Scientific Beta Climate Impact Consistent Indices

As climate investing matures and gains importance among institutional investors, Scientific Beta has tapped on its growing expertise on the subject to develop climate indices that translate companies' climate alignment engagement into portfolio decisions. Climate Impact Consistent (CIC) indices place a strong emphasis on the climate impacts which arise from the entire portfolio construction process. Scientific Beta's Climate investment philosophy is grounded in the following three key principles:

- **Separation of the financial and non-financial dimensions** – There is no academic consensus of a long-term premium associated with an ESG or low carbon factor, therefore Scientific Beta's objectives are based uniquely on investors' ethical or legal motivations. In the case of pure climate indices, this separation ensures that financial decisions do not contradict the climate impact objectives.
- **Consistency in climate objectives at the global portfolio level and stock-level investment decisions** – Investors' real impact corresponds to financing and engaging companies based on stock-level decisions. To ensure consistent stock-level decisions while avoiding the pitfalls of greenwashing, Scientific Beta does not rely on portfolio-average ESG or portfolio level carbon scores for stock-level investment decisions.
- **The importance of proper qualification and use of the data** – The relevance of portfolio decisions depends on data reliability and the consistency of its usage conditions. Typically, providers of climate solutions use attractive-looking data to promote ambitious approaches that increase the risk of greenwashing. Scientific Beta recognizes the current limitations of Scope 3 value chain emissions, which are typically estimated at the sector level. Scope 1+2 carbon emissions are thus preferred for intra-sector company comparisons unless granular stock-specific Scope 3 data is available.

Strategy Description

Scientific Beta Climate Impact Consistent (CIC) indices are part of a pure climate offering that relies primarily on the portfolio construction channel to create an impact by linking companies' funding conditions to their climate performance. CIC indices align portfolio decisions with companies' climate performance engagements. This consistency is translated by establishing a linear link, within each sector, between the carbon performance, the company's climate engagements and the weight of its stock, fulfilling a formal guarantee at the index level that no stock will see its weight increase if its adjusted carbon intensity deteriorates. The index weighting scheme favours climate alignment of each sector in the economy, as an intra-sector carbon intensity parity scheme weights companies based on their relative climate performance within each sector of the Scientific Beta carbon-oriented classification. In addition, it aligns with the principles from the Net-Zero Framework, particularly on inter-sector consistency, company-level engagement through the Science Based Targets initiative (SBTi). Lastly, CIC indices also account for the quality and the relevance of climate data on which investor decisions are based. We offer a version is available that complies with the European Union Paris Aligned Benchmark carbon and sector constraints.

List of indices

The following indices are part of the Climate Impact Consistent offering:

