FINANCIAL INSTITUTIONS

ESG AS A BUSINESS OPPORTUNITY

How banks can capitalize on the net zero transition business opportunity

SEPTEMBER 2022

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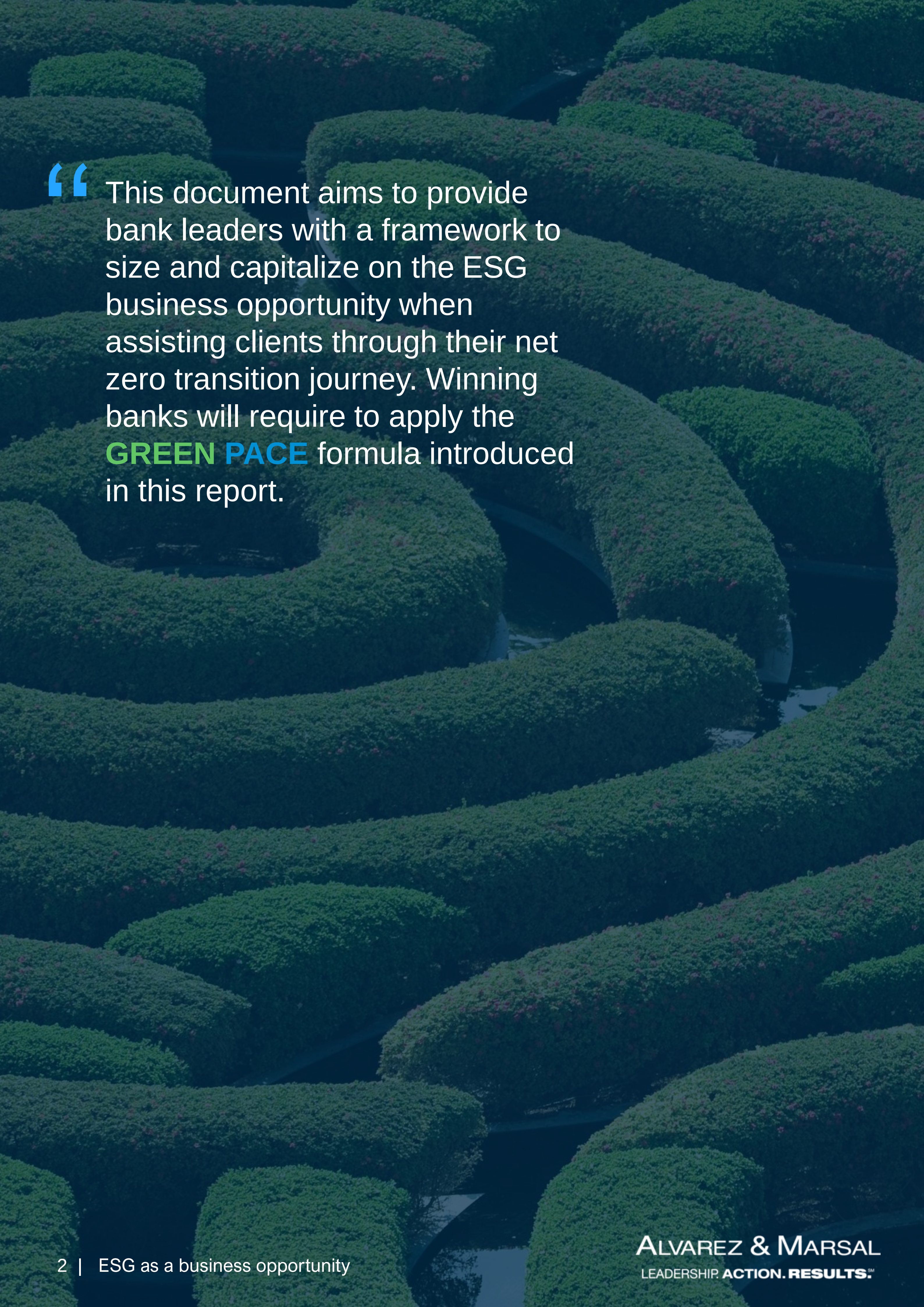


> This document aims to provide bank leaders with a framework to size and capitalize on the ESG business opportunity when assisting clients through their net zero transition journey. Winning banks will require to apply the **GREEN PACE** formula introduced in this report.

1 Executive Summary

Introduction

Global banks are going green. ESG as a business opportunity is A&M's perspective to evaluate revenue growth opportunities for banks in their journey to accompany clients toward net zero transition. Competition is high, and client win rate and margin protection are at stake.

Banks are moving from playing defence in ESG, — that is, complying with regulatory, investor and rating agency expectations — to playing offence. Maximizing financial benefits from ESG in a highly competitive environment requires:

- Deploying a broad and sound offering of sustainable finance and investing products.
- Articulating credible net zero plans for emissions financed.
- Adopting a client orientation to transition planning, assisting them with analytics, insights and end-to-end solutions.
- Accompanying clients in the operational execution of transition plans fully embracing innovation and digitalisation.

This document introduces a framework for banks to maximize the ESG business opportunity, identifies sustainable finance revenue pools and displays examples of a wide range of leading industry initiatives emerging in the space.

> *Sustainable bank strategies are moving from regulatory compliance to a wide range of initiatives designed to capitalize on the ESG business opportunity*
>
> **A&M Perspective**

Evolution of Sustainable Strategies

Bank response to sustainability challenges is evolving rapidly. We have observed three phases of this evolution:

1 Launch of Sustainability Programs

- Create organisational units to coordinate sustainability across the bank.
- Launch sustainability programs to advance climate strategy, capabilities, data, toolsets and disclosures.
- Conduct ESG portfolio risk assessment and evaluation to identify high risk areas.

2 Regulatory Compliance

- Meet regulatory compliance requirements (e.g., ECB climate risk management expectations).
- Execute climate stress tests on physical and transitions risks (e.g., Bank of England and ECB recent climate tests).
- Define sustainability strategy, metrics and targets with clear governance.

3 ESG as a Business Opportunity

- Develop sustainable finance products, eligible criteria and control frameworks.
- Define client programs to link portfolio net zero targets and strategic choices with transition solutions, pricing and tools to support clients in their transformation.
- Develop ESG client teams, training and research along ESG big themes.
- Create platforms/marketplaces to facilitate execution of client transition.

1 Executive Summary

Winning Formula: GREEN PACE

Capitalizing on the ESG opportunity will require banks to bravely combine multiple capabilities to connect supply of bank products with demand for client transition solutions. We call the winning formula **GREEN PACE**, with four attributes that define the winners in sustainability.

GREEN Products ①

- Sustainable financing solutions linked to trackable decarbonisation KPIs and ambitious 2030 sustainable finance targets.

Alignment to Net Zero ②

- Net zero targets across lending portfolios with transparent emission reduction metrics using benchmarks and internal tooling.

Client Orientation and Insights ③

- Transition advice and analytics linking client transition operational solutions with financial business case and customized insights.

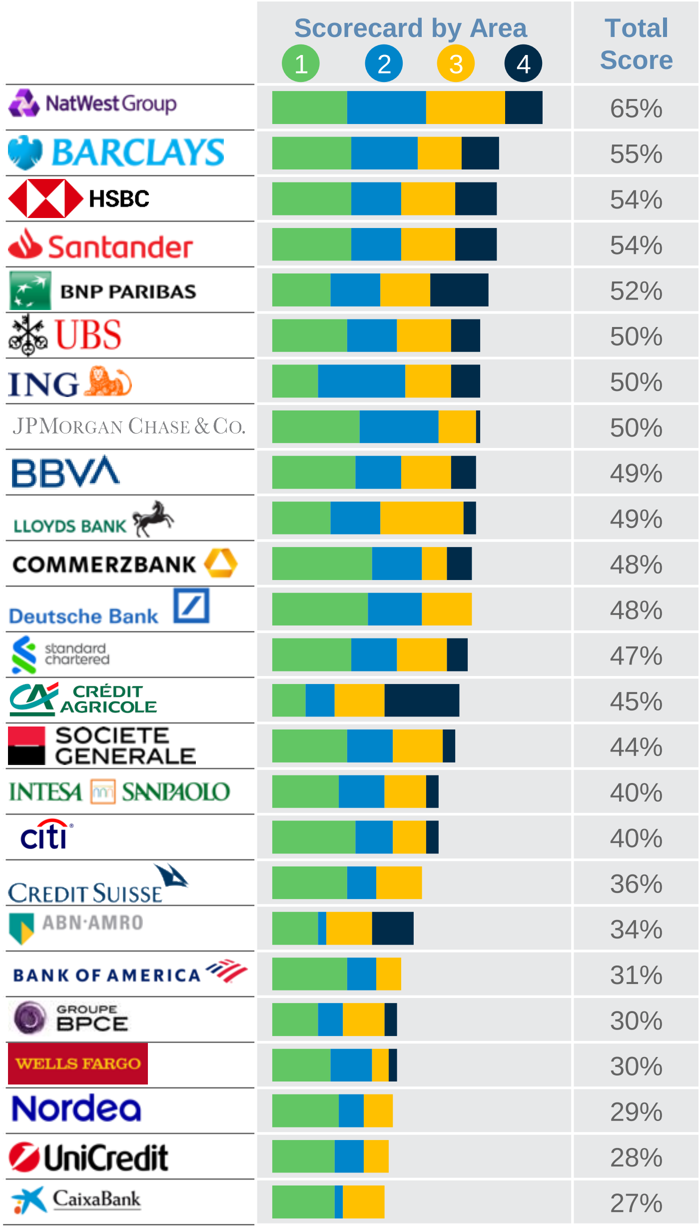
Execution of Transition Plans ④

- Bank involvement in operational execution through climate tech investing, innovative joint ventures and digital platforms/marketplaces.

> *Revenue opportunities are migrating from product-focused to client orientation strategies, bundling bank solutions, insights and transition execution. Client win rate and margin protection are at stake. Digital and innovation are key drivers of differentiation.*
>
> **A&M Perspective**

Bank Ranking

Based on publicly available information, A&M has developed an **outside-in view scorecard** of **GREEN PACE** across 25 top global banks:



Source: A&M analysis.

NatWest is our winner, yet it has not achieved its full potential. European banks perform better than U.S. peers. UK banks outperform other European banks. The report provides scorecard result drivers and examples of leading bank practices along the four dimensions of **GREEN PACE**.

1 Executive Summary

GREEN Products

Top 25 European and U.S. banks have committed **€13 trillion** of sustainable finance targets by 2030. Four top U.S. banks account for $5.5 trillion while 17 European banks have targets for €7,3 trillion. Annualized target levels amount €1,3 trillion. This compares with UN estimates that quantify the gap in funding needed to achieve the SDGs by 2030 at USD 2.5 trillion to USD 3 trillion annually. 2030 sustainable finance targets represent an average 37 percent of total bank assets.

Green and sustainable finance products include:

- Green, social and sustainable linked bonds.
- Green and sustainable linked loans, including trade, supply chain and renewable energy.
- Green mortgages and auto loans.
- Equity capital raising and M&A advisory.

A&M estimates the 2030 ESG revenue pool for global banks at €295 billion. Europe and North America comprise 46 percent of total (€135bn) and a 10 percent uplift in total actual revenue.

Some **leading industry practices** related to green products include:

- Developing broad green product offerings across corporate, SME and retail clients.
- Disclosing financing product framework providing independently validated criteria.
- Setting sustainable finance targets by business line and product offering, and providing comprehensive progress disclosure.
- Defining strong level of ambition in 2030 targets above 50 percent of total assets.

Sustainable finance targets set by banks are hard to compare due to varying time horizons, ambition, financing purpose and product coverage used. It is recommended that the **industry standards** develops for common scope and criteria of green finance targets so comparability can be provided to investors and external stakeholders.

Alignment to Net Zero

As per net zero banking alliance commitments, banks have been setting and disclosing net zero targets for their lending portfolios. Banks have faced substantial data and methodology challenges while managing trade-offs between net zero targets, profitability and climate risk.

A&M has conducted benchmarking of bank net zero targets. Most banks have committed to exit phase-out coal financing in EU/OECD by 2030 and worldwide by 2040, with a handful of banks committing to earlier exits. Targets for oil and gas and power portfolios have been set by most banks using absolute emission and emission intensity goals, respectively. Coverage across industry, real estate and transportation portfolios is limited so far. Later in the report, we provide extensive quantitative benchmarking of portfolio targets disclosed to date.

Some **leading industry practices** when setting net zero targets include:

- Articulating net zero targets for 10 lending portfolios or more covering at least 50 percent of exposure or 80 percent of financed emissions.
- Developing comprehensive net zero target disclosures including absolute/relative emissions data, assumptions, pathways, data scorecards and client transition strategies (see disclosures of our five Alignment to Net Zero winners).
- Developing portfolio alignment proprietary tools and methods and sharing output with clients.

While the industry has collaborated in common portfolio measurement methods such as PACTA, **industry standards** need to further develop in the areas of common units of measure for emissions, scenarios, timeline of targets and level of ambition relative to starting point.

1 Executive Summary

Client Orientation and Insights

Banks that want to maximize the ESG business opportunity must deepen their client relationships. Winners in sustainable finance must wear client shoes to effectively bundle bank solutions into client transition needs. Banks that do well will improve business win rate and protect margins in a highly competitive environment. Banks are required to:

- Understand well operational challenges faced by clients
- Provide advice in available transition solutions
- Engage with them in strategic dialogue to support transition planning and decision making
- Leverage the full bank service offering to accompany them in the net zero journey

Some **leading industry practices** in the area of Client Orientation and Insights include:

- Development of CO2 footprint tracking tools for retail clients and SMEs.
- Deployment of transition playbooks, transition assessment tools, benchmarks and cost-benefit analysis of transition solutions for corporate clients and SMEs.
- Revamp of ESG expertise in the client relationship areas including the identification of dedicated ESG experts and teams of ESG client advisors.
- Delivery of extensive internal training for employees and external informational sessions for clients.
- Placing emphasis in ESG research and insights customized for clients as an integral part of the green and sustainable product offering.

Banks need to make choices in terms of target customer segments and geographical locations so risk/reward trade-offs are managed. Adopting a client orientation also involves investment and reputational/conduct risks that need to be considered.

Execution of Transition Plans

Engaging with clients in execution of their transition plans can also improve success rate and drive revenue growth. Banks need to be involved operationally in facilitating transition solutions for clients to effectively accompany clients in their net zero journey.

