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PREFACE

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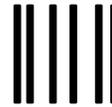
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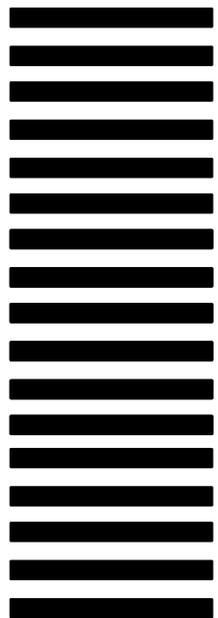
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International Steel Capacity and Subsidy Negotiations

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International discussions, undertaken within the Organization for Economic Cooperation and Development (OECD), to reach an agreement ending subsidies of steel production, have been under way for over a year. While there is broad international support for the idea, which would be expected to reduce the overbuilding of unnecessary new capacity and possibly force the closure of uneconomic existing capacity, there are significant roadblocks to reaching an agreement. Principal areas of disagreement include the scope of the proposed agreement (e.g., as to products or operations for which subsidies would be limited), allowable subsidies, and the treatment of developing countries. The United States is insisting that countries should retain the right to countervail even those limited subsidies that the proposed agreement might allow. Negotiations are currently ongoing to present a final draft in May 2004.

On June 5, 2001, President Bush announced an “initiative to respond to the challenges facing the U.S. steel industry.” The president cited a “50-year legacy of foreign government intervention and direct financial support of their steel industries,” resulting in “significant excess capacity, inefficient production, and a glut of steel on world markets.”² The initiative comprised three steps:

1. Negotiations with trading partners seeking the near-term elimination of inefficient excess capacity in the steel industry.
2. Negotiations on the rules that will govern steel trade in the future and eliminate the underlying market-distorting subsidies that led to the current conditions in the first place.
3. Initiation of an investigation of injury to the domestic steel industry by the U.S. International Trade Commission under Section 201 of the Trade Act of 1974.

The third step, the Section 201 investigation, led to the imposition of temporary safeguards in the form of tariffs and tariff-rate quotas on a number of steel products for a stated period of 3 years and 1 day, effective March 20, 2002.³ The safeguards were terminated by the President as of December 5, 2003.⁴

¹ The views expressed in this article are those of the author. They are not the views of the U.S. International Trade Commission (USITC) as a whole or of any individual Commissioner. The author is Chief of Iron and Steel Products in the Office of Industries.

² The White House, “Statement by the President Regarding a Multilateral Initiative on Steel,” June 5, 2001.

³ Office of the President, Proc. 7529, “To Facilitate Positive Adjustment to Competition from Imports of Certain Steel Products,” Mar. 5, 2002 (67 FR 105553).

⁴ Office of the President, Proc. 7741, “To Provide for the Termination of Action Taken with Regards to Imports of Certain Steel Products,” Dec. 4, 2003 (68 FR 68483).

Elimination of Excess Capacity

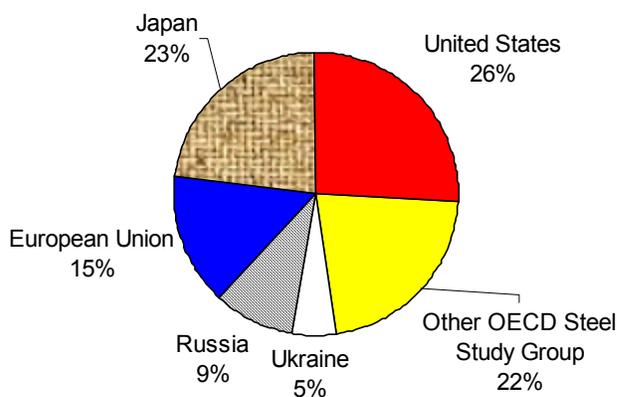
The linkage of excess steelmaking capacity with underlying market-distorting subsidies is being examined through discussions initiated by the OECD. In the summer of 2001, the OECD launched a “High-Level Steel Initiative,”⁵ aimed at:

- Promoting the elimination of inefficient excess capacity and monitoring the progress that is being made by each country in facilitating structural change in the industry, and
- Identifying ways to strengthen multilateral disciplines on government measures and industry practices that distort markets and, ultimately, contribute to global overcapacity.

