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The Investment Engineers

WHITE PAPER

New climate dataset enhances our Country ESG Framework

Contents

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Climate and energy metrics in our Country ESG Framework

Climate data and metrics have served as a foundational element of our Country ESG Framework since its initiation more than a decade ago. These metrics can help shed light on countries' contributions to climate change mitigation and their readiness for a much-needed and inevitable transition to a net-zero economy. This insight helps us to identify transition risks and opportunities.

Countries with ambitious climate targets, strong policy frameworks, and robust investment in clean energy may present lower investment risks over the long term. This is because they are likely to be better positioned to adapt to climate change and capitalize on opportunities in the transition to a low-carbon economy. Conversely, countries with inadequate climate policies, high dependency on fossil fuels, and limited efforts to mitigate emissions may face increasing risks related to regulatory uncertainty, stranded assets, carbon pricing, and market disruptions.

However, assessing countries on their climate performance is not as trivial as it first appears and requires a diligent selection of relevant indicators. Depending on the nature and scope of the metrics selected, the outcomes across countries can diverge significantly. In addition to the timely availability of data, source reliability, and limited duplication, it's crucial for climate metrics to provide insights that are material to our investment processes and to offer a fair assessment of a country's climate performance.

Data enhancement and innovation of our Country ESG Framework have always been a continuous process. Recently, we replaced the existing (third-party) climate metrics with a self-selected set of data. This set is compiled from a broader array of sources and provides us with more comprehensive and granular information on countries' climate performance.

The Country ESG Framework – which consists of 15 different criteria and wherein the climate and energy component has a 10% weight – is foundational to our sovereign investment processes. Our sovereign bond strategy upholds a minimum weighted average ESG score, meaning movements in ESG performance affect capital allocation. More specifically, our Climate Global Bonds strategy targets on average 7% year on year emission reduction, while individual elements of the climate and energy dataset are used to inform sovereign engagement processes.

In this report, we first elaborate on the various considerations in selecting relevant sovereign climate metrics. Next, we introduce the new methodology that was established, followed by the outcomes of the assessment. Finally, we zero in on a selection of interesting case studies and discuss how climate fits in the broader sovereign ESG context.

Navigating the diverse landscape of climate metrics

Advancements in technology, the expansion of global monitoring networks, international cooperation, and initiatives promoting open data have led to an increase in the availability of climate data. The abundance of data has the potential to offer valuable insights to investors. However, the nature and quality of the data varies significantly. Depending on the metrics selected, conclusions about a country's climate situation can differ greatly.

To have reliable climate metrics, it's essential to have sufficient country coverage with data that is readily available and comes from trustworthy sources. Even with these prerequisites, there are still many choices to make regarding timing, perspective, scope, and depth of analysis. In the following section, we discuss whether various climate metrics offer a fair evaluation of a country's climate performance and if they provide useful information for investors.

By 'informational value', we mean the financial relevance of these metrics and their ability to guide investment decisions. Alternatively, 'fairness of an assessment', refers to metrics that consider factors within a country's control and provide a comprehensive view of its climate performance. This approach ensures that we do not overlook important aspects that might unfairly favor one country over another.

CO2 vs GHG emissions

The first consideration is whether to focus on CO2 emissions or broader GHG emissions. CO2 is a more straightforward metric that has conventionally taken less time to compile and is more widely available. More recently, GHG emission measurements have improved and therefore the information is more readily available. Moreover, GHG emission data provides a more complete picture of a country's climate impact, as next to carbon dioxide this data also includes methane, nitrous oxide, and fluorinated gases.

The table below shows the top 10 emitting countries in terms of both CO2 and total GHG emissions. When comparing the results, it is interesting to note that economies such as Brazil and Mexico appear in the top 10 GHG emitters, while they are absent in the top 10 CO2 emitters. This can be explained by the large emissions from their agricultural sector (e.g. methane and NO2). In conclusion, a sole focus on CO2 emissions therefore overlooks certain aspects of a country's climate profile.

Table 1 - Top-10 emitters. Left: by CO2 emissions (Mt CO2). Right: by GHG emissions (MtCO2e)

	Country	2022			Country	2022
1	China	12,667.4		1	China	15,446.5
2	United States	4,853.8		2	United States	5,947.1
3	India	2,693.0		3	India	3,860.7
4	Russia	1,909.0		4	Russia	2,509.1
5	Japan	1,082.6		5	Brazil	1,246.4
6	Indonesia	692.2		6	Indonesia	1,183.4
7	Iran	686.4		7	Japan	1,179.7
8	Germany	673.6		8	Iran	921.2
9	South Korea	635.5		9	Mexico	807.0
10	Saudi Arabia	607.9		10	Saudi Arabia	792.0

Source: EDGAR

Absolute vs normalized emissions

Absolute emissions on a country level is an important metric for international policymaking. This ensures governments with the largest abatement potential and responsibility to mitigate climate change are taking action. At the same time, this metric offers little value for comparing countries on their climate performance, as the volume of emissions is heavily dependent on the size of a country's population and GDP.

For this reason, absolute emissions are not directly used in our County ESG Framework. Still, absolute metrics such as total GHG emissions or total hectares of forests are relevant in selecting countries for sovereign engagement, as this is useful information for identifying cases with high potential to mitigate climate change.

To overcome this size bias, GHG emissions can be normalized per unit of GDP or capita. This has a much higher informational value for investors as the country's size plays a lesser role, and the metric serves as a better proxy for a countries' climate action and transition readiness. The table below shows a ranking of countries by GHG emissions per unit of GDP. One notable observation is that many less developed economies appear in the top 25, while large economies with a sizeable energy sector do not. We elaborate on this in the next section.

