

THE CLIMATE CHANGE PERFORMANCE INDEX

A COMPARISON OF EMISSIONS
TRENDS AND CLIMATE PROTECTION
POLICIES OF THE TOP 56
CO₂ EMITTING NATIONS



CLIMATE CHANGE
PERFORMANCE
index
2007

GERMANWATCH



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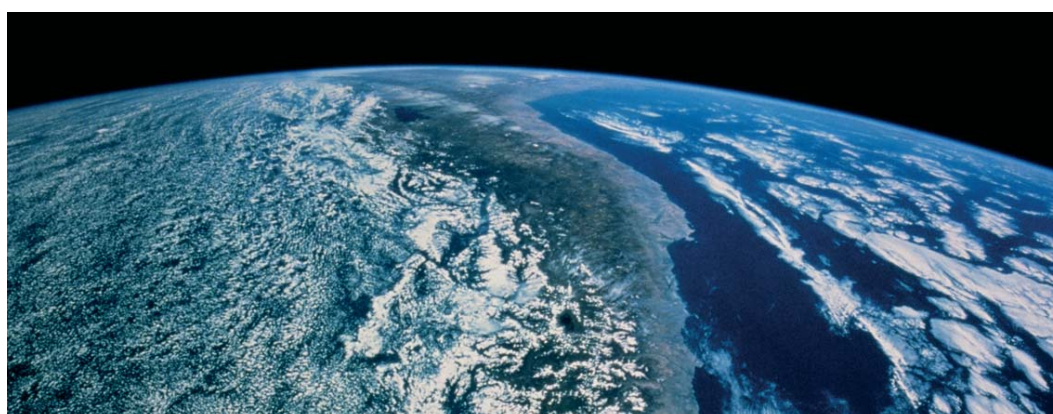
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WHICH COUNTRY DOES HOW MUCH TO PROTECT THE CLIMATE?

The **Climate Change Performance Index (CCPI)** is an innovative instrument that enhances transparency in international climate politics. On the basis of standardised criteria the index evaluates and compares the climate protection performances of the 56 countries that, together, are responsible for more than 90 percent of global energy-induced CO₂ emissions.¹

The objective of the index is to increase the political and societal pressure on those countries, which up to now have failed to take initiatives in climate

protection and which still neglect the importance of the issue.

The **overall results** (table 1) clearly show which countries have to go the longest way in order to catch up. But even countries which are ranking high have no reason to sit back and relax. On the contrary, the results illustrate that even if all countries engaged in the same manner current efforts would still be insufficient to prevent dangerous climate change. If climate change protection was an Olympic sport, no country

Table 1:

Overall Results Climate Change Performance Index 2007

CCPI Rank	Country	Score*	Single-Score		
			Trend	Level	Policy
1	Sweden	0.56			
2	United Kingdom	0.52			
3	Denmark	0.52			
4	Malta	0.49			
5	Germany	0.46			
6	Argentina	0.46			
7	Hungary	0.45			
8	Brazil	0.44			
9	India	0.41			
10	Switzerland	0.39			
11	Latvia	0.36			
12	France	0.35			
13	Romania	0.32			
14	Iceland	0.31			
15	Belgium	0.31			
16	Mexico	0.30			
17	Lithuania	0.21			
18	Morocco	0.20			
19	Portugal	0.18			

CCPI Rank	Country	Score*	Single-Score		
			Trend	Level	Policy
20	Norway	0.17			
21	Slovak Republic	0.16			
22	New Zealand	0.16			
23	Slovenia	0.16			
24	Bulgaria	0.10			
25	Czech Republic	0.10			
26	Japan	0.08			
27	Poland	0.08			
28	Singapore	0.06			
29	Netherlands	0.06			
30	Estonia	0.05			
31	Italy	0.05			
32	Turkey	0.01			
33	Ireland	-0.05			
34	Croatia	-0.07			
35	Algeria	-0.09			
36	Finland	-0.09			
37	Belarus	-0.12			
38	Spain	-0.15			

¹ Included are industrialised countries and countries in transition to market economies (Annex I countries of the Framework Convention on Climate Change) and all coun-

tries that cause more than one percent of the global CO₂ emissions.

would deserve to climb the winner's rostrum. Moreover, some of them benefit from specific external circumstances that can be considered fortunate from a climate change perspective.

For example, **emissions reductions** in some countries are mainly caused by the breakdown of ailing industries after the breakup of the USSR or the replacement of inefficient coal and brown coal industries. And in some cases, e.g. that of front-runner Sweden, a country's energy supply mix is affected by its advantaged initial position for the use of renewable energies.

In order to moderate the impact of these aspects on the index evaluation the CCPI takes a country's changes in actual emissions – the emissions trend – with a weighing of 50 percent and its climate policy with a weighing of 20 percent into account. Thereby the index also reflects developments in domestic climate policy. Governments that rest on their laurels will have to face a drop in their position in next year's country ranking!

Moreover, a country's current positive recognition in the CCPI could not be maintained if government decided to increase the use of coal due to rising gas and oil prices and concerns about energy safety. A strategy of this kind represents a step back from sustainable climate policy and shows its negative effects on a country's index evaluation. Despite the significance of the emissions trend for the evaluation the absolute level of emissions must not be neglected. A country's total energy-induced CO₂ emissions reflect the starting point for emissions reductions. Thus, the index recognises that countries with initially low emissions levels should not be punished for having less capability for further reductions.

Particularly alarming is the poor performance of most of the ten largest CO₂ emitters (table 2). These countries account for more than 60 percent of global CO₂ emissions. Their future willingness and ability to pursue a sustainable climate policy will therefore be an important requirement to avoid a highly dangerous level of climate change.

CCPI Rank	Country	Score*	Single-Score		
			Trend	Level	Policy
39	Austria	-0.16			
40	Cyprus	-0.18			
41	Greece	-0.28			
42	Russian Fed.	-0.29			
43	Indonesia	-0.31			
44	Ukraine	-0.33			
45	Luxembourg	-0.34			
46	South Africa	-0.36			
47	Australia	-0.45			
48	Korea, Rep.	-0.48			
49	Iran	-0.49			
50	Thailand	-0.49			
51	Canada	-0.55			
52	Kazakhstan	-0.56			
53	USA	-0.59			
54	China	-0.65			
55	Malaysia	-0.74			
56	Saudi Arabia	-0.78			

* rounded © Germanwatch 2007



Table 2:
Index ranking of the 10 largest CO₂ emitters

Country	Share of the Global CO ₂ Emissions* in Percent	CCPI-Rank 2007 (2006)
United Kingdom	2.02 %	2. (3.)
Germany	3.19 %	5. (5.)
India	4.15 %	9. (10.)
Japan	4.57 %	26. (34.)
Italy	1.74 %	31. (38.)
Russian Fed.	5.75 %	42. (48.)
Korea, Rep.	1.74 %	48. (49.)
Canada	2.07 %	51. (46.)
USA	21.82 %	53. (52.)
China	17.94 %	54. (29.)