In our view, banks committed to execution will need to deliver a combination of the following:

- Giving client access to innovative climate tech solutions by investing or supporting start-up companies in the space.
- Partnering with industrials to bring financing and operational solutions to clients.
- Developing digital marketplaces/platforms to efficiently scale up transition solutions to a large set of clients.
- Promoting circular economy solutions.

Some **leading industry practices** in this area include:

- Five European banks have committed approximately €1,4 billion of equity capital to be invested in climate tech and sustainable venture capital companies.
- Several banks are partnering with real estate service providers to offer financing and retrofit turnkey solutions to corporate and retail real estate owners.
- Banks are partnering with large retailers to provide green supply chain financing solutions to third-party suppliers.
- Digital marketplaces such as Carbonplace and many others are emerging to provide scalable transition solutions to clients.
- Banks are promoting financing and business models involving circular economy principles.

Decision making on selected model (banking as a platform vs. banking as a service) is required. Banks can also collaborate more in the deployment of open ESG marketplaces.

2 Take Aways from Climate Stress Tests

Lessons Learned From Stress Tests

ECB and Bank of England reported results of their first-ever climate stress tests during 2022. Lessons learned from these exercises are as follows:

- Climate stress test capability scorecard displayed considerable gaps in the areas of data availability, modeling techniques and lack of integration of climate risk into ICAAP and strategy.
- Quantitative loss impacts from climate events are manageable. However, moderate results are due to smaller sample and coverage, benign scenarios, and bank data and modeling limitations.
- Wide range of outcomes leads to high modeling uncertainty.
- Learning nature of exercise will limit capital impact. Indirect impact is expected through qualitative assessment of SREP process, with further regulatory pressure on climate agenda and Pillar 2 add-ons going forward.
- Banks are turning their attention to embedding climate risks on their end-to-end. credit risk management process and capitalizing on the net zero transition business opportunity.

> *For banks to be able to gauge their exposure to climate risks in the future, it will therefore be important for them to enhance their customer engagement to gain insights into their clients' transition plans.*
>
> **ECB Perspective**

Transition Risk Modelling

As evidenced by bank climate stress tests, transition risk modeling is an emerging discipline. Leading banks are leveraging these analytics to inform client transition planning, insights and engagement turning a regulatory expectation into a business opportunity. Some leading practices observed in stress tests are:

- A few banks considered both direct and indirect transmission channels in line with the scenarios (e.g., incorporation of CO2 price, energy consumption and GHG emissions). Lesson learned for business opportunity -> Banks can quantify drivers of client transition risk and develop bank solutions to assist clients with Capex financing, CO2 offset products, energy derivatives and M&A services.

- Banks combined client level analysis using actual data with proxy-based techniques when data was not available. Lesson learned for business opportunity -> Banks can develop tailored products and tools for large clients, combining green and sustainable linked financing with transition playbook, tracking and benchmarking analytics, and customized operational solutions.

- Some banks engaged in thorough outreach with clients to assess climate vulnerability and feasibility of their transition plans. Better approaches included expert credit reviews of modeled results and applying conservative overrides when modeled results were inconsistent with client expectations. Lesson learned for business opportunity -> Banks can encourage customers to provide more/better climate data and engage them by offering transition analytics and solutions to help fill data gaps, analyse/challenge their existing transition plans and propose alternative strategies if needed.

2 Take Aways from Climate Stress Tests

ESG Enabled Credit Lending Cycle

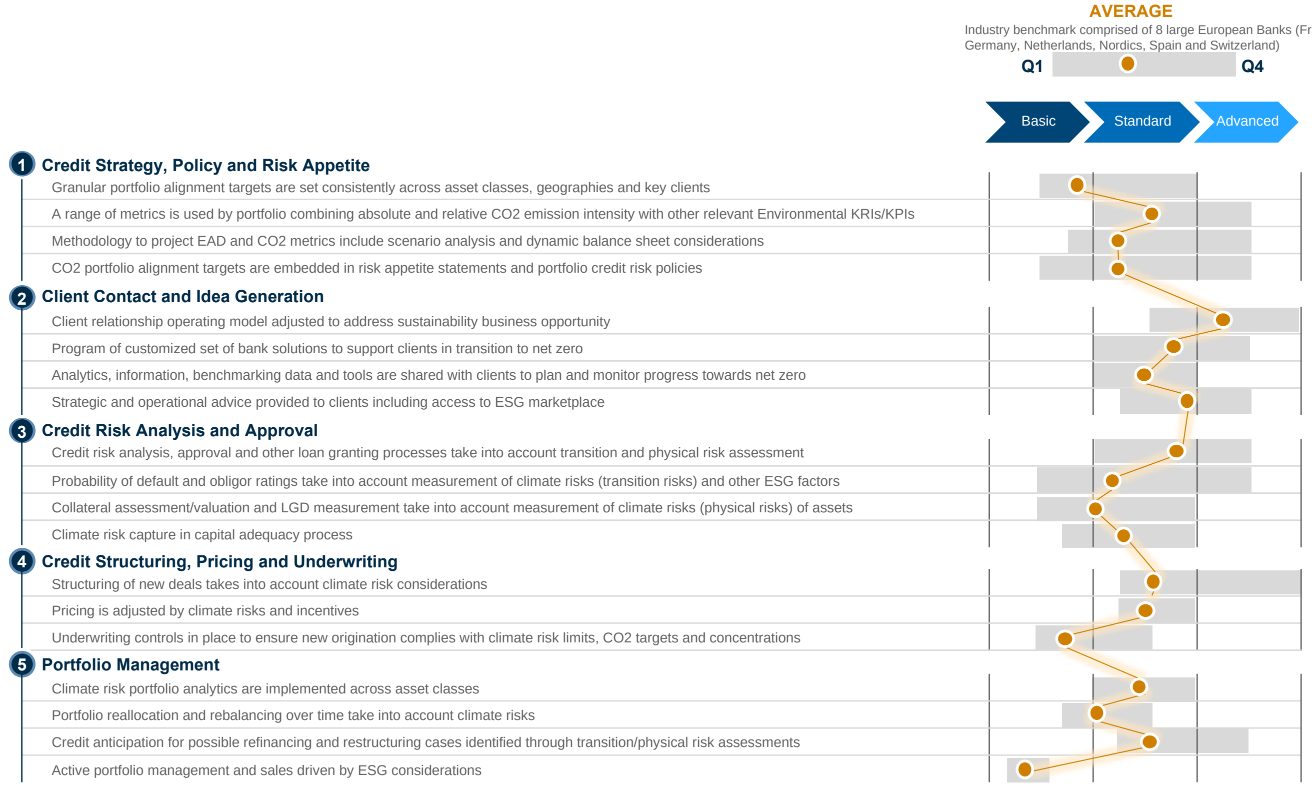
ESG forces banks to rethink all components of the loan origination and monitoring processes in order to facilitate transition and transformation programs of corporate clients.

ECB climate stress test report shows that, overall, banks need to improve climate credit lending processes, especially in the areas of:

- Including stress test outcomes when implementing their business strategy.
- Considering dynamic balance sheet approach for climate risks.
- Incorporating specific climate strategies and targets for corporate clients and/or granular location data of client assets.
- Considering all portfolios when analyzing climate risks (not only corporate loans and households).
- Including climate mitigation actions (e.g., link to portfolio net zero targets, underwriting criteria, pricing and portfolio reallocation decisions).

A&M has performed industry benchmarking on the level of integration of ESG within loan origination and portfolio management processes. This is what we found out:

1. ESG metrics are starting to be used when setting **credit strategy, policy and risk appetite**. However, gaps remain in detailed climate targets by asset, region and client.
2. Most banks have realigned their **client relationship model** to the ESG opportunity, deploying specialized teams, training and analytical capabilities.
3. While ESG is considered for **credit analysis and approval**, few banks have adjusted risk parameters such as PD and LGD.
4. ESG-linked **pricing and underwriting** can be a differentiating factor during the credit approval process.
5. ESG-enabled **portfolio management** including portfolio relocation, hedging or exits is a developing discipline.



1 Credit Strategy, Policy and Risk Appetite

- Granular portfolio alignment targets are set consistently across asset classes, geographies and key clients
- A range of metrics is used by portfolio combining absolute and relative CO2 emission intensity with other relevant Environmental KRIs/KPIs
- Methodology to project EAD and CO2 metrics include scenario analysis and dynamic balance sheet considerations
- CO2 portfolio alignment targets are embedded in risk appetite statements and portfolio credit risk policies

2 Client Contact and Idea Generation

- Client relationship operating model adjusted to address sustainability business opportunity
- Program of customized set of bank solutions to support clients in transition to net zero
- Analytics, information, benchmarking data and tools are shared with clients to plan and monitor progress towards net zero
- Strategic and operational advice provided to clients including access to ESG marketplace

3 Credit Risk Analysis and Approval

- Credit risk analysis, approval and other loan granting processes take into account transition and physical risk assessment
- Probability of default and obligor ratings take into account measurement of climate risks (transition risks) and other ESG factors
- Collateral assessment/valuation and LGD measurement take into account measurement of climate risks (physical risks) of assets
- Climate risk capture in capital adequacy process

4 Credit Structuring, Pricing and Underwriting

- Structuring of new deals takes into account climate risk considerations
- Pricing is adjusted by climate risks and incentives
- Underwriting controls in place to ensure new origination complies with climate risk limits, CO2 targets and concentrations

5 Portfolio Management

- Climate risk portfolio analytics are implemented across asset classes
- Portfolio reallocation and rebalancing over time take into account climate risks
- Credit anticipation for possible refinancing and restructuring cases identified through transition/physical risk assessments
- Active portfolio management and sales driven by ESG considerations

Source: A&M analysis.

3 ESG Business Opportunity Framework

GREEN PACE

Capitalizing on the ESG opportunity will require banks to bravely combine multiple capabilities to connect supply of bank products with demand for client transition solutions. We call the winning formula **GREEN PACE**, with four attributes that will define the winners in sustainability.

① GREEN Products

First, banks must offer a wide range of sustainable finance products including bonds, loans and derivatives for both green and sustainable-linked purposes. The offer needs to be customized by client segment. We assess range of products and target ambitions.

② Alignment to Net Zero

Second, as required by NZBA, banks must set clear net zero targets for their financed emissions. We evaluate breadth and depth of net zero targets including number of portfolios, asset coverage, data quality and internal tools.

③ Client Orientation and Insights

Third, banks must wear their client shoes to understand their transition needs, offer customized solutions and win more business. We evaluate carbon tracking tools and transition plan analytics/playbooks provided to clients as well as sustainability insights and research.

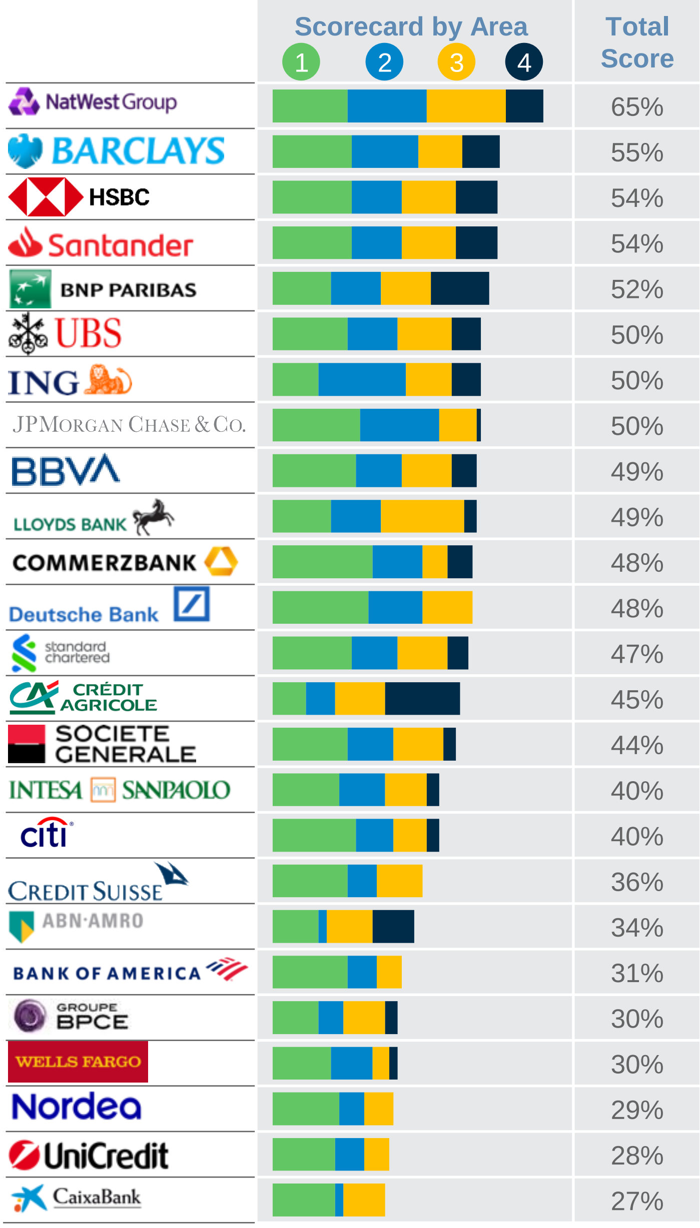
④ Execution of Client Transition

Lastly, winning banks will also accompany clients in their execution of transition plans including investing in climate tech to be offered to clients, developing innovative partnerships, creating ESG marketplaces or actively participating in circular economy solutions.

Source: A&M analysis.

A&M Bank Rankings

Based on publicly available information disclosed in bank sustainability reports, investor presentations and annual reports, A&M has developed **outside-in view scorecard** of **GREEN PACE** attributes that allows to assess bank choices:



	Total Score
NatWest Group	65%
BARCLAYS	55%
HSBC	54%
Santander	54%
BNP PARIBAS	52%
UBS	50%
ING	50%
JPMORGAN CHASE & CO.	50%
BBVA	49%
LLOYDS BANK	49%
COMMERZBANK	48%
Deutsche Bank	48%
standard chartered	47%
CRÉDIT AGRICOLE	45%
SOCIETE GENERALE	44%
INTESA SANPAOLO	40%
citi	40%
CREDIT SUISSE	36%
ABN·AMRO	34%
BANK OF AMERICA	31%
GROUPE BPCE	30%
WELLS FARGO	30%
Nordea	29%
UniCredit	28%
CaixaBank	27%

Assumptions include:

- 25maximum score for each four dimensions
- As disclosures evolve and become more comprehensive scores will increase (A&M plans to update **GREEN PACE** ranking annually).

