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High-Level Recommendations for Credible Net-Zero Commitments from Financial Institutions

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Table of contents

Executive summary 4

Introduction—The concept of “alignment” with societal or policy goals 5

Definition of net zero. Meeting the criteria for a 1.5°C outcome 5

State-of-the-art climate ambition, targets and implementation strategies in the finance sector 6

A financial institution’s role and impact on the real-economy 7

Reliable pathways to 1.5°C alignment (no/low overshoot) 10

Implementation strategy (methodologies and metrics) 11

Eleven recommendations for credible net-zero commitments from financial institutions 15

Conclusion 18

Annex I 19

The scientific basis for the Paris Agreement 19

Executive summary

Today, a significant number of entities have committed to achieve net-zero emissions. However, the path towards achieving net zero varies based on what sector of the economy an entity belongs to, and even how the entity defines net zero. Having different definitions of net zero, implies a varying degree of credibility inherent in net-zero commitments. As a result, this input paper underscores the important of science-based scenarios as well as the use of sector pathways to guide actions by entities seeking to achieve net zero as appropriate for their given sector.

Financial institutions, despite their direct operations emitting relatively little greenhouse gas (GHG) emissions, play a significant role given the influence they have over real-economy companies (their own scope 3 emissions) and the financing they can provide to enable the transition. Therefore the type of method, target and strategy deployed by financial institutions in their own pursuit of net zero, matters a great deal to the impact the financial institution will have on the real-economy.

This paper sets out 11 recommendations for credible net-zero commitments for financial institutions which are seeking to employ state-of-the-art practices.

i. Align with science-based, no/low overshoot 1.5°C scenarios

ii. Align with the assumptions and criteria of the scenarios (including by sector) as soon as possible

iii. Establish near-term (ideally 5-year) targets

iv. Commit to transparent reporting of GHG emissions and their allocation to real-economy inventories

v. Establish an appropriate emission scope, striving for full coverage as soon as possible

vi. Strive for real-economy impact, enabling the transition

vii. Require neutralisation of residual emissions

viii. Finance the transition (considering investments required for the transition and a Just Transition)

ix. Provide transparency on metrics, underlying scenarios and methods used to classify products as sustainable, including appropriately disclosing the sustainability impact of products and services

x. Identify unique purpose implementation; and

xi. Disclose transparently and comprehensively the scenarios, metrics, and targets employed, and disclose progress ideally annually.

Introduction—The concept of 'alignment' with societal or policy goals

1. The concept of 'alignment' applies to an individual entity seeking to align its own actions, and the impacts of those actions in their totality, with the achievement of wider societal or policy goals, such as the Sustainable Development Goals (SDGs). This paper focuses on the concept of alignment with global climate objectives, as mandated in the Paris Agreement's goal of limiting temperature rise to *"well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels."*

2. Making a net-zero commitment has become increasingly prevalent among governments, real-economy companies, and financial institutions, but the manner in which a commitment is *constructed and implemented* can vary from financial institution to financial institution.[1] This paper intends to outline key recommendations which should be applied by a financial institution in order to establish a credible commitment and implementation strategy.

Definition of net zero. Meeting the criteria for a 1.5°C outcome

3. The now-popular term 'net zero' is shorthand for 'net-zero CO_2 emissions by 2050' and is derived from the point in time at which anthropogenic carbon emissions[2] globally need to reach zero (with a limited amount of offsetting, or netting) in order for the planet's climate system to stabilise at no more than 1.5°C above pre-industrial levels **by 2100** (50 years after net zero is achieved).

4. While achieving net-zero CO_2 emissions in 2050 and achieving net-zero GHGs emissions shortly after mid-century, is a necessary condition for limiting warming to 1.5°C, it is not a sufficient condition. **The sufficient condition is that all accumulated emissions over the next 30 years remain within the emissions budget** required by 2050, this is the emissions budget as given by Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C.[3]

5. Therefore, net-zero commitments which are not explicitly tied to, or do not follow specifically 1.5°C IPCC carbon budget (as derived from the consensus of IPCC 1.5°C scenarios[4]) should not qualify as credible. This for example would exclude an

1 Particularly as their portfolios are dependent upon the underlying real-economy assets they hold (as dramatized example, a portfolio made up of fossil fuel investments versus one made up of technology companies will have very different pathways towards net-zero emissions by 2050).

2 Other Greenhouse Gases (GHGs) reach net zero shortly after 2050, see Annex I for more detail.

3 As of the date of this publication, AR6 WGIII contribution is due out in March 2022 and is expected to provide an updated budget (and pathways).

4 Consensus is invoked over the selection of a single pathway due to large variability in climate sensitivity where scenarios do not forecast a given outcome but provide a range of possible outcomes, therefore the consensus of these scenarios (their mean/median values) provides the optimum guideline.

entity which carries on with business-as-usual emissions until 2049 and achieves a reduction of all its emissions in 2050.