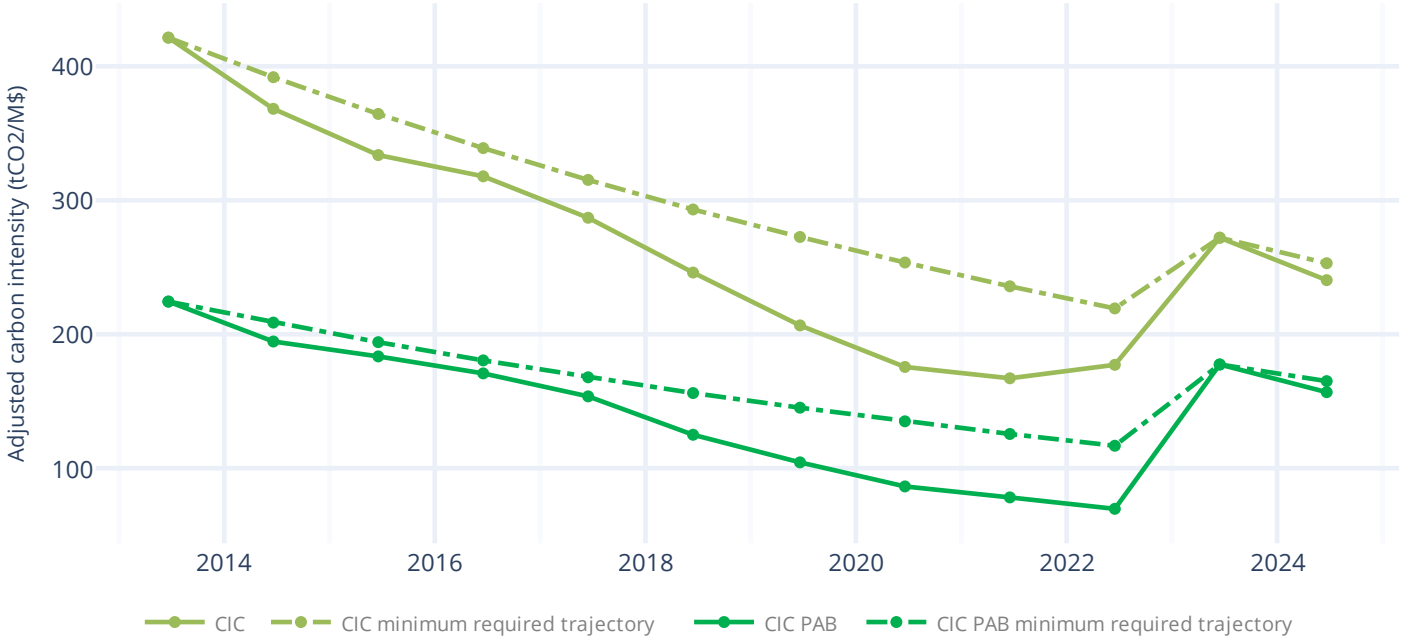
- **CIC** – SciBeta Developed Climate Impact Consistent Index
- **CIC PAB** – SciBeta Developed Climate Impact Consistent EU PAB Compliant Index

Climate Impact Consistent Factsheet

Carbon Analytics

Self-decarbonisation trajectory

CIC indices have as an objective to reduce their year-on-year carbon intensity by 7% to achieve Net Zero carbon emissions in 2050. The 7% self-decarbonisation trajectory is based on the minimum average yearly decarbonisation rate needed under the Intergovernmental Panel on Climate Change (IPCC) "1.5°C with no or limited overshoot" scenario for total worldwide emissions, which is the IPCC's most ambitious climate scenario for 1.5°C Global Warming. The integration of Scope 3 (indirect) emissions in the trajectory implies that the index can promote emissions reductions of unlisted corporates and non-corporate actors, including households. The self-decarbonisation trajectory is ensured by a sector mechanism which reweights High Climate Impact sectors that leaves intra-sector stocks' weights unchanged. The ideal trajectory is derived by geometrically applying a 7% annual reduction to the index carbon intensity on its inception date. Carbon intensity is adjusted to take account of yearly enterprise value variations of the universe. Both versions of CIC indices respect this self-decarbonisation trajectory. The EU PAB Compliant version starts with a lower initial adjusted carbon intensity since PAB regulatory exclusions of oil and gas companies are stronger than for the standard version.



The figure plots the self-decarbonisation trajectory of the the SciBeta Developed Climate Impact Consistent index and the SciBeta Developed Climate Impact Consistent EU PAB Compliant index. Data are from June 2013 to last June. Analytics are calculated with emission data updated annually in June based on the figures reported at the end of the previous year. The carbon intensity is measured using Scope 1,2 and 3 carbon emissions and normalised using enterprise value (EVIC). EVIC values are based on end of fiscal year data. Constituent weights used are weights on June review dates. Adjusted carbon intensity values are calculated by multiplying the carbon intensity with an EVIC inflation factor, which is the percentage change in the average EVIC of the index constituents between the current period and the previous year.

Weighted Average Carbon Intensity

In the table below, we report the Weighted Average Carbon Intensity (WACI) at the portfolio level normalised either by Revenues, as recommended by the TCFD, or normalised by Enterprise Value as required for EU PAB Compliant indices. We emphasize that both versions of CIC indices enable a strong reduction of WACI relative to the Cap-Weighted benchmark, whatever the measure used. In particular, the EU PAB Compliant version has a reduction of more than 70% in terms of WACI normalised by Enterprise Value (based on scope 1, 2 and 3 carbon emissions) as required by the regulation.