3 ESG Business Opportunity Framework

Range of Leading Industry Practices

GREEN PACE is A&M's framework to evaluate how banks are capitalizing on sustainability as a business opportunity. Below we provide 25 capabilities assessed and bank rankings along the four dimensions of **GREEN PACE**. Level of commitment, complexity and innovation is widespread.

1 Green Products

- Extensive green product offering across corporate, SME and retail clients including capital markets, lending and advisory solutions.
- Disclosed green and sustainability financing product framework.
- 2030 sustainable finance targets (total and by asset class) with progress reported.
- Strong ambition in 2030 target levels (e.g., exceeding 50 percent of total assets).
- Track record in target delivery (2021 production exceeding target run rate).

1. COMMERZBANK
2. Deutsche Bank
3. JPMorgan Chase & Co.
4. BBVA
5. citi

2 Alignment to Net Zero

- Articulation of net zero targets for financed emissions across portfolios.
- Strong target coverage based on number of portfolios and percent of assets.
- Net zero target disclosures include absolute/relative emissions data, assumptions, pathways, data scorecards and client transition strategies.
- Portfolio alignment proprietary tools (e.g., BlueTrack, Terra, CarbonCompass).
- Net zero target set at more aggressive levels than peer average.

1. ING
2. NatWest Group
3. JPMorgan Chase & Co.
4. BARCLAYS
5. Deutsche Bank

3 Client Orientation and Insights

- CO2 footprint tracking tools provided to multiple client segments.
- Transition planning analytics provided to clients (transition playbooks, assessment, benchmarks, cost-benefit analysis of transition solutions).
- Dedicated ESG experts and ESG client advisors.
- Extensive internal training.
- Dedicated ESG research teams and regular ESG insights customized for clients.

1. LLOYDS BANK
2. NatWest Group
3. HSBC
4. UBS
5. Santander

4 Execution of Client Transition

- Direct equity investments in climate tech and sustainable venture capital.
- Innovative partnerships with industrial partners to accompany clients in execution.
- Digital platforms/marketplaces to provide scalable client transition solutions (e.g., real estate transition hubs, carbon marketplaces, etc.).
- Initiatives to promote circular economy solutions.
- Client transition planning progress monitoring and benchmarking.

1. CRÉDIT AGRICOLE
2. BNP PARIBAS
3. HSBC
4. Santander
5. ABN·AMRO

Source: A&M analysis.

4 GREEN Products

€13 trillion

2030 Bank Sustainable Finance Target

Top 25 European and U.S. banks have committed €13 trillion of sustainable finance as targets by 2030. Four top U.S. banks account for €5,5 trillion while 17 European banks have targets for €7,3 trillion. 2030 sustainable finance targets represent 37 percent of total bank assets. Annualized target levels amount to €1,3 trillion. This compares with UN estimates that quantify the gap in funding needed to achieve the SDGs by 2030 at USD 2.5 trillion to USD 3 trillion annually.

All banks have developed frameworks for green and sustainable products across client segments and include:

- **Green, social and sustainable linked bonds for corporates and sovereigns including related capital markets products (e.g., linked derivatives)**
- **Green and sustainable linked loans for corporate, commercial banking, project finance and SME clients, including trade finance, supply chain finance and renewable energy**
- **Green mortgages and auto loans for retail clients**
- **Equity capital raising for sustainable and impact growth companies (e.g., IPOs, follow-on offerings, SPACs)**

Some banks include sustainable investing such as AUM inflows to ESG funds. These targets have not been included in our analysis.

Bank Sustainable Finance Targets

2030 targets defined by banks display a broad range of ambitions with sustainable finance as a percent of total assets ranging from 5 to 80 percent.

	2030 Targets (bn)	% of total assets
JPMorgan Chase & Co.	$2.500	63%
BANK OF AMERICA	$1.500	47%
BNP PARIBAS	€1.167	41%
citi	$1.000	43%
HSBC	$875	29%
Deutsche Bank	€800	62%
WELLS FARGO	$500	26%
COMMERZBANK	€420	80%
SOCIETE GENERALE	€400	27%
BBVA	€400	60%
Nordea	€400	70%
standard chartered	$300	36%
CREDIT SUISSE	$300	40%
INTESA SANPAOLO	€293	27%
NatWest Group	£286	35%
UniCredit	€283	30%
CRÉDIT AGRICOLE	€250	32%
Santander	€220	14%
CaixaBank	2213	30%
ING	€200	50%
ABN·AMRO	€195	21%
BARCLAYS	£110	12%
LLOYDS BANK	£100	7%
GROUPE BPCE	€70	5%

Our assumptions for the analysis above are:

- Standardized target time horizon to 2030 when such time horizon not used by banks.
- Midpoint taken where range provided.
- Excluded sustainable investment targets and excluded UBS as only investment target used.
- For banks that do not have targets (Credit Agricole, ING and ABN Amro) derived target based on 2021 production level.

Sources: Bank disclosures and A&M Analysis.

4 GREEN Products

€295 billion

ESG Revenue Opportunity Pool

ESG revenue pools for the next decade could amount up to €295 billion for the global banking Industry. A&M estimates the following business line breakdown:

1. **Credit spread on green and sustainable lending products – €215 billion**
2. **Origination, structuring and execution fees of DCM green and sustainable bonds – €28 billion**
3. **Carbon markets trading solutions – €14 billion**
4. **Advisory services on climate investments – €23 billion**

Revenue pool breakdown by region shows that Europe and North America will represent 46 percent of the total revenue pool or €135 billion, driven by more ambitious pledges by 2030 than Asia. The ESG revenue opportunity represents an incremental 10 percent of current revenues for European and North American banks.

Revenue pool is concentrated in four sectors:

Energy:	**31 percent – €91 billion**
Transportation:	**19 percent – €57 billion**
Industry:	**18 percent – €54 billion**
Real estate:	**14 percent – €42 billion**
Others :	**17 percent – €51 billion**

Sizing the Opportunity

A&M estimates that global net investments for transition until 2030 will be c. €23 trillion, generating a €19 trillion financing opportunity for loans and bonds. Revenues will follow from credit spread and origination fees of c. €215 billion and €28 billion, respectively.

Carbon offsets market is rapidly evolving to facilitate deployment of capital for reduction of C02, generating advisory, broker, trading and custodian services opportunities estimated at €14 billion.

Banks are advising corporates and SMEs in climate investments amounting €23 billion of new business.

Country pledges analysis show that some regions and sectors will be drivers of the revenue opportunity:

€ Bn	Asia	Europe	North America	South America	Africa	Oceania	Total
Energy	41	24	16	2	3	3	91
Transp	13	19	16	2	2	9	57
Indust	27	11	6	2	2	1	54
Real Estate	12	7	4	8	8	1	42
Agricul	5	9	5	1	1	0	18
Waste	3	3	1	1	1	1	9
Other	7	8	4	1	2	2	23
Total	110	82	53	15	18	16	295

Sources: IEA, GFMA, Dealogic, CAIT and A&M estimates.

4 GREEN Products

Sustainable finance targets set by banks are hard to compare. Policy support is also varying by country. As a result, level of completion of targets is not a reliable metric of success. Time horizon, level of ambition, scope criteria (financing purpose and product coverage) are widespread across the industry.

- **Time horizons**: only five European banks have set 2030 targets while all U.S. banks have done so. Many use the time horizon of their strategic plan, typically three years.
- **Level of ambition:** targets as a percent of assets.
- **Purpose eligibility**: some banks only include green while the majority include green and social criteria.
- **Product coverage**: debt and lending products are broadly included. Some banks include ECM and M&A advisory. The inclusion of AUM change from sustainable investments drives inconsistency.

Achieved | Total Target | 1st Quartile

	2030 Sustainable Finance Target		% Achieved	2021 Progress	Purpose Elegibility		Product Eligibility						
	18 19 20 21 22 23 24 25 26 27 28 29				Green	Social	DCM	ECM	Corp. Loan	Cons. Loan	M&A	Asset Fin.	AUM Chg.
BARCLAYS	£62	£100	62%	£30	✳		✳	✳	✳	✳		✳	
LLOYDS BANK	£9	£33	28%	£9	✳		✳		✳	✳			
NatWest Group	8	£100	8%	£17	✳		✳		✳	✳		✳	
HSBC	$127	$750-1.000	15%	$83	✳	✳	✳	✳	✳	✳		✳	✳
standard chartered	32	$300	11%	$32	✳	✳	✳		✳	✳	✳	✳	
COMMERZBANK	€194	€300	65%	€91	✳	✳	✳		✳	✳		✳	✳
Deutsche Bank	€157	€500	79%*	€112	✳	✳	✳	✳	✳	✳	✳	✳	✳
CREDIT SUISSE	CHF60	CHF300	20%	-	✳	✳	✳	✳	✳	✳	✳	✳	
UBS	CHF223	CHF400	56%	CHF95	✳	✳							✳
BNP PARIBAS		€650	-	€67*	✳	✳	✳		✳	✳		✳	✳
GROUPE BPCE		€21	-	-	✳		✳		✳	✳			
CRÉDIT AGRICOLE			-	€25									
SOCIETE GENERALE	€157	€120	131%	€44	✳	✳	✳	✳	✳	✳	✳	✳	
BBVA	€86	€200	43%	€46	✳	✳	✳		✳	✳		✳	✳
CaixaBank		€64	-	€25	✳	✳	✳		✳	✳		✳	✳
Santander	€66	€220	30%	€32	✳	✳	✳		✳	✳		✳	
INTESA SANPAOLO		€88	-	-	✳		✳		✳	✳		✳	
UniCredit		€150	-	€24	✳	✳	✳		✳	✳		✳	✳
ABN·AMRO			-	€20									
ING			-	€20									
Nordea		€200	-	€19	✳	✳	✳		✳	✳		✳	
JPMORGAN CHASE & CO.	$285	$2.500	11%	$285	✳	✳	✳	✳	✳	✳	✳	✳	
citi	$222	$1.000	22%	$222	✳	✳	✳	✳	✳	✳	✳	✳	
BANK OF AMERICA	$250	$1.500	17%	$250	✳	✳	✳	✳	✳	✳	✳	✳	
WELLS FARGO	$74	$500	15%	$74	✳	✳	✳	✳	✳	✳	✳	✳	

* BNP Paribas 2021 progress does not inclulde AUM change in sustainable investments. DB progress based on initial target of €200bn (raised to €500bn)

Banks with blank space did not provide targets or details in their sustainable finance classification criteria

4 GREEN Products

Leading Practice Examples

COMMERZBANK

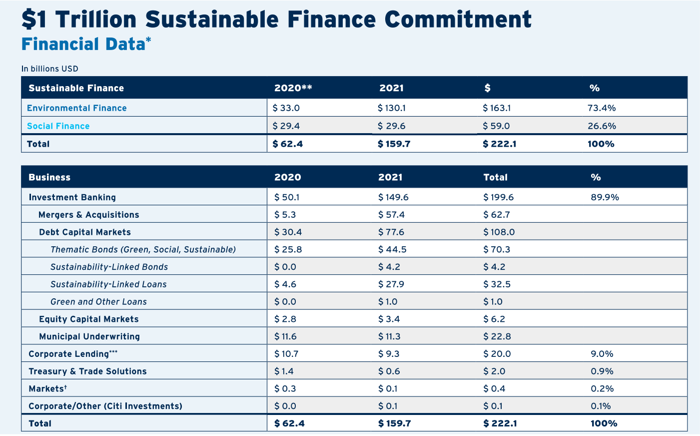
Commerzbank is our industry leader in green products. The bank has defined sustainable finance targets by business (capital markets advisory, corporate and retail lending, and sustainable investment products) promoting both environmental and social purposes. The level of ambition is the highest in the industry (80 percent of total assets by 2030), has delivered 65 percent of its 2025 target already and had the highest 2021 production in Europe after Deutsche Bank. The bank has disclosed its sustainable finance framework covering all eligible activities and product offerings.

JPMORGAN CHASE & CO.

JP Morgan Chase's 2030 target of $2.5 trillion is the largest in the industry. It represents 20 percent of the €13 trillion committed by the banks covered in this report while assets represent 11 percent. of total.

citi

Citi's sustainable finance target by 2030 amounts to $1 trillion. Citi has achieved 22 percent of its target in 2021. Its reporting of progress vs. targets is one of the most comprehensive in the industry.