6. The IPCC (see Annex I) provides a global carbon and carbon-equivalent budget for 1.5°C of warming, including the least cost trade-off between sectors as well as the growth and decline of a number of variables (GDP, fossil fuel reliance, etc.) between regions. A financial institution following the assumptions and applying the parameters of these models would then be considered as applying a science-based commitment or target.

7. The models apply different assumptions and rates of change, to yield a range of scenarios which then give an indication of how the economy can maintain an established carbon budget. To be decision useful, models also need to provide a view as to the technologies available, required, and theoretically feasible for each sector or industry of the real-economy to align with a 1.5°C outcome.

8. Moreover, different sectors have different technology deployment options and rates at which they can transition. For example, the utilities sector must reach net zero earlier so that other sectors dependent upon it—such as electric mobility or electric arc furnaces used in low-carbon steel making—can reach the dependent sector's full decarbonization potential. Therefore, individual sector trajectories should be understood individually for their unique net-zero point-in-time and associated residual emissions, as well as understood on the aggregate.[5] **Financial institutions, which support real-economy companies across all sectors, need to understand both individual sector trajectories but also how these trajectories add up to an economy-wide (or portfolio-weighted) trajectory destined towards net zero by 2050, in alignment with 1.5°C in the short-, mid- and long-term.**

State-of-the-art climate ambition, targets and implementation strategies in the finance sector

9. Financial institutions have an important role to play in the transition. They produce a miniscule amount of emissions in their own operations yet they finance many of the world's largest emitters as well as enable the transition through provision of their financing.[6] Financial institutions, together, will need to provide capital to fund the technology development, deployment and business model adjustments necessary to achieve the transition. They can use the relationships that exist via their portfolios (as shareholders and/or creditors of companies and projects across all sectors of the economy, as well as of households) to catalyse decarbonization efforts on the part of high emitters in the real-economy, as well as play a much needed role in financing the transition.

5 Residual Emissions are those emissions that remain by the time net zero is reached and require carbon dioxide removals.

6 It should be noted also that a large share of the world's largest emitters are state owned.

10. Attributing GHG emissions to individual entities is a complex process. The GHG Protocol[7] establishes comprehensive global standardized frameworks to measure and manage GHG emissions from private and public sector operations, value chains and mitigation actions. It does so by organizing emitting activities as it relates to the business into so-called Scope 1, 2, and 3 emissions. Scope 1 emissions are direct emissions from company-owned and controlled resources. Scope 2 emissions are indirect emissions from the generation of purchased energy from a utility provider. Scope 3 emissions are all indirect emissions—not included in scope 2—that occur in the value chain of the reporting company, including both upstream and downstream emissions.

11. For a financial institution, "Scope 3" or the emissions associated with the financial institution's portfolio or loan (sometimes called "Portfolio Emissions"), constitute about 97% of their total emissions.[8] Therefore, addressing emissions associated with the financial institution's underlying portfolio exposures (companies, projects, etc.) is the top priority. Each of the underlying exposures that the financial institution finances, has its own Scope 1, 2 and 3 emissions. **Credible commitments then will cover not only a financial institution's Scope 1, 2, and 3 emissions but also—distinctly—the Scope 1, 2 and 3 of the underlying exposures (or at least the combination of each exposure's Scope 1, 2 and 3 emissions that covers a progressively significant majority of that exposure's total emissions).**[9]

A financial institution's role and impact on the real-economy

12. Financial institutions vary in purpose and structure. Pension Funds, Endowments, Sovereign Wealth Funds (SWFs), Insurance Companies, and Family offices are all a type of asset owner. Typically, with a responsibility to a beneficiary group, such as a pension holder, and with a long-term time horizon overall. Frequently asset owners outsource the management of their funds—under a specific mandate—to an asset manager, that has a much shorter time horizon to demonstrate progress. Typically, both asset owners and managers can invest globally and have a much higher degree of liquidity than, for example, banks. Banks tend to be more regulated, and within their loan books perhaps less liquid than either asset owners or managers. An insurance company's underwriting portfolio faces similar constraints to a bank, in that insurance contracts 'lock' insurers to the insured for a finite amount of time. As a result, the different purpose and structure of a financial institution can affect the manner through which it can align its portfolio.

7 GHG Protocol Greenhouse Gas Protocol | (ghgprotocol.org)

8 New Climate Institute (2020), *Unpacking the Financial Sector's Climate-related Investment Commitments*

9 Double counting issues have been raised in covering the different scopes of the emissions for a variety of companies across the value chain, however in using real-economy sector-specific targets this issue can be avoided.