Table 2 - Ranking countries by GHG emission per GDP (t CO2eq/kUSD/yr)

#	Country	2022		#	Country	2022
1	Palau	6.51		16	Sudan and South Sudan	0.88
2	Chad	3.59		17	Zimbabwe	0.86
3	Central African Republic	2.94		18	Oman	0.85
4	Syria	2.00		19	Guinea-Bissau	0.83
5	Somalia	1.64		20	Burundi	0.82
6	Mongolia	1.53		21	Kuwait	0.80
7	Congo	1.35		22	Uzbekistan	0.79
8	Niger	1.29		23	Madagascar	0.79
9	Turkmenistan	1.28		24	Guinea	0.78
10	Trinidad and Tobago	1.27		25	Libya	0.77
11	Mali	1.03		80	Australia	0.43
12	Venezuela	1.02		91	Canada	0.40
13	Mozambique	0.98		94	India	0.39
14	Bahrain	0.92		123	United States	0.28
15	Iraq	0.90		142	Japan	0.23

Source: EDGAR[1]

Normalized per capita vs GDP

The previous section concluded that normalizing GHG emissions provides a much higher degree of informational value for investors compared to absolute emissions. The next consideration is whether it is better to normalize emissions per unit of capita or GDP.

Looking at Table 2 above, we note that the majority of the top 25 countries by GHG emissions per GDP are emerging economies. Larger developed economies with sizeable energy sectors such as Saudi Arabia (#76), Australia (#80), and Canada (#91) do not make it to the top of the list. This can be explained by the higher level of GDP and the stage of economic development (more advanced services, less manufacturing). In contrast, a country like India, whose GDP is less than one-seventh of the US's, scores poorly on the CO2e/GDP metric, even though its

[1] EDGAR (Emissions Database for Global Atmospheric Research) Community GHG Database (a collaboration between the European Commission, Joint Research Centre (JRC), the International Energy Agency (IEA), and comprising IEA-EDGAR CO2, EDGAR CH4, EDGAR N2O, EDGAR F-GASES version 8.0, (2023) European Commission.

population is four times that of the US and generates significantly less GHG emissions (see Table 1). An assessment that only normalizes emissions per GDP is thus not entirely fair as it neglects the concept of 'equity', which advocates that each person globally is entitled to an equal level of development.

In contrast, ranking countries by CO2 per capita does not penalize developing countries for the smaller size of their economy. Some (very) small states still show up in the top 10, but at least advanced economies such as the United Arab Emirates, Australia, Canada, and the United States also appear in the top 20. This suggests that the stage of economic development is less influential, increasing the informational value and fairness of this metric vis-à-vis CO2e/GDP. For this reason, we decided to use per capita data for the index construction and investment strategy of our Climate Global Bonds strategy.

Table 3: CO2 per capita per country (t CO2/cap/yr), production data

#	Country	2022		#	Country	2022
1	Qatar	67.38		16	Russia	17.99
2	Palau	61.65		17	United States	17.90
3	Bahrain	39.29		18	Kazakhstan	17.33
4	Kuwait	37.96		19	New Zealand	16.83
5	Trinidad and Tobago	33.27		20	Libya	15.32
6	Brunei	32.66		21	South Korea	14.01
7	United Arab Emirates	29.33		22	Iceland	13.70
8	Oman	25.59		23	Luxembourg	13.69
9	Saudi Arabia	22.64		24	Curaçao	13.06
10	Australia	21.98		25	Taiwan	12.86
11	Turkmenistan	20.80		26	Norway	12.60
12	Canada	19.79		43	Germany	9.49
13	Gibraltar	19.68		45	Japan	9.41
14	New Caledonia	19.35		75	United Kingdom	6.27
15	Mongolia	19.07		83	Sweden	5.91

Source: EDGAR[2], 2023

Even though normalizing emissions by GDP might be less fair, it does offer informational value to investors since it is a helpful indicator for which countries are able to decouple emissions from economic growth. This is a challenge that emerging economies also inevitably face in balancing climate change mitigation with developing their economies and raising living standards. What is more, to address the fairness issue, GHG emission can be normalized by Purchasing Power Parity (PPP)-adjusted GDP. This leads to a more representative reflection of a country's actual economy size as exchange rate effects are eliminated, and comparability of actual economy sizes enhanced. This is also the prescribed indicator by PCAF[3] and under SFDR for GHG emission intensities.[4] As such, we conclude that both metrics remain relevant candidates for a holistic climate assessment.

[2] EDGAR (Emissions Database for Global Atmospheric Research) Community GHG Database (a collaboration between the European Commission, Joint Research Centre (JRC), the International Energy Agency (IEA), and comprising IEA-EDGAR CO2, EDGAR CH4, EDGAR N2O, EDGAR F-GASES version 8.0, (2023) European Commission.
[3] https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf
4 https://finance.ec.europa.eu/system/files/2023-07/230704-sustainable-finance-platform-briefing-esas-consultation-sfdr_en.pdf

Production-based vs consumption-based metrics

GHG emissions

All metrics assessed so far reflect the emissions that are produced in a given country. However, it may be the case that a large share of a country's emissions are driven by the production of goods and services exported to other countries. As these emissions are induced by foreign users, one could argue that those countries are – at least in part – responsible for this.

In that sense, a fairer approach would be to look at emissions corrected for trade, also referred to as consumption-based emissions. In this metric, the climate impact of importing goods manufactured abroad is also included. The results in Table 4 show that smaller wealthy states such as Luxembourg, Singapore, Hong Kong and Switzerland are now among the top 20. A shift in their demand towards lower carbon intensity products would result in emission reductions abroad.

