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REPORT

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ECOFYS

EXECUTIVE SUMMARY

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CLIMATE POLICY TRACKER

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FOR THE EUROPEAN UNION

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EXECUTIVE SUMMARY

Industrialised countries must reduce their greenhouse gas emissions 80-95% by 2050 to establish a low-carbon economy and keep the global average temperature below 2°C, although a wide range of countries demand that the average global temperature rise stay below 1.5°C. We have analysed what is currently needed from the European Union member states to achieve this. We conclude that, on average, each country must triple its efforts, even the countries that were rated best must double the effectiveness of their policies. Member states provide each other with good examples of further action. A country that follows the example of the respective highest scoring country in each policy area will achieve two-thirds of the required effort. In general, the area where most additional effort is required is energy efficiency.

Collecting and rating climate policies - the method

We have undertaken a comprehensive review of EU member state policies that affect greenhouse gas emissions. We provide an overview of each member state's policy situation broken down by sector and policy area.

In addition, we have developed a rating method to measure the impact of these climate policies. We developed a total of 83 indicators that measure the effectiveness of greenhouse gas emission reduction policies for all sectors of the economy.

Most indicators measure the expected impact of current policy. They make up 70% of the total indicator score of each country. In addition, there are indicators that measure past progress and those that represent the quality of the long-term strategies.

The indicators do not only measure whether policies directed at emission reduction are in place, but also whether counterproductive policies and barriers for emission reduction are adequately removed.

For twelve of the smaller countries, we have applied a more limited indicator set of 43 indicators.

Aggregated scores for the indicators were given for the sector and national levels. The results are then presented on a scale from A (excellent) to G (poor).

The scores for the indicators are benchmarked against a framework vision of a low carbon future. This vision includes ambitious energy efficiency improvements, 100% renewable energy supply by 2050, wide application of zero energy buildings, a paradigm shift in industrial production towards long-lasting, 100% recyclable products, almost

100% electric passenger cars, new options to reduce emissions in agriculture, and comprehensive land use strategies. Sensitivity analysis to a different low-carbon framework vision does not yield significantly different results. Prompt action in all these areas is required.

Our method is unique in three aspects:

- **Comprehensive:**
  The analysis includes all policy areas that both positively and negatively influence greenhouse gas emissions.
- **Comparative:**
  All countries are rated by the same methodology, so that their performance in renewables, efficiency and overall climate policy is comparable.
- **Ambitious:**
  Policies are rated against the clear goal of a low carbon economy in 2050. This includes policies that initiate long- term transformations, such as the development of new technologies, and do not focus only on the least costly options for emission reduction to reach 2020 targets.

We intend to update the analysis annually to track progress.

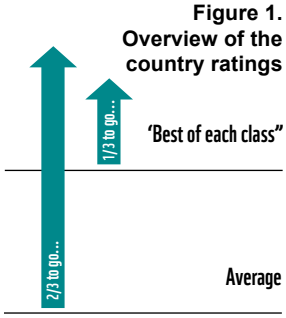
Main findings

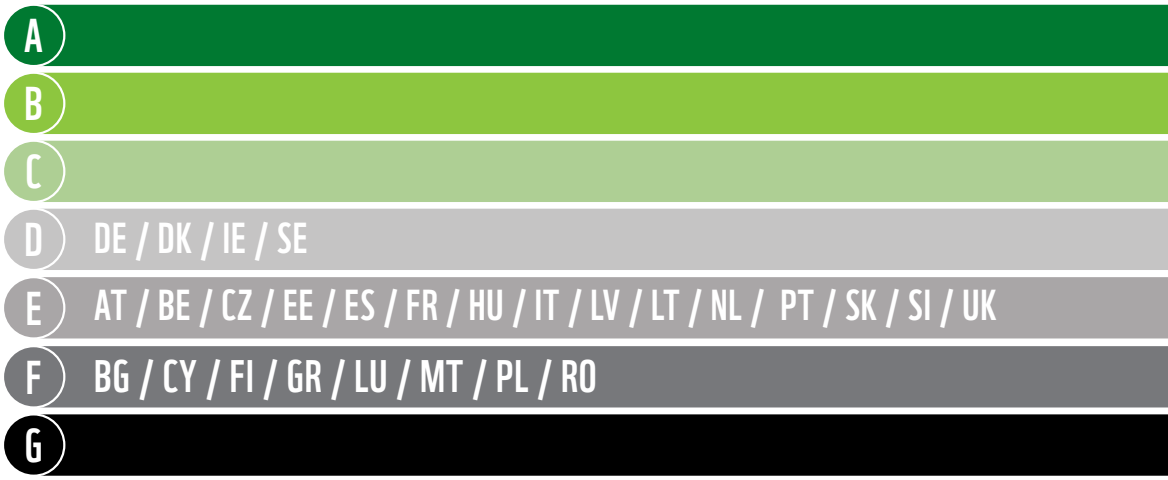
- **On average, countries must intensify their efforts by a factor of three:**
  Summing up all results across all countries and sectors, only a third of the necessary action has currently been undertaken to put countries on a path towards a low carbon economy. This would be enough to achieve an 'E' rating. The worst performing countries score even less ('F').

