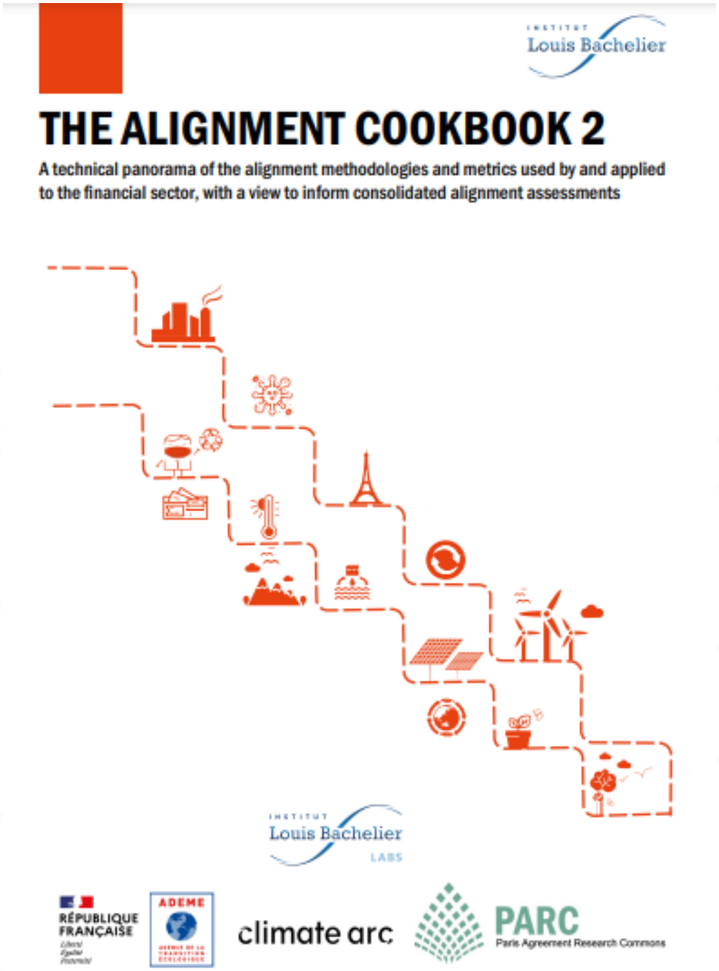
The Alignment Cookbook 2



The context

Key trends since the publication of the Alignment Cookbook (2020)

- 2020: publication of the Alignment Cookbook
- 2020, 2021, 2022: publication of the work of the TCFD Portfolio Alignment Team, GFANZ Portfolio Alignment Measurement work stream
- Additional research include but not limited to INFRAS, 2022; OECD, 2022.

➔ Focus on the design of portfolio alignment methodologies

- In parallel:
  - **Multiplication** of methodologies distributed by private and public actors
  - **Multiple levels of analysis**: Appearance of FI-level alignment assessment methodologies
  - **Multiple asset classes and financial activities**
  - **Widening of the focus** beyond emissions' alignment to integrate transition planning elements
  - **Additional use cases** in the context of transition finance

In partnership with:

Objectives

Untangling the threads of the alignment spool

Alignment discussions are much larger than portfolio alignment .

The Cookbook 2 is a zoom out with the objectives to:

- understand the extent to which all these alignment methodologies fit together, and
- develop a detailed categorisation framework of the methodologies.

In the context of the CAPA project, doing so is useful to assess:

1. whether specific types of alignment methodologies and design principles are more desirable than others to assess the consolidated alignment of a group of institutions, and
2. whether the results of existing methodologies at the micro-level can be fed into a consolidated assessment methodology.

The Alignment Cookbook 2 is a ZOOM OUT

✓ *Detailed categorization and explanation of alignment methodologies: FI-level alignment assessments, portfolio-level target-setting, portfolio-level alignment assessments…*

✓ *Library of 50+ alignment methodologies*

✓ *For a full description of specific design choices, see ILB 2020, PAT/ GFANZ 2020, 2021, 2022*

✓ ***For a sensitivity of the key design choices, see Edhec 2024***

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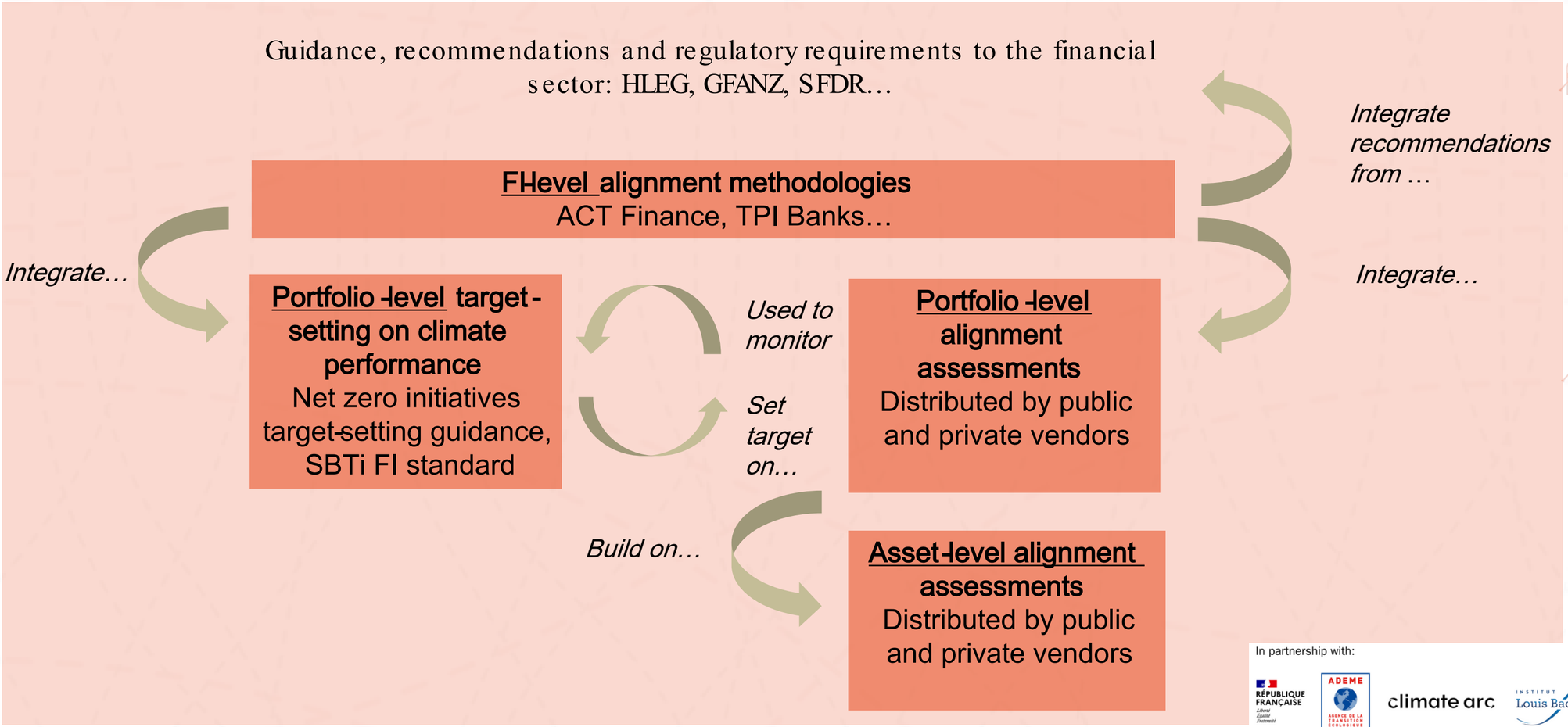
The output

