

Trade and Investment Implications of the Kyoto Protocol

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The Kyoto Protocol (KP) adopted on 11 December 1997 marks the first step towards an international strategy to limit greenhouse gas emissions and represents a major push towards the establishment of a multilateral regime on climate change.¹ The KP will enter into force once it is ratified by no less than 55 parties to the Framework Convention on Climate Change (FCCC) which account in total for at least 55% of the total carbon dioxide emissions of the greenhouse gases for 1990 of the parties included in Annex I.²

The Protocol's ultimate objective is to achieve the reduction in the emissions of greenhouse gases (GHG) by establishing quantified limitation and reduction obligations to the Organization for Economic Cooperation and Development (OECD) member States and East European countries. Various interests were to be conciliated under the Protocol. Both developed and developing countries' main objective was to ensure that the Protocol would not hamper strong and growing national economies and development claims. Developing countries were against taking emissions commitments under the Protocol. Their opposition was based on the fact that industrialized countries had a historical responsibility for causing the doubling of GHG concentrations in the atmosphere. Therefore, the Protocol sets up burden-sharing obligations.

Developed countries finally agreed to reducing their overall emissions of greenhouse gases by at least 5% below 1990 levels in the first commitment period of 2008 to 2012. These countries are the only ones with quantified emission limitation or reduction commitments. The KP imposes differentiated emission reduction targets, such as 8% reduction for the European Community and 7% reduction to the United States. Developing countries have no international obligations in the first commitment period.

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¹By January 2003, 104 countries had ratified the Protocol. Ratifications by Annex I countries accounted for 43.9% of that group's carbon dioxide emissions in 1990 and include Japan, Canada and the EU. The USA (36.1%) and Australia (2.1%) have declared their rejection of the KP. Thus, in order for the KP to enter into force, Russia (17.4%) needs to ratify it. Official pronouncements suggest that Russia is on track to ratify the KP in the coming months. The Kyoto Protocol includes six greenhouse gases, which are listed in Annex A: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs). Greenhouse gases, according to Article 1 of the FCCC, means “those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation”.

² Annex I Parties to the FCCC are Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America.

Policies aiming to combat climate change will certainly have a bearing on world trade. Greenhouse gas emission reduction will affect various sectors in the world economy, such as transport, industry, energy sectors and production processes. Measures taken by Annex I countries to meet GHG emission reduction targets will affect the costs of production of traded products and therefore their competitive position in the world market.

There are two possible scenarios. First, a reduction in Annex I countries' production of GHG intensive products will lower potentially and momentarily their demand for industrial goods and services elsewhere and thereby potentially decrease the growth of overall trade and investment. Second, Annex I countries may demand more industrial products from non-Annex I countries not facing the Kyoto Protocol emission reduction commitments, since the latter can produce more cost effectively.

In any case, non-Annex I economies are likely to be affected through their investment and trade linkages with Annex I regions. In the first scenario, non-Annex I economies will be negatively impacted with an overall decrease in trade and investment. The GHG reduction policies in Annex I countries will raise the prices of energy and hence the production costs of related sectors. Import costs of Annex I goods are projected to raise as a result of the higher production costs in these countries and exports from non-Annex I countries tend to decrease. In the second scenario, non-Annex I Parties are positively affected in terms of trade due to greater Annex I countries' demand for industrial products from non-Annex I countries and the resulting increase in their exports.

Generally, regions that export more fossil fuels such as the OPEC countries will be the most affected due to the lower Annex I fuel use. The GDP of countries exporting fossil fuels tend to decline as a result of the reduction in its exports. Regions that export more emission intensive goods other than fossil fuels to Annex I countries, such as South Korea, China, India and Brazil, are generally projected to experience GDP gains as a consequence of improved export competitiveness against Annex I regions.³

An important feature of the Protocol is that it provides Parties with enough flexibility to choose policy instruments to meet their commitments. It specifies emission reduction targets per country in the 2008-2012 periods, but it does not specify which policy interventions must address a specific economic sector (for example, transport), a specific energy carrier (such as oil, coal or natural gas) or a specific policy tool (say, a carbon or energy tax). This allows countries to seek optimal ways to achieve GHG emission reduction and adjust their climate change strategies to the circumstances and special features of their economies.