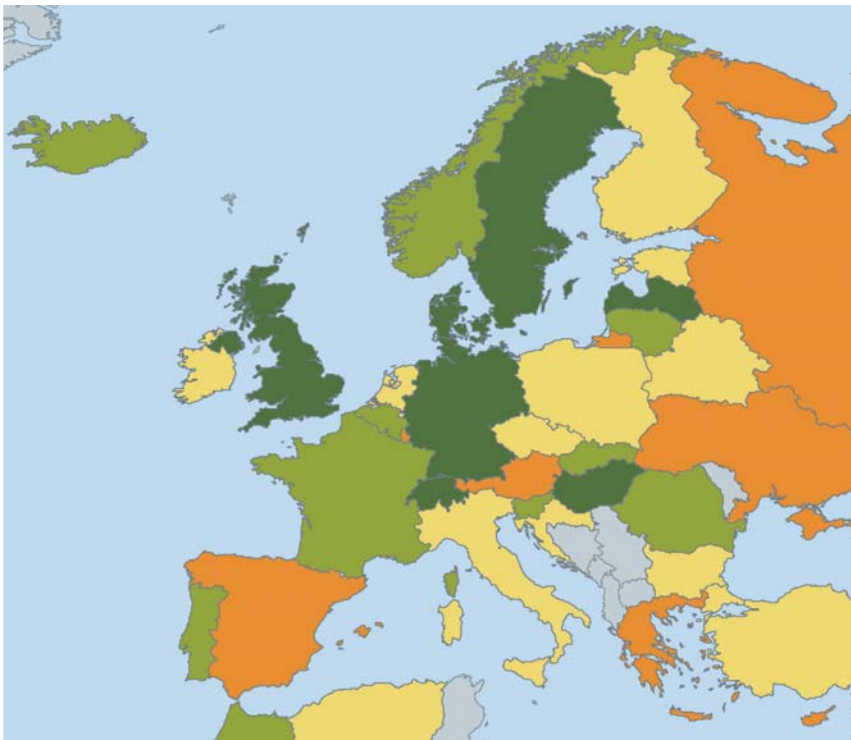
© Germanwatch 2007 *energy related

Figure 1

World map: Climate Change Performance Index 2007

The world map shows that Europe is still at the forefront of climate protection although by now also emerging nations such as Mexico, Brazil and India belong to the top flight. However, it is clearly illustrated that effective climate protection is not exercised yet in large parts of the world including Canada, the U.S.A., Russia and China. Particularly Canada's climate policy has more and more deviated from the necessary reduction targets as stated in the UN Convention on Climate Change since government changed in January 2006. In April 2007 Canada officially abandoned its international commitments under the Kyoto protocol and announced individual and less ambitious emission reductions².

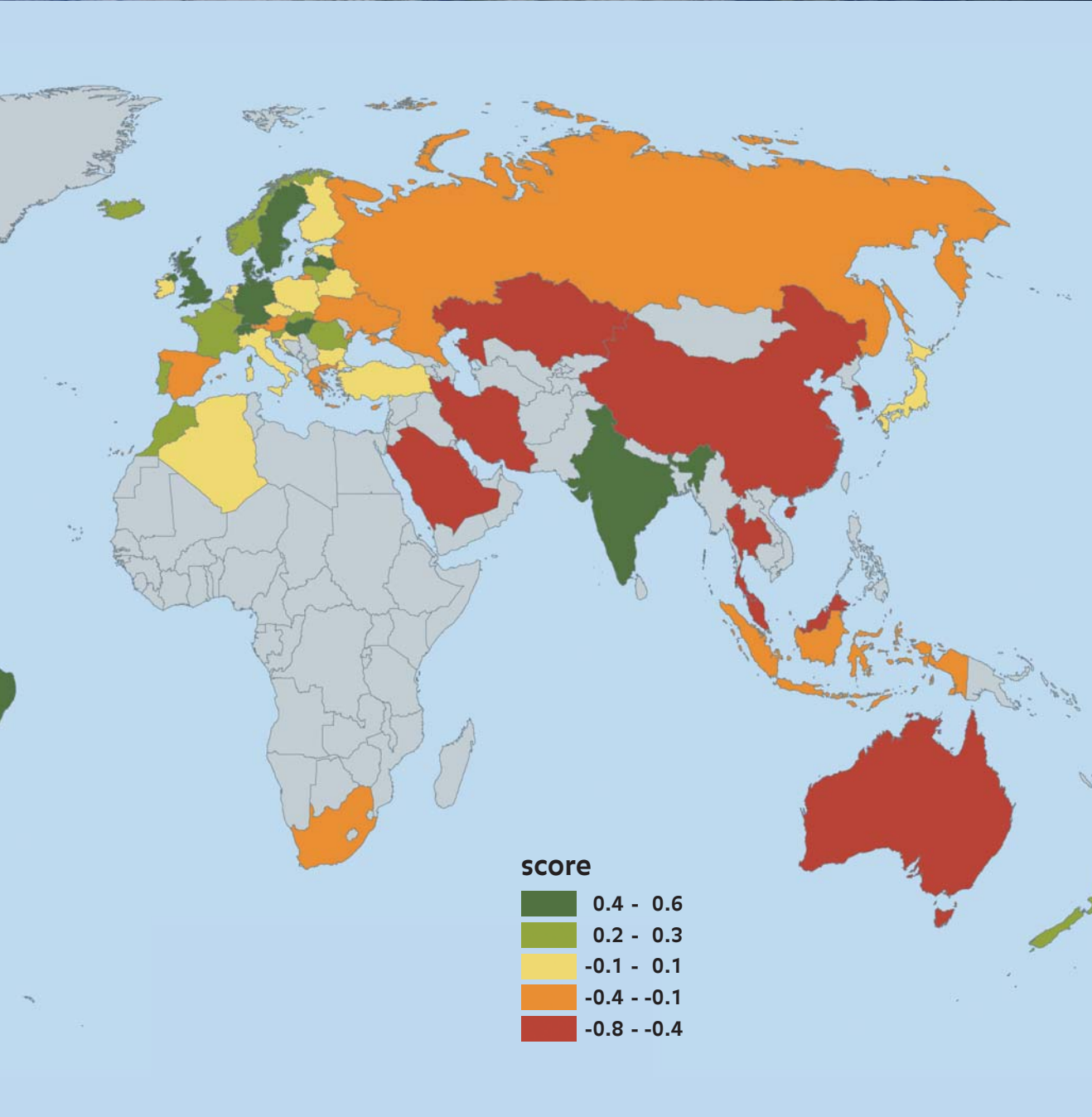
It remains to be seen if the protocol's mechanism of incentives and sanctions will ensure Canada's compliance to the internationally binding treaty. The Canadian government was already sued by an environmental organisation which thereby initiated the first lawsuit due to a violation of the Kyoto protocol³.