Table 4 - CO2e per capita per country (t CO2e/cap/yr) consumption-based

#	Country	2021		#	Country	2021
1	Singapore	27.71		11	Trinidad and Tobago	13.87
2	Qatar	26.71		12	Luxembourg	13.73
3	United Arab Emirates	25.75		13	Switzerland	13.65
4	Kuwait	24.53		14	South Korea	13.30
5	Brunei	21.74		15	Canada	13.16
6	Malta	19.43		16	Australia	13.05
7	Saudi Arabia	17.30		17	Taiwan	12.52
8	Belgium	17.19		18	Bahrain	12.30
9	United States	16.53		19	Hong Kong	12.03
10	Oman	15.37		20	Mongolia	10.52

Source: Data from Our World in Data, Climate Watch, World Resources Institute[5]

In summary, we believe consumption-based metrics better reflect the actual climate impact of a nation than production-based metrics. However, these metrics do have the disadvantage of relying on data collection processes that are more difficult to verify, creating slight uncertainty around the robustness of the data. They are also not as available as production-based metrics. At the time of writing, the latest available data is based on FY 2021.

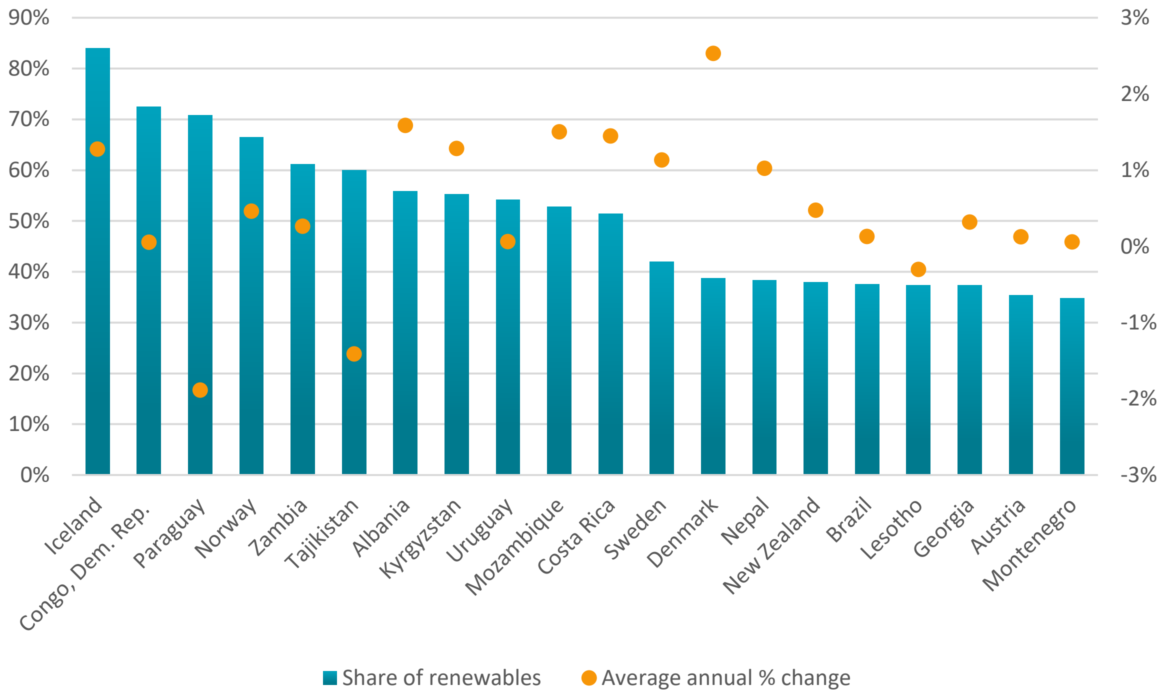
Renewable energy

Next to GHG emissions, it is relevant to look at countries' energy mix. After all, promoting renewable energy is critical for cutting future GHG emissions. Like emission metrics, one can adopt both a production-based or consumption-based lens. As outlined above, we consider consumption-based to be a 'fairer' metric since it addresses the phenomenon of 'carbon leakage.' We also believe that economies that are ahead in shifting their energy demand to renewables have a competitive advantage over economies that predominantly run on fossil energy.

5 https://ourworldindata.org/co2-and-greenhouse-gas-emissions

The chart below illustrates the share of renewable energy relative to total energy consumption for the top 20 countries, as well as the average annual change between 2016 and 2021.[6] Sources of renewable energy included in this metric are hydro, geothermal, solar, wind, biofuels, and wood and waste biomass.

Figure 1 - Share of renewables and average annual % change (last 5 years) – top 20 (2021)



Source: US Energy Information Administration, 2021

It is noteworthy that this group largely consists of emerging and a few smaller developed economies, with the notable exception of Brazil. Iceland tops the list with an abundance of wind, solar and hydro energy. We also see the share of renewable energy in Paraguay and Tajikistan has gone down over the past five years, whilst Denmark is leading the pack in scaling renewable energy uptake. The same challenges regarding precision and availability of data for consumption-based GHG emissions apply, with 2021 being the most recent year for which available data are available for all countries.

Past vs future emissions

Another consideration in selecting climate metrics is the timeframe of the GHG emissions in scope. One could look at countries' historical emissions, current or projected emissions in the assessment. Historic emissions offer insights into countries' aggregate contribution to climate change. Logically, they are an important input for international policy making around responsibilities in climate change mitigation. They can also help identify countries that have historically relied heavily on fossil fuels or have had significant industrial activity. This may indicate higher levels of carbon-intensive infrastructure and greater vulnerability to future regulatory changes or market shifts. These insights could thus be financially material from an investment perspective.