In addition to OECD member countries,⁶ a number of key non-OECD countries are participating in these discussions, including Brazil, India, Russia, Ukraine, and, as of June 2003, China.⁷

With regard to the elimination of inefficient excess capacity, the governments agreed to share information twice a year about capacity and related restructuring in their steel industries. The first review was held in May 2003 and the second in October 2003.⁸ The reviews indicate that 134 to 140 million metric tons of capacity will be closed by 2005, but that absent a healthy increase in consumption, substantial excess capacity will continue to overhang the market. Figure 1 shows the distribution of the steel capacity reported to have been closed or expected to be closed. The United States, Japan, and the European Union (EU) have reported the majority of the closures.

Figure 1
Reported capacity closures by country, 1998-2005



Source: OECD Steel Study Group

⁵ High-level refers to the involvement of vice-ministers or directors-general in the process.

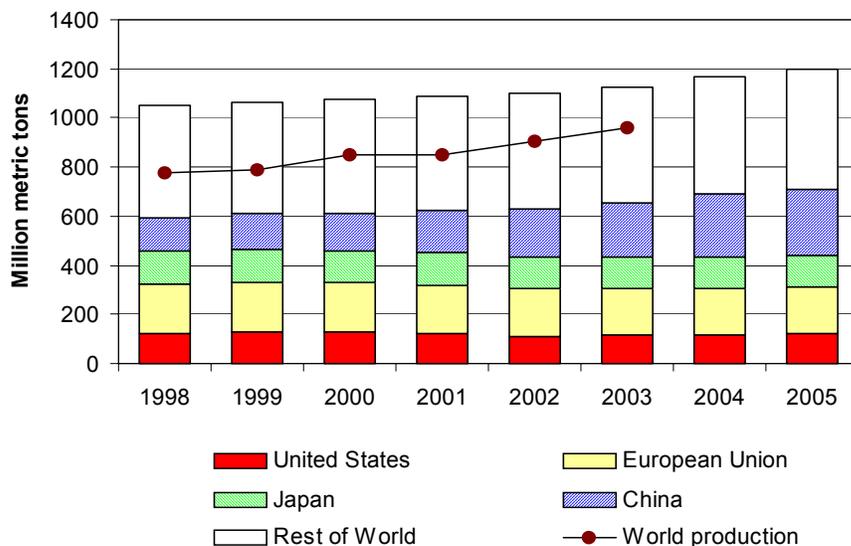
⁶ The OECD has 30 member countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

⁷ Other non-OECD participants are Argentina, Bulgaria, Egypt, Kazakhstan, Romania, and Taiwan.

⁸ China only recently began its participation and has not yet contributed to the capacity discussions, but has been invited to participate in these discussions.

Despite the closures of steel capacity in the developed world, total world steelmaking capacity is growing. Most of the growth is occurring in China, which has rapidly increasing domestic consumption and is, like the United States, a major importer of steel mill products. Figure 2 shows the trend in world steelmaking capacity and production, including projected capacity increases through 2005. This chart shows that the gap between steel production and capacity has been cut by roughly one-third in absolute numbers and by about one-half relative to steel production since 1998. These reductions indicate an improving world capacity situation, despite capacity increases that have exceeded the closures reported by the OECD.

Figure 2
World steel capacity and production, 1998-2005



Source: World Steel Dynamics

Trade Subsidy Discussions

With respect to trade subsidies, discussions are ongoing in a “Disciplines Study Group” (DSG), subordinate to the High-Level Group. In a meeting held December 18-19, 2002, negotiators agreed on launching an initiative to eliminate steel subsidies. They indicated at that time that it was equally important to address trade remedies—of which U.S. application of antidumping and countervailing duty (AD/CVD) measures was the leading concern—but agreed to defer discussions of that subject. Nonetheless, the administration of CVD legislation, particularly by the United States, appears to be affecting the completion of an agreement, just as it had prevented the inclusion of a Multilateral Steel Agreement within the Uruguay Round Agreement.⁹ Many participants in these negotiations hold the view that an allowable subsidy should not be countervailable; that is, once such a subsidy is “green-lighted,” this should be the end of consideration for any CVD or remedy.

