

Climate Change Taxonomy and the EU Regulatory Response: Proposing EU Taxonomy-aligning Benchmarks (**TABex & TAB**)

Data Science Hub, EU Platform on Sustainable Finance

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PLATFORM ON
SUSTAINABLE FINANCE

Climate Change Taxonomy and the EU Regulatory Response:

Proposing EU Taxonomy-aligning Benchmarks (TAB & TABex)

- Data Science Hub, EU Platform for Sustainable Finance (EU PSF) –
Head of Data Science Hub: Andreas Hoepner

Notes: The underlying EU PSF work has been shaped by the excellent and tireless efforts of Hans Biemans, Theodor Cojoianu, Peter Covelier, Barbara Gabor, Natalie Glas, Nadia Humphreys, Patrik Karlsson, Matthew McQuade, Antoine Picot, Cesare Posti, Andreas Rajchl, Fabiola Schneider, Martin Spolc and Helena Vines Fiestas.



Absolutely Sustainable Investing =

1

Reduce GHG emissions vs. Market Benchmark in a given year
(Relatively more sustainable investing as practiced prior to 2018)

+

2

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

+

3

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

+

4

Integrate **Full Scope 3 GHG emissions.**

+

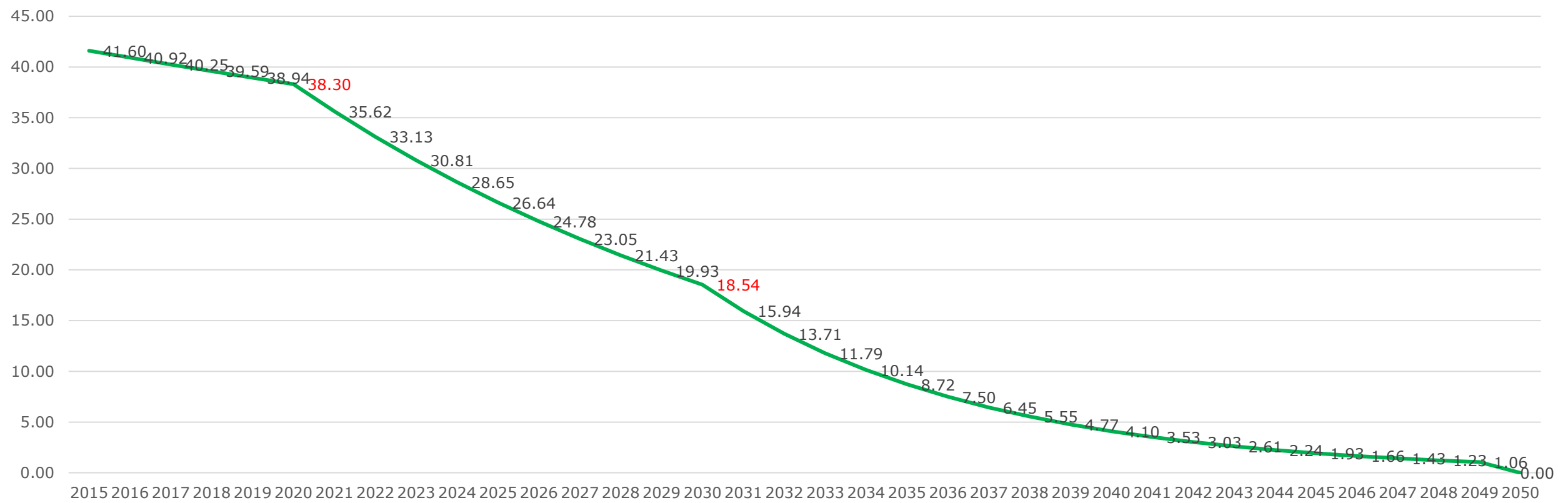
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Use the **Precautionary Principle** in GHG data estimations.

Absolutely Sustainable Investing: A trajectory to Net Zero by 2050

IPCC based Trajectory to Net Carbon Neutral from Paris Agreement 1.5C scenario 'Total net GHG emissions' (in GtCO2/yr)

based on IPCC Special Report on Global Warming of 1.5C (Table 2.1 & 2.4, Rogelj et al., 2018)



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

1

Mandatory as Benchmark for EU SFDR Article 9 funds with decarbonisation objective (clarified by ESMA July 2021)

&

2

Total AUM since Dec 23rd 2020 effective launch > €100bn.

