Climate Change and the EU Regulatory Response:

SFDR Art. 9 “Green Superstar” & Absolutely Sustainable ‘Paris-Aligned’ Investing

Andreas G. F. Hoepner

Notes: The underlying EU TEG work is based on the excellent and tireless efforts of Claudia Bolli, Manuel Coeslier, Delphine Dirat, Steffen Hoerter, Jean-Christophe Nicaise Chateau, Sebastien Lieblich, Sara Lovisolo, Veronique Menou, Elena Philipova, Cesare Posti, Chantal Sourlas and Jean-Yves Wilmotte. Andreas also gratefully acknowledges scientific support on the EU TEG work from Theodor Cojoianu, Saphira Rekker, Fabiola Schneider and Theresa Spandel.

Preamble:

With the Taxonomy nowadays defining “french fries as salad”,

SFDR Art. 9 is the new Green Superstar!

How to design SFDR Article 9 funds?

Does the fund have environmental objectives?

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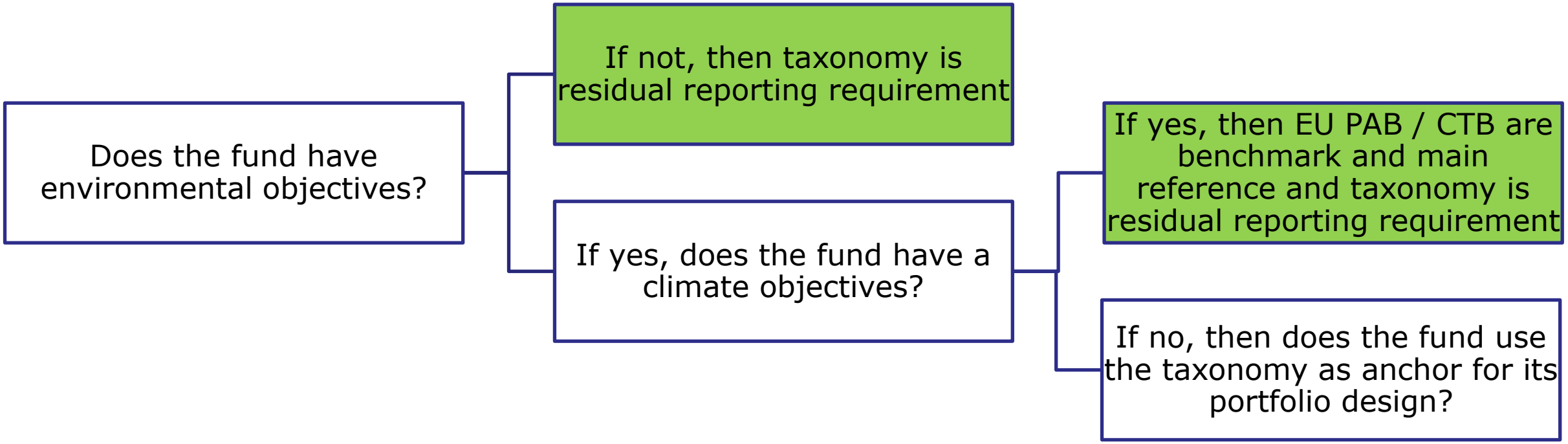
Does the fund have environmental objectives?

If not, then taxonomy is residual reporting requirement

If yes, does the fund have a climate objectives?

How to design SFDR Article 9 funds?



