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ENVIRONMENTAL ASPECTS OF GLOBAL TRADE IN STEEL: THE NORTH AMERICAN STEEL INDUSTRY PERSPECTIVE

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INTRODUCTION

1. The North American steel industry benefited from a healthy economic environment in the NAFTA countries in 2006. NAFTA steel producers made more than 130.5 million metric tons of steel in 2006, their second highest total ever. However, steel imports into NAFTA also reached record levels in 2006. Economic growth in the NAFTA countries has already slowed from 2006 levels, and is expected to remain relatively modest. North American steel producers have prepared a Short Range Outlook for the NAFTA economies and steel markets, which we have submitted to the OECD Steel Committee as a room document for the May 2007 meeting.

2. Despite the generally positive trends of the last few years, there are a number of factors that could adversely affect NAFTA steel producers and the global steel industry. One of the most important of these is the potential effect of environmental regulation on world steel trade.

3. In response to market forces, producers in all three NAFTA countries have made, and will continue to make, dramatic reductions in greenhouse gas ("GHG") emissions per ton of steel produced. At the same time, we have significantly increased energy efficiencies and made numerous other environmental improvements. The NAFTA steel industry is concerned, however, that the increased focus by governments around the world on environment and climate change policies may dramatically compound the challenges facing the global steel industry. Last year, the NAFTA industry made submissions to the OECD Steel Committee about excessive capacity and trade imbalances in the steel sector created by government subsidies and other market-distorting policies, particularly in China. The NAFTA industry's continuing concern about the ambitious expansion of some countries' steelmaking capacity is exacerbated by the possibility of new climate change policies that could create additional negative competitive effects among global steel producers.

4. The increased impact of environmental regulation is heightened by the ongoing globalization of the steel industry. For the first time in history, a number of steel companies have production operations in multiple countries. These countries often have very different environmental compliance regimes, so that there may be imbalances in the costs and means of environmental compliance even within a single company.

5. The ability of the global steel industry to evaluate the potential impact of these actions and respond to them is hindered by inconsistencies in monitoring and reporting methodologies and the lack of meaningful emissions data from some increasingly important regions. Since it is often difficult even to obtain reliable estimates of production levels, the true scope of emissions by steel mills is that much more difficult to establish.

6. This paper will provide a brief analysis of the potential impacts of environmental regulation, especially regulation of GHG emissions, on world trade in steel. It first reviews recent trends in steel production and export. Next, it describes the experience of NAFTA steel producers in reducing GHG emissions. The paper then describes the apparent impact on trade and investment of the GHG regulations imposed by the European Union ("EU"), the most comprehensive such program in the world. The paper concludes with a discussion of steps the industry is taking to establish accurate data on its worldwide emissions levels and to develop a common industry approach to the issue of climate change.

Recent Trends in Steel Production and TRADE

7. Several important changes in steel production and trade have occurred over the last decade that are directly relevant to consideration of the relationship between environmental concerns and global trade in steel. Worldwide production of steel has substantially increased over the last decade. This alone would cause emissions by the global steel industry to increase, absent offsetting gains in efficiency and environmental controls. Moreover, most of the expansion has occurred in countries, especially China, that in general have greater amounts of inefficient steel production and weaker environmental regulation or enforcement. In addition, there are indications that some producers have begun to move steel slab production from the EU, which has adopted a "cap and trade" system for GHG emissions by steel producers, to countries with less stringent regulation. This could be one unintended result of the EU's efforts to address climate change.

Global Patterns in Steel Production

8. According to the International Iron and Steel Institute, world production of steel increased by nearly 63 percent from 1996 to 2006, from 750.1 million tons in 1996 to more than 1.2 billion tons in 2006 (a net increase of about 470 million tons). Expansion varied by region, however, and at least one area – Australia – actually saw a decline. There was considerable variation between regions. The Chinese steel industry has been a disproportionate source of the growth in production over the past ten years. China is now by far the world's largest steel producer, making more steel than the next six producers (Japan, the United States, Russia, Korea, Germany, and Ukraine) *combined*. For example, China's steel output increased by almost 317 percent between 1996 and 2006, while the NAFTA steel industry increased its production by only 5.7 percent.