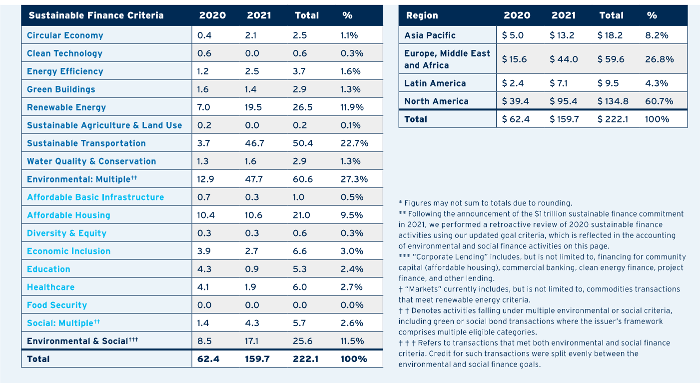
$1 Trillion Sustainable Finance Commitment

Financial Data*

In billions USD

Sustainable Finance	2020**	2021	$	%
Environmental Finance	$ 33.0	$ 130.1	$ 163.1	73.4%
Social Finance	$ 29.4	$ 29.6	$ 59.0	26.6%
Total	**$ 62.4**	**$ 159.7**	**$ 222.1**	**100%**

Business	2020	2021	Total	%
Investment Banking	$ 50.1	$ 149.6	$ 199.6	89.9%
Mergers & Acquisitions	$ 5.3	$ 57.4	$ 62.7	
Debt Capital Markets	$ 30.4	$ 77.6	$ 108.0	
Thematic Bonds (Green, Social, Sustainable)	$ 25.8	$ 44.5	$ 70.3	
Sustainability-Linked Bonds	$ 0.0	$ 4.2	$ 4.2	
Sustainability-Linked Loans	$ 4.6	$ 27.9	$ 32.5	
Green and Other Loans	$ 0.0	$ 1.0	$ 1.0	
Equity Capital Markets	$ 2.8	$ 3.4	$ 6.2	
Municipal Underwriting	$ 11.6	$ 11.3	$ 22.8	
Corporate Lending***	$ 10.7	$ 9.3	$ 20.0	9.0%
Treasury & Trade Solutions	$ 1.4	$ 0.6	$ 2.0	0.9%
Markets†	$ 0.3	$ 0.1	$ 0.4	0.2%
Corporate/Other (Citi Investments)	$ 0.0	$ 0.1	$ 0.1	0.1%
Total	**$ 62.4**	**$ 159.7**	**$ 222.1**	**100%**



Sustainable Finance Criteria	2020	2021	Total	%
Circular Economy	0.4	2.1	2.5	1.1%
Clean Technology	0.6	0.0	0.6	0.3%
Energy Efficiency	1.2	2.5	3.7	1.6%
Green Buildings	1.6	1.4	2.9	1.3%
Renewable Energy	7.0	19.5	26.5	11.9%
Sustainable Agriculture & Land Use	0.2	0.0	0.2	0.1%
Sustainable Transportation	3.7	46.7	50.4	22.7%
Water Quality & Conservation	1.3	1.6	2.9	1.3%
Environmental: Multiple††	12.9	47.7	60.6	27.3%
Affordable Basic Infrastructure	0.7	0.3	1.0	0.5%
Affordable Housing	10.4	10.6	21.0	9.5%
Diversity & Equity	0.3	0.3	0.6	0.3%
Economic Inclusion	3.9	2.7	6.6	3.0%
Education	4.3	0.9	5.3	2.4%
Healthcare	4.1	1.9	6.0	2.7%
Food Security	0.0	0.0	0.0	0.0%
Social: Multiple††	1.4	4.3	5.7	2.6%
Environmental & Social†††	8.5	17.1	25.6	11.5%
Total	**62.4**	**159.7**	**222.1**	**100%**

Region	2020	2021	Total	%
Asia Pacific	$ 5.0	$ 13.2	$ 18.2	8.2%
Europe, Middle East and Africa	$ 15.6	$ 44.0	$ 59.6	26.8%
Latin America	$ 2.4	$ 7.1	$ 9.5	4.3%
North America	$ 39.4	$ 95.4	$ 134.8	60.7%
Total	$ 62.4	$ 159.7	$ 222.1	100%

* Figures may not sum to totals due to rounding.

** Following the announcement of the $1 trillion sustainable finance commitment in 2021, we performed a retroactive review of 2020 sustainable finance activities using our updated goal criteria, which is reflected in the accounting of environmental and social finance activities on this page.

*** "Corporate Lending" includes, but is not limited to, financing for community capital (affordable housing), commercial banking, clean energy finance, project finance, and other lending.

† "Markets" currently includes, but is not limited to, commodities transactions that meet renewable energy criteria.

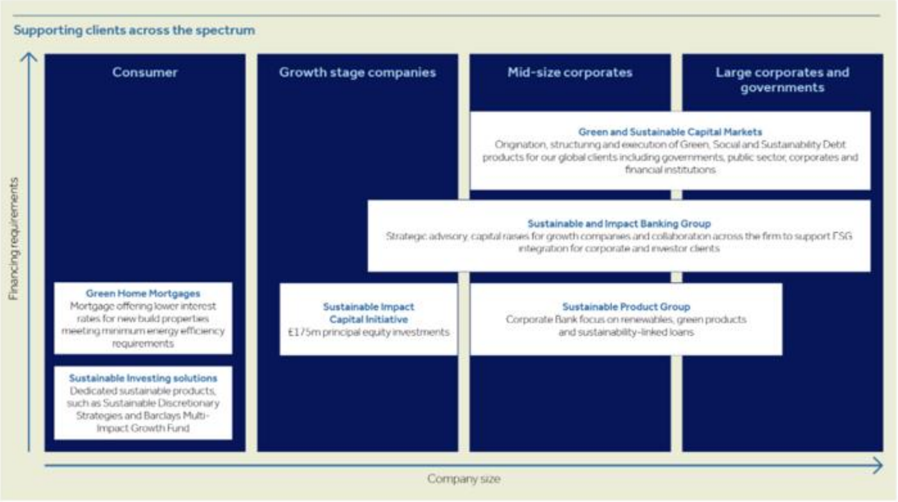
† † Denotes activities falling under multiple environmental or social criteria, including green or social bond transactions where the issuer's framework comprises multiple eligible categories.

† † † Refers to transactions that met both environmental and social finance criteria. Credit for such transactions were split evenly between the environmental and social finance goals.

Source: Citi

BARCLAYS

Barclays has defined an extensive green product offering across retail, SME and corporate which covers debt and equity capital markets, corporate lending and consumer lending products. Barclays Sustainable Finance Framework disclosures are comprehensive and include independent eligibility criteria validation by Sustainalytics. Already, 62 percent of £100 billion 2030 target has been met.



Green and Sustainable Capital Markets
Origination, structuring and execution of Green, Social and Sustainability Debt products for our global clients including governments, public sector, corporates and financial institutions

Sustainable and Impact Banking Group
Strategic advisory, capital raises for growth companies and collaboration across the firm to support ESG integration for corporate and investor clients

Green Home Mortgages
Mortgage offering lower interest rates for new build properties meeting minimum energy efficiency requirements

Sustainable Impact Capital Initiative
£175m principal equity investments

Sustainable Product Group
Corporate Bank focus on renewables, green products and sustainability-linked loans

Sustainable Investing solutions
Dedicated sustainable products, such as Sustainable Discretionary Strategies and Barclays Multi-Impact Growth Fund

Source: Barclays

4 GREEN Products

A&M Actionable Recommendations

- Develop comprehensive green **product offering** across corporate, SME and retail clients, including capital markets, lending, advisory and investment solutions.
- Disclose green and sustainability **financing product framework,** providing criteria used to set up sustainable finance targets and ensure external independent validation is provided to framework.
- Set up 2030 **sustainable finance targets** (total and by business activity) with progress reported. If AUM of asset management business included, create separate targets for this activity.
- Review **level of ambition** in 2030 target levels based on current production run rate and industry benchmarks (e.g., target level exceeding 50 percent of total assets).
- Develop and disclose detailed **target monitoring and reporting** of targets vs. actual by business, purpose, product offering, geography and client segment.

Need for Industry Standards

- Need to **develop common scope and criteria for green finance targets** so comparability can be provided to investors and external stakeholders.
- Need to **improve disclosures of product finance frameworks** used for sustainable finance target-setting and enhance level of detail in progress achieved by business and product.
- Only two banks have disclosed ESG **revenue pool targets**. Deutsche Bank quantifies ESG revenue aspiration of €1.5 billion by 2025, and Standard Chartered targets to achieve $1 billion of CCIB sustainable finance revenues in the medium term. The industry will benefit from further disclosure of revenue targets to make the ESG business opportunity more appealing to investors.

> “*The sustainable finance business opportunity is huge for banks. Their level of ambition should be commensurate with the opportunity. Public policy support will help*.
>
> **A&M Perspective**

5 Alignment to Net Zero

Developing Bank Net Zero Targets

As per net zero banking alliance commitments, banks have been busy setting and disclosing net zero targets for their lending portfolios. Banks have faced substantial data and methodology challenges while managing trade-offs between net zero targets, profitability and climate risk.

> *Banks need to step up their long-term strategic planning, e.g., green transition plans and net zero targets for financed emissions.*
>
> **ECB Perspective**

A&M has conducted benchmarking of disclosed bank net zero targets. Most banks have committed to exit phase-out coal financing in EU/OECD by 2030 and worldwide by 2040, with a handful of banks committing to earlier exits. Oil and gas and power targets have been set by the majority of the banks using absolute emission and emission intensity goals, respectively. Coverage across industry, real estate and transportation portfolios is limited. Below we provide an overview of leading industry practices when setting net zero targets and extensive benchmarking by portfolio of targets disclosed.

	Overall Scorecard		Energy			Industry		Real Estate		Transportation		
	Total Goal	% Coverage	Coal	Oil and Gas	Power	Cement	Steel	Residential	CRE	Auto	Aviation	Shipping
🇬🇧 BARCLAYS			✓	✓	✓	✓	✓	2023-24		2023-24		
🇬🇧 LLOYDS BANK	-50% by 2030		✓	✓	✓					✓		
🇬🇧 NatWest Group		53%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
🇬🇧 HSBC			✓	✓	✓							
🇬🇧 standard chartered		48%	✓	✓	✓		✓					
🇩🇪 COMMERZBANK			✓		✓	✓	✓		✓	✓	✓	
🇩🇪 Deutsche Bank			✓	✓	✓		✓			✓		
🇨🇭 CREDIT SUISSE			✓									
🇨🇭 UBS		43%	✓	✓	✓			✓	✓			
🇫🇷 BNP PARIBAS		7%	✓	✓	✓					✓		
🇫🇷 GROUPE BPCE			✓	✓								
🇫🇷 CRÉDIT AGRICOLE			✓	✓	End 2022	End 2022	End 2022	2023	End 2022	✓	2023	End 2022
🇫🇷 SOCIETE GENERALE			✓	✓	✓	2024	2023	2023	2023	2023	2024	✓
🇪🇸 BBVA			✓	End 2022	✓	✓	✓			✓		
🇪🇸 CaixaBank			✓									
🇪🇸 Santander			✓	✓	✓		✓				✓	
🇮🇹 INTESA SANPAOLO		60%	✓	✓	✓					✓		
🇮🇹 UniCredit			✓			✓	✓					
🇳🇱 ABN·AMRO			✓									
🇳🇱 ING			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
🇩🇰 Nordea	-40% to -50%		✓									✓
🇺🇸 JPMORGAN CHASE & CO.			✓	✓	✓					✓		
🇺🇸 citi			✓	✓	✓							
🇺🇸 BANK OF AMERICA			✓	✓	✓					✓		
🇺🇸 WELLS FARGO			✓	✓	✓							

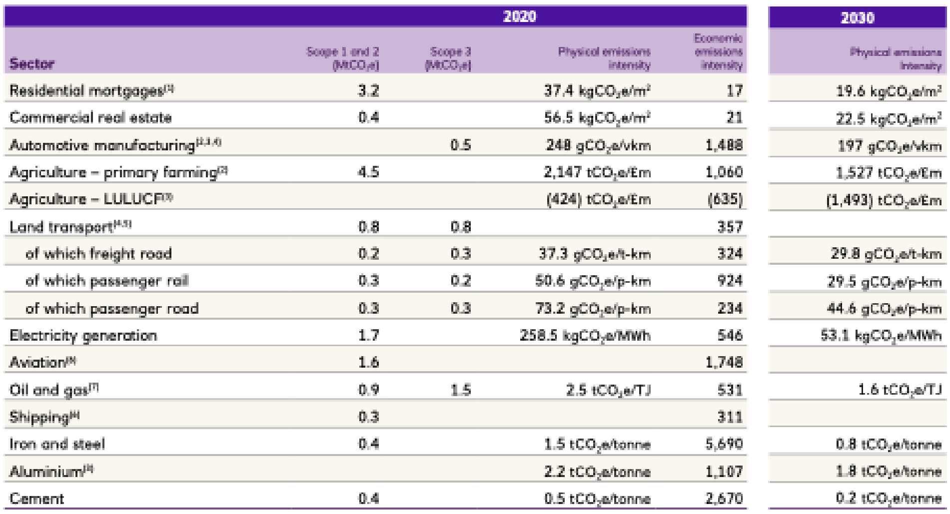
Sources: Bank climate disclosures and A&M Analysis.

5 Alignment to Net Zero

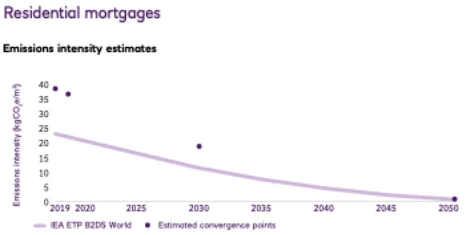
Leading Practice Examples

NatWest Group

NatWest is our industry leader in overall **GREEN PACE** scorecard. Its foundational work in setting net zero targets is leading practice. The bank has analysed more than 50 percent of the balance sheet and set up targets for 15 portfolios while peers only cover 3–4 portfolios. Data quality scores are included based on emission data source accuracy. Deep dive portfolio pathways are provided.