Scope of the report: alignment methodologies used by and for financial institutions



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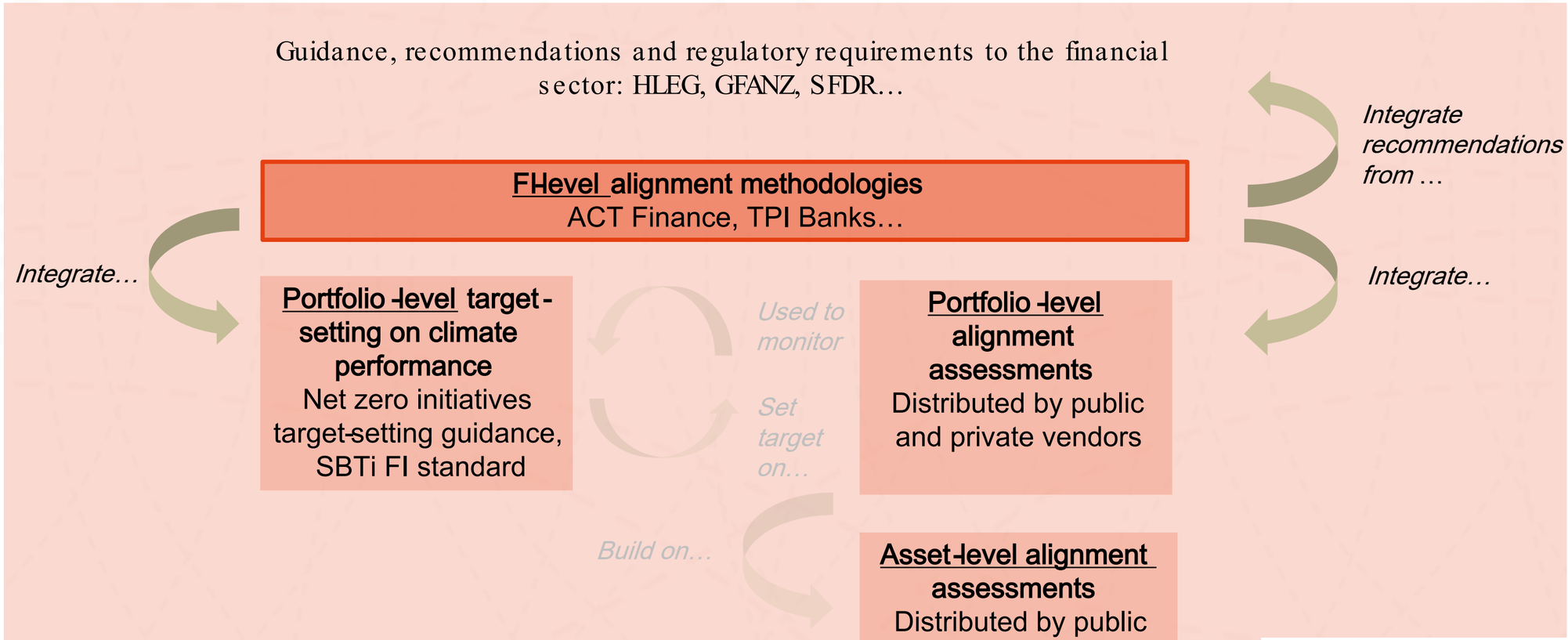
ADEME
climate arc
Institut Louis Bachelier
PARC Paris Agreement Research Commons

Key findings

1. FI-level alignment methodologies



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Key findings

1. FI-level alignment methodologies

Seek to answer the question : is the FI transition plan (global approach to net zero) adequate?

1. Can be based on qualitative data only

Tick box criteria that can be more or less detailed: “has the FI set a decarbonization target”? “does it cover the relevant perimeter”? “does it use a relevant decarbonization pathways taken from a credible scenario”?...

➔ *Observatoire de la Finance Durable Net Zero Analysis, CDP assessments of Climate Transition Plans, WWF Red Flag indicators’ framework, Climate Policy Initiative Net Zero Finance Tracker, TPI Banking Tool Management Quality module, Reclaim Finance Red Flag indicators*

2. Can be based on a combination of qualitative and quantitative data depending on the criteria being assessed

Tick box criteria for certain indicators; Quantitative alignment assessments on others, e.g. decarbonization targets: “is the decarbonization rate adequate based on our own internal pathway analysis”?

➔ *CDP NZAD dataset, ACT Finance, FinanceMap (by InfluenceMap), TPI Banking Tool Carbon performance (quantitative) and Management Quality (qualitative) modules*

Key findings

1. FI-level alignment methodologies

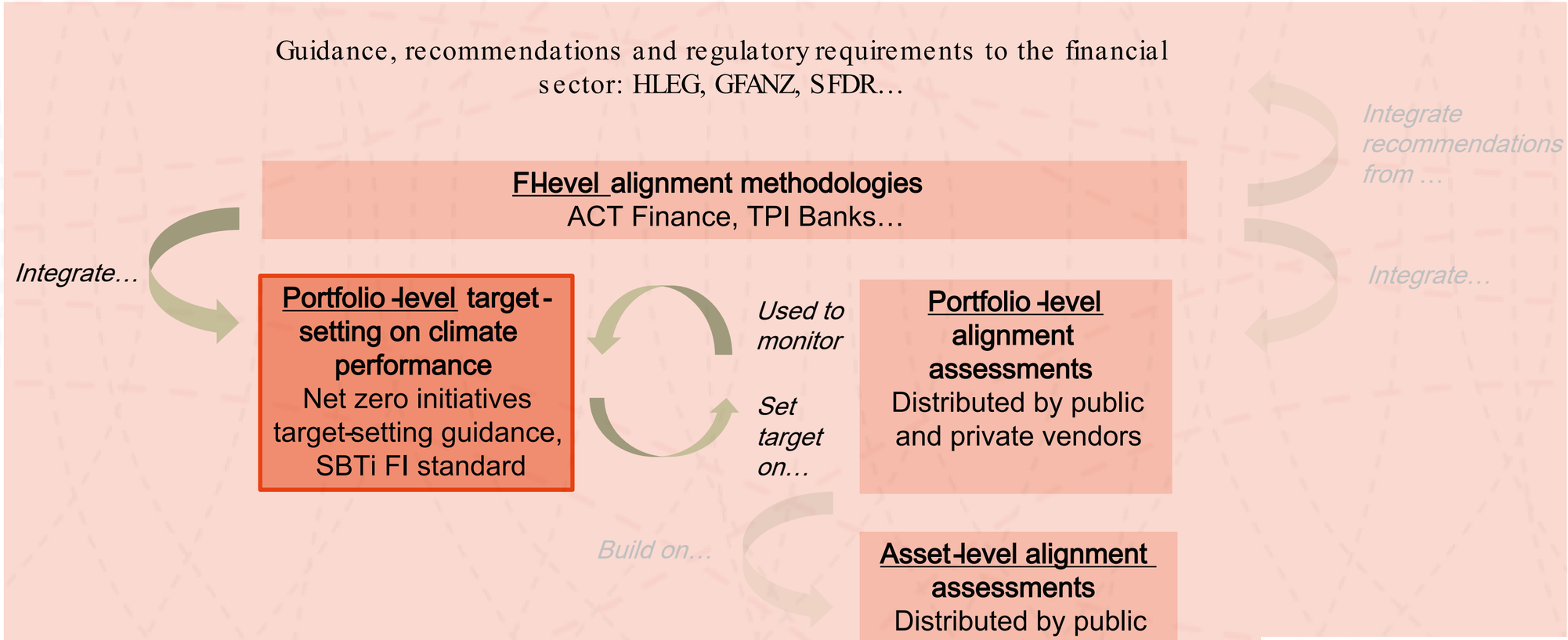
Areas for further research/ key challenges for FI-level alignment methodology developers