The DSG has held a series of meetings in February, May, July, October, and December 2003; and most recently in early April 2004. The effort is to reach an agreement under which governments would agree not to provide subsidies to steel or steel-related industries, with a few narrow exceptions. One exception that all participants apparently agree upon would be for subsidies to allow or facilitate the permanent closure of

⁹ See: Office of the U.S. Trade Representative, “The Multilateral Steel Agreement,” *1994 Annual Report*.

Steel Negotiations

steel facilities. There are, however, several important areas of disagreement, identified below, with the possibility that the DSG may not be able to draft an agreement that all participants can endorse. Following the October meeting, Joseph Spetrini, U.S. Deputy Undersecretary of Commerce for Import Administration, who is acting as Chairman of the DSG, called for additional meetings in November and December, with a goal of presenting a completed draft to the High-Level Group by the end of April 2004. Mr. Spetrini told the delegates at the October meeting that if this deadline is not reached, the negotiators can consider the effort a failure and go home empty-handed.¹⁰ At the December 4-5 meeting of the DSG, the main topics for discussion were enforcement and related issues.

In an effort to further progress towards an agreement, the negotiators have agreed to the creation of an “informal drafting group”, which will prepare legal text for the agreement. Negotiators recognize that there are significant areas of disagreement, yet hope that as proposed text for the entire agreement becomes available, more progress can be made. The initial meeting of the drafting group was held on December 6-8, 2003, with a meeting of the DSG scheduled during February and April 2004, leading to a text for consideration by the High-level Group at its meeting in May.

Several key issues divide the negotiators:

- **Product coverage**—The principal concern is that loopholes not be created that will defeat the purposes of an agreement intended to reduce or eliminate excess steel capacity. In June, the OECD proposed a compromise that would specifically include within the scope of the agreement, government support for operations producing upstream “primary material” used in steelmaking (i.e., coke, iron ore, pellets, pig iron, and ferroalloys). The OECD proposed “monitoring” of subsidies that benefit certain downstream fabricated products (e.g., wire products, rail, and advanced structural shapes) with a view to possible future inclusion within an agreement. The United States and its NAFTA partners support the inclusion of these downstream products, while other countries do not.
- **Exceptions from prohibitions on government support**—There appears to be broad agreement on allowing subsidies for the permanent closure of entire facilities; beyond that there are wide differences. The United States has opposed subsidies except for full plant closure.¹¹ Others supporting the U.S. view reportedly include Australia, Argentina, Brazil, Canada, Egypt, India, and Taiwan. The EU, however, supports exceptions allowing subsidies for environmental cleanup and for research and development. In particular, as a ratifier of the Kyoto Protocol,¹² the EU foresees the need for substantial subsidies to its steel industry to meet its treaty commitments. Reportedly, China, Japan, Korea, Norway, Russia, Turkey, and Ukraine support the EU position.

¹⁰ *Metal Bulletin*, “Spetrini Issues an April Deadline in Subsidy Talks,” Oct. 13, 2003. Earlier efforts to achieve an anti-subsidy agreement for steel have ended in failure. During the 1970s, “soft” disciplines were agreed to in the OECD at the time the OECD Steel Committee was established but were unsuccessful in application. During the late 1980s and early 1990s, negotiations were conducted on a Multilateral Steel Agreement, which had as one of its goals the elimination of subsidies on steel products. The negotiations foundered over demands that the United States agree to not consider permitted subsidies in its AD/CVD considerations.

¹¹ OECD, *Working Paper 34/REV, Elements of an Agreement to Reduce or Eliminate Trade-Distorting Subsidies in Steel: Secretariat text on Articles 1,2,3,4,6,7, and 8*, Sept. 18, 2003.

¹² Kyoto Protocol to the United Nations Framework Convention on Climate Change. The European Union has ratified the Protocol, indicating that it will reduce, during the period 2008-2012, its emissions of greenhouse gases by 8 percent from its level of emissions during 1990. The United States signed the Protocol in Nov. 1998, indicating its agreement to a 7-percent reduction in greenhouse gas emissions over the same period, but has not ratified the Protocol. The Kyoto Protocol will not enter into effect until it is ratified by countries accounting for at least 55 percent of the total emissions for 1990 of the countries agreeing to limit or reduce their emissions. For that reason, the Protocol will not enter into effect until it is ratified by either the United States or Russia, which together accounted for 54 percent of the 1990 emissions.

