicators

The Issuer informs that the impact indicator for emissions avoided will be based on the LCA and the carbon footprint methodology applied in its CSR report, where it takes a vehicle model approach, including all its materials and components. According to the issuer, such methodology and assumptions will be presented in the GBIR.

Post-Issuance Verification

A qualified provider of third-party assurance or attestation services appointed by Stellantis will confirm a 'limited assurance' standard. The third-party service will attest that an amount equal to the net proceeds of the green bonds has been allocated in all material respects in compliance with the eligibility criteria set forth by the framework. Where feasible, the third party will confirm that the impact metric(s) disclosed in the impact report are in compliance with the reporting commitments outlined in this framework. The verification certificate and a dedicated report will be made publicly available on the Issuer's website.



2 Assessment of Stellantis green bond framework

The eligible projects under Stellantis' Green Bond Framework are shaded based on their environmental benefits and risks, based on the “Shades of Green” methodology.

Shading of eligible projects under the Stellantis green bond framework

- The Issuer will allocate to projects where the investment or expenditure has taken place within three years before the date of any issuance. On a best efforts basis, the Issuer aims to allocate an amount equal to the net proceeds raised within two years from the issuance of each green bond.
- The Issuer informs that the focus for the use of proceeds is for Zero Emission Vehicles (ZEV). Investments and expenditures eligible include capital expenditures and research & development costs.
- The Issuer confirms that it will exclude activities related to fossil fuel vehicles. This exclusion must be considered in light of Stellantis' statement that in cases that Stellantis states as “very limited”, outputs from the contemplated investments and expenditures could be deployed in PHEVs and ICE vehicles due to the potential dual usage of specific components that, according to Stellantis, are common to several types of vehicles.

Category	Eligible project types	Example of projects	Green Shading and considerations
Clean Vehicles	Investments and expenditures related to the design, development and manufacturing of Zero Emission Vehicles that is Battery Electric Vehicles (BEV) and Fuel Cell Electric Vehicles (FCEV). While there are components specific to BEVs and FCEVs, certain of the outputs of the contemplated investments and	<ul style="list-style-type: none"> • Research & Development dedicated to BEVs, (including powertrains) and technology which include testing, development of facilities, tooling and manufacturing of BEVs • Manufacturing facilities, including new facilities and upgrading or modifying of current manufacturing facilities to produce Zero Emission Vehicles 	<p>Medium to Dark Green</p> <ul style="list-style-type: none"> ✓ Electric transport solutions are part of the 2050 solution. However, they may still entail considerable lifecycle emissions (e.g., raw material sourcing and battery production, which depend on the electricity mix in the grid and factors such as vehicle size, weight, and power). Moreover, it should also be noted that the largest amount of carbon savings come from switching from individual modes of transport (e.g., private cars) to mass transit. ✓ The Issuer informs that allocations will go to capital expenditures related to modifications and industrialisation of ZEV facilities and products, related research and development, and the manufacturing of ZEVs. Such existing production facilities could involve fossil fuel energy. However, no proceeds will be allocated to new fossil fuel-based assets, production lines, or platforms that could be shared between ICE/PHEV/MHEV drivetrains and ZEV drivetrains.



expenditures could be subsequently deployed in Plug-in Hybrid Electric Vehicles (PHEVs) and Internal Combustion Engines (ICE) vehicles due to the potential dual-usage of certain components that are common to several types of vehicles, which is an intrinsic characteristic of the automotive industry's manufacturing architecture. This is nonetheless mitigated by Stellantis' clear electrification roadmap¹⁵.