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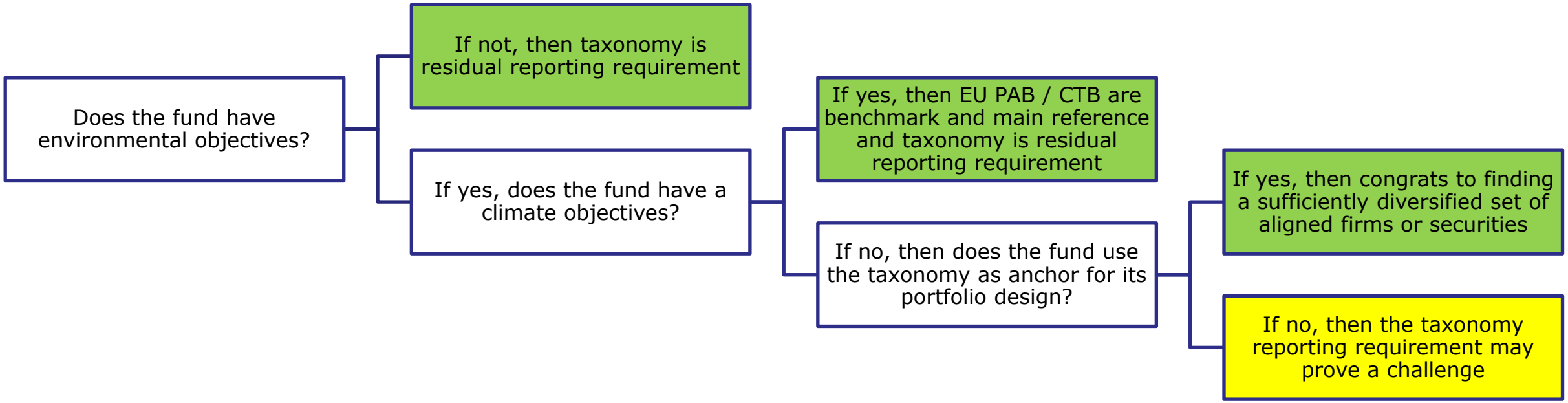

Taxonomy DNSH vs. SFDR DNSH (other than PAI)

"The ESAs had proposed in the [first] consultation paper that, because taxonomy-aligned investments would already be subject to a DNSH requirement under the Taxonomy Regulation, such investments would not need to be subject to the SFDR DNSH requirement.

https://www.simmons-simmons.com/en/publications/ckv6uumi61gkt0a71sjft7khz/esg-esas-publish-their-final-report-with-draft-rts-under-sfdr

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However, the ESAs have determined that they are not legally capable to make this derogation and therefore all sustainable investments (including taxonomy-aligned investments) will be subject to the SFDR DNSH requirement (including [but not equal to] consideration of the adverse impact indicators in Annex I SFDR RTS).

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Firms and data providers will therefore have to make adjustments to their processes for determining whether an investment is taxonomy-aligned.

As the SFDR DNSH requirement is more subjective than the prescriptive measures for the Taxonomy DNSH requirements under the technical screening criteria (as under SFDR, it is up to firms to determine what would amount to "significant" harm), firms may need to add the SFDR DNSH assessment as an overlay to any taxonomy-alignment assessment that they obtain from third party data vendors."

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Principles for SDG literate Financing

SDG literate Finance = Green Bonds + SDG linked Bonds

<u>SDG linked Bonds:</u>

- Invented by Enel Sep 2019
- Strong growth rates
- Infinitely scalable
- Legally enforceable engagement milestones
- Prioritization of KPIs case by case by investors & issuer rather than outside (accounting) bodies

Hoepner (2022) Climate Change and the EU Regulatory Response. NZAOA March 24th 2022

Principles for SDG literate Financing

"As asset owners, we have a duty to act in the best long-term interests of our beneficiaries. In this fiduciary role, we believe that issues relating to the United Nations' Sustainable Development Goals (SDGs) can affect the financial opportunities (e.g., return, upside deviations), financial risks (e.g., systemic risks, downside deviations) and overall financial performance (i.e., return divided by unit of risk) of investment operations which finance economic activities in primary markets.

While such primary market financing may vary across asset classes, issuers, economic activities, regions, and through time, we acknowledge that the real-world impact of an investors materializes particularly in primary markets which directly fund real world activities.

Investors wishing to enhance their real-world impact may adhere to SDG literate financing in primary markets, either through financing purely an activity supportive of the SDGs or by providing general financing which enables the issuer to achieve specific SDG milestone(s). Consequently, we recognise that applying SDG literate Financing Principles may better align our financing with scientific recommendations to achieve the SDGs, the Paris Agreement, and broader objectives of society.

