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eu insight

The EU and the Fight Against Climate Change

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Glaciers are melting. Sea levels are rising. The world is getting warmer, and the impact of climate change is no longer in dispute. According to the Intergovernmental Panel on Climate Change (IPCC), global greenhouse gas (GHG) emissions resulting from human activities increased 70 percent between 1970 and 2004.

This increase could have catastrophic consequences for the planet and its inhabitants. Even if global GHG emissions are reduced to 50 percent of 1990 levels by 2050, a temperature rise of up to 2°C above pre-industrial levels would be difficult to avoid.

Climate change beyond 2°C could lead to unprecedented meteorological changes and damage, conflict over resources, loss of territory and border disputes, environmental-induced migration, tension over energy supply, and pressure on international governance. Europe could face an increased risk of inland and coastal flooding, glacier retreat, reduced snow cover, and extensive species losses, while North America could expect competition for over-allocated water resources, an increase in the number, intensity and duration of heat waves, and a significant risk to coastal communities.

As predictions of global warming's impact have grown more alarming, the EU has accelerated its own policies through a comprehensive climate and renewable energy package designed to reduce carbon dioxide emissions by 20 percent by 2020, increase to 20 percent by 2020 the renewable energy share of the energy mix, and improve energy efficiency by 20 percent by 2020.

The European Union is on target to meet its Kyoto Protocol commitment to reduce carbon dioxide emissions by 8 percent of 1990 levels by 2020, and continues to shrink its carbon footprint via the implementation of its innovative carbon trading system known as the EU Emissions Trading Scheme (EU ETS)—a scheme similar to the one proposed, debated and rescinded from the floor of the United States Congress in June 2008. Other plans integral to the EU emissions agenda are the development of renewable sources of energy and technological advancement that will reduce the amount of fossil fuel required to power the modern economy.

The 27-member European Union has successfully broken the link between economic growth and GHG emissions. The European economy grew by more than 35 percent between 1990 and 2005, but overall emissions from Member States fell by 7.9 percent.

The EU also recognizes that ignoring climate change could have devastating economic consequences. The 2006 Stern Review, commissioned by the UK government, concluded that stabilizing greenhouse gas emissions at a level that would prevent climate change from reaching dangerous proportions would cost around just one percent of GDP if undertaken swiftly.

Inaction, according to the same report, would eventually reduce global GDP by an estimated five to 20 percent annually—the cost of managing the consequences of climate change—and lead to average global temperature increases of between 2°C and 5°C over time. The costs and risks of doing nothing would vary proportionately to the length of time that action is delayed.

The EU and the U.S. engage in substantial dialogue and cooperation as each seeks the best path to confront climate change and reduce dependency on fossil fuels. Through the High-Level Dialogue on Climate Change, Clean Energy, and Sustainable Development, the EU and the U.S. strive to advance transatlantic initiatives and enhance engagement with international partners.

Specific goals regarding the mitigation of climate change were spelled out at the 2007 EU-U.S. summit and reaffirmed during President Bush's visit to Europe in June 2008, and include the following:

- Advance commercial deployment of clean coal and carbon capture and storage (CCS) technologies.
- Improve energy efficiency, particularly in transport, buildings, and appliances.
- Research, develop, deploy, and commercialize second generation biofuels.
- Identify maximum opportunities to jointly advance methane recovery and use projects.

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"The EU cannot win the battle against climate change on its own. Our emissions are only 14 percent of worldwide emissions and will account for less than 10 percent by 2030."

—European Commission President José Manuel Barroso

Energizing the Drive Toward a Low-Carbon Economy

The cleanest and least expensive source of energy is the energy never consumed, and the EU is intent on tempering demand through improved energy efficiency and conservation. The EU's objective of increasing energy efficiency by 20 percent by 2020 focuses on cogeneration, eco-design of energy consuming products, energy labeling of domestic appliances, end-use efficiency and energy services, and ameliorating the energy performance of buildings.