&

3

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

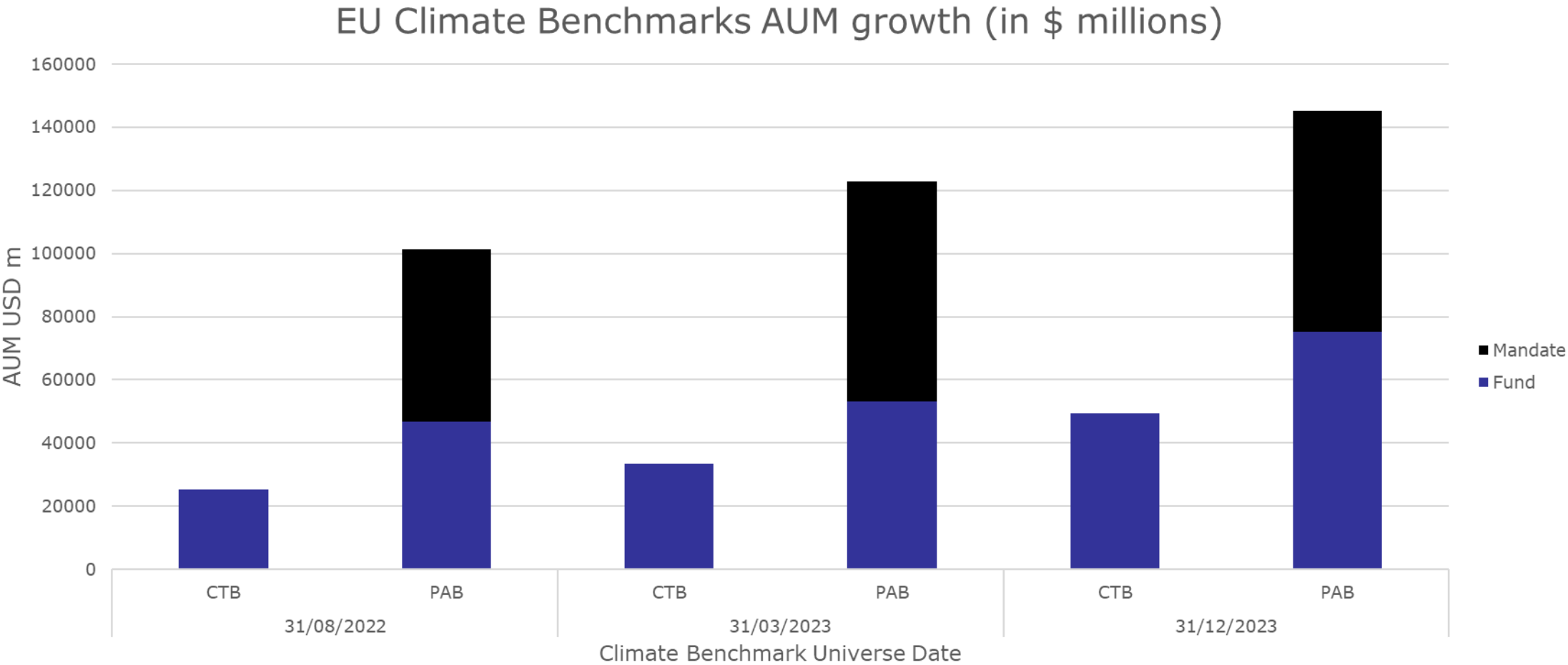
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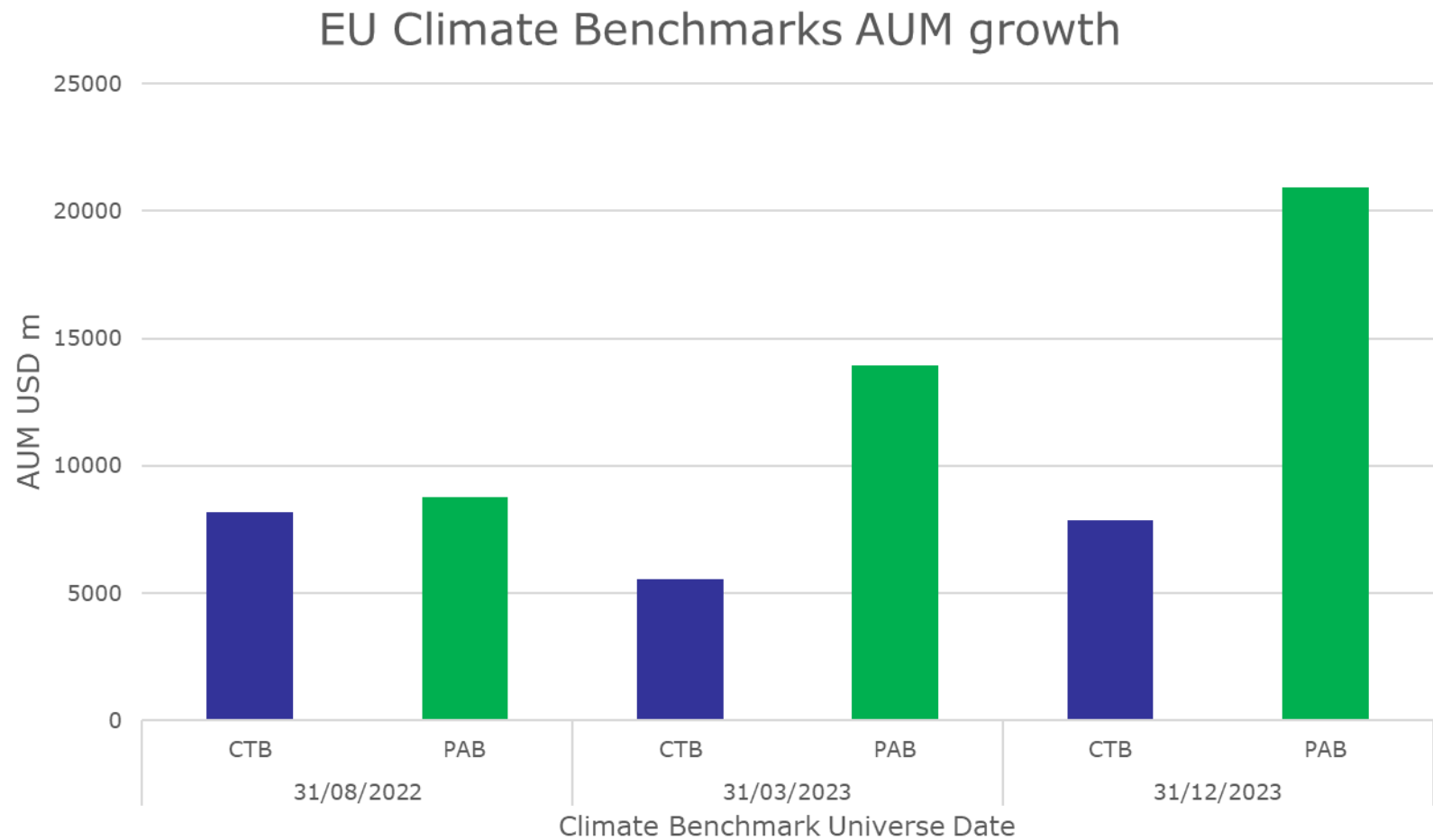
Real World Impact: The strong growth in PABs and CTBs combined with the mandatory application for Article 9 funds with climate objective will lead to top tier EU sustainability funds being benchmarked on

