

**Testimony Before the
Senate Environment and Public Works Committee
Wednesday, October 5, 2005**

THE KYOTO PROTOCOL: IMPACT ON EU EMISSIONS AND COMPETITIVENESS

**By
Margo Thorning, Ph.D.*
Senior Vice President and Chief Economist
American Council for Capital Formation**

EXECUTIVE SUMMARY

EU Not Meeting Emission Targets: The original 15 members of the European Union are projected to be 7% above the 1990 emission levels by 2010. Data from the European Environmental Agency show that only Sweden and the UK are likely to meet their Kyoto targets. Spain, Denmark and Portugal are projected to be 25% to 35% above their targets in 2010. EU policymakers are beginning to worry about the additional steps required to meet the targets, including impact of emission trading schemes on industry.

GDP and Employment Effects of Emission Reduction Targets: An accurate portrayal of the costs of complying with GHG emissions reduction targets depends largely on choosing an economic model that captures all the short- and medium- term costs of adjusting to higher energy prices or regulatory mandates on the economy as a whole. When macroeconomic models are used to measure Kyoto's effects on the EU, the impacts are greater—0.5 to 5 percent less GDP in 2010 than under the baseline forecast. The Global Insight simulations also show job losses in 2010 ranging from 51,000 in Italy to 800,000 in Spain.

The Impact of the Emission Trading System on EU Electricity Prices: Although the ETS has only been in operation for a short time, electricity prices in the EU are rising. EU electricity prices are closely tracking the cost of the emissions trading permits. While some of the increases in electricity prices are doubtless due to rising global energy prices, part of the 31% rise in power can be attributed to higher prices for the right to emit a ton of CO₂.

Effectiveness of an International Emission Trading System: Emission trading will work only if all the relevant markets exist and operate effectively; all the important actions by the private sector have to be motivated by price expectations far in the future. The international framework for climate policy that has been created under the UNFCCC and the Kyoto Protocol cannot create confidence for investors because sovereign nations have different needs and values.

Conclusion: Near-term GHG emission reductions in the developed countries should not take priority over maintaining the strong economic growth necessary to keeping the U.S. one of the key engines for global economic growth.

* Margo Thorning, Ph.D. is Senior Vice President and Chief Economist of the American Council for Capital Formation, 1750 K Street, N.W., Suite 400, Washington, D.C. 20006; www.accf.org

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Introduction

Mr. Chairman and Members of the Committee, I appreciate the opportunity to present this testimony before the Senate Environment and Public Works Committee

The American Council for Capital Formation represents a broad cross-section of the American business community, including the manufacturing and financial sectors, Fortune 500 companies and smaller firms, investors, and associations from all sectors of the economy. Our distinguished board of directors includes cabinet members from prior Republican and Democratic Administrations, former Members of Congress, prominent business leaders, and public finance and environmental policy experts.

The ACCF is celebrating nearly 30 years of leadership in advocating tax, regulatory, environmental, and trade policies to increase U.S. economic growth and environmental quality.

Background

The European Union has a target of an 8% reduction from the 1990 base-year level for the Kyoto Protocol's 2008-2012 commitment period. To assist in meeting its target, the EU has put in place an emissions cap and trade system (ETS) covering carbon dioxide emissions for selected large industry and utility sectors.

Where Does Europe Stand on Actually Complying with Kyoto?

The original 15 members of the European Union are projected to be 7% above the 1990 emission levels by 2010. Data from the European Environmental Agency show that only Sweden and the UK are likely to meet their Kyoto targets. (See Figure 1.) Spain, Denmark and Portugal are projected to be 25% to 35% above their targets in 2010. EU policymakers are beginning to worry about the additional steps required to meet the targets, including impact of emission trading schemes on industry. They realize they cannot reconcile goals of increased EU industrial competitiveness as well as tighter future targets for GHG emission reductions. UK Prime Minister Terry Blair said on September 15, 2005 at the Clinton Global Initiative, "The truth is no country is going to cut its growth or consumption substantially in the light of a long-term environmental problem.

