

CLIMATE ANALYTICS AND ALIGNMENT REPORT

ACCELERATING ON THE PATHWAY
TO A NET-ZERO ECONOMY



BNP PARIBAS

The bank
for a changing
world



CEO FOREWORD

Achieving net-zero carbon emissions will only be possible if we address the trillion dollar climate finance challenge. United by this common goal, members of the Net-Zero Banking Alliance are joining forces to reorient financial flows towards a decarbonised economy.

For BNP Paribas, this ambition builds on a long-standing commitment. It is marked by concrete actions including our unconventional hydrocarbons and thermal coal exits, and our contribution to the building of the sustainable finance market for which we received IFR's 'Bank of the Year for Sustainable Finance' 2021 award. Thanks to our pioneering work on the PACTA methodology initiated by the agreement we signed with other European banks in Katowice in 2018, we are also progressively incorporating our contribution to reducing CO₂ emissions as a criterion for piloting our portfolio.

Our aim is to continue to be at the forefront of combatting climate change by moving further and faster to reach the goals set by the Paris Agreement. As the task becomes ever more urgent, we have integrated new targets in our strategic plan for 2025 to finance the energy transition. In the current geopolitical context, it is even more essential that we maintain an ambitious course. Our strategy is threefold: align our portfolio with our net-zero commitment; measure and manage our carbon-related risks; and broaden and deepen client relationships to support them as they make their low-carbon transition.

This approach of partnership with clients is key. Indeed, the uniqueness of what we bring to our clients is our ability to mobilise low-carbon transition expertise in banking and beyond, which we have been building over the last ten years. We have created the Low Carbon Transition Group, made up of 250 professionals, to work hand in hand with our clients and provide investments to ensure they are able to continue on their journey to the net-zero economy. We will dedicate 200 billion euros by 2025 to support their decarbonisation. We are intent on strengthening our climate action and positioning ourselves as the leading European-based banking partner for the net-zero transition.

Upon joining the Net-Zero Banking Alliance, we endorsed the responsibility of setting intermediary targets for our net-zero commitment.

We are pleased to present our first Climate Analytics and Alignment Report focusing on three industries: power generation, oil and gas and automotive. This report is a first step in making new commitments within the Net-Zero Banking Alliance framework. We will however extend this work to help clients across seven other carbon-intensive sectors by 2024. Through this effort, we encourage our clients to define a decarbonisation strategy in line with the expectations of society and scientific recommendations.

Power, oil and gas and automotive are key for the climate, yet only account for 7% of our financing. Our challenge is to facilitate the transition of our clients across all sectors. We are determined to put all our efforts into attaining our net-zero ambition, in partnership with all our stakeholders.

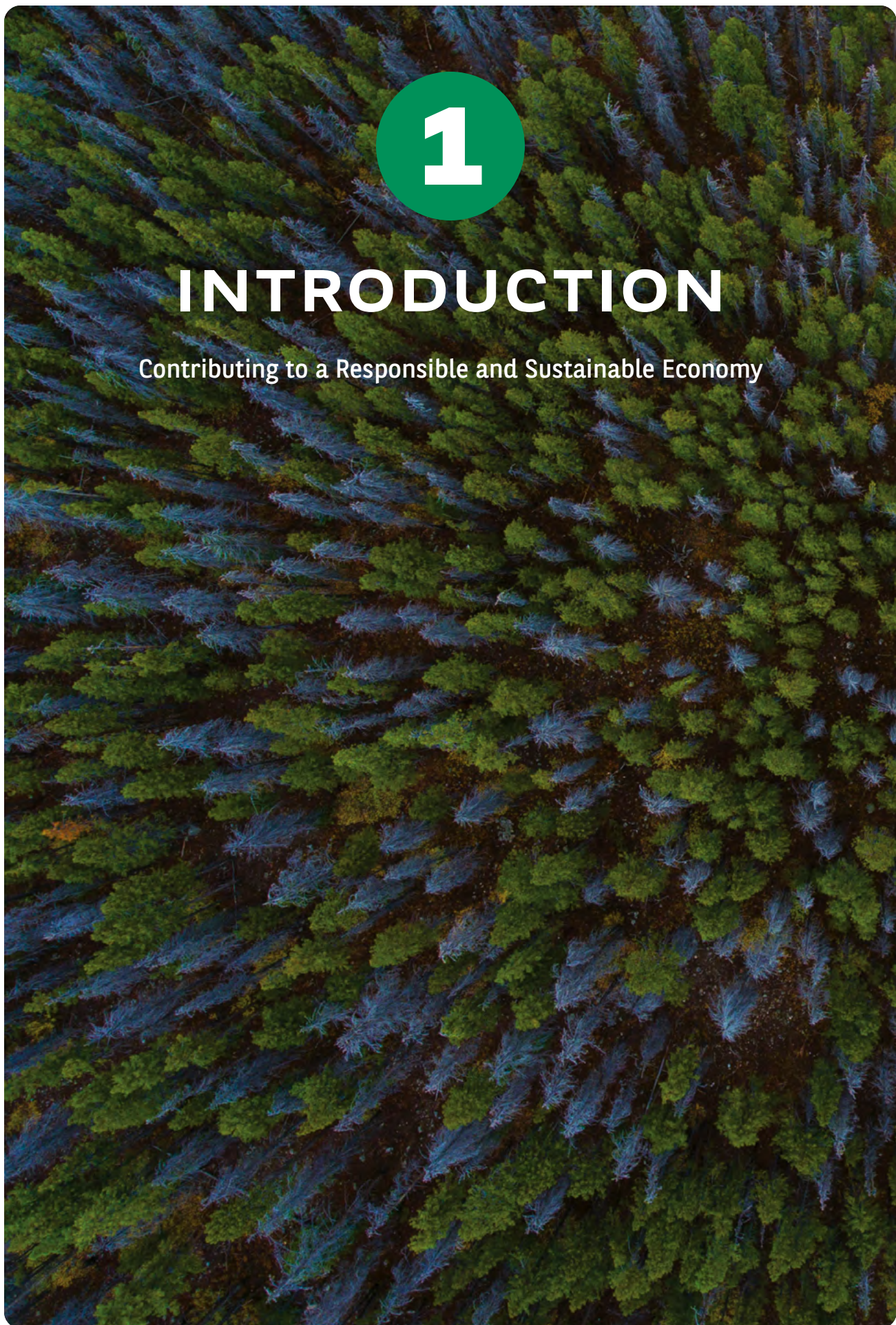
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INTRODUCTION

Contributing to a Responsible and Sustainable Economy



SECTION 1: INTRODUCTION

Contributing to a responsible and sustainable economy is at the heart of BNP Paribas' corporate purpose. We continue to build on the strong foundations we have laid over more than ten years ago. With sustainability a key pillar of our Growth Technology Sustainability (GTS) 2022–2025 plan, we have set the tone to accelerate on our pathway to a net-zero economy.

Since 2011, we have been at the forefront of the fight against climate change, focusing our efforts on turning our climate aspirations into tangible actions by funding a greener and more responsible economy, while supporting our clients as they make their own transition to a net-zero economy.

In late 2015, the Group committed to gradually aligning its loan portfolio with the objectives of the Paris Agreement. We can only reach this goal through strategic client engagement, as our credit portfolio primarily serves the development and operations of our clients. Since then, we have been adapting our way of operating (measurement tools, decision-making processes and IT platforms), and

training our staff to ensure they have the knowledge and expertise to engage with our clients on their Environmental, Social, and Governance (ESG) strategic challenges. In order to redirect financial flows towards low-carbon activities, we have developed partnerships, co-created solutions as part of industrial think tanks, and worked across regions to better adapt our solutions to our clients' climate-related challenges. In 2021, we went one-step further, by joining the Net-Zero Banking Alliance (NZBA), Net-Zero Asset Owner Alliance (NZAOA) and Net-Zero Asset Managers initiative (NZAMi), we took the strategic decision to monitor all our investments and financing activities to finance a net-zero economy by 2050.



LAURENCE PESSEZ-HUBLOT
Global Head of Group Corporate Social Responsibility



Since 2011, BNP Paribas has defined financing the energy transition as its n°1 environmental responsibility priority.

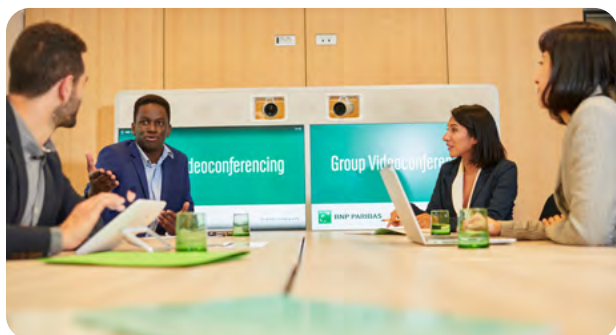
We started by developing robust and transparent financing and investment policies which served as a support to engage with our clients in the energy sector, encourage them to diversify their sources of energy and turn to less carbon emitting ones.

We did not hesitate when needed to take bold decisions and demonstrate that we are walking the talk. This turned into a differentiating factor and one of the reasons why we have become the reference bank for our clients on sustainable products and services. Finally, yet importantly, we have been instrumental in developing methodologies and guidelines with our peers, in order to help the whole banking sector move in the same direction.

Based on our sound credentials, monitoring our financing and investment activities to finance a net-zero economy by 2050 was a logical next step, yet an ambitious one.



Between 2015 and 2020, the Group focused on decreasing its support to the most environmentally damaging fossil fuels and accelerating its financing of low-carbon technologies. Building on our commitment to the targets of the Paris Agreement, BNP Paribas:



Since 2017 stopped providing any new financial services to specialists in unconventional hydrocarbons (shale gas, shale oil, oil from tar sands). These players are not in a position to diversify into less emitting sources of energy. The decision was also a sensible one from a credit risk management perspective. **Between 2016 and 2020, BNP Paribas' credit exposure to specialists in these activities fell from 4 billion euros to zero.**

Since 2017 stopped all new financing of coal fired power plant projects, a policy initiated in 2011. In 2020, the Group requested all its electricity producing and mining clients to ensure a coal exit by 2030 (2040 for countries outside the OECD and the European Union). The Group actively engaged with its clients to support these transition plans. The Group chose to exit its relationships with those companies whose trajectories were not in line with its new policy. As a result, the evolution of BNP Paribas' credit portfolio in the electricity generation sector is already on a trajectory that is aligned with a 1.5° C scenario.

Significantly increased its financing of renewable energy. At the end of 2021, financing for this sector totalled 18.6 billion euros, nearly 2.5 times the amount at the end of 2015, which was 7.2 billion euros. This support is global, as illustrated with the project financing of a 170 MW rooftop solar portfolio for TEES, a joint venture between Chinese renewable energy company Envision Energy and TotalEnergies. Led by BNP Paribas, it is the first international non-recourse green project financing in China's renewable energy sector. **As a result, at the end of 2020, the emission intensity of our power generation financed portfolio had already decreased by 47% from its 2015 reported level of 395 gCO₂/kWh.**

Committed to invest 100 million euros in start-ups providing major innovations to accelerate the clean energy transition. Investments have already been made in 11 start-ups and three funds. Among the start-ups in which BNP Paribas has invested are:

- Sierra Energy, a cleantech focused on the development of FastOx gasification, a technology that turns waste into energy without burning; and
- Metron, a French cleantech company founded in 2013 and an expert in energy efficiency and industrial performance improvement, reducing energy costs and the carbon footprint of companies.

Developed new products and services with the aim of supporting its clients' energy transition:

- In 2021, BNP Paribas was the world's second largest player in the green bond market, according to Dealogic, with 22 billion euros as a joint book runner for its clients.
- The Group is very active in the rapidly expanding market for Sustainability Linked Loans (loans whose interest rate fluctuates in favour of clients when they meet specific environmental or social objectives) and green loans.



Our aim in the energy sector is to encourage a transition that is both fast and grounded in the world evolving realities. Building on our existing policies on coal and unconventional oil and gas, we continue to encourage our clients to switch to energies that are less damaging to the environment.

In 2022, we have therefore made a pioneering commitment to reduce our credit exposure to upstream oil production. We will be cutting our financing of upstream oil by 25% by 2025, in comparison to 2020. This decision will enable us to follow the net-zero scenario established by the International Energy Agency.

We believe that making such a commitment will send a strong signal to companies on the need to evolve their operating and business models. We are also strengthening restriction policies on unconventional energies and on particularly sensitive areas in terms of climate and biodiversity, namely the Arctic and Amazon regions. These restrictions are designed to ensure companies revisit any planned development in these areas as an opportunity for future growth.

While these are ambitious commitments, we are also cognisant of their broader implications. We have chosen to not systematically ban companies developing new exploration based on the condition that their practices are more respectful of the environment than those of decommissioned facilities. Not all scenarios prepared by the Intergovernmental Panel for Climate Change are based on a halt of new oil and gas projects and contrary to the assumptions used in the IEA NZE 2050 scenario, the global demand for oil continues growing. For those clients committed to the net-zero pathway, new projects are designed to maintain capacities, cope with demand increase and avoid risks of oil price increase.

In a context of rising geopolitical uncertainties and increasing energy prices, it is likely short-term actions are required to ensure energy security, especially in Europe. Hence, while political decisions beyond our control could affect our pathway, we believe it becomes even more essential to maintain an ambitious course towards a net-zero economy and we remain committed to deliver our 2025 targets.

Since 2018, BNP Paribas has been instrumental in framing alignment methodologies, practical guidelines and open source tools for the whole banking industry.



In December 2018, BNP Paribas was among the five European banks — the so-called Katowice banks — who pioneered the commitment to develop an open source methodology and tools to align their credit portfolios with the Paris Agreement. The Katowice banks, joined forces with 2° Investing Initiative, to adapt the Paris Agreement Capital Transition Assessment (PACTA) to credit portfolios. The open source methodology was publicly released in September 2021 and has since then been tested by over 3,000 institutions worldwide including 17 major international banks.



In September 2019, when joining the Principle for Responsible Banking (PRB), BNP Paribas simultaneously joined the Collective Commitment on Climate Action (CCCA). This UNEP FI initiative gathered the banks involved to scale up their contribution to and align their lending with the objectives of the Paris Agreement on Climate. CCCA members have defined the principles to be applied in transition strategy and which have been included in the United Nations' Net-Zero Banking Alliance (NZBA) guidelines.



In April 2021, BNP Paribas was a founding signatory of the NZBA with 42 other banks. This alliance is part of an unprecedented movement that now brings together 108 banks. By joining, these banks commit to concrete and precise actions:

- Align the greenhouse gas emissions arising from their credit and proprietary investment activities with the path required to achieve carbon neutrality in 2050 (temperature increase limited to 1.5° C);
- Build on credible transition scenarios published by recognised bodies such as the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA);
- Focus on the most greenhouse gas emitting sectors and playing a key role in the transition to a carbon neutral economy;

- Set intermediate targets, no later than 2030;
- Publish annually their progress and related action plans.

Compared to the 2018 PACTA commitment, signing NZBA brought BNP Paribas' ambition to a higher level as it includes a commitment to cover a broader scope in terms of sector and a more ambitious climate target (1.5°C compared to 2°C). More importantly, being active in the NZBA since its very beginning with the CCCA, the Group has played a role in developing the momentum around alignment to the climate goals. Through active participation in working groups and webinars, BNP Paribas has contributed to raising the priority of the subject in the Banks' agenda. Bringing the banking sector to join climate coalitions is a key factor of success as, in climate matters, having a large number of banking institutions working with the same targets increases the probability of success.



BNP Paribas is also part of the of the **Financial Services Task Force (FSTF)** which is a sub-group of the **Sustainable Markets Initiative (SMI)**. This Group of 12 large international banks has leveraged on existing portfolio alignment methodologies to publish a practitioner's guide. This document has been drafted with a collaborative approach to foster exchange of operational feedback and sector experts' views. The ultimate purpose is to increase the robustness of our net-zero strategies. By contributing to standardizing portfolio alignment with the application of net-zero methodologies, it enhances comparability across banks for the benefit of all stakeholders. It contributes to the collective ambition of ensuring transition efforts converge towards the same actions, thus maximizing the impact on the economy.



