

Global Warming:

The Gathering Storm

Russia resurrects the Kyoto Protocol and the prospect of either mandatory CO₂ emissions cuts for U.S. utilities, or the start of a global trade war.

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In June 2001, the Bush administration withdrew an earlier campaign pledge to support the Kyoto Protocol, claiming that the treaty was fatally flawed in not requiring China and India to reduce carbon dioxide (CO₂) emissions and that the science underpinning the treaty was not yet definitive enough to justify the costs of compliance.¹

The underlying assumption of the administration's decision not to ratify the Kyoto Protocol and to oppose any regulatory efforts to curb U.S. greenhouse gas emissions² is that the costs to the American economy can be avoided even as some of America's largest trading partners incur the pain of greenhouse gas emissions controls. Regardless of whether one agrees with Bush administration policy on Kyoto, the underlying assumption that America can avoid the costs of Kyoto is flawed. Even if America remains on the sidelines, it is not likely to avoid the costs associated with the global effort to reduce CO₂ emissions, because it is not in the self-interest of America's trading partners, namely the European Union, to allow the United States to enjoy the competitive advantage of avoided costs of CO₂ emissions controls.

The Growing Alliance Between the EU and Russia

Until very recently the prospects for Russian ratification of the Protocol were poor. As recently as May 19, 2004, Andrey Illarionov, Economic Adviser to Russian President Putin, told the BBC that Russia would never ratify the treaty because it "does huge economic, political, social and ecological damage to the Russian Federation." However, with Russia now set to ratify Kyoto by the next meeting of the Conference of Parties in December 2004 in Buenos Aires, Kyoto will be an enforceable international treaty with more than 122 signatories. The abrupt shift in Russia's attitude toward Kyoto suggests that Mr. Illarionov's prior statements were calculated merely to extract additional concessions from the EU in its talks on World Trade Organization (WTO) admission.

In any case, it should come as no surprise that Russia is set to ratify the Kyoto Protocol in exchange for EU backing in its WTO bid. A convergence of EU and Russian strategic interests has been a long time coming since the U.S. became the world's only "superpower." Growing EU-Russian ties are a logical development in the complex relationship of global warming, trade, and security.

The EU-Russian agreement is logical because it achieves both parties' strategic interests. For Russia, it brings closer the prospect of WTO membership, which the Russian Federation has sought since 1993 to secure the benefits of the multilateral trading system, namely Most Favored Nation status (MFN). It also provides Russia with access to EU capital to modernize its aging industrial base.

For the EU, the agreement achieves several strategic aims that will make it more competitive with the United States in a CO₂-constrained global economy. Of paramount concern to the EU, securing Russia's ratification of Kyoto ensures that the treaty will enter into force. This will give the EU access to Russia's surplus CO₂ allowances and enable the EU to achieve its Kyoto target more efficiently. Russia's greenhouse gas emissions are about 30 percent below its 1990 emissions levels due to the closing of Russia's Soviet-era industries, making Russia a large potential net exporter of CO₂ allowances.

The agreement also secures EU access to Russia's vast natural gas reserves, which are now closer than ever, with the Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia having joined the EU on May 1, 2004. Russia owns 28 percent of known global natural gas reserves—by far the richest in the world. In 2003, 43 percent of the EU's natural gas supply came from Russia.³ The EU's dependence on Russian natural gas is predicted to grow considerably over the next 25 years as the EU moves to replace its carbon-intensive coal generation with natural gas. Natural gas is expected to be the fastest-growing fuel source in Western Europe, with an average annual growth rate of 2 percent.⁴ Under the agreement, Russia committed to increase the domestic price of natural gas to industrial users to cover costs, profits and investment needed for exploitation of new fields, thereby eliminating what the EU perceived as an unfair advantage to Russian industry. According to an EU press release, "Increasing domestic energy prices will encourage a more efficient use of energy resources in Russia and it is thus mutually supportive of the Kyoto goals."⁵