13. The financial institution type can also have a significant impact on the role the financial institution can play in contributing to the energy transition, collectively and/or individually. For example, an asset manager can develop 'Paris-Aligned' or '1.5°C aligned' products for clients to invest in, but frequently will not unilaterally establish carbon boundaries around its entire investment portfolio. This is most true for large asset managers, that have a range of clients with varying levels of alignment-awareness and may not wish to see their funds constrained by an organization-wide or portfolio-wide commitment, or in fact may not be permitted in certain jurisdictions to pursue such alignment without the expressed wishes of the client (asset owner).[10] Conversely, asset owners define how their own funds should be invested,[11] many now promising to include an alignment requirement in their future mandates to asset managers.[12] Banks can make a net-zero commitment but cannot transition their portfolios as swiftly perhaps as institutional investors as each individual loan must mature before it can be replaced with a 1.5°C aligned borrower.[13] Some loans or products can extend for decades, which means a bank's 'lock-in' of its emissions can be a significant challenge unless engagement with the underlying company is successful and leads to emissions reductions at the underlying company level.[14] Because the bank cannot sell shares in an underlying company should it refuse to transition its business practices to become 1.5°C aligned, in many cases a loan portfolio is likely to transition more slowly than an investment portfolio from the point in time when a net-zero commitment is made.

14. However, banks can, given their one-to-one relationship with clients, request more information up front with new clients, and work with clients directly to earmark certain funds for business model transition activities. A bank's leverage is often most emphasized upfront before capital is allocated. Conversely, investors as shareholders can purchase shares in a corporation, establish ownership and request data and information, as well as vote to concretise robust net-zero transition strategies and implementation plans, but their leverage comes only after capital is allocated to the company. This means then that investors may be able to buy into high emitting companies (temporarily increasing the emissions associated with their portfolios) with the purpose of transitioning the underlying company overtime, where banks will require more concrete assurances of a planned low-carbon transition at the point in time when a loan is made. Insurers operate similarly to banks, in that their engagement with clients takes place at the outset of a contract, and once a contract is agreed the associated emissions are in place until the end of the contract. An insurer's emissions profile then transitions somewhat similarly to a bank's, at the point in time when new clients are obtained and old contracts mature.

10 A Legal Framework for Impact Report, 2021

11 Exclusion of unit linked where pension or insurance beneficiary holds mandate.

12 UNNZAOA, 2021 accessible via: https://www.unepfi.org/wordpress/wp-content/uploads/2021/04/16-Elevating-Climate-Diligence-2.pdf

13 Unless sold or retired early.

14 Without understating a bank's engagement influence, it is also important to note that some challenges also arise from outdated legal frameworks. Further work to adjust such frameworks is important to facilitating the transition in a modernising financial system.

15. In addition to the considerations noted in the paragraph above, the manner through which a financial institution intends to implement its own commitment can have a major impact on real-economy companies. A financial institution can focus on eliminating emissions from its portfolio as soon as possible, however, concerns arise that when employing this approach of rapid and blanket divestment, that a less environmentally-conscious investor, insurer or loan provider, would step in to provide financing. The opportunity to engage the real-economy company is then transferred from the financial institution seeking to align its own portfolio, to one which is less concerned with contributing to the achievement of the wider societal goals at hand (in this case agreed climate goals). **This 'divestment-engagement' consideration represents two dimensions of coherence (one defined by the financial institution's own portfolio emissions alignment and one defined by its impact on the real-economy).** This duality is important for a financial institution to consider when working to achieve its own targets.[15]

16. In addition to using its leverage, a financial institution may have a real or perceived responsibility (depending on the jurisdiction) to also finance the transition, or in other words, to provide capital to the real-economy actors who would deploy the capital either in the form of new technologies or business lines (or others) to facilitate the low-carbon economy transition.[16] This 'transition finance' is particularly important in early years of the transition when real-economy actors need financing to invest in business model transition. Withdrawing this capital too rapidly, in order to present a portfolio or loan book as low-emitting may under certain conditions constitute a misstep when it comes to stewardship responsibilities. This means a financial institution must firstly understand how much an industry can decarbonize, the new technologies it requires, and how much it will cost, much of this information can be provided from models which down-scale to provide sectoral pathways. Secondly then, the financial institution can engage with shipping, transport, steel and other hard to abate industries and work with them to invest the CAPEX and R&D needed to transition their business models. When low-carbon practices are well underway, and a critical mass of investors are committed to alignment, cutting off all access to finance for those real-economy actors who are lagging behind will be important and necessary (again specific sector pathways should also be employed). Exiting now, particularly from heavy polluters who refuse engagement on the transition, should absolutely remain a component of a financial institution's engagement escalation strategy.

17. Frequently cited too is the financial sector's ability to engage with policymakers. Policymakers can regulate or incentivize business model transition for example by regulating a phase out of a particular technology type such as internal combustion engines (ICE), or by requiring pension funds to set net-zero targets as the United Kingdom has done or incentivize change by providing a subsidy or tax such as

15 Exceptions apply. For some industries, outright divestment is preferable or required where decommissioning of high-emitting assets is not possible.