9. The following chart shows the changes in production between 1996 and 2006:[1]

Changes in World Steel Production, 1996 – 2006		
Producer	**Change (Million MT)**	**Change (%)**
China	320.9	316.9%
Russia/Ukraine	40.0	55.9%
European Union	28.5	16.9%
Japan/Korea	26.9	19.5%
Other	16.6	22.4%
India	14.3	60.4%
Other OECD	9.9	41.3%
NAFTA	7.0	5.7%
Brazil	5.7	22.4%

[1] The EU includes all members of the European Union in 2006. Major producers in the "other" category include Taiwan, Romania, South Africa, and Iran.

10. These changes have resulted in a substantial shift in the distribution of global steel production. Overall, steel production in OECD countries rose by 72.4 million tons (16 percent) between 1996 and 2006 – but production in the rest of the world rose by nearly 398 million tons over the same period. In 1996, countries that are currently members of the OECD accounted for 60.6 percent of global steel production; by 2006 this share had fallen to 43.2 percent. China's share of world production has nearly tripled, from 13 percent in 1996 to 35 percent in 2006. Given additional planned increases in capacity in China, India, Brazil and elsewhere, it is likely that the OECD share of world production will fall below 40 percent in the near future.

Global Patterns in Steel Exports

11. Patterns of steel trade have also changed since 1996, with Chinese exports tripling. The following chart shows exports from the major steel producers in 1996 and 2005, as well as the change over this period. Exports by the EU reflect shipments to countries outside the EU only; intra-EU exports are not included.[2] The vast majority of NAFTA exports were from one NAFTA country to another; in 2005, NAFTA exports to countries outside NAFTA were only 3.6 million metric tons – significantly less than India's exports.

STEEL EXPORTS (MILLION METRIC TONS)			
	1995	**2005**	**Change**
CIS	42.5	63.3	48.9%
Other	32.3	50.3	55.7%
Japan/Korea	29.4	48.1	63.6%
China	6.7	27.4	309.0%
EU	27.6	22.4	-18.8%
NAFTA	15	20.9	39.3%
South America	13.9	17.2	23.7%
Other OECD	11.9	15.6	31.1%
India	1.4	6	328.6%
World	**180.7**	**271.2**	**48.9%**

12. Preliminary 2006 data indicate that the trends described above have continued. For example, Chinese exports have continued to grow, and have reached approximately 47.3 million tons. China is now the single largest steel exporting country in the world. India has shown even greater growth on a percentage basis, as Indian steel exports grew by 329 percent between 1996 and 2005. However, India began from a much lower initial level, so the total quantity of India's exports is much lower than China.

13. Various countries have different competitive advantages in the production of steel. There is little dispute that at least one of the advantages of producers in China and some developing countries has been a lower (or no) cost of environmental control. This raises the possibility that steel production has shifted and

[2] The EU figure reflects exports by all countries that were members of the EU in 2006.

will continue to shift from countries with strict environmental regulation and enforcement to less-strict jurisdictions. Indeed, this concern is present, not just with steel, but with industries consuming steel as well. Experience with the EU cap and trade program suggests that this may not be an academic issue.

The potential environmental impact of steel production

14. The production of steel can result in the release of a range of emissions. Conceptually, potential environmental effects of these releases can be divided roughly into two categories: those with local effects, and those that affect the global environment. In general, only air emissions have truly global effects, although water discharges and solid wastes handling can have impacts across national boundaries.

15. The volume and nature of air emissions created by steel production depend on the process used. The production of coke, iron and steel create different types and magnitudes of emissions. Additional processing steps, including rolling, pickling and galvanizing, also can be sources. The Canadian government has summarized the main emissions discharged during steel production in the following chart:[3]

AIR EMISSIONS FROM IRON AND STEEL PRODUCTION	
Process	**Significant Pollutant Types**
Integrated Steel Plants	
Sintering	Carbon dioxide, carbon monoxide, particulate matter, volatile organic compounds, nitrogen oxides, dioxins and furans.
Coke making	Carbon dioxide, volatile organic compounds, nitrogen oxides, sulphur oxides, carbon monoxide, particulate matter, benzene, and PAHs.
Ironmaking (Blast Furnace)	Carbon dioxide, carbon monoxide, sulphur oxides, volatile organic compounds, nitrogen oxides, and particulate matter.
Steelmaking (Basic Oxygen Furnace)	Carbon dioxide, carbon monoxide, particulate matter, and nitrogen oxides.
Boilers	Carbon dioxide, carbon monoxide, particulate matter, and nitrogen oxides.
Non-Integrated Steel Plants	
Steelmaking (Electric Arc Furnace)	Carbon dioxide, carbon monoxide, nitrogen oxides, particulate matter, dioxins and furans.
All Steel Plants	
Hot Rolling	Carbon dioxide, carbon monoxide, nitrogen oxides, particulate matter, and volatile organic compounds.
Cold Rolling	Volatile organic compounds.
Finishing	Carbon dioxide and nitrogen oxides.