All FI-level alignment methodologies	
All criteria	No convergence (yet, work is underway) on the specific criteria against which FIs' approach to net zero should be assessed and how.
FI-level alignment methodologies that use quantitative assessments to evaluate the alignment of …	
• Emissions' targets	Which scenario/ group of scenario and pathways to use? What decarbonization rate and timing should be considered adequate?
• Portfolio alignment	Cannot rely on disclosed data because of divergence of results across methodologies. Hard to implement in-house methodology because lack of information on portfolio composition.
• Financial flows to transitioning assets (current and targeted)	Lack of common definition on what a transitioning asset is to compare the disclosed numbers. Hard to implement in house methodology because lack of information on portfolio composition.

In partnership with:

Key findings

2. Portfolio-level target-setting (on climate performance – excluding other types of targets)



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Key findings

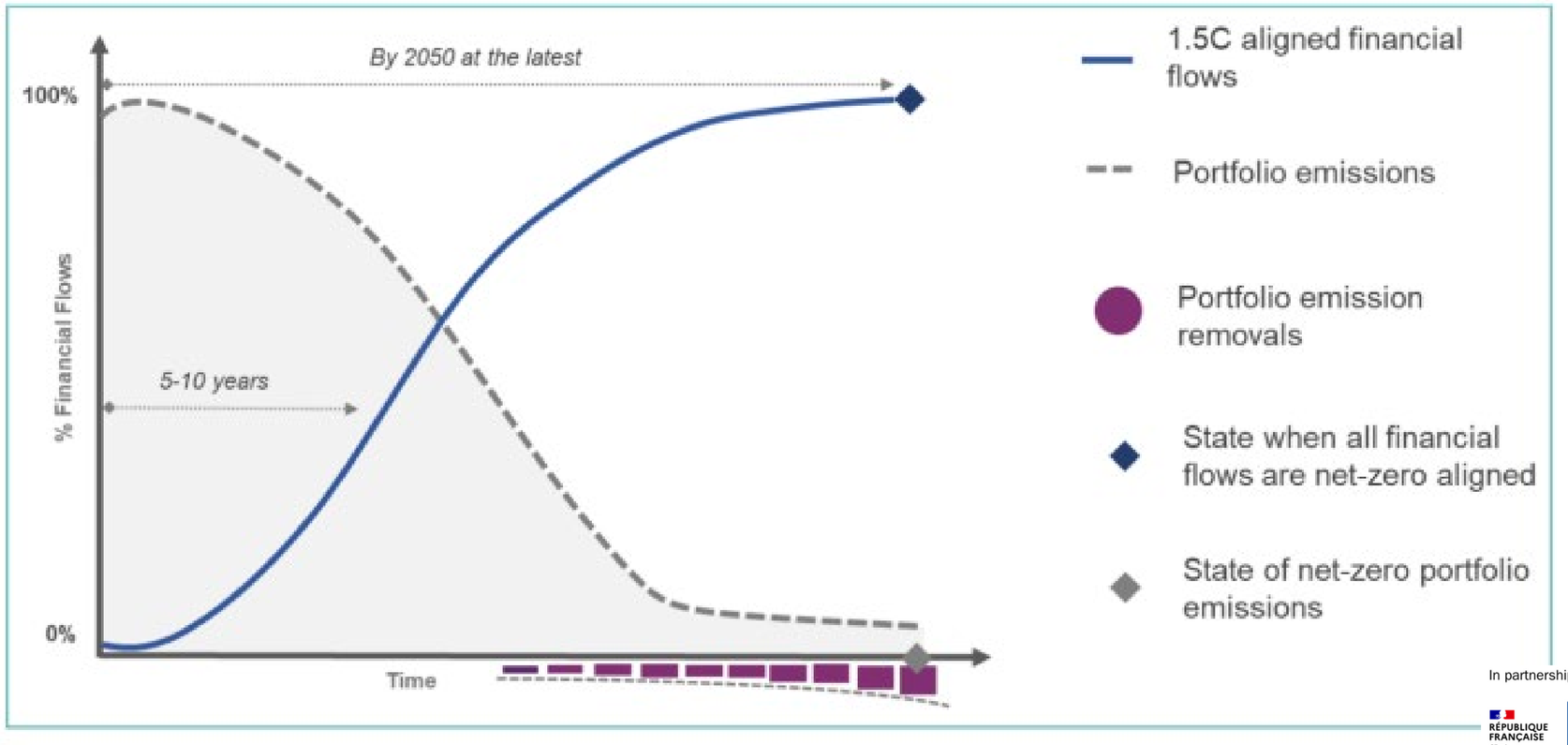
2. Portfolio-level target-setting (on climate performance – excluding other types of targets)

Alignment methodology type	Alignment methodology sub-type	Examples (non-exhaustive, authors' interpretation)
Portfolio target-setting methodologies Used by financial institutions to set their targets and/or third-parties to derive normative alignment benchmarks to assess financial institutions' targets	**Portfolio emissions target-setting** focuses primarily on the emissions associated with financial flows.	• PAII NZIF, NZAOA, NZBA emissions reduction targets (portfolio-wide, sub-portfolio-wide and/or sector-level) • SBTi FINZ long term emissions reduction, maintenance, and portfolio neutralisation targets • Emissions targets as detailed/recommended in GFANZ and other alignment frameworks such as the HLEG
	Portfolio alignment target-setting relates to increasing the share of financial flows towards financial assets that share a common set of characteristics, usually denoting the alignment status of the financial asset.	• PAII asset-level targets based on the NZIF or other maturity scale approach • SBTi FINZ alignment-based targets • SBTi portfolio coverage and temperature targets • Targets and metrics on GZANZ aligned, aligning and managed phase-out transition strategies to support real economy transition (GFANZ, 2022).
	Financing targets usually focus on ceasing or decreasing fossil fuel finance, and increasing financial flows to climate solutions	• Climate solutions & fossil fuel exposure targets that are mentioned/recommended/mentioned in NZAOA, NZBA, PAII NZIF and SBTi FI • Targets and metrics on GFANZ climate solutions • Financing-based targets, notably on climate solutions and fossil fuels, are also mentioned in multiple alignment frameworks.