16 The IPCC SR 1.5°C report highlights that additional annual average energy-related investments for the period 2016 to 2050 in pathways limiting warming to 1.5°C compared to pathways without new climate policies beyond those in place today (i.e., baseline) are estimated to be around 830 billion USD2010 (range of 150 billion to 1700 billion USD2010 across six models).

putting in a price on carbon (or on any other type of environmental or social consideration). These changes are intended to impact the cost of capital, require capital movements, or impact financial systems directly. Limiting global warming to 1.5°C requires a marked shift in policy frameworks.

Reliable pathways to 1.5°C alignment (no/low overshoot)

18. Global emissions have increased since the start of the industrial revolution. To avoid the catastrophic impacts associated with an above 1.5°C world it is important to reverse this trend immediately. This reverse of course is modelled in all no/low overshoot pathways— i.e. those that do not overshoot 1.5°C degrees of warming or only reach 1.6°C (low overshoot) before coming back down to 1.5°C by end of century. These pathways do not rely on large amounts of unproven technologies (such as carbon capture and storage). The swiftest way to ensure alignment is therefore to transition fossil fuel-based energy to renewable energy as soon as possible and cease the construction of any new fossil fuel capacities. This means that to align with a science-based 1.5°C outcome, emissions reductions need to be in line with modelled year-on-year reductions.[17]

19. A review of the current IPCC no/low overshoot pathways today shows that over the next 5 years an average of 25% of global emissions must be abated between 2020–2025.[18] A financial institution seeking to align (to 1.5°C emissions reductions pathways) will need to set a short-term target that tracks the global average requirement. This is because, as described in Annex I, a 2050 commitment is an end-state, whereas **it is important to embark on a path of Paris-alignment as soon as a commitment is made, achieving the long-term commitment requires immediate implementation to be considered 'aligned' or 'aligning' in present day.** However, it can be challenging in many circumstances for a financial institution in particular to ensure year-on-year reductions as new companies enter their portfolios or loan books and other companies exit. This means an aggregate five-year target, which gives the opportunity for engagement with real-economy companies to have effect, is a best-practice objective. In addition to five-year targets, financial institutions should aim to report annually and publicly on the outcomes of their engagement efforts (this means the tangible achievements as well as set backs, rather than simply stating the number of engagement activities).

17 It should be noted that a global reduction of this scale has not been seen in recent years, with the exception of the 2020 global COVID pandemic.

18 Note, this number is not specific to a given jurisdiction or sector, but rather reflective of global average GHG emissions.

Implementation strategy (methodologies and metrics)

20. **Different Starting Points:** Just as no two financial institutions have identical portfolios or loan books, at no point in time will one financial institution have an identical portfolio or loan book emissions baseline as another. **Some may have similar levels of carbon per dollar invested, but they will be invested in different economic sectors, corporations and jurisdictions implying different reduction requirements**. Compounding this heterogeneity is that each sector, corporation, and jurisdiction, has its own, only sometimes interrelated, degree of alignment with the modelled scenarios it should adhere to. To a certain extent, the methodologies and metrics a financial institution employs can have an impact on accounting for this heterogeneity.

21. Portfolio emissions reductions can be measured and deployed through a variety of approaches (methodologies and metrics), **all of which are still evolving**. Prominent approaches include:

1. 'Absolute contraction' approach

a. Reducing the absolute amount of carbon in the portfolio
b. This can involve early divestment from major sources of carbon

2. **'Economic intensity-based' approach**[19]

c. Achieving a greater carbon efficiency per dollar invested
d. This can involve investing new funds in more carbon efficient companies and/or ceasing to finance major sources of carbon

3. **A 'capacity- or technology-based' approach**

e. This involves identifying fossil fuel sources (or technologies) in the portfolio or loan book and working towards the cessation or replacement of those capacities/technologies

4. **'Portfolio coverage' approach**

f. Providing increasing amounts of capital to companies with transition plans and their own net-zero commitments, either through analysing asset level data and/or engaging with companies to encourage, track and accelerate company-level net-zero commitments
g. Taking a bottom-up approach to increase the number of companies which are credibly net-zero aligned as a percentage of the portfolio or loan book

19 Note that Science Based Targets Initiative does not recommend or accept economic intensity targets for financial institutions.