- ***ROI: Sufficient financial performance (i.e. return per unit of risk)***
- ***RIO: Sufficient GHG reduction performance (i.e. at least 7% p.a.)***

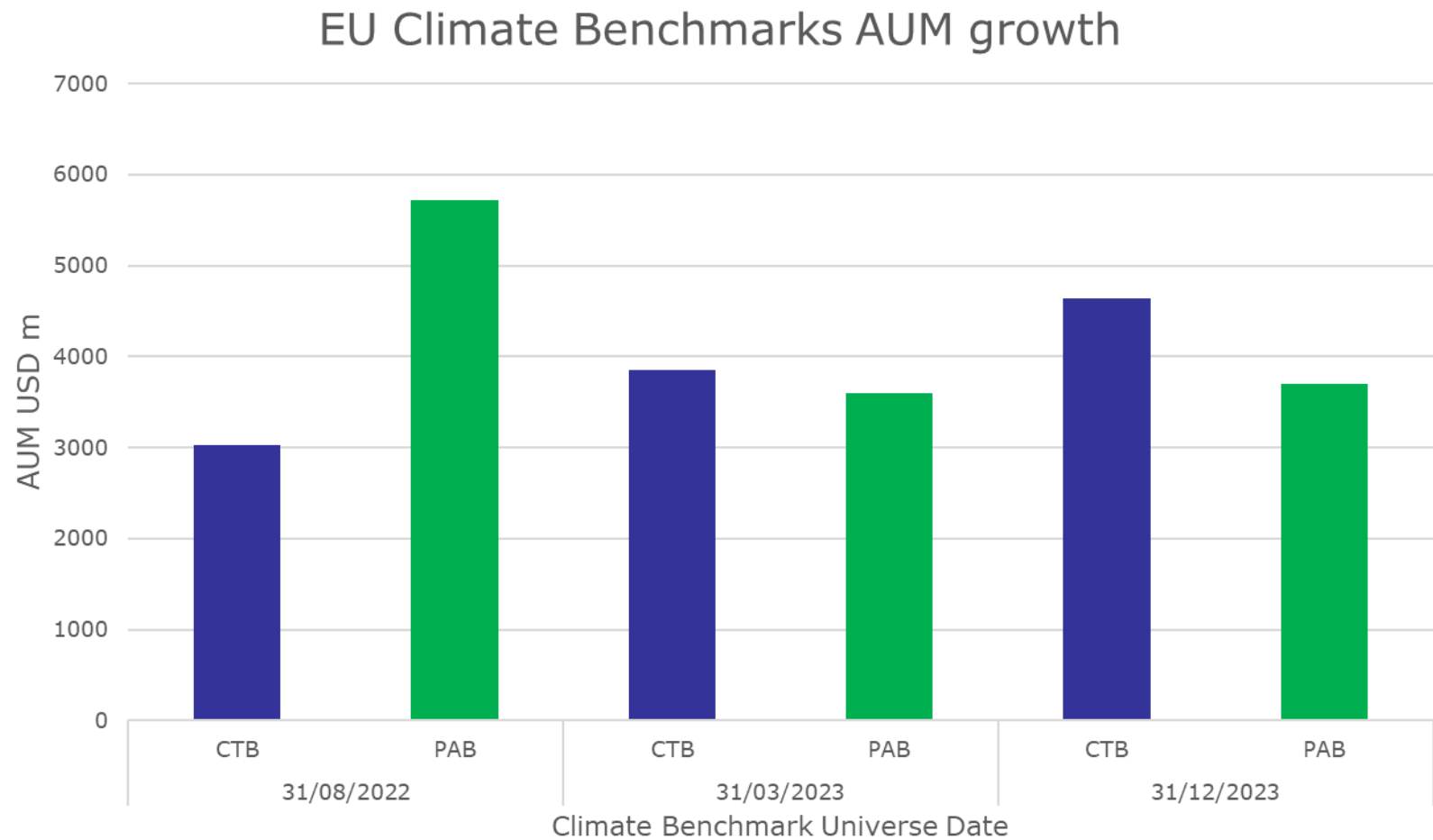
PAB & CTB AUM growth across all universes



