

ASCOR



Grantham
Research Institute
on Climate Change
and the Environment

Assessing Sovereign Climate-related Opportunities and Risks (ASCOR) Explainer Series

Area EP1. Emissions trends

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ASCOR framework

Emissions Pathways (EP)	Climate Policies (CP)	Climate Finance (CF)
EP1. Emissions trends	CP1. Climate legislation	CF1. International climate finance
EP2. 2030 targets	CP2. Carbon pricing	CF2. Climate costing
EP3. Net zero targets	CP3. Fossil fuels	CF3. Climate spending
	CP4. Sectoral transitions	CF4. Renewable opportunities
	CP5. Adaptation	
	CP6. Just transition	

Note: [ASCOR framework: methodology note - Version 1.1](#) was used to assess 70 countries in 2024.

Content

1. Introduction to emissions trends
2. How does ASCOR assess emissions trends?
3. Results of 2024 assessments

1. Introduction to emissions trends

Why does ASCOR assess emissions trends?



Rapidly reducing emissions is key to achieving climate stability and is a central goal of the Paris Agreement.



According to the United Nations Environment Programme ([UNEP](#)), **global GHG emissions must fall by 42% from 2019 levels by 2030** to meet the 1.5°C temperature goal.



Historical **emissions trends show the impact of countries' recent mitigation actions**, which can suggest the level of commitment to future action.



Per-capita and GDP-adjusted emissions trends complement absolute emissions, reflecting a country's socioeconomic conditions.



Different emissions categories reveal complementary aspects of a country's emissions profile, together providing a more complete picture.

What are the categories of GHG emissions we assess?



Production-based emissions, excluding land use, land use change and forestry (LULUCF): Emissions generated within a country's territorial boundaries.



Production-based LULUCF emissions: Emissions generated or sequestered due to changes in carbon sinks related to land management.



Consumption-based emissions excluding LULUCF: Emissions associated with the production of goods consumed within a country, regardless of where the emissions occur.



Absolute: Total emissions from the relevant emissions boundary.



Per capita intensity: Absolute emissions divided by population.



Per GDP intensity: Absolute emissions divided by gross domestic product (GDP) adjusted for purchasing power parity (PPP).

2. How does ASCOR assess emissions trends?

Indicators and metrics



EP1a. Has the country improved its emissions profile over the past 5 years?

EP1ai. What is the country's most recent emissions level?

EP1aii. What is the country's most recent emissions trend?



EP1b. Is the most recent 5-year trend aligned with meeting the country's 1.5°C benchmark?



EP1c. Is the most recent 5-year trend aligned with meeting the country's 1.5°C fair share?

How does ASCOR assess emissions trends?



ASCOR assesses trends in each category of GHG emissions over the last year, three years and five years.



If two-thirds of the 5-year trends are decreasing, a country is assessed as having improved its emissions profile.



To evaluate whether these trends align with 1.5°C, emissions are extrapolated linearly to 2030 and compared with country-specific 1.5°C cost-effective and fair share benchmarks.



ASCOR uses emissions data from PRIMAP and the Global Carbon Atlas to enable comparisons across countries. National 1.5°C cost-effective benchmarks are drawn from Climate Analytics.

3. Results of 2024 assessments

2024 assessment results

EP 1.a Has the country improved its emissions profile over the past 5 years?



EP 1.b Is the most recent 5-year trend aligned with meeting the country's 1.5°C benchmark?



EP 1.c Is the most recent 5-year trend aligned with meeting the country's 1.5°C fair share?