Finally, the agreement provides the EU with the opportunity to export energy-efficient technology to Russia through the Joint Implementation (JI) framework, thereby generating additional CO₂ allowances to help the EU meet its Kyoto goals. Two examples are EU-Russian projects to eliminate oil spillage and to reduce flaring and venting of natural gas. Oil companies in Russia lose about 20 million tons of oil each year to spillage, comprising 5 percent of the total extracted annually. The EU estimates that eliminating these losses alone would generate energy savings almost as great as Russia's annual production of natural gas:

This represents a huge amount of green house gas emissions that can be reduced with a view to mitigating climate change ... [as] the EU and Russia must work together to implement the Climate Change Convention and the Kyoto Protocol, and co-operation should include capacity building regarding the monitoring of greenhouse gases and reporting in particular emissions trading and Joint Implementation.⁶

Russia also flares, vents, and otherwise loses a huge quantity of natural gas, the recovery of which presents major opportunities for EU investment under Kyoto's JI framework. A substantial amount of Russian natural gas—comprised mainly of methane that is 23 times more potent than CO₂ as a greenhouse gas—is vented directly into the atmosphere and lost from pipelines to the EU. Around 5 percent of world natural gas production is lost to flaring and venting (80 percent and 20 percent, respectively). Global CO₂ emissions from flaring during oil and gas extraction are equivalent to about 10 percent of the emissions reduction commitments of Annex 1 countries under the Kyoto Protocol for the 2008-2012 period. For these reasons, the EU-Russian WTO agreement makes economic sense for both sides.

The Potential Trade War

There is little question that CO₂ reduction measures will increase the cost of energy in the EU, Japan, and the other industrialized nations that have ratified Kyoto. As a result, Annex I countries that have not undertaken comparable measures to reduce greenhouse gas emissions, including the United States, Canada, and Australia, will enjoy a competitive advantage in the form of lower energy costs and, in turn, lower costs of production. A fundamental impact of Kyoto therefore will be a global imbalance in the costs of production among the United States, Australia, and virtually the rest of the industrialized world. This imbalance will prompt the EU to seriously examine the option of imposing some form of countervailing duty on U.S. imports to compensate for the disadvantage and to fund additional CO₂ offset projects under the CDM mechanism.

The EU clearly is concerned about the potential for competitive harm associated with the recent greenhouse gas emissions program, noting that EU emissions allowance trading scheme (ETS) "has the potential to lead to even further increases in power prices that could cause significant damage to EU competitiveness, especially for energy intensive industries such as pulp and paper, iron and steel, cement and lime, chemicals and others. ... It is essential that this situation be monitored and actions taken if these industries become disadvantaged."⁷ Several non-governmental organizations also have advocated for trade sanctions against the United States, arguing that:

Until the U.S. ratifies and implements the Kyoto Protocol, there cannot be fair and free trade with the U.S. and the U.S. will be in clear violation of the WTO Agreement on Subsidies and Countervailing Measures.⁸

Recent WTO Successes Against the U.S.

Nor is there any reason to question that the EU will use trade sanctions as a hammer when it finds that the U.S. has garnered an unfair competitive advantage by subsidizing exports. Two recent examples, the sales corporation/extraterritorial income (FSC/ETI) and the steel import cases, demonstrate that the EU will use trade sanctions when necessary to force a change in U.S. behavior. In both cases, the EU successfully implemented countervailing duties of several billion dollars that were upheld by the WTO Appellate Body. In both cases, the United States underestimated the EU's resolve to impose trade sanctions, and the sanctions prompted the United States to act quickly to remove the subsidies.⁹

Favorable WTO Precedent

Economic and political conditions heighten the risk of EU trade sanctions. Whether such trade sanctions could withstand challenge before the WTO is a key question. In this regard, the General Agreement on Tariffs and Trade of 1994 (GATT) generally prohibits trade restrictions except under very limited exceptions, such as where a member country subsidizes a specific industry. However, even where an actionable subsidy cannot be established, Article XX(g) of GATT allows a member to impose measures on imports that relate to the conservation of exhaustible natural resources. Article XX(g) of GATT states:

[4] Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures . . .

[1] relating to the conservation of

[2] exhaustible natural resources

[3] if such measures are made effective in conjunction with restrictions on domestic production or consumption.¹⁰

What is required to satisfy the four elements of Article XX(g) has been interpreted by the WTO Appellate Body in two cases involving the U.S. The first case, *U.S. – Standards for Reformulated and Conventional Gasoline*,¹¹ concerned measures for reformulated gasoline to protect air resources. The second case, *U.S. – Import Prohibition of Certain Shrimp and Shrimp Products*,¹² concerned measures for shrimp harvesting to protect endangered sea turtles. Together, the cases established firmly the principle that a country may impose a trade restriction on a product manufactured in another country if: (1) the product is manufactured in a manner that depletes a

ABOUT THE KYOTO PROTOCOL

In 1997, the United States signed the Kyoto Protocol, a global treaty in which the developed nations (the so-called Annex I countries) agreed to limit their greenhouse gas emissions—mainly CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—relative to the levels emitted in 1990. The United States committed to reduce emissions from 1990 levels by 7 percent during the first compliance period, 2008-2012. Kyoto enters into force 90 days after at least 55 countries and Annex I countries accounting for at least 55 percent of the total 1990 carbon dioxide emissions ratify it. As of the writing of this article, 84 parties had ratified the Protocol, including Annex I countries representing 44 percent of carbon dioxide emissions. Thus, Kyoto will not enter into force until one or more Annex I countries representing an additional 11 percent or more of carbon dioxide emissions ratify the treaty.

Even though the Kyoto Protocol is not yet in force and the rules for implementing it have not yet been fully developed, the EU in 2003 decided to move forward with its own mandatory greenhouse gas control program, which will begin in January 2005—three years ahead of Kyoto's

schedule.¹ The EU greenhouse gas emissions allowance trading scheme (EU ETS) is patterned on the U.S.'s Acid Rain Program under Title IV of the Clean Air Act, the world's first market-based pollution trading program that substantially reduced sulfur dioxide emissions from coal-burning power plants through a "cap and trade" program. Under the cap and trade approach, sources are allocated allowances (the cap) which they can then buy and sell among themselves (trade) to achieve net reductions in SO₂ emissions. The Acid Rain Program surpassed expectations by reducing annual SO₂ emissions in Phase I by almost 40 percent at a cost well far below even the most optimistic predictions.²

The first phase of the EU ETS runs from Jan. 1, 2005, to Dec. 31, 2007. Under the EU ETS, any of the 12,000 covered energy-producing and energy-intensive plants that do not use all of their allowances will be able to sell them to companies that are unable to achieve their allocation. In this way, plants that can reach their target in the cheapest way will over-control their CO₂ emissions and thereby generate emissions allowances that can be sold to other plants unable to

achieve their targets because of cost. The EU estimates that attainment of the Kyoto target of an 8 percent reduction in CO₂ emissions by 2010 will cost about 7 billion euros based on a cost per CO₂ allowance of 33 euros, or \$8.5 billion and \$40, respectively.

On April 20, 2004, the European Parliament approved the EU's "Linking Directive," which modifies the EU ETS to enable emission allowances to be generated from emission reduction projects undertaken outside the EU. The Kyoto Protocol incorporated three mechanisms to assist Annex I countries in achieving their emission reduction targets: (1) Joint Implementation (JI), whereby two Annex I countries may jointly implement an emissions reduction project; (2) Clean Development Mechanism (CDM), whereby an Annex I country can implement an emissions reduction project in a non-Annex I country (i.e. a developing country); and (3) Emissions Trading, whereby an Annex I country can purchase a CO₂ "allowance" (i.e. generally, the right to emit one ton of CO₂ or its equivalent (e.g. methane, nitrous oxides, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) from another country to meet its reduction target. —*P.F.*