At the same time, it is important to recognize that historic emissions alone may not fully reflect a country's commitment to mitigating future emissions. Countries with ambitious climate targets, strong policy frameworks, and robust investment in clean energy may present lower investment risks over the long term, as they are likely to be better positioned to adapt to climate change and capitalize on opportunities in the transition to a low-carbon economy. As such, forward-looking metrics are an indispensable component of robust climate analytics.

[6] More weight is assigned to more recent changes. The YoY weights are 6.67%, 13.33%, 20%, 26.67% and 33.33% for t-5 to t-4, t-4 to t-3, t-3 to t-2, t-2 to t-1, and t-1 to t respectively.

For instance, many emerging countries are expected to grow their economies, yet the extent to which this growth will coincide with a notable rise in emissions will differ across countries. When examining the right-hand side of the table below, we see a list of countries where advancing living standards is indeed anticipated to lead to a carbon-intensive economic trajectory. Conversely, the left column includes several developing countries that have set forth ambitious Nationally Determined Contributions (NDCs) aimed at substantial per capita emission reductions. These include nations such as Gabon, the Central African Republic, and Angola.

Table 5 - Top and bottom 15 countries % per capita projected emission reduction (2015-2030)

#	Country	% change		#	Country	% change
1	Iceland	-70%		136	Ghana	43%
2	Estonia	-57%		137	Nicaragua	43%
3	United Kingdom	-50%		138	Mozambique	44%
4	Australia	-49%		139	Paraguay	45%
5	Canada	-49%		140	Suriname	46%
6	New Zealand	-47%		141	Guatemala	47%
7	Switzerland	-47%		142	Egypt	49%
8	Cyprus	-47%		143	Malawi	49%
9	Netherlands	-47%		144	Eswatini	51%
10	Gabon	-47%		145	Iraq	51%
11	Germany	-46%		146	Libya	54%
12	Central African Republic	-46%		147	Panama	57%
13	Belgium	-46%		148	Moldova	64%
14	United States	-43%		149	Armenia	74%
15	Angola	-43%		150	Liberia	122%

Source: Climate resource

Another way to go about a forward-looking approach is to look at countries' projected emission intensities. The table below presents the top and bottom ten countries. A comparison with current levels of GHG emissions per capita reveals the inclusion of new countries in this list, such as Bolivia. This can be attributed to the projected increase in emissions per capita relative to 2015, which is notably higher at +41%.

> *" Depending on the metrics selected, conclusions about a country's climate situation can differ greatly*

Table 6 - Top and bottom 10 countries by projected GHG emissions per capita (2030)

#	Country	2030 target		#	Country	2030 target
1	Trinidad and Tobago	49.02		141	Nigeria	1.45
2	Qatar	46.24		142	Uganda	1.39
3	Kuwait	32.09		143	The Gambia	1.38
4	Bahrain	28.45		144	Sierra Leone	1.32
5	Oman	27.48		145	Côte d'Ivoire	1.28
6	United Arab Emirates	21.74		146	Yemen	1.18
7	Russia	19.04		147	Madagascar	1.02
8	Libya	17.22		148	Malawi	1.01
9	Mongolia	16.45		149	Rwanda	0.67
10	Bolivia	15.10		150	Burundi	0.48

Source: Climate resource

In summary, forward-looking metrics serve as crucial indicators of a country's commitment to climate action. However, it is essential for these targets to be credible. For this reason, we opt to complement these metrics with an examination of countries' current climate profiles and recent trends, which offer insight into the trajectory a country is taking and its ability to decouple emissions from economic growth. After all, countries should not be rewarded for commitments to the future if they have only made minimal – or even negative – progress. We illustrate this in the case study section by using Qatar and Kuwait as examples.

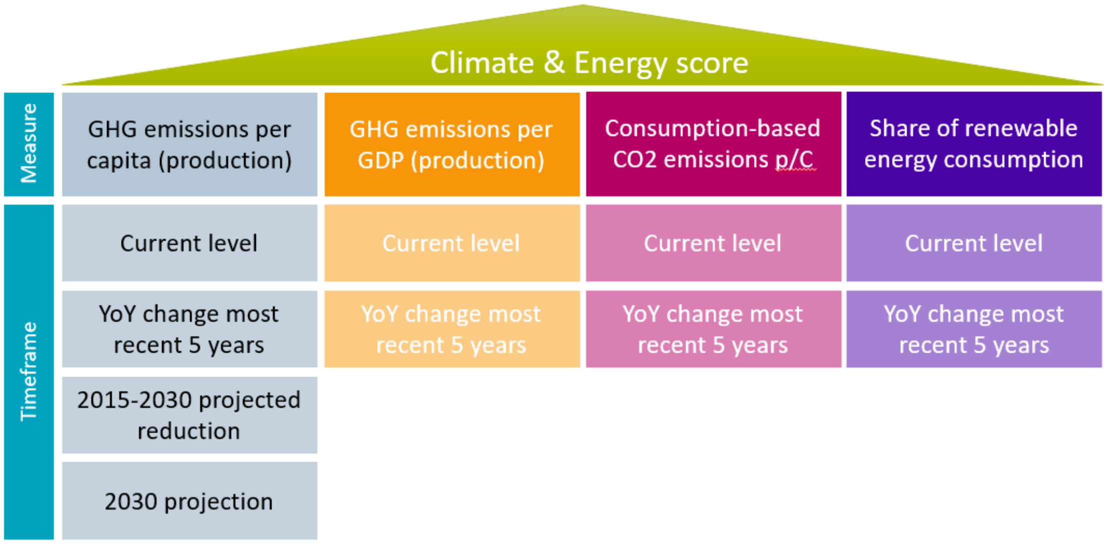
Finally, we believe that an assessment that combines recent developments in climate metrics, current levels as well as forward-looking components, enables investors to better understand the evolving landscape of countries' climate trajectories.

