

Separating fact from fiction in UK climate change policy

BY DR. MARGO THORNING

It is not surprising that reports are beginning to surface indicating that 10 Downing Street is trying to "muzzle" Chief Science Adviser David King (*The Independent*, 8 March 2004). Likening the threat of climate change to terrorism in his January article in *Science* magazine was premature at best, and scaremongering at worst. However, this should be only the beginning of No 10's concerns about Sir David's misinformed treatise.

His article ignores readily available analyses, which indicate that the Kyoto Protocol and the UK Government's target of a 60 per cent cut in CO₂ emissions by 2050 could prove economically damaging. Without a careful and public analysis of the potential impact of the Kyoto Protocol, the government's promotion of the treaty could prove politically disastrous as well.

This article is an attempt to separate fiction from fact when analyzing the economic costs of implementing a Kyoto-style plan to reduce greenhouse gas emissions.

Fiction 1: The UK can and will reduce emissions by 60 per cent below 1990 levels by around 2050.

The UK may meet its Kyoto greenhouse gas (GHG) emission target in 2010 with permit fees of £42 per tonne of carbon (US\$80 per tonne), as predicted in a new report by the UK consulting firm Cambridge Econometrics. However, carbon emissions are forecast to rise in the post 2010 period largely due to road transport and the household sector. (See Figure 1)

Just to meet the Kyoto target in 2015, much less setting a trajectory to reduce UK emissions by 60% below 1990 levels by 2050, will require increases in carbon permit prices.

An economic analysis of the impact on the UK of the Kyoto Protocol shows that the carbon permit fees required to reduce carbon emissions to the Kyoto target as well as a 60 per cent reduction by 2050 will reduce employment, investment and GDP levels in the UK.

This analysis uses a macroeconomic model to measure the frictional, short run cost of adjustment to higher energy prices. The analysis shows that both the Kyoto Protocol and the UK government's target (a 60 per cent reduction from emissions in the year 2000 by the year 2050) would result in substantial UK job losses (390,000 fewer jobs in 2020), and a 1.7 per cent reduction in real GDP in 2020 compared to the baseline forecast.

Fiction 2: The U.K. will meet its targets by reducing overall energy consumption while increasing the portion satisfied by renewable sources.

Sir David King's confident assertion that the UK will achieve its emission cuts by substantially increasing its use of renewable energy resources is improbable. The UK government's own data show that it recognizes the challenge posed by more stringent emission targets. For example, wind power, has been singled out in a report by the UK government's Performance and Innovation Unit for major expansion. Yet wind power is not a viable option -- it may not replace much conventional energy because (as noted in the *Royal Academy of Engineering 2002 report*) there is a high probability that very little wind will blow across the entire country. Regarding fuels derived from biomass, the report also notes, "It would require the whole of Kent to be covered with coppiced willow, for example, to replace the output of Dungeness B power station on the Kent coast".

Fiction 3: A target of 60% emission reduction below 1990 levels by 2050 sounds ambitious, but it will not have a "serious" impact on the U.K. economy.

Again, Sir David King has ignored his own government's analyses which show substantial costs to meet the tighter emission targets proposed for the post-2010 period.

The UK government's analysis of a 60 per cent reduction by 2050 has shown that meeting more stringent targets in later years will be extremely costly (see

Table 1). For example, for a permit to emit carbon in 2050, the average cost ranges between €316 (£214) for a 60 per cent reduction to €569 (£387) per metric ton for a 70 per cent reduction. The marginal cost is between €696 to €1,739 (£473-1182) per metric ton.

Fiction 4: Analysis requires caution. The long-term projections are based on initial assumptions. (Primary assumption: For developed countries to reduce emissions to 60 per cent below 1990 levels, GDP loss will average 1 per cent.)

Despite his own disclaimer, Sir David King fails to present the full range of economic impacts that could occur under Kyoto and subsequent proposals to reduce emissions.

Though Sir King employs worst case scenarios to prove the immediate threat of global warming and thus rally support for Kyoto's entry into force, he limits discourse on the economic impact of Kyoto ratification to only "best-case" scenarios. A one-percent reduction in GDP represents the most optimistic future outcome. To be sure, the Kyoto Protocol and subsequent efforts to reduce emissions could be far more harmful. Macroeconomic analyses undertaken by ICCF indicate that GDP losses could range from 1.5% to almost 5% for specific EU member states.

Fiction 5: The UK's experience in the 1990s proves that emissions reductions do not necessarily cause economic pain.

Sir David King asserts that future reductions in carbon emissions will not reduce UK economic growth, because GHG emissions fell in the 1990s and employment and GDP growth remained satisfactory. This faulty assumption is based on two events which will not be repeated in the present or coming decades.

In the 1990s, the UK switched from coal to gas for electricity generation, thus reducing carbon emissions. The UK also reduced nitrous oxide emissions at a nylon plant operated by DuPont. Thus, there are no more "painless" reductions to be had in the UK's emissions -- even to

maintain current emission levels will require carbon permit prices (taxes) at a level that will significantly reduce employment growth, industrial competitiveness and GDP levels in the UK.