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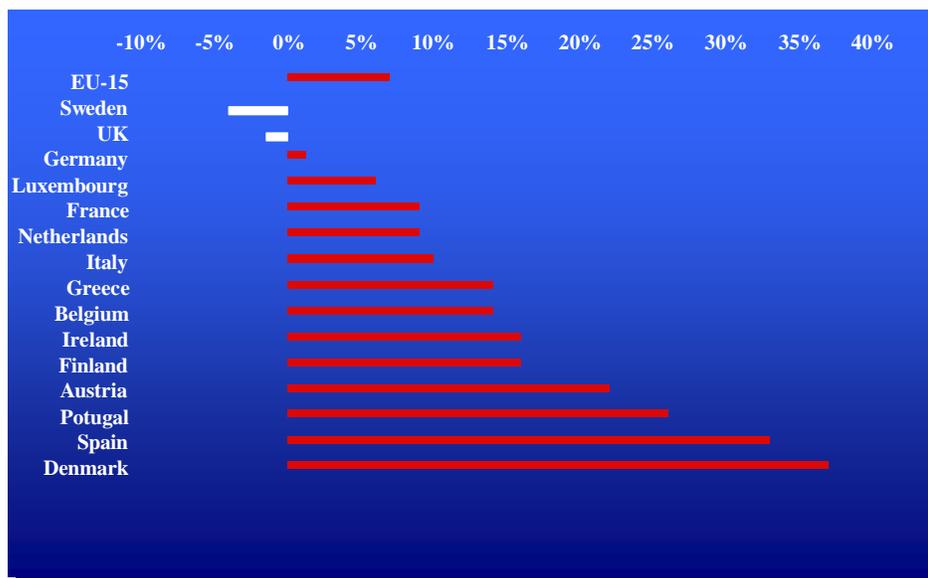
To be honest, I don't think people are going, at least in the short term, to start negotiating another major treaty like Kyoto."

Measuring the Economic Impact of the Kyoto Protocol on the EU:

- **GDP and Employment Effects**

As studies by the International Council for Capital Formation (ICCF) illustrate, an accurate portrayal of the costs of complying with GHG emissions reduction targets depends largely on choosing an economic model that captures all the short- and medium-term costs of adjusting to higher energy prices or regulatory mandates on the economy as a whole. (See "Economic and Modeling of Climate Change Policy" at www.iccfglobal.org.)

Figure 1: Greenhouse Gas Emissions in the European Union Projected to Exceed Kyoto Targets in 2010



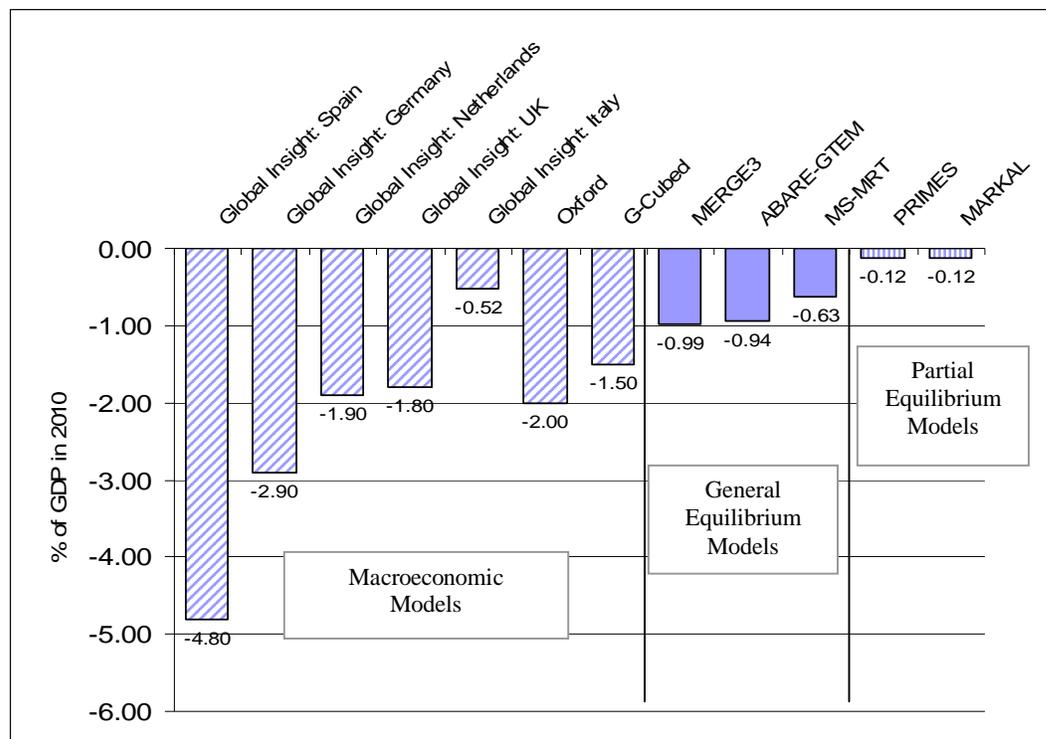
Source: European Environmental Agency, November 30, 2004