² Instead of reducing emissions by 6 percent as compared to 1990 until 2012 the Canadian government now aims at reducing emissions by 20 percent as compared to 2006 until 2025. In the time period from 1990 to 2004 energy-

related greenhousegas emissions in Canada increased by more than 28 percent.

³ Friends of the Earth Canada see www.foecanada.org and Sierra Legal, see www.sierralegal.org.



1. WHAT IS THE PURPOSE OF THE CCPI?

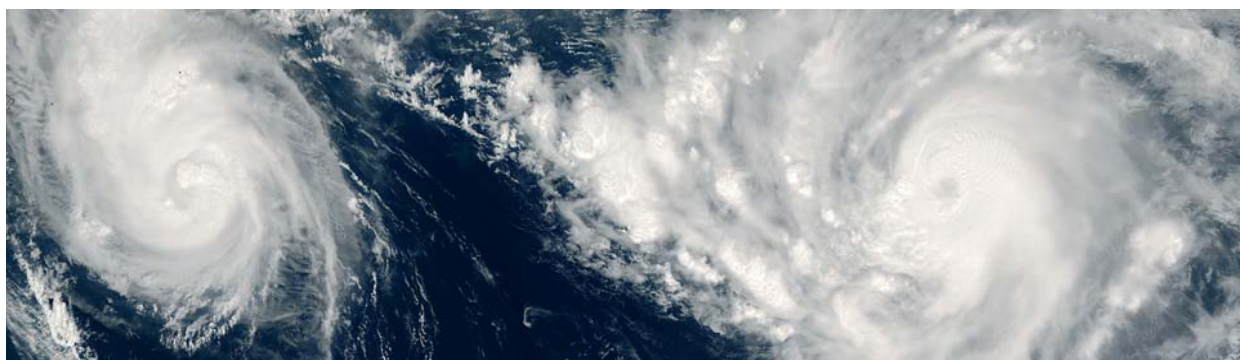
According to Article 2 of the UN Convention on Climate Change all of the countries considered in the CCPI are obliged to prevent highly dangerous climate change. This goal should be achieved in compliance with the principle of common but differentiated responsibilities of industrial and developing countries. The two-degree-limit for global warming is of particular importance in this context since it was adopted by the EU as a quantitative target for its climate change policy on the basis of several scientific studies⁴. If the increase of average global temperature stays below this limit the danger of uncontrollable major risks will be significantly reduced⁵. The German Advisory Council on Global Change (WBGU) therefore recommends that international climate policy must be targeted on ensuring a maximum CO₂ equivalence level of 450 ppm (parts per million) in the atmosphere in order to avoid exceeding the two-degree limit⁶.

This implies that by the middle of this century, CO₂ emissions must be reduced worldwide by 45 to 60 percent and in industrialised countries by 80 percent as compared to the levels of 1990.

The Climate Change Performance Index annually compares how far different countries have come on their way to this “olympic goal”.

The trend in greenhouse gas emissions as well as the climate policy of the countries can be analysed and compared to each other at a glance.

The CCPI enhances transparency and we are glad to see that it applies pressure on governments and gives them an incentive to get active in the combat against dangerous climate change.



2. HOW DOES THE CCPI WORK?

The CCPI contains three partial ratings that are added up to form a differentiated picture of the climate change performance of the evaluated countries.

- First, it rates the per-capita emissions trend of the previous years. The emissions are measured in four economic sectors⁷: energy, transport, residential and industrial. Each sector is examined individually.
The evaluation of emissions trends provides 50 percent of a country's final rating.

- Second, it shows the absolute, energy-related CO₂ emissions of a country⁸ taking its particular situation into account
A country's current emissions level is given a 30 percent weight in the overall evaluation.

- Third, it evaluates a country's domestic as well as international climate policies.
National and international climate policies account for 10 percent each of a country's total CCPI score.

⁴ As compared to pre-industrial levels.

⁵ Already today an increase of 0.75 degrees is observable. (IPCC, 2007a).

⁶ For comparison: In 1900, the CO₂ equivalent level in the atmosphere was equal to 280 ppm, in 2005 it was 379 ppm (IPCC, 2007a).

⁷ Sectors according to the IPCC Guidelines for National Greenhouse Gas Inventories.

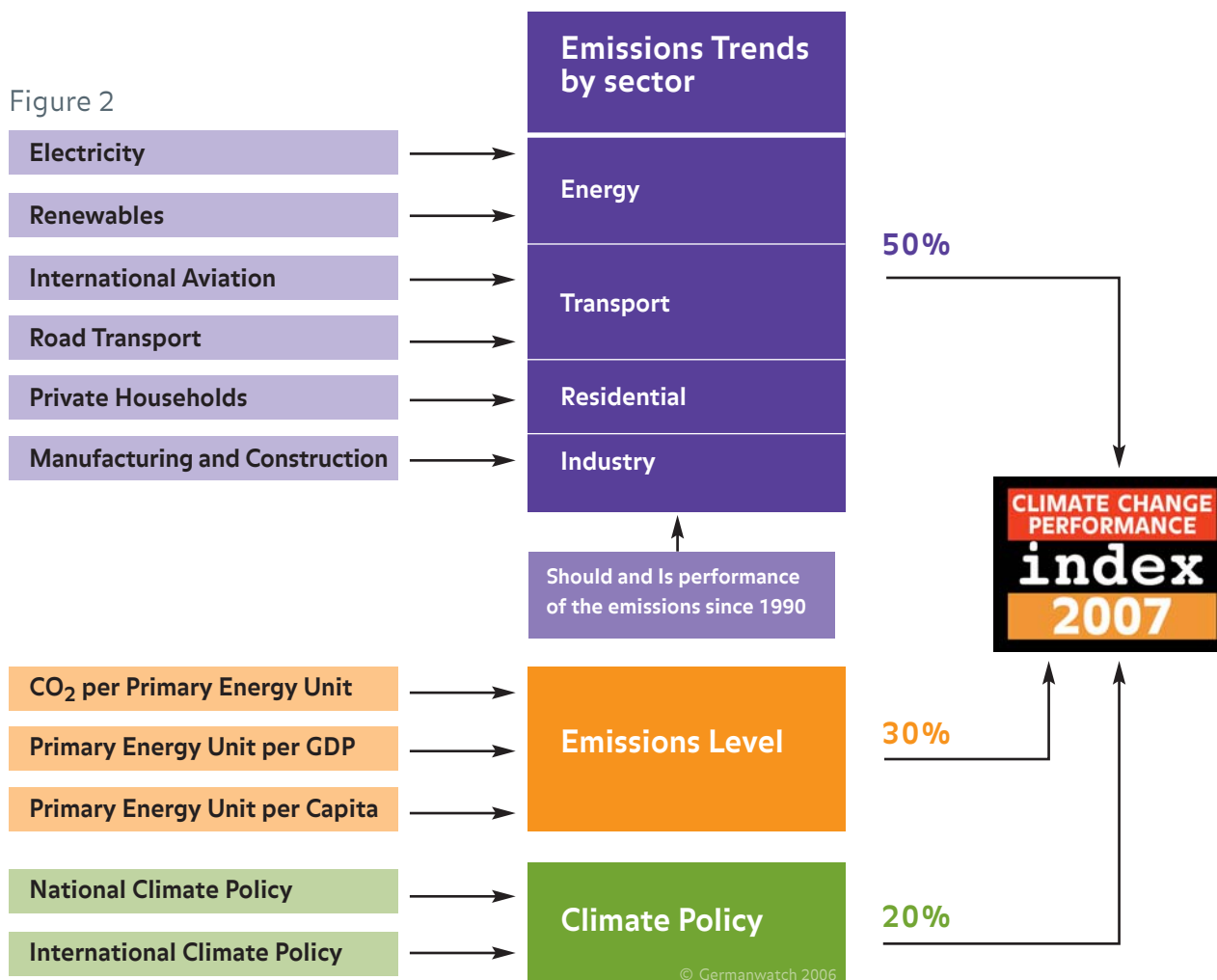
⁸ The influence of deforestation on CO₂ emissions could not be taken into account due to the uncertain data base.