Overall, BNP Paribas considers its role is not only to implement its climate alignment strategy in a timely and transparent manner, but also to contribute to sharing its key learnings with a large group of stakeholders in order to make this transition more efficient and more powerful.

This has led BNP Paribas to become a leading pioneer in Sustainable Finance providing innovative solutions to its clients.

We have taken a pragmatic approach to supporting our clients in their transition pathways. As one of the largest global banks across 68 countries and territories, BNP Paribas has used its presence and expertise to focus relentlessly on supporting our clients in their transition, but with differentiated lenses to adapt to regional market needs. We also understand the critical importance of multi-dimensional collaboration, and the bank is an active member of several coalitions and policy initiatives to drive further the transition. All of this leads us to be adaptive, anticipate needs, and constantly strive to accelerate our clients transition towards a net-zero economy.

By aligning our clients' net-zero ambitions with sustainable financing and investment solutions, the bank has demonstrated the role it plays at the centre of the economy in the transition towards a net-zero economy. Our global leadership in this area is also reflected in the capital markets league tables:

World's best bank for Sustainable Finance 2021 award by Euromoney

#1 in green bonds EMEA, #2 worldwide with 22 billion euros^[1]

#1 in Euro denominated sustainable bonds with 29.4 billion euros^[1]

#2 worldwide in ESG-linked loans with 26.8 billion euros^[1]

[1] Dealogic as at 31/12/2021




Through a relentless drive to innovate finance to accelerate sustainable development, BNP Paribas has been at the forefront of supporting its clients globally in their net-zero transformation. BNP Paribas has harnessed its capital markets, structured products and project finance expertise to ensure a material and responsible transition. Finance plays a vital role in accelerating sector transition towards net-zero across the whole economy. This includes both high emitting sectors and leading low-carbon economy industries. BNP Paribas has taken a holistic, client centric approach which centres on pragmatism, innovation, and material impact towards achieving a 1.5-degree world. Across multiple sectors, the bank's teams have supported and accompanied clients' transitions through finance and investment solutions, offering scientific structures embedded within their debt management strategies across bonds, loans, derivatives and project finance.

This support will be reinforced over the coming years through our GTS 2022–2025 plan that includes an objective of 350 billion euros of sustainable bonds and loans by 2025. The Low Carbon Transition Group, created in 2021 for large corporations, is notably a powerful arm to deliver our plan. It has a target to finance by 2025 at least 200 billion euros in support of our clients transition to a low-carbon economy. It will soon be complemented by a similar organisation dedicated to SMEs and mid-cap companies.

Today, the publication of our first Climate Analytics and Alignment Report is a decisive step and a strong signal to all stakeholders of our commitment pathway to a net-zero economy.

In line with our NZBA agreement, this report addresses three of the most highly emitting sectors: power generation, oil and gas (upstream and refining), and automotive. According to the World Resources Institute, the energy sector (power and fossil fuel) represents c. 75% of direct and indirect greenhouse gas emissions^[1]. In comparison, the power, oil and gas and automotive sectors only represented c. 7% of BNP Paribas loan portfolio exposure (committed drawn and undrawn) as of 31/12/2021. Our methodology was developed with the aim of being both transparent and comparable but also referring to the evolution of our clients' business mix in the context of the energy transition. We are committed to evolving this methodology over time as advancements continue in collaboration with the banking sector.

In our methodology, we outline the underlying assumptions and challenges ahead. We recognize that progress in the energy transition may be uneven year to year, but we are committed to near-term action. Our methodology, including the structure (financing and emissions intensity metrics), ambition, and near-term focus of our targets, demonstrates our commitment to leading change with our clients and within our sector. We hope the level of detail in this report will help our readers better understand how we are setting an ambitious, yet achievable, pathway to net-zero.

	Operational KPI			Emission Intensity			
	Metric	2020 Baseline	2025 Target	Metric	2020 Baseline	2025 Target	% Reduction 2020–2025
 Power Generation	Share of renewable energy in our financed portfolio technology mix (%)	57%	>66%	Emission Intensity gCO ₂ /kWh	208	<146	>30%
	Share of coal in our financed portfolio technology mix (%)	10%	<5%				
 Oil and Gas	Credit exposure to Upstream oil and gas production activities (% vs.2020)	-	-12% vs. 2020	Emission Intensity gCO ₂ e/MJ (Upstream oil and gas and Refining)	68	<61	>10%
	Credit exposure to Upstream oil production activities (% vs.2020)	-	-25% vs. 2020				
 Automotive (car manufacturers)	Share of electrified vehicles (BEV+PHEV+FC) ^[2] in our financed portfolio powertrain mix (%)	4%	>25%	Emission Intensity gCO ₂ /km (WLTP)	183	<137	>25%

[1] World Resources Institute: [5 Facts about Country & Sector GHG Emissions \(wri.org\)](https://www.wri.org/publications/2019/05/facts-about-country-and-sector-gHG-emissions/)

[2] BEV: Battery Electric Vehicle; PHEV: Plug-in Hybrid Electric Vehicle; FC: Fuel Cell Vehicle



2

METHODOLOGY

Our Approach To Align With Our Net-Zero Commitment

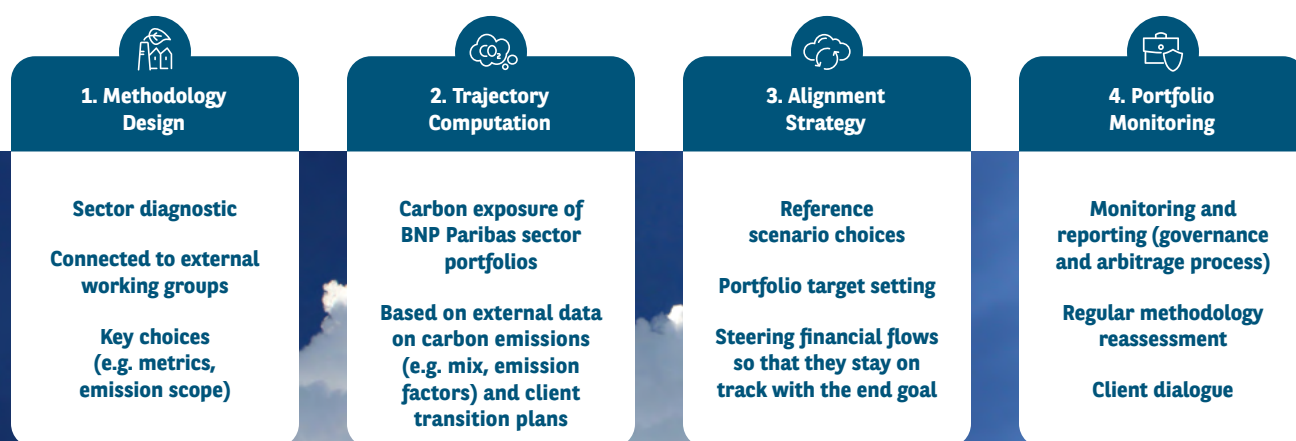
1. A STRUCTURED AND TRANSVERSAL APPROACH WITH ADAPTATION TO THE SPECIFICS OF EACH SECTOR

	NZBA Guidelines	BNP Paribas Commitment to Net-Zero
Target Scope	<ul style="list-style-type: none"> Targets shall cover lending activities Signatories should prioritise sectors based on GHG emissions, GHG intensities and/or financial exposure in their portfolio in their first round of target setting 	<ul style="list-style-type: none"> 2025 targets cover financings directly provided and committed and will expand to capital market activities in future reports Three sectors reviewed, prioritising the most GHG emitting sectors in the first round of target setting
Metrics	Targets shall be set based on: <ul style="list-style-type: none"> Absolute emissions; and/or Sector-specific emissions intensity 	<ul style="list-style-type: none"> Intensity based targets (e.g. gCO₂/metric) set for all 3 sectors Operational KPIs based on technology mix or financing exposure
Baseline	Base year for targets shall be no more than 2 full reporting years prior to the year when the target is set	2020 baseline set, with an annual alignment report of our portfolio to be disclosed
Benchmark Scenario	The scenarios used by banks shall come from credible and well-recognised sources and banks should provide rationale for the scenario(s) chosen	IEA net-zero scenarios
Horizon	Intermediate targets shall include a target for 2030 or sooner	2025 targets set for all three sectors based on our portfolio projections for 2025 and trajectory to a net-zero economy by 2050
Emission Data	To calculate emission profiles, Banks to explain allocation approach used, data sources credibility and limitations	Transparent and detailed methodology provided based on the expertise of our Climate Analytics & Alignment team



To ensure alignment with our net-zero commitment by 2050 and leveraging on the PACTA initiative, we have built an approach based on a 4-step process to tailor the methodology for each sector, measure trajectory, align strategy and monitor our portfolio. We built our approach on five key interconnecting principles:

BNP PARIBAS 4 STEP-APPROACH AT SECTOR LEVEL

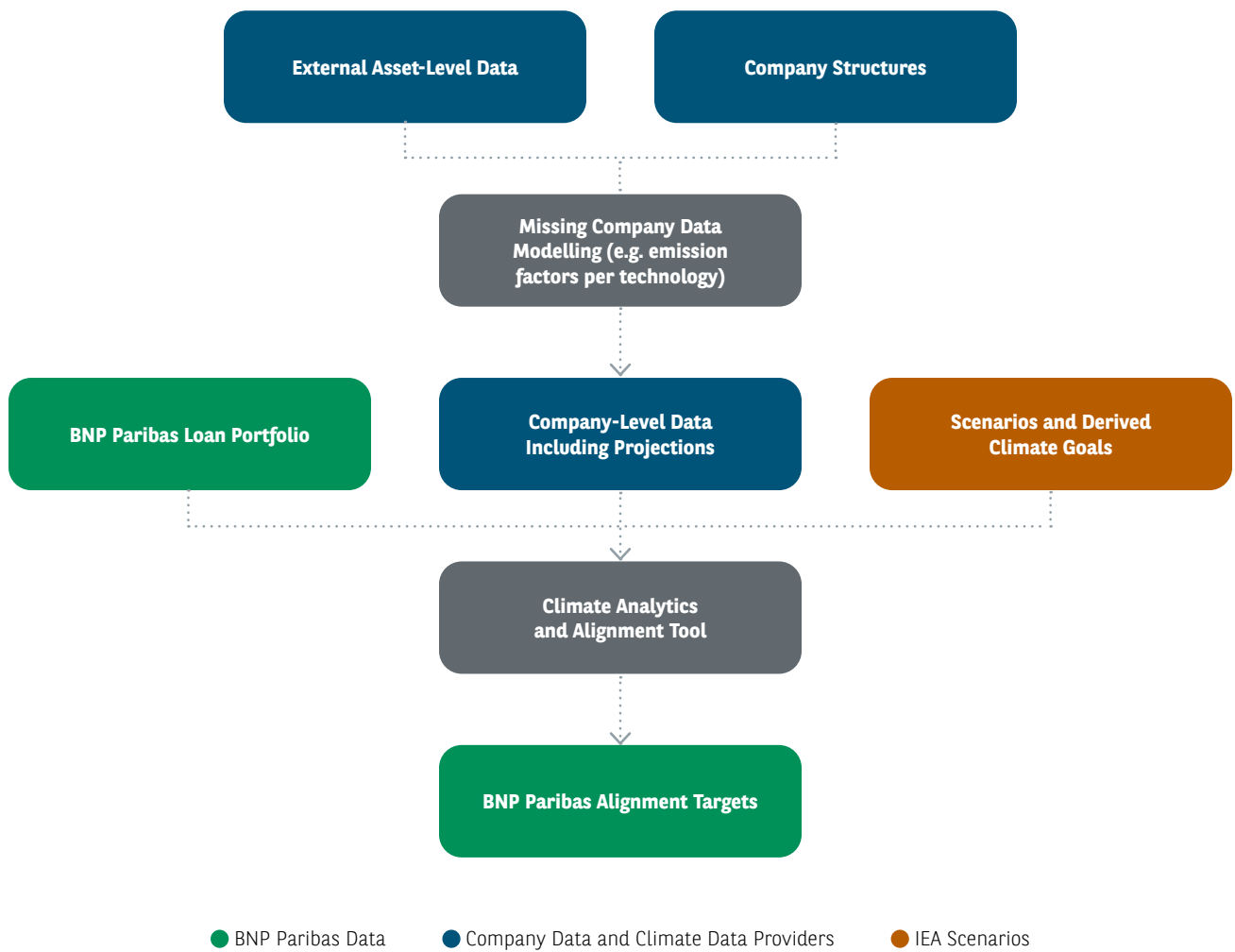


- **Reference scenario:** our net-zero targets are benchmarked against the IEA net-zero scenarios. The IEA scenarios are updated regularly and provide amongst the best level of granularity available to date.
- **Sector-based:** each sector has its own transition pathway or technology roadmap for contributing to a low-carbon future. Our approach started with assessing the considered sectors' key business activity and emissions drivers, existing transition pathways, industry dynamics and regulatory constraints. In line with NZBA guidelines, we concentrated on the activities that are most climate relevant within each sector.
- **Financial product scope:** includes committed credit lines directly provided by BNP Paribas, i.e. overdraft credits and financial loans (drawn and undrawn) and contingent liabilities, excluding securities but including securitised assets. At this stage, we have not included

any impact from finance facilitated by BNP Paribas, i.e., our Debt and Equity Capital Market activities, as the methodology to include such activities remains to be defined. We expect these activities to be part of our future publications.

- **Asset-level data:** we have opted for asset-level data as this provides the most precise and consistent information. This data is aggregated at the legal entity level and matched with our financing exposure.
- **Metric:** for each sector, we defined the output-related metrics that are most relevant, impactful, reliable and useful for decision making to foster progress towards net-zero emissions overtime. Metrics selected for each sector include an intensity based metric (e.g. $\text{gCO}_2\text{e} /$ physical metric), as per NZBA guidelines, supported by a sector metric anchored in the economy to provide a detailed view on the progress towards the net-zero economy roadmap.

MAIN BUILDING BLOCKS OF OUR ALIGNMENT MODEL



2. DEFINING SECTOR ACTIVITIES IN SCOPE

In line with the Paris Agreement and our NZBA commitment, we have chosen to conduct deep-dives on the power generation, oil and gas and automotive industries, which (i) are amongst the highest greenhouse gas emitting sectors, and (ii) play a key role in the transition to a carbon neutral economy. In addition, many companies in these sectors have valid transition plans/roadmaps, and the required data is available to allow for a methodological evaluation of these sectors' emissions and to set targets.

According to the World Resources Institute, the energy sector (power and fossil fuels) represents c. 75% of direct and indirect greenhouse gas emissions. In comparison, the power, oil and gas and automotive sectors only represented c. 7% of BNP Paribas loan portfolio exposure (drawn and undrawn) as of 31/12/2021. This limited exposure to the most emitting sectors is a direct result of BNP Paribas longstanding commitment to sustainable finance and best in class sector policies.

In line with the disclosure timeline set by the NZBA guidelines, targets for the remaining carbon-intensive sectors will be communicated in future reports.

3. HORIZON AND BENCHMARK FOR TARGET SETTING

Two fundamental reasons have driven our choice to select 2025 as the reference year for our targets.

- Firstly, we strongly believe that actions and commitment to a net-zero economy by 2050 require near-term targets, so taking action can no longer be delayed.
- Secondly, net-zero is already at the heart of BNP Paribas' strategy and is deeply rooted in our 2022–2025 strategic plan. Today, we are already on the pathway set by the Paris Agreement objectives and demonstrate a secure progressive effort towards 2050. We are convinced that this transition will be completed by and with our clients.

The current evolution in global markets has increased still further the focus on the future of the energy sector. Energy security and net-zero are not mutually exclusive. Rather we believe the journey towards a net-zero economy, with a consequent move away from fossil fuels and towards alternative sources of energy, will support the aim of energy resilience in Europe and beyond.