Therefore, where consistent with our fiduciary responsibilities, we commit to the following:

- **Principle 1 – Our Preferences & Expectations:** We will prefer to finance SDG literate issuances wherever possible. Where we provide general financing, we expect

  (i) issuers of securities to make clear commitments to one or more SDGs to be achieved by a specific time stamp.

  (ii) whereby these clear commitments must be incentivized by a coupon step up or equivalent financial penalty in case the issuer fails to achieve them in time.
- **Principle 2 – Our Issuer Engagement:** We will be active financiers and

  (i) discourage issuers to issue bonds which are illiterate with respect to SDGs as they neither relate to an SDG supportive activity nor make a specific SDG commitment.

  (ii) encourage appropriate disclosure on SDG performance information with respect to both issuers themselves and the issuances which we finance.

  (iii) engage directly with Chief Financial Officers to enhance our effectiveness in implementing the Principles for SDG literate Financing.
- **Principle 3 – Our Commitment:** Where market realities do not permit us to finance purely SDG literate securities, we will disclose our percentage of SDG literate financing annually.
- **Principle 4 – Walking the Talk:** We will promote acceptance and implementation of the Principles for SDG literate Financing within primary financing markets through collaboration with other asset owners and scientists through

  (i) participating in joint communication and outreach events

  (ii) coordinating SDG preferences during pre-issuance periods

  (iii) and supporting the joint development of SDG related assessments of securities during the post-issuance period.

In signing the Principles, we as financiers publicly commit to adopt and implement them, where consistent with our fiduciary responsibilities. We also commit to collaborate with scientists to evaluate the effectiveness and improve the content of the Principles for SDG literate Financing over time. We encourage other investors to adopt the Principles."

Absolutely Sustainable Investing =

1. ***Reduce GHG emissions vs. Market Benchmark*** *in a given year (Relatively more sustainable investing as practiced in 2019)*

+

2. ***Reduce GHG emissions year on year*** *by at least 7% p.a..*

+

3. *Reach* ***Net Zero GHG emissions by 2050****.*

+

4. *Integrate* ***Scope 3 GHG emissions.***

+

5. *Use the* ***Precautionary Principle*** *in GHG data estimations****.***

Absolutely Sustainable Investing: Paris Aligned Benchmarks and/or Climate Transition Benchmarks

1. ***Quasi Mandatory*** *as* ***Benchmark*** *for* ***EU SFDR Article 9 funds with climate objective*** *(clarified by ESMA July 2021)*

