

# The US and EU: closer than you think



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Two widely held beliefs continue to play a role in the political debate preceding COP 6, the November meeting of the UN's Climate Change Convention in The Hague. They are:

- that the unwillingness of US legislators to ratify the Kyoto Protocol is partly predicated on a booming economy and the concomitant growth of greenhouse gas (GHG) emissions; and
- that the willingness of governments in the European Union to ratify the Protocol is based on the efficacy of current efforts to reduce GHG emissions. A corollary of the latter is that emissions trading is of limited importance.

Neither of these beliefs is true. Economic growth in the US has been largely decoupled from increases in GHG emissions. During the

period 1990–99, gross domestic product (GDP) rose by 27% (in inflation-adjusted terms) while GHG emissions grew by only 12% (see Figure 1). The growth rates have been even more dramatically different in the past two years. In 1998, carbon dioxide (CO<sub>2</sub>) emissions grew by about 0.4% while GDP grew by 4%. In 1999, CO<sub>2</sub> emissions grew by about 1% while the economy grew by 4.2%.

What explains this phenomenon? The 'new economy' and the rapid growth of information technology have both increased economic growth and flattened emissions growth. In his paper, *The Internet Economy and Global Warming\**, author Joe Romm cites research by the Environmental Protection Agency and Argonne National Laboratory suggesting "one third of the recent improvements in energy intensity are structural". The low-emitting service sectors of the economy have grown rapidly and now represent 46% of US GDP while manufacturing has fallen from 22% to 18% since 1990. The remaining two-thirds improvement in energy efficiency comes from economy-wide improvements: better technology and smarter energy use throughout the economy.

Explicit action to cut GHG emissions also contributes to the improvements. Major corporations such as IBM and Johnson & Johnson have recently announced voluntary commitments to reduce CO<sub>2</sub> emissions. Renewable energy sources represent a small but rapidly growing share of the energy system. The great majority of newly installed electric power plants use less GHG-intensive fuels, such as natural gas.

It is important to emphasise that the numbers cited here represent a gross change in CO<sub>2</sub> emissions and do not reflect increases in soil or biomass carbon sequestration as a result of changes in tillage practices or land use (such as reforestation).

Within the European Union, absolute GHG emissions declined during the early 1990s. However, the belief that public policies have brought the EU closer to its goal of a reduction from 1990 levels is not accurate. Similar to the US experience, these gains are largely (but not exclusively) the fortuitous by-product of other developments (eg, fuel switching at UK power stations, economic decline and retooling of the former East Germany). While economic growth in the EU has been less dramatic than in the US there has been an even more pronounced decoupling of economic growth and GHG emissions, as Figure 1 shows.

Because emissions and economic growth

are not yet fully decoupled, acceleration of economic growth in Europe is likely to keep GHG emissions above 1990 levels in the next few years in the absence of more aggressive policy measures.

Figure 2 shows a long-term trend toward convergence in the emissions per unit of GDP for the US, EU and Japan.

We are witnessing not only a convergence in emission trends but also one in philosophy. Emissions trading is becoming more widely accepted throughout the EU. The UK is leading the effort and plans to implement a scheme in 2001. Denmark launched a capped GHG emissions trading system for its electricity sector in January 2000. The Netherlands and Norway are contemplating or implementing cap-and-trade schemes. Germany's Green party has recently advocated use of a trading system for controlling emissions. The EU intends setting up a market by 2005.

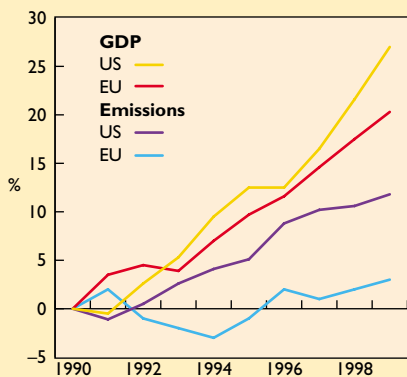
Two important facts put the US and EU on common ground as we move towards COP 6. Contrary to popular conception, both have benefited from unplanned reductions in GHG intensity, but both are realising rapid economic growth and rising absolute emissions. Despite the decline in emissions intensity, for the foreseeable future economic growth will raise absolute emissions, enhancing the importance of trading as the path to cost-efficiency in reducing emissions.

While there may be significant differences of opinion among the parties at COP 6 regarding implementation, the macro trends in declining emissions per unit of GDP, along with the more prevalent view that trading is a desirable policy tool, should help the final negotiations. Growing adoption of emissions trading around the world will reduce the global cost of cutting GHG emissions: the vision of a broad-based international market – with its attendant efficiencies – appears more attainable every day.

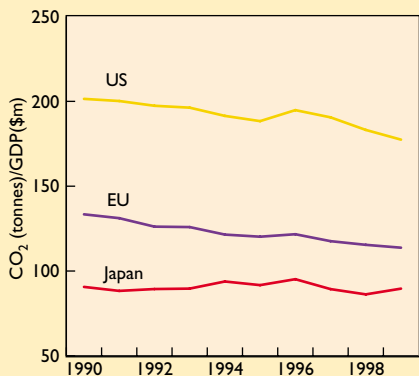
*I would like to thank Michael Walsh, Alice LeBlanc, Rafael Marques and Scott Baron for their assistance in the preparation of this article.*

\* Joseph Romm, Arthur Rosenfeld and Susan Herrmann, *The Internet Economy and Global Warming – A Scenario of the Impact of E-commerce on Energy and the Environment*, The Center for Energy and Climate Solutions ([www.cool-companies.org](http://www.cool-companies.org)), December 1999

## 1. Increases in GDP and CO<sub>2</sub> emissions



## 2. CO<sub>2</sub> emissions per unit of GDP



Source: US Department of Energy, Energy Information Agency; OECD