

Climate Change Performance Index - revised Methodology¹

Introduction

Since 2005, the Climate Change Performance Index (CCPI) has been contributing to a clearer understanding of national and international climate policy. It is an important tool to highlight countries' positions and interests, as well as which promises have been broken and kept in a world which is facing the challenge of dangerous climate change.

To further demonstrate existing measures more accurately and encourage steps towards effective climate policy, the index's methodology was evaluated this year, after its seventh edition. The evaluation process was carried out in order to reorganise the underlying data, find a method of integrating newly available deforestation data, better capture recent political movement and develop an approach that is more focused on mitigation solutions regarding climate change performance. Our world is characterized by fast-moving geopolitical and natural changes and our goal was to increase the sensitivity of the CCPI to reflect these changes.

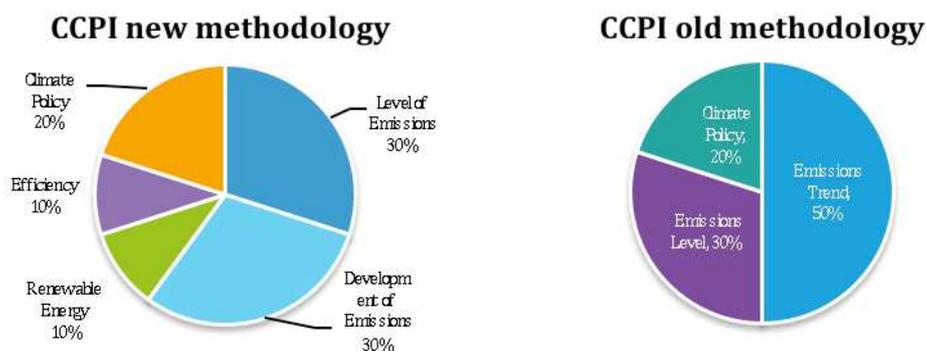
One of the biggest challenges for the creation of a country-related composite index is the vast diversity of geographical conditions, historic responsibilities and economic capabilities. A second goal of the recalibration of the CCPI was, therefore, to find a better balance for indicators to provide a more equitable result.

We are now able to present a more complete view of man-made impacts on the world's climate. With an updated weighting and categorization of indicators, we can track changes in countries' climate change performance more immediately and at the same time increase the equity balance of the CCPI.

1. New Categories

The indicators are organized into four categories. The first three of them – 'emissions', 'renewable energies' and 'efficiency' – are each subdivided into "current levels" and "recent developments." Under the 'climate policy' category we assess national as well as international climate policies. In earlier editions, the indicators were organized into the categories 'Emission Level', 'Emission Trend' and 'Climate Policy'. The reason for the change is that the index should more strongly accentuate the performance of the countries regarding the most important technological solutions for low-carbon development, namely efficiency improvements and deployment of renewable energy. Both have already been part of the analysis in earlier editions of the CCPI, but were somewhat hidden in the categories 'emissions level' (efficiency) and 'emissions trend' (renewable energy).

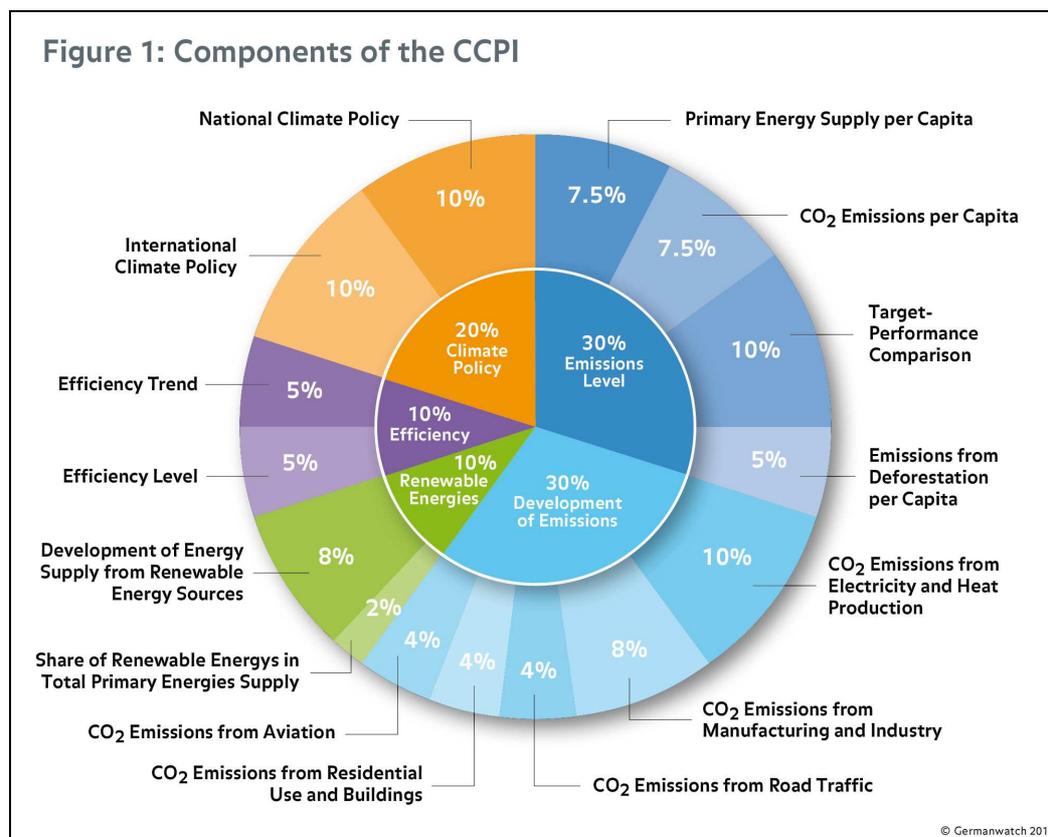
Within both new categories, we take into account the current levels and recent developments to value early adoption of efficiency measures and renewable energy technologies, as well as assessing current implementation.