&

2. ***Total AUM*** *since Dec 23rd 2020 effective launch* ***> €30bn.***

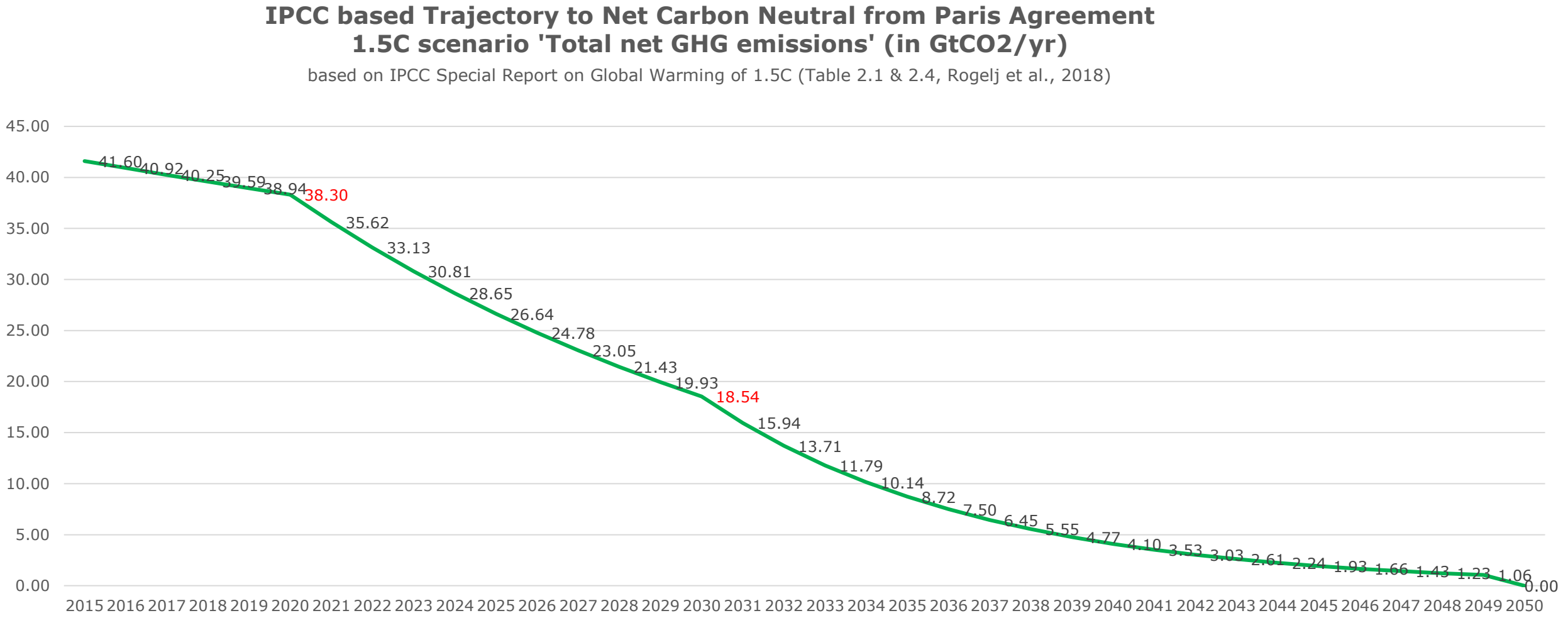
&

3. *100+ of Indices, ETFs and even inhouse AO mandates launched.*

~

4. *Real World Impact: The strong growth in PABs and CTBs combined with the mandatory application for Article 9 funds with climate objective will lead to top tier EU sustainability funds being benchmarked on*
   - *Sufficient financial performance (i.e. return per unit of risk)*
   - *Sufficient GHG reduction performance (i.e. at least 7% p.a.)*

What is needed?!
A trajectory to Net Carbon/Climate Neutral in 2050



EU TECHNICAL EXPERT GROUP ON SUSTAINABLE FINANCE

Key Objective of the Climate Benchmarks (1/3)

(5) The benchmark methodology of EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks should be linked to the commitments laid down in the Paris Agreement. It is therefore necessary to use the 1,5°C scenario, with no or limited overshoot, referred to in the Special Report on Global Warming of 1,5°C from the Intergovernmental Panel on Climate Change (IPCC)[6] ('IPCC scenario'). That IPCC scenario is in line with the Commission's objective to reach net zero greenhouse gas (GHG) emissions by 2050, set out in the European Green Deal. To be in line with the IPCC scenario, investments should be reallocated from fossil-fuels dependent activities to green or renewable activities and the climate impact of those investments should improve year after year.

Source: European Commission Ref. Ares(2020)1993773 - 08/04/2020

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Differentiation of climate benchmarks

*The two climate benchmarks **vary in their level of ambition**.*

*As a result, most of the recommendations are **common** to both climate benchmarks but with **different thresholds**.*

*Specifically, the Paris-Aligned Benchmark (PAB) **use exclusions**, while the Climate Transition Benchmark (CTB) does not.*

Recommendations for climate benchmarks: Minimum Standards

*The TEG recommends minimum standards for the **EU Climate Transition Benchmark** and the **EU Paris-aligned Benchmark:***

	Climate Scenario
	IPCC 1.5°C with no or limited overshoot
EU CTB	✓
EU PAB	✓

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*The TEG recommends minimum standards for the **EU Climate Transition Benchmark** and the **EU Paris-aligned Benchmark:***

	Climate Scenario	Relative decarbonization
	IPCC 1.5°C **with no or limited overshoot**	**CTB: -30%** **PAB: -50%** **Minimum reduction in GHG emissions intensity (GHG/EVIC) compared to market index**
EU CTB	✓	✓
EU PAB	✓	✓ ✓