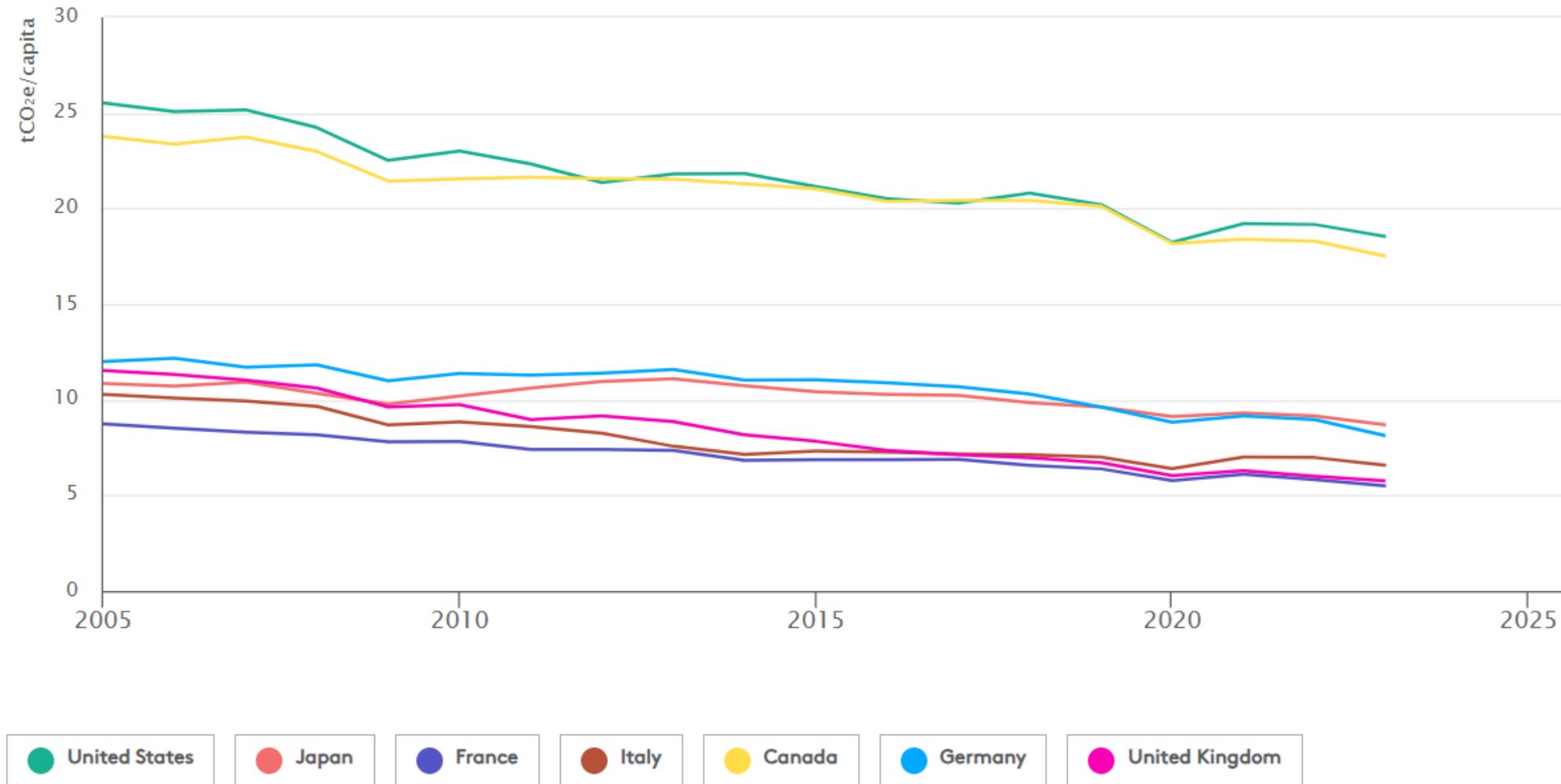


Yes No

Note: The number of countries assessed against each indicator is specified next to each bar.

ASCOR Emissions Trends

Per capita production emissions in G7 countries



ASCOR Emissions Trends

Absolute production emissions in Estonia

 **a. Has the country improved its emissions profile over the past 5 years?**

i. What is the country's most recent emissions level?

[Source \(2023\).](#)

Absolute ▼

12.16 MtCO₂e

tion - excluding LULUCF ▲

Production - excluding LULUCF

Production - only LULUCF

Consumption - excluding LULUCF

ii. What is the country's most

[Source \(2023\).](#)

5-year trend ▼

-9.48%

ASCOR Emissions Trends

Per GDP intensity production emissions in Estonia



a. Has the country improved its emissions profile over the past 5 years?

i. What is the country's most recent emissions level?

[Source \(2023\).](#)

Intensity per GDP-PPP ▼

Production - excluding L ▼

181.62 tCO_{2e}/Million I US\$

ii. What is the country's most recent emissions trend?

[Source \(2023\).](#)

3-year trend ▼

-5.32%

ASCOR Emissions Trends

Per capita intensity production emissions in Estonia

 **a. Has the country improved its emissions profile over the past 5 years?**

i. What is the country's most recent emissions level?

Intensity per capita ▼

Production - excluding L ▼

8.9 tCO₂e/capita

ii. What is the country's most recent emissions trend?

year-on-year trend ▼

-14.48%

[Source \(2023\).](#)

[Source \(2023\).](#)

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Access the ASCOR tool and database:

www.transitionpathwayinitiative.org/ascor

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