Since emissions trend and climate policies determine 70 percent of the final evaluation a dedicated climate protection policy over a couple of years can lead a country to the top flight of the ranking. However, a high position can only be achieved if the present level of emissions is rather satisfying. After all, the current state accounts for almost one third of the total score, which prevents countries with very high emissions levels from being rated too positively.

If, on the other hand, the current state was given more weight there would hardly be any changes in the country ranking over the course of one or two years since absolute emissions adjust slowly. Additionally, it would take years until a country with an unfortunate starting position benefits from its committed climate policies in the CCPI ranking.

The data used in the CCPI are taken from the International Energy Agency (IEA) and they allow for a thorough comparison between countries. They are complemented by a qualitative assessment of national and international climate policies for each country, which is based on interviews with worldwide experts on climate change. In preparation for the CCPI 2007, 53 experts reviewed their governments initiatives regarding climate protection. The scientists and NGO-representatives commented on the central measures that are taken to reduce emissions within the sectors energy, transportation, residential and manufacturing. A progressive climate policy therefore directly affects a country's rating, while the actual impacts on emissions trends often only become visible after a few years. The individual indicators which are included into the calculation of the CCPI are described in detail on the following pages.

Figure 2



2.1 Emissions trend (50%)

Effective political or economic measures that aim at reducing CO₂ emissions ultimately have an impact on the sectors they are targeting. Hence, the CCPI quantifies the development of the trend of CO₂ emissions in the energy, transport, residential and industrial sectors. More precisely, this development is measured through a comparison of the average emissions between the periods 1998- 2000 and 2002-2004.⁹

For calculating CO₂ emissions in the individual sectors the following indicators are used

■ Energy:

Emissions resulting from electricity generation are evaluated in this sector. Since nuclear power is a risky energy source¹⁰, nuclear energy is evaluated with CO₂ risk equivalent per energy unit. These equivalents match the CO₂ emissions of an efficient coal-fired power plant. This is to avert a positive effect from the construction of new nuclear power plants in upcoming

CCPI editions. Furthermore, a country that abandons nuclear energy only receives a good rating if it substitutes its nuclear energy with low-CO₂ alternatives. Because of its essential importance for sustainable emissions reduction, the share of renewable energies is considered separately.

■ Transport:

Here, the CO₂ emissions from road traffic and - according to the climate impact¹¹- international aviation are included.

■ Residential:

In this sector, the energy used for the heating of buildings is considered. It therefore reflects among others the emissions that are caused by heating and hot water supply of private households (if not electrically operated)

■ Industrial:

Here, the CO₂ emissions from the manufacturing and construction industries are included.

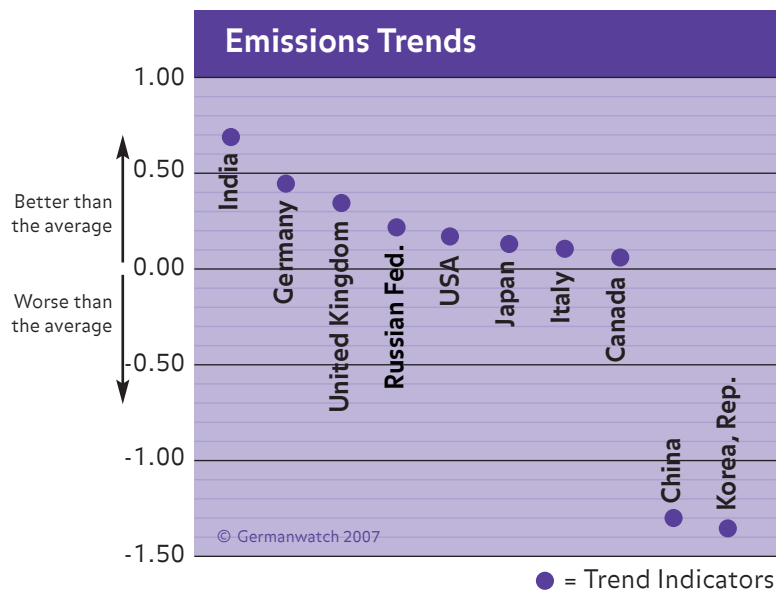


Figure 3:

The figure shows the sectoral per-capita emissions trends of the ten largest CO₂ emitters. The comparison between target and actual performance is included (see "Weighting of trend indicators"). India has the best rank, primarily because its emissions increased less than the allotted target even though it experienced a strong population growth.

Weighting the Trend Indicators

The trend indicators account for 50 percent of the CCPI score. This indicator category is further divided into two aspects: First the raw data of the actual trend, which accounts for 35 percentage points and second a comparison between a target trend and the actual trend, which accounts for 15 percentage points. The "target-performance comparison" recognises the fact that the analysed countries have different climate protection responsibilities depending on their state of development (see UN Convention on Climate Change, Article 2).

The individual sectors' shares in the assessment of the actual trend are determined by their relevance for climate change. For example, the electricity sector causes about 40 percent of energy-related global CO₂ emissions. The transport, residential and industrial sectors cause about 20 percent each. These contributions of different sectors to total global CO₂ emissions are reflected in the weighting scheme of the trend indicators (see figure 4 on the following page).

The target-performance comparison is used to adjust the assessment of the actual trend. It compares the trend of actual per-capita CO₂ emissions

⁹ Calculating with periods has the advantage that extreme values are averaged.

¹⁰ Hohmeyer (1989).