We have set our targets relying on the International Energy Agency's (IEA) resources (WEO reports, EV report, ETP report, net-zero report),^[1] and sector-wide initiatives (PACTA, NZBA). The bank is committed to aligning its financings with pathways to a net-zero economy by mid-century, but the achievement of a net-zero economy depends not only on the banks but also on all other economic actors, companies and states acting as regulators. We will continue to follow NZBA guidance as we explore future targets.

Our targets are shaped by our existing initiatives to redirect financial flows towards low-carbon activities. Building on our progress to date, our new targets are informed by client commitments and our strategy to engage with clients to support the transition to a low-carbon future. These targets are then compared against IEA benchmarks to ensure our sector-specific strategies are aligned with pathways to a net-zero economy by 2050, although we believe that the road to 2030 will not be linear.

[1] World Energy Outlook reports: [World Energy Outlook 2021 – Analysis – IEA](#); Electric Vehicle report: [Global EV Outlook 2021 – Analysis – IEA](#); Energy Technology Perspectives report: [Energy Technology Perspectives 2020 – Analysis – IEA](#); Net Zero by 2050 roadmap [Net Zero by 2050 – Analysis – IEA](#)

4. AN EVOLVING PROCESS

Our approach uses the best-available data to analyse our chosen sectors, but is subject to modifications as data, standards, external factors and methodologies around these complex topics evolve overtime.

As more work is done on this subject, data will continue to develop and new actors are likely to enter the data space, alongside progress in methodologies and standards. Such advancements will enable further enhancement of our models and analysis. As more refined, reliable and accurate data becomes available, we will re-evaluate our analysis in an agile manner to incorporate the latest updates. This might lead us to adjust our baseline and trajectory in future reports and in accordance with the best practices set by climate science.

In addition to new data, regular reassessment will be needed to strengthen our approach as best available information such as the climate scenarios are periodically updated, to reflect new developments, key trends and metrics.

Key inputs and assumptions are also susceptible to impact external parameters such as policy and regulatory environment changes, industry standards reinforcement, and the unfolding of macro-economic events beyond our control. Hence, while BNP Paribas is committed to supporting all its clients in the long term who have demonstrated a genuine ambition with concrete actions to a path to lower carbon, the Group's ability to reach its targets is also dependent on the full mobilization of all stakeholders in the global economy.

In order to ensure consistency in emission data among actors, in terms of GHG protocol scopes or activities scope coverage, we rely on modelled data for some of the inputs to our calculations. As an example, for the power generation sector, some corporates' GHG emission data are disclosed on scope 1 and 2 while others only disclose scope 1 emissions. In this specific case, we can model scope 1 GHG emissions based on the companies' asset-level power generation technologies.



We will strive to continuously review and monitor our data sources and to improve and recalibrate our models over time in order to ensure quality and robustness of information. In addition, we support the development of sector specific emissions accounting standards by contributing to net-zero working groups including financial institutions and other key industry players. We also encourage data vendors to expand their data coverage for more granularity and reliability, and expect better quality data from corporates as the adoption of climate reporting progresses.

Throughout this report, we have used a conservative approach for models and calculations to avoid uncertainties. In order to do this, the data we have used is strictly historical, official or published data and any adjustment we may have made to such data is transparently disclosed in the sector deep-dive methodological sections. We also aim for full transparency and will indicate any evolutions or restatement of data that may occur over time.



5. KEY POTENTIAL ACCELERATORS TO OUR COMMITMENT

In order to be grounded in current market dynamics, we based our portfolio alignment measurement for the three-selected sectors on a relatively conservative approach to the global energy transition while at the same time, ensuring our overall strategy is aligned with our commitment to NZE 2050. However, we recognize the pace of change in the power generation, oil and gas and automotive sectors could accelerate, notably after 2025, and thus favourably impact the performance of our portfolio.

The main potential acceleration drivers we identified are the following:

- **Regulation and government support:** over the past 10 years, policies have already contributed to the industrialization of low-GHG emission technologies, leading to more competition and to significant cost reductions particularly in the power generation (renewable energy) and automotive (engine efficiency/electric vehicle) sectors. More recently, in the power generation sector, the launch of important nuclear energy programs is a key development. On the automotive side, regulation will accelerate the deployment of electric vehicles with tougher CO₂ emission standards for cars and government incentives to promote clean powertrain technologies.
- **Technological advancements and required infrastructure:** technology (e.g. low-carbon hydrogen, CCUS, batteries and bio-energy) will play a prominent role in fostering electrification and more generally the decarbonisation of the global economy. The time needed to further mature these technological enablers varies widely and will affect the pace of the net-zero journey.
- **Investor appetite in sustainable and resilient assets, including renewable energy:** renewable energy is predicted to be the main contributor to the decarbonisation of the global economy. Investments in renewable energy are accelerating, notably in markets with well-established supply chains where lower costs are accompanied by regulatory frameworks.

The ability for emerging green technologies to scale-up rapidly and be adopted by large companies will be instrumental for our economies to accelerate to net-zero. As the bank for a changing world, BNP Paribas fully supports investment in technological innovation (building infrastructure, promoting sustainable industrialisation and fostering innovation) to help its clients to embrace new business models and strategies in their pathways to a net-zero economy.

- At the end of COP21 in 2015, BNP Paribas created a team dedicated to investing in energy transition start-ups and allocated 100 million euros for this purpose. Investments were made in several start-ups working in areas such as energy efficiency, waste management, and sustainable mobility.
- BNP Paribas has also developed a strong culture and expertise supporting these start-ups with financing and other financial services across a range of geographical areas. In France, the WAI (We Are Innovation) ecosystem supports more than 3,500 start-ups and innovative clients — many of which are working on sustainable solutions. We also connect those start-ups with our Corporate clients to foster the adoption of new environmentally friendly solutions, for instance through many initiatives (such as WAI Connect events, or the MovinOn Start Up Booster).
- Since 2017, BNP Paribas has had a partnership with the Solar Impulse Foundation, created by Bertrand Piccard, which has labelled more than 1,000 innovative solutions designed to protect the environment.
- In 2021, BNP Paribas and the Solar Impulse Foundation launched a new investment fund dedicated to supporting clean tech, innovative start-ups tackling many environmental challenges.





SECTOR DEEP-DIVES

Our Portfolio Alignment

1. POWER GENERATION



1.1 Key Decisions

Our portfolio alignment measurement of the power sector focuses on Scope 1 CO₂ emissions associated with power generation, as these emissions represent the vast majority of the sector's emissions. As of 31/12/2021, power generation represents c. 63% of our gross credit exposure to the power sector or c. 1.4% of our total gross credit exposure.

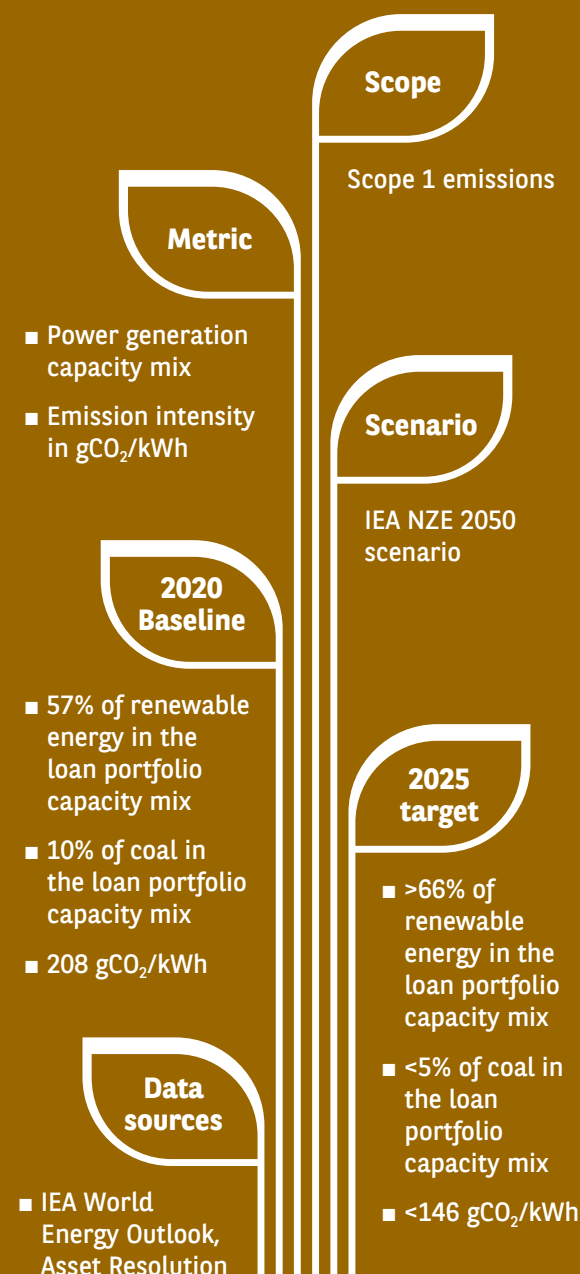
Our portfolio alignment targets are based on multiple metrics: capacity mix-related indicators showing the contribution per technology of our financed power generation portfolio and a CO₂ emission intensity metric expressed in gCO₂/kWh. The metrics are benchmarked against the IEA NZE 2050 scenario, setting the roadmap for the Global Energy sector transition to reach net-zero by 2050 and limiting the rise in global temperatures to 1.5 °C.

Based on our portfolio alignment measurement and thanks to BNP Paribas' longstanding commitment to renewable energy and stringent coal restrictions, the capacity mix of our financed power generation portfolio already includes a 57% contribution from renewable energy and coal is limited to 10% as of 31/12/2020. These 2020 values already surpass the 2025 benchmark levels from the IEA NZE 2050 scenario (56% and 18% respectively^[1]).

Our ambition is to increase the share of renewables to at least 66% of the capacity mix of our financed power generation portfolio by 2025 and reduce the share of coal to below 5%.

Our capacity mix and emissions intensity targets build on our existing climate policies and account for our clients' commitments and our forward-looking strategies to support clients in the energy transition. This approach recognizes our low 2020 baseline and allows us to set targets that go beyond the IEA 2025 benchmarks.

BNP PARIBAS 2025 AMBITION FOR POWER GENERATION



[1] IEA does not publish data for 2025 — all 2025 data are derived from linear interpolation 2020–2030



SÉVERINE MATEO
*Global Head, BNP Paribas
Low Carbon Transition Group*



SHALEN SHIVPURI
*Co-head of Low Carbon
Transition Group - APAC*

“ The power generation sector is a cornerstone of the economy and society: it powers companies, retailers and services while making it possible for people to live in heated homes while also working and moving about in their communities.

This sector was already going through its biggest disruption ever, driven by an imperative to fight climate change, combining major technological breakthroughs that enable the scale-up of decarbonised energy, at affordable costs and is now further impacted by energy supply security due to geopolitical developments.

At BNP Paribas, we are fully committed to reaching net-zero, which we only achieve once our clients also reach net-zero. This interdependence compels us to be fully engaged with our clients, over the long-term, to facilitate, support and accelerate their transition to generate clean energy, to decarbonise their activities, their investment in new businesses, and the scale-up and development of new green technologies. ”

1.2 Sector Dynamics

The transformation of the power generation industry plays a crucial role towards climate action efforts, as it is a main contributor to GHG emissions. Decarbonisation of power generation is a critical mitigation strategy by cutting emissions at existing fossil-fired sources and through electrification of additional sectors.

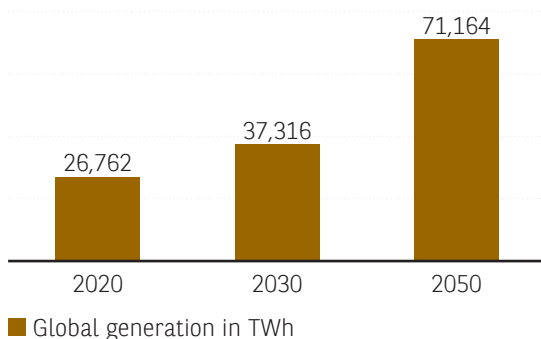
Based on the IPCC Special Report on the impacts of global warming of 1.5°C, electricity supplies an increasing share of final energy, reaching up to 71% in 2050, across 1.5°C pathways with no or limited overshoot, extending the historical increases in electricity share seen over the past decades. Hence, from 2020 to 2050, the quantity of electricity supplied in most 1.5°C pathways with no or limited overshoot would more than double. This trend is largely explained by the growing population, economic growth and the electrification of various industries and their final uses, notably transport and heat, adding to demand pressures from governments. Electrification and decarbonisation can therefore contribute to replacing fossil-fuels, powering industries today, and catering to the new demand (according to the IEA, renewables will increase 8% per year on average and can serve more than 90% of net demand growth over the 2022–2024 period). As long as the demand outpaces the deployment of low-carbon power supply, increasing emissions will be inevitable.

In its NZE 2050 scenario, the IEA expects renewables to almost match moderate demand growth over the 2022–2024 period and power emissions to remain at current levels until 2024, highlighting the need for further efforts to meet net-zero emission goals, and the decarbonisation of industries.

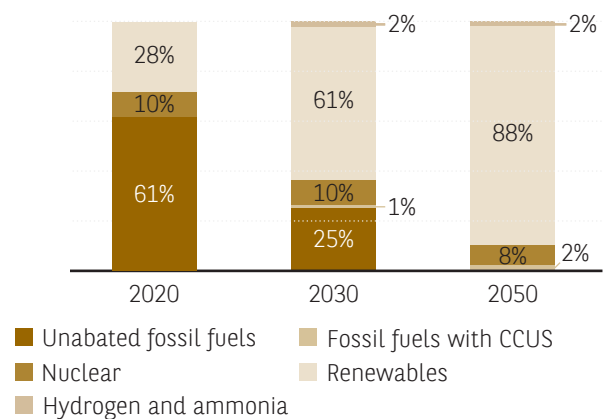
Based on the IEA World Energy Outlook 2021, the Net-Zero Emissions by 2050 Scenario (NZE) requires an accelerated pace of change, particularly in the near-term. NZE assumes solar and wind power racing ahead, raising the share of renewables in total generation from 28% in 2020 to nearly 61% in 2030 and 88% in 2050, complemented by nuclear, hydrogen and CCUS.

Although some utilities and large corporates were early adopters of renewables, progress is uneven across regions and sectors. Costs, intermittence and resource availability represent ongoing challenges. Unprecedented investments in energy efficiency, energy storage, carbon capture, bioenergy, and hydrogen will be required to support higher penetration of decarbonised electricity generation.

GLOBAL ELECTRICITY GENERATION IN THE IEA NZE



GLOBAL ELECTRICITY GENERATION MIX IN THE IEA NZE



Source: International Energy Agency (2021), net zero by 2050, IEA, Paris

1.3 Review Scope

We have focused on legal entities where the main business activity is electric power generation as it represents the majority of emissions within the electric sector. It is the part of the power value chain generating most of the climate impact. Transportation, distribution, storage and supply of electricity to end-users are not included at this stage.

For the purpose of BNP Paribas' power generation portfolio alignment measurement, we focused on direct Scope 1 CO₂ emissions from power generation, i.e. the emissions resulting from the combustion of fossil fuels to produce electricity. We have not included Scope 2 and 3 emissions, as they are minimal in the overall power generation lifecycle.

Our approach is consistent with the modelling approach in the IEA's World Energy Outlook 2021 projections, which allows for direct comparison of our portfolio with IEA benchmark scenario data.



1.4 Metrics and Data Sources

Our power generation portfolio alignment measurement is based on multiple metrics:

- **Power generation capacity mix**, the portfolio mix of exposure to various primary energy sources and technologies used to generate electricity expressed in percentage of gigawatts (GW) of generating capacity. It allows us to monitor the development of renewable energies and low-carbon technologies financing versus the relative reduction in the high carbon technologies financing. We have set specific targets for the share of renewables and coal in our portfolio.
- **Emission intensity**, the portfolio weighted average emission intensity allows us to monitor reduction in GHG emissions per unit of energy expressed in grams CO₂ per kilowatt-hour (kWh) of electricity generated.

The average emission intensity provides an aggregated view of the portfolio's climate performance while the power generation capacity mix gives a more detailed view on the progress towards the technological roadmap. By tracking changes in our power generation capacity mix, we maintain additional transparency and ensure progress in transitioning from high to low-carbon technologies.