5. 'Sectoral alignment' e.g. 'sector decarbonization approach'

h. Over time all companies in the portfolio or loan book for that sector would be expected to achieve the benchmark carbon/GHG efficiency (as a result this transitions to a portfolio coverage approach over time but has the added benefit of supplying capital to the more efficient companies in the near-term)

i. This can involve overweighting (providing greater amounts of financing to) companies which have a lower energy demand or carbon/GHG emissions per unit of product/output, and underweighting (providing lesser amounts of financing to) those which are less energy or carbon/GHG efficient

Note: 'Temperature alignment' is also often considered alongside the above approaches. It is a method which attempts to aggregate alignment rating or score for the portfolio or product and assign a temperature outcome. This provides an easy to communicate score for a given portfolio or financial product, however, this necessarily includes an additional translation on top of the assessment of sectoral alignment, and this additional aggregation introduces additional uncertainties. For the reasons described in this report, the most credible of the temperature alignment approaches use sector-specific alignment measures and aggregates these at a portfolio level. Therefore, this paper does not consider temperature alignment a target setting methodology itself (more a communications and comparison tool), and rather advocates for a sector specific approach to setting alignment targets as described below. A temperature alignment score may help financial institutions in estimating their progress at a macro level and speak to the portfolio's overall level of alignment, but emphasis should remain on utmost precision instead, engaging with sectoral holdings to ensure their alignment with real-economy sectoral decarbonization requirements.

22. **Absolute contraction approach**—this approach involves a financial institution steadily reducing its portfolio or loan book emissions over time and achieving this through a range of available means. The approach is a simple way to improve an investor's carbon performance that tracks global reduction requirements, allows both over- and under-weighting of certain sectors or divestment from high emitting assets. It can be, and is preferable when used in conjunction with a range of other approaches. There is not clear evidence that this approach—as a stand-alone approach—contributes to financing the global economic transition as well as others might. In addition, the approach can be challenging in a portfolio where AUM is growing faster than the global economy (rendering the benchmark ineffective).

23. To employ absolute contraction, a financial institution would be expected to perform a baseline analysis of the carbon in its portfolio at a point in time, identify a global average reduction rate which aligns to its end goal, and begin to align with reduction requirements targeting an interim-target in the near-term future.

24. Economic intensity-based approach—for most financial institutions, portfolios and loan books grow in AUM. This may mean that investments with some amount of carbon may also grow. At absolute level, the portfolio emissions have the potential to increase if invested in business-as-usual companies (given the world is on a 3.4°C trajectory—at least in the short term). Therefore, some financial institutions seek to align their portfolios or loan books by reducing the amount of carbon per dollar invested. This means that in the short-term, reductions targeting the same percentage reduction rate as a financial institution applying an absolute reduction approach may allow for (slightly) more absolute carbon to linger. While both are a means of working towards net zero and an economic intensity-based approach takes into consideration the practical reality of portfolio or loan book growth in a world which is not decarbonizing as rapidly as the financial institution itself, it is important to consider the short-term impacts due to the carbon lock-in which can occur.

25. Capacity- or technology-based approach—This approach includes identifying the fossil-fuel producing/using assets in a portfolio and transitioning them to renewable energy producers or shutting them down entirely or shifting sources. This directly addresses the fossil fuel challenge and aligns with the drastic cuts required to reach the global ambition of 1.5°C. However, it is challenging in practice. This approach requires that financial institutions ask their investee companies to cease some or all operations. It is challenging to ask a company to put themselves out of business, especially when the financial institution is only a partial owner (shared equity investment) or expects a regular payback in the form of a loan. If the fossil fuel-based capacity isn't replaced an investor may divest, but the ownership is likely to be picked up by a less environmentally-minded investor. Similarly, for listed companies' there may be a growing risk that such companies are privatising or spinning off high emitting assets. This also does not take into account the transition that the fossil fuel producers' (investee/borrowers') downstream customers need to employ.

26. Science-based targets portfolio coverage approach—This approach requires the financial institution to analyse and engage with companies or invest more capital in aligned companies in order to steadily increase the percentage of ownership in companies in the portfolio or loan book which have their own company targets aligned with the financial institution's alignment end goal. The methodology takes a forward-looking approach without overly relying on the underlying real-economy company's historic emission trends. However, this can mean engaging with hundreds or thousands of companies. Once a company has shared with the financial institution its own alignment plans or commitments, then the financial institution must employ or contract very advanced industry-specific expertise and apply complex value judgements on whether the company's targets are sufficient or relying on a third-party validation system (like SBTi, CTI, 2dii, TPI and industry specific ESG data, sustainability rating agency and research service provider approaches) to assess the plan.[20] It can be challenging to secure these net-zero transition strategies and plans, assess them, and downscale global climate models into sector

20 The emergence of many initiatives to review targets indicates that not all companies are willing to use and many approaches can be employed further complicating the process of credible review and validation.

pathways and asset-level data. The approach further relies on sector pathways to inform the value judgement on the company's plans and to take into account trade-offs between industries which are necessary to meet the global carbon budget.