For example, some economic models such as the PRIMES model used by the EU environmental agencies are designed only for measuring sectoral effects, not economy-wide effects. PRIMES is primarily designed to show the effect of policy changes on energy markets. It can calculate the direct cost implications of reduced energy use but not the economy-wide impact on gross domestic product (GDP), employment, investment, etc. Thus, the results of this model, which show a reduction of only 0.12% in GDP to the EU in 2010 from complying with the Kyoto Protocol, are not an accurate measure of the total costs to EU households, businesses, the economy, and government. (See Figure 2.) These sectoral models underestimate the negative economic effects by a factor of 10 to 15 times (0.12 vs. 1.5 to 2.0). Such reliance on results from PRIMES has led EU officials, industry, and households to believe that the costs of achieving the Kyoto Protocol's targets and the further cuts planned for the second and subsequent commitment periods will be relatively small. However, as the study "ACROPOLIS,"

released by DG Research of the European Commission in September 2003 noted, the tighter targets that are being discussed under the second commitment period could reduce GDP by 1.3% annually by 2030.

Even general equilibrium models, which measure “big picture” impacts on an economy after it has had time to adjust (over 30 to 40 years) to higher energy prices, show GDP losses of about 1 percent per year under Kyoto, which are an order of magnitude greater than PRIMES. (See Figure 2.) Even though general equilibrium models look at a period of time much longer than the Kyoto timetable, their results more accurately reflect the consequences of curbing emissions than does a sectoral model like PRIMES. General equilibrium models reflect the full economic impact of reducing emissions, not just the impact on the energy sector. Given their long time frame, general equilibrium models are unable to capture short-term adjustment costs and therefore probably underestimate near-term impacts. Despite that fact, they still indicate that the economic impact of meeting Kyoto and post-Kyoto emissions targets will have an economic impact far greater than PRIMES.

**Figure 2: Impact of Kyoto Protocol on GDP Levels in the EU in 2010
Alternative Model Forecasts**



Source: International Council for Capital Formation “The Impact of EU Climate Change Policy on Economic Competitiveness” For presentation at a forum sponsored by Istituto Bruno Leoni, Milan, Italy November 29, 2003, Revised November 2004. (www.iccglobal.org)

Macroeconomic models provide an assessment of the overall economic costs of meeting emission targets where the short-term, frictional cost of adjustment is included. These models, which U.S. scholars and climate policy modelers began using in the early 1990s to measure the impact of Kyoto on the U.S. economy, quantify the impact on

employment, investment, budget receipts, and GDP growth when an economy is “shocked” by having to make quick changes in its capital stock, production processes, lifestyles, etc. Results of macroeconomic models show that Kyoto would have negative effects on the U.S. economy in the range of 1.5 percent to about 4 percent of GDP in 2010.

When macroeconomic models are used to measure Kyoto’s effects on the EU, the impacts are greater—0.5 to 5 percent less GDP in 2010—than those derived from sectoral models like PRIMES. For some countries like Spain, the GDP loss due to reduced energy use will be severe—Spanish GDP in 2010 is estimated to be about 4.8 percent smaller than under the baseline forecast. (See Figure 2.).

Employment in the EU would also be negatively affected by the imposition of an emission trading system with carbon prices high enough to force down energy use. The Global Insight simulations show job losses in 2010 ranging from 51,000 in Italy to 800,000 in Spain. (See www.iccfglobal.org.)

- **The Impact of the Emission Trading System: Impact on Electricity Prices**

The European Union’s Emission Trading System (ETS) was established in 2003. The goal was to implement a policy that was both cost-effective and operated in a similar way across the whole EU market, to reduce emissions of carbon dioxide and potentially other greenhouse gases, both to comply with the EU’s commitments to 2012 under the Kyoto Protocol and to achieve further emission reductions thereafter.¹