[3] Environment Canada, Steel plant processes and their significant pollutant types, available at http://www.ec.gc.ca/cleanair-airpur/Steel_Processes_and_Pollutants-WSB1B14268-1_En.htm.

16. Regulations exist in almost every steel producing country to regulate emissions of the substances described above. These regulations frequently change; for example, the Canadian government recently announced a new set of regulations covering industrial emissions of greenhouse gases and airborne pollutants, including nitrogen oxides (NO_x), sulfur oxides (SO_x), volatile organic compounds (VOCs) and particulate matter (PM). However, the stringency of environmental regulations and their enforcement varies dramatically among countries. As a general rule, the more developed countries (including most if not all OECD countries) have strict emission and operating limits that are actively monitored and enforced.[4] While developing countries often have adopted regulations similar to those in OECD member states, their enforcement is typically less stringent and more random.

The steel industry and greenhouse gas emissions

17. Greenhouse gas ("GHG") emissions occur at many points in the steelmaking process, whether based on iron ore or scrap. Steelmaking is one of the largest industrial sources of GHG emissions in most countries. However, in the OECD countries overall, direct process-related emissions from iron and steel production account for only about 2.4 percent of total GHG emissions.[5]

18. GHG emissions also arise from other activities associated with steel production, such as the generation of electricity used in steel mills and the transportation of raw materials to and finished products from the mill. Some steel producers in the NAFTA region and elsewhere, especially China, generate their own electricity on-site. In most cases, however, steel producers purchase electricity from unrelated sources, and so have no control over those emissions. The remainder of this paper will focus on direct process-related emissions by iron and steel facilities.

19. The NAFTA steel industry includes many of the cleanest steel producers in the world in terms of GHG emissions and energy efficiency. In the United States, iron and steel production accounts for about one percent of total US GHG emissions.[6] In Mexico, steel industry GHG emissions represent approximately 2.5 percent of total emissions. Direct process-related emissions by the iron and steel industry in Canada in 2004 accounted for only 1.9 percent of total Canadian emissions.

20. The following chart shows the success of the NAFTA steel industry in reducing process-related GHG emissions. Between 1990 and 2004, the U.S. steel industry reduced direct process-related greenhouse gas emissions per ton of steel produced by nearly 47 percent.[7] Over the same period, the Canadian industry's direct process-related greenhouse gas emissions per ton fell by 26.1 percent.[8]

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4 In the United States, for example, the Environmental Protection Agency and related State agencies conducted over 4300 inspections of steel industry facilities over the last five years.

5 J. Newman, *Policies to Reduce Greenhouse Gas Emissions in Industry: Implications for Steel* 5, OECD SG/STEEL(2005)2 (2005).

6 In the most recent U.S. GHG Inventory, process-related emissions from iron and steel production accounted for fewer than 0.6 percent of all U.S. GHG emissions.

7 U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990 – 2004* ES5-6 (2006). GHG emissions per ton were calculated by dividing GHG emissions for 2004 for iron and steel production, as shown in the official greenhouse gas inventories filed with the United Nations Climate Change Secretariat, by crude steel production in 2004, as reported by the International Iron and Steel Institute. Figures for Mexico are for 2002. Although official sources were used, differences in data collection methods and calculations mean that comparisons between countries may not be exact.

8 Total greenhouse gas comparisons to 1990 for Canada require an adjustment, as two of Canada's three largest steel mills experienced prolonged labor strikes in that year. These strikes reduced production, and so GHG emissions, to below normal levels. The figures above reflect an estimate of normalized GHG

Between 1990 and 2002 (the latest year for which official Mexican data are available), official government of Mexico sources indicate that the Mexican industry reduced direct process-related GHG emissions per ton of steel by 15 percent. However, these sources appear to overstate the Mexican steel industry's direct process-related emissions; other sources show that the actual decrease was much greater.