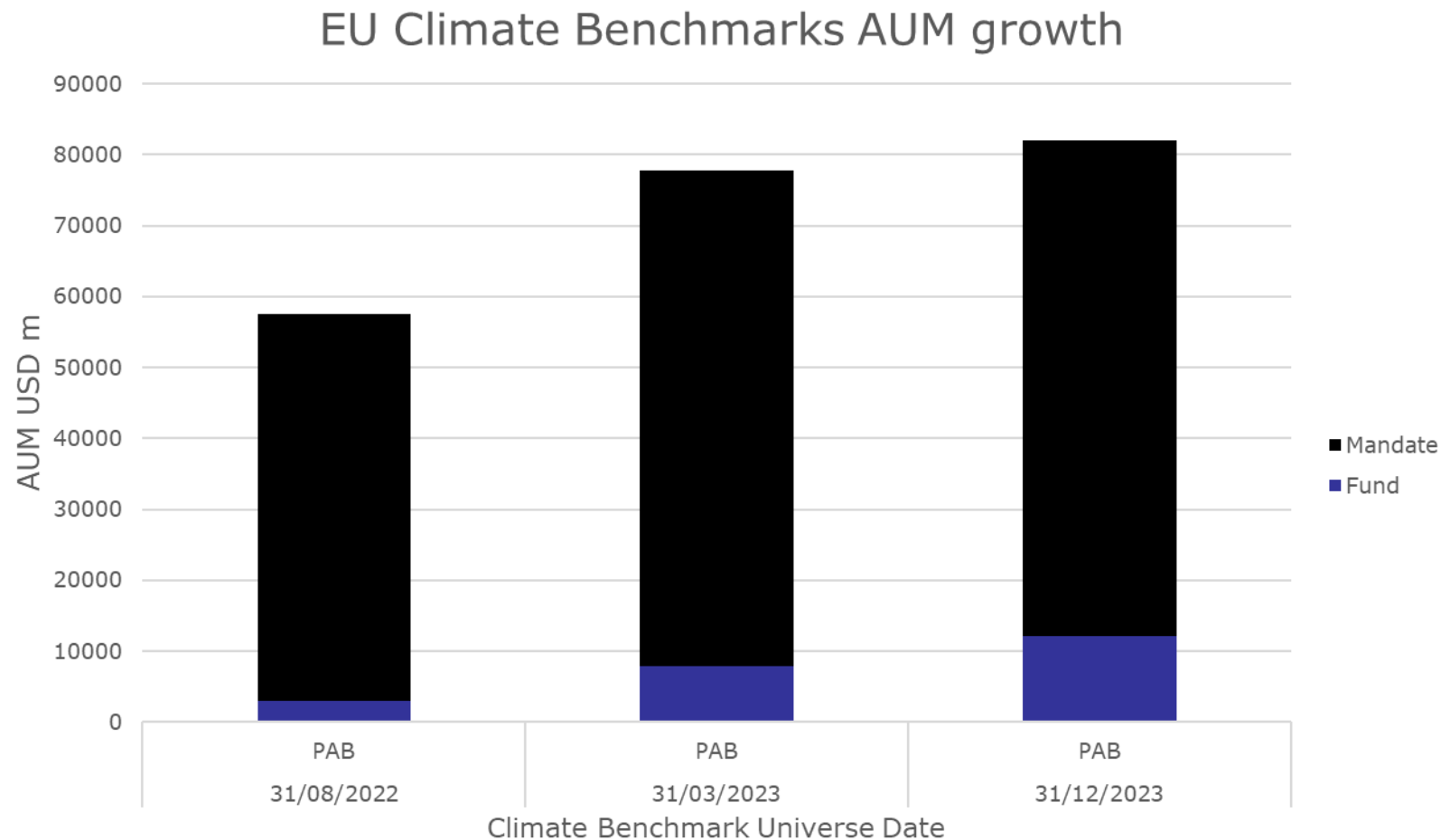
PAB & CTB AUM growth: DM Universe only



PAB & CTB AUM growth: EM Universe only



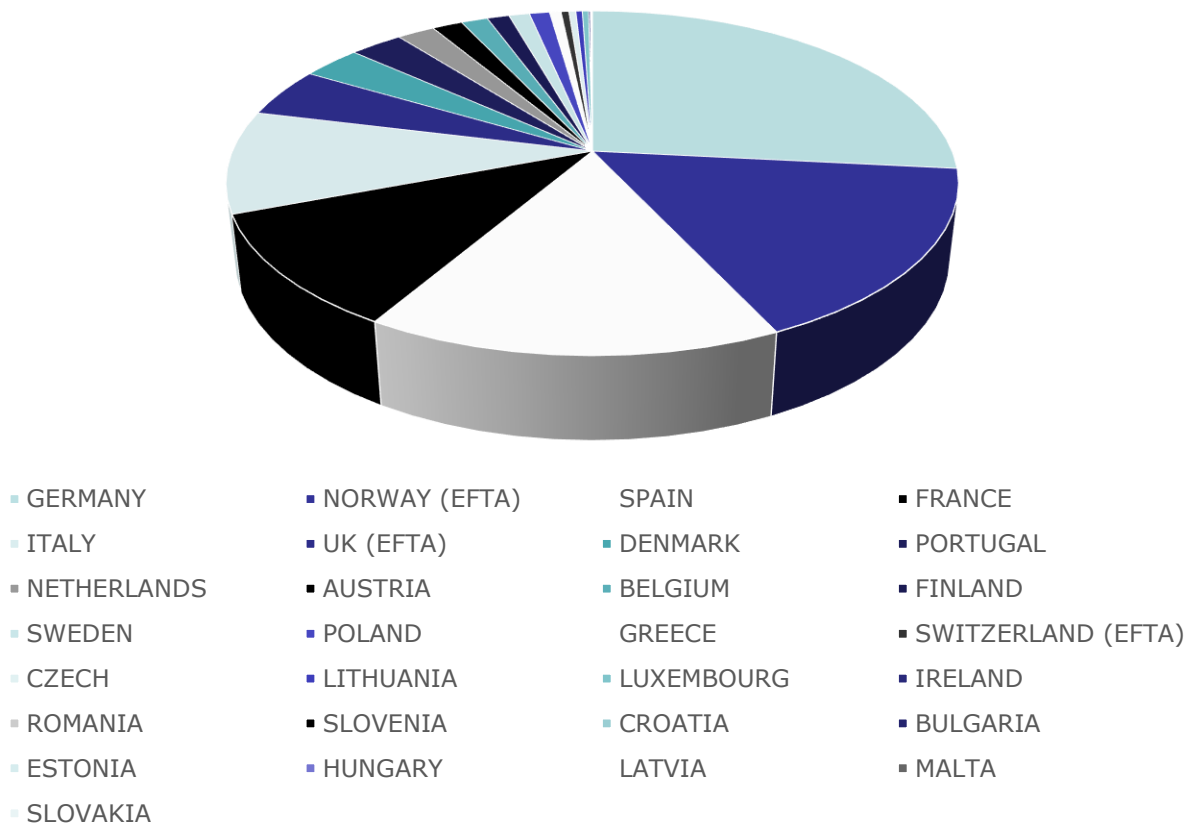
PAB & CTB AUM growth: Global Universe only