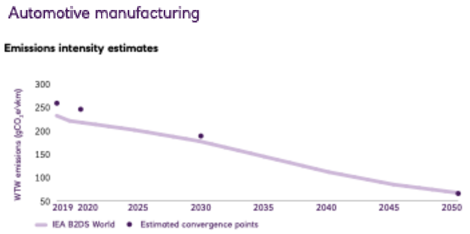


	2020				2030
Sector	Scope 1 and 2 (MtCO$_2$e)	Scope 3 (MtCO$_2$e)	Physical emissions intensity	Economic emissions intensity	Physical emissions Intensity
Residential mortgages[1]	3.2		37.4 kgCO$_2$e/m^2	17	19.6 kgCO$_2$e/m^2
Commercial real estate	0.4		56.5 kgCO$_2$e/m^2	21	22.5 kgCO$_2$e/m^2
Automotive manufacturing[2,3,4]		0.5	248 gCO$_2$e/vkm	1,488	197 gCO$_2$e/vkm
Agriculture – primary farming[2]	4.5		2,147 tCO$_2$e/£m	1,060	1,527 tCO$_2$e/£m
Agriculture – LULUCF[3]			(424) tCO$_2$e/£m	(635)	(1,493) tCO$_2$e/£m
Land transport[4,5]	0.8	0.8		357	
of which freight road	0.2	0.3	37.3 gCO$_2$e/t-km	324	29.8 gCO$_2$e/t-km
of which passenger rail	0.3	0.2	50.6 gCO$_2$e/p-km	924	29.5 gCO$_2$e/p-km
of which passenger road	0.3	0.3	73.2 gCO$_2$e/p-km	234	44.6 gCO$_2$e/p-km
Electricity generation	1.7		258.5 kgCO$_2$e/MWh	546	53.1 kgCO$_2$e/MWh
Aviation[6]	1.6			1,748	
Oil and gas[7]	0.9	1.5	2.5 tCO$_2$e/TJ	531	1.6 tCO$_2$e/TJ
Shipping[6]	0.3			311	
Iron and steel	0.4		1.5 tCO$_2$e/tonne	5,690	0.8 tCO$_2$e/tonne
Aluminium[6]			2.2 tCO$_2$e/tonne	1,107	1.8 tCO$_2$e/tonne
Cement	0.4		0.5 tCO$_2$e/tonne	2,670	0.2 tCO$_2$e/tonne



Residential mortgages

Emissions intensity estimates



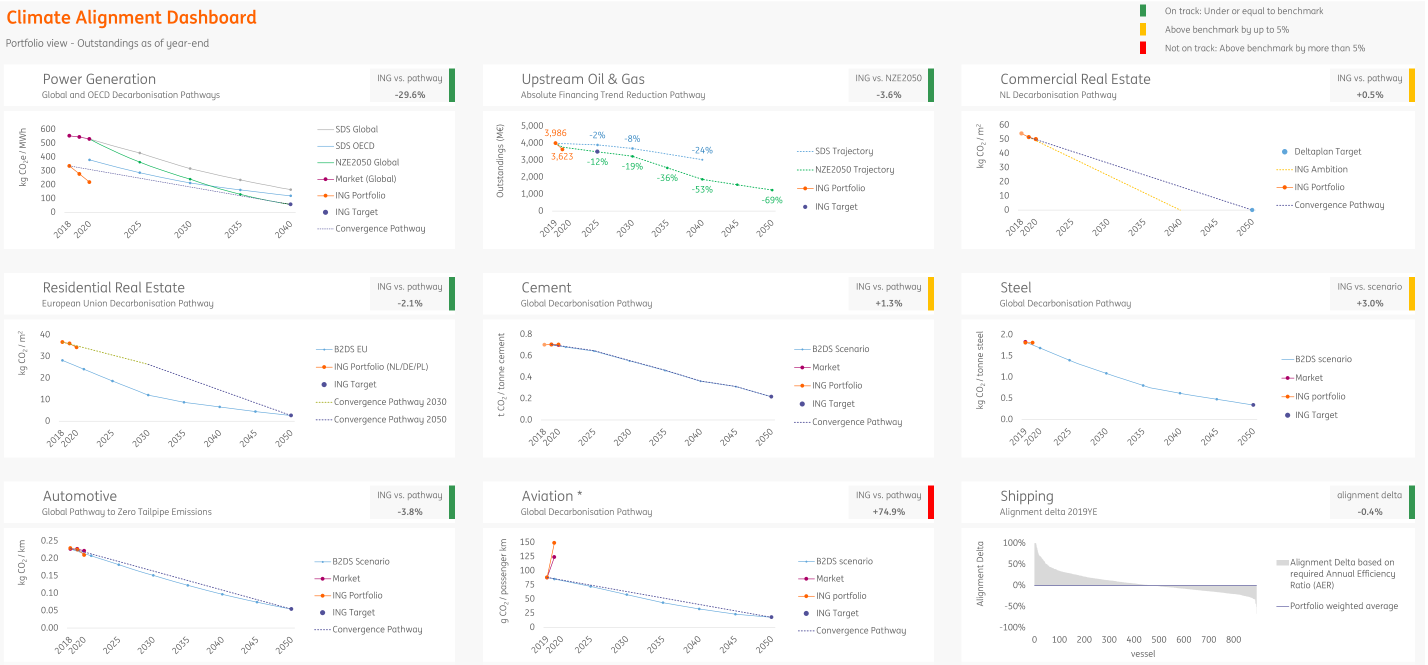
Automotive manufacturing

Emissions intensity estimates

Source: Natwest

ING

ING is our industry leader in alignment to net zero. ING's Terra net zero lending portfolio steering approach was pioneering when launched in 2020. It includes detailed targets for nine sectors, climate alignment dashboards, sector outlook, steering actions and client advice opportunities.



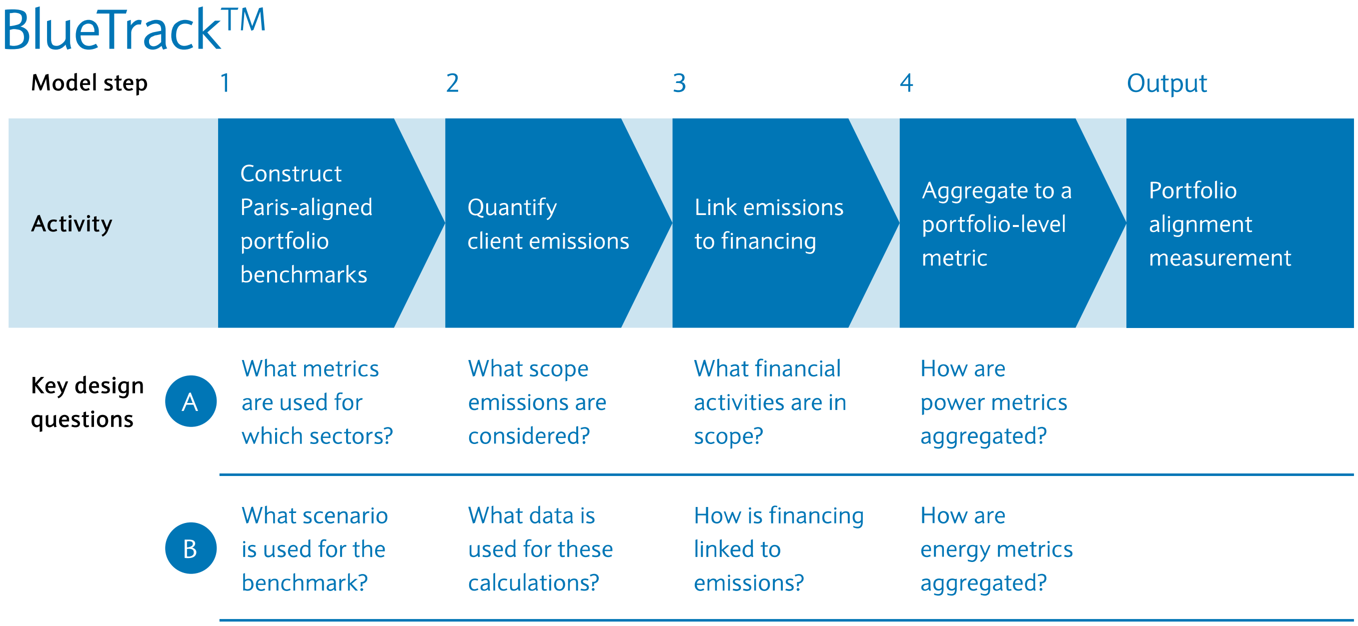
Source: ING

5 Alignment to Net Zero

Leading Practice Examples

BARCLAYS

Barclays has developed its BlueTrack Proprietary Portfolio Alignment tool. It is how the bank measures financed emissions and tracks them over time against a decreasing "carbon limit." It also helps to embed climate impact in financing decisions.



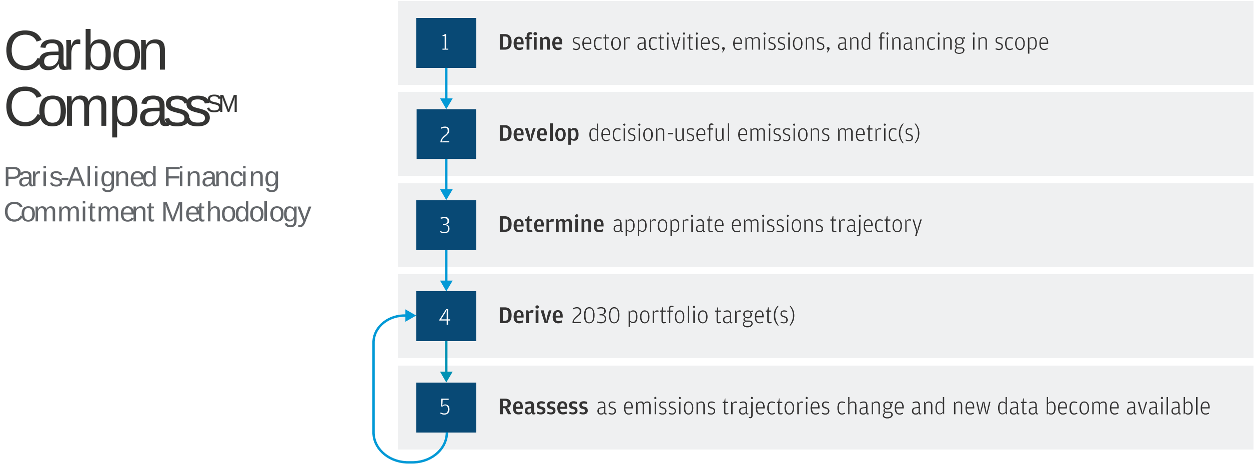
BlueTrack™

Model step		1	2	3	4	Output
Activity		Construct Paris-aligned portfolio benchmarks	Quantify client emissions	Link emissions to financing	Aggregate to a portfolio-level metric	Portfolio alignment measurement
Key design questions	A	What metrics are used for which sectors?	What scope emissions are considered?	What financial activities are in scope?	How are power metrics aggregated?	
	B	What scenario is used for the benchmark?	What data is used for these calculations?	How is financing linked to emissions?	How are energy metrics aggregated?	

Source: Barclays

JPMorgan Chase & Co.

JPMorganChase has developed Carbon Compass as its methodology for setting Paris-aligned emissions reduction targets for financed emission portfolios. Carbon Compass incorporates the most relevant, impactful, credible and decision-useful data and metrics to drive portfolio alignment. The following summarizes the process the bank uses as the general framework for the sector-specific targets.



Carbon Compass℠

Paris-Aligned Financing Commitment Methodology

1 **Define** sector activities, emissions, and financing in scope

2 **Develop** decision-useful emissions metric(s)

3 **Determine** appropriate emissions trajectory

4 **Derive** 2030 portfolio target(s)

5 **Reassess** as emissions trajectories change and new data become available

Source: JPMorgan Chase

5 Alignment to Net Zero

Net Zero Benchmarking

A&M has conducted extensive benchmarking of bank net zero targets for the following portfolios:

Energy	Industry	Real Estate	Transportation
Oil and Gas Power	Cement Steel	Residential Commercial	Auto Aviation Shipping

See **Appendix 1 – Net Zero Target Portfolio Benchmarking** for scorecards across nine portfolios. The benchmarking analysis shows baseline emission intensity and level of reduction targets by bank. Over time this will be an indication of strategic portfolio choices and potential risk of stranded assets for banks that fall behind emission intensity peer average. Below is an illustration for Power.

Power Benchmarking

	Balance	Scenario	Baseline	Target Metric	Current Mt CO2		2030 Target. ▼	
🇬🇧 BARCLAYS		IEA SDS Benchmark: OECD	2020	KgCO2/ MWh	320	Q4	-60%	
🇬🇧 LLOYDS BANK		Govt Policies	2019	gCO2/ KWh				
🇬🇧 NatWest Group	£3.5bn	UK CCC BNZ	2020	KgCO2/ MWh	258		-79%	Q1
🇬🇧 HSBC	$11,2bn	IEA NZE2050	2019	Mt CO2e/ TWh	550	Q4	-75%	Q1
🇬🇧 standard chartered	$3,9bn	Augmented NZE 2050	2020	kgCO2e/ $ client rev.			-63%	
🇩🇪 Deutsche Bank	€6,3bn	SBti Net Zero 1.5°C	2021	gCO2/KWh	91	Q1	-73%	Q1
🇩🇪 CREDIT SUISSE	€3,1bn	NZE2050 global	2020	KgCO2 /MWh	400	Q4	-69%	
🇨🇭 UBS	$1,2bn	IEA NZE2050	2020	KgCO2/ MWh	238		-49%	Q4
🇫🇷 BNP PARIBAS	€27bn	IEA NZE2050	2020	gCO2/kWh	208	Q1	-60%	
🇫🇷 SOCIETE GENERALE		IEA SDS 2020	2019	gCO2/kWh	260		-37%	Q4
🇪🇸 BBVA	€18bn	IEA NZE2050	2020	KgCO2/ MWh	249		-52%	
🇪🇸 Santander	€10,7bn	IEA Net Zero 2050	2019	t CO2e/ MWh	290		-62%	
🇮🇹 INTESA SANPAOLO		IEA NZE2050	2019	kgCO2e/ MWh	214	Q1	-49%	Q4
🇳🇱 ING	€7,3bn	IEA (WEO) SDS 2020	2020	KgCO2/ MWh	210	Q1	-5%	Q4
🇺🇸 JPMORGAN CHASE & CO.		IEA SDS OECD	2019	KgCO2/ MWh	376	Q4	-69%	Q1
🇺🇸 citi		IEA SDS 2020	2020	KgCO2/ MWh	313		-63%	
🇺🇸 BANK OF AMERICA		IEA NZE2050	2019	KgCO2/ MWh			-70%	
🇺🇸 WELLS FARGO		NGFS Orderly NZ 2050	2010	KgCO2/ MWh	253		-60%	
AVERAGE					282		-59%	

Sources: Bank climate disclosures and A&M Analysis.

5 Alignment to Net Zero

A&M Actionable Recommendations

- Articulate **net zero targets for financed emissions across all material portfolios** covering more than 50 percent of exposure and more than 80 percent of financed emissions.
- Develop **comprehensive net zero target disclosures** including absolute/relative emissions data, assumptions, pathways, data scorecards and client transition strategies.
- **Benchmark net zero targets** by portfolio to ensure level of ambition is consistent with reduction targets committed by peers.
- Share **portfolio alignment proprietary tools and methods** with corporate clients to validate/benchmark level of commitment vs. industry peers and inform adequacy of client transition plans.

Need for Industry Standards

- While the industry has collaborated in developing common portfolio alignment methods such as PACTA, industry standards need to further develop in common **units of measure for emissions, scenarios, timeline of targets and level of ambition** relative to starting point.
- In addition, **net zero disclosures** need to be enhanced to ensure transparent understanding of exposure amount covered in targets and data quality. All our Alignment to Net Zero winners provide comprehensive disclosures.