DIRECT PROCESS-RELATED GREENHOUSE GAS EMISSIONS IN THE NAFTA STEEL INDUSTRY (TONS OF CO_2 EQUIVALENT PER TON OF STEEL)

	1990	2000	2004	Change 1990 - 2004
United States	0.96	0.64	0.51	-46.88%
Canada	1.19	0.96	0.88	-26.05%
Mexico	1.27	1.20	1.08	-14.96%

Sources: U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990 – 2004* ES5-6 (2006)
Environment Canada, *National Inventory Report, 1990 – 2004* 6 (2006)
Instituto Nacional de Ecologia, *Inventario Nacional de Gases de Efecto Invenrnadero 2002 (Procesos Industriales)*
International Iron and Steel Institute, *Steel Statistical Yearbook 2006* 11 (2006).

21. The latest U.S. GHG inventory indicates that, in 2005, direct per ton process-related emissions by the U.S. iron and steel industry fell even further, to only 0.46 tons of CO_2 equivalent per ton of steel produced.[9] In addition, as noted above, the official Mexican government statistics appear to overstate the Mexican steel industry's emissions. Other data submitted to the OECD Steel Committee show that, in 2002, the Mexican steel industry's direct process-related emissions were 0.63 tons of CO_2 equivalent per ton of steel produced,[10] a 50 percent reduction from 1990 levels. This latter figure is more consistent with the Mexican industry's heavy reliance on electric arc furnaces, as explained below.

22. The marked reduction in GHG emissions in the NAFTA region reflects the interplay of a number of factors. Because they are all privately owned and market-driven, NAFTA steel producers have a financial incentive to constantly increase efficiency and decrease energy use through investment and process improvements. This has been achieved in the context of electricity and natural gas prices that are among the highest in the world and, in some instances, are twice as high as other countries with which the NAFTA steel industries compete.

23. In all three NAFTA countries, a major source of the improvement in emissions per ton has been the increased use of recycled steel, principally in electric arc furnaces ("EAFs"), but also in integrated facilities. Between 1996 and 2005, the EAF share of steel production rose from 38.3 percent to

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emissions and production for 1990, as estimated by the Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), which monitors industrial GHG data.

9 U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990 – 2005* ES5 (2007)

10 *See* J. Newman, Policies to Reduce Greenhouse Gas Emissions in Industry: Implications for Steel 23, OECD SG/STEEL(2005)2 (2005).

41.5 percent in Canada; 64.2 percent to 72.2 percent in Mexico; and 42.6 percent to 55 percent in the United States. At the same time, the integrated producers have increased their use of scrap as well. The use of scrap was not the sole source of improvement, however; both integrated and EAF producers have increased their efficiency and reduced energy intensity through myriad process improvements.

24. These dramatic reductions in GHG emissions mean that the NAFTA steel industries are de facto leaders in meeting the goals of the Kyoto Protocol. Even as steel production has gone up, total emissions (not just emissions per ton) have gone down. Under the Kyoto Protocol, the United States was to reduce GHG emissions by seven percent over the base year.[11] In fact, the U.S. steel industry's total GHG emissions in 2005, the latest year for which official data are available, were 47 percent lower than in 1990. For Canada, the Kyoto target for the first commitment period (2008 – 2012) calls for the reduction of emissions by six percent from their 1990 levels. The Canadian industry's total GHG emissions in 2004 were 17.6 percent lower than in 1990, nearly three times Canada's Kyoto target, even though Canadian steel production increased by nearly 35 percent over this period.[12]

25. Substantial reductions in GHG emissions are not unique to the NAFTA steel industry. For example, the EU-15's[13] average emissions in 2004 were 0.57 tons of greenhouse gases per ton of steel produced, down from 0.74 tons in 1990. In the EU-15, the percentage of steel produced in EAFs grew from 35.1 percent in 1996 to 40.7 percent in 2005.

26. In both the EU and NAFTA, increased use of EAFs was only one source of improvements in GHG emissions; producers making steel from coke and iron ore in both regions have also increased their operational efficiency and cut their GHG emissions per ton of steel produced. Critically, there is insufficient scrap worldwide to support global steel demand. Moreover, some metallurgies are presently obtainable only through the use of iron-based feedstock. Integrated mills must remain a key component of the global industry. The global steel industry requires production by both integrated mills and EAFs; an effective response to climate change must ensure that neither production method is penalized.