27. Sectoral alignment, e.g. sector decarbonistion or production-based approach—This approach involves assessing the carbon/GHG efficiency of the company against its primary output (e.g. CO_2 per ton of steel produced). The approach clearly benchmarks companies against their sector peers, and also against the decarbonization pathway for that sector in accordance with the global climate scenarios, taking into account trade-offs between sectors necessary to meet the global carbon budget. However, it can be challenging to secure this data and downscale global climate models into sector pathways, and it can also be challenging to apply this approach to all scopes of heterogenous companies. In the early years, by working with the sector average for all investees/borrower/insured, this approach will help provide capital to more carbon/GHG-efficient companies and will enable a slow withdraw of capital from less efficient companies or companies which are not transitioning swiftly enough as required by global ambition. Gradually, a financial institution will need to employ very specific sector expertise to review asset by asset level information in order to pass judgement on an individual company's emissions performance against Scope 1, 2 and 3 and how those emissions relate to a given jurisdiction.

28. Further note on temperature alignment approach. This approach depends on a combination of several of the above approaches, employing a three-step process (i) particularly factoring in a company's decarbonization plans (as in the portfolio coverage approach described above) (ii) assessing plans against a sector pathway from a selected or range of pathways (as in the sector decarbonization approach described above) and (iii) then adding this up at portfolio level to develop a temperature score or rating. This approach allows for a single number to indicate how aligned or not a portfolio is with a temperature outcome, and therefore allows for straightforward communication. No single agreed-upon methodology exists but a number of data and service providers as well as other initiatives provide a temperature-scoring based approach. [21] As stated above, given the current state of development and reliance on sectoral alignment to calculate the portfolio-wide score, the target setting method which should be employed are the sector targets and clear sectoral alignment approaches discussed above—this sectoral targets approach has an added advantage of being supportive of portfolio steering in a way that an aggregate score achievement is not.

29. As described, these approaches can be used in combination or in some cases in isolation and each have a number of benefits and draw backs. Whether it's Portfolio Coverage, Sector Decarbonization, or Temperature Ratings, the approaches should—in a best practice scenario—all rely on sector-specific information (or sector pathways) to analyse performance and yield a target. **As a result, it is most convincing for investors to use an absolute contraction approach coupled with sectoral decarbonisation approach that adheres to the appropriate scenarios and**

21 Measuring portfolio Alignment, https://www.tcfdhub.org/wp-content/uploads/2020/10/PAT-Report-20201109-Final.pdf

reliable asset level data, to steer their portfolios. This allows for i) appropriately overweighting the best-in-class performers thereby providing capital to the companies which are leading the transition in their sector ii) a clear link to the selected models and scenarios and what is needed with respect to trade-offs between sectors for the global transition and iii) a clear understanding of what parts of the portfolio are aligned and which are lagging. It also helps transition all sectors at once in addition allowing the financial institution to maximize its own contribution to the net-zero transition by eliminating as much GHG from its portfolio as possible, while financing the transition and engaging laggards.

30. Financial institutions should always strive to work with real-economy companies to eliminate emissions, and achieve residual 1.5°C real-economy emissions levels as soon as possible.

Eleven recommendations for credible net-zero commitments from financial institutions

31. The following set of recommendations are intended to help ensure integrity in the financial sector's net-zero commitments. They represent a summary of the state-of-the-art climate ambition, strategies, targets and implementation thereof, which are identifiable to-date as employed by the finance sector:

i. **Align with science-based, no/low overshoot 1.5°C scenarios**: A financial institution seeking to align with the best available science should utilise a consensus of IPCC-reviewed 1.5°C no/low overshoot scenarios, and **transparently identify the scenario or set of scenarios selected**. This is because, as described by the IPCC, high overshoot scenarios high overshoot scenarios delay action and/or rely on large-scale deployment of carbon dioxide removal (CDR) which, according to the IPCC SR1.5 report *"is unproven, … reliance on such technology is a major risk in the ability to limit warming to 1.5°C"*.

ii. **Align as soon as possible:** A financial institution establishing a net-zero commitment should begin aligning with the required **assumptions and implications of IPCC 1.5°C no/low overshoot pathways as soon as possible**. This is because the pathways require immediate actions to have a realistic chance of limiting warming to 1.5°C. This would include, for example, the immediate cessation of any new fossil fuel investments,[22] and rapid decommissioning of remaining fossil fuel production as indicated by the scenarios.

iii. **Establish near-term (ideally five-year) targets**: Financial institutions should immediately, or as soon as possible after making a net-zero commitment, establish near-term targets. They should **transparently communicate near-term, ideally five-year targets, and report publicly on such targets on an**

22 All no/low overshoot scenarios indicate an immediate reduction in fossil fuels, signalling that investment in new fossil fuel development is not aligned with 1.5°C

annual basis.[23] The target should transparently **specify the financial entity's whole business, starting with the proportion of the portfolio or loan book covered**. Having a five-year target allows the opportunity for engagement with real-economy companies to have effect but is also sufficiently near-term to underscore the integrity of the commitment.

iv. **Commit to transparent reporting of GHG emissions and their allocation to real-economy inventories**: A financial institution should **establish targets for CO_2 and other GHGs, or CO_2e**, which align with the GHG's appropriate phase out date in the real-economy according to the alignment scenarios identified above and employed by the institution.