Endnotes:

1. See, EC Directive 2003/87/EC.
2. See, U.S. EPA, Acid Rain Program: Overview (<http://www.epa.gov/airmarkets/arp/overview>).

natural resource of the importing country; (2) the restriction is primarily aimed at and reasonably related to the conservation of a natural resource; (3) the restriction applies evenhandedly both to domestically manufactured and imported products; and (4) the restriction is not imposed arbitrarily or unjustifiably such that there are no other reasonable options available that would avoid the discrimination between like domestic and imported products or between like imported products. This last requirement is generally referred to as the "Chapeau" or introductory clause of Article XX.

The Parameters of an EU CO₂ Tax on U.S. Goods

A narrowly tailored carbon tax on U.S. goods manufactured without CO₂ controls could withstand challenge before the WTO, particularly if the tax is dedicated to furthering the aims of the Kyoto Protocol by funding JI and CDM projects

that offset the rough quantity of CO₂ emissions generated during the manufacture of the imported products in the United States.

First, there should be little question that the global climate and associated ambient temperatures is an exhaustible natural resource. In fact, a decade ago, the United States made that very argument to the WTO. In *U.S. – Taxes on Automobiles*, the United States argued that automobile Corporate Average Fuel Economy (CAFE) standards were valid measures under Article XX(g) because they were designed to conserve fossil fuels that when combusted contributed to climate change notwithstanding that they had a disparate impact on European automobiles. Given its position, the United States will be hard-pressed to now contend that CO₂ controls do not conserve an exhaustible natural resource—the climate.

Second, there is little question that the manufacture of

KYOTO WITHDRAWAL SEEN AS IRRESPONSIBLE

EU attitude toward the United States' withdrawal from Kyoto is also relevant in assessing the risk of trade sanctions. Having undertaken aggressive measures to reduce CO₂ emissions, the EU perceives the U.S. retreat from Kyoto as irresponsible, particularly when the United States is by far the largest global emitter of greenhouse gases. The United States accounts for 36 percent of the greenhouse gas emissions from Annex I countries and 20 percent of total global emissions. While the EU has reduced its CO₂ emissions by 2.3 percent since 1990—one-quarter of its 2012 target of an 8 percent reduction—U.S. CO₂ emissions have increased by 13 percent.² Energy-related activities are the primary sources of U.S. anthropogenic greenhouse gas emissions, accounting for 85 percent of total emissions on a carbon equivalent basis in 2002. Energy-related activities emit 97 percent of the nation's CO₂, 36 percent of its methane, and 16 percent of its nitrous oxide.

Endnotes:

1. See European Environmental Agency, *Greenhouse Gas Emission Trends and Projections in Europe 2003*, Summary.
2. See U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2002* (April 2004).

goods and the combustion of motor vehicles in the United States without some form of CO₂ control—whether pursuant to a cap and trade program, a carbon tax, fuel economy increases, or other technology-forcing measures—serves to exhaust this natural resource. The connection between anthropogenic CO₂ emissions and global climate change is now well established. In fact, with Kyoto scheduled to enter into force, the EU can justify the measures as related to the global effort to reduce CO₂ emissions.

Third, a CO₂ tax on U.S. goods would be primarily aimed at, and reasonably related to, the conservation of the climate, especially if the carbon tax revenues were transferred to a third party fund dedicated to financing projects to address climate change, such as the World Bank's Prototype Carbon Fund. The PCF was created "to promote project-based mechanisms that will help countries to reduce global concentrations of greenhouse gases and therefore minimize the adverse impacts of climate change on developing countries."¹³ By dedicating the CO₂ tax revenue to a dedicated fund to finance carbon reduction projects, the trade measure would not be "disproportionately wide in its scope and reach in relation to the policy objective of protection and conservation of [the climate]."¹⁴

Fourth, because the carbon tax would be calculated based on the cost of CO₂ reductions imposed on EU producers, the restriction would apply even-handedly both to domestically manufactured products (which already are taxed to the extent that they are subject to EU ETS, or, in the case of automobiles, to the CO₂ reductions) and to imported products. In other words, the restriction should not create an unfair advantage to domestic products. This can be achieved by calculating the CO₂ allowance costs on a per-unit basis for various

products, such as cement, glass, brick, ceramics, and paper.