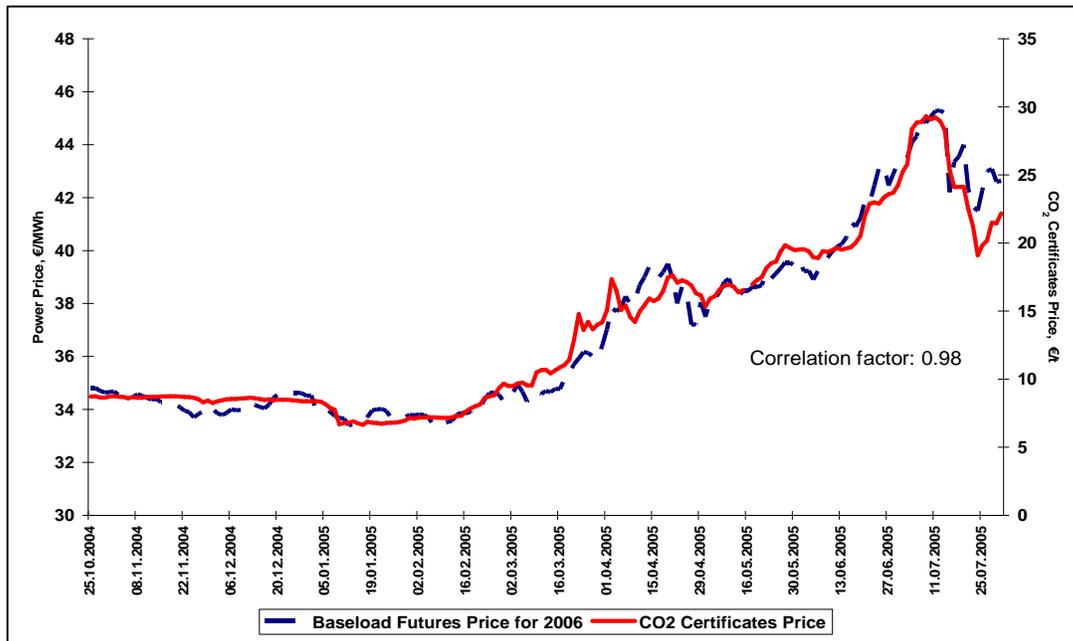
The first Phase of the ETS will run from 2005-2007, and Phase 2 will coincide with the commitment period of the Kyoto Protocol, 2008-2012. Subsequent phases will be of five-years duration.

The ETS applies to installations throughout the 25 Member States of the EU that engage in the following activities and are above a specified size: combustion installations (most importantly for power generation, but excluding municipal and hazardous waste incineration), mineral oil refineries, coke ovens, steel manufacturing, and production of cement, lime, glass and glass fibre, ceramics and pulp and paper. It has been estimated that the ETS will apply to 9,200 to 12,000 installations that are responsible for about 46% of EU carbon dioxide emissions. The Directive also provides for other sectors (perhaps chemicals, aluminum and aviation) and gases to be included in Phase 2 at the discretion of Member States.

Although the ETS has only been in operation for a short time, electricity prices in the EU are rising, as shown in Figure 3. EU electricity prices are closely tracking the cost of the emissions trading permits. While some of the increases in electricity prices are doubtless due to rising global energy prices, part of the 31% rise in power can be attributed to higher prices for the right to emit a ton of CO₂.

¹ Ofgem, “Emission Trading: Impacts on Electricity Consumers,” February, 2005.

Figure 3: Power and CO₂ Certificates Prices' Developments



Source: "Correcting the failures in the EU-Emissions Trading Scheme", International Federation of Industrial Energy Consumers, June 28, 2005.

Could an International Emission Trading System Function Effectively?

Many Kyoto proponents want to see the EU's ETS system spread to the rest of the world. However, as a new study by Dr. David Montgomery of CRA International shows, a global emission trading system is not workable.² Emission trading will work only if all the relevant markets exist and operate effectively; all the important actions by the private sector have to be motivated by price expectations far in the future. Creating that motivation requires that emission trading establish not only current but future prices, and create a confident expectation that those prices will be high enough to justify the current R&D and investment expenditures required to make a difference. This requires that clear, enforceable property rights in emissions be defined far into the future so that emission rates for 2030, for example, can be traded today in confidence that they will be valid and enforceable on that future date. The international framework for climate policy that has been created under the UNFCCC and the Kyoto Protocol cannot create that confidence for investors because sovereign nations have different needs and values. Therefore, it seems likely that the ETS system which the EU is trying to implement will fail to spread to other parts of the world and will eventually be replaced with a more practical approach to climate change policy. Several provisions of the 2005 Energy Bill should have a positive impact on climate change. The new Asia-Pacific Partnership for Clean Development and Climate should also play a key role in transferring new technology to developing countries and help provide the practical assistance that is needed for a global approach to emission reduction.

² International Council for Capital Formation: *Climate Change Policy And Economic Growth: A Way Forward to Ensure Both*; page 65-79. April 2005 (see www.iccfglobal.org).

Conclusions

There are many urgent global problems such as lack of food, sanitation and potable water that are daily imposing hardship and death on the world's least fortunate citizens. Energy use and economic growth go hand in hand, so helping the developing world improve access to cleaner, more abundant energy should be our focus. Near-term GHG emission reductions in the developed countries should not take priority over maintaining the strong economic growth necessary to keeping the U.S. one of the key engines for global economic growth. Establishing a mandatory cap and trade system in the U.S. would impede, not promote, U.S. progress in reducing emissions intensity. U.S. climate change policies should continue to strive to reduce energy intensity as the capital stock is replaced over the business cycle and to develop new, cost-effective technologies for alternative energy production and conservation and encourage the spread of economic freedom in the developing world. This approach is likely to be much more productive than having the U.S. adopt an ETS and thereby sacrifice economic well-being and job growth with little or no long-term impact on global GHG emissions.