> *Benchmarking of bank-disclosed net zero targets can inform reset of reduction plans and assess stranded value in bank lending books that do not transition at industry pace.*
>
> **A&M Perspective**

6 Client Orientation and Insights

Accompanying Clients in Their Transition

Banks that want to maximize the ESG business opportunity must deepen their client relationships. We call it ESG Client Orientation and Insights but it is nothing more than wearing client shoes to:

- Understand well operational challenges faced by clients.
- Provide advice in available transition solutions.
- Engage with them in strategic dialogue to support transition planning and decision making.
- Leverage the full bank service offering to accompany them in the net zero journey
- Ultimately improve success rate and margin.

Taking a client orientation in ESG will require banks to develop:

Carbon footprint and transition analytics

Network of ESG experts

Internal training

Dedicated research

> *Winners in sustainable finance must wear client shoes to effectively bundle bank solutions into client transition needs. Win rate and margins are at stake.*
>
> **A&M Perspective**

A&M Actionable Recommendations

- Develop **CO2 footprint tracking tools and transition analytics** across client segments (CO2 calculators, transition playbooks, transition assessment tools, benchmarks, cost-benefit analysis of transition solutions) to guide clients in transition planning and decision making.
- Rethink client relationship operating model by introducing **dedicated ESG experts and teams of ESG client advisors** focused on structuring green and sustainable linked financing solutions.
- Deliver extensive **internal training for employees and external informational sessions** for clients on ESG concepts, solutions and trends.
- Deliver regular **ESG research and insights** customized for clients as an integral part of the green and sustainable product offering, particularly for sectors with high technology transition risks.

Banks will make choices in terms of target customer segments and geographical locations to manage risk/reward trade-offs. Taking a client orientation involves investment and reputational/ conduct risks that need to be considered.

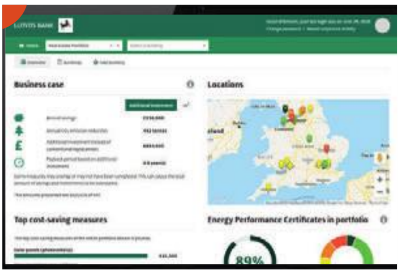
6 Client Orientation and Insights

Leading Practice Examples

LLOYDS BANK

Lloyds Bank is our industry leader in the Client Dimension of **GREEN PACE**, having deployed more than six client transition analytics tools to assist multiple client segments with their customized transition plans. The stronger the analytics, the better the understanding of client needs and higher chance to bundle bank solutions.

Commercial Real Estate	• Client access to green Building Tool to evaluate C02 footprint reduction opportunities and identify/optimize retrofit plans and energy efficiency savings.
Agriculture	• Support for clients to measure their carbon footprint, through the UK's three leading carbon calculator tool providers, access to agriculture transition research, tree and hedge planting, and discounted lending.
SMEs	• Practical five-step guide for SMEs to help them address the risks and embrace the opportunities of net zero, including access to business playbooks.
Homes	• Home Energy Saving Tool/Eco Home Hub to help retail customers understand what energy efficiency improvements they can make to their home including personalzsed action plan with estimates of EPC rating, energy costs and CO2 emissions.
Electrical Vehicle	• Sustainability Curve Policy Tool, and supporting analysis, is used to support bespoke engagement with clients to help identify the most suitable vehicles to transition to low emission transport, based on their fleet and usage.
Supply Chain	• Supporting innovation in supply chain solutions by joining Coriolis, a consortium of trade and ESG experts, to develop standard ESG scoring, and partnering with Resilinc to support clients in tracing the ESG risks of their supply chain.

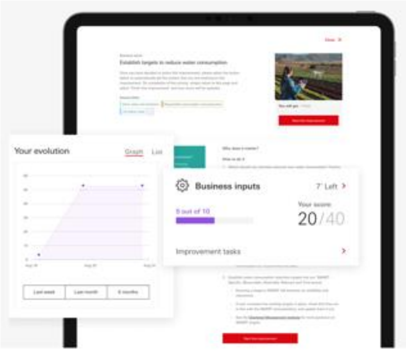


Source: Lloyds Bank

HSBC

HSBC has deployed a tool to assist corporate clients with the design of their sustainability plans.

Corporate and SMEs	• HSBC UK has launched a Sustainability Assessment Tool that provides actionable insights and resources to help businesses transition to net zero. HSBC's tool helps businesses design the sustainability plan, with recommendations specific to each industry. The tool assist clients to identify operational efficiencies and reduce costs as well as build knowledge and understand how you they can contribute to sustainable goals.



Source: HSBC

6 Client Orientation and Insights

Leading Practice Examples

NatWest Group

NatWest is also focused on the client dimension of **GREEN PACE.** The bank has deployed a carbon tracking tool, in collaboration with CoGo to enable retail clients to track their estimated carbon footprint of their monthly spend and educated them on how to spend in a way which reduces their carbon footprint. In addition, the bank has partnered with Microsoft to deliver carbon footprint tracking and transition planning tooling for SMEs. Training was provided for 494 leaders across 2020 and 2021 through the Cambridge Institute of Sustainable Leadership. The NatWest Business Hub published 69 articles throughout 2021 across several ESG themes to share knowledge and support customers.

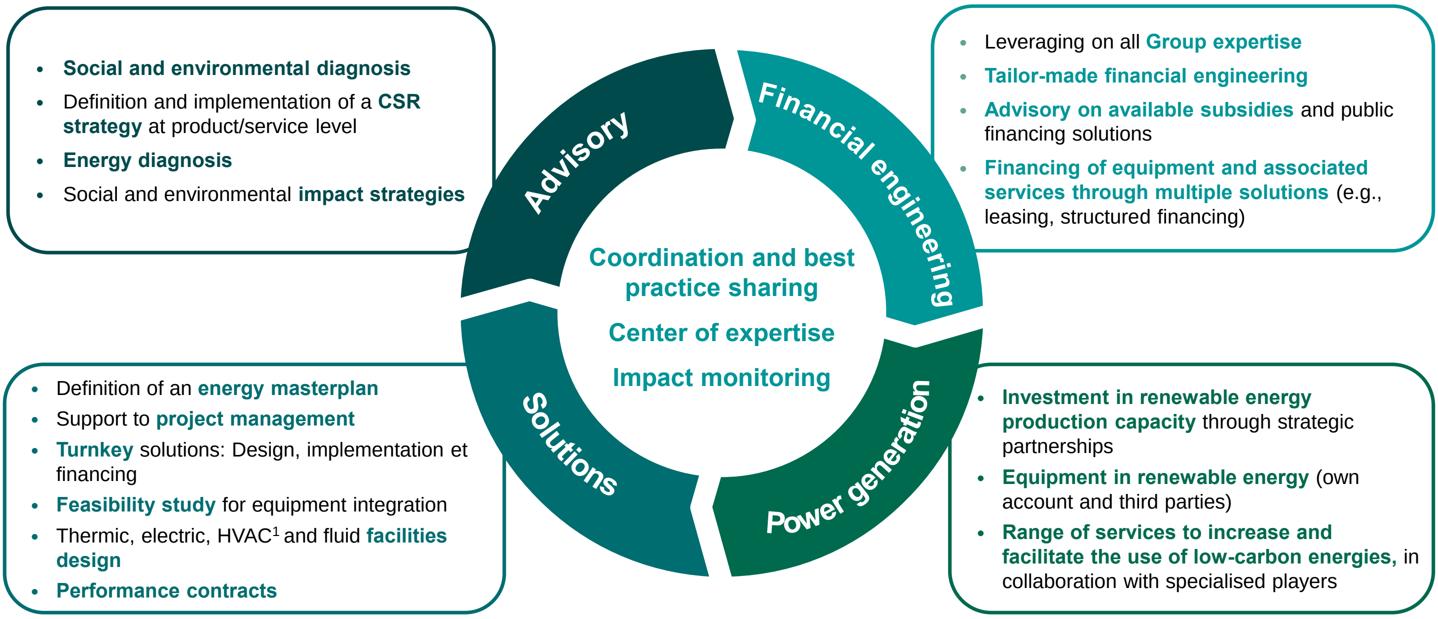
Santander

Santander has developed a number of client transition analytics and carbon footprint tools:

- Carbon footprint calculator available for Santander customers in the website and app to support retail clients in Spain in their transition and measure the carbon footprint of their direct debits and purchases with Santander cards.
- Rehabilitation of buildings and homes program: a new service through which Santander clients can discover and apply for public aid for the rehabilitation of their homes, calculate the energy efficiency that can be achieved with the renovation and more.

CRÉDIT AGRICOLE

Sustainability Community has been created with 250 experts providing expertise, advisory services and financing to large corporates to accompany their transitions. The bank is also launching a group strategic business line, Crédit Agricole Transitions & Energies, with the following scope:



Advisory

- **Social and environmental diagnosis**
- Definition and implementation of a **CSR strategy** at product/service level
- **Energy diagnosis**
- Social and environmental **impact strategies**

Financial engineering

- Leveraging on all **Group expertise**
- **Tailor-made financial engineering**
- **Advisory on available subsidies** and public financing solutions
- **Financing of equipment and associated services through multiple solutions** (e.g., leasing, structured financing)

Coordination and best practice sharing

Center of expertise

Impact monitoring

Solutions

- Definition of an **energy masterplan**
- Support to **project management**
- **Turnkey** solutions: Design, implementation et financing
- **Feasibility study** for equipment integration
- Thermic, electric, HVAC[1] and fluid **facilities design**
- **Performance contracts**

Power generation

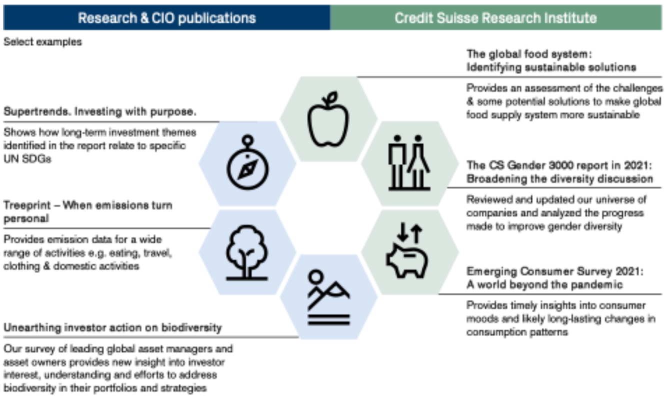
- **Investment in renewable energy production capacity** through strategic partnerships
- **Equipment in renewable energy** (own account and third parties)
- **Range of services to increase and facilitate the use of low-carbon energies,** in collaboration with specialised players

Source: Credit Agricole

6 Client Orientation and Insights

Leading Practice Examples

CREDIT SUISSE

Client Energy Transition Frameworks (CETFs)	Identification of priority sectors/industries and a methodology to categorize clients that operate in these sectors according to their energy transition readiness (categorizations span: "Unaware," "Aware," "Strategic," "Aligned" and "Green"). With this approach, the bank actively encourage clients to transition along the CETF scales over time and to support them through financing and advisory services. To categorize clients, a sector-by-sector set of criteria was established, leveraging quantitative key performance indicators, third-party ratings and qualitative views based on climate-related questions.	
Research	The Bank produces regular thought leadership articles, reports and research to inform investors and the wider public on key sustainability issues, partnering with prominent practitioners in the field and drawing on the global network of analysts, strategists and economists. The Credit Suisse Research Institute is the bank's in-house think tank which also covers sustainability topics.	

Client engagement: transition readiness

1. Does the company view climate change as a significant issue for the business?
2. Does the company participate in industry initiatives around climate change?
3. Does the company disclose metrics on carbon emissions or collect such metrics internally?
4. Has the company set qualitative or quantitative targets for reducing greenhouse gas emissions? Are the targets aligned with the objectives of the Paris Agreement?
5. Has the company nominated a board member or board committee with explicit responsibility for oversight of the climate change policy?
6. Does the company have a process to manage climate-related risks?
7. How could Credit Suisse expertise, networks and funding support such a transition?
8. Does the company have plans to transition its operations, products or services away from carbon-intensive activities towards lower carbon operations, products or services?

Supertrends. Investing with purpose.
Shows how long-term investment themes identified in the report relate to specific UN SDGs

Treeprint – When emissions turn personal
Provides emission data for a wide range of activities e.g. eating, travel, clothing & domestic activities

Unearthing investor action on biodiversity
Our survey of leading global asset managers and asset owners provides new insight into investor interest, understanding and efforts to address biodiversity in their portfolios and strategies

The global food system: Identifying sustainable solutions
Provides an assessment of the challenges & some potential solutions to make global food supply system more sustainable

The CS Gender 3000 report in 2021: Broadening the diversity discussion
Reviewed and updated our universe of companies and analyzed the progress made to improve gender diversity

Emerging Consumer Survey 2021: A world beyond the pandemic
Provides timely insights into consumer moods and likely long-lasting changes in consumption patterns

Source: Credit Suisse

UBS

UBS also places important emphasis on Research and Insights as part of their sustainability finance offering.

UBS provides research, asset allocation and strategic advice to guide clients on incorporating sustainability into diversified investment portfolios and across asset classes and strategies. In 2021, CIO reports highlighted the portfolio benefits of new SI fixed income opportunities in emerging markets sustainable finance, as well as in expanded green, social and sustainable bond exposure. In addition, the Investment Bank's Global ESG Research teams work closely with sector analysts skilled in ESG Integration and thematic research. In 2021, ESG Research delivered thematic reports on topics ranging from fast fashion, plastics, the energy transition, carbon investing, blue hydrogen and natural gas. UBS research includes ESG Risk Radar, a sectorial research product that considers impact and materiality of ESG risks and opportunities. In 2021, UBS published 47 ESG Risk Radar reports, covering sectors such as Japanese food and beverage, Latin American oil and gas, North American power and utilities, Chinese automobiles and European banks. These reports are used to help develop trade ideas and focus attention on companies prioritizing the transition to greener business models or improving their own processes and products. Lastly, ESG Research is further supported by UBS Evidence Lab, which provides data-driven insights across a wide range of subject matter to help answer ESG-relevant questions.

7 Execution of Client Transition

Getting Involved in Execution

Engaging with clients in execution of their transition plans means that banks need to be involved operationally in facilitating transition solutions for clients. How can banks effectively accompany clients in their net zero journey?