Recommendations for climate benchmarks: Minimum Standards

*The TEG recommends minimum standards for the **EU Climate Transition Benchmark** and the **EU Paris-aligned Benchmark:***

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	IPCC 1.5°C **with no or limited overshoot**	**CTB: -30%** **PAB: -50%** **Minimum reduction in GHG emissions intensity (GHG/EVIC) compared to market index**	**-7%** **Minimum on average per annum reduction in GHG emissions intensity until 2050**
EU CTB	✓	✓	✓
EU PAB	✓	✓ ✓	✓

Recommendations for climate benchmarks: Minimum Standards

*The TEG recommends minimum standards for the **EU Climate Transition Benchmark** and the **EU Paris-aligned Benchmark:***

2-factor Greenwashing Protection

	Climate Scenario	Relative decarbonization	Self decarbonization	Equity Allocation Constraint
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EU CTB	✓	✓	✓	✓
EU PAB	✓	✓ ✓	✓	✓

Recommendations for climate benchmarks: Minimum Standards

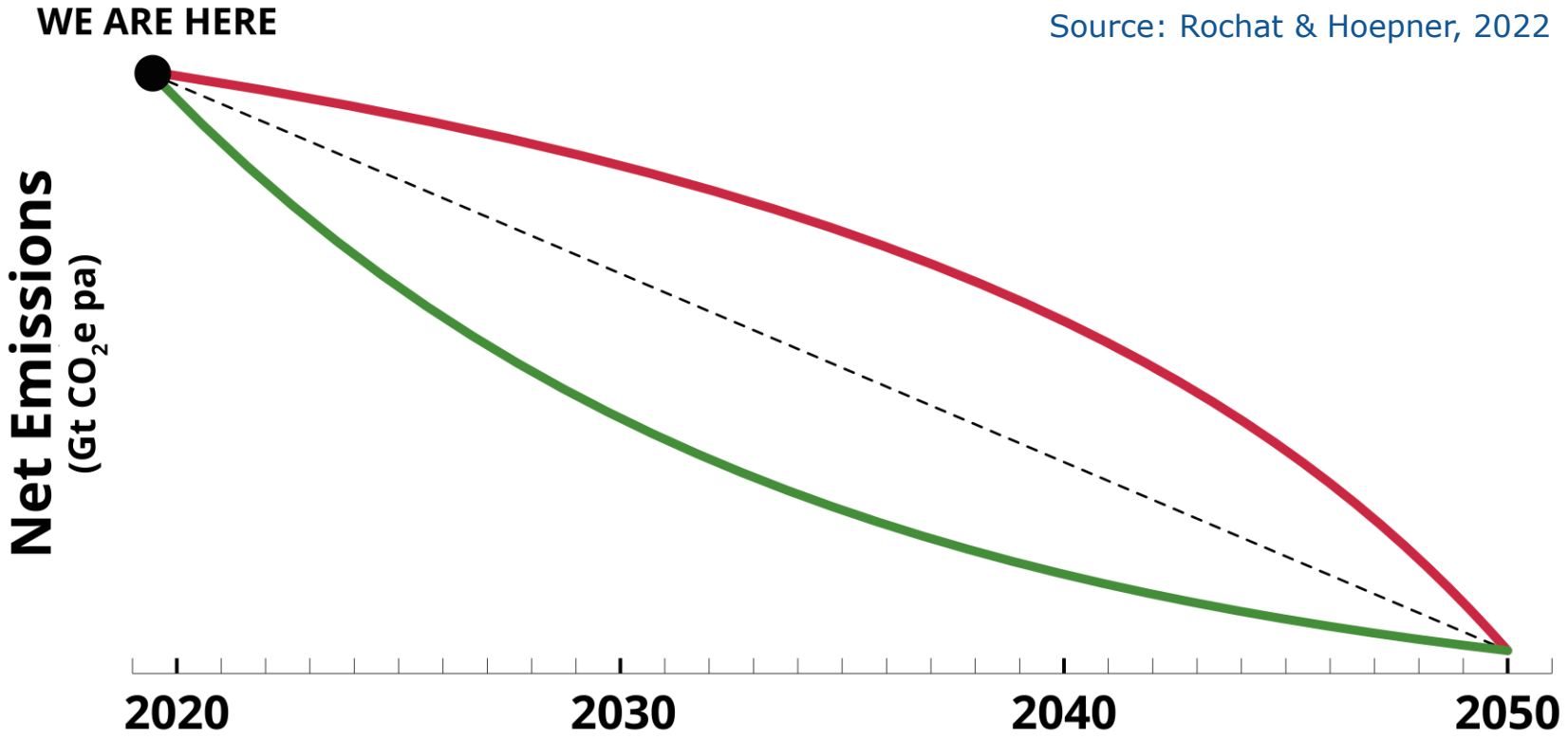
*The TEG recommends minimum standards for the **EU Climate Transition Benchmark** and the **EU Paris-aligned Benchmark:***