Key findings

2. Portfolio-level target-setting methodologies

Figure 25: Relationship between 1.5°C aligned financial flows and portfolio emissions – modified from SBTi (SBTi, 2023).



Key findings

2. Portfolio-level target-setting methodologies

Area for further research/ key challenges for target-setters/ methodology developers

1. **Emissions targets:** How to ensure that emissions targets set by FIs using different methodologies, in particular different scenarios and budget-sharing approaches, do not lead to an overshoot in the aggregate?

2. **Alignment targets**: What attributes should be taken into account to ascertain the alignment status of financial assets and portfolios - uni-dimensional criteria such as the presence of validated science-based targets, or multi criteria, taking into account targets but also transition plans and governance?

3. **Alignment targets**: How to determine the pace at which financial flows should be increased towards the identified financial assets and activities for the global remaining carbon budget to be respected? How to link alignment targets to the physical reality of emissions?

In partnership with:

Key findings

3. Portfolio and financial asset-level alignment assessment methodologies

Guidance, recommendations and regulatory requirements to the financial sector: HLEG, GFANZ, SFDR…

FI-level alignment methodologies
ACT Finance, TPI Banks…

Integrate…

Portfolio-level target-setting on climate performance
Net zero initiatives target-setting guidance, SBTi FI standard

Used to monitor

Set target on…

Portfolio-level alignment assessments
Distributed by public and private vendors

Integrate recommendations from …

Integrate…

Build on…

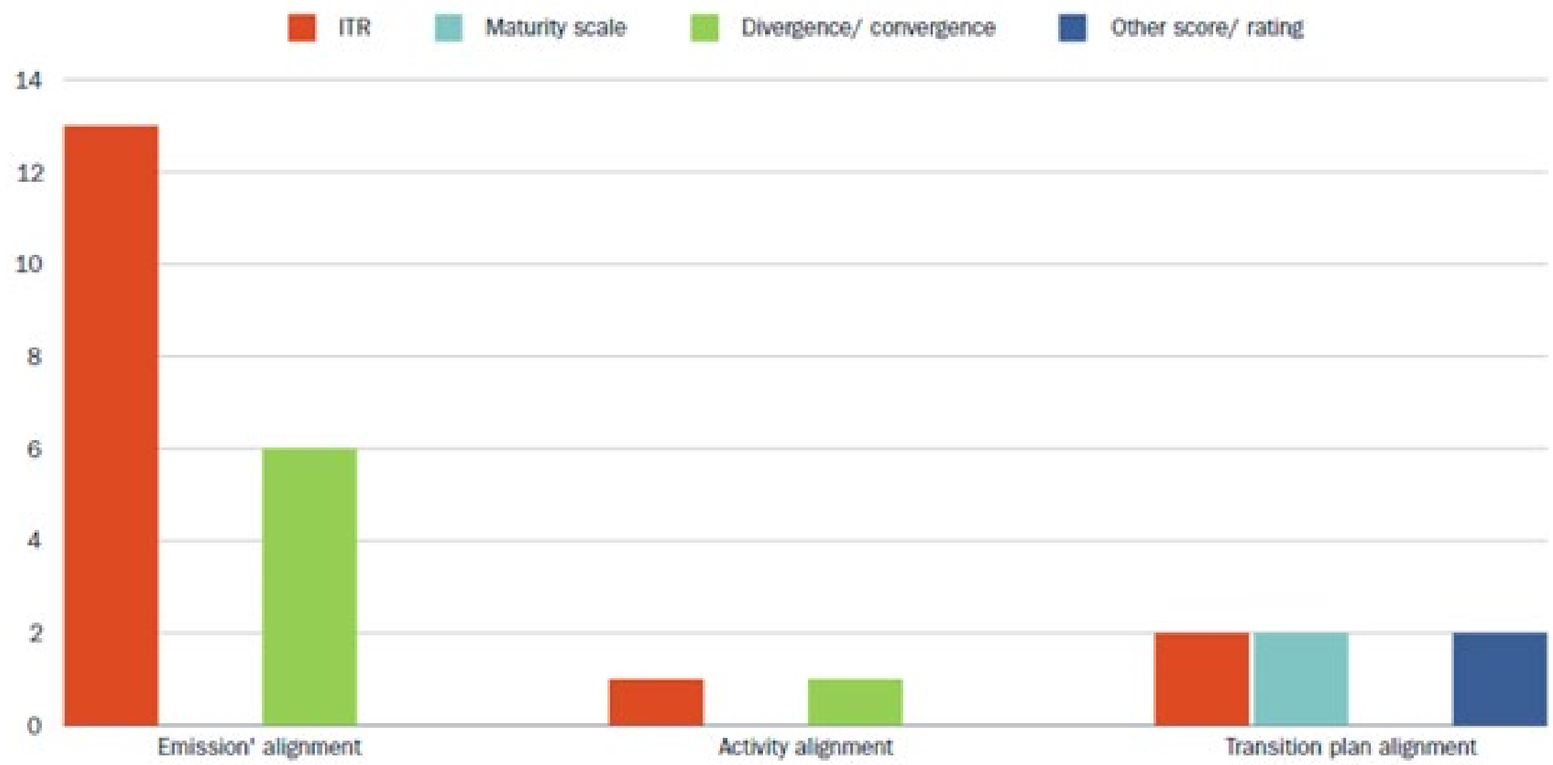
Asset-level alignment assessments
Distributed by public and private vendors

In partnership with:

Key findings

3. Portfolio and financial asset-level alignment assessment methodologies

Figure 26: Count of reviewed methodologies by focus and output metric (corporates) - Note: one methodology can lead to several outputs.



Key findings

3. Portfolio- and financial asset level alignment assessment methodologies

Can the results of alignment assessments be used as data inputs to determine the alignment category into which financial assets fall?

Classification system	Category 1	Category 2	Category 3
High-level definition	Current emissions are at 2050 net zero levels	Demonstrating alignment to 1.5°C pathways	Demonstrating aligned targets to 1.5°C
PAII NZIF Maturity Scale for corporates (PAII, 2021/2024)	Achieved net zero: Current emissions at/ close to 2050 net zero level* + have an investment plan/ business model in line with net zero.	Aligned: High-impact companies: Have a long-term ambition; short- and medium-term targets in line with 1.5°C*; past performance in line with targets (*); emissions disclosure; adequate transition plan and CAPEX in line with 1.5°C*.	Aligning: Short- and medium-term targets in line with 1.5°C*; emissions disclosure; and presence of a transition plan. Also includes: Committed to aligning: Have a long-term ambition
SBTi FINZ Type of alignment (meta-criteria to be published in 2024) (SBTi, 2023)	Net zero aligned/ Achieved net zero end state: Assets: entities operating at a performance level consistent with a net-zero end-state (e.g., companies who have achieved a state of net-zero).	1.5°C transition/1.5°C aligned performance Assets: entities that are demonstrating alignment to 1.5°C pathways (e.g., companies demonstrating credible decarbonization in line with 1.5°C pathways).	1.5°C aligned transition/Aligned ambition Assets: entities that are covered by a clear 1.5°C aligned ambition (e.g., companies with credible 1.5°C aligned targets, or 1.5°C implied temperature rise score using credible methodologies).
GZANZ Transition Finance strategies key attributes (GFANZ, 2022)	Sub-category of GFANZ "Climate solutions" Climate solutions have their own attributes - decarbonization can be assessed using "aligned" and "aligning" categories attributes.	Aligned: Net zero commitment or ambition; emissions-based targets & KPIs; Additional KPIs; Net zero transition plan established and implemented; Alignment to pathways at least 2 continuous reporting cycles or years Managed phase-out assets have their own attributes adapted from the "aligned" and "aligning" categories.	Aligning: Net zero commitment/ambition; Emissions-based targets & KPIs; Additional KPIs; net zero transition plan established; Convergence towards pathways