The EU also requests that the allowable subsidies include several categories permitted under the EU “state aid code.”¹³ There is apparently no other support for this position. Discussions to resolve differences center on the possible establishment of dollar-value caps that would limit the amount of subsidies that could be granted and a time limitation on subsidies.

- **Special and differential treatment**—This is the reference given to special treatment for developing nations, allowing subsidies otherwise prohibited by the agreement. In particular, China, Brazil, and India state that government assistance is necessary for them to build competitive industries. In general, developed countries maintain that economically viable projects should be financed with private capital and without government subsidies. Under consideration to resolve this question is a limited “cap approach,” under which objective criteria would be used to determine a country’s eligibility for a subsidy allowance and the amount of the allowance. For example, the eligibility might be established for countries with per-capita gross domestic product below an agreed-upon threshold and the amount of the cap might be an annual dollar value per ton of steel produced in a base year.¹⁴ Provisions also are being discussed to gradually reduce the “cap” as a country progresses from developing status or increases its exports of steel products.
- **Notification**—Views differ on whether countries should be required to provide notification in advance for subsidies to be allowable. According to the supporters of pre-notification, those subsidy programs that are pre-notified and screened to establish that they do not include prohibited practices, would not be actionable, including immunity from trade-remedy measures such as CVDs. Under a voluntary pre-notification proposal of the EU, immunity from countervailing measures would be the incentive for voluntary compliance. This remains a major issue to be resolved in the negotiations.
- **Administration**—Some countries visualize the proposed agreement as working within the World Trade Organization (WTO) framework, utilizing the existing WTO dispute-settlement understanding (DSU) procedures. Others object to the WTO model and the DSU procedures in particular, and would establish a separate, free-standing agreement, with an expedited dispute-settlement procedure. Another argument favoring a separate enforcement mechanism is that a number of participants are not members of the WTO and special provisions would, in any event, have to be made for their participation.

Outlook

Whether countries will eventually reach an agreement could also hinge on the continued participation of most of the world’s significant steel-producing countries. The Deputy Secretary General of OECD, Herwig Schlögl, recently expressed concern that some nations may drop out following completion of the draft text in April.¹⁵

¹³ These proposed exceptions include subsidies for employee training, recruitment of disadvantaged and disabled workers, small and medium enterprises, and *de minimis* subsidies.

¹⁴ Regardless of the criterion selected, only a few of the nations currently participating in the negotiations would be anticipated to qualify for special and differential treatment: Brazil, Bulgaria, China, Egypt, India, Kazakhstan, Romania, Russia, South Africa, Turkey, and Ukraine appear to be those most likely to qualify. See: OECD, *Working Paper 34/REV*.

¹⁵ Nancy E. Kelly, “Global Steel Subsidy Pact Facing New Hurdles,” *American Metal Market*, Oct. 20, 2003.

Of particular concern is the continued participation of China. In view of China's status as the largest steel-producing nation, with both steelmaking capacity and steel consumption growing at high rates, its inclusion in the agreement is considered essential by most observers. China did not participate in the discussions until June of 2003, but has since been taking a very active role. Other participants are, of course, eager for China to adopt the agreement. In fact, China's possible non-participation is viewed as a deal-breaker. China's demands, however, are significant and depart from its WTO commitments. In particular, China seeks the elimination of the WTO transition safeguards agreed to in its accession negotiations.¹⁶ China also seeks status as a market economy for steel (non-market economy methodology in U.S. AD cases typically results in higher AD margins). At the same time, China insists that it be treated as a developing country, e.g., be granted special and differential treatment within the proposed Steel Subsidies Agreement. China would also place the administration of the new agreement outside of the WTO.¹⁷ ■

¹⁶ Section 421 in U.S. law, for example, allows a safeguard tariff to be imposed solely on Chinese products rather than the global application required under normal WTO safeguard provisions.

¹⁷ Representatives of the OECD, telephone interviews with USITC staff, Nov. 28, 2003.