The corresponding EU Taxonomy Economic Activities are:

- 3.3 Manufacture of low carbon technologies for transport

- ✓ Upgrading and modifying current manufacturing facilities to enable the production of ZEV is a crucial step in the transition from fossil-fuel-powered vehicles. Moreover, retrofitting such facilities should provide climate benefits compared to constructing new facilities.
- ✓ Though Stellantis states such cases are 'very limited', proceeds can finance outputs not specific to battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV), which could be deployed in PHEVs and ICE vehicles. This risk arises due to the potential dual usage of certain components that are common to several types of vehicles and which, according to Stellantis, is an intrinsic characteristic of the automotive industry's manufacturing architecture. While such risks should be considered in light of Stellantis' electrification roadmap, the framework would be strengthened if Stellantis expressly considered them in the selection process and provided transparency on these where they arise.
- ✓ Re-using materials and remanufacturing parts is essential to reducing process emissions from production lines. It is therefore positive that Stellantis is working to find solutions to optimise the lifespan of batteries, parts, and materials by exploring repair, remanufacture, second-life applications, and recycling opportunities.
- ✓ For allocations to ZEV investments, the Issuer informs that up to a maximum of 15% could be allocated to FCEV projects.
- ✓ Scaling up charging infrastructure to support FCEV deployment remains challenging.¹⁶ The various methods of producing hydrogen are debated, and non-renewable methods are still prevalent, mainly using natural gas as an input factor for production. The climate benefits of grey and blue hydrogen production are challenging to quantify, and green hydrogen production has been identified as the only net-zero compatible method.¹⁷ The Issuer has informed that it is currently assessing all decarbonised energy needs that support its roadmap and is actively monitoring market developments. CICERO Green encourages the Issuer to support green hydrogen initiatives to drive the market in a sustainable direction.

Table 2. Eligible project categories

¹⁵ Stellantis aims for 100% of its passenger car sales in Europe and 50% of its passenger car and light duty truck sales in the United States to be BEVs by the end of this decade.

¹⁶ IEA – Global Electric Vehicle Outlook 2022

¹⁷ [Developments in the global hydrogen market: The spectrum of hydrogen colours. Newborough & Cooley. 2020](#)









3 Terms and methodology

This note provides CICERO Shades of Green’s (CICERO Green) second opinion of the client’s framework dated December 2022. This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client’s policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

‘Shades of Green’ methodology

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
 Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	 Hybrid road vehicles

The “Shades of Green” methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised, including potential macro-level impacts of investment projects.

Sound governance and transparency processes facilitate delivery of the client’s climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client’s governance processes: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



Assessment of alignment with Green Bond Principles

CICERO Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles. We review whether the framework is in line with the four core components of the GBP (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the selection process. CICERO Green assesses whether net proceeds or an equivalent amount are tracked by the Issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Stellantis Green Bond Framework dated December 2022.	Stellantis' Green Bond Framework, including one eligible project category.
2	Stellantis 2021 Corporate Sustainability Responsibility Report, dated April 2022.	Stellantis CSR report, covering its key sustainability focus areas.
3	Stellantis Code of Conduct, dated March 2021.	Code of Conduct, describing standards for doing business.
4	Stellantis Long-Term Strategic Plan, dated March 2022.	Stellantis strategic plan, Dare Forward 2030, outlining its roadmap to meet 2030 sustainability targets.
5	Stellantis list of refiners in direct material supply chain for high-voltage batteries, dated August 2021.	List of suppliers of various input factors for battery manufacturing, including lithium, cobalt, and nickel. Includes both country of origin and company names of the suppliers.
6	Stellantis global responsible purchasing guidelines, dated November 2022.	Purchasing guidelines, describing standards for purchasing goods.



Appendix 2: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognised as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic Issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University, the International Institute for Sustainable Development (IISD) and the School for Environment and Sustainability (SEAS) at the University of Michigan.



- ★ **2020 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2020 Largest External Review Provider In Number Of Deals**, Climate Bonds Initiative Awards
- ★ **2019 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2019 Largest Green Bond SPO Provider**, Climate Bonds Initiative Awards
- ★ **2018 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2018 Largest External Reviewer**, Climate Bonds Initiative Awards
- ★ **2017 Best External Assessment Provider**, Environmental Finance Green Bond Awards
- ★ **2016 Most Second Opinions**, Climate Bonds Initiative Awards