Conclusion

Towards approaches to assess the consolidated alignment of a group of financial institutions

Limited attempts

We see three potential avenues (not mutually-exclusive):

- **Financial market coverage approach** – i.e. counting the number of FI that are signatories of NZ initiatives or that achieve a certain rating in FI alignment assessment methodologies.
- **Financial flows alignment approach** – i.e. identifying in the aggregate which financial flows are directed towards assets considered aligned, aligning, net zero.
- **Emissions alignment approach** – i.e. aggregating emissions' based targets and data at higher level to compare it with remaining carbon budget.

This will be the objective of the second stream of work of the CAPA project.

In partnership with:

IMPLIED TEMPERATURE RISE OF EQUITY PORTFOLIOS: A SENSITIVITY ANALYSIS FRAMEWORK

Webinar - 14 May 2024

This report is part of the Consolidated Alignment Performance Analytics research project. The results presented below build on the findings presented in the report "*The Alignment Cookbook 2 - A technical panorama of the alignment methodologies and metrics used by and applied to the financial sector, with a view to inform consolidated alignment assessments*" (ILB, 2024).

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Context

- **Increasing number of methodologies** for calculating a portfolio's implied temperature rise (ITR)
- **Several comparative analyses of ITR methodologies** leading to an identification of key design choices and first recommendations (ILB, 2020 ; PAT, 2020 , 2021 ; FOEN, 2022 ; GFANZ, 2022 c; OECD, 2022 ; ILB, 2024).
- **Lack of research aimed at quantifying the impact of different options** on each of these design choices (GFANZ, 2022 b; Haalebos and Fouret, 2022 ; de Francoet al., 2023).

Faced with the multiplication of methods for calculating a company or financial portfolio ITR and the divergence of their results, this report introduces a framework for carrying out sensitivity analyses of their design choices.

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What do we know?

- **ITR from different methodologies diverge significantly, generally by more than 1°C.** For example, among 11 methodologies, the ITR of the Euronext Low-Carbon 100 (in 2019) vary between 1.5°C and 3°C (ILB, 2020).
- Different greenhouse gas emissions **scope** (moving from Scope 1+2 to Scope 1+2+3) can vary the temperature of a company by more than **1.8°C** (Haalebos and Fouret, 2022).
- Different greenhouse gas emissions **projections** (without or without targets and uncertainty) can vary the temperature of a company and a portfolio by more than **1°C** (Haalebos and Fouret, 2022).
- Finally, different **aggregation** options (weighting options proposed by CDP and WWF, 2020) can vary the temperature of a portfolio by more than **1°C** (MSCI World Index analysis by de Franco et al., 2023).

The aim of the sensitivity framework is to confirm these results and extend them to other design choices, in particular to the one identified by GFANZ (2022b) and ILB (2024).

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Model design

Methodological step	Model parameter [options]	Quantitative study design [options] (GFANZ, 2022b)
1.Decarbonization benchmark	*Single-scenario benchmark*	*Single-scenario benchmark*
	Allocation [reduction, convergence, fair share]	Construction approaches [reduction, convergence, fair share]
	Reference year [2015-2021] Horizon [reference year – 2050]	Time horizons [2030, 2035, 2040, 2045, 2050]
	Sector treatment [True/False] Denominator [production, revenue, gross profit, no denominator (absolute)]	Metric units [absolute, physical, economic]
2.Projection of emissions	Greenhouse gas emissions scope [1, 12, 123, relevant]	Scope inclusion approaches [1, 12, 123] Scope 3 emission types [TBD]
	Company growth treatment [inorganic growth, organic growth, neutral]	Emissions forecasting approaches [historical emissions, transition plan targets, backward- and forward-looking info]
	Market-share projection [historical trend, constant] Intensity projection [historical trend, constant, climate targets]	
		Qualitative assessment approaches [TBD]
3.Overshoot and ITR aggregation	*ITR method [transient climate response to cumulative CO2 emissions (TCRE), model]* TCRE value	Metrics [ITR using TCRE, ITR using multiple benchmark interpolation, % misalignment, binary alignment]
	ITR portfolio calculation [Average, Sum] *ITR portfolio aggregation [Weight, Total]* ITR time management [Budget, Pathway]	

The model is built on the qualitative analysis frameworks developed by ILB (2020), PAT (2020, 2021), ILB (2024) and on the different options proposed by GFANZ (2022b) to measure the impact of each design choice.

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Step by step

Company data

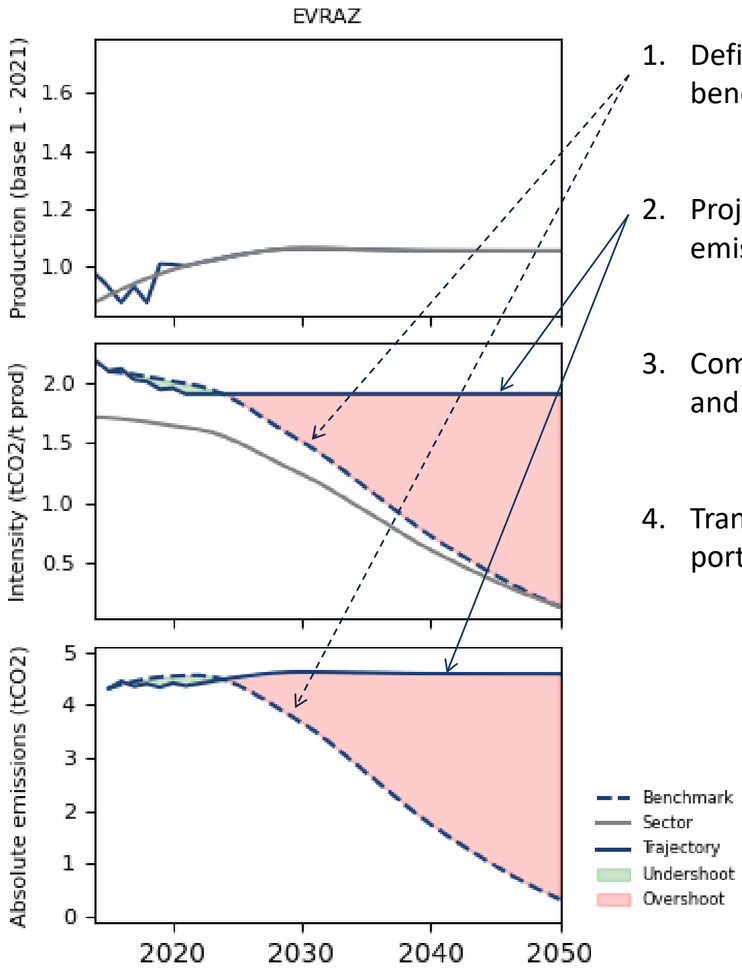
Revenue, gross profit, production, GHG emissions scope 1, 2, 3, targets.