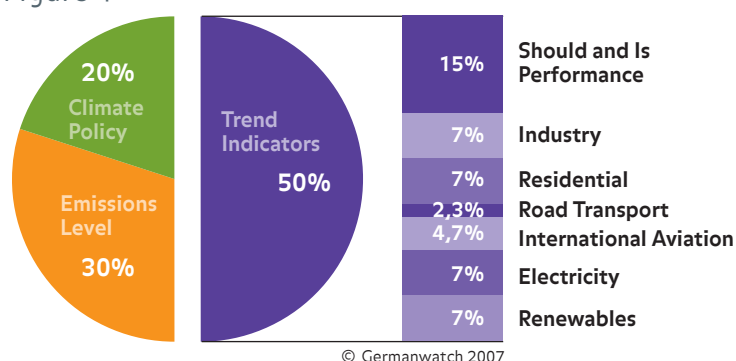
¹¹ The additional impacts of air traffic on the atmosphere (e.g. through condensation trails) are taken into consideration in the evaluation.

between 1990 and 2004 with the "desired" target trend for the same period. This desired target trend was calculated by using a scenario developed by the IPCC, the central UN panel of climate scientists from all over the world.¹² According to this scenario, the CO₂ equivalence concentration of 450 ppm in the atmosphere is not exceeded; global warming would thus remain below the two-degree limit with a relatively high probability. As suggested by the WGBU, the development path towards that aim is calculated according to the principle of "common but differentiated responsibilities" in a way that per-capita emissions of all countries gradually converge until the year 2050, that industrialised countries hence reduce their CO₂ emissions twice as fast as the rapidly developing countries.

In other words:

By making a target-performance comparison, the CCPI grants temporary emission allowances to fast developing countries without losing sight of the ultimate objective to reduce CO₂ emissions.

Figure 4



Furthermore, it particularly rewards those countries that have reduced their emissions according to or even beyond their Kyoto commitments since 1990. China's poor performance in the index rating as compared to other emerging markets such as Brazil or India is partly due to the fact that China's emissions development already exceeds the "acceptable degree".

2.2 Emissions Levels (30%)

The following table displays the share of the ten largest CO₂ emitters in terms of global CO₂ emissions, gross domestic product (GDP), energy

consumption and population, and their rank in the CCPI.

Table 3: Key Data for the 10 Largest CO₂ Emitters

Country	CCPI Rank 2007	CCPI Rank (2006)	Share of the Global CO ₂ Emissions*	Share of the Global Primary Energy Supply	Share of the Global GDP	Share of the Global Population
United Kingdom	2.	(3.)	2.02%	2.08%	3.18%	0.94%
Germany	5.	(5.)	3.19%	3.10%	4.13%	1.30%
India	9.	(10.)	4.15%	5.10%	5.96%	17.00%
Japan	26.	(34.)	4.57%	4.75%	6.56%	2.01%
Italy	31.	(38.)	1.74%	1.64%	2.86%	0.92%
Russian Fed.	42.	(48.)	5.75%	5.72%	2.50%	2.26%
Korea, Rep.	48.	(49.)	1.74%	1.90%	1.76%	0.76%
Canada	51.	(46.)	2.07%	2.40%	1.81%	0.50%
USA	53.	(52.)	21.82%	20.72%	20.47%	4.63%
China	54.	(29.)	17.94%	14.49%	13.81%	20.51%
Total			64.99%	61.90%	63.04%	50.83%

*energy related

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¹² IPCC Scenario SRES B1 9

The following indicators of emissions levels refer to these key data.

A country's CO₂ emissions are seen in relation to these factors. Moreover, the energy efficiency of a country is assessed, resulting in the following three emissions level indicators:

- CO₂ emissions per primary energy unit
- Primary energy consumption per unit of GDP
- Primary energy consumption per capita

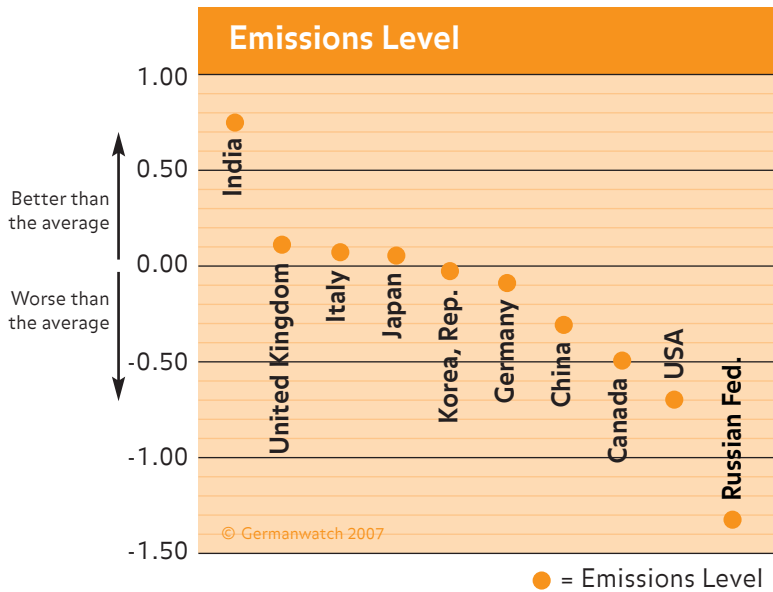


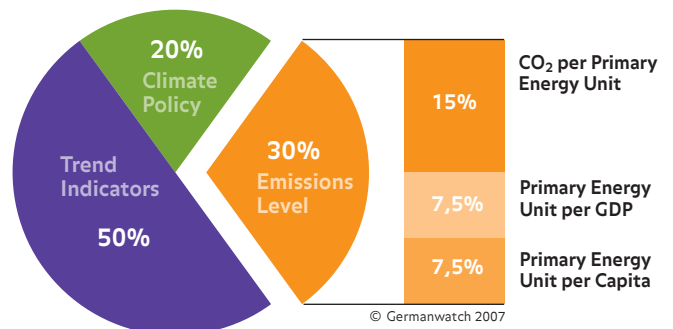
Figure 5: The illustration above shows how the ten largest CO₂ emitters rank in relation to the average of all the examined countries. Again, India ranks at the top with emissions level indicators that are much better than average, while Russia brings up the rear in this assessment.

Weighting the Emissions Level

The emissions levels indicators account for 30 percent of the total CCPI score. The pie chart below shows how they are considered in the overall assessment.

The selection and weighting of the three indicators ensures that none of the four components in this calculation are considered double.

Figure 6:



2.3 Climate policy (20%)

These indicators consider the fact that measures taken for CO₂ reduction often need several years to show their full effect. Furthermore, the most current CO₂ emissions data are about two years old since it takes time to attain a thorough collection of information. However, the assessment of climate politics is as up to date as possible. It is thereby avoided that new governments which induce a change in climate policy benefit or suffer from the consequences of the precedent administration.

