

Indicator 9.4.1

Indicator Name, Target and Goal

Indicator 9.4.1 CO₂ emissions per unit of value added

Target 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Goal 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Definition and Rationale

Definition

This indicator is defined as the ratio between CO₂ emissions and the value added of associated economic activities.

Concepts

CO₂ emissions are not measured value but estimated value by some statistics.

Rationale and Interpretation:

This indicator measures the amount of CO₂ emissions from fuel consumption produced by an economic activity, per unit of economic output.

Manufacturing industries are generally improving their emission intensity as countries move to higher levels of industrialization, but it should be noted that emission intensities can also be reduced through structural changes and product diversification in manufacturing. Lower values of CO₂ per unit GDP could be interpreted as more efficient manufacturing structures.

Data Sources and Collection Method

Japan estimate CO₂ emissions based on many statistics and on the IPCC Guidelines for Greenhouse Gas Inventories.

Method of Computation and Other Methodological Considerations

- Computation Method

$$\text{CO}_2 \text{ emissions per unit of GDP} = \frac{\text{CO}_2 \text{ emission (t)}}{\text{real GDP (JPY)}}$$

- Comments and limitations

N/A

Data Disaggregation

N/A

References

National Greenhouse Gas Inventory Report of Japan

<http://www.env.go.jp/earth/ondanka/ghg-mrv/emissions/results/index.html>

Custodian Ministries of Data

Ministry of Environment

(National Institute for Environmental Studies)

Custodian Ministries of Related Policies

Ministry of Economy, Trade and Industry

Ministry of Environment

International Organizations

The United Nations Industrial Development Organization (UNIDO)

International Energy Agency (IEA)