Source: Annual reports, Refinitv.

1.5°C scenario data

By sector: revenue, GDP, production, GHG emissions scope 1, 2, 3.

Source: Net-Zero Emissions by 2050 (NZE) scenario.



1. Define the intensity and absolute emission benchmark for a company.
2. Project activity, intensity, and absolute emissions.
3. Compute the overshoot (undershoot) from 1. and 2.
4. Translate the overshoot to ITR (or aggregate at portfolio level).

EVRAZ	
Overshoot	56.6%
ITR	1.66°C

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ITR or Overshoot?

- Limiting the horizon to 2050 tends to limit the overshoot to around 100%: if we consider a linear trajectory towards net zero emissions in 2050, the area between the trajectory and the benchmark (**Overshoot**) will very rarely be greater than the area under the benchmark (**Carbon budget**), leading to an overshoot of less than 100 % (figure 1).

- A 100 % overshoot "only" leads to an ITR of 1.8 °C (figure 2). On a global level, the remaining carbon budget from 2020 for a 50 % chance of limiting warming to 1.5 °C was 500 GtCO2, while the budget for limiting warming to 2 °C was 1150 GtCO2 (130 % overshoot).

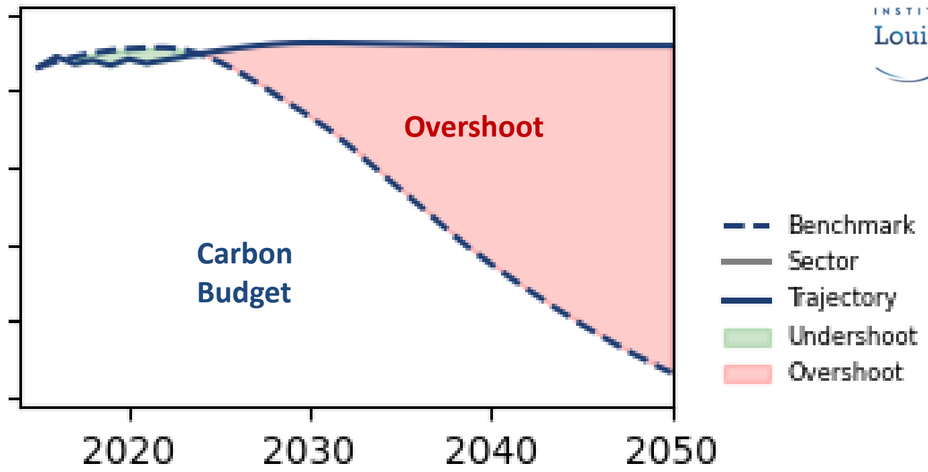

Figure 1. Example of absolute emissions trajectory and benchmark at company level

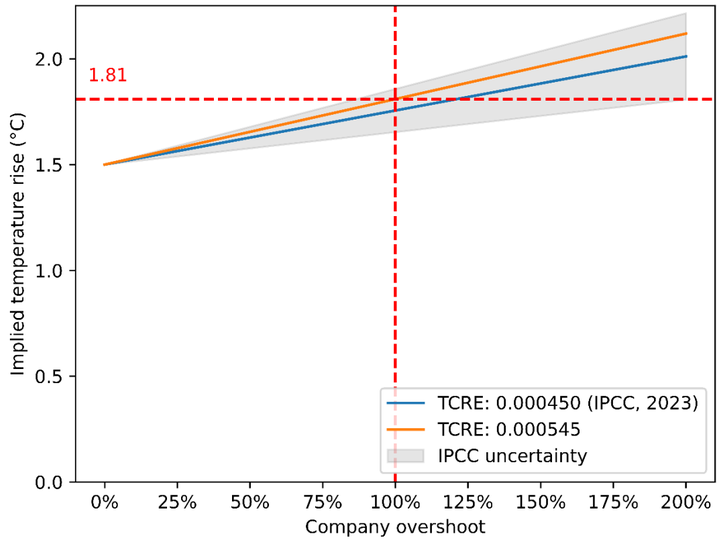

Figure 2. ITR as a function of overshoot using a transient climate response to cumulative CO_2 emissions

For these reasons, we recommend to focus on overshoot rather than ITR.

In partnership with:

Convergence, reduction, or fair share allocation?

- For companies whose initial intensity is higher than that of the sector (HI):
  - the reduction approach is the least restrictive for the company's carbon budget,
  - the convergence approach is more restrictive but adapts to its starting level,
  - the fair share approach is the most restrictive and requires a significant reduction in carbon intensity from the reference year onwards (figure 3).

- These results reverse for companies whose carbon intensity is below the sector (LI).

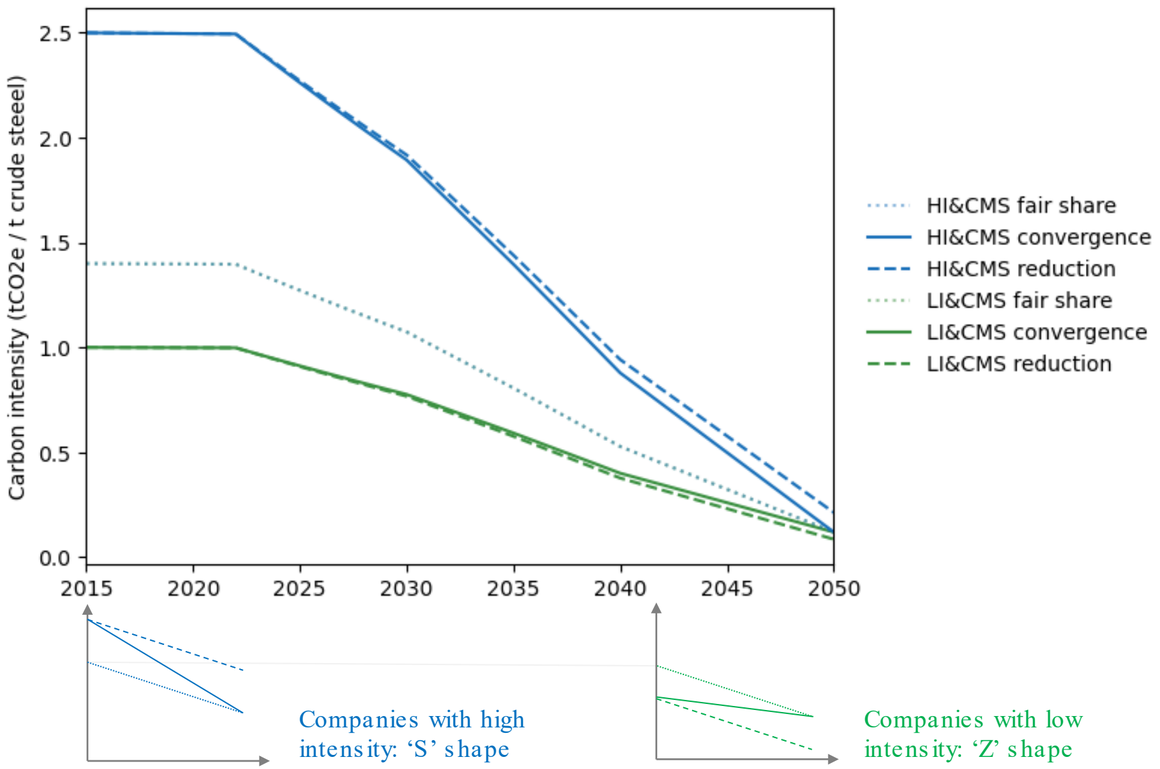

Figure 3. Comparison between convergence, reduction and fair share allocation

The choice of an allocation approach does not only change the assessment of a portfolio, but also sends different incentives to companies.