2-factor Greenwashing Protection

	Climate Scenario	Relative decarbonization	Self decarbonization	Equity Allocation Constraint	Activity Exclusion
	IPCC 1.5°C **with no or limited overshoot**	**CTB: -30%** **PAB: -50%** **Minimum reduction in GHG emissions intensity (GHG/EVIC) compared to market index**	**-7%** **Minimum on average per annum reduction in GHG emissions intensity until 2050**	**= or >** **AH: Degree of Exposure to "asset heavy" sectors compared with investable universe [Equities Only]**	**1) Coal (1%+ rev.)** **2) Oil (10%+ rev.)** **3) Natural Gas** **4) Electricity producers with carbon intensity of lifecycle GHG emissions higher than 100gCO2e/kWh (both 50%+ rev)**
EU CTB	✓	✓	✓	✓	
EU PAB	✓	✓ ✓	✓	✓	✓

EU TECHNICAL EXPERT GROUP ON SUSTAINABLE FINANCE

CTBs & PABs curve the right trajectory to Net Zero 2050



Source: Rochat & Hoepner, 2022

Dotted line falls 3-4% depending on base year (e.g. 2017 vs. 2025).
Red line is focused on economic efficiency and falls lesser.
Green line is focused on impact sufficiency and falls steeper.

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GHG emissions: Scope 3 is Key!

GHG emissions should be considered using Life-Cycle Analysis with scope 3 being phased-in during a four year period

Period considered	NACE Level 2 (L2) Sectors considered	Suggested metric to be used by order of priority	Potential reduction target
At the date of implementation	At least energy (O&G), mining (i.e. NACE L2: 05, 06, 07, 08, 09, 19, 20)	Scope 3 emissions, Fossil fuel reserves (volume or revenue data)	30% for CTBs, 50% for PABs
Two years after implementation	At least transportation, construction, buildings, materials, industrial activities (i.e. NACE L2: 10-18, 21-33, 41-43, 49-53, 81)	Scope 3	30% for CTBs, 50% for PABs
Four years after implementation	Every sector	Scope 3	30% for CTBs, 50% for PABs

Double counting can be addressed by 'Footprinting Scope 1' and separately 'Benchmarking Scope 2 & 3', with at least 7% reductions on both

Key Objective of the Climate Benchmarks (2/3)

(8) A decarbonisation based only on Scope 1 and Scope 2 (GHG) emissions could lead to counterintuitive results. It should therefore be clarified that the minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks should not only consider direct emissions from companies, but also emissions assessed on a life-cycle basis and thus including Scope 3 (GHG) emissions. However, due to the insufficient quality of the data currently available for Scope 3 GHG emissions, it is necessary to set out an appropriate phase-in timeline. That phase-in timeline should be based on the list of economic activities set out in Regulation (EC) No 1893/2006.