A comprehensive annual research study, which is mainly based on an assessment by the country experts, provides an up-to-date evaluation of national climate policy for each country with regard to the different sectors energy, industry, transport and residential. By taking a country's current climate policy into account the CCPI rewards political measures that entail emissions reductions immediately. Both the evaluation of a country's domestic efforts and its role played in international climate negotiations influence the final ranking. Without a strong, internationally coordinated climate policy, chances are low that ambitious climate protection targets will be achieved.

Weighting the Climate Policy

The climate policy of the evaluated countries accounts for 20 percent of the CCPI score. Here national and international activities are weighted with 10 percent respectively. At first glance, this does not seem to be very much. Nevertheless, this partial rating may significantly influence a country's final result. While emissions levels can only be lowered step by step - thus an improvement of the balance takes some time - switching to a responsible climate policy can improve the overall evaluation much faster. For example, the United States' blocking of climate policy lowers its ranking position significantly so that they are ranked last on position 56. The U.K., on the other hand, has been playing a strong role in climate protection for years and its evaluation benefits from these constant efforts. If the U.S. government actually took a leading role in global climate politics as claimed by President Bush, the country could improve by up to 20 positions. Moreover,

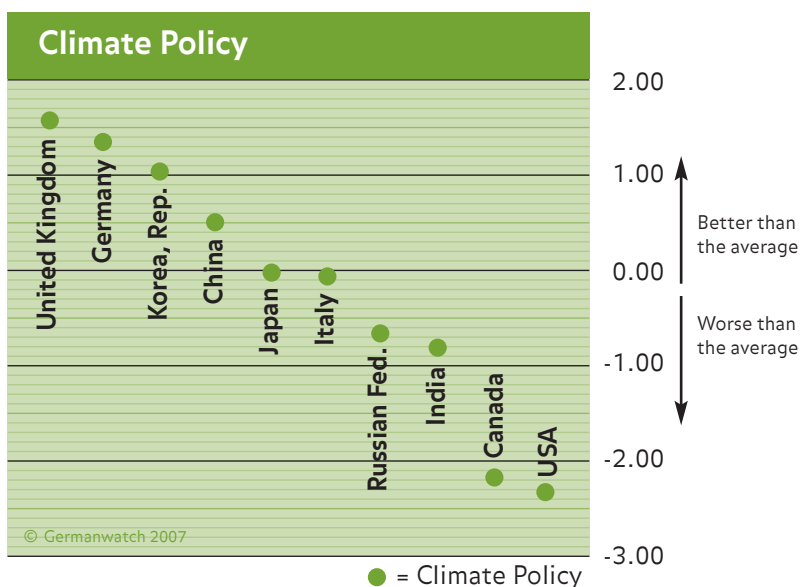
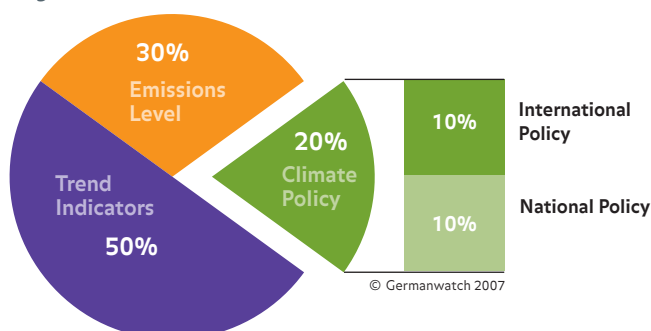


Figure 7: The figure shows how differently experts rated the national and international climate policy of the ten largest CO₂ emitters. China's relatively good result is remarkable. It can be explained by its recently strong domestic and international engagement for renewable energy, the new climate protection regulations in the transport sector and its nowadays relatively constructive role in the UN climate negotiations.

this partial rating is crucial for a country's ranking in upcoming editions of the CCPI because only an active climate policy today enables the realization of a lower level of CO₂ emissions in the future and thereby the creation of a positive trend. The effectiveness of a climate policy must be measured by its ability to affect emissions trends.

Figure 8:



3. COUNTRY COMPARISON: GERMANY – USA

The following exemplary calculations for Germany and the USA illustrate that the CCPI provides a differentiated analysis in each of the three evaluation categories. It is important that the final result of the CCPI is calculated based on the average score, not the average rank. That is why particularly positive or negative scores in single categories influence the final result to a great extent. While the ranking only illustrates the ordinal hierarchy of the countries' performances, it does not reveal information about how strongly performances differ between two countries. This can only be obtained from the actual scores. Consequently the ranks regarding particular indicators may vary quite significantly from the final result. Examples for single results that have a major impact are the immensely high primary energy use per capita in the United States or the highly positive evaluation of Germany's international climate policy.

It is also interesting to analyse how countries are ranked in the particular sub-categories. In the case of Germany, the trend in the transport sector

is quite positive and in fact Germany is one of the very few industrialised countries that were able to reduce their emissions in this sector.¹³ Since the substantial increase in oil prices influenced each country in a similar way it can be argued that the German Eco-Tax, which was introduced in 1998, caused the slight decline of emissions. However, this positive effect can partly be traced back to "fuel tourism".¹⁴ Hence, the positive tendency in Germany should not detract from the larger reduction potential that could be realized in this sector through higher energy efficiency. Possible measures are the further promotion of railway transportation as well as a motor vehicle tax that considers CO₂ emissions. Particularly reforming depreciation rules for company cars could have a drastic impact on German traffic emissions.

The CCPI also points out that there is an increasing need for action in the German residential sector. Measures like the enhancement of efficiency, better isolation and the usage of thermal power plants that are powered by renewable energy are promising options. The "Development Loan

Table 4: Germany

		Indicator	Score	Rank	Weight	Rank
Emissions Levels		CO ₂ per TPES-Unit	- 0.33	39	15%	33
		TPES per GDP-Unit	0.59	18	7,5%	
		TPES per Capita	- 0.26	39	7,5%	
Sectoral Emissions Trends	Energy	Electricity	0.69	15	7%	8
		Renewables	0.39	14	7%	
	Transport	International Aviation	0.18	28	4,66%	
		Road Traffic	1.22	5	2,33%	
	Residential	Private Households	0.19	27	7%	
	Industry	Manufacturing and Construction	0.27	18	7%	
Should/Is development since 1990			0.46	17	15%	
Climate Policy		International	1.39	6	10%	3
		National	1.29	9	10%	
Total			0.46		100%	5

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¹³ Between the periods 1998-2000 and 2002-2004, emissions declined by 6.4 percent.

¹⁴ "Fuel tourism", which means the crossing of national borders to buy cheaper gas, was one of the reasons why the transport emissions of Austria increased by 25, 26 per cent over the same time period.