Weighted Average Carbon Intensity as of Mar 2025	CW	CIC	Deviation from CW	CIC PAB	Deviation from CW
WACI normalised by Revenues (S1+2, t/M$)	101	73	-29%	66	-35%

WACI normalised by Revenues (S1+2+3, t/M$)	1 170	608	-48%	437	-63%
WACI normalised by Enterprise Value (S1+2+3, t/M$)	478	194	-59%	122	-74%

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. The weighted average carbon intensity (WACI) is measured using Scope 1 and 2 or 1, 2 and 3 carbon emissions and normalised using Revenues or Enterprise Value (including cash). Enterprise Values are based on end of fiscal year data. Indices used are the SciBeta Developed Cap-Weighted index, the SciBeta Developed Climate Impact Consistent index and the SciBeta Developed Climate Impact Consistent EU PAB Compliant index.

Climate Transition Risks Analytics

CIC indices are designed to effectively address climate transition risks, which relate to financial impacts arising from regulatory, technology and market changes brought about by the need to mitigate the effects of climate change and transition to a low greenhouse gas economy, or from climate change-related litigation. The financial impacts may arise through revenues, expenditures, assets and liabilities, and access to funding. CIC indices have a positive impact on reducing climate transition risks via three different channels:

i. Negative screening removes assets most exposed to stranding risks;
ii. Positive weighting within sectors reduces overall exposure to transition risks;
iii. Self-decarbonisation trajectory aligns the index with 1.5°C ambitions.

The Carbon Exposure analytic measures portfolio exposure to carbon-intensive companies and sectors and includes the two Carbon Exposure metrics that the TCFD sees as worthy of consideration for reporting by asset owners and asset managers to their beneficiaries and clients, i.e. Weighted Average Carbon Intensity and Exposure to Carbon-related Assets (TCFD, 2017). In the table below, we first underscore that the WACI of both versions of CIC indices is strongly reduced. This is the result of the intra-weighting scheme mechanism that promotes companies with good carbon performance relative to their sector peers. Second, we highlight that the standard version of CIC index has similar exposure to carbon-related assets as the Cap-Weighted index but enables a significant reduction of WACI of carbon-related assets thanks to the weighting scheme. Meanwhile, the EU PAB Compliant CIC index has a much lower exposure to carbon-related assets which are the result of regulatory Oil and Gas exclusions.

Carbon Exposure as of Mar 2025	CW	CIC	Deviation from CW	CIC PAB	Deviation from CW
Weighted Average Carbon Intensity (S1+2, t/M$)	101	73	-29%	66	-35%
Exposure to Carbon-Related Assets	7.0%	5.2%	-25%	4.2%	-39%
of which Fossil Fuels	4.2%	1.9%	-54%	0.0%	-100%
of which Fossil Fuels Utilities and IPPs	0.1%	0.2%	57%	0.0%	-100%
of which Other Utilities and IPPs	2.7%	3.1%	16%	4.2%	59%
WACI of Carbon-Related Assets (S1+2, t/M$)	862	585	-32%	711	-17%

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. The weighted average carbon intensity (WACI) is measured using Scope 1 and 2 carbon emissions and normalised using Revenues. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

Reductions in average carbon intensities is a way to reduce exposure of the portfolio to transition risks. This average reduction can be achieved in different ways and the how matters at least as much as the what. Decarbonising a portfolio simply by moving from high intensity to low intensity sectors will not provide a significant incentive to companies in key climate transition sectors to act and is therefore a form of greenwashing. In the table below, we decompose the WACI reduction of CIC indices to understand its sources. We underscore that carbon intensity reduction of CIC indices is mainly achieved via a stock-specific effect and not via a sector allocation effect. This reduction is achieved not only at the index level but also at sector level. This is consistent with the intra-sector carbon intensity parity weighting scheme where companies with good carbon performance relative to their sector peers are

overweighted. We emphasize that the stock effect is particularly strong for the electricity sector, which is a strong source of WACI contribution to the Broad Cap-Weighted index. We underline that the WACI reduction achieved for this sector is mainly due to a stock-level reallocation from the "browner" towards the "greener" electric companies.