v. **Establish an appropriate emission scope, striving for full coverage as soon as possible**: A financial institution should address its own Scope 1 and 2 emissions, however as an estimated 97% or more resides in its Scope 3 (portfolio, underwriting activities, or loan book) emissions a financial institution should strive to prioritise its own Scope 3.[24] Further, **a financial institution's Scope 3 targets and commitments, should—as soon as possible—cover and disaggregate among Scope 3 of the underlying company in addition to the underlying's Scope 1 and 2**.

vi. **Strive for real-economy impact, enabling the transition**: A financial institution should seek to ensure that the target setting approach it employs, incentivizes alignment by real-economy actors (to which it is providing capital) **with appropriate global sectoral and regionally granular pathways and should incentivise underlying companies to reach net-zero emissions at the appropriate point in time**. Ensuring all emissions are abated up to the corresponding level of residual emissions necessary for limiting warming 1.5°C and that these residual emissions are removed. Financial institutions should employ the levers available to them to catalyse action. This requires responsible and active ownership on the part of institutional investors, for banks applying appropriate alignment-related assessments during credit reviews/company engagement and for insurers taking into consideration the full spectrum of climate and alignment risk associated with underwriting a particular asset.

vii. **Require neutralisation of residual emissions**: Once all feasible emissions reductions are achieved, Financial institutions should **engage the real-economy companies in which they invest to ensure that the company's residual emissions are uniquely neutralized**.[25]

viii. **Finance the transition**: Financial institutions should seek to provide **the capital needed to finance the net-zero transition, and consider a Just Transition and other societal implications, to help trigger and scale the much needed industrial, technological and societal innovations.** Sectoral targets (physi-

23 Five years is current best practice across the full portfolio. However, for certain asset classes it may be appropriate to utilise a shorter time horizon.

24 And over time including additional financing activities not covered by GHG protocol's Scope 3

25 See SBTi, Foundations for Net Zero, available at: https://sciencebasedtargets.org/resources/legacy/2020/09/foundations-for-net-zero-full-paper.pdf

cal intensity approaches) can be helpful to achieve this e.g. at first through sectoral averages and then by requiring underlying companies to achieve at least the sector's average emissions efficiency.

ix. **Provide transparency on metrics and underlying scenarios and methods used to classify products as sustainable,** including **appropriately disclosing the sustainability impact of products and services**. Financial institutions should appropriately label sustainability-linked products and services complying with local regulations (such as the *European Union Taxonomy for Sustainable Activities* or the *EU Regulation on Sustainability-related Disclosures in the Financial Services Sector*[26]). Where no such regulations exists, or they do not explicitly align disclosures comprehensively to concrete scientifically-sound 1.5°C scenario trajectories, financial institutions should fully disclose the underlying scenario (and/or science for non-climate sustainability issues) to which it is aligned, ideally providing a level of confidence regarding the entity's, services' and product's alignment to a given sustainability or climate pathway.

x. **Identify unique purpose implementation**: Financial institutions that have **designated products or services with the unique purpose to catalyse the net-zero transition should focus on de-risking and unlocking emerging technologies** (in line with scenario's assumptions and implications) and should target the most urgently needed technology and R&D investments rather than simply investing in proven transition technologies such as renewables (solar, wind etc.). Such funds are to-date small in size and would have a limited impact on broad shifts in the cost of capital. They can also specialize in specific technical expertise required.

xi. **Disclose transparently and comprehensively**: A financial institution should **individually and publicly disclose annual progress** against their established net-zero targets. It should transparently disclose against the unique set of scenarios, targets and metrics selected, in a manner detailed enough to allow for third-party analysis.

26 Sustainable finance taxonomy - Regulation (EU) 2020/852 | European Commission (europa.eu), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R2088&from=EN

Conclusion

32. Voluntary net-zero alignment commitments are by definition unregulated and therefore subject to individual methods of implementation. However, the high-level recommendations in this paper are set out following a survey of a wide range of approaches and practices employed to-date in order to promote credible, robust and integrous commitments from financial institutions.

33. Voluntary commitments over time frequently become mainstream, commonplace and regulated. With such regulation comes standardisation, which will ideally also promote credible, robust and integrous commitments and action. This paper may serve as an input to such discussions.

34. While this paper has focused on financial institutions' alignment with climate science and the neat mirroring of portfolio emissions in line with the emissions pathways envisioned by the aforementioned 1.5°C IPCC scenarios, the notion of alignment could be applicable across a large number of the Sustainable Development Goals.

Annex I

The scientific basis for the Paris Agreement

1. The Intergovernmental Panel on Climate Change (IPCC) was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988. The IPCC produces assessment reports that contribute to the work of the United Nations Framework Convention on Climate Change (UNFCCC). IPCC reports review published literature that analyse the "scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation." The IPCC Assessment Reports therefore provide detailed insight into the global carbon budget and the decarbonization efforts available in order to maintain a given temperature outcome. These insights are obtained by modelling a range of future scenarios.