Fifth, given the well-documented and extensive international efforts to persuade the United States to reduce its domestic CO₂ emissions, an EU CO₂ tax on U.S. imports could hardly be said to be arbitrary, unjustified, or attainable by some other less restrictive means. The United States would have difficulty arguing that the CO₂ tax is arbitrary if not also applied against other large CO₂ emitters not bound by Kyoto, such as China and India. The Kyoto Protocol represents a multilateral treaty which, right or wrong, was negotiated by the industrialized nations to

not impose mandatory CO₂ reductions on the transition economies of China and India. While the United States has not ratified Kyoto, it is required by international law "to refrain from acts which would defeat the object and purpose of the treaty."¹⁵ Thus, the United States may not claim that a CO₂ tax is arbitrary if it does not apply to goods from China or India, and therefore in violation of Article XX's Chapeau, as such a position would offend the fundamental basis of the bargain struck under Kyoto Protocol that the United States is duty-bound to uphold, even if it chooses not to ratify.

How the U.S. Can Avoid a Trade War

In the vacuum created by the administration's withdrawal from the Kyoto Protocol, a number of states have stepped forward with legislative and policy initiatives to reduce greenhouse gas emissions.¹⁶ Fourteen states have adopted renewable portfolio standards that require electricity suppliers to derive an increasing percentage of supply from renewable energy generation sources, such as wind, solar, biomass, and geothermal. State RPS legislation, however, will not create the necessary market forces to effectuate the large-scale reductions in CO₂ necessary for the United States to achieve a significant reduction in its greenhouse gas emissions. National legislation is essential.

In October 2003, the most comprehensive global warming legislation to date was defeated by a surprisingly narrow margin of only seven votes. The Climate Stewardship Act of 2003 (S. 139), as amended by S.A. 2028, sponsored by Sens. John McCain, R-Ariz., and Joseph Lieberman, D-Conn., would establish a system of tradable emission allowances and related emissions reporting requirements to tackle global warming. The bill covers six greenhouse gases: carbon dioxide, methane,

nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The bill would cover 75 percent of direct greenhouse gas emissions in the United States and would reduce carbon emissions to year-2000 emission levels by 2015. Appliance rebates, transition assistance, and other transfer payments that would be made by a newly created Climate Change Credit Corporation—a non-profit organization created to be funded by emission allowance sales—would significantly mitigate the increase in average household energy expenses.

EIA's May 2004 analysis of the bill found that allowance costs will fall largely on the electricity sector and would be passed on to consumers. EIA predicts average electricity prices will increase under the bill from 6.4 cents per kilowatt-hour to 6.8 in 2010 (about \$33 per household per month), from 6.7 to 8.0 in 2020 (about \$108), and from 6.7 to 9.1 in 2025 (about \$200). MIT also studied the bill but assumed—based on experience from the Acid Rain Program—that sources would make substantial early reductions in non-CO₂ emissions that would be banked for later sale. By changing this single assumption from EIA's analysis MIT found that monthly costs to the average household would be only \$15 to \$20. Also, EIA assumed, unrealistically, no significant fuel-shift to natural gas (despite this market's historic unpredictability), no market penetration of new low-emission technologies (despite billions of federal R&D spending), and no continued federal and state emission reduction programs. Obviously, such programs are likely to continue, and will further reduce the bill's costs by independently contributing toward the bill's modest goal of reducing CO₂ emissions to year 2000 levels by 2015.