Robeco's climate and energy country dataset

The previous section illustrates that producing a fair measurement and ranking of a country's carbon footprint is not necessarily a straightforward exercise. Depending on whether an assessment is based on only CO2 or broader GHG emission, absolute or normalized metrics, production or consumption-based metrics, and the time frame in scope, the outcomes can diverge significantly.

No single individual lens illustrates the full picture of a country's climate performance. Consumption-based emissions better reflect the climate impact of a country, while production-based emissions are more actionable for a country's government. Similarly, forward-looking indicators can inform us about a country's climate ambitions, but current and recent performance reveals a lot about the credibility of those ambitions. For this reason, we have opted to work with a combination of metrics that collectively offer comprehensive and holistic insights into the climate performance of a country. This consists of GHG emissions normalized per unit of capita and per unit of GDP, consumption-based CO2 emissions per capita, and the share of renewables relative to total energy consumption. In terms of the time horizon, for each metric we look both at the current level and the development over the past five years. Finally, we include the projected per capita GHG emission in 2030 as well as the change compared to 2015 levels.

Figure 2 – Climate and energy country framework input metrics



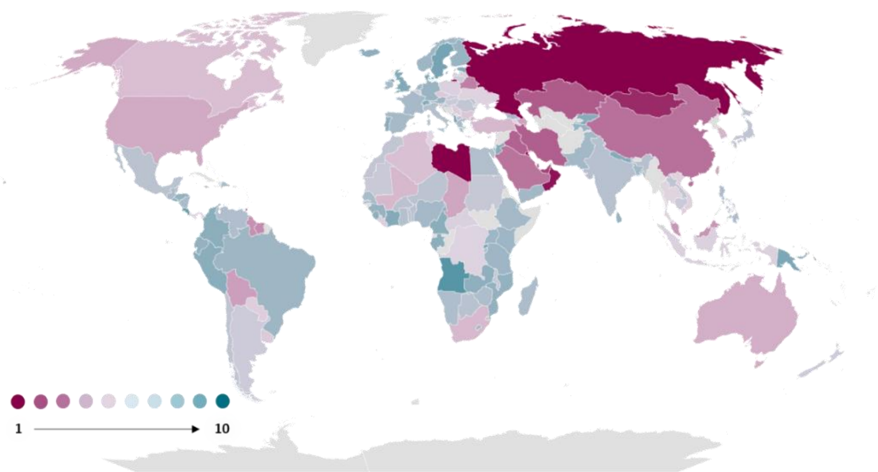
Source: Robeco

The data are from EDGAR, Our World in Data (based on Global Carbon Project), Climate Resource, Climate and Energy Intelligence Unit, and U.S. Energy Information Administration, hence, all recognized and reputable sources. The indicators have been carefully selected according to their information content, adequate availability, timeliness, and reflection of the different facets of a country's emission profile.

Results from new climate and energy dataset

The analysis of 150 countries regarding their climate and energy profile, using the framework illustrated above, leads us to scores as shown in Figure 3. It is apparent that there is only a modest number of countries with climate and energy scores of 7.0 or above (on a scale from 1-10 with 10=best). Among them are only three industrialized economies: Denmark, Switzerland and the United Kingdom. A middle segment with above average scores comprises – among others – the G7 countries of France, Germany, Japan as well as the large emerging market economies of Brazil, India, and Mexico. A more modest score is noted for Canada, the USA, China, South Africa, and Turkey. The poorer results come from countries like Australia and Mongolia, while Russia and several Middle Eastern countries are among the lowest scoring countries on these metrics.

Figure 3 – Robeco's climate and energy country score map



Source: Robeco

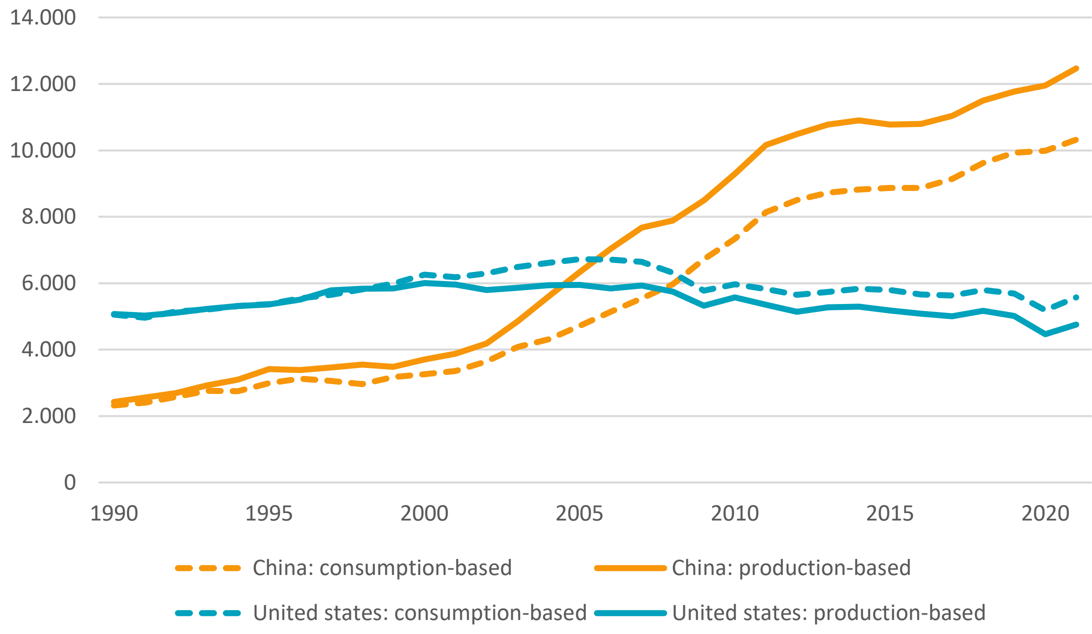
Case studies

China and the United States: diverging emission pathways

For many western economies, the stabilization and gradual decline in CO2 emissions since the 2000s has been supported by importing energy-intensive products from South-East Asia, and in particular China. For example, CO2 emissions produced in the US plateaued around the start of the century and have come down since 2007. However, during that same period, consumption-based emissions have on average been 10% higher than their production-based equivalent, making the country a net importer of CO2. Since 2006 consumption-based emissions have only started to come down at an average of around 1% per year.