The implications of regulating GHG emissions for the global steel industry

27. Some proposed solutions to rising concentrations of greenhouse gases in the atmosphere, especially in the form of schemes to limit emissions of greenhouse gases, raise a number of concerns. The first of these is that measures that apply to only some steel producing countries would give industries in other countries an unfair competitive advantage. If measures to control greenhouse gas concentrations do not take international trade, and especially the environmental costs of trade, into account, GHG emissions will actually increase globally, as efficient producers in heavily-regulated countries move operations to countries where environmental and greenhouse gas emissions standards and controls are not as stringent, and where environmental compliance costs may be much lower.

28. The EU system to limit emission reductions has in particular given rise to a number of criticisms from EU industry and other sources – who suggest that it lacks flexibility, has led to increased costs, and has served to impact competitiveness. (Interestingly, U.S. producers have, as noted, invested to generate greater emission reductions than their EU counterparts since 1990, without operating under the type of

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11 Because the United States has never ratified the Kyoto Protocol, the Protocol does not in fact impose any legal obligations on the United States.

12 As noted above, the Canadian steel industry experienced two prolonged strikes in 1990, which artificially suppressed its GHG emissions in that year. The calculation of the total reduction in GHG emissions by the Canadian industry is based on the "normalized" benchmark for 1990, as reported by CIEEDAC.

13 The EU's greenhouse gas inventory provides information back to 1990 only for the EU-15, *i.e.*, those countries that were members before the latest rounds of expansion in 2004 and 2007.

mandatory caps now in effect under the European system.) Under the EU system, the EU steel industry and its individual producers are subject to strict limits on the volume of greenhouse gases they can emit directly. If a producer needs to emit beyond its cap, it must purchase additional emissions rights from other producers. This system is commonly known as "cap and trade."

29. According to European industry sources, the EU cap and trade system has increased steelmaking costs in certain of the EU countries directly (through, among other things, the need to purchase emissions rights in certain circumstances), as well as indirectly (through higher energy costs). Significantly, the cap and trade system also applies to electrical generation facilities. In the first year of the operation of the EU system, electricity prices for industrial users in the EU increased by more than 15 percent. EU industrial electricity prices continued to rise in 2006. While EU-wide figures for 2006 are not yet available, electricity prices in major EU steel producing countries (with the notable exceptions of France and Poland) rose sharply from 2005 to 2007. The following chart shows the percentage change in electricity prices for industrial consumers between January 2005 and January 2007 in the selected EU steel producing countries:[14]

CHANGES IN EU ELECTRICITY PRICES FOR INDUSTRIAL USERS, 2005 – 2007

Country	Change, 2005 - 2007
Belgium	26.62%
Czech Republic	30.28%
Finland	2.85%
France	1.50%
Germany	21.28%
Italy	21.83%
Luxembourg	28.06%
Poland	6.92%
Slovakia	32.57%
Spain	18.08%
Sweden	35.50%
United Kingdom	38.6%

30. While electricity and energy costs have also increased substantially in other regions of the world, European sources have suggested that this increase is at least in part due to the implementation of mandatory emission limitations. By way of comparison, electricity prices for industrial users in the United States increased by 17 percent from January 2005 to January 2007.

[14] The figure for the United Kingdom is for 2006 only.

31. The EU system essentially allocates emissions caps according to past emissions. Between 1996 and 2005, the EU's consumption of steel rose by 2.2 percent annually. To serve this demand, EU production would also have to rise. To the extent that the EU emissions trading scheme makes it more expensive for EU producers to increase production, the scheme actually encourages imports into the EU from other countries, including many with few or no limits on GHG emissions.

32. Under the EU system, producers with the most inefficient processes and the highest emissions levels paradoxically receive the largest emissions allowances. Such a system has the potential to impact new entrants into the industry, particularly if they find it difficult or costly to obtain needed emissions allowances. European sources have suggested that the rigidities of the EU's system may be encouraging steel producers to move operations out of Europe. In this regard, one European producer reportedly closed a blast furnace in Belgium, and then announced that it was expanding its crude steelmaking capacity in Brazil. Another European producer has flatly stated that the costs imposed by the EU's cap and trade system were one factor in its decision to locate new slab making capacity in Brazil. Beyond steel, much of the relocation of manufacturing from OECD countries to China and other countries can be attributed at least in part to the weaker environmental regulation, and the lower environmental compliance costs, that those countries offer.