- **"Best of each class" is two-thirds of the way:**
  A country that would follow the example of the respective highest-scoring country in each policy area, per sector, would achieve 2/3 of the required effort, a 'C' rating, which is substantially better than the average. This means that policy options are available, but not implemented across the board.

- **The countries rated highest are not leaders:**
  The countries rated best currently score only half of what is needed, a 'D' rating. It would therefore not be appropriate to call them leaders, as they still need to double their policy efforts to get on track to a low carbon economy.

Figure 1. Overview of the country ratings





- **Support for renewable energy is most widely implemented.** Countries have developed and implemented comprehensive strategies to support renewable energy and have gained experience with the removal of barriers. Renewable energy policies are best developed for electricity production with an average of a 'D' rating (max B). However, these are moderate for buildings (average E / max C) and transport (average E / max C) and particularly weak for industry (average F / max C).

- **The area of energy efficiency is less well covered and** the actions are far less comprehensive. Maximum rating is a 'D' for energy efficiency with an average of 'F'.

- **Most of the new member states are rated below average.** Of the 12 member states that joined the EU in 2004 and 2007, 10 are rated below average. These countries are rated low in most policy areas, with notable exceptions in the areas of forestry and building energy efficiency.

- **In some areas EU member states can learn significantly from each other, while in others, good examples are missing.** Table 1 (page 11) provides an overview of the best scoring countries in each policy area compared to the EU average. In two policy areas, exemplary ratings of 'B' are present, however, in most categories, even the highest-scoring country is insufficient.

GENERAL

United Kingdom and Ireland reach high scores with an integrated, long-term, legally binding climate strategy that is directed towards a low carbon economy.

ELECTRICITY SUPPLY

Germany and Denmark have stable support systems for electricity generation from renewable energy. Both have operated feed-in tariffs for over a decade. Policies to support combined heat and power are relatively advanced in Ireland, Germany and Spain. Performance in overarching issues for electricity supply is generally low due to the un-ambitious cap of the electricity sector in the emission trading system. There are no emission performance standards for new power plants which has led to newly built coal-fired power plants and widespread subsidies in addition to tax exemptions for fossil fuels.

INDUSTRY

Policy in the industry sector is generally insufficient. One of the few highlights is Sweden with its widespread use of biomass as a heat source in industry. This is partly due to the high availability of biomass and partly due to policies. All other countries are well below halfway in supporting renewables in industry. Energy efficiency in industry is also not well covered. Significant action, such as large scale, ambitious renewables and energy efficiency programmes is missing across the board. Allocation in the ETS is not ambitious enough to induce these developments. Restructuring industry towards high material efficiency is a blank area for all countries. A material efficiency agency (Germany) is one of the very few measures in this area.

BUILDINGS

Support for renewables in buildings is quite advanced. The Czech Republic and Denmark score well because they increased the share of renewables in buildings substantially with financial incentives and through combined heat and power from renewables. Germany rates well because it introduced a comprehensive renewable heat law with an obligation to use renewables. Cyprus and Greece obtain high scores by obligatory introduction of solar water heaters. Action on efficiency in buildings is generally low. Firstly, the fast introduction of zero-emission standards is missing and secondly, there are insufficient incentives for energy optimised renovation. Germany has a package of many measures, but is still not ambitious enough in size.

TRANSPORT

Incentives in transport are also insufficient. Relatively good scores are reached for introducing biofuels in the past (Germany, Austria). Support for electric mobility, combined with support for renewable electricity is missing. Energy efficiency, which is the most important area in transport according to our methodology, is lacking ambition. France with a bonus/malus system for new cars is ranked at the top, although this is not sufficient to induce the necessary change. Tight emission standards and monetary incentives can increase ambition. The overarching issue of avoidance of traffic and modal shift is underrepresented. Portugal ranks higher compared to other countries with its strategy to move freight transport from road to sea.

AGRICULTURE

Countries usually consider the most important sources of emission to be from agriculture, but no country is at the forefront towards a low carbon economy for agriculture. Most countries apply the EU-prescribed nitrogen limits per hectare, but implementation and compliance with the limit is unclear. Equally, all countries aim to reduce methane emmissions from animals, but again, no country is at the forefront.

FORESTRY

An integrated land use strategy covering all aspects is only present in a few countries, e.g. Slovenia. One highlight is that all state-owned forests in Latvia are certified through the Forest Stewardship Council (FSC).