WACI Decomposition as of Mar 2025	CIC			CIC PAB		
	Stock	Sector	Inter	Stock	Sector	Inter
Building Materials, Basic Metals and Aluminium	-0.93	-2.19	0.40	-0.19	-3.59	0.13
Other Materials	-5.09	1.64	-0.62	-6.97	-3.83	1.97
Electricity	-28.48	8.02	-5.23	-26.91	28.22	-17.40
Fossil Fuels	6.36	-7.16	-3.29	-11.07	-13.83	11.05
Utilities and Infrastructure	0.54	6.75	0.50	1.15	5.59	0.89
Agriculture, Food and Beverage	-0.12	-0.08	0.01	-0.21	-0.37	0.08
Building	-0.06	1.70	-0.10	-0.08	2.45	-0.18
Electronics Manufacturing	1.74	-0.29	-0.25	1.08	-0.11	-0.06
Other Manufacturing	0.19	-0.23	-0.01	0.12	-0.23	-0.01
Sales	-0.34	-0.31	0.05	-0.49	-0.42	0.11
Services	0.12	0.26	0.01	-0.48	0.56	-0.09
Financial and Insurance Activities	-2.11	-0.17	0.14	-2.13	-0.47	0.38
Excess WACI	-28.18	7.93	-8.38	-46.19	13.97	-3.12

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. The sector classification used is the Scientific Beta Carbon Impact Classification. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

To assess stranding risk in the fossil fuel sector, it is also relevant to look at reserved emissions, i.e., the GHG emissions associated with the fossil-fuel reserves of portfolio constituents. In the table below, we present these reserves normalised in millions of tons of CO_2 (per USD billion invested). We highlight a clear difference between both versions of CIC indices. The EU PAB Compliant version enables a complete reduction of reserved emissions due to both the Core ESG filter and regulatory exclusions of Fossil Fuel companies. The standard version reduces almost fully coal reserves, while reducing by -88% Oil and Gas reserves. We note that the small residual of coal reserves is explained by the fact that steel companies are not targeted by coal screens of the Core ESG filter as there is not yet an at-scale alternative to metallurgical coal.

Reserved Emissions as of Mar 2025	CW	CIC	Deviation from CW	CIC PAB	Deviation from CW
Potential CO_2 Emissions (Mt/B$)	1.06	0.09	-92%	0.00	-100%
of which from Coal reserves	0.40	0.00	-99%	0.00	-100%
of which from Oil and Gas reserves	0.67	0.08	-88%	0.00	-100%

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

In the table below, we present the exposure to the fossil fuel sector – with breakdowns for the coal sector and the oil and gas sector. First, we observe that the standard version of CIC index has very similar exposures as the Cap-Weighted index because of the sector neutrality objective embedded in the design of the index. Due to the Core ESG filter, the CIC index has no exposure to companies with more than 10% revenues derived from thermal coal mining. However, we underscore that despite similar exposure to Fossil Fuel companies than the Cap-Weighted index, the

CIC index achieves much lower WACI associated to each item thanks to the intra-sector weighting scheme that favours companies with relatively lower carbon intensity than their sector peers. The EU PAB Compliant version, that includes regulatory exclusions which focuses mainly on fossil fuels companies, results in much lower exposure to Fossil Fuel companies and lower WACI than the Cap-Weighted index.