Our methodology applies to 98% of our power generation portfolio loan exposure. The use of an intensity per physical unit-based metric for steering our power generation portfolio performance provides multiple benefits:

- An effective tool for engaging clients as these metrics are commonly used by the main industry players
- A synthetic view of the decarbonisation progress made by a company or sector over time
- An easy comparison and more consistent tracking between companies.

Our 2025 emissions intensity target takes into account the strategy of our clients, which includes shifts in their sources of electricity production, and the impact of the Group's commitment to no longer finance coal-fired power generation activities in Europe and the OECD in 2030 and in 2040 for the rest of the world.

Our methodology estimates company emissions intensity using the following data sources:

- **Installed capacity per technology per counterpart** (in MW) sourced from Asset resolution (external database). Covered technologies: nuclear, oil, gas, coal, hydropower and other renewables (o.w. wind, solar, CSP, geothermal, bioenergy). These data are used in the emissions intensity calculation as well as to estimate portfolio generation capacity mix.
- **Capacity factor per technology** This factor is a measure (expressed as a percentage) of how often an electric generator operates over a specific period, using a ratio of the actual output to the maximum possible output over that period.
- **Implied emission factor per technology** from the WEO 2021. The IEA transition scenarios consider that retrofitting coal- and gas-fired capacity with CCUS or co-firing with hydrogen-based fuels will enable existing fossil-fuel assets to contribute to the transition while cutting emissions. Given that carbon capture technologies remain at a very early stage of commercialisation, we believe their deployment at a large scale can be challenged.

Due to our low 2020 emissions intensity baseline, these assumptions produce an emissions intensity target that is well below the IEA NZE 2025 benchmark.

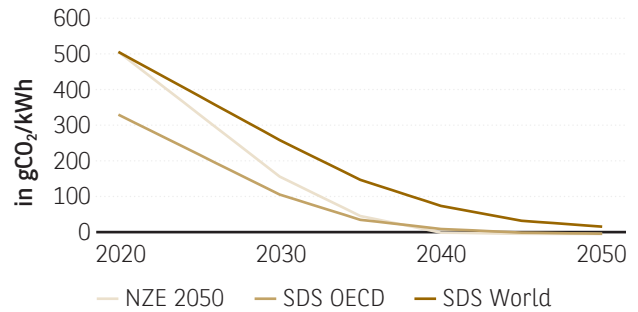
1.5 Benchmark Scenario and Target Setting

We used the International Energy Agency’s NZE 2050 scenario to benchmark our commitments for our power generation portfolio. We selected this scenario given its alignment with the Paris Agreement objectives and its higher ambition compared to the IEA SDS scenario. Given the critical role of power generation in the global economy, the IEA NZE 2050 scenario assumed world power generation to be carbon neutral by 2040, vs. 2050 in the IEA SDS World scenario. We are also considering the SDS OECD as a reference as NZE 2050 does not provide any regional data at the time of this report. This is also consistent with the portfolio of electricity producers financed by BNP Paribas, which mainly operate in the OECD region.

The SDS OECD data show the OECD countries are expected to decarbonize at a significantly faster rate than the rest of the world; the SDS OECD intensity decline curve for electricity generation is steeper than that of the NZE global average. The NZE OECD data, which IEA has not yet published, will have a steeper decline in electric sector emissions intensity than SDS OECD.

Additionally, the IEA regularly updates its World Energy Outlook ensuring that it keeps pace with available data, emissions trends and scientific understanding of the climate challenge. This will allow us to continuously position our portfolio trajectory with the most updated, ambitious and recognised data set, which is key to set and steer our commitment.

CO₂ INTENSITY OF ELECTRICITY GENERATION BASED ON IEA SCENARIOS



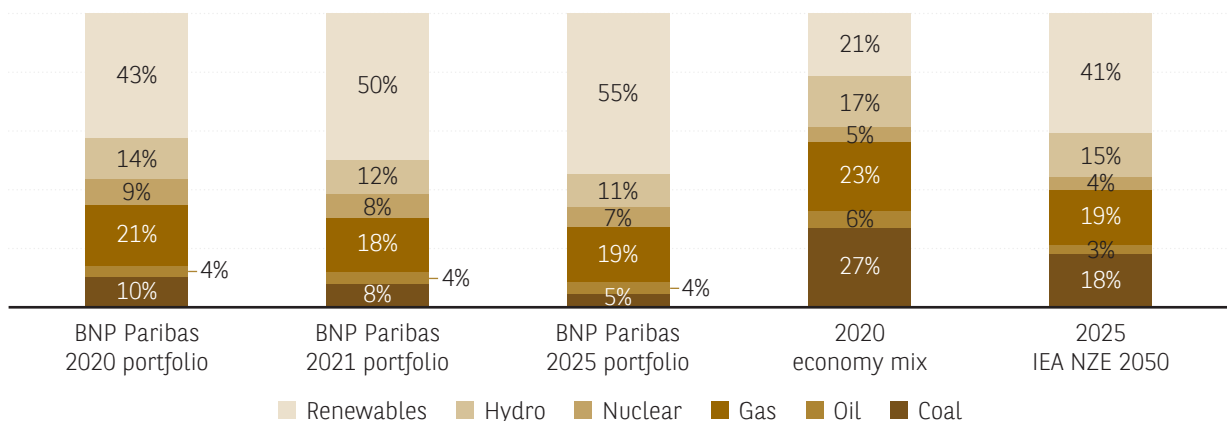
Source: IEA WEO data from International Energy Agency (2021), net zero by 2050, IEA, Paris

Note: based on linear interpolation between years provided by IEA

Our Commitment for Power Generation

The calculation of the electricity mix of our power generation portfolio, in capacity, according to the PACTA methodology, shows a significantly less carbon-intensive loan portfolio that is more oriented towards renewable energies in 2020 when compared to the 2020 World Economic mix. With 57% of BNP Paribas power generation portfolio capacity mix coming from renewable energy (including hydropower) in 2020, our capacity mix is very well positioned compared to the global economy for 2020 and already ahead of the 2025 level projected in the IEA NZE 2050 scenario (56%).

POWER GENERATION CAPACITY MIX – BNP PARIBAS PORTFOLIO VS. IEA NZE



Source: IEA WEO data from International Energy Agency (2021), net zero by 2050, IEA, Paris

Note: 2025 IEA NZE 2050 data based on a linear interpolation between figures provided for 2020 and 2030



With coal representing c. 8% of BNP Paribas loan portfolio in the power generation sector as of 31/12/2021 (and 10% as of 31/12/2020), the Group's secondary energy mix compares favourably with the global mix calculated by the IEA (27%) and is already better positioned than the 2025 level in the IEA NZE 2050 scenario (18%). Overall, in 2021, 761 companies were placed on the restriction of activity lists because of energy sector policies.

Accelerating on the pathway to net-zero requires continued commitments to increase the deployment of renewable power and scale back coal. Recognizing that our 2020 baseline has already achieved IEA's 2025 NZE portfolio mix for renewables and coal, we are establishing new portfolio capacity mix targets that exceed the ambition of NZE. BNP Paribas aims to increase its share of renewable sources (including hydropower) in our power sector to 66% of generating capacity and reduce coal to 5% of generating capacity by 2025.


As a consequence of our significant financing for renewable generation, based on the above methodology and assumptions, the 2020 baseline emission intensity of our power generation portfolio of 208 gCO₂/kWh is already 59% lower than the IEA global benchmark of 506 gCO₂/kWh and

amongst the lowest in the banking industry. This 2020 baseline is the result of a journey we started in 2015 and already embeds a 47% reduction compared to the emission intensity of 395 gCO₂/kWh reported in 2015.

As with our generation mix target, we are committed to continue reducing our portfolio's emissions intensity beyond the IEA scenario benchmarks. Taking into account the ambitions of our clients and ongoing engagement with them to drive further emissions reductions, we are targeting to have the emissions intensity of our power generation portfolio below 146 gCO₂/kWh by 2025, representing a reduction of at least 30% from our 2020 baseline.

This target goes well beyond the 2025 intensities derived from the NZE and SDS OECD scenarios. BNP Paribas will re-evaluate its benchmarks when detailed regional data (e.g. OECD) becomes available for the NZE scenario.

Our emissions intensity target shows that despite having a 2020 baseline already favourably positioned compared to the NZE 2050 global benchmark for 2025, we are committed to accelerating the decarbonisation of our financed power generation portfolio and maintain our low-carbon positioning in the future.

 Power Generation	Share of Renewable Energy in the Capacity Mix		Share of Coal in the Capacity Mix		2025 Emission Intensity Targets (gCO ₂ /kWh)		
	2020 Baseline	2025 Target	2020 Baseline	2025 Target	2020 Baseline	2025 Target	% Reduction 2020-25
IEA NZE 2050	38%	56%	27%	18%	506	332	34%
IEA SDS OECD	41%	55%	16%	10%	330	219	34%
BNP Paribas	57%	>66%	10%	<5%	208	<146	>30%

Source: IEA WEO data from International Energy Agency (2021), Net-Zero by 2050, IEA, Paris

Note: 2025 IEA data based on a linear interpolation between figures provided for 2020 and 2030

1.6 Delivering Our 2025 Ambition

BNP Paribas teams are fully mobilised to be at the forefront of the acceleration of the transition to net-zero of the power generation sector. Investing in transition technologies and supporting innovation is an important compass across the finance industry, and will be a key lever across the whole economy. BNP Paribas is a pioneer in the financing of innovative technologies and projects that will establish a solid blueprint for the future of renewable energies and a strong driver of our portfolio alignment strategy:

■ **Scaling-up the investment in renewables:** in 2019, BNP Paribas made a commitment to provide 18 billion euros in financing for renewable energy projects by 2021. At the end of 2021, financing for this sector totalled 18.6 billion euros, nearly 2.5 times the amount at the end of 2015.

The Group has now committed to increase this target to 30 billion euros for renewable energy projects by 2025.

- » In February 2022, BNP Paribas acted as financial advisor on the Dogger Bank Wind Farm project, a key renewable energy project and part of the UK's drive to reach net-zero by 2050. The project will become the world's largest offshore wind farm when all three phases are completed in 2026 and will provide enough clean energy to power six million UK homes.
- » In the US, BNP Paribas served as joint lead arranger and syndication agent on the construction of Vineyard Wind, which is the first utility scale offshore wind project in the country (developed by a 50/50 joint venture between sponsor clients Avangrid and Copenhagen Infrastructure Partners). This transaction was awarded ESG deal of the year by PFI – Project Finance International.
- **Green hydrogen:** a complete switch to renewables is currently impossible without a solution to match renewables' intermittent electricity generation with demand. As it can be stored and transported, hydrogen

could fill the gap. BNP Paribas has developed a transversal and global 'hydrogen squad' of 30 team members to support this promising technology within the bank.

- » The recently announced CEOG Renewstable® power plant in French Guyana will be the first in the world to combine hydrogen and solar technology to produce 100% renewable baseload electricity. A pioneering project that will establish a solid blueprint for the future of renewable energies. BNP Paribas is providing long-term financing as it is keen to participate in the development of the hydrogen economy.
- » In January 2022, BNP Paribas joined the H2Global Foundation. The H2Global initiative is part of the German hydrogen strategy. This foundation has been established by 16 major companies in Germany, with funding support from the Federal Ministry for Economic Affairs and Energy (BMWi) in June 2021. It has been tasked by the German government with the objective to support a quick global market ramp-up for green hydrogen and its derivatives. Therefore the Ministry of Economic Affairs has provided 900 million euros (an additional 1,200 million euros are planned) to compensate the existing difference between supply and demand price (Contracts for Difference to subsidize price for green hydrogen) with the aim to build up and create a hydrogen economy with the majority of members from the real economy. From the banking side, there is only BNP Paribas and Deutsche Bank represented in the foundation. We will be engaged in two working groups starting in spring this year:
 - » Supply Chain and Risk
 - » Funding, Blended Finance

BNP Paribas is ready to embrace the technology shifts necessary to accompany its clients in financing these key levers and accelerate their energy transition towards a net-zero economy.

2. OIL AND GAS



2.1 Key Decisions

The alignment measurement of BNP Paribas' oil and gas portfolio covers Scope 1 and Scope 2 emissions (emissions released in the course of our clients' own operations), as well as Scope 3 emissions (emissions released by the end use of oil and gas products).

The activities retained include exploration and production (also referred to as upstream) and oil refining. Together with the end use of oil and gas products, these activities are responsible for over 90% of the life cycle emissions imputable to oil and gas. As of 31/12/2021, these activities represent c. 54% of our gross credit exposure to the oil and gas sector or c. 1.3% of our total gross credit exposure.

GHGs taken into account for the oil and gas sector include carbon dioxide (CO₂) but also methane (CH₄), which represents a significant part of the emissions of the sector during operations.

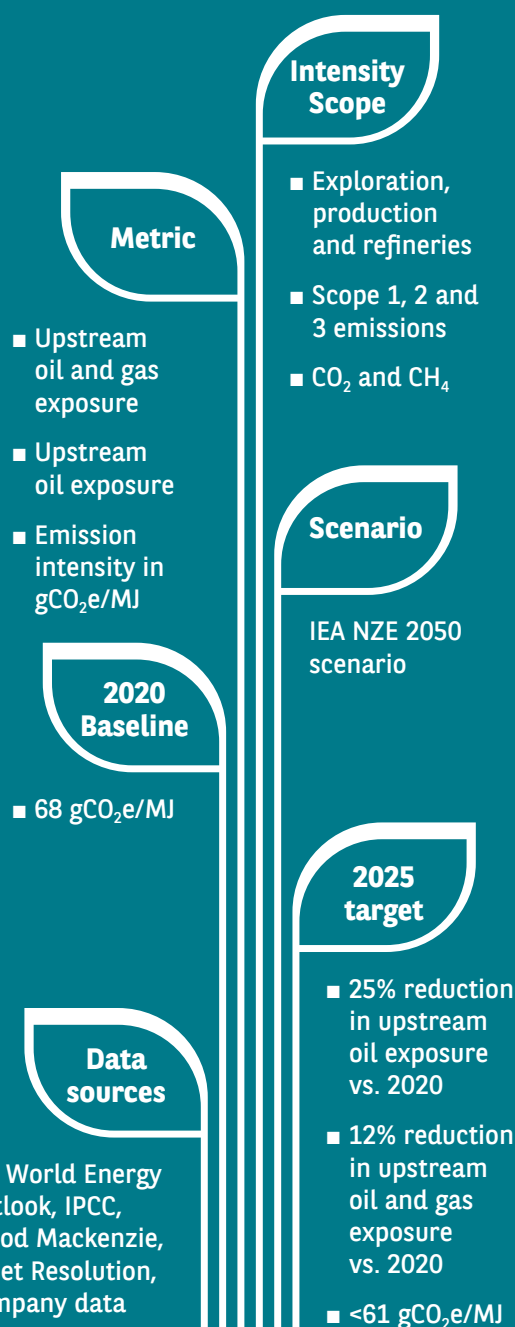
Total GHG emissions are expressed in carbon dioxide equivalents (CO₂e) based on the global warming potential ("GWP") of methane over 100 years as per the Sixth Assessment Report of the IPCC, which stands at 29.8x (i.e., emitting 1kg of methane in the atmosphere is equivalent to emitting 29.8kgs of carbon dioxide).

Based on the report on the application of the PACTA methodology, jointly published by the Katowice Banks, we announced in May 2021 our ambition to reduce our credit exposure to the upstream oil and gas activities by 10% by 2025. This commitment is a proxy for an absolute emissions reduction target. In 2021, this exposure has already been reduced by 6%. This follows a consistently downward trend since the release of BNP Paribas policy on unconventional hydrocarbons, which had led to a €4bn reduction of our exposure to unconventional Oil & Gas since 2016, of which half related to upstream activities.

We are now reframing and strengthening this objective by setting two enhanced targets for our credit exposure to the sector.

- reduce our credit exposure to the upstream oil industry by -25% by 2025 versus 2020
- reduce our credit exposure to the upstream oil and gas industry by -12% by 2025 versus 2020.