Conversely, since the early 1990s, China's consumption-based CO2 emissions have consistently been lower than domestic emissions. The average net CO2 exports since 2000 amounted to around 19% of production-based emissions. Still, the lines in the graph illustrate a bleak picture with a continued incline of both types of CO2 emissions. These levels must plateau and decrease soon to ensure we maintain the global warming increase well below 2 degrees Celsius. Still, it is worth noting that historically, the US has been the largest CO2 emitter[7].

Figure 4 - CO2 emissions China and United States (1990-2021 - Mt CO2 /year)



Source: Our World in Data, based on Global Climate Project

Qatar and Kuwait: assessing the credibility of projected emissions reductions

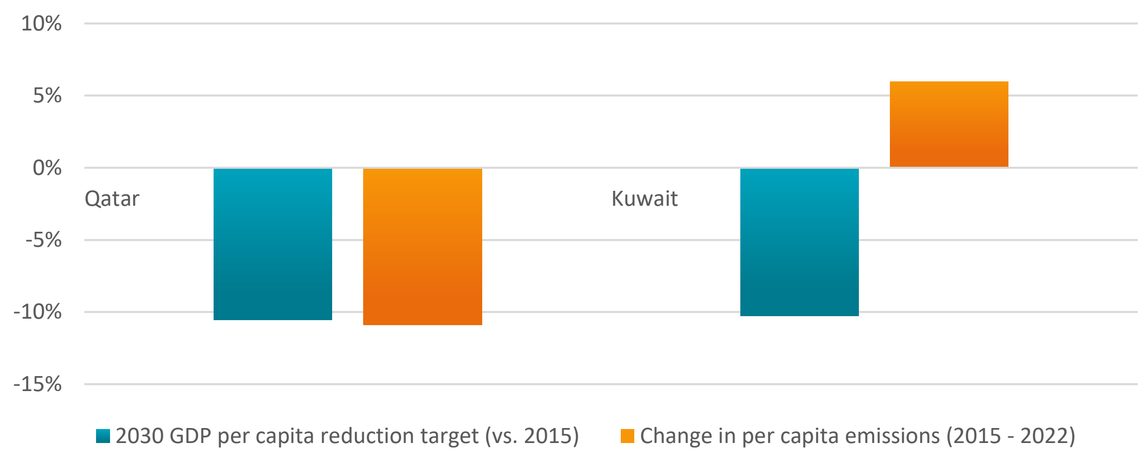
The section 'past vs future emissions' discussed the relevance of including forward-looking components in climate assessments, as these can shed light on where a country is headed. Although, we also stressed it is important to assess the credibility of these ambitions in light of recent performance.

We illustrate this with the examples of Qatar and Kuwait, two nations that share numerous similarities. They are situated in the same region and are both relatively wealthy states with an abundance of oil reserves and fossil fuel production. Consequently, both nations rank poorly across the majority of our climate and energy metrics. However, there is one dimension that reveals different outcomes.
Figure 5 portrays the projected per capita % emissions reduction (2015 – 2030) of Qatar and Kuwait as well as the realized changes in their per capita emissions (2015-2022). We note that both countries have established similar

[7] https://essd.copernicus.org/articles/15/5301/2023/

emissions reduction targets for 2030 (depicted by blue bars). However, whereas Qatar has demonstrated its ability to decrease emissions in recent years, thus far Kuwait has only seen an expansion of its negative climate impact. Finally, it is worth noting that neither of the emission reduction targets is in line with a pathway to 'well below 2 degrees Celsius' warming scenario.

Figure 5 - Kuwait and Qatar: assessing the credibility of projected emissions reductions



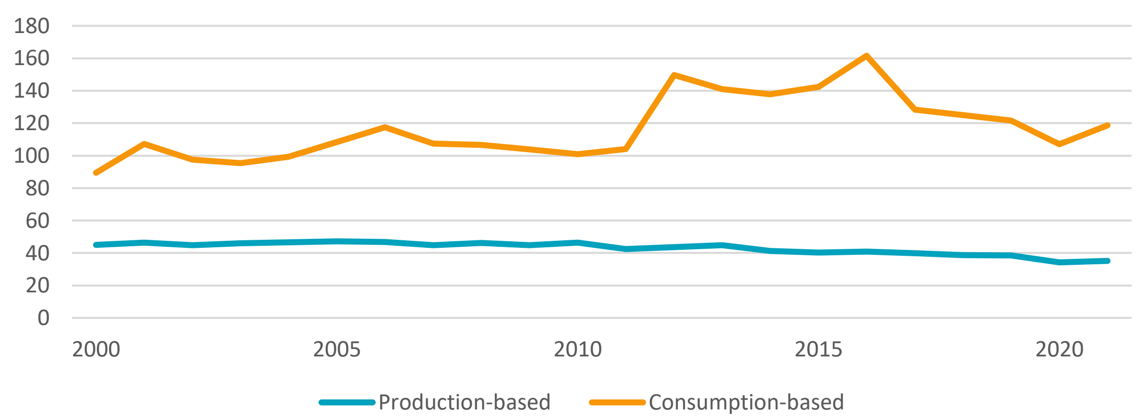
Source: Our World in Data, based on Global Climate Project

Switzerland: consumption-based emissions reveal the true climate impact

As outlined earlier, the phenomenon of outsourcing emissions allows a country to reduce domestic emissions while increasing emissions abroad through foreign trade. This is commonly referred to as carbon leakage.