The KP creates an opportunity for the use of market mechanisms towards the achievement of its purposes, allowing States to fulfil their obligations with a certain degree of flexibility. Three "Kyoto mechanisms" will assist Annex I Parties in meeting their targets: emissions trading (KP Article 17), joint implementation between Annex I Parties (KP Article 6), and the Clean Development Mechanism (CDM) (KP Article 12). First, Emissions Trading allows exchange of GHG emission reduction allowances among Annex I Parties, enabling them to meet their

³ Brown, S. et alii, "Economic Impacts of the Kyoto Protocol: Accounting for the Three Major Greenhouse Gases", ABARE, 1999, pp. 10-11.

commitments by selling or buying such titles. An Annex 1 country, which expects to emit more than its assigned amount, can thus buy the rights to emit GHG from another Annex 1 country, which was able to reduce its GHG emissions below its assigned amount. Second, Joint Implementation entails collaboration among Annex I Parties on projects to reduce greenhouse gas emissions from a baseline scenario. The baseline attempts to estimate what the future emissions levels would be if the project intending to reduce GHG emissions is not implemented. Emission reduction below the baseline creates a "surplus" and can be used in the form of credits, which are attributable to the investing country. Third, the Clean Development Mechanism (CDM) will provide incentives to Annex 1 countries investing in emission reducing projects in developing countries. These projects may generate Certified Emission Reductions, being divided between the host country and the investor. The credit trading under the CDM is expected to achieve the dual objectives of providing cost effective compliance to Annex 1 countries and at the same time generating resource flows for development in non-Annex 1 countries.

The market mechanisms are important because they minimize competitiveness loss or adverse impacts of GHG mitigation policies. Such mechanisms tend to make pollution control a source of profit.⁴ Investment flows are expected to derive particularly from projects implemented jointly by Annex I countries or in developing countries under the Joint Implementation and the CDM respectively. This is due to the fact that Annex I countries are generally willing to meet extraterritorially their GHG emissions targets so that their societies and economies are less affected. Those countries may obtain it elsewhere through less costly methods. Non-Annex I States expect to benefit from the investments carried out by Annex I countries and the transfer of clean and modern technologies.

There are several uncertainties associated with the market mechanisms created by the Protocol and with their impacts in terms of trade benefits and environmental protection. Investment flows to developing countries under CDM projects tend to be geographically distributed in an uneven way, as least developed countries tend to attract fewer investments. The priorities for developed and developing countries, and for countries within Annex I are not necessarily compatible. Annex I countries expect to achieve GHG emission reduction in the most cost effective fashion, through low-cost abatement projects in non-Annex I countries. Low-cost carbon mitigation projects, however, will not necessarily contribute to the sustainable development in non-Annex I countries. In addition, the mechanisms' complex structures and formal requirements to the obtainment of emission reduction credits if not clearly established could discourage private sector investment.

Investment flows deriving from GHG emission reduction projects are not necessarily desirable from an environmental perspective. Projects that are beneficial for carbon abatement are not necessarily so for sustainable development. For example, replacement of conventional energy technology with some alternative technology, in India, actually increased residual solid waste.⁵ The flexibility mechanisms may also delay the awareness concerning the need for structural changes, particularly of current energy policies and of industrialized countries' life style.

⁴ UNCTAD, "Greenhouse Gas Market Perspectives: Trade and Investment Implications of the Climate Change Regime", 2001, p. 7.

⁵ Austin, D. et alii, "How Much Sustainable Development Can We Expect from the Clean Development Mechanism", World Resource Institute, 1999, p. 7.

Moreover, there is a possibility that action to limit emissions in industrialized countries will consequently lead to emissions increases in countries not constrained by GHG emission reduction targets, the so-called "emissions leakage", which is a potential consequence of the second scenario described above. This could undermine the effectiveness of action taken by industrialized countries.

The non-participation of key States in the Kyoto system, particularly the United States and Australia render unclear the magnitude of the emerging carbon market. The United States avoids the costs of mitigating GHG emissions and indirectly subsidizes its industry by rejecting the KP objectives. The competitiveness of American products increases vis-à-vis those that have ratified the KP. The current U.S. Administration position hampers for the moment the possibility of a robust carbon market and leads to the continuing incidence of natural disasters. Actually, without the participation of the United States, negotiations for future commitments with more stringent targets for developed countries and greater developing countries participation become less realistic.

Despite the actual difficulties of implementing the Protocol's objectives, there is very little doubt that the future will be carbon-constrained. Economic losses related to unabated climate change have proved to be fairly high (estimated at approximately 630 billion dollars in the 1990's according to the United Nations World Disaster Report). Certainly, the emerging carbon market does not provide in itself the solution for the fight against global warming; however, it plays the essential role of a propeller and catalyst for the achievement of the KP objectives.

The scale of trade actually depends upon the implementation and outcomes of the flexibility mechanisms, which are still to be refined. Positive effects of a future carbon market would be that constraints in GHG emissions could tend to change industrial structures and induce innovation in various ways, by stimulating growth of lower GHG-emitting industries.⁶ Financing provided particularly by the CDM could make renewable options and clean technologies more competitive. This could, in addition, better prepare developing countries to meet future obligations after the first commitment period. A robust and active carbon market would provide less costly solutions and finance for the achievement of real GHG emission reductions and therefore provide an incentive for compliance with the KP.

⁶ Brack, D. et alli, "International Trade and Climate Change Policies", EARTHSCAN, 1999, p. 29.