Corporation" that was launched in 2001 offers financial support for real estate owners who plan to renovate their buildings in order to increase energy efficiency. In 2006, the programme's financial support was enhanced. Moreover, the introduction of energy passes for buildings which is part of the programme to reduce residential

emissions from 2005, should give incentives to decrease energy consumption and promote transparency for potential tenants and buyers. We will see if these initiatives by the German government will show positive effects in future editions of the CCPI.

Table 5: USA

		Indicator	Score	Rank	Weight	Rank
Emissions Levels		CO ₂ per TPES-Unit	-0.45	40	15%	50
		TPES per GDP-Unit	0.03	36	7,5%	
		TPES per Capita	-1.89	53	7,5%	
Sectoral Emissions Trends	Energy	Electricity	0.75	9	7%	25
		Renewables	0.14	28	7%	
	Transport	International Aviation	0.82	8	4,66%	
		Road Traffic	0.47	22	2,33%	
	Residential	Private Households	0.29	19	7%	
	Industry	Manufacturing and Construction	0.05	25	7%	
Should/Is development since 1990			-0.35	38	15%	
Climate Policy		International	-2.06	56	10%	56
		National	-2.59	56	10%	
Total			-0.59		100%	53

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Although only 4.6 percent of global population live in the USA, more than 21 percent of global CO₂ emissions are caused in this country. The share in global primary energy consumption is equally high and therefore the USA only ranks on position 53 in this evaluation category. Germany as well performs poorly regarding this indicator: Per capita energy consumption is above average so that the country ends up on position 39. However, a simple calculation shows that lowering the per capita energy use in the USA to the German level would entail a drop in global energy demand by almost 10 percent¹⁵. Since energy

production in the USA causes above-average CO₂ emissions per unit, energy savings of this scale would make a significant contribution to global climate protection. Unfortunately, the present government is not ambitious of meeting this challenge. The world's biggest CO₂ emitter is not committed to protecting the climate - neither on a national nor an international level. Thereby the USA also blows its chance to improve its evaluation in the CCPI's final results because only a constructive political approach could help to compensate for the country's high absolute emissions level.

¹⁵ Own calculations based on IEA data.

4. CLIMATE CHANGE PERFORMANCE INDEX BY COUNTRY GROUP

The following tables show countries categorised by groups which permit a comparison of emitters with more or less similar basic conditions. Compared are OECD member states (table 6),

EU member states (table 7) as well as transition countries (table 8), Newly Industrialising Countries (table 9) and ASEAN member states (table 10).

Table 6: Climate Change Performance Index for OECD Member Countries

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
1.	Sweden	0.56	19.	Portugal	0.18	33.	Ireland	-0.05
2.	United Kingdom	0.52	20.	Norway	0.17	36.	Finland	-0.09
3.	Denmark	0.52	21.	Slovakia	0.16	38.	Spain	-0.15
5.	Germany	0.46	22.	New Zealand	0.16	39.	Austria	-0.16
7.	Hungary	0.45	25.	Czech Republic	0.10	41.	Greece	-0.28
10.	Switzerland	0.39	26.	Japan	0.08	45.	Luxembourg	-0.34
12.	France	0.35	27.	Poland	0.08	47.	Australia	-0.45
14.	Iceland	0.31	29.	Netherlands	0.06	48.	Korea, Rep.	-0.48
15.	Belgium	0.31	31.	Italy	0.05	51.	Canada	-0.55
16.	Mexico	0.30	32.	Turkey	0.01	53.	USA	-0.59

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Members of the Kyoto Protocol Without Kyoto Commitment Refused to Ratify the Kyoto Protocol

Table 7: Climate Change Performance Index for EU Member Countries

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
1.	Sweden	0.56	17.	Lithuania	0.21	33.	Ireland	-0.05
2.	United Kingdom	0.52	19.	Portugal	0.18	36.	Finland	-0.09
3.	Denmark	0.52	21.	Slovakia	0.16	38.	Spain	-0.15
4.	Malta	0.49	23.	Slovenia	0.16	39.	Austria	-0.16
5.	Germany	0.46	25.	Czech Republic	0.10	40.	Cyprus	-0.18
7.	Hungary	0.45	27.	Poland	0.08	41.	Greece	-0.28
11.	Latvia	0.36	29.	Netherlands	0.06	45.	Luxembourg	-0.34
12.	France	0.35	30.	Estonia	0.05			
15.	Belgium	0.31	31.	Italy	0.05			

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Table 8: Climate Change Performance Index for Countries in Transition

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
7	Hungary	0.45	23	Slovenia	0.16	34	Croatia	-0.07
11	Latvia	0.36	24	Bulgaria	0.10	37	Belarus	-0.12
13	Romania	0.32	25	Czech Republic	0.10	42	Russian Fed.	-0.29
17	Lithuania	0.21	27	Poland	0.08	52	Kazakhstan	-0.56
21	Slovakia	0.16	30	Estonia	0.05			

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Table 9: Climate Change Performance Index for Newly Industrialising Countries

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
6	Argentina	0.46	28	Singapore	0.06	49	Iran	-0.49
8	Braszil	0.44	43	Indonesia	-0.31	50	Thailand	-0.49
9	India	0.41	46	South Afrika	-0.36	54	China	-0.65
16	Mexico	0.30	48	Korea, Rep.	-0.48	55	Malaysia	-0.74

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Table 10: Climate Change Performance Index for ASEAN Member Countries plus India, China, Japan and Korea, Republic

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
9	India	0.41	43	Indonesia	-0.31	54	China	-0.65
26	Japan	0.08	48	Korea, Rep.	-0.48	55	Malaysia	-0.74
28	Singapore	0.06	50	Thailand	-0.49			

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5. FUTURE PROSPECTS

The Climate Change Performance Index (CCPI) was introduced to a professional audience for the first time at the 11th global climate summit in Montreal 2005 (COP11 of the United Nations Framework Convention on Climate Change). The feedback received from the international experts was included in the final version. The growing importance of the index was obvious in the following year at the COP 12 in Nairobi when journalists from around 70 countries reported on the presentation of its second edition. On the occasion of the G8 summit in Heiligendamm a special edition of the index was published including an updated assessment of the 13 participating countries. Through the introduction of a newly developed indicator the assessment of the governments' international climate protection efforts in preparation for the summit could be included into the final evaluation¹⁶.

The CCPI, however, is not intended to be used only by experts, but by everybody. It helps to shed light on the shared responsibilities, kept and broken promises, and encouraging first steps towards effective international climate politics.

We hope that the CCPI provides an incentive to significantly intensify climate protection efforts. In the future, the index will be presented annually at the beginning of the global climate summit.

We would be pleased to give you more detailed information about the possibilities with regard to a specific analysis for a particular country. Moreover, you are welcome to sign up to our mailing list, which provides information on further developments of the CCPI.

If you are interested, please call **+49-228-60492-21** or send an e-mail to **burck@germanwatch.org**.