BNP PARIBAS 2025 AMBITION FOR OIL AND GAS



In addition to the credit exposure targets, and as a result of our commitment to NZBA, the performance of our portfolio is also assessed using a GHG emissions intensity metric per unit of energy produced, expressed in grams of CO₂e per mega joule (“gCO₂e/MJ”), and is benchmarked against the IEA’s NZE 2050 scenario, adjusted for Scope 1 and 2 emissions.

Based on the above-described approach and thanks to BNP Paribas’ long-standing proactive management of its support to the sector via specific policies and selection of clients with ambitious transition plans and reduction

targets, our portfolio baseline stands at 68 gCO₂e/MJ as of 31/12/2020, i.e., outperforming the 72 gCO₂e/MJ derived from the IEA NZE benchmark^[1]. As a result, we are targeting to have the emissions intensity below 61 gCO₂e/MJ by 2025, i.e. a reduction of at least 10% vs. our 2020 baseline. This commitment implies that our portfolio slightly outperforms the alignment derived from the IEA NZE 2050 scenario trajectory. The achievement of announced transition plans and objectives and progress towards this 2025 target will be closely monitored.



RAVINA ADVANI
*Head of Low Carbon
Transition Group – Americas*



KENNETH QUINN
*Co-head of Low Carbon
Transition Group – APAC*

“ It is clear that renewable energy plays a major role in our worldwide decarbonization efforts and in enabling many countries to have energy supply independence from global coal, oil and gas suppliers. However, current day renewable supply intermittency remains a limitation that must be addressed to provide the stable energy supply necessary for global economic health.

As a lower emitting baseload fuel alternative to coal, gas will continue to ensure energy supply security to enable the global energy transition with renewables development. In fact, the United Nations Intergovernmental Panel on Climate Change (IPCC) has designated gas (under certain conditions) as one of the transition energies needed to achieve carbon neutrality by 2050.

We anticipate that the technological advancements and significant investments being made in decarbonization technologies and renewable energy will accelerate our trajectory to a net-zero economy. Sustainability is one of our core pillars at BNP Paribas, and we believe we are a key enabler in the energy transition to renewables by strategically steering capital flows to finance these developments. ”

[1] IEA 2021 World Energy Outlook

2.2 Sector Dynamics

In 2020, oil and gas represented 29% and 24% of global energy supply respectively, according to the IEA's 2021 WEO. Together with coal (26%), this is nearly 80% of the total energy supply coming from fossil fuels.

At the same time, these energy sources represent a significant share of GHG emissions from energy and industrial processes, estimated for 2020 at 30% for oil, 21% for gas, according to the IEA's 2021 WEO.

The NZE 2050 scenario expects emissions from oil and from gas combustion to respectively decrease by 26% and 17% between 2020 and 2030. On the operations side, such trends should be supported by efficiency improvements in upstream, notably regarding methane emissions and refinery operations.

However, the decarbonization of our economies also requires more transformative changes and a modification of our energy mix towards less fossil fuels.

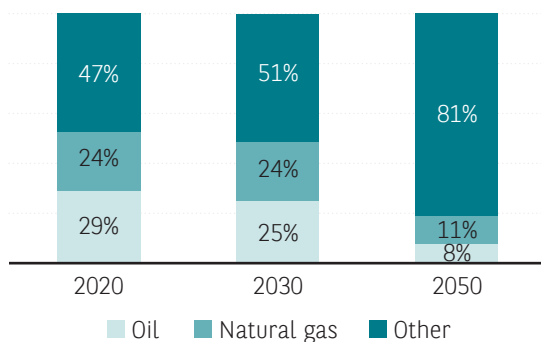
Accordingly, in the NZE 2050 scenario, the portion of gas in total energy supply remains flat until 2030 while the oil share declines to 25%, from 29% today.

This scenario anticipates an acceleration of the transition after 2030, with projected oil and gas energy supply volume to decrease by 61% between 2030 and 2050 (-4.7% per annum) to reach 8% and 11% of total energy supply respectively.

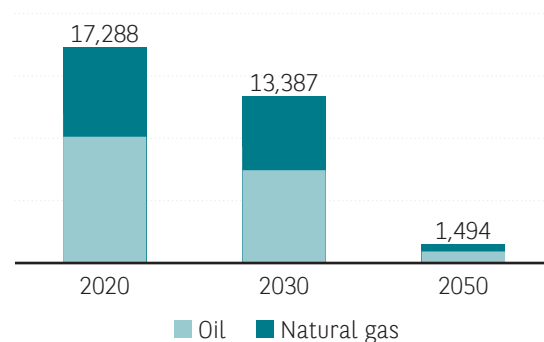
In addition, over 71% of gas used by 2050 will see its emissions captured while nearly 70% of all oil produced will be used for non-energy related purposes. Indeed, in a net-zero world residual carbon emissions have to be captured at the source or removed from the atmosphere. Accordingly, 7.6 billion tons of CO₂ will be captured annually by 2050, compared to 40 million tons today, and nearly 2 billion tons of CO₂ will be removed from the atmosphere yearly, versus almost no removal nowadays.

The oil and gas sector has a significant role to play in this transition and has embarked on a profound transformation. Many oil and gas companies have disclosed ambitious transition pathways regarding their operations and business models. Most are improving the efficiency of their operations, through optimized management of their facilities and processes, notably for methane emissions, and a variety of technology levers. Some have also set broad diversification strategies as global energy suppliers, increasingly developing renewable and low-carbon sources of energies.

GLOBAL OIL AND GAS MIX IN THE IEA NZE WORLD ENERGY SUPPLY



IEA NZE CO₂ EMISSIONS (MT CO₂)



Source: IEA WEO data from International Energy Agency (2021), Net Zero by 2050, IEA, Paris



2.3 Review Scope

Our portfolio alignment measurement focuses on companies operating in the upstream and/or downstream segments of the oil and gas value chain. This includes exploration and production activities for both oil and gas, refining processes for oil, as well as end-usage of such oil and gas products.

Other segments of the oil and gas value chain such as transportation, trading and storage, distribution and marketing, petrochemicals (beyond refining) and oil field services were not included in this alignment exercise at this stage, for data availability and quality purposes.

We considered the full life-cycle of emissions:

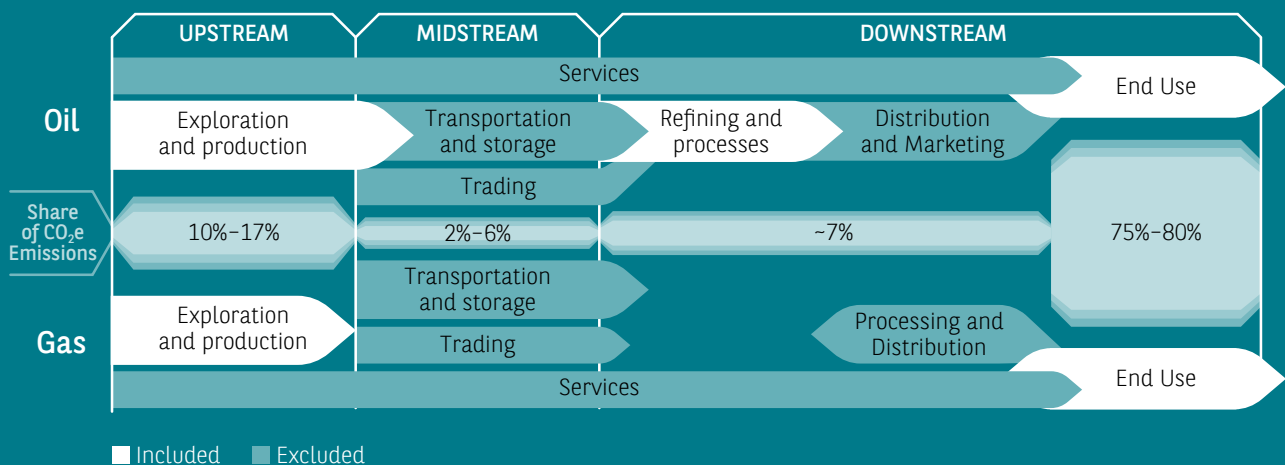
- Scope 1 and 2 comprise carbon dioxide and methane emissions released during the extraction of oil, gas and associated products, and the refining of oil

- Scope 3 emissions cover carbon dioxide emissions resulting from the combustion of those products produced by the oil and gas sector.

As mentioned, the GHG emissions considered include not only carbon dioxide emissions (CO₂), but also methane emissions (CH₄), which are the second largest cause of global warming, and which the reduction of will be critical for avoiding the worst effects of climate change.

Our approach encompasses more than 90% of the life-cycle emissions of the sector.

OIL AND GAS VALUE CHAIN



2.4 Metrics and Data Sources

The BNP Paribas oil and gas portfolio alignment measurement is based on two metrics:

- **Upstream oil & gas exposure**, the monitoring of our level of monetary support to the upstream oil and gas industry. This metric is a proxy for absolute emissions reduction and allows us to actively monitor and steer our amount of credit within the oil and gas upstream industry.
- **Emission intensity**, the portfolio weighted average emission intensity covers the full life-cycle of emissions (Scope 1, 2 and 3) and is expressed in grams of CO₂ equivalent per mega joule (MJ) of energy generated.
- Our exposure-based metric was introduced last year, in the wake of our publication in September 2020 together with four of our peers (altogether the “Katowice Banks”), and in partnership with the 2 Degrees Investing Initiative, of our Credit Portfolio Alignment using the PACTA methodology.

Our emission intensity metric presents several advantages:

- A widely-adopted approach within the industry, which allows BNP Paribas to engage and steer dialogue with clients on climate change, energy transition and efficiency performance.

- A comprehensive view of transition advancement, which simultaneously covers efficiency gains and investments in decarbonisation technologies (carbon capture, carbon removals).
- A transparent and insightful measure for assessing and comparing companies, allowing consistent tracking over long periods.

Our methodology estimates company emissions intensity using the following data sources:

- **CO₂ and CH₄ emissions for scopes 1 and 2** are taken in volumes (ktCO₂e per annum) for each counterpart from Wood Mackenzie for upstream and downstream (refining).
- **CO₂ emissions for scope 3** are calculated based on volumes produced and/or refined by each company, using data sourced from Wood Mackenzie, to which IPCC 2006 Emission Factors for crude oil, natural gas and refining products (gasoline, diesel, kerosene etc.) are applied.
- **Production and processing volumes** are sourced from Wood Mackenzie.

To project the performance of our portfolio and set targets for 2025, we assessed current emissions and the transition plans and emission reduction targets announced by our clients. We set our emissions intensity target based on our portfolio projections.



2.5 Benchmark Scenario and Target Setting

Consistent with our approach for the power generation sector, we used the International Energy Agency's NZE 2050 scenario to benchmark our oil and gas sector targets.

The NZE scenario covers global CO₂ emissions from the end usage of oil and natural gas (amongst others). In order to make this benchmark comparable with the scope of our emissions intensity target, which covers end usage as well as emissions from extraction and refining operations, we added Scope 1 and 2 emissions data from Wood MacKenzie. We set the trajectory for these operation-related emissions using two IEA resources.

For methane emissions, we used the IEA 2021 Methane Tracker^[1], which forecasts a 75% reduction over the decade. According to the IEA, oil and gas is responsible for about three quarters of methane emissions every year and methane is the second cause of global warming after carbon dioxide. Hence, reducing methane emissions is a key objective of the oil and gas industry globally and incorporating accelerated targets for such emissions in this alignment appeared essential.

Other emissions from operations were forecasted in line with the trajectory of the NZE scenario.

In May 2021, as a proxy for an absolute emissions reduction target, we announced our ambition to reduce our credit exposure to the upstream oil and gas industry by 10% by 2025. In 2021, our exposure had already been reduced by 6%. This follows a consistently downward trend since the release of BNP Paribas policy on unconventional hydrocarbons, which had led to a €4bn reduction of our exposure to unconventional Oil & Gas since 2016, of which half related to upstream activities. We are now reframing and strengthening this objective by setting two enhanced exposure-related targets:

- reduce our credit exposure to the upstream oil industry by 25% by 2025 versus 2020, as we expect oil financings to decrease faster than gas, thus taking into account the differentiated roles of crude oil and natural gas in the transition. This objective demonstrates our commitment to ambitious decarbonisation goals as the NZE 2050 scenario shows a decrease of oil supply of c. 9% worldwide over the same period.
- reduce our credit exposure to the upstream oil and gas industry by 12% by 2025 versus 2020

BNP Paribas' oil and gas portfolio 2020 baseline is 68 gCO₂e/MJ, a less intensive level when compared with the estimated average of the global economy at 72.0 gCO₂e/MJ. Differences in baselines are explained by the BNP Paribas portfolio being weighted towards oil and gas companies with emission intensities that are below industry averages. This positioning reflects BNP Paribas' long-standing sector policies and selectivity, which have aimed at ending the financing of the most polluting activities (e.g. oil sands) and areas, thus positioning BNP Paribas with the best-performing players in the sector.

We are targeting to have the emissions intensity of our portfolio below 61 gCO₂/MJ by 2025, i.e. a reduction of at least 10% vs. 2020

This commitment, as for our upstream credit exposure (-25% for oil, -12% for oil and gas), shows a slightly higher level of ambition than the IEA NZE 2050 based scenario (-6% decrease in intensity by 2025, -9% in oil supply and -7.1% in oil and gas supply).

Oil and Gas (Upstream and Refining)	Oil Production Trends	2025 Emission Intensity Targets (gCO ₂ e/MJ)		
		2020 Baseline	2025 Target	% Reduction 2020-25
IEA NZE 2050	9% reduction in oil supply by 2025 vs. 2020	72	68	6%
BNP Paribas	25% reduction in credit exposure to Upstream oil production activities by 2025 vs. 2020	68	<61	>10%

[1] Methane Tracker 2021 – Analysis - IEA

Source: IEA WEO data from International Energy Agency (2021), Net-Zero by 2050, IEA, Paris

Note: 2025 IEA data based on a linear interpolation between figures provided for 2020 and 2030

2.6 Delivering Our 2025 Ambition

As the leading bank in continental Europe, BNP Paribas is a major financier of European energy companies that are largely committed to transitioning their model through strong investments in developing renewable energies. The Group is convinced that these players, due to their technical and financial capacities, have the levers necessary to accelerate transition by developing renewable energy and other transformative solutions (electrification, green hydrogen, green gas, biofuels, etc.).

Steering the progressive alignment of our portfolio does not mean the immediate end to funding across this sector. The drop in output predicted by the most ambitious net-zero scenarios is conditional on a significant reduction in demand for oil and gas products. It therefore depends on both public policy and the transition to an economy that is less dependent on fossil fuels. Improving the energy efficiency of industrial players, transport as well as changing consumer behaviour are key elements in reducing energy demand. The role of energy suppliers is to gradually replace fossil fuels with renewable energies while improving energy efficiency from fossil fuels that are still required. The bank's role is to support those involved in the low-carbon transition and to mobilize all its businesses (debt, equity, etc.) to allow the financing of the massive investment that is needed for this transition.

As a leading financial player, BNP Paribas has strong levers at its disposal to encourage companies, regardless of their sector, to accelerate their transition.

The Group has, for example, stopped financing unconventional oil and gas specialists. As a result, our credit exposure to this segment decreased from over 4 billion euros in 2016 to zero at the end of 2021.

- BNP Paribas supports players who are able to diversify and massively finance the ecological transition, and who are already engaged in the transition of their model.
- As far as new oil and gas projects are concerned, BNP Paribas operates a rigorous selection of criteria based on technical characteristics, the location of projects, and the sponsors who operate them. Additionally, since 2017, BNP Paribas no longer finances unconventional oil and gas projects.
- From a corporate finance perspective, the aim is to assess the players in the oil and gas sector by analysing how their strategy is consistent with BNP Paribas' climate commitments. The Group finances those players who are very committed to the transition.





Arctic National Wildlife Refuge (Alaska)

In order to monitor our portfolio and to strengthen our strategy in the oil and gas sector, we have decided to update our unconventional oil and gas policy (dated 2017). Separately, the Group announces additional restrictive measures in two specific regions that need to be protected: the Arctic and the Amazon.