Solid and Hazardous Waste Services Markets in Asia and the Pacific

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Solid and hazardous waste services markets in Asia and the Pacific are highly varied, reflecting the diverse economies of the region. Waste-generation rates and the ability to finance waste management efforts differ among low-, middle-, and high-income countries. As per-capita gross domestic product rises in many Asian nations, consumption and waste generation do likewise, and thus, demand increases for solid and hazardous waste management services. Although trade in waste management services seems to be in its infancy throughout the region, foreign direct investment in the construction of treatment facilities and related infrastructure is growing rapidly. It is likely that opportunities for trade and investment will increase as the regulatory environments of Asia-Pacific nations mature, either through adoption of new laws or more consistent enforcement of existing regulations. This article provides an overview of solid and hazardous waste services markets across the Asia-Pacific region, followed by more specific assessments of the Australian, Chinese, Japanese, and Malaysian markets for such services.² Australia and Japan are highlighted due to the relatively large size and maturity of their solid and hazardous waste services markets, China because of the rapid growth of its environmental services market, and Malaysia given its relatively lengthy experience with environmental regulation.

Waste generation in the Asia-Pacific region is increasing as economies grow and individual consumption rises. The region as a whole generates an estimated 1.5 million metric tons of solid waste per day, and is expected to reach at least 3 million metric tons by 2025.³ The region also generated an estimated 233 million metric tons of hazardous waste⁴ in 2000, of which China accounted for the greatest share (56 percent), followed by India and Indonesia (with 35 percent and 5 percent, respectively).⁵ Industrial solid waste accounts for an estimated 87 percent of all nonhazardous solid waste generated in developed countries

¹ The views expressed in this article are the author's. They are not the views of the U.S. International Trade Commission (USITC) as a whole or of any individual Commissioner. The author is an international trade analyst in the Services and Investment Division, Office of Industries.

² This article is an excerpt from a recently completed USITC study entitled, *Solid and Hazardous Waste Services: An Examination of U.S. and Foreign Markets* (Inv. No. 332-455), publication 3679, Apr. 2004. Some material has been added to this version of the text in order to provide context for the information presented herein. The complete study is available on the USITC website (www.usitc.gov). A CD-ROM version or a printed copy of the report may be requested by calling (202) 205-1809 or by writing to the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW, Washington, DC 20436. Requests also may be faxed to (202) 205-2104.

³ According to the World Bank, official waste generation estimates are considered to be extremely conservative and could be more than double these amounts. World Bank, *What a Waste: Solid Waste Management in Asia*, May 1999.

⁴ Figures for hazardous waste generation are considered to be conservative estimates. The most common types of hazardous waste generated in the region include solvents and pesticides. Asian Development Bank, Economic and Social Division for Asia and the Pacific, *State of the Environment in Asia and the Pacific 2000*.

⁵ Ibid.

such as Japan and Australia. By contrast, in developing countries such as China, industrial solid waste accounts for as much as an estimated 65 percent of solid waste generation.⁶

In 2000, the Asia-Pacific market for solid and hazardous waste management services was valued at approximately \$40.2 billion, or 30 percent of the \$132.8-billion global market for such services. Japan accounted for 85 percent of that market, Australia and New Zealand together for an additional 4 percent, and the rest of Asia for the remaining 11 percent.⁷ Expenditures for solid waste management, accounting for 88 percent of the total market for solid and hazardous waste services, greatly outweighed the 12 percent dedicated to hazardous waste management. Urban areas in Asia together spend about \$25 billion per year on solid waste management, and are expected to double such expenditures by 2025.⁸

In the Asia-Pacific region, solid and hazardous waste management services are supplied by governments, the private sector, and in many cases—especially in low-income countries—the informal sector.⁹ In high-income countries there is typically a high degree of government regulation, but private-sector suppliers usually dominate the market for waste management services. In developing countries where waste management systems are less evolved, governments frequently maintain greater control over the provision of such services or grant monopoly rights to certain domestic companies. Throughout the region, governments are increasingly contracting out certain waste management activities to private companies. For example, in 2000, over 20 percent of Asia-Pacific municipal solid waste collection services were performed by private companies under contract, particularly in Australia, Hong Kong, Malaysia, the Republic of Korea, Singapore, and Thailand.¹⁰