¹⁶ The G8+5 Climate Change Performance Index can be downloaded from: <http://www.germanwatch.org/klima/g8ksi07.pdf>.

6. ANNEX: METHOD USED FOR DEVELOPING THE CCPI

The method used for developing the CCPI is based on an OECD guidance for creating performance indicators.¹⁷ For the standardisation of the particular indicators the “standard deviation from the average value” was used.

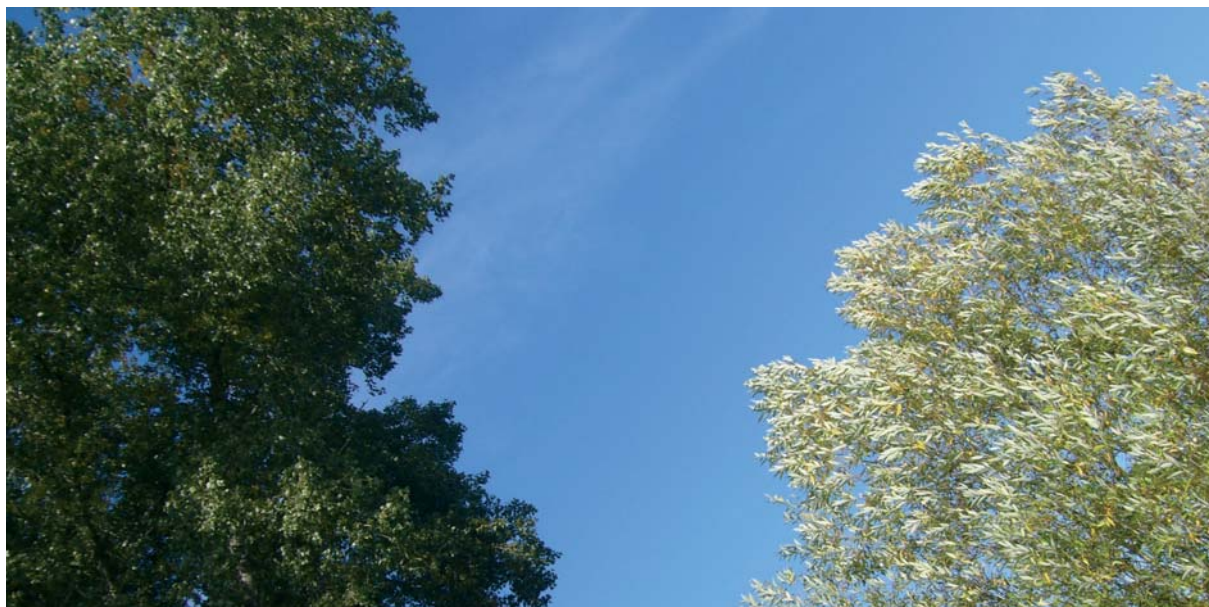
$$\text{Score} = \left(\frac{\text{actual value} - \text{average value}}{\text{standard deviation}} \right)$$

This method of normalisation is convenient for the comparison of a large number of countries because it circumvents extreme values that would hamper the calculation.

In terms of the CCPI score, 0 indicates the average of all countries in a category. Positive values show an above-average performance, negative values a below-average performance. The following formula was used for calculating the final result of the CCPI:

$$I = \sum_{i=1}^n w_i X_i \quad \mathbf{I}: \text{CCPI}, \mathbf{X}_i: \text{normalised variable}$$

w_i : weight of the X_i , $\sum_{i=1}^n w_i = 1$ and $0 \leq w_i \leq 1$,
 $i: 1, \dots, n$.



7. ADDITIONAL LITERATURE AND DATA SOURCES



- BP (2006): Statistical Review of World Energy.
<http://www.bp.com/genericsection.do?categoryId=92&contentId=7005893> ja
- CDIAC (2006): Online Trends. A Compendium of Data on Global Change. Atmospheric Carbon Dioxide and Carbon Isotope Records. <http://cdiac.esd.ornl.gov/trends/co2/contents.htm>
- Freudenberg (2003): Composite Indicators of Country Performance: A Critical Assessment. STI Working Paper 2003/16. Paris.
- Germanwatch (2005): Globaler Klimawandel: Ursachen, Folgen, Handlungsmöglichkeiten.
<http://www.germanwatch.org/rio/klima05.htm>
- Hohmeyer, O. (1989): Soziale Kosten des Energieverbrauchs: externe Effekte des Elektrizitätsverbrauchs in der Bundesrepublik Deutschland. Springer, Berlin/Heidelberg.
- IEA (2006a): CO₂ Emissions from Fuel Combustion. Paris.
- IEA (2006b): Renewables Information. Paris.
- IPCC (1997): Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories.
<http://www.ipcc-nggip.iges.or.jp/public/public.htm>
- IPCC (2007a): Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.
- IPCC (2007b): Climate Change 2007: Mitigation of Climate Change. Summary for Policymakers. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.
- Meinshausen (2005): On the risk of overshooting 2°C. Paper presented at Scientific Symposium "Avoiding Dangerous Climate Change", MetOffice, Exeter, 1-3 February 2005.
http://www.pik-potsdam.de/~mmalte/simcap/publications/meinshausenm_risk_of_overshooting_final_webversion.pdf
- Schellnhuber, H. J. (Hrsg.) (2006): Avoiding Dangerous Climate Change. Cambridge University Press, Cambridge.
<http://www.pik-potsdam.de/members/cramer/pdfs/avoidingdangerousclimatechange.pdf/view>
- UNFCCC (2005): Key GHG Data. Bonn.
- WBGU (2003): Über Kyoto hinausdenken - Klimaschutzstrategien für das 21. Jahrhundert, Sondergutachten, Berlin. http://www.wbgu.de/wbgu_sn2003.html
- WMO (2007): WMO statement on the status of the global climate in 2006.
http://www.wmo.int/pages/publications/showcase/documents/WMO_1016_E.pdf
- WRI (2005a): CAIT: Greenhouse Gas Sources & Methods. <http://cait.wri.org>
- WRI (2005b): CAIT: Indicator Framework Paper. <http://cait.wri.org>

GERMANWATCH

We are an independent, non-profit and non-governmental North-South Initiative. Since 1991, we have been active on the German, European and international level concerning issues such as trade, environment and North-South relations. Complex problems require innovative solutions. Germanwatch prepares the ground for necessary policy changes in the North which preserve the interests of people in the South. On a regular basis, we present significant information to decision-makers and supporters. Most of the funding for Germanwatch comes from donations, membership fees and project grants.

Our central goals are:

- Effective and fair instruments as well as economic incentives for climate protection
- Ecologically and socially sound investments
- Compliance of multinational companies with social and ecological standards
- Fair world trade and fair chances for developing countries by cutting back dumping and subsidies in world trade.

You can also help to achieve these goals and become a member of Germanwatch or support us with your donation:

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