33. Shifts in trade flows can have a demonstrable effect on GHG levels. A study by the U.S. National Center for Atmospheric Research, for example, calculated that, between 1997 and 2005, higher levels of Chinese exports to the United States increased total carbon dioxide emissions by some 720 million tons. As the report explained, "{b}ecause Chinese manufacturing relies heavily on coal and less-efficient technologies, it produces more greenhouse-gas emissions on average than the United States for a given product." Put another way, a shift of production from the United States (or any other OECD country) to China will result in a higher level of global emissions than would have otherwise occurred.

34. Shifts in the location of steel production will continue to have environmental consequences far into the future. Steel mills have useful lives of 30 years or more. Mills built in locations intended to escape GHG regulation will continue to produce into the 2030s or longer.

35. At the time the Kyoto Protocol was negotiated, one commonly held view was that the developed countries – essentially the OECD countries – were responsible for the majority of GHG emissions, and they should therefore also be primarily responsible for limiting emissions. As a consequence, the Kyoto Protocol imposed no emissions targets for a number of major steel producing countries -- including China, India, Brazil, Turkey and Korea. These five countries alone accounted for over 46 percent of world steel production in 2006. Of course, both Turkey and Korea are OECD members.

36. There are plans in several of these countries to add massive amounts of new steelmaking capacity. China, for example, has indicated that it might expand annual production capacity to as much as 600 million tons, while India has stated that it plans eventually to produce 200 million tons of steel per year. Even in the near term, India has announced plans to add over 48 million tons of new capacity. Brazil has announced investments to increase current capacity to 60 million tons.

37. The steel industries in these countries cannot be accurately described as "developing." To the contrary, many of the largest producers in China, India and Brazil are large multinational companies with full access to world capital markets. They have access to the same technologies as steel producers in the OECD countries. Allowing them to benefit from less stringent environmental regulation will artificially distort world trade and investment in steel, while harming the global environment.

38. Obviously, any efforts to limit GHG emissions from steel production that did not include these producers could at best be only partially successful. Moreover, attempts to control GHG emissions that are not trade neutral will only serve to boost the competitiveness of producers in countries without effective environmental regulation. Adoption of effective emission control schemes that do not distort competitiveness requires a common and consistent database and assurances that data are accurate.

GHG emissions and the OECD Steel Committee

39. Environmental issues, especially initiatives on climate change, may be having a significant impact on global trade and investment patterns in the steel industry. To understand the possible relationship, the OECD Steel Committee, national governments and the global steel industry need accurate, reliable and comprehensive environmental data from *all* major steel producing countries – both OECD members and non-members alike. A considerable amount of data on GHG emissions are available from OECD countries, but these data are often not in the same format or otherwise directly comparable. The lack of consistent data in a readily accessible, standardized form can lead to inaccurate conclusions, as occurred in a recent study on energy intensity and GHG emissions in the global steel industry, in which the Japan Iron & Steel Federation relied upon data for the U.S. industry for 1991.

40. Given the OECD Steel Committee's budget and resource constraints – and its need to improve the basic steel statistics and information it currently collects -- we are not proposing that the Steel Committee seek to develop a database on worldwide GHG emissions. Fortunately, it does not have to. The International Iron & Steel Institute ("IISI"), to which most of the world's major producers belong, has already begun an effort to identify how the industry should measure and report GHG and other emissions. The OECD Steel Committee should support this industry-led initiative to develop a common database on GHG emissions. The Steel Committee should also carefully monitor the work of other international organizations that are addressing these and related issues -- including the Asia Pacific Partnership and the International Energy Agency. We would also encourage the OECD Steel Committee to share any data and information it receives from the IISI and others with the OECD Environment Committee.

Conclusion

41. GHG regulation may already be having a significant direct and indirect impact on the global steel industry. To understand better the effects present and future regulation will have on investment and trade flows, the OECD Steel Committee, national governments and the global steel industry will need accurate data in a standardized form. Therefore, the Steel Committee should strongly support the ongoing IISI effort to develop a comprehensive, accurate database on GHG and other emissions. This effort should include all major steel producing countries because, ultimately, the collection of this information will benefit the entire global steel industry. Beyond this, the global steel industry's efforts to address environmental issues can serve as an example to other energy-intensive industries.