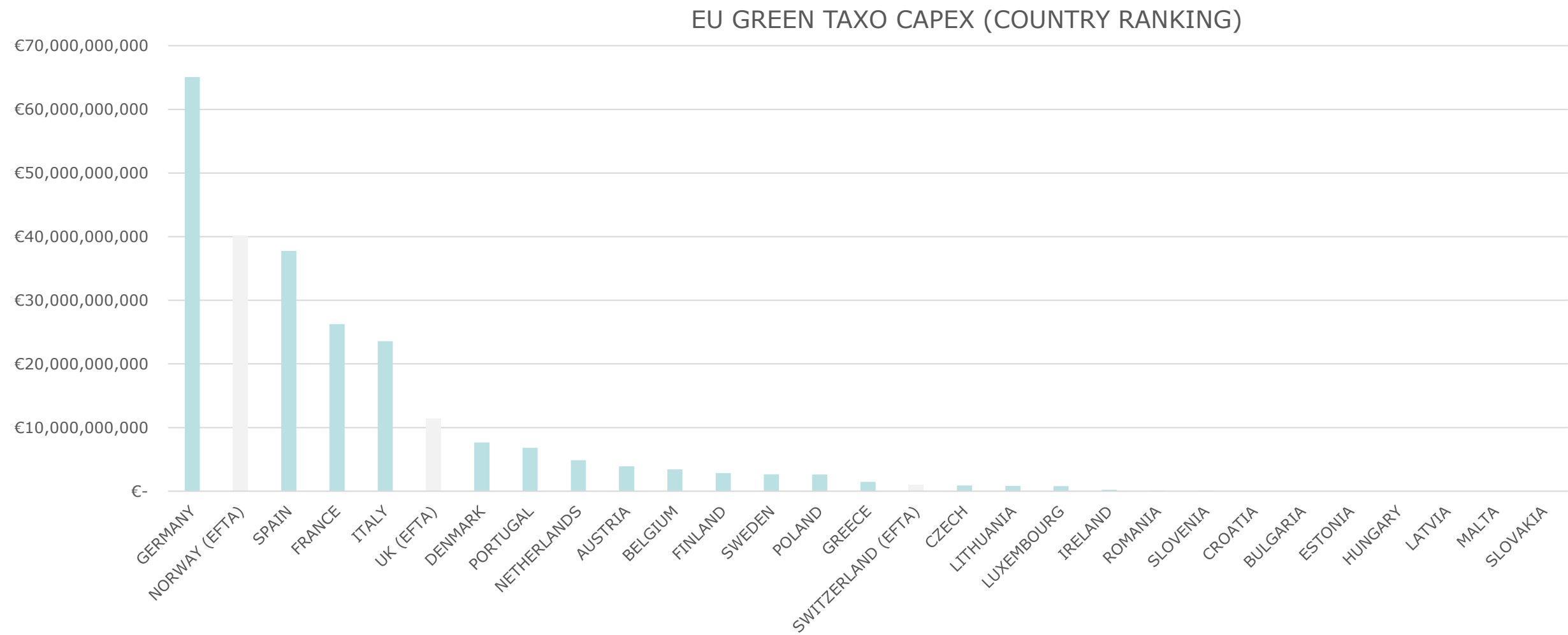
EU Taxonomy Green Capex (April 2024)

COUNTRY	EU TAXO GREEN CAPEX
TOTAL	€ 244,403,301,000
GERMANY	€ 65,076,064,000
NORWAY (EFTA)	€ 40,050,536,000
SPAIN	€ 37,774,364,000
FRANCE	€ 26,255,585,000
ITALY	€ 23,564,612,000
UK (EFTA)	€ 11,392,657,000
DENMARK	€ 7,643,841,000
PORTUGAL	€ 6,823,821,000
NETHERLANDS	€ 4,864,586,000
AUSTRIA	€ 3,901,909,000
BELGIUM	€ 3,426,624,000
FINLAND	€ 2,855,040,000
SWEDEN	€ 2,654,411,000
POLAND	€ 2,609,946,000
GREECE	€ 1,466,350,000
SWITZERLAND (EFTA)	€ 1,011,102,000
CZECH	€ 891,751,000
LITHUANIA	€ 832,419,000
LUXEMBOURG	€ 809,952,000
IRELAND	€ 211,261,000
ROMANIA	€ 101,176,000
SLOVENIA	€ 97,941,000
CROATIA	€ 43,264,000
BULGARIA	€ 19,834,000
ESTONIA	€ 14,427,000
HUNGARY	€ 9,828,000
LATVIA MALTA SLOVAKIA	€ 0

EU GREEN TAXO CAPEX - €244bn broken down



EU Taxonomy Green Capex (April 2024)



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) **uses exclusions,** while the Climate Transition Benchmark (CTB) does not.*

Recommendations for climate benchmarks: Minimum Standards

*Based on the TEG recommendations, the EU legislated minimum standards for the **EU Climate Transition Benchmark** & the **EU Paris-aligned Benchmark**:*

Climate Scenario	
IPCC 1.5°C with no or limited overshoot	
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**:*

	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**:*

	Climate Scenario	Relative decarbonization	Self 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	-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
	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 > Degree of Exposure to "asset heavy" sectors compared with investable universe [Equities Only]
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 > Degree of Exposure to "asset heavy" sectors compared with investable universe [Equities Only]	1) Coal (1%+ rev.) 2) Oil (10%+ rev.) 3) Gas 4) Electricity producers with carbon intensity of lifecycle GHG emissions higher than 100gCO2e/kWh (both 50%+ rev)
EU CTB	✓	✓	✓	✓	
EU PAB	✓	✓ ✓	✓	✓	✓

Exploring Recommendations for Taxonomy benchmarks

Potential minimum standards for the EU Taxonomy-aligning Benchmarks:

Two Climate Imperatives

IPCC 1.5°C
with limited or high
Overshoot
&
Green Capex
as key climate
transition metric