¹ If you have any questions please contact Jan Burck: burck@germanwatch.org

2. New Indicator composition

The CCPI is constructed as a composition of fifteen individual indicators.



Emissions Level:

The level of current emissions is measured by four separate indicators: overall CO₂-emissions per capita, per capita supply of primary energy, a specific target-performance-indicator and emissions from deforestation per capita (see below). This category makes 30% of the overall score. The former indicators (CO₂-emissions per unit of total energy supply and primary energy supply per GDP) are now being evaluated under the efficiency category.

Development of Emissions:

As opposed to earlier editions of the CCPI, the specific target-performance comparison² and the development of renewable energy supply are no longer being evaluated under this category. Now, only developments of the different sectors' CO₂-emissions are taken into account and split up to five sectors: Electricity and Heat Production (incl. a risk-adjustment for new nuclear power), Manufacturing and Industry, Road Traffic, Residential Use and Buildings and Aviation with different proportions according to its worldwide relevance to climate change. Due to better data availability, for the first time both national and international aviation can be integrated.

Furthermore, we complemented the existing calculation method – relative development of the indicator over a period of 5 years – with a new one that is based on absolute development of per-capita emissions over the same period. Under the old calculation method a country that raised its per-capita emissions from 1 tonne to 2 tonnes scores the same as a country that increases from 2 to 4 tonnes. The new calculation method now assigns the same score to a country that raises its emissions from 1 tonne to 2 tonnes as to one that raises its emissions from 3 to 4 tonnes. Both calculation methods show a somewhat distorted picture of a country's performance according to a country's starting point. To level out these

² For further information, see Germanwatch e.V. (2012): "Methodology and Background". <http://germanwatch.org/en/ccpi>

distortions we decided to include both perspectives and combine them to one single indicator by normalization.

Efficiency

The underlying indicators for the efficiency category had been part of the CCPI before. However, we decided to assign them a more prominent role as it is an important factor in how humans can reduce their energy consumption. Efficiency is firstly measured by CO₂-emissions per unit of total energy supply. This indicator mainly reflects the structure and efficiency of the generation system and the chosen fuel mix. Secondly, it is measured by total primary energy supply per GDP in terms of purchase power parities. The latter indicator is more focused on the structure of the general economic system and its efficiency.

New to the CCPI edition of 2013 is that recent development of the respective efficiency indicators is also included. Recent development is much more sensitive to climate change policies and, therefore, helps to track climate change performance in this area more closely.

Renewable Energy

The substitution of fossil fuels by renewable energies is the second most prominent indicator, and equally important strategy towards a transformed economic system that is compatible with limiting global warming below 2°C. Renewable energies now contribute 10% to the overall score as opposed to 7% before. Most important for a thorough assessment of climate change performance is again the recent development of energy supply from renewable sources. The level of renewable energy supply is also included to compensate countries with an already existing high share that have less potential to further expand it.

Policy

Measures taken by governments to reduce CO₂ often take several years to show their effect on the emissions, efficiency and renewable energies indicators. The climate policy category is a means to mitigate this effect. Experts from the evaluated countries rate on the one hand policies and measures to promote renewable energies, to increase energy efficiency or for other CO₂ emission reductions in different sectors, and on the other hand the country's climate diplomacy considering its performance at international conferences.

This category has not been changed, either with regard to content or to its ratio in the index. For further information and a more detailed description of the methodology used, a detailed booklet about background and methodology of the Climate Change Performance Index 2013 is available.³

3. Deforestation

The conversion of forests to agricultural land is another important source of emissions. With the arrival of the new FAO Global Forest Resource Assessment in 2010, it is now, for the first time, possible to include emissions from deforestation. These data are included in two separate ways. Firstly, emissions from deforestation are added to the overall per-capita emissions and are included in this general indicator. Secondly, a separate indicator for per-capita emissions from deforestation is included, contributing 5% to the final ranking.

It is important to note, however, that the quality of the data is still behind that of energy-related emissions. Data is updated only every five years. Furthermore, it includes only emissions from living biomass, which account for roughly 45% of all emissions from deforestation. The remaining 55% that are not covered are emissions slowly released from soils after deforestation, as well as emissions from deadwood and litter.⁴

Emissions from forest degradation and drained peat lands remain excluded, as the availability of reliable data is still insufficient. As soon as there are better data available, we plan to include them in the CCPI.

³ <http://germanwatch.org/en/ccpi>

⁴ FAO (2010)