In our view, banks committed to execution will need to deliver a combination of the following solutions:

- Giving client access to innovative climate tech solutions by investing or supporting start-up companies in the space.
- Partnering with industrial partners to bring financing and operational solutions to clients (e.g., partner with a real estate services company to offer financial and retrofit solutions for real estate asset owners).
- Developing digital marketplaces/platforms that are able to efficiently scale transition solutions to a large number of clients.
- Promoting circular economy solutions for clients.

> *Banks have the possibility to accelerate the net zero transition of their clients by delivering digital marketplaces that bring together investors, banks and corporates.*
>
> **A&M Perspective**

A&M Actionable Recommendations

- Set up **direct equity investment funds** in climate tech and sustainable venture capital to promote innovation and climate solutions that can be offered to clients.
- Form **innovative partnerships with industrial partners** to accompany clients in execution of transition to net zero.
- Launch **digital platforms/marketplaces** to provide scalable client transition solutions (e.g., real estate transition hubs, carbon marketplaces, etc.) which can connect banks, investors and clients.
- Create initiatives to promote **circular economy solutions.**
- Assist clients with **tracking, monitoring and benchmarking of transition planning progress,** and providing solutions in case targets are not met.

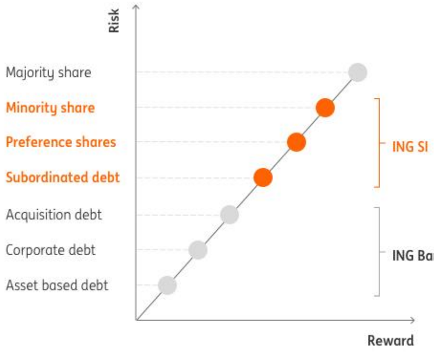
Not all banks will drive build-up of capabilities and infrastructure. Decision making on selected model (banking as a platform vs. banking as a service) will be required. Banks can also collaborate more in the deployment of open ESG marketplaces.

7 Execution of Client Transition

Leading Practice Examples – Climate Tech Venture Capital Committed and Deployed

		Capital Committed	Capital Deployed	Description
1.	BNP PARIBAS	€450mn	-	• Dedicated to investments in favour of energy transition, natural capital, local development and social impact
2.	ABN·AMRO	€425mn	€175mn	• Energy Transition Fund to concentrate on three main themes: the circular economy, energy transition and social impact
3.	CRÉDIT AGRICOLE	€300mn	-	• €1bn private equity and debt fund focused on environmental and technological transitions of the agricultural and food sectors
4.	HSBC	$250mn	$100mn	• Fund dedicated to climate technology companies to connect financing with fresh thinking that bring climate solutions to clients
5.	BARCLAYS	£175mn	£54mn	• Sustainable Impact Capital Programme to invest equity in sustainability-focused start-ups, helping to accelerate clients' transition towards a low-carbon economy
6.	ING	-	-	• ING Sustainable Investments with criteria explained below

Source: ING



Business	Financial
Measurable sustainable impact	Attractive underlying market fundamentals
Focus on scale-ups with a proven concept or pilot plant	Cash flow positive (post-investment)
Distinguishing technology or business model with value potential	Funding predominantly used for CAPEX/expansion
Motivated, capable and aligned management team	Sweet-spot for equity investments between €2 to 5 million
Clear strategy and focus	Sweet-spot for 'yielding' instruments between €2.5 to 10 million
Limited (operational) involvement, so no loss of control	No fixed investment horizon, predetermined exit structure
Open to co-invest with strategic partners	

Leading Practice Examples – Joint Venture/Partnerships

HSBC	Walmart	• HSBC partnered with Walmart and CDP to create the industry's first sustainable supply chain finance programme to use science-based targets to encourage suppliers to reduce emissions in alignment with the Paris Agreement. The initiative also included additional criteria for suppliers to meet certain scores on their environmental disclosures with the CDP.
COMMERZBANK	KFW	• The bank has partnered with public development bank to offer energy efficiency solutions to SMEs. With a share of 9 percent in industrial energy efficiency programs of KfW, Commerzbank gives clients access to the program, informs of benefits of energy solutions and motivates them to implement sustainable projects.
Santander	eit InnoEnergy	• Santander has signed an agreement with EIT InnoEnergy, the European innovation engine for sustainable energy, to accelerate the development of the EIT InnoEnergy portfolio of start-ups, encourage investment, reduce the skills gap and create solutions to support sustainable innovations.
	TESCO	• Santander UK partnered with Tesco, which enabled the supermarket chain to become the first UK retailer to offer sustainability-linked supply chain finance to its suppliers.
	enel	• Enel and Santander promote collaboration to support clients' clean energy transition, support them in optimizing their energy consumption, and supply and finance solar facilities, lithium batteries and energy efficiency solutions.
	WAY CARBON	• Santander acquired 80 percent of WayCarbon, a leading Brazil-based ESG consultancy firm. This deal allows the bank to engage in the voluntary carbon market, reforestation and forest conservation programs, and other emissions trading schemes to better support customers' energy transition.

7 Execution of Client Transition

Leading Practice Examples – Marketplaces and Digital Platforms

CRÉDIT AGRICOLE	• Credit Agricole is our winner in the Execution dimension of of **GREEN PACE** and is investing heavily in ESG marketplaces. The bank has launched "J'écorénove," a housing renovation platform providing turnkey solutions for homeowners (e.g., diagnosis, public aids/tax incentives calculator, financing, local partners network). The bank also launched the Energy Transition Hub in May 2022, a digital platform and expert advisors with full range of transition services for businesses and SMEs (e.g., renovation, green mobility, low carbon energy, equipment energy monitoring and optimization). Lastly, it has also created the first platform to connect farmers to corporates and encourage the development of carbon-capturing farming techniques and carbon credit trading for farmers.
carbonplace	• Carbonplace is a global carbon credit transaction marketplace Blockchain enabled to facilitate the simple, secure and transparent transfer of certified carbon credits. It has been developed by a group of banks (NatWest, Standard Chartered, UBS, BBVA, BNP Paribas) and is expected to be commercial by the end of 2022.
TEMASEK	• HSBC partnered with Temasek to launch a debt financing platform dedicated to sustainable infrastructure projects in southeast Asia. The platform aims to deploy blended finance at scale to unlock more marginally bankable projects and create a tradeable asset class.
key4 by UBS	• UBS has launched a Swiss real estate brokerage platform for investment properties offering borrowers financial advantage for taking out a sustainable mortgage. Mortgage borrowers and institutional providers meet on the key4 platform for investment properties. UBS brings parties together and manages the mortgage throughout the entire term.
TRAFIGURA	• BPCE Natixis and Rabobank assisted Trafigura in the design and structuring of a first "Low-Carbon Aluminum"-type financing platform of up to $500 million. This platform was designed to meet the growing demand from downstream manufacturers for low-carbon aluminum and to help upstream producers accelerate their transition to low-carbon technologies. The platform enables Trafigura to access financing at a preferential interest rate and, in turn, to pay a premium to low-carbon aluminum producers.
SaveMoney CutCarbon.com SMCC	• SaveMoney CutCarbon is a UK digital end-to-end platform for SME real estate asset greening and retrofit solutions sponsored by Barclays

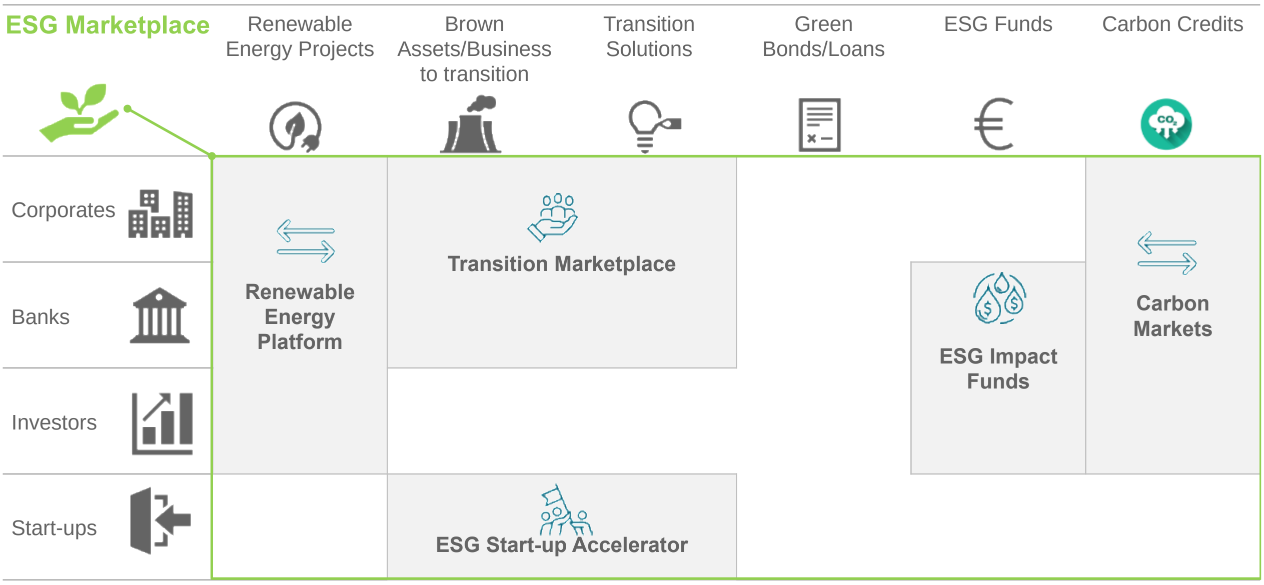
Leading practice examples – Circular Economy

BNP PARIBAS 3 STEP IT	• BNP Paribas Leasing Solutions and 3 Step IT formed a strategic alliance to advance technology lifecycle management with a circular economy business model to ensure replaced technology is reused. The BNP Paribas 3 Step IT alliance helps clients acquire and effectively manage the lifecycle of their technology assets in a more secure and sustainable way. The bank plans to deploy €850 million in financing by 2025 through this model.
CRÉDIT AGRICOLE	• Crédit Agricole Immobilier, alongside a number of project owners, has signed a partnership with "Booster Re-use" and is becoming a player in the demand for materials that can be reused. This platform matches the supply of reconditioned materials and the demand from project owners.
CIRCULAR ECONOMY LAB	• Intesa launched the Circular Economy Lab together with the Ellen MacArthur Foundation with the goal of supporting and assisting the transformation of the Italian economic system and disseminating new models of value creation in the collective interest, accelerating the transition to the circular economy. The Intesa Sanpaolo Innovation Center is responsible for providing a technical assessment on the level of circularity of the initiatives proposed by businesses. Some 300 projects with circular criteria and valued at over €3.9 billion and 100 projects with green criteria valued at €2.6 billion had been funded by the end of 2021.

7 Execution of Client Transition

A&M View of ESG Marketplaces

Due to the size of the net zero transition challenge and the implied interdependencies between banks, corporates, investors and start-ups, A&M believes in the concept of **ESG marketplaces — a** unified space where all the necessary stakeholders concur to facilitate the design, implementation, financing and state aid solutions of energy transition plans and projects for low carbon emission assets. As discussed earlier in this report, there are multiple ESG marketplaces being launched in areas such as carbon markets, ESG investment platforms, debt financing or real estate transition marketplaces. We believe there are benefits to provide connectivity across these platforms and bring participants together to fully capitalize on the ESG business opportunity, as illustrated below.



In the area of **transition marketplaces**, given specific nature of solutions by sector, we believe solutions will be organized along CO2 emission vertical and prioritized based on transition and investment criteria.Multiple vertical solutions can be leveraged by clients depending on their CO2 emission sources.

Energy	Industry	Transportation	Real Estate	Agriculture, Forestry & Land Use	Waste & Services
Coal / Oil & Gas	Efficient Production	Electrification	Energy Efficient Retrofit	Farm Machinery & Equipment	Recycling
Renewables Solar Wind Hydropower Geothermal	Carbon Capture & Storage	Batteries	Cooling / AC	Use of Fertilizers	Alternative Packaging
	Iron, Steel & Aluminum	Sustainable Fuel	Home Insulation	Manure Management	Waste Management
	Green Cement	Congestion Solutions	Rooftops Paint	Livestock Production	Carbon Markets
	Mining	Shipping	Appliances	Alternative Diet	Reporting & Analytics
Green Hydrogen	Chemicals	Aviation	Smart Buildings / Cities	Reforestation	Grid Management
Bioenergy	Plastics	Truck	Lighting	Precision Agriculture	Financial Services
Nuclear	Direct Air Capture	Travel & Mobility	Efficient Construction	Vertical Farming	Weather Analytics

TRANSITION CRITERIA

- State aid available
- IT availability
- Need for scalability
- Fit to bank business

INVESTMENT CRITERIA

- Appetite
- M&A
- Blockchain
- Risk-return

Source: A&M Analysis

8 Conclusion – ESG Business Opportunity

Global banks recognize that climate change is a huge business opportunity and that taking the necessary actions to accompany clients in their transition to net zero can transform business models while bringing material new balance sheet and revenue volumes.

To capitalize on the **ESG** business opportunity, banks must think long-term and act bravely, working in the combination of capabilities embraced by the **GREEN PACE** formula.

1. A strong and diversified product offering for green and sustainable financing and investment solutions.
2. An aggressive and well articulated net zero portfolio alignment plan for financed emissions.
3. A strong client orientation with data, insights, tools and analytics available to assist them in transition decision making.
4. A clear commitment to be involved in execution of transition plans, solution tracking and corrective actions.

Our report highlights:

- Increasingly ambitious bank sustainable financing targets.
- Great industry progress setting net zero targets.
- Emerging tools and analytics to assist clients with transition planning.
- Innovative ideas that combine digital platforms, partnerships and marketplaces to accompany clients throughout the process.

We have found some championing organizations that are placing ESG as a core business priority. We have also observed leading industry practices to capitalize on the business opportunity. We also realize that banks will make choices and not all decide to develop capabilities and infrastructure, but rather adopt a banking as a service model through partnerships and open ESG marketplaces.

Each year we plan to update this study to evaluate industry progress and review ESG champions and leading practices. We hope to contribute in the acceleration of the fight against climate change and provide banks with ideas and direction on the commercial opportunities related to ESG.