Fossil Fuels Involvement as of Mar 2025	CW		CIC		CIC PAB	
	Weight	WACI	Weight	WACI	Weight	WACI
Companies classified in the Energy Sector	4.3%	343	2.5%	425	0.6%	101
Companies classified in the Energy Fossil Fuels Bus Sector	4.2%	351	1.9%	518	0.0%	0
of which in the Coal Industry Group	0.1%	171	0.0%	0	0.0%	0
of which in the Oil & Gas Industry Groups	3.2%	286	0.5%	273	0.0%	0
Companies with 25-50% of turnover from Fossil Fuels	1.8%	718	2.1%	602	2.4%	1 037
Companies with 50-100% of turnover from Fossil Fuels	5.2%	819	2.5%	603	0.0%	1 782
Companies with 5% or more of turnover from thermal coal mining	0.1%	171	0.0%	0	0.0%	0
Companies with 10% or more of turnover from thermal coal mining	0.3%	1 067	0.0%	0	0.0%	0

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. The sector classification used is the Thomson Reuters Business Classification. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

Electricity producers may also face high stranding risk and it is informative to look at fuel mix of power-generating Utilities to assess this risk, as we do in the table below. We underscore that both versions of CIC indices show a dramatic reduction in the coal share and material reductions in the overall Fossil Fuel share relative to the Cap-Weighted index. The standard version shows a reduction of -39% in the fossil fuel share and the EU PAB Compliant version a -46% reduction (owing to regulatory exclusions). Finally, the WACI of analysed utilities is reduced by more than -48% for both versions of CIC indices.

Power Generation as of Mar 2025	CW	CIC	Deviation from CW	CIC PAB	Deviation from CW
Fossil Fuel share	54.3%	33.1%	-39%	29.5%	-46%
of which Coal	15.9%	2.6%	-84%	1.3%	-92%
of which Gas	35.6%	28.0%	-21%	26.2%	-26%
of which Oil	2.8%	2.5%	-12%	2.0%	-30%
WACI of analysed utilities	1 289.82	604.85	-53%	672.38	-48%

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

ESG Analytics

Scientific Beta's ESG Norms analytics measure index exposure to companies with involvement in products that conflict with global Environmental, Social or Governance (ESG) norms or their objectives and to companies whose conduct violates fundamental ethical or corporate governance norms. CIC Indices benefit from the Core ESG Filter that divests from companies breaching fundamental ESG principles.

ESG Norms as of Mar 2025	CW	CIC	Deviation from CW	CIC PAB	Deviation from CW
Companies involved in controversial weapons	3.53%	2.08%	-41%	1.98%	-44%
Companies involved in cluster munitions and anti-personnel mines	0.24%	0.00%	-100%	0.00%	-100%
Companies involved in nuclear, biological and chemical weapons	2.73%	1.81%	-34%	1.81%	-34%
Companies producing tobacco products	0.74%	0.00%	-100%	0.00%	-100%
Companies with 5% or more of turnover derived from the production or distribution of tobacco	0.84%	0.06%	-93%	0.00%	-100%
Companies excluded from Norway's GPFG investment universe for gross violations of fundamental ethical norms	0.50%	0.00%	-100%	0.00%	-100%
Companies ineligible to join the UN Global Compact or facing critical ESG controversies	12.39%	3.33%	-73%	2.73%	-78%
Companies offering only non-voting stocks to the public	0.31%	0.00%	-100%	0.00%	-100%

Analytics are calculated at the end of the latest quarter and with ESG data updated at the beginning of the penultimate month of the quarter. Energy and Extractive Industry data provided by Institutional Shareholder Services are used to prepare this report. Controversial Weapons, Tobacco, and Ethical Norms Risk Assessment data are provided by Vigeo-Eiris. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

Financial Analytics

Sector Weight

An index sector weights should reflect the real economy to ensure each sector participates in the climate transition. Therefore, both the CIC and CIC PAB sector weights are anchored to the Broad CW with a sector neutrality assurance mechanism which ensures low sector deviations from the CW benchmark. The CIC PAB version shows higher relative sector weights due to the under-representation of the fossil fuel sector from its mandatory oil and gas exclusions.