Methods of solid waste treatment and disposal in the Asia-Pacific region are largely influenced by regulation, land costs, and the evolution of waste management programs. Sanitary landfills are prevalent throughout Asia and the Pacific, utilized by cities in low-, middle-, and high-income countries. Some countries in the region, such as Japan and Australia, are tapping landfill gasses to generate electrical power. Japan and Singapore are the only two countries in the region that rely on incineration as the predominant means of solid waste disposal (75 and 70 percent, respectively).¹¹ Australia, Korea, Indonesia, and Hong Kong also have modern incineration facilities. Open dumping, which includes disposal in nonengineered, nonsanitary landfills, is reportedly the most common method of solid waste disposal in low-income countries throughout the region.¹² This is likely due to weak regulation and an inability to finance modern methods of waste management.

Methods of hazardous waste management throughout the region vary according to the type of substance being treated and the sophistication of treatment facilities. Most countries have regulations for the storage and treatment of hazardous waste, although compliance levels vary widely. Middle- and high-income countries are more likely to incinerate or chemically treat waste. In low-income countries, where regulation and treatment options tend to be weaker, an unknown but allegedly significant portion of hazardous waste is released into the environment. However, it is also not uncommon for governments in low- and middle-

⁶ Ibid.

⁷ Of the \$40.2 billion spent in 2000, \$35.4 billion was devoted to solid waste services and \$4.8 billion went toward hazardous waste management. Data from Environmental Business International, Inc. (EBI), *The Global Environmental Market by Region, 2000*.

⁸ World Bank, *What a Waste: Solid Waste Management in Asia*.

⁹ The informal sector comprises individuals who pick through waste at dumpsites for reusable products and then find buyers for the materials.

¹⁰ Asian Development Bank, *State of the Environment in Asia and the Pacific 2000*.

¹¹ Ibid.

¹² Ibid.

income countries to require that companies store their hazardous waste until suitable methods of treatment become available.¹³

The rate of recycling grew significantly in the Asia-Pacific region, from less than 10 percent in 1988 to 30 percent in 1998.¹⁴ Paper and paperboard are the most commonly recycled materials, but glass, metal, and plastics are recovered as well. In middle- and high-income countries, governments and the private sector frequently promote, fund, and/or operate recycling facilities. In the region's low-income countries, recycling is primarily by the informal sector.

Many Asia-Pacific countries are signatories to the Basel Convention and Montreal Protocol, and are members of the World Trade Organization (WTO)—all which shape solid and hazardous waste management markets to some degree. For example, members of the Basel Convention¹⁵ are subject to controls on international trade in hazardous waste. Commitments on refuse disposal services under the General Agreement on Trade in Services (GATS) vary widely throughout the region, with certain economies such as Australia and Taiwan having scheduled full commitments on refuse disposal services provided through modes 2 and 3,¹⁶ but others such as Malaysia and New Zealand having not scheduled any such commitments.

Australia

Market Overview

Australia has the second-largest environmental market in the Asia-Pacific region, behind Japan, and the tenth-largest market worldwide.¹⁷ Australian environmental services revenues totaled \$7.1 billion in 2000, of which an estimated \$1.3 billion were dedicated to solid waste services and \$260 million to hazardous waste services. Australia generates an estimated 14.4 million metric tons of solid waste per year, almost all of which is managed (table 1). Approximately 96 percent of Australia's managed solid waste is disposed in landfills.¹⁸ The high rate of landfilling reflects the country's abundance of affordable land and

¹³ Industry and government representatives, interviews with USITC staff, Beijing, China, and Kuala Lumpur, Malaysia, Oct. 2003.

¹⁴ Asian Development Bank, *State of the Environment in Asia and the Pacific 2000*.

¹⁵ Signatories to the Basel Convention in the Asia and Pacific region include Bahrain, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cyprus, India, Indonesia, Iran, Japan, Jordan, Kazakhstan, Kiribati, Kuwait, Kyrgyzstan, Lebanon, Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Nauru, Nepal, Oman, Pakistan, Papua New Guinea, Philippines, Qatar, Korea, Samoa, Saudi Arabia, Singapore, Sri Lanka, Syria, Thailand, Turkmenistan, United Arab Emirates, Uzbekistan, Viet Nam, and Yemen.