Switzerland presents an intriguing case study in this respect, revealing an entirely different picture depending on the selected metric. As the Swiss economy is mainly service-based and benefits from decarbonized electricity (hydro and nuclear power), Switzerland's production-based carbon emissions are relatively modest, at around 35 million tons of CO2 per year. These emissions have also been on a declining path, down by 22% compared to 2000 levels. However, these domestic emissions stand in stark contrast to the 118.7 million tons of consumption-based emissions via imported goods and services. This indicates that Switzerland's standard of living and consumption patterns cause more than three times as much CO2 emissions abroad compared to what it produces within the country. A sole focus on domestic emissions would simply overlook this impact.

Figure 6 - Switzerland – Development of CO2 emissions 1990-2021 (Mt CO2/y)



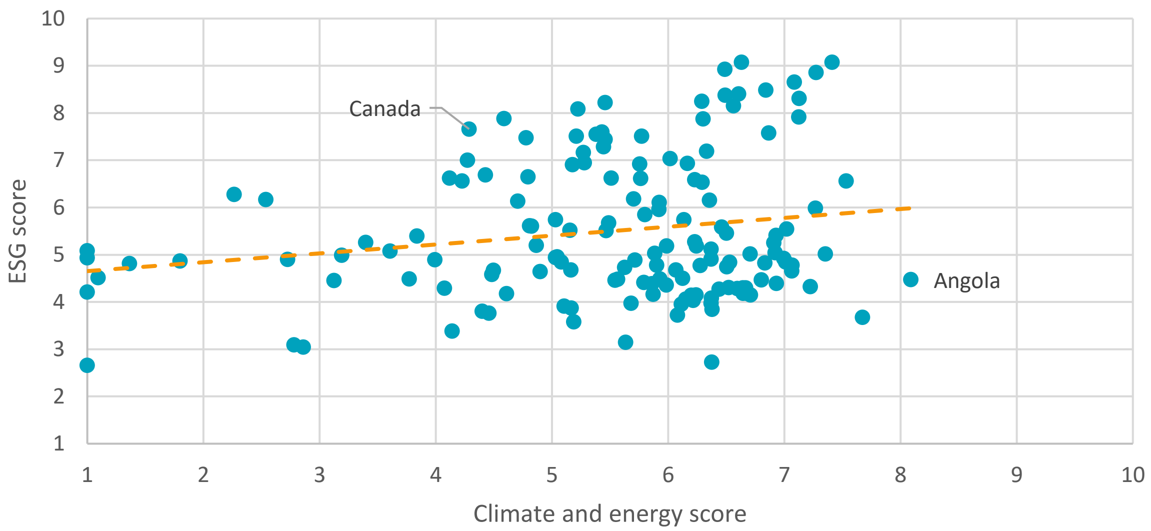
Source: Our World in Data, based on Global Climate Project

Climate and energy in a broader sovereign ESG context

Finally, while climate and energy indicators are a key component of assessing sustainability risks and opportunities, we do emphasize the importance of applying a broad screening of sovereign Environment Social and Governance data when integrating ESG insights in global macro investment processes. Countries that score well on climate change mitigation, may score poorly on specific governance or social metrics and this can have important consequences for investments in that country.

Over a decade of experience in analyzing the data in our Country ESG Framework has taught us that social and governance data tend to be strongly correlated, while the environmental pillar displays a more tenuous relation with other ESG data. This remained unchanged with the new climate and energy dataset into the Country ESG Framework. A good score on climate can coincide with a poor score on for instance: health care, human rights, or corruption. This is illustrated in the chart below which plots countries' rankings based on the climate and energy data versus their overall ESG score.