Table 1. "Best of each class": top rated countries per policy area are compared to EU average

A B C D E F G

	Renewables		Energy efficiency		Overarching [1]	
GENERAL [2]					Ireland / United Kingdom	EU average
ELECTRICITY SUPPLY	Denmark / Germany	EU average	Ireland	EU average	Denmark / Estonia	EU average
INDUSTRY	Sweden	EU average	Denmark / Estonia / Lithuania / Slovenia	EU average	Germany	EU average
BUILDINGS	Czech Republic / Denmark / Germany	EU average	Germany	EU average	Denmark / Hungary / Latvia Netherlands / Romania / Slovenia / Sweden	EU average
TRANSPORT	Austria / Germany	EU average	France	EU average	Portugal	EU average
AGRICULTURE					Denmark / Ireland / Netherlands / Slovenia / Sweden / United Kingdom	EU average
FORESTRY					Cyprus / Ireland / Latvia / Lithuania / Malta / Netherlands	EU average

[1] Includes all policies that are not covered under renewables or energy efficiency, which are measures aimed at other emission reduction options (e.g. CCS in electricity generation and industry or modal shift in transport), at greenhouse gas emissions in general (e.g. the emission trading system, CO2 taxes) or energy use in general (e.g. energy taxes).

[2] Includes the general long-term climate strategy

EU member states can learn significantly from each other.

In many countries, good examples of effective policies can be found. Highlights include:

- **Austria:** Forestry policies in accordance with climate protection
- **Belgium:** Tax rebates for investments in energy efficiency
- **Cyprus:** Obligation to use solar-thermal for heating in buildings, high coverage already reached
- **Czech Republic:** Support for retrofitting of buildings coupled to building standards or more ambitious level
- **Denmark:** Leading in grid integration of renewable energy sources, highest combined heat and power (CHP) share in EU
- **Estonia:** Consistent land use strategy implemented
- **Finland:** Large CHP share in industry and building sector
- **France:** Bonus/malus system for cars encouraging lower emissions
- **Germany:** Well-functioning feed-in tariff for electricity from renewable sources
- **Ireland:** Ambitious agricultural and forestry policies
- **Italy:** Well functioning feed-in tariff for photovoltaics
- **Latvia:** Ambitious forestry policies: all state forests are FSC certified
- **Lithuania:** Ambitious CHP goal in place
- **Luxembourg:** Early feed-in tariff for renewable electricity
- **Malta:** High financial support for solar water heaters
- **Netherlands:** Target to have 5% electric cars running by 2020
- **Portugal:** Ambitious feed-in system for RE power generation; target to reach 45% by 2020
- **Slovenia:** Spatial Development Strategy with several aspects of sustainable transport which enables integrated planning
- **Spain:** Obligation to use solar thermal energy (30-70% of warm water demand)
- **Sweden:** Long-term experience with a general CO_2 tax
- **United Kingdom:** Comprehensive Climate Change Act with long-term binding emission reduction targets and independent oversight and reviews

Disclaimer on the results

The policy tracker measures the impact of current policies on emissions, regardless of their motivation. In many of the countries with high scores, measures that account for a relatively better position in climate policies have been put in place due to political motivations other than climate change, such as job creation and support for agriculture.

Most policies are based on an implementation process that takes several years. It is therefore not always the current governments that should be praised or blamed for the high or low scores of their countries.

We are evaluating all countries' trend towards a common goal of a low-carbon economy, irrespective of their starting point in e.g. per capita emissions or efficiencies. Some countries may rate well because they implement policies that bring them significantly closer to the common goal although they start from a very emission-intensive level (e.g. the German electricity sector).

We rate all countries with the same methodology and ambition level, although countries may have differences in ability to act, due to differences in economic conditions, size of the country, public support for climate policy and institutional environment.

An important feature of the tracker is that it creates transparency on the composition of the overall scores. Often, public opinion is guided by rather intuitive assumptions on a country's ambitions, for example, based on recent high or lowlights. The tracker enables crosschecking of these assumptions by looking at each sector and policy area individually and learning more about the composition of effective or less effective overall policies.

The way forward

- Climate policies need to be comprehensive. A low carbon economy can only be reached if all policy areas are covered. Many countries focus on a few particular sectors and neglect others. To develop consistent policies which address climate change effectively (and not only accidentally), strong political arguments about the implicit coherence of climate, economic and technology policies must be developed and implemented. Both at EU and member state levels, it is urgently required to define goals that are common to climate protection and other policy areas. These goals need to have the low-carbon economy with domestic reductions as a long-term objective and avoid lock-in and other decisions that would make later emission reductions more expensive. **Countries must scan their policy portfolios and implement or strengthen policies in their weak areas.**

- Energy efficiency policies must be strengthened across the EU. It transpires that for buildings, industry and transport, the effectiveness of policies is weak in most member states. This suggests that the first step to better policies should come from a stronger effort at the European level. **This calls for a more ambitious formulation of the relevant European directives.** The current energy and climate package of the EU for 2020 is not sufficient to bring the EU on track to achieve a low-carbon economy in 2050.

- There are some areas where policies are virtually non-existent. These include the efficient use and re-use of materials, infrastructure policies for low-carbon transport, energy efficiency policies for freight transport, and renewable energy policies for manufacturing industries. **These 'Cinderella areas' need urgent revitalisation, both at the level of the Union and the individual member states.**

- Particular attention is needed for the new member states. There are historic reasons for why new member states are lagging behind. Nevertheless, successful European policies are not possible without their contribution. **The European Union needs to consider climate policy as a joint responsibility and provide adequate support to the member states that face difficulties in implementing effective climate policies.**