Source: European Commission Ref. Ares(2020)1993773 - 08/04/2020

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Key Objective of the Climate Benchmarks (3/3)

Article 12

Transparency requirements for estimations

In addition to the requirements laid down in Annex III to Regulation (EU) 2016/1011, administrators of EU Climate Transition Benchmarks or of EU Paris-aligned Benchmarks shall comply with the following requirements:

(a) administrators of EU Climate Transition Benchmarks or of EU Paris-aligned Benchmarks that use estimations that are not based on data provided by an external data provider, shall formalise, document and make public the methodology upon which such estimations are based, including:

(i) the approach that they have used to calculate GHG emissions, and the main assumptions and the precautionary principles underlying those estimations;

(ii) the research methodology to estimate missing, unreported, or underreported GHG emissions;

(iii) the external data sets used in the estimation of missing, unreported or underreported GHG emissions;

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Recommendations for climate benchmarks: Companies' Targets

It is crucial to understand that IPCC trajectory alignment can only be sufficiently assessed for 'self-sufficient subsets of the economy' (i.e. diversified indices).

- Analysis on sector or firm level ignore the interactions between firms and sector specific carbon budgets are usually constructed by sector insiders, who tend to give themselves a too large share of the global carbon budget.

Hence, a firm itself cannot be 1.5 degree aligned unless it is net climate/carbon neutral. Firms can only be assessed as 'suitable, somewhat suitable or unsuitable for 1.5 degree alignment'

Inspired by the Precautionary Principle, benchmark administrators shall consider increasing the weight of a company that set and publish evidence based decarbonisation objectives in case all of the subsequent conditions apply:

a) the benchmark administrator deems the company's Scope 1 GHG emissions reporting fully credible in terms of consistency and accuracy

b) the benchmark administrator deems the company's Scope 2 GHG emissions reporting fully credible in terms of consistency and accuracy

c) the benchmark administrator deems the company's Scope 3 GHG emissions reporting fully credible in terms of consistency and accuracy

d) the benchmark administrator observes the company to have reduced its total GHG emissions intensity of Scope 1, 2 and 3 emissions by an average of at least 7% per annum for at least three consecutive years.

Recommendations for climate benchmarks: Reviews

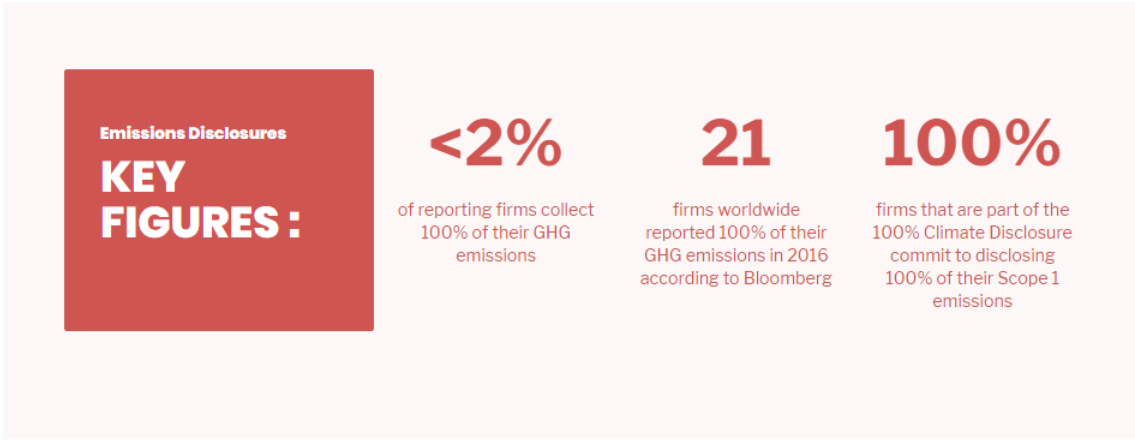
*The report emphasizes the need for a **regular update** of these requirements, considering evolutions in the state of the market and the research in the field, and newly released IPCC reports.*

*These updates in the regulation will be key to the **success and consistency** of both climate benchmarks over time.*

*In light of the legislative text as agreed between co-legislators, the Commission shall **review the minimum standards** of the benchmarks by 31 December 2022, in order to ensure consistency with the **EU Taxonomy**.*