Since Base Date (21-Jun-2013)	CW	CIC		CIC PAB	
	Absolute	Absolute	Relative	Absolute	Relative
Building Materials, Basic Metals and Aluminium	0.55%	0.61%	0.07%	0.60%	0.06%
Other Materials	4.29%	4.64%	0.35%	5.01%	0.72%
Electricity	2.57%	2.83%	0.27%	2.72%	0.15%
Fossil Fuels	5.84%	5.32%	-0.51%	0.00%	-5.83%
Utilities and Infrastructure	2.85%	2.85%	0.01%	2.99%	0.14%
Agriculture, Food and Beverage	3.87%	3.95%	0.08%	4.35%	0.49%
Building	3.38%	4.11%	0.73%	4.58%	1.20%
Electronics Manufacturing	11.01%	10.94%	-0.07%	12.11%	1.10%
Other Manufacturing	21.08%	21.78%	0.71%	23.75%	2.68%
Sales	7.32%	7.40%	0.07%	8.05%	0.73%
Services	19.11%	18.35%	-0.76%	18.70%	-0.41%
Financial and Insurance Activities	18.14%	17.21%	-0.93%	17.12%	-1.02%

The analysis is based on yearly data. Sector data are average across all the years in the sample. Deviations are sector weight of CIC indices minus sector weight of the Broad Cap-Weighted index. The sector classification used is the Scientific Beta Carbon Impact Classification. The analysis is performed over the latest quarter. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

Climate Impact Consistent Factsheet

Diversification

CIC indices are less concentrated compared to the Broad CW index despite the Core ESG exclusions which reduce their number of constituents. The pure climate intra-sector weighting combined with the sector weights anchored to the Broad CW are thus able to produce reasonable levels of diversification.

Since Base Date (21-Jun-2013)	CW	CIC	CIC PAB
Number of Constituents	1 606	1 475	1 328
Effective Number of Constituents	251	601	526
GLR	19.3%	17.4%	17.5%

All statistics are based on quarterly data at review dates. The effective number of constituents is the inverse of the sum of squared constituent weights. Similarly, the effective number of sectors is the inverse of the sum of squared sector weights (based on TRBC classification). GLR is the ratio of the variance of a portfolio's returns to the weighted average of the variance of its constituents' returns. One-way Turnover is the sum of the absolute deviations of individual weights between the end of a quarter and the beginning of the following quarter. This results in a two-way quarterly turnover, which is then annualised and set to a one-way figure. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

Liquidity

To foster liquidity at the index level and improve investibility, stocks are capped to a multiple of their weight in the Broad CW index. More liquid stocks are assigned a higher multiple of their Broad CW weight while less liquid stock weights are constrained with a lower multiple. Both CIC and CIC PAB indices deliver high liquidity standards when compared to the CW reference.

Since Base Date (21-Jun-2013)	CW	CIC	CIC PAB
Days-To-Trade	0.00	0.40	0.44
Maximum Days-To-Trade	0.33	0.65	0.73
Average Liquidity (ADDTV)	1 301	464	436
Transaction Costs	< 0.01%	0.02%	0.02%

Liquidity and capacity are expressed in millions of USD. ADDTV is the average daily dollar-traded volume. Days-To-Trade (DTT) is the average of quarterly worst 5% days-to-trade of quarterly change of weights. Max DTT is the worst 5% days-to-trade of selling the full portfolio. DTT is computed assuming USD 3 billion investment and a participation rate of 10%. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).

Performance and risks

The low tracking errors, which are 2.16% for CIC and 2.32% for CIC PAB indices, can be attributed to the absence of significant geographic or sector allocation biases (except for fossil fuels in the CIC PAB) in the design of CIC indices. Moreover, given that the indices show low levels of systematic factor exposures, the low tracking errors are highly likely to be robust out of sample.

Since Base Date (21-Jun-2013)	CW	CIC	CIC PAB
Ann. Return	10.72%	10.35%	10.88%
Ann. Volatility	14.29%	14.68%	14.53%
Sharpe Ratio	0.64	0.59	0.64
Max Drawdown	33.77%	36.16%	34.80%
Ann. Relative Return	-	-0.37%	0.16%
Ann. Tracking Error	-	2.16%	2.32%
Information Ratio	-	-0.17	0.07

Climate Impact Consistent Factsheet

All statistics are computed using daily USD total returns. Outperformance probability is computed using monthly steps. Indices used are the Scientific Beta Developed Cap-Weighted index and the standard and EU PAB Compliant versions of Scientific Beta Developed Climate Impact Consistent Index (CIC and CIC PAB).