**EU
TAB****



**EU
TABex**



Exploring Recommendations for Taxonomy benchmarks

Potential minimum standards for the EU Taxonomy-aligning Benchmarks:

	Two Climate Imperatives	Scaling Green Taxonomy Capex
	IPCC 1.5°C with limited or high Overshoot & Green Capex as key climate transition metric	EMEA: 5 percentage points growth p.a. Global, Americas and APAC: 1.5% Cumulating Continuously Compounded (CCC) growth p.a. From 5pp above security average base value in ratio of Green Capex to Total Capex for 'CapEx Securities'* portion of holdings
EU TAB**	✓ ✓	[✓]
EU TABex	✓ ✓	✓

Exploring Recommendations for Taxonomy benchmarks

Potential minimum standards for the EU Taxonomy-aligning Benchmarks:

	Two Climate Imperatives	Scaling Green Taxonomy Capex	Conditional Self decarbonization
	IPCC 1.5°C with limited or high Overshoot & Green Capex as key climate transition metric	EMEA: 5 percentage points growth p.a. Global, Americas and APAC: 1.5% Cumulating Continuously Compounded (CCC) growth p.a. From 5pp above security average base value in ratio of Green Capex to Total Capex for 'CapEx Securities'* portion of holdings	-7% p.a. Minimum on average per annum reduction in GHG emissions intensity until 2050 on 'non Green Capex proportion' of security commencing from a 2023 notional launch
EU TAB**	✓ ✓	[✓]	✓
EU TABex	✓ ✓	✓	✓

Exploring Recommendations for Taxonomy benchmarks

Potential minimum standards for the EU Taxonomy-aligning Benchmarks:

2-factor Greenwashing Protection

	Two Climate Imperatives	Scaling Green Taxonomy Capex	Conditional Self decarbonization	Equity Allocation Constraint
	IPCC 1.5°C with limited or high Overshoot & Green Capex as key climate transition metric	EMEA: 5 percentage points growth p.a. Global, Americas and APAC: 1.5% Cumulating Continuously Compounded (CCC) growth p.a. From 5pp above security average base value in ratio of Green Capex to Total Capex for 'CapEx Securities'* portion of holdings	-7% p.a. Minimum on average per annum reduction in GHG emissions intensity until 2050 on 'non Green Capex proportion' of security commencing from a 2023 notional launch	= or > Degree of Exposure to "Capex securities" compared with investable universe
EU TAB**	✓ ✓	[✓]	✓	✓
EU TABex	✓ ✓	✓	✓	✓

Exploring Recommendations for Taxonomy benchmarks

Potential minimum standards for the EU Taxonomy-aligning Benchmarks:

2-factor Greenwashing Protection					
	Two Climate Imperatives	Scaling Green Taxonomy Capex	Conditional Self decarbonization	Equity Allocation Constraint	Activity Exclusion
	<p>IPCC 1.5°C with limited or high Overshoot & Green Capex as key climate transition metric</p>	<p>EMEA: 5 percentage points growth p.a.</p> <p>Global, Americas and APAC: 1.5% Cumulating Continuously Compounded (CCC) growth p.a.</p> <p>From 5pp above security average base value in ratio of Green Capex to Total Capex for 'CapEx Securities'* portion of holdings</p>	<p>-7% p.a.</p> <p>Minimum on average per annum reduction in GHG emissions intensity until 2050 on 'non Green Capex proportion' of security commencing from a 2023 notional launch</p>	<p>= or ></p> <p>Degree of Exposure to "Capex securities" compared with investable universe</p>	<p>1) Coal (1%+ rev. & capex***) 2) Oil (10%+ rev. & capex***) 3) Gas (50%+ rev. & capex***)</p>
EU TAB**	✓ ✓	[✓]	✓	✓	
EU TABex	✓ ✓	✓	✓	✓	✓

Exploring Recommendations for Taxonomy benchmarks

Potential minimum standards for the EU Taxonomy-aligning Benchmarks:

2-factor Greenwashing Protection

* Proportional Capex to Price ratio = Total Capex * Proportional Book Value of Asset Class / Market Value of Asset Class
** TAB permitting half of this scaling to originate from activities in process of taxonomy alignment (i.e. has transition commitment by 2030 & 2050 while passing all but one DNSH)
*** If capex is not reported by activity, the Precautionary Principle applies