Since 2017, we no longer finance unconventional oil and gas projects and we no longer finance or invest in shale oil and gas and tar sands companies, acknowledging those players are not in a position to diversify themselves and to transform their business model to be consistent with a Paris-aligned scenario.

In 2022, BNP Paribas strengthens its criteria and will no longer provide products and services and no longer invest in companies with more than 10% of their activities in tar sands and shale oil and gas. Pure oil and gas players will be assessed based on their reserves whereas diversified oil and gas companies are assessed based on non-conventional reserves multiplied by revenues from the upstream activities.

BNP Paribas will not finance any oil and gas projects and related infrastructure in the Arctic and in the Amazon regions.

BNP Paribas will no longer finance or invest in companies deriving more than 10% of their activities from the Arctic. Pure oil and gas players will be assessed based on their reserves in this area whereas diversified oil and gas companies are assessed based on reserves in the Arctic multiplied by revenues from the upstream activities.

BNP Paribas will no longer finance or invest in companies with oil and gas reserves in the Amazon as well as the ones developing related infrastructures.

- **Arctic:** since 2017, we no longer finance any oil and gas projects in the Arctic region defined as the offshore area featuring the widest ice coverage over a 12-month period according to the National Snow and Ice Data Center and the Arctic National Wildlife Refuge.

BNP Paribas extend its definition of the Arctic and adopts the Arctic Monitoring and Assessment Program (AMAP^[1]) definition, which is the broadest. An exception is made for Norwegian operated areas based on the fact that Norway has developed the most constraining environmental and operational laws, regulations and monitoring processes in the world.

- **Amazon:** since 2021, we do not do trading activities on the seaborne exports of oil from the Esmeraldas region in Ecuador. In May 2022, BNP Paribas has taken a new commitment on the Amazon region: it will exclude all financing and investment in new oil and gas project located in IUCN I to IV (in either Brazil, Ecuador, Bolivia, Colombia or Venezuela) or in the Amazon Sacred Headwaters.

The above criteria will not apply to companies with the most credible transition plans towards a net-zero economy by 2050 based on clear transition criteria such as: a public commitment to align with a 1.5°C strategy; intermediary targets; a consistent capex program to back its diversification strategy away from fossil fuel production; a level of GHG emissions being measured and reported annually and strong leadership of the Board.

[1] The Arctic Monitoring and Assessment Programme ("AMAP") is the working group of the Arctic Council.

3. AUTOMOTIVE



3.1 Key Decisions

Our portfolio alignment measurement of the automotive sector focuses on Scope 3 CO₂ emissions of auto manufacturers' Light-Duty Vehicles (LDV) production. The portfolio exposure is based on the loan exposure (drawn and undrawn) to such auto manufacturers business groups as of 31/12/2021, as well as the financial captives of these groups. As of 31/12/2021, these activities represent c. 33% of our gross credit exposure to the overall automotive sector or c. 0.7% of our total gross credit exposure.

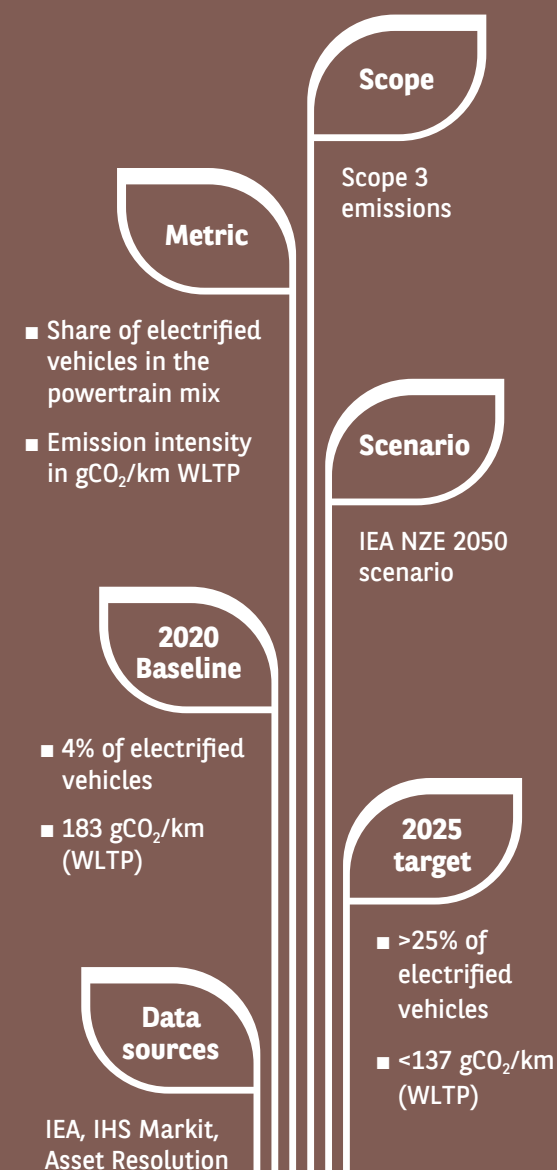
The performance of our portfolio is assessed using (i) a powertrain mix indicator showing the contribution per technology of our financed automotive portfolio and (ii) a CO₂ emission intensity metric expressed in gCO₂/km (WLTP). Both indicators are benchmarked against the three main IEA scenarios for the automotive sector. Since the IEA scenarios focus on the projection of low-carbon technologies market share, we use relevant data from IHS Markit and Asset Resolution to make up for missing information and to derive emission intensity targets for each of these scenarios up to 2025. We will continue reviewing any new IEA projections, and any additional information and granularity provided to assess the appropriateness of recalibrating the adopted benchmark targets in the future.

Based on our portfolio alignment measurement, the 2020 baseline emission intensity of our automotive portfolio of 183 gCO₂/km (WLTP) is already aligned with our assessment of the IEA global benchmark of 185 gCO₂/km (WLTP).

We are targeting to have the emissions intensity of our automotive portfolio below 137 gCO₂/km (WLTP) by 2025, i.e. a reduction of at least 25% vs. 2020.

This assumption is favourably positioned vs. the IEA SDS Scenario, hence is compatible with the goals of the Paris Agreement to limit the increase in the global average temperature to well below 2°C above pre-industrial levels.

BNP PARIBAS 2025 AMBITION FOR AUTOMOTIVE (CAR MANUFACTURERS)



**JOACHIM REINBOTH**

Co-Head of Automotive and Mobility Services, CIB Industry Groups EMEA

**VIOLINA MITRU**

Head of Corporate Social Responsibility, Arval

“ Since its creation, the automotive sector has changed the way people live and move around the world, contributing massively to the economic development of many areas in the global economy. It has also shaped fundamental lifestyle behaviours of our societies, fostering autonomy and efficiency in how and where we live.

Today, the automotive sector itself is facing significant shifts towards greater sustainability and zero carbon mobility, accessibility and connectivity, driven by regulatory pressure coupled with significant technological advances. Electrification of automaker fleets is accelerating in all regions. Beyond this paradigm shift to electric vehicles, carmakers and tech players are also creating partnerships for new digitalized mobility solutions, shifting from car ownership to pay-per-use, with additional consequential environmental benefits.

Substantial financing is required in the underlying infrastructures supporting zero carbon mobility. At BNP Paribas, we are committed to playing a key role in the automotive sector, with an immediate focus on enabling the necessary scale-up of low-carbon electricity infrastructure for electric vehicles; and over time financing the development of the appropriate infrastructure (including hydrogen) for heavy transportation. ”

3.2 Sector Dynamics

The automotive industry is a sector deemed to be highly sensitive to the energy transition, not only due to the significant emissions associated with road transport (approximately 16% of total worldwide emissions as of 2020^[1]), but also because of the highly regulated nature of the sector.

Over the past few years, in order to reduce emissions associated with road transport, car manufacturers have been pressured to shift their production towards a greener technology mix, with an increase in the volumes of Electric Vehicles (EVs) produced and an improved average emission intensity for their overall vehicle fleet, generally measured in gCO₂/km. Despite this, the sector remains under pressure to accelerate the shift away from carbon-intensive technologies and ultimately meet the goals of the Paris Agreement.

The global road transport sector emitted over 5.4 Gt CO₂ in 2020, compared to nearly 6.0 Gt in 2019, before the COVID-19 pandemic. In the NZE scenario, the road transport sector's CO₂ emissions amount to slightly less than 4.1 Gt of CO₂ emissions by 2030. By 2050, they reach around 0.3 Gt, i.e., a 94% drop compared to 2020 levels^[2]. At the same time, the demand for automobiles is expected to continue growing worldwide, with an increase in the global passenger car fleet from 1.2 billion vehicles in 2020, to close to 2 billion vehicles in 2050.

Not all modes of transportation are foreseen to decarbonise at the same rate, due to differences in technological maturity and stringency of regulatory pressure. Passenger cars are expected to be at the forefront of the decarbonisation pathway:

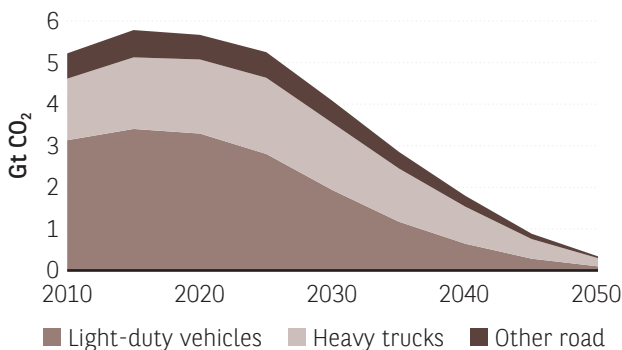
- In 2020, passenger cars represented c. 51% of global road transport emissions
- By 2030, they are expected to drop below 40% of global road transport emissions
- By 2050, passenger cars are expected to make up less than 25% of global road transport emissions

Decarbonisation of the transport sector mainly relies on:

- Policies to promote more efficient operations across passenger transport
- Improvements in energy efficiency
- A shift towards electric mobility (electric vehicles and fuel-cell electric vehicles)
- A shift towards higher fuel blending ratios and direct use of low-carbon fuels (biofuels and hydrogen-based fuels)

Such shifts are likely to require interventions to stimulate investment in the needed infrastructure and to incentivise consumers.

CO₂ EMISSIONS BY ROAD TRANSPORT MODE IN THE IEA NZE

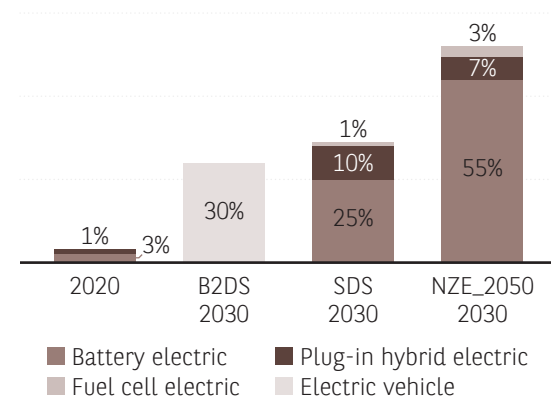


Source: International Energy Agency (2021), net zero by 2050, IEA, Paris

[1] Source: IEA World Energy Outlook 2021

[2] International Energy Agency (2021), Net-Zero by 2050, IEA, Paris

GLOBAL SHARE OF EVS BY 2030 IN TOTAL SALES BY VEHICLE TYPE IN THE DIFFERENT IEA SCENARIOS



Source: International Energy Agency

Concerning the electrification rate of the vehicles sold, the IEA has provided three main scenarios over time:

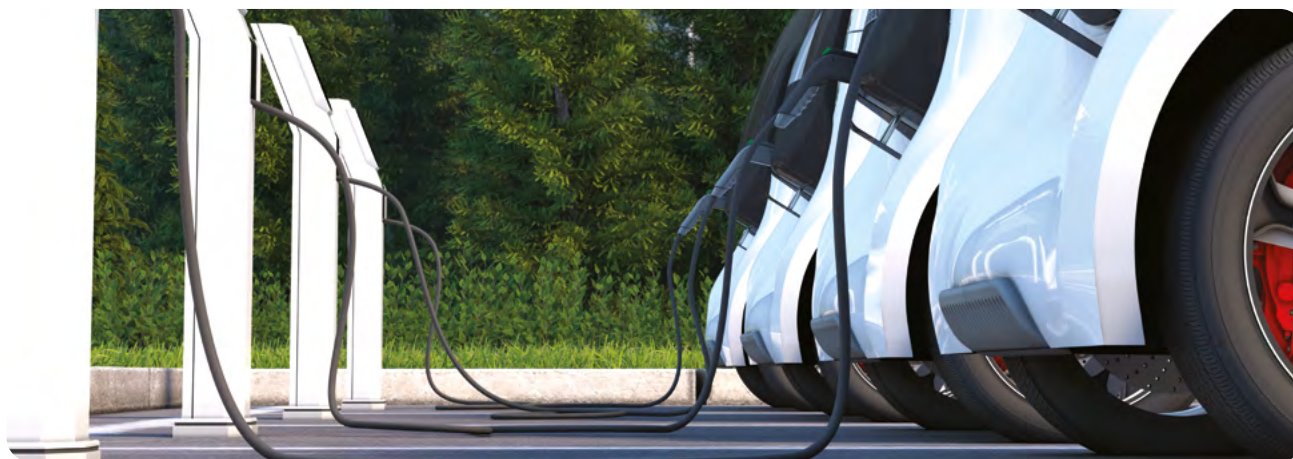
- The Below 2 Degrees Scenario (1.75°C in 2100 with 50% probability) described in the Energy Technology Perspectives 2017 and commonly used for portfolio alignment analyses
- The Sustainable Development Scenario (1.6°C in 2100 with 50% probability) provided in the World Energy Outlook 2021
- The Net-Zero Emissions by 2050 Scenario (1.4°C in 2100 with 50% probability), provided in the IEA's net zero by 2050 report."

Electrification plays a central role in decarbonisation in the NZE 2050 Scenario, with a 64% electrified sales (including BEV, FC and PHEV) share in total sales by 2030.

This compares to 30% in the B2DS scenario and 36% in the SDS scenario. While the IEA does not provide any data between 2020 and 2030, we believe the electrification rate of the vehicles sold is unlikely to develop linearly and will most likely show an acceleration as we get closer to 2030.

As a comparison, the IPCC Special Report on the impacts of global warming of 1.5°C slightly mitigates the role of electrification considering that incremental vehicle improvements (including ICE) will be relevant, especially in the short to medium term. This IPCC report also considers all hybrid electric vehicles, especially plug-in hybrid electric vehicles, crucial to enable the transition from internal combustion engine vehicles to electric vehicles.

Battery costs will be a key driver of the electrification rate: the reduction of battery costs of almost 90% over the past decade has boosted sales of electric passenger cars by an average of 40% over the past five years. Battery technology is already relatively commercially competitive.



3.3 Review Scope

In our methodology, we have focused on sectors that account for the bulk of the impact on the environment. Within each of these sectors, we have focused on that segment of the value chain where the decision-making power or capacity to reduce carbon emissions mostly resides. Hence, in the case of the automotive sector, we primarily focus on auto manufacturers. Depending on their climate relevance, other value chain segments could be covered in future target setting. Due to data availability constraints, this report focuses on Light-Duty Vehicles (LDV). In future reports, the inclusion of Heavy-Duty Vehicles (HDV) will be considered if data allows.

Additionally, we have included in the automotive portfolio alignment measurement the financial captives of business groups identified in the previous step as (i) their role in supporting auto manufacturing activities is deemed to be critical and (ii) captive financing generally includes fleet management activity — which is perceived to be more operational than pure financing.

To assess the performance of the BNP Paribas automotive portfolio, we have focused on “tank-to-wheel” emissions from companies’ LDV sales in the considered year. Currently, tailpipe emissions represent the bulk of the automotive sector GHG emissions.

