

The CERINA Plan – An alternative to the Kyoto instrument

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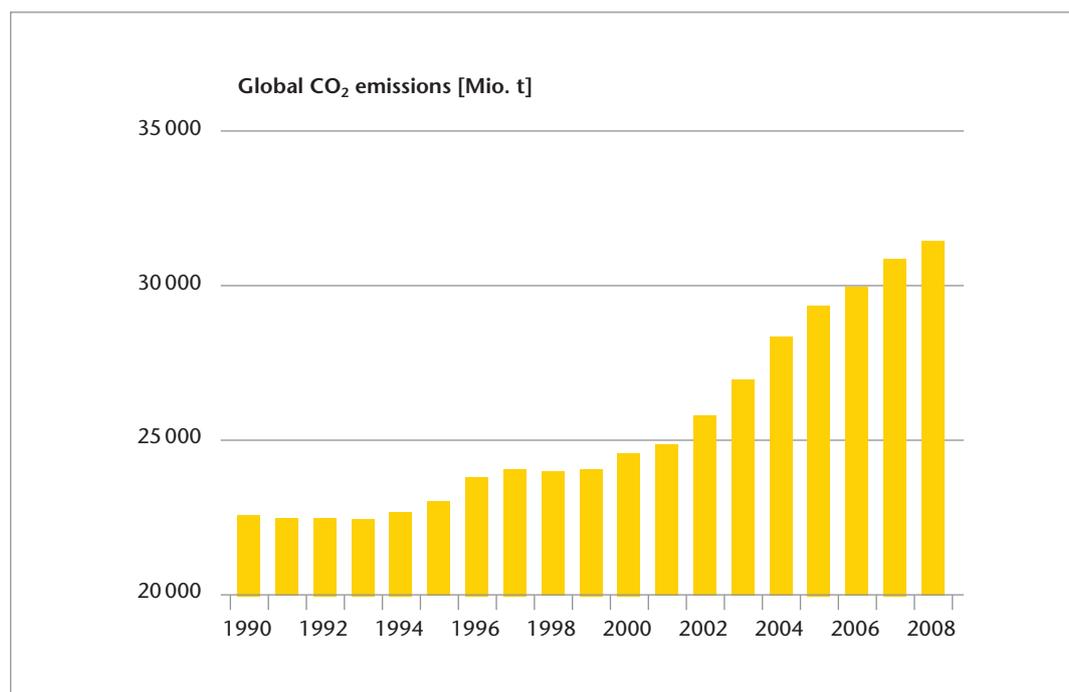
1. Introduction

International negotiations on a follow-up agreement for the Kyoto Protocol, which will expire in 2012, have stalled to a significant extent and it is currently not expected that agreement will be reached in Copenhagen. The Kyoto instrument is essentially based on the approach of limiting the CO₂ emissions of individual countries, with the amounts ideally agreed upon by the international community. An alternative instrument, the CERINA Plan (CO₂ Emissions and Renewable Investment Action Plan), will be presented here. Its model approach is based on investments rather than setting limits.

2. Worldwide CO₂ emissions – the status quo

Global carbon dioxide emissions in 2008 rose to a new record value of 31.5 billion tonnes and are thus 40% above the level of 1990 (IWR 2009). The goal of the Kyoto Protocol was to reduce emissions in Kyoto countries by 5.2% by 2012 relative to the reference year of 1990 (UNFCCC 1998). However, emissions have risen considerably worldwide because of economic development in numerous emerging countries. This outcome is evidence that the Kyoto limit mechanism does not work. One cause that can be identified is the fact that political representatives cannot or do not wish to accept economic limitations for their own countries in negotiations in connection with climate protection. Resistance in their home countries to upper limits and emissions trading with the threat of

Worldwide
 CO₂ emissions



companies moving abroad to new locations all lead to mistrust among politicians in the context of global competition for industrial investment.

This results in low levels of willingness to make voluntary commitments. These are the reasons why it is not expected that a new climate protection treaty will be agreed in Copenhagen. Even in the case of agreements between countries, the issues of whether and when CO₂ reductions will actually be implemented and what sanctions apply if targets are not reached are still open. The example of the Kyoto Protocol is evidence that these problems still remain.

3. The Cerina Plan – An alternative investment approach

The IWR approach is based on investments rather than setting limits. The basic principle of the CERINA Plan is to directly link CO₂ emissions of individual countries to investments in renewable energy. The higher a country's CO₂ emissions, the higher the investments they must make in renewable energy technologies. Every country emits CO₂, which means that every country is obliged to take responsibility and make a proportional contribution. The annual global increase in CO₂ is known (in millions of tonnes), which means that the necessary investments in renewable energy generation systems (electricity, heat, fuels) required to at least compensate, and thus slow down the global CO₂ increase, can be calculated retroactively.

In 2008, global investments in renewable energy systems totalled €120 billion. In order to stabilise the CO₂ emissions, the investments would have to be increased fourfold, to at least €500 billion per year, according to IWR calculations.

The most important aspect of the CERINA Plan is the distribution of the investments to the various countries, as determined by the CO₂ emission quantity in each country. The more CO₂ a country emits, the higher the invest-

ments required in the country. With total global CO₂ emissions of 31.5 billion tonnes, and investments totalling 500 billion euros required per year for renewable energies, this results in a theoretical CO₂ offset price of €16 per tonne. The specific investments in renewable energy technologies can be calculated for each country according to the country-specific CO₂ emissions. IWR calculated the investments in renewable plant technology required based on the individual CO₂ emissions for a total of 65 countries.

Sample calculations

According to the CERINA Plan, China, which currently has the world's highest CO₂ emissions at 6.8 billion tonnes (2008), would have to initiate annual investments in renewable energy technologies of 109 billion euros by means of political framework conditions to build wind, solar, hydroelectric or biomass-powered plants. India – with emissions of 1.4 billion tonnes of CO₂ – requires investments totalling 22.5 billion euros, while Germany would have to invest 13.7 billion euros, for emissions of 860 million tonnes. The CERINA Plan also takes smaller countries with lower emissions into account. For example, Hungary, with emissions of 60 million tonnes (2008), would have to organise investments of one billion euros, and New Zealand would require investments of 600 million euros.

4. Outlook

Copenhagen is unlikely to produce a binding climate protection treaty. As an alternative to the Kyoto instrument, the CERINA Plan offers an opportunity to establish a transparent, verifiable and clear system for the reduction of emissions.

The advantage of the CERINA model approach is that the direct linking mechanism gives each country two types of action to take to fulfil their obligations: They can either reduce emissions or increase investments in renewable energies. Accordingly, countries with lower emission values make lower contributions than countries with higher emissions. Each country can select the option suitable for them. In the end, the increasing proportion of renewable energies or the reduction of CO₂ emissions via savings or

increased efficiency will result in a reduction of global emissions.

Further information and contact options:

www.cerina.org

www.iwr.de

www.renewable-energy-industry.com

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