Figure 7 - Climate and energy scores vs overall ESG score

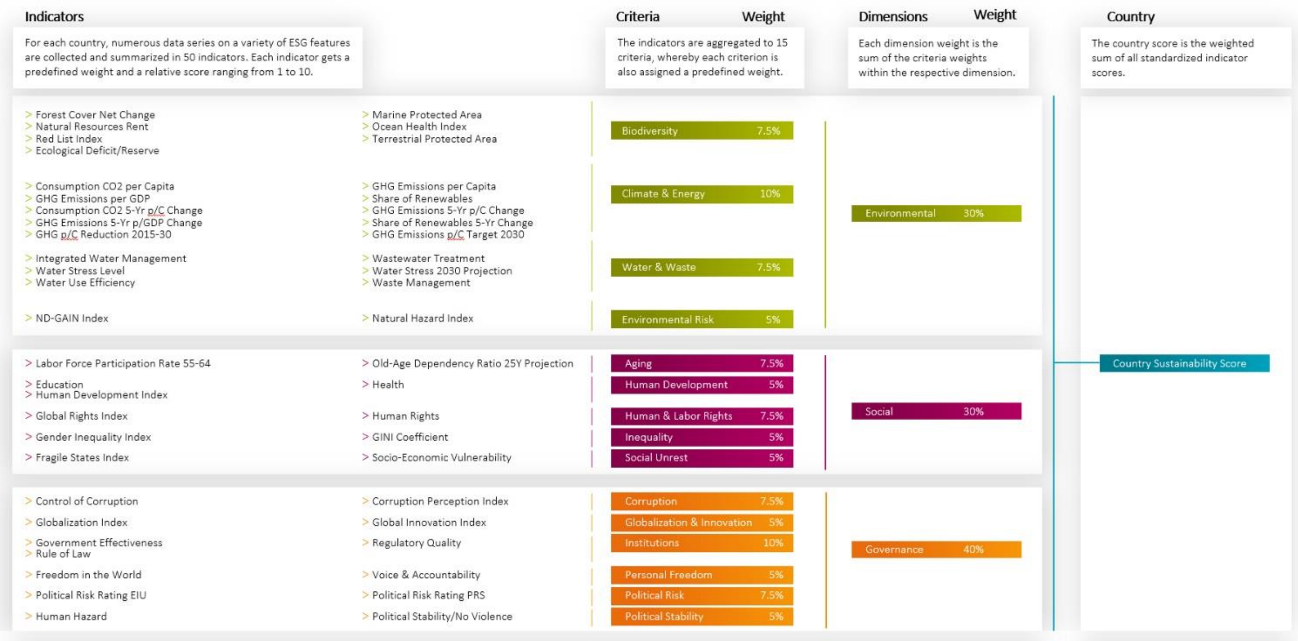


Source: Our World in Data, based on Global Climate Project

Angola is a telling example. Based on climate and energy data alone Angola would be the highest scoring country, while its overall ESG rating is no higher than 4.47, placing the country 108th out of 150. The opposite can also apply and Canada is a good example with an overall ESG score of 7.88 compared to its climate and energy score of only 4.3. For our investment research we value a broad screening of Environment Social and Governance data. The climate and energy data are an important input in that screening, but the overall conclusion on a countries' ESG profile can well differ from the conclusions on climate alone. In our assessment of ESG labeled sovereign bonds we place greater emphasis on climate data.

Finally, while the consequences of climate change will be felt across the world, countries will experience varying degrees of vulnerability. These depend upon a country's geographical exposure to climate-related risks, its adaptive capacity, the size and development status of its economy, and the resilience and effectiveness of its institutions. Such elements are captured in a separate criterion in the environmental pillar of our Country ESG Framework, namely Environmental Risks.

Robeco's Country ESG Framework



Important information

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The Fund may not be offered or sold to the public in Brazil. Accordingly, the Fund has not been nor will be registered with the Brazilian Securities Commission (CVM), nor has it been submitted to the foregoing agency for approval. Documents relating to the Fund, as well as the information contained therein, may not be supplied to the public in Brazil, as the offering of the Fund is not a public offering of securities in Brazil, nor may they be used in connection with any offer for subscription or sale of securities to the public in Brazil.

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The Prospectus relates to a private collective investment scheme which is not subject to any form of domestic regulations by the Autoriti Monetari Brunei Darussalam ("Authority"). The Prospectus is intended for distribution only to specific classes of investors as specified in section 20 of the Securities Market Order, 2013, and must not, therefore, be delivered to, or relied on by, a retail client. The Authority is not responsible for reviewing or verifying any prospectus or other documents in connection with this collective investment scheme. The Authority has not approved the Prospectus or any other associated documents nor taken any steps to verify the information set out in the Prospectus and has no responsibility for it. The units to which the Prospectus relates may be illiquid or subject to restrictions on their resale. Prospective purchasers of the units offered should conduct their own due diligence on the units.

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No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein, and any representation to the contrary is an offence. Robeco Institutional Asset Management B.V. relies on the international dealer and international adviser exemption in Quebec and has appointed McCarthy Tétrault LLP as its agent for service in Quebec.

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Generally, no offer or sale of the Shares is permitted in Malaysia unless where a Recognition Exemption or the Prospectus Exemption applies: NO ACTION HAS BEEN, OR WILL BE, TAKEN TO COMPLY WITH MALAYSIAN LAWS FOR MAKING AVAILABLE, OFFERING FOR SUBSCRIPTION OR PURCHASE, OR ISSUING ANY INVITATION TO SUBSCRIBE FOR OR PURCHASE OR SALE OF THE SHARES IN MALAYSIA OR TO PERSONS IN MALAYSIA AS THE SHARES ARE NOT INTENDED BY THE ISSUER TO BE MADE AVAILABLE, OR MADE THE SUBJECT OF ANY OFFER OR INVITATION TO SUBSCRIBE OR PURCHASE, IN MALAYSIA. NEITHER THIS DOCUMENT NOR ANY DOCUMENT OR OTHER MATERIAL IN CONNECTION WITH THE SHARES SHOULD BE DISTRIBUTED, CAUSED TO BE DISTRIBUTED OR CIRCULATED IN MALAYSIA. NO PERSON SHOULD MAKE AVAILABLE OR MAKE ANY INVITATION OR OFFER OR INVITATION TO SELL OR PURCHASE THE SHARES IN MALAYSIA UNLESS SUCH PERSON TAKES THE NECESSARY ACTION TO COMPLY WITH MALAYSIAN LAWS.

Additional information for investors with residence or seat in Mexico

The funds have not been and will not be registered with the National Registry of Securities or maintained by the Mexican National Banking and Securities Commission and, as a result, may not be offered or sold publicly in Mexico. Robeco and any underwriter or purchaser may offer and sell the funds in Mexico on a private placement basis to Institutional and Accredited Investors, pursuant to Article 8 of the Mexican Securities Market Law.

Additional information for investors with residence or seat in Peru

The Superintendencia del Mercado de Valores (SMV) does not exercise any supervision over this Fund and therefore the management of it. The information the Fund provides to its investors and the other services it provides to them are the sole responsibility of the Administrator. This Prospectus is not for public distribution.

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Robeco Institutional Asset Management B.V. is registered and regulated by the Financial Sector Conduct Authority in South Africa.

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