Appendix 1:

Net Zero Target Portfolio Benchmarking

Oil and Gas Benchmarking

		Balance	Scenario	Baseline	Target Metric	Current Mt CO2		2030 Target ▼	
GB	BARCLAYS		IEA SDS Benchmark: OECD	2020	MTCO2	76	Q4	-40%	Q1
GB	LLOYDS BANK		IEA NZE2050	2019	MTCO2	8	Q1	-50%	Q1
GB	NatWest Group	£1,6bn	UK CCC BNZ S1&2 / IEA NZ S3	2020	tCO2e/TJ	3	Q1	-36%	
GB	HSBC	$12,3bn	IEA NZE2050	2019	Mt CO2e/EJ	36		-34%	
GB	standard chartered	$3,3bn	Augmented NZE 2050	2020	kgCO2e/ $ client rev.	14		-30%	
DE	Deutsche Bank	€5,2bn	NZE2050 global	2020	KgCO2e/GJ	8	Q1	-12%	Q4
C	CREDIT SUISSE UBS	$2,6bn	NGFS 1.5°C Divergent Net Zero	2020	MTCO2	37 4		-49%	Q1
C	BNP PARIBAS	$0,7bn	IEA NZE2050	2020	kt CO2e	68	Q1	-71%	Q1
	GROUPE BPCE					36			
FR	CRÉDIT AGRICOLE	€25bn	IEA NZE2050	2020	gCO2e/MJ			-21%	
FR	SOCIETE GENERALE	€5,8bn	IEA SDS 2020	2020	Exposure			-34%	
FR	Santander		IEA NZE2050	2021	MTCO2	24		-30%	
FR	INTESA SANPAOLO		IEA SDS 2020	2019	Exposure	64		-20%	
ES	ING	€7,7bn	IEA Net Zero 2050	2019	MTCO2			-29%	
IT	JPMORGAN CHASE & CO.		IEA NZE2050	2019	gCO2e/MJ	73		-14%	Q4
NL	citi	€3,6bn	IEA (WEO) SDS 2020	2020	Exposure	144		-19%	Q4
US	BANK OF AMERICA		IEA SDS with methane added	2019	gCO2e/MJ		Q4	-17%	Q4
US	WELLS FARGO		IEA NZE2050	2020	MTCO2	98	Q4	-29%	
US			IEA NZE2050	2019	gCO2e/MJ			-29%*	
US			NGFS Orderly NZ 2050	2019	MTCO2		Q4	-26%	
AVERAGE						**46**		**-31%**	

AVAILABLE UPON REQUEST

Sources: Bank climate disclosures and A&M Analysis.

* Only Scope 3 reduction

Appendix 1:

Net Zero Target Portfolio Benchmarking

Power Benchmarking

	Balance	Scenario	Baseline	Target Metric	Current Mt CO2		2030 Target. ▼	
GB BARCLAYS		IEA SDS Benchmark: OECD	2020	KgCO2/ MWh	320	Q4	-60%	
GB LLOYDS BANK		Govt Policies	2019	gCO2/ KWh				
GB NatWest Group	£3.5bn	UK CCC BNZ	2020	KgCO2/ MWh	258		-79%	Q1
GB HSBC	$11,2bn	IEA NZE2050	2019	Mt CO2e/ TWh	550	Q4	-75%	Q1
GB standard chartered	$3,9bn	Augmented NZE 2050	2020	kgCO2e/ $ client rev.			-63%	
DE Deutsche Bank	€6,3bn	SBti Net Zero 1.5°C	2021	gCO2/KWh	91	Q1	-73%	Q1
DE CREDIT SUISSE	€3,1bn	NZE2050 global	2020	KgCO2 /MWh	400	Q4	-69%	
CH UBS	$1,2bn	IEA NZE2050	2020	KgCO2/ MWh	238		-49%	Q4
FR BNP PARIBAS	€27bn	IEA NZE2050	2020	gCO2/kWh	208	Q1	-60%	
FR SOCIETE GENERALE		IEA SDS 2020	2019	gCO2/kWh	260		-37%	Q4
ES BBVA	€18bn	IEA NZE2050	2020	KgCO2/ MWh	249		-52%	
ES Santander	€10,7bn	IEA Net Zero 2050	2019	t CO2e/ MWh	290		-62%	
IT INTESA SANPAOLO		IEA NZE2050	2019	kgCO2e/ MWh	214	Q1	-49%	Q4
NL ING	€7,3bn	IEA (WEO) SDS 2020	2020	KgCO2/ MWh	210	Q1	-5%	Q4
US JPMORGAN CHASE & CO.		IEA SDS OECD	2019	KgCO2/ MWh	376	Q4	-69%	Q1
US citi		IEA SDS 2020	2020	KgCO2/ MWh	313		-63%	
US BANK OF AMERICA		IEA NZE2050	2019	KgCO2/ MWh			-70%	
US WELLS FARGO		NGFS Orderly NZ 2050	2010	KgCO2/ MWh	253		-60%	
AVERAGE					**282**		**-59%**	

Sources: Bank climate disclosures and A&M Analysis.

Appendix 1:

Net Zero Target Portfolio Benchmarking

Cement Benchmarking

AVAILABLE UPON REQUEST

		Balance	Scenario	Baseline	Target Metric	Current CO2 Intensity		2030 Target. ▼	
GB	BARCLAYS		IEA NZE2050	2021	MtCO2/ Mt cement	0.62		-23%	
GB	NatWest Group	£0,1bn	IEA ETP B2DS	2020	tCO2/ t cement	0.50	Q1	-60%	Q1
DE	COMMERZBANK	€0,1bn	SBti Net Zero 1.5°C	2021	tCO2/ t cement	0.60	Q1	-20%	Q4
ES	BBVA	€1,9bn	IEA NZE2050	2020	kgCO2/ t cement	0.70	Q4	-17%	Q4
NL	ING	€0,5bn	IEA (ETP) B2DS 2017	2020	tCO2/ t cement	0.70	Q4	-24%	Q1
IT	UniCredit	€1bn	Adjusted Market B2DS	2020	tCO2/ t cement	0.62		-23%	
	AVERAGE					0,62		-28%	

Steel Benchmarking

AVAILABLE UPON REQUEST

		Balance	Scenario	Baseline	Target Metric	Current CO2 Intensity		2030 Target. ▼	
GB	BARCLAYS		IEA NZE2050	2021	MtCO2/ Mt Steel	1.9	Q4	-30%	Q4
GB	NatWest Group	£0,1bn	IEA ETP B2DS	2020	tCO2/ t Steel	1.5		-47%	Q1
GB	standard chartered	$1,36bn	Augmented NZE 2050	2020	kgCO2e/ $ client rev.			-33%	
DE	COMMERZBANK	€0,4bn	SBti Net Zero 1.5°C	2021	tCO2/t steel	1.6		-37%	
DE	Deutsche Bank	€1,3bn	NZE2050 global	2020	kgCO2/. t steel	1.2		-33%	
ES	BBVA	€5bn	IEA NZE2050	2020	kgCO2/. t steel	0.7	Q1	-23%	Q4
ES	Santander	€1,5bn	IEA NZE2050	2019	tCO2/ t Steel	1.6		-32%	
NL	ING	€2,1bn	IEA (ETP) B2DS 2017	2020	kgCO2/. t steel	1.8	Q4	-44%	Q1
IT	UniCredit	€2,9bn	Adjusted Market B2DS	2020	tCO2/ t Steel	1.1	Q1	-39%	
	AVERAGE					1,4		-35%	

Sources: Bank climate disclosures and A&M Analysis.

Appendix 1:

Net Zero Target Portfolio Benchmarking

Residential Real Estate Benchmarking

AVAILABLE UPON REQUEST

	Balance	Scenario	Baseline	Target Metric	Current CO2 Intensity	2030 Target. ▼
GB LLOYDS BANK	£295bn		2019	KgCO2/m2	46 Q4	
GB NatWest Group	£190bn	IEA ETP B2DS (World)	2020	KgCO2/m2	37	-48% Q1
CH UBS	$156bn	IEA NZE2050	2020	KgCO2/m2	30 Q1	-42%
NL ING	€232bn	IEA (ETP) B2DS 2017	2020	KgCO2/m2	35	-26% Q4
AVERAGE					37	-39%

Commercial Real Estate Benchmarking

AVAILABLE UPON REQUEST

	Balance	Scenario	Baseline	Target Metric	Current CO2 Intensity	2030 Target. ▼
GB NatWest Group	£23.5bn	UK CCC BNZ	2020	KgCO2/m2	57	-60%
DE COMMERZBANK	€8,3bn	SBti Net Zero 1.5°C	2021	KgCO2/m2	85 Q4	-68% Q1
CH UBS	$44.7bn	IEA NZE2050	2020	KgCO2/m2	32 Q1	-44% Q4
NL ING	€11.2bn	Dutch Delta Plan	2020	KgCO2/m2	50	-50%
AVERAGE					56	-56%

Sources: Bank climate disclosures and A&M Analysis.

Appendix 1:

Net Zero Target Portfolio Benchmarking

Auto

	Balance	Scenario	Baseline	Target Metric	Current CO2 Intensity	2030 Target. ▼
GB LLOYDS BANK		CCC Balanced Net Zero	2019	gCO2/Km	150	-50% Q1
GB NatWest Group	£4,8bn	IEA ETP B2DS (World)	2020	gCO2/Km	73 Q1	-40%
DE COMMERZBANK	€0,3bn	SBti Net Zero 1.5°C	2021	gCO2/Km	159	-31% Q4
DE Deutsche Bank	€3bn	NZE2050 global	2020	gCO2/Km	190	-46%
FR BNP PARIBAS	€13bn	IEA NZE2050	2020	gCO2/Km	183	-50% Q1
FR CRÉDIT AGRICOLE		IEA NZE2050	2021	gCO2/Km		-50% Q1
ES BBVA	€9,8bn	IEA NZE2050	2020	gCO2/Km	220 Q4	-46%
IT INTESA SANPAOLO		IEA NZE2050	2019	gCO2/Km	162 Q4	-41%
NL ING	€2,6bn	IEA (ETP) B2DS	2020	gCO2/Km	210	-29% Q4
US JPMORGAN CHASE & CO.		IEA ETP B2DS	2019	gCO2/Km	158 Q1	-42%
US BANK OF AMERICA		IEA NZE2050	2019	gCO2/Km		-44%
AVERAGE					167	-43%

AVAILABLE UPON REQUEST

Aviation

	Balance	Scenario	Baseline	Target Metric	Current CO2 Intensity	2030 Target. ▼
GB NatWest Group	£2bn	IEA ETP B2DS (World)	2020	% reduction		-24%
DE COMMERZBANK	€1,7bn	SBti Net Zero 1.5°C	2021	gCO2/tKm	511 Q4	-12% Q4
ES Santander	€1,5bn	EA Net Zero 2050	2019	grCO2e/RPK	92	-33% Q1
NL ING	€3,1bn	IEA (ETP) B2DS 2017	2020	gCO2 / km	80 Q4	-28%
AVERAGE					228	-24%

AVAILABLE UPON REQUEST

Shipping

	Balance	Scenario	Baseline	Target Metric	Current Mt CO2	2030 Target. ▼
GB NatWest Group	£1bn	IEA ETP B2DS (World)	2020	% reduction	0.3	-24% Q4
FR SOCIETE GENERALE		IMO Objective	2019	gCo2e/tnm		-40%
NL ING	€6.3bn	IMO GHG Strategy	2020	MTCO2		-50% Q1
D Nordea	€6.1bn	IMO 2050 ambition	2020	MTCO2	5	-50% Q1
AVERAGE					2,6	-41%

AVAILABLE UPON REQUEST

Sources: Bank climate disclosures and A&M Analysis.

Appendix 2:

How A&M Can Help

A&M assists financial institutions, corporates and private equity investors on their evaluation, design and execution of ESG priorities and value solutions.

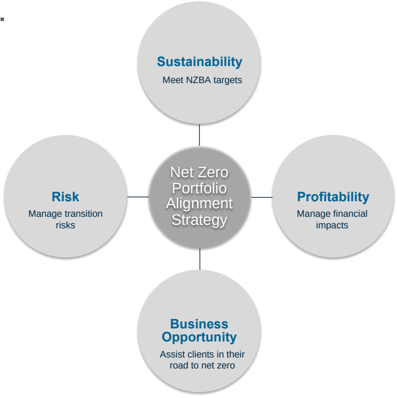
1 Assessment

ET^2 Value is A&M's solution to measure and track financial value of ESG based in net zero transition and business transformation plans adopted by companies. It provides access to CO2 metrics/targets, sector benchmarking, risk analysis, quantification of transition Capex and value added through transition plans.

https://youtu.be/yTRaZS50678

2 Net Zero Plans

A&M has developed a structured methodology to assist banks in setting net zero portfolio alignment targets by adequately balancing sustainability, risk, profitability and business opportunity.



Sustainability
Meet NZBA targets

Risk
Manage transition risks

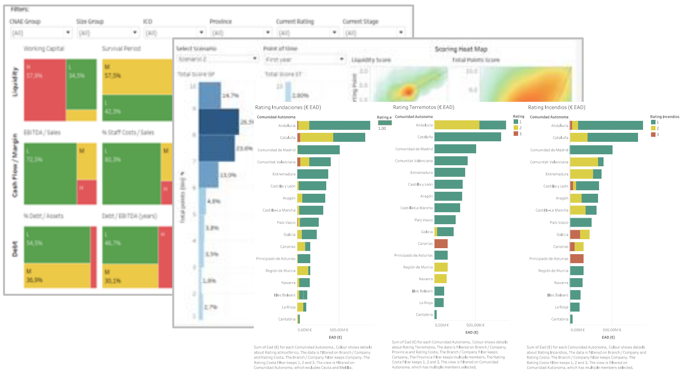
Net Zero Portfolio Alignment Strategy

Profitability
Manage financial impacts

Business Opportunity
Assist clients in their road to net zero

3 Transition Risk and Physical Risk Tools

A&M transition risk and physical risk tools allow to perform scenario analysis on transition plans, transition/physical risk identification and mitigation planning.



4 Transition Dashboards

A&M provides access to dashboards to track progress of transition plans vs targets, KPI and KRI monitoring and operational governance and decision making.

5 Transition Marketplaces

A&M is working on a number of industry initiatives to design and implement digital enabled platforms and marketplaces to deliver transition solutions across industries. These marketplaces connect multiple stakeholders (banks, investors, corporates and start-ups) and bring scalability to accelerate net zero transition.

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