3.4 Metrics and Data Sources

Our automotive portfolio alignment targets are based on two separate metrics:

- **Powertrain mix**, the automotive powertrain technologies financing mix will allow us to monitor the relative reduction in the financing of production of internal combustion engines (ICE) versus hybrid and/or electric engines production financing.
- **Emission intensity**, the portfolio weighted average emission intensity can measure the relative reduction in exhaust emission financing. More specifically, we use the Tailpipe Emission Intensity (EI) of new light-duty vehicles produced as per the WLTP test cycle protocol ($gCO_2/v\text{-km}$)

Our alignment measurement of the loan portfolio of companies in the automotive sector applies to 97% of our loan portfolio exposure. This measurement provides an overview of our portfolio at the end of 2021 and a projection for the year 2025. The choice of an intensity per physical unit-based metric as our primary metric to steer our automotive portfolio performance provides several benefits, as an intensity per physical unit-based metric:

- Provides a synthetic overview of the decarbonisation progress made by the portfolio over time
- Facilitates client engagement as these metrics are commonly used by key industry players
- Allows for relatively easy comparison and consistent tracking between companies

The target takes into account the strategy of our clients based on IHS Markit scenario projections, which leads them to modify their powertrain mix production.

Our methodology estimates company emissions as follows:

- **Powertrain technology mix per counterpart** (in percentage of vehicles produced) sourced from IHS Markit. The produced fleet is segregated across five powertrain mixes (ICE, Hybrid, Plug-in Hybrid (PHEV), Battery Electric Vehicles (BEV) and Fuel-Cell vehicles (FC)).
- **Emission factor per technology from Asset Resolution**, focusing on Scope 3 emissions of new vehicles sold (i.e., excluding current fleet in service) based on average standard CO_2 emissions per manufacturer and vehicle type per km driven based on WLTP norm.



3.5 Benchmark Scenario and Target Setting

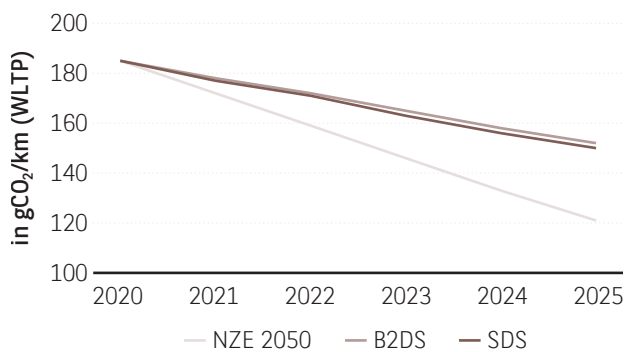
The three IEA scenarios described above do not provide targets on an emission intensity basis, but only on the partial powertrain mix:

- B2DS provides the global share of electric and fuel-cell vehicles in 2030, and
- SDS and NZE provide the shares of electric (BEV), Plug-in Hybrid (PHEV) and Fuel-Cell (FC) vehicles in 2030 and 2050 for NZE and 2025 and 2030 for the SDS.

In order to assess the emission intensity targets by these scenarios, we used relevant data from IHS Markit and Asset Resolution to make up for missing information in the IEA scenarios and extrapolate emission intensity targets for each of these scenarios up to 2025.

In the future, we will continue reviewing any new IEA projections and any additional information and granularity provided, to assess the appropriateness of recalibrating the implied adopted benchmark targets in the future.

IMPLIED CO₂ INTENSITY BASED ON IEA SCENARIOS



Source: International Energy Agency, BNP Paribas assumptions

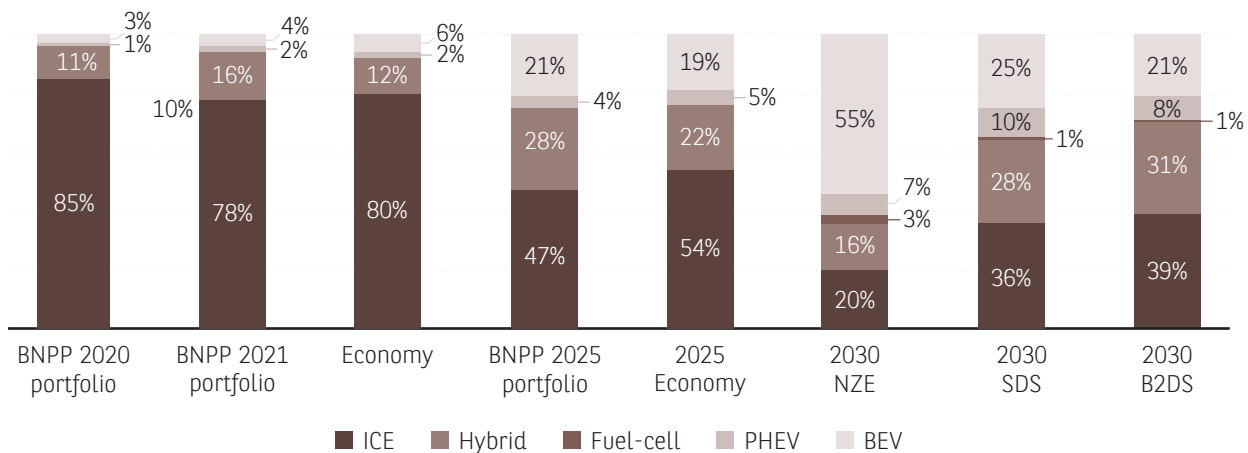
Note: based on linear interpolation between years provided by IEA

Our Commitment for the Automotive Sector

As of 31/12/2021, the powertrain mix of our automotive portfolio is in line with the average economy powertrain mix based on IHS Markit with 6% of electrified vehicles (BEV+PHEV+FC). By 2025, we expect the share of electrified vehicles, key for the success of the decarbonisation transition, to reach at least 25% in our portfolio.

Based on the above methodology and assumptions, the 2020 baseline emission intensity of our automotive portfolio of 183 gCO₂/km (WLTP) is already aligned to the global economy's average emission intensity of 185 gCO₂/km (WLTP).

AUTOMOTIVE POWERTRAIN MIX – BNP PARIBAS PORTFOLIO VS. IEA NZE



Source: International Energy Agency, BNP Paribas


Note: Economy = computed values based on IHS Markit data

B2DS low-carbon vehicles share PHEV/FC/BEV split is computed proportionally to the SDS split



We are targeting to have the emissions intensity of our automotive portfolio below 137 gCO₂/km (WLTP) by 2025, i.e. a reduction of at least 25% vs. 2020.

- This target is favourably positioned vs. the IEA SDS scenario, hence is compatible with the goals of the Paris Agreement to limit the increase of the global average temperature to well below 2°C above pre-industrial levels. This ambition puts us in a position to meet the 2030 target set in the NZE 2050 benchmark for the automotive sector.

 Automotive (car manufacturers)	Share of Electrified Vehicles in the Powertrain Mix		2025 Emission Intensity Targets (gCO ₂ /km – WLTP)		
	2020 Baseline	2025 Target	2020 Baseline	2025 Target	% Reduction 2020–25
IEA NZE 2050	4%	n/a	185	121	35%
IEA SDS	4%	n/a	185	150	19%
IEA B2DS	4%	n/a	185	152	18%
BNP Paribas	4%	>25%	183	<137	>25%

Source: IEA WEO data from International Energy Agency (2021), Net-Zero by 2050, IEA, Paris

Note: 2025 IEA data based on a linear interpolation between figures provided for 2020 and 2030

3.6 Delivering Our 2025 Ambition

In order for the automotive industry to adapt and shift towards greater electric vehicle production, it will need to secure financing through the issuance of sustainable bonds and loans. BNP Paribas has taken up a leading role to help finance this transformation.

Green Bonds Drive the Move to Electric Vehicles

BNP Paribas has worked on a number of noteworthy issues involving the automotive sector:

- The bank acted as a joint bookrunner on a 1 billion euros, 10-year green bond issued by Daimler, the German car manufacturer, in what should help the company accelerate its clean transportation transition. The bond was four times oversubscribed, indicative of investors' growing interest in the green finance market.
- BNP Paribas also acted as green structuring adviser to Volvo Cars when the company was establishing its Green Financing Framework. Under this framework, Volvo has raised funds to finance its own investment in electric vehicles, with a plan to make its entire passenger vehicle fleet either electric or hybrid by 2025.

BNP Paribas as an Innovation Catalyst for Its Clients and Partners in the Mobility Field

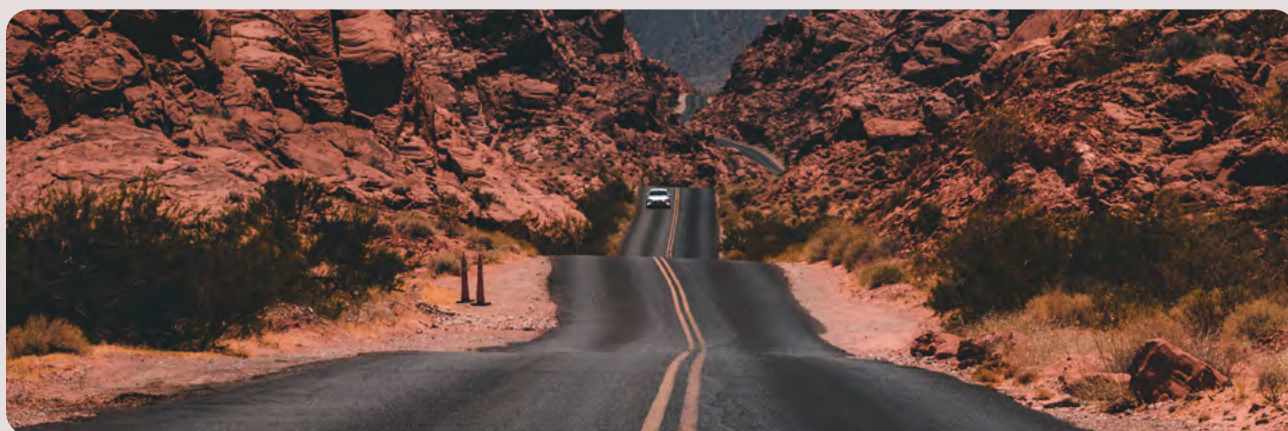
BNP Paribas is also positioned as the strategic banking partner of game-changers in the global energy transition. Northvolt financing advisory is a great example of how the bank supports its clients' funding and development of sustainable business models.

- Northvolt is building Europe's first gigafactory, powered by renewable energy. This factory will produce the world's greenest high-performing batteries for Northvolt's industrial partners.
- BNP Paribas teams used their comprehensive experience in structured debt advisory to help Northvolt raise over €1bn of financing. This first-ever limited recourse financing in the industry was placed with policy-driven institutions, export credit agencies and commercial banks.

Being a partner of the mobility innovation also means supporting all forms of transition to more sustainable energy and mobility, everywhere around the world. Hence, BNP Paribas is a partner of MovinOn's International Sustainable Mobility Summit; and leading player in the MovinOn ecosystem.

- The MovinOn ecosystem is both a think tank and a "do tank", operating on the basis of synergies that lead to concrete products and services. The BNP Paribas Group has been a MovinOn partner for five years.
- MovinOn brings together more than 250 innovation players (companies, governments, cities, universities, institutions, experts, think tanks, start-ups, designers, and more) and 4,000 participants.

The deployment of sustainable mobility within companies is also a key theme for Arval, BNP Paribas' vehicle leasing and sustainable mobility solutions company, which is now the European leader in the vehicle full service leasing.



Arval is committed to supporting its customers in making their mobility more sustainable and has set an ambitious target of reaching 700,000 electrified vehicles (FC, FHEV, PHEV and BEV) by 2025, as part of the Arval Beyond strategic plan.

Already exceeding 200,000 electrified vehicles today, this 2025 ambition will represent 35% of the total Arval fleet, and will lead to 35% lower CO₂ emissions^[1] on leased fleet vs 2020. Various initiatives have been initiated to meet this objective:

- SMaRT (Sustainable Mobility and Responsibility Targets), a structured approach supporting customers in making their total mobility and fleet more sustainable. Starting with defining strategic objectives and analysing their fleet, we support the redesign of their mobility through the introduction of vehicles with alternative powertrains and alternative mobility solutions like car sharing and bike sharing and leasing.
- A comprehensive electric vehicle offering, including various charging requirements like hardware, payment and other related services
- An optimistic position on electric vehicle evolution that is reflected in the Total Cost of Ownership for Arval's clients through dedicated approaches on the residual values, as well as in service and maintenance costs
- Partnerships with historical and new OEMs that are capable of introducing various models that can address demands in terms of vehicle segmentation, electric light commercial vehicle (eLCV) characteristics and overall total cost of ownership positioning.

This is particularly true for the mobility and automotive finance business, which represents a significant share of Personal Finance business. **The aim is to allocate by 2025 14% of the Retail finance portfolio of its Mobility business line to electrified vehicles (BEV, PHEV and FC),**

the overall Mobility business line portfolio being made of new and used cars. The ambitious target will be achieved with specific actions towards both end customer and distribution partners:

- Dedicated Retail finance offers for new electric vehicles including reassuring service offers, or packages for home charger financing, but also for increasing volumes of electric used cars,
- Incentive campaigns for manufacturers and distribution partners to accelerate and facilitate electric vehicle sales, including offers for new mobility providers and supporting advice at points of sale towards electric mobility,
- Within the "Mobility One Bank" approach of BNP Paribas, together with Arval, Cardif and the commercial banks, develop partnerships with historic and new car manufacturers to provide more sustainable yet still affordable automotive mobility solutions, continue developing soft mobility finance offers to complement automotive financing, especially with bike manufacturers and distributors.

For the time being, for BNP Paribas Personal Finance, only loan exposures with auto manufacturers under wholesale finance schemes are considered for the alignment report trajectory. Over time, retail portfolio ambitions will be integrated with enhanced data capabilities resulting from specific investments launched in 2021.

BNP Paribas Personal Finance, the consumer finance arm of BNP Paribas, has built its strategic plan around "promoting access to more responsible and sustainable consumption, supporting customers and partners".

[1] Average emissions of CO₂ are calculated as a weighted average of the Arval entities' fleet (passenger cars and LCVs). In a context of regulation change (NEDC, WLTP), the CO₂ emissions will be adjusted to the WLTP, making use of the results of a NEDC-WLTP correlation internal study, to ensure comparable stringency.



4

**ACCELERATING ON
OUR PATHWAY TO A
NET-ZERO ECONOMY**

A Client-Centric Approach

The transition towards a net-zero economy is a comprehensive transformation journey for all the players of the global economy. As such, three major strategic paths will guide the Group in accelerating its commitments to net-zero:

- Undertake an alignment of client portfolios to achieve carbon-neutrality objectives
- Mobilise fully the integrated model and all businesses to support our clients in their transition journey
- Strengthen our processes, steering tools and governance to support evolving needs and standards.

1. UNDERTAKE AN ALIGNMENT OF OUR PORTFOLIOS TO ACHIEVE CARBON-NEUTRALITY OBJECTIVES

At BNP Paribas, we define our net-zero targets at the portfolio level. With this approach in mind, we aim to steer the entire portfolio while identifying less advanced clients and providing them with our expertise and solutions to accelerate their transformation. By progressing across the entire client franchise towards carbon neutrality, we will reduce our exposure to financed emissions.

To achieve our 2025 commitments, our efforts will focus on engaging further with clients to support them in the transition towards a low-carbon economy.

This means both deepening and broadening our relationships with clients and remaining ahead of the curve to be the #1 go-to banking partner for clients in their energy transition.

- Firstly, by deepening the relationship with current clients, we are engaging with them to support their decarbonisation journey and ensuring we leverage our full spectrum of solutions to accompany their transition. For highest emitters, we will intensify strategic discussions to better understand their transition plan and accompany them when possible to transition to lower emission technologies.
- Secondly, by broadening our client scope, a strong focus in our commercial strategy is on companies sharing our decarbonisation conviction, positioned as leaders of change within their respective industry. Our commitment is to support their transition journey.

This targeted precision in understanding our clients' greatest challenges will allow us to identify the best way to leverage BNP Paribas' integrated banking model and efficiently tailor our support to sustain the transition trajectories of each of our clients.