The GHG Data Underreporting Challenge

Only 21 firms worldwide reported 100.0% of their Scope 1 GHG emissions in the view of the Mistra funded academic intiative www.climatedisclosure100.info. Only Bloomberg is publicly known to have corrected for years for this underreporting (i.e. ES074)



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Carbon Tracker
@CarbonBubble

Professor @AndreasHoepner: "companies are pretending they care about the environment, but they can't even add up the [#emissions] data." It shows their #NetZero targets are just a big public relations exercise.''

bloomberg.com
Corporate Greenhouse Gas Numbers Don't Always Add Up
A new study reveals errors, omissions and even rounding issues. "It shows that their net-zero targets are just a big public relations exercise,'' a researcher said.

3:15 PM · Jan 13, 2022 · Twitter Web App

GHG reporting to CDP Garcia Vega, Hoepner & Schiemann (2021, Carbon Data Quality)

Reported Global Emissions ≠ Sum of Breakdowns

Example 1 Shell (Royal Dutch Shell)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mismatch	
											Total	Percentage
Activity												
Business	✓	✗	✗	✗	✗	✗	✗	✗		✗	8	88.9%
Facility												
GHG	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	10	100%
Region	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	9	90%

GHG reporting to CDP Garcia Vega, Hoepner & Schiemann (2021, Carbon Data Quality)

Reported Global Emissions ≠ Sum of Breakdowns

Example 1 : Business (Worst Mismatch)

Shell

(Royal Dutch Shell)

	Breakdown by Business	CO2e
1	Downstream	37,500,000
2	Upstream (other than flaring)	26,300,000
3	Upstream flaring	7,400,000
4	Shipping	2,000,000
5	Other	240,000

Reported Global Scope 1 Emissions (metric tons CO2e): 73,000,000

− Total Scope 1 Business Emissions (metric tons CO2e): 73,440,000

= -440,000

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mismatch Total	Mismatch Percentage
Activity												
Business	✓	✗	✗	✗	✗	✗	✗	✗		✗	8	88.9%
Facility												
GHG	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	10	100%
Region	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	9	90%

GHG reporting to CDP Garcia Vega, Hoepner & Schiemann (2021, Carbon Data Quality)

Reported Global Emissions ≠ Sum of Breakdowns

Example 1 : GHG (Worst Mismatch)

Shell
(Royal Dutch Shell)

	Breakdown by GHG	CO2e
1	CO2	70,600,000
2	CH4	2,520,000
3	N2O	300,000
4	HFCs	21,500
5	SF6	400

Reported Global Scope 1 Emissions (metric tons CO2e): 73,000,000 − Total Scope 1 GHG Emissions (metric tons CO2e): 73,441,900 = -441,900

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mismatch Total	Mismatch Percentage
Activity												
Business	✓	✗	✗	✗	✗	✗	✗	✗		✗	8	88.9%
Facility												
GHG	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	10	100%
Region	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	9	90%

GHG reporting to CDP GHS (2021, Carbon Data Quality)

Reported Global Emissions ≠ Sum of Breakdowns

Example 1 : Region (Worst Mismatch)

Shell

(Royal Dutch Shell)

	Breakdown by Region	CO2e
1	USA	15,000,000
2	Middle East	12,000,000
3	Canada	7,700,000
4	Netherlands	7,100,000
5	Singapore	4,800,000
6	Malaysia	3,800,000
7	Nigeria	3,700,000
8	Rest of world	3,700,000
9	Germany	3,400,000
10	Australia	3,300,000
11	UK	3,000,000
12	South America	1,700,000
13	International Waters	1,400,000

Reported Global Scope 1 Emissions (metric tons CO2e): 70,000,000

− Total Scope 1 Region Emissions (metric tons CO2e): 70,600,000

= -600,000

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mismatch Total	Mismatch Percentage
Activity												
Business	✓	✗	✗	✗	✗	✗	✗	✗		✗	8	88.9%
Facility												
GHG	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	10	100%
Region	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	9	90%

Climate Transition (i.e. Paris-Aligned) Investing: absolutely sustainable.

"Thank you for your attention.
I would love to learn from your questions and comments."

Andreas G. F. Hoepner

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