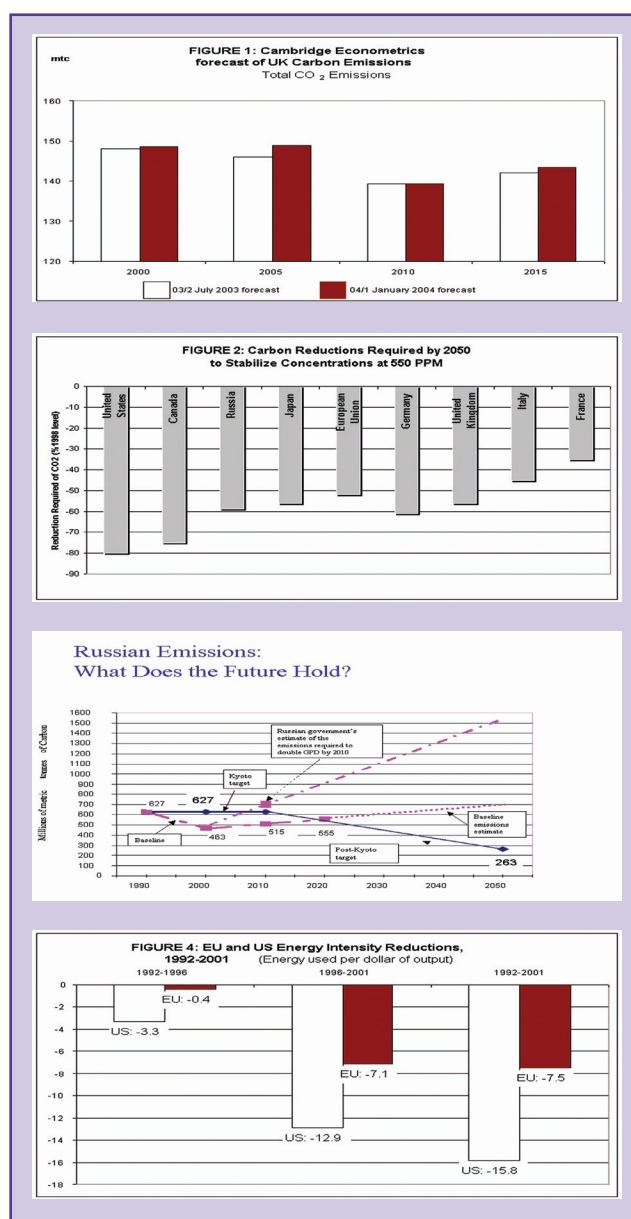
Despite a current lack of specificity regarding policies to prevent projected emissions growth between now and 2010, severe greenhouse gas emissions targets are being proposed in major developed countries for the years after the Kyoto Protocol's first compliance period (2008-2012).

For example, some EU officials are calling for a 60 per cent reduction in carbon dioxide (CO₂) emissions by 2050. Others have suggested that we must stabilize global CO₂ concentrations in the atmosphere at 550 ppm (parts per million) by 2100. Based on data from the Intergovernmental Panel on Climate Change, to establish a global trajectory, emissions in "industrialized" countries must fall to zero by 2050 to allow developing countries to continue to grow (see Figure 2). (Under the Kyoto Protocol, developing countries are not required to reduce their GHG emissions.)

Fiction 6: Ratification of the Kyoto Protocol by Russia would allow it to benefit from the global emissions market (described as "trillions of dollars" by Sir David King).

Russia is still an economy in transition. Russian policymakers are currently studying the costs and benefits of Russian ratification of the Kyoto Protocol; without Russia the treaty cannot enter into force globally. Though Russia's carbon emissions fell by 30 per cent from 1990 to 2000, they are now increasing and will soon exceed the more rigid post-Kyoto emission targets which will be proposed for the second and subsequent commitment periods (see Figure 3).

At the September-October 2003 World Conference on Climate Change in Moscow, Dr. Andrei Illarionov, Economic Adviser to Russian President Vladimir Putin, noted the strong link between energy use and economic growth. He stated that "if we are to double GDP within the next 10 years, this will require an average growth rate of 7.2



percent." He also observed that countries which had doubled their GDP within 10 years increased their carbon dioxide emissions by 7 percent or more every year. Illarionov further stated that "the implementation of the Kyoto Protocol or even preparations for its implementation will curb economic growth considerably." In the final analysis, Russian ratification seems doubtful. (See Figure 3)

Fiction 7: The international community must stand "shoulder to shoulder" in support of the Kyoto Protocol or a similar agreement.

Sir David King surmises that developed countries must adopt Kyoto's "targets and timetables" approach to reduce their GHG emissions. This is incorrect - in fact, according to data from the U.S. Department of Energy's Energy Information Administration, the USA has used a voluntary approach and has successfully cut its energy intensity (the amount of energy required

to produce one dollar of GDP) by a significantly larger percentage than has the European Union (see Figure 4).

The EU (which ratified the Kyoto Protocol and thus faces mandatory emission reductions) has reduced energy intensity by only 7.5% compared to the 15.8% percent reduction achieved by the USA over the 1992-2001 period. Similarly, the ratio of CO₂ emissions per dollar of output has decreased faster in the U.S. than in the EU over the past decade, 15.3% for the USA compared to 13.8% in Europe. By adopting a voluntary approach to emission reductions, the Bush Administration balances multiple policy objectives, including maintaining strong economic growth and enhanced environmental quality. In contrast, economic growth in the EU is weak and unemployment is high - about 10% in recent years.

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