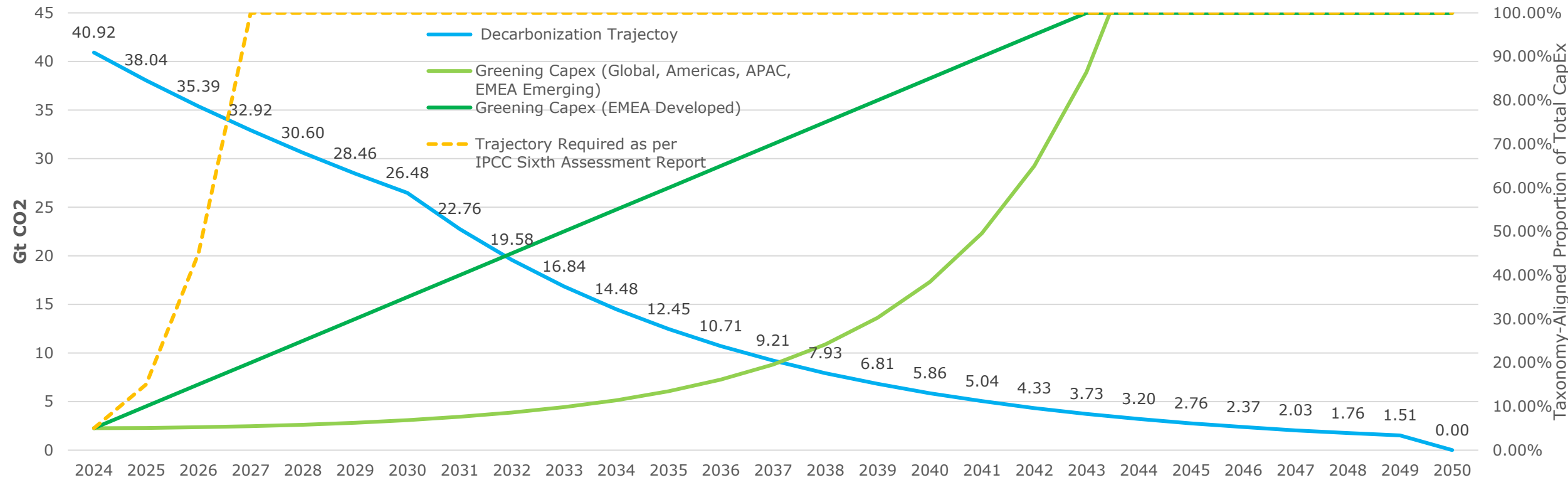
	Two Climate Imperatives	Scaling Green Taxonomy Capex	Conditional Self decarbonization	Equity Allocation Constraint	Activity Exclusion
	IPCC 1.5°C with limited or high Overshoot & Green Capex as key climate transition metric	EMEA: 5 percentage points growth p.a. Global, Americas and APAC: 1.5% Cumulating Continuously Compounded (CCC) growth p.a. From 5pp above security average base value in ratio of Green Capex to Total Capex for 'CapEx Securities'* portion of holdings	-7% p.a. Minimum on average per annum reduction in GHG emissions intensity until 2050 on 'non Green Capex proportion' of security commencing from a 2023 notional launch	= or > Degree of Exposure to "Capex securities" compared with investable universe	1) Coal (1%+ rev. & capex***) 2) Oil (10%+ rev. & capex***) 3) Gas (50%+ rev. & capex***)
EU TAB**	✓ ✓	[✓]	✓	✓	
EU TABex	✓ ✓	✓	✓	✓	✓

Post-Consultation Step 3 of 4:

Differing growth rate for EMEA Developed vs Global/Americas/APAC and EMEA Emerging universes.

IPCC based Trajectory to Net Carbon Neutral from Paris Agreement 1.5C scenario (with Capex Greening added on right scale)

Trajectory and left scale based on IPCC Special Report on Global Warming of 1.5C (Table 2.1 & 2.4, Rogelj et al., 2018)



Post-Consultation Step 4 of 4:

The Math ... final version derived by UCD and double checked by Joerg's AIM team

Greening CapEx (Verbal)

Taxonomy –Aligned CapEx_t

$$= \begin{cases} 5 \text{ percentage points linear growth} & \text{for EMEA Developed universes} \\ 1.5 \text{ percentage points cumulating continuously compounded growth} & \text{for Global, Americas, APAC,} \\ & \text{EMEA Emerging universes} \end{cases}$$

whereby the latest notional launch year permissible for calculations is 2023

Greening CapEx (Technical)

Taxonomy –Aligned CapEx_t

$$= \begin{cases} 0.05(T + 1) & \text{for EMEA Developed universes} \\ 0.05e^{0.015 \cdot \sum_{t=0}^T t} & \text{for Global, Americas, APAC, EMEA Emerging universes} \end{cases}$$

whereby T = current year – 2023



Questions? Impressions? Suggestions?

Any feedback on TAB and TTB very welcome ...

Andreas G. F. Hoepner
- Head of Data Science Hub, EU Platform for Sustainable Finance -

Notes: The underlying EU PSF work has been shaped by the excellent and tireless efforts of Hans Biemans, Theodor Cojoianu, Peter Covelier, Natalie Glas, Nadia Humphreys, Patrik Karlsson, Matthew McQuade, Antoine Picot, Cesare Posti, Andreas Rajchl, Fabiola Schneider, Martin Spolc and Helena Vines Fiestas.