By adopting some form of national legislation that begins to internalize the costs of global warming, the United States would blunt any effort by the EU to impose trade sanctions on U.S. goods. The EIA analysis points out one fundamental conclusion. The reduction of global warming gas emissions called for under the Kyoto Protocol will increase electricity prices and therefore the cost of goods. Even under the relatively modest goals of the McCain Lieberman bill, electricity prices will increase due to the internalization of the costs of the cap and trade system.

The risk of trade sanctions by America's largest trading partners due to the failure of the United States to control CO₂ emissions should be a real concern to U.S. policy-makers. If the United States continues to resist global pressure to reduce its CO₂ emissions, it will largely cede control over how the rules implementing Kyoto are written and risk trade sanctions by trading partners seeking to reduce the disparity in production costs.

To avoid this negative outcome, the United States should pursue a more pragmatic middle path that confronts the prob-

lem of global warming by laying out the necessary domestic framework and economic incentives to create a domestic CO₂ emissions market that produces efficient CO₂ reductions, much like the Acid Rain Trading Program. In this way, America can develop new technologies, regain its credibility in the global deliberations over how to combat global warming, and avoid the risk of a damaging trade war with the EU. ■

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Endnotes

1. See The White House, Office of the Press Secretary, President Bush Discusses Global Climate Change, June 11, 2001.
2. The U.S. Environmental Protection Agency has concluded that it lacks the statutory authority to even regulate CO₂ as an "air pollutant," even though the Clean Air Act says that EPA can regulate any substance emitted to the ambient air having an adverse effect on "public health or welfare," which includes "effects on weather, visibility, and climate." See 42 U.S.C. §§ 7408(a) and 7602(g) & (h). See Memorandum from EPA General Counsel Robert Fabricant to Acting Administrator Maryann Horenko, Aug. 28, 2003.
3. See U.S. Energy Information Administration/*International Energy Outlook 2004*, at 56.
4. *Id.* at 55.
5. European Commission, Russia - WTO: EU-Russia Deal Brings Russia a Step Closer to WTO Membership (May 21, 2004) (http://europa.eu.int/comm/external_relations/russia/intro/tip04_673.htm).
6. European Commission, *The EU and Russia: Closer Neighbors and Partners*, May 2004 (http://www.eur.rul/en/p_231.htm).
7. *European Parliament, Committee on Environment, Public Health and Consumer Policy, Final Report on the Proposal for a European Parliament and Council Directive Amending the Directive Establishing EU ETS*, A5-0154/2004 (March 17, 2004), p. 6/32.
8. See Greenpeace Comments and Annotations On the WTO Doha Ministerial Declaration, January 2002.
9. See U.S. House of Representatives, Committee on Ways and Means, Background on American Jobs Creation Act of 2004, H.R. 4520, June 17, 2004 (<http://waysandmeans.house.gov/media/pdf/jsc/4520/backgroundwhybillneeded.pdf>); *Washington Post*, "U.S. Loses Appeal On Steel Tariffs, WTO Decision Lets EU Retaliate," Nov. 11, 2003.
10. WTO, General Agreement of Tariffs and Trade, Article XX(g) (1986) (<http://www.wto.org>).
11. *WTO, Report of the Appellate Body, United States - Standards for Reformulated Gasoline*, AB-1996-1, WT/DS2/AB/R; (96-1597), 1996 WTO DS LEXIS 1, (April 29, 1996).
12. *WTO, Report of the Appellate Body, United States - Import Prohibition of Certain Shrimp and Shrimp Products*, AB-1998-4, WT/DS58/AB/R (98-3899), Oct. 12, 1998.
13. See International Bank for Reconstruction and Development, Resolution No. 99-1 Authorizing Establishment of the Prototype Carbon Fund, As Amended (<http://carbonfinance.org>).
14. *Shrimp-Turtle* at 53.
15. Vienna Convention on the Law of Treaties, Article 18.
16. See D. Smith and K. Danish, "Climate Change: The Heat Is On," *Public Utilities Fortnightly*, January 2004.