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Empirical data

- Illustration based on real data for **three steel companies**: Evraz (EV), SSAB (SB), and ThyssenKrupp (TH) (figure 4).
- The steel sector is consistent with Krabbe et al. (2015).
- The three companies have **different levels of intensity and historical trends**.

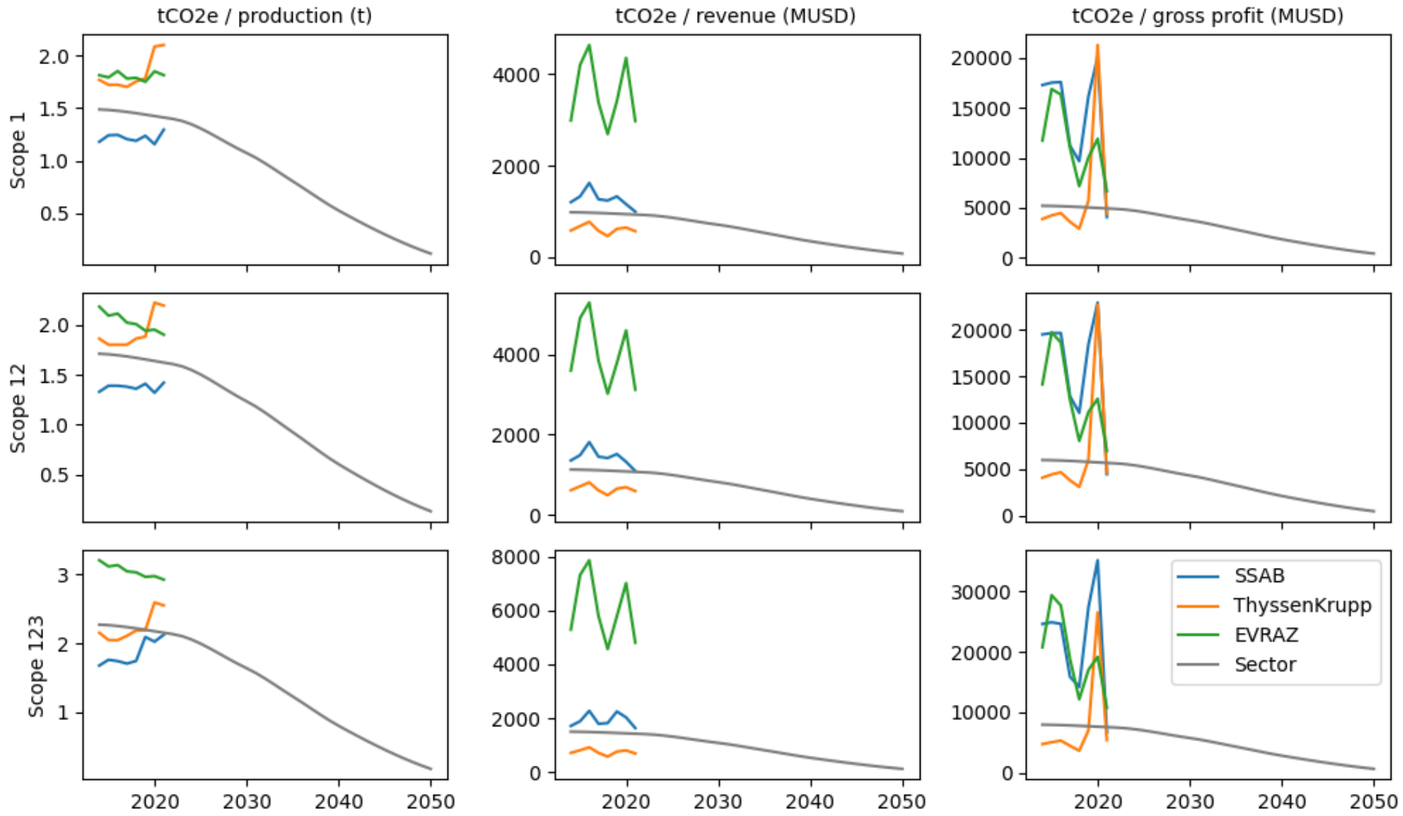

Figure 4. Historical intensity by scope and denominator of three steel companies

In partnership with:

Example of result for the horizon parameter

Horizon = 2050 (reference configuration)

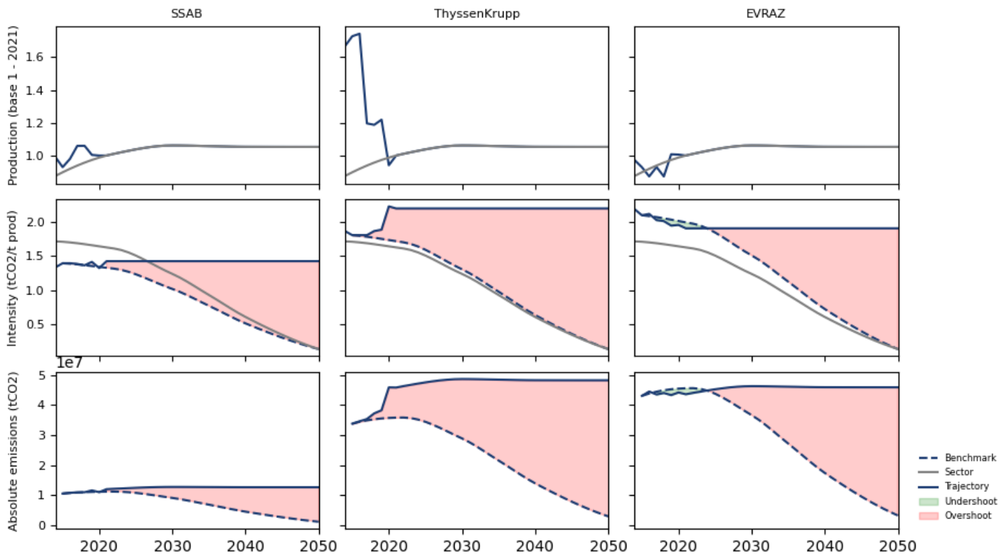

Figure 5. Model steps for three steel companies in the reference configuration

Parameter	Reference
Allocation	Convergence
Horizon	2050
Reference year	2015
Sector treatment	True
Greenhouse gas emissions scope	Relevant
Denominator	Production
Market share growth treatment	Neutral
Market share projection	Constant
Intensity projection	Constant
TCRE	0.000545
ITR time management	Budget