2. The complexity involved in modelling global socio-economic trends, resulting anthropogenic (human) impacts, planetary responses, and local global ecosystem changes cannot be overstated. Integrated assessment models (IAMs) bring together physical and social science models while General Circulation Models (GCMs) focus on the physical climate system alone. IAM results depend upon multiple underlying assumptions and inputs, for example, different IAMs use different assumptions about the rate of growth in economic output, population, carbon pricing and fossil fuel use. As a result of these complexities, it is extremely challenging to agree upon a precise outcome, but hundreds of independently constructed scenarios all indicate that increased warming and ecosystem change is to be expected.

3. In light of this, Article 1a of the UNFCCC Paris Agreement (2015) set a global goal of "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change". As part of the decision to adopt the Paris Agreement, the IPCC was invited to produce, in 2018, a Special Report on global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways.[27]

27 https://www.ipcc.ch/site/assets/uploads/2018/11/pr_181008_P48_spm_en.pdf

4. The "Global Warming of 1.5°C" Special Report (IPCC SR 1.5°C) found 'Limiting warming to 1.5°C implies reaching net-zero CO_2 emissions globally around 2050 and concurrent deep reductions in emissions of non-CO_2 gases, particularly methane.'[28] More precisely it found that to limit warming with a 50% chance of staying below 1.5°C, the cumulative amount of CO_2 emissions[29] from 2018 onwards need to remain below a carbon budget of 580 $GtCO_2$, or below 420 $GtCO_2$ for a 66% chance.[30]

5. IPCC further divides pathways into no, limited or high overshoot of 1.5°C. Limited overshoot implies a temporary rise above 1.5°C of less than 0.1°C. High overshoot pathways that aim for limiting warming to 1.5°C by 2100 after a temporary temperature overshoot rely on large-scale deployment of carbon dioxide removal (CDR) measures, which according to IPCC *"are uncertain and entail clear risks"*. As a result, credible initiatives tend to disallow or discourage the use of high overshoot scenarios.

Table 2.1 | Classification of pathways that this chapter draws upon, along with the number of available pathways in each class. The definition of each class is based on probabilities derived from the MAGICC model in a setup identical to AR5 WGIII (Clarke et al., 2014), as detailed in Supplementary Material 2.SM.1.4.

Pathway group	Pathway Class	Pathway Selection Criteria and Description	Number of Scenarios	Number of Scenarios
1.5°C or 1.5°C-consistent**	Below-1.5°C	Pathways limiting peak warming to below 1.5°C during the entire 21st century with 50–66% likelihood*	9	90
	1.5°C-low-OS	Pathways limiting median warming to below 1.5°C in 2100 and with a 50–67% probability of temporarily overshooting that level earlier, generally implying less than 0.1°C higher peak warming than Below-1.5°C pathways	44	
	1.5°C-high-OS	Pathways limiting median warming to below 1.5°C in 2100 and with a greater than 67% probability of temporarily overshooting that level earlier, generally implying 0.1–0.4°C higher peak warming than Below-1.5°C pathways	37	
2°C or 2°C-consistent	Lower-2°C	Pathways limiting peak warming to below 2°C during the entire 21st century with greater than 66% likelihood	74	132
	Higher-2°C	Pathways assessed to keep peak warming to below 2°C during the entire 21st century with 50–66% likelihood	58	

* No pathways were available that achieve a greater than 66% probability of limiting warming below 1.5°C during the entire 21st century based on the MAGICC model projections.

** This chapter uses the term 1.5°C-consistent pathways to refer to pathways with no overshoot, with limited (low) overshoot, and with high overshoot. However, the Summary for Policymakers focusses on pathways with no or limited (low) overshoot.

28 Such mitigation pathways are characterized by energy-demand reductions, decarbonization of electricity and other fuels, electrification of energy end use, deep reductions in agricultural emissions, and some form of CDR with carbon storage on land or sequestration in geological reservoirs. Low energy demand and low demand for land- and GHG-intensive consumption goods facilitate limiting warming to as close as possible to 1.5°C.

29 Note, only carbon dioxide, not other GHGs.

30 The AR6 WGI report indicated this budget at 500 $GtCO_2$ and 400 $GtCO_2e$ respectively. This paper relies on SR1.5 until AR6 WGIII contribution is available in March 2022.

UN environment programme

finance initiative

United Nations Environment Programme Finance Initiative (UNEP FI) is a partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development. UNEP FI works with more than 400 members—banks, insurers, and investors—and over 100 supporting institutions– to help create a financial sector that serves people and planet while delivering positive impacts. We aim to inspire, inform and enable financial institutions to improve people's quality of life without compromising that of future generations. By leveraging the UN's role, UNEP FI accelerates sustainable finance.

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