2. MOBILISE FULLY THE INTEGRATED MODEL AND ALL BUSINESSES TO SUPPORT OUR CLIENTS IN THEIR TRANSITION JOURNEY

The integrated model and all businesses will be fully mobilised and committed to supporting clients in the transition towards a sustainable and low-carbon economy through, in particular, **bringing together a task force spread across our front officers: the Low Carbon Transition Group**. This group of low-carbon experts will work with our clients to find the financial solutions they need. Fully understanding the challenges facing each of our clients, the Low-carbon Transition Group will source across the BNP Paribas Group and the wider financial markets the support needed to meet those challenges and unlock their transition to a net-zero economy.

The group comprises over 250 professionals, coordinated across the world as one centre of excellence, to deliver the accumulated expertise BNP Paribas has developed in transition finance over the years.

At the cornerstone of our GTS 2022-2025 plan and at the core of our integrated model, the Low Carbon Transition Group will drive our commercial strategy to achieve our net-zero commitment:

- Our Advisory, Capital Markets and Global Markets offerings for sectors most impacted by the transition (power and utilities, oil and gas low-carbon solutions, mid and down-stream energies and transition minerals, metals and batteries), and transversally for most needed technologies (renewables and hydrogen).
- Our ability to support Transition Accelerators, the innovative scale-up companies that are investing in carbon transition technologies across our global regions.





Beyond the creation of the Low Carbon Transition Group, the full mobilisation of the Group goes deeper, at the core of our operations:

- As a bank financing a greening economy, **the Group aims to mobilise 350 billion euros by 2025 through loans and bond issues covering environmental and social topics**,^[1] as well as to reach 300 billion euros in sustainable and responsible investments by 2025.^[2]
- As an asset manager, BNP Paribas has made a longstanding commitment to fight climate change. In November 2021, **BNP Paribas Asset Management** joined the Net-Zero Asset Managers initiative. BNP Paribas Asset Management has been working on addressing Climate Change for several years and joining this initiative continues its journey. BNP Paribas Asset Management will publish its Net-Zero Roadmap and its net-zero commitments later this year.

BNP Paribas Asset Management maintains an active program of direct corporate engagement on climate change. These engagements are designed to enhance the long-term value of our shareholdings and to foster environmental stewardship. We also focus our engagement on corporate climate lobbying, encouraging companies to align their lobbying efforts with the goals of the Paris Agreement.

- As a long-term investor, **BNP Paribas Cardif** has strengthened its responsible investment policy and its commitments to the energy transition by joining the UN-convened Net-Zero Asset Owner Alliance in September 2021. As part of its commitment to fight global warming BNP Paribas Cardif also joined climate

action 100+ in October 2021 alongside other prominent investors, including BNP Paribas Asset Management. These initiatives reflect BNP Paribas Cardif's longstanding responsible investment policy.

Since 2008, the insurer has implemented social responsibility and sustainability screenings for its French general fund. This strategy has been continually strengthened over the years. BNP Paribas Cardif integrates climate issues through BNP Paribas Group's sector exclusion policies and analyses of companies' energy transition; and through the assessment of the climate impact of the financial asset portfolio.

BNP Paribas Cardif, like BNP Paribas Asset Management is also a signatory of the Principles for Responsible Investment (PRI), an independent entity supported by the United Nations that develops a common blueprint for responsible investment by integrating ESG criteria and the Montreal Carbon Pledge, an initiative designed to raise investor awareness of global warming.

BNP Paribas Cardif is committed to reducing the carbon footprint (in tCO₂e/€m invested; scopes 1, 2 and 3) on directly held equities and corporate bonds portfolio by at least 64% by 2025 compared to 2017.

- As car fleet operator, the Group, through its specialised subsidiary **Arval, is committed to supporting its customers in making their mobility more sustainable and has set ambitious targets of reaching 700,000 electrified vehicles (FC, FHEV, PHEV and BEV) by 2025** as part of the Arval Beyond strategic plan.

[1] Corporate, institutional and individual loans tied to environmental and social issues and annual sustainable bonds issuances

[2] BNP Paribas Asset management European open funds classified open articles 8 and 9 as defined by SFDR

3. STRENGTHEN OUR PROCESSES AND STEERING TOOLS TO SUPPORT EVOLVING NEEDS AND STANDARDS

Scaling up our commitment to a net-zero economy also requires that the Group strengthens its processes and steering tools to support evolving needs and standards, and strengthens its governance. To that effect, BNP Paribas created **Climate Analytics & Alignment**, a team designed to support our front officers as they engage with clients on their transition to a low-carbon economy and steer the Group's portfolio alignment towards net-zero by 2050. More specifically, the team closely collaborates with the Low Carbon Transition Group and concentrates its efforts on:

- Developing the methodologies and industrialising the process for the review of carbon intensive sectors
- Monitoring the impact of our commercial strategy on the metrics and targets defined for each carbon intensive sector.

Methodology-wise, this team is positioned as a centre of excellence for the Group, leveraging on a mutualised set-up within the Group. It will also make sure that the work done on our portfolio alignment measurement constantly remains consistent with best market standards and supports the evolving needs of our clients, front officers and regulators.

This strengthening of our steering tools will allow us to accelerate industrialisation of our portfolio review and facilitate our capacity to accompany our clients while delivering our 2025 commitments on the net-zero economy pathway.

Strengthened Governance in Sustainable Finance

In 2021, the Group's ESG governance system was extended to all aspects of the Company and its structure was accentuated.

A Sustainable Finance Strategic Committee, chaired by the Director and Chief Executive Officer, was set up in November 2021. This bimonthly committee, in which members of Executive Management, the Company Engagement Department and the heads of the business lines and functions involved take part, approves the overall strategy in terms of sustainable finance, decides on the overall commitments made by the Group and the main focuses of Sustainable Finance commercial policies, then monitors their operational implementation.

At the same time, a Sustainable Finance Infrastructure Committee was also created in 2021 to industrialise ESG processes, data and reporting. Its mission is to meet the growing needs of clients, regulators and investors. Around the Deputy Chief Executive Officer, it brings together key contributors from different business lines and functions.

Finally, an ESG Regulatory Committee at Executive Management level was set up to assess the operational consequences of the main new regulations.



5

NEXT STEPS ON OUR ROAD TO A NET-ZERO ECONOMY

We are determined to continue playing a leading role in the decarbonisation of the economy by actively supporting our clients in their transition and aligning our portfolio with our net-zero target by 2050. These are the two sides of the same coin: contributing to reaching a net-zero carbon emissions economy.

Our decision to establish objectives in terms of financing the transition and aligning our portfolio for 2025 demonstrates our commitment to take action today. In this report, we have defined targets for three of the highest emitting sectors: power generation, oil and gas and automotive. We are currently extending and adapting this work to other sectors according to their carbon intensity, their presence in our portfolio, the current potential of reducing their emissions and the availability of precise data.

We will report our financed emissions (scope 3) based on the PCAF at the end of 2022. Although this methodology may need improvements, it meets the current demands of investors.

This alignment report is a first. Going forward, there is room for progress and further refinement of the methodology and scenarios.

As work in this area unfolds, we are confident that we will be able to rely on more comprehensive and granular data and that

scenarios and transition pathways will be even more mature. We will monitor these changes and any additional regulatory requirements and ensure that they are incorporated in our future methodologies.

As with the TCFD report, we view this report as a landmark in our continuous improvement approach. We will continue our discussions with all our stakeholders to constantly better our practices, and gradually include some of our capital market activities.

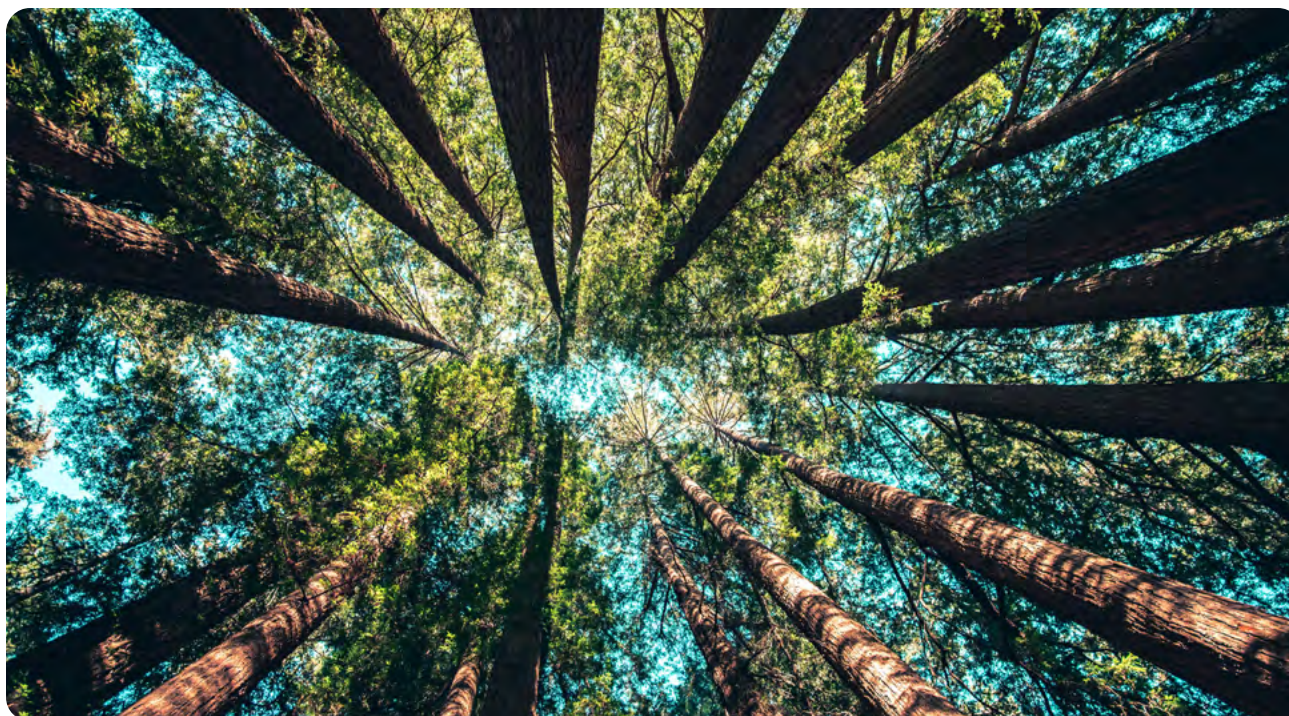
As we work on the alignment of our portfolio to a net-zero economy, we will also accelerate in the deployment of the full range of BNP Paribas' services to partner with our clients in their transition through notably our Low Carbon Transition Team. We will also maintain our financial support to our dedicated clients in their sustainability journey. In this respect, the present report has introduced the criteria to concretely attain our collective 2050 net-zero targets.

Climate change is the challenge of an entire generation and BNP Paribas is determined to do its part. We need to help the economy align to the climate objectives that are vital for our future. Everyone — from businesses to banks, scientists to NGOs — must work together towards a successful and just transition.

APPENDIX

GLOSSARY AND ABBREVIATIONS

APAC	Asia Pacific	gCO₂/km	Gram of carbon dioxide per kilometre
B2DS	Beyond 2°C Scenario (IEA scenario)	gCO₂/kWh	Gram of carbon dioxide per kilowatt-hour
BEV	Battery Electric Vehicle	gCO₂/v-km	Gram of carbon dioxide per vehicle kilometre
BNPP	BNP Paribas	gCO₂e/MJ	Gram of carbon dioxide equivalent per mega joule
C2A	Climate Analytics and Alignment is a BNP Paribas team which supports front officers as they engage with clients on their transition to a low-carbon economy and steer the Group's portfolio alignment towards net-zero by 2050	GHG	Greenhouse gas. Atmospheric gas that absorbs and emits radiation within the thermal infrared range, causing the greenhouse effect. GHGs are the six gases listed in the Kyoto Protocol: carbon dioxide (CO ₂); methane (CH ₄); nitrous oxide (N ₂ O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF ₆)
CCCA	Collective Commitment on Climate Action	Gt CO₂	Gigaton of carbon dioxide
CCS	Carbon Capture and Storage is a process of capturing and storing carbon dioxide (CO ₂) before it is released into the atmosphere	GWP	Global Warming Potential
CCUS	Carbon Capture, Utilisation and Storage (also carbon capture, utilisation and sequestration) is a process that captures CO ₂ emissions from sources like coal-fired power plants and either reuses or stores it	HDV	Heavy Duty Vehicle
CH₄	Methane	ICE	Internal combustion engine
CO₂	Carbon dioxide	IEA	International Energy Agency. Works with countries around the world to shape energy policies for a secure and sustainable future
CO₂e	Carbon dioxide equivalent is the number of metric tons of CO ₂ emissions with the same global warming potential as one metric ton of another greenhouse gas	IFR	International Financing Review
CSP	Concentrating Solar Power	IPCC	Intergovernmental Panel on Climate Change
EBT	Wood Mackenzie Emission Benchmarking Tool	kg	Kilogram
eLCV	Electric Light Commercial Vehicle	km	Kilometre
EMEA	Europe, Middle East and Africa	kt CO₂e	Kiloton of carbon dioxide equivalent
ESG	Environmental, Social and Governance	kWh	Kilowatt-hour. A unit of energy equal to the work done by a power of a thousand watts in one hour
ETP	Energy Technology Perspectives – Energy Technology Perspectives 2020 – Analysis – IEA	LCTG	Low Carbon Transition Group is a BNP Paribas team which provides clients with the advice and access to capital they need to facilitate the transition to a low-carbon economy
EV	Electric Vehicle	LDV	Light Duty Vehicle
EV Report	Electric Vehicle report – Global EV Outlook 2021 – Analysis – IEA	MJ	Mega joule
FC	Fuel-Cell Electric Vehicle	Mt	Megaton
FHEV	Full Hybrid Electric Vehicle	MW	Megawatt
FSTF	Financial Services Task Force	MWh	Megawatt-hour. A unit of energy equal to the work done by a power of a million watts in one hour
g	Gram	NGO	Nongovernmental organization



NZAMi	Net-Zero Asset Managers initiative	2 and 3 Emissions	direct GHG emissions from owned or controlled sources; Scope 2 covers indirect GHG emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company; Scope 3 includes all other indirect GHG emissions that occur in the value chain
NZAO	Net-Zero Asset Owner Alliance	SDS	Sustainable Development Scenario (IEA scenario)
NZBA	Net-Zero Banking Alliance	SFDR	Sustainable Finance Disclosure Regulation
NZE 2050	The IEA's Net-Zero Emissions by 2050 scenario – Net Zero by 2050 – Analysis – IEA	SMI	Sustainable Markets Initiative
O&G	Oil and gas sector	SUV	Sport-Utility Vehicle
OECD	Organisation for Economic Co-operation and Development	Tailpipe EI	Tailpipe Emission Intensity
OEM	Original Equipment Manufacturer	TCFD	Task Force on Climate-related Financial Disclosures
PACTA	Paris Agreement Capital Transition Assessment is a free, open-source methodology and tool, which measures financial portfolios' alignment with various climate scenarios consistent with the Paris Agreement	TCO	Total Cost of Ownership
Paris Agreement	The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels	TWh	Terawatt-hour
PCAF	Partnership for Carbon Accounting Financials provides support for financial industry alignment with the Paris Climate Agreement	UNEP FI	United Nations Environment Programme - Finance Initiative
PHEV	Plug-in Hybrid Electric Vehicle	v-km	Vehicle kilometre
PRB	Principles for Responsible Banking	WEO	World Economic Outlook – World Energy Outlook 2021 – Analysis – IEA
Scopes 1,	As defined by the GHG Protocol: Scope 1 covers	WLTP	Worldwide harmonised Light vehicles Test Procedure
		2DII	a think tank that developed an alignment methodology for investment portfolios named PACTA (Paris Agreement Capital Transition Assessment) to adapt it to credit portfolios.

This report was prepared in April 2022.

The figures included in this report are unaudited.

This report includes forward-looking statements based on current beliefs and expectations about future events. Forward-looking statements include projections and estimates and their underlying assumptions, statements regarding plans, objectives and expectations with respect to future events, operations, products and services, and statements regarding future performance and synergies. They rely on methodologies and data, which quality and availability are subject to changes, as described in Section 2 of this report.

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