Horizon = 2030

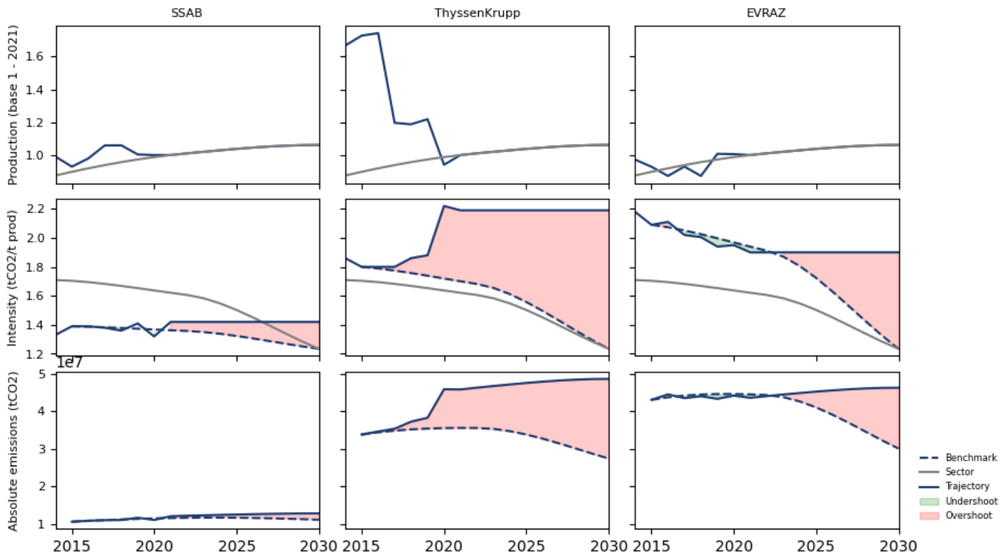

Figure 6. Model steps for three steel companies with 2030 horizon

	SSAB	ThyssenKrupp	EVRAZ
Overshoot ref (Horizon=2050)	69.2%	101.7%	56.6%
ITR ref (Horizon=2050)	1.69°C	1.78°C	1.66°C
Overshoot (Horizon=2030)	5.3%	31.1%	9.4%
ITR (Horizon=2030)	1.51°C	1.59°C	1.53°C
Overshoot variation (Horizon)	**-63.9%**	**-70.7%**	**-47.2%**

The horizon parameter affects overshoot by 61% on average.

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Summary of results for other parameters

	SSAB	ThyssenKrupp	EVRAZ	Average
Overshoot ref	**69.2%**	**101.7%**	**56.6%**	**75.8%**
Parameter	**Absolute overshoot deviation**			
Denominator	111.4%	63.6%	85.1%	**86.7%**
Intensity projection	68.7%	98.6%	62.7%	**76.7%**
Horizon	63.9%	70.7%	47.2%	**60.6%**
Growth treatment	4.2%	91.3%	5.5%	**33.7%**
Scenario linearization	28.8%	35.9%	28.6%	**31.1%**
Allocation approach	32.5%	1.3%	35.3%	**23.0%**
Reference year	20.0%	21.4%	20.3%	**20.6%**
Scope	26.9%	2.7%	15.8%	**15.1%**
Market share projection	7.0%	13.9%	5.4%	**8.8%**
TCRE value	32.2*%	50.1*%	28.6*%	**37.0%**
ITR time management	21.5*%	21.5*%	21.5*%	**21.5%**

*This « overshoot difference » for each company represents the temperature difference translated into overshoot to compare the impact of these parameters with the others.

Denominator used to normalize emissions, intensity projection, and horizon have the highest impact on the three steel companies.

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Conclusion

- Generic ITR model with 15 design choices identified in the literature.
- Preferable to compare overshoot rather than ITR.
- For high intensity companies: reduction (less restrictive) < convergence < fair share.
- Parameters with the highest impact on overshoot for three steel companies: denominator used to normalize emissions, intensity projection, and horizon (consistent with Haalebos and Fouret, 2022).
- In the second phase of the CAPA project, the sensitivity analysis will be extended to portfolios and financial institutions to focus on different aggregation options.

Thank you for your attention.

In partnership with:

References

CDP, WWF (2020). *Temperature Rating Methodology A temperature rating method for targets, corporates, and portfolios*. CDP Worldwide and WWF International

FOEN (2022) *Portfolio Climate Alignment - Understanding unwanted disincentives when using climate alignment methodologies*. Federal Office for the Environment.

de Franco, C., Nicolle, J., & Tran, L. A. (2023). Climate Portfolio Alignment and Temperature Scores. *The Journal of Impact and ESG Investing*, 4(2), 66-77.

GFANZ (2022a). *Financial Institution Net-zero Transition Plans – Fundamentals, Recommendations, and Guidance*. Glasgow Financial Alliance for Net Zero

GFANZ (2022b). *2022 Concept note on Portfolio Alignment Measurement*. Glasgow Financial Alliance for Net Zero

GFANZ (2022c). *2022 Driving Enhancement, Convergence and Adoption – Measuring Portfolio Alignment.* Financial Alliance for Net Zero

Haalebos, R., & Fouret, F. (2022). *Exploring ITR scores: Framing robust company-specific benchmarks and future company-level GHG emissions ranges*. FTSE Russel

ILB (2020). *The Alignment Cookbook - A Technical Review of Methodologies Assessing a Portfolio's Alignment with Low-carbon Trajectories or Temperature Goal*. Institut Louis Bachelier et al.

ILB (2024). *The Alignment Cookbook 2 - A technical panorama of the alignment methodologies and metrics used by and applied to the financial sector, with a view to inform consolidated alignment assessments*. Institut Louis Bachelier et al.

IPCC (2018) Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]

Krabbe, O., Linthorst, G., Blok, K., Crijns-Graus, W., Van Vuuren, D. P., Höhne, N., ... & Pineda, A. C. (2015). Aligning corporate greenhouse-gas emissions targets with climate goals. *Nature Climate Change*, 5(12), 1057-1060.

MacDougall, A. H. (2016). The transient response to cumulative CO2 emissions: a review. *Current Climate Change Reports*, 2(1), 39-47.

OECD (2022). *Assessing the climate consistency of finance: Taking stock of methodologies and their links to climate mitigation policy objectives*. Noels, J., & Jachnik, R, OECD Environment Working Papers No. 200

PAT (2020) *Measuring Portfolio Alignment, Assessing the position of companies and portfolios on the path to net zero*. Portfolio Alignment Team

PAT (2021) *Measuring Portfolio Alignment, Technical Considerations*. Portfolio Alignment Team

Randers, J. (2012). Greenhouse gas emissions per unit of value added ("GEVA")—A corporate guide to voluntary climate action. *Energy policy*, 48, 46-55.

Urban, M., Hamelink, F., Beaufils, E., Caldecott, B., & Kaminker, C. (2021). Designing temperature alignment metrics to invest in net zero: an empirical illustration of best practices. Available at SSRN 4008893.

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