In addition, the EU is focused on working to achieve cleaner, more diversified, and more secure sources of energy through the development of renewable sources of energy and carbon capture and storage technology.

Renewable Energy

The EU is a world leader in renewable energy and the sector already generates a turnover of €30 billion annually and provides 350,000 jobs.

There is significant work left to be done, however, as renewables still represent only 8.5 percent of the EU's final energy consumption, a share that must increase by an additional 11.5 percent for the EU to meet its goal of 20 percent renewable energy by 2020.

Some successful renewable energy programs implemented in the EU thus far include:

- **SOLAIR: Solar heating and cooling**—Bringing small and medium-sized solar air conditioning appliances for residential and commercial sectors to market.
- **DOWNVInD: Distant Offshore Wind Farms with No Visual Impact in Deepwater**—Working to develop large-capacity offshore wind farms in deep water.
- **BEST: Bioethanol for Sustainable Transport**—Paving the way for a market breakthrough for ethanol-fueled vehicles.
- **PS 10 Solar Power Tower**—Generating enough solar electric power to supply a population of 10,000.

Biofuels

The European Union has mandated, as part of its renewable energy drive, that each Member State meet a biofuels target of 10 percent in the transport sector by 2020. The EU sees the current dependency of the transport sector on imported oil as one of the most serious challenges to its energy security, and has instituted such specific targets to support the continuing development of biofuels despite their higher costs compared to other forms of renewable energy.

Carbon Capture and Storage (Carbon Sequestration)

Carbon capture and geological storage (CCS) is a set of technological processes which capture CO2 from discarded gases, and transport and inject it into geological formations that isolate it from the atmosphere. The costs of CCS are twofold: capital investment in equipment to capture, transport, and store CO2; and the operating costs of the equipment. The EU facilitates use of this environmentally-friendly technology by allocating funding to research intended to bring down the costs of the procedure.

EU ETS: The EU's Innovative Trading Scheme

The cornerstone of the EU's strategy to fight climate change is the EU ETS, the world's first and largest international trading system for CO2 emissions and the main driver behind the rapid expansion in carbon trading around the world.

Inspired by a U.S. model introduced in the 1990s to curb acid rain, the EU ETS uses a cap-and-trade market mechanism to put a price on carbon, allowing companies to cut CO2 emissions cost-effectively. Emissions are limited (or "capped") at a specific level. Companies with emissions exceeding their amount of credits or allowances must then purchase allowances ("trade") from other companies who emit less. Emission allowances will fall over time, driving up the cost of industrial emissions, and when technology can achieve emissions reduction goals more cost effectively than paying the price for additional allowances, new carbon-reduction solutions will be implemented.

Some notable features of the system include:

- EU ETS covers around 10,500 installations in the energy and industrial sectors, which account for close to half of the EU's CO2 emissions.
- Implementation occurs in phases, allowing for periodic reviews and expansion to other gases and sectors.
- Beginning in 2008, EU ETS applies not only to the EU27, but also to Norway, Iceland and Liechtenstein.
- The aviation sector will be subject to EU ETS from 2012 pending adoption by the EU co-legislators.

Some proposed modifications to the EU ETS, which are set to be adopted in 2009, include:

- There will be one EU-wide annual cap, rather than 27 national caps, which will decrease over time.
- Allocation of allowances will occur primarily through auctions.
- Some rights to auction allowances will be redistributed from Member States with high per capita income to those with low per capita income, strengthening the latter's capacity to invest in climate-friendly technologies.
- EU ETS will expand to regulate emissions of gases other than carbon dioxide, such as nitrous oxide and perfluorocarbon gases.

For more information: www.eurunion.org/euinsight

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Anthony Smallwood
Spokesperson & Head of Press and Public Diplomacy
Editor-in-Chief

Stacy Hope
Editor

Melinda Stevenson
Writer & Assistant Editor

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2300 M Street, NW
Washington, DC 20037
202.862.9500

www.eurunion.org
email: delegation-usa-info@ec.europa.eu

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