¹⁶ WTO member economies schedule market access and national treatment commitments under the General Agreement on Trade in Services (GATS) in relation to one or more possible delivery channels or "modes of supply." There are four modes of supply: mode 1, or cross-border supply, whereby a service provider mails, electronically transmits, or otherwise transports a service across a national border; mode 2, or consumption abroad, whereby a consumer, such as a tourist, medical patient, or student, travels across national borders to consume a service; mode 3, or commercial presence, whereby a service provider establishes a foreign-based corporation, joint venture, partnership, or other establishment, to supply services to foreign persons; and mode 4, or presence of natural persons, whereby an individual, functioning alone or in the employ of a service provider, travels abroad to deliver a service.

¹⁷ Data from EBI, *The Global Environmental Market by Region, 2000* spreadsheet.

¹⁸ EBI, *Report 2000: The U.S. Environmental Industry and Global Market*, Sept. 2001.

Table 1
Selected characteristics of the Australian market for solid and hazardous waste services

Item	Solid waste	Hazardous waste
Waste generation/treatment	Australia produces 14.4 million metric tons of solid waste per year, almost all of which is managed. ¹	Australia generated 275,000 metric tons of hazardous waste in 2000, almost all of which was managed. ²
Market size (2000)	\$1.3 billion. ³	\$0.26 billion. ³
Employment (2002-03)	11,350 employed in solid and hazardous waste management industries. ⁴	
Trade	Based on anecdotal information, the country is considered to be a net exporter of services. ⁵ Imports account for 25 percent ⁴ of the domestic solid and hazardous waste management market.	
Nature of Industry	Competitive and moderately concentrated market: top 4 firms account for 57 percent of revenues (includes solid and hazardous waste segments). ⁴	
Key market participants (and location of parent)	Brambles Industries Ltd. (Australia and United Kingdom) Collex Pty Limited (France) SembSita Australia Pty Ltd. (France and Singapore) Leighton Holdings Ltd. (Australia) Waste Recycling and Processing Corporation of New South Wales (Australia) ⁴	
Principal methods of waste treatment and disposal	Landfills account for the largest share of solid waste disposal in Australia (96 percent), ³ followed by composting and waste-to-energy.	Specially engineered landfilling, long-term containment, and recycling. ⁶
Key regulations	Environment Protection Act 1970. ⁶	Environment Protection (Prescribed Waste) Regulations. ⁶
Regulatory authorities	Environmental Protection Authority (EPA); Regional Waste Management Groups (RWMG); and local governments. ⁶	
GATS commitments	Australian commitments grant full market access and national treatment for the provision of refuse disposal services through consumption abroad (mode 2) and commercial presence (mode 3). ⁷	
Other measures affecting trade and investment	Prospective foreign investors must obtain investment approval from the Foreign Investment Review Board, which may deny specific foreign investment on the basis of national interest. ⁸	

¹ Organization for Economic Co-Operation and Development (OECD) Environmental Data, 1999 Compendium, Annex 1.

² Asian Development Bank, *State of the Environment in Asia and the Pacific, 2000*, p. 174.

³ Environmental Business International, Inc., *EBI Report 2000: The U.S. Environmental Industry and Global Market*, Sept. 2001.

⁴ IBIS World Pty Ltd., *Waste Disposal Services in Australia*, Aug. 20, 2003

⁵ A U.S. Government representative in Australia indicates that the country is likely a net exporter of solid and hazardous waste management services based on a comparison of the foreign revenues of Australia's leading solid and hazardous waste management firm in 2003 and revenues generated in Australia's domestic waste management market.

⁶ EPA Victoria, "Waste," found at <http://www.epa.vic.gov.au/waste>, retrieved Dec. 3, 2003.

⁷ General Agreement on Trade in Services (GATS), *Australia: Schedule of Specific Commitments*, GATS/SC/6, Apr. 15, 1994.

⁸ Office of the U.S. Trade Representative, *2003 National Trade Estimate Report on Foreign Trade Barriers*.

a public distaste for incineration, which was particularly acute during the late 1980s and early 1990s. The unpopularity of incineration has reportedly prompted the country's development of cleaner, more advanced methods of waste disposal;¹⁹ however, these new technologies may be better suited to the hazardous waste management industry. Australia generated an estimated 275,000 metric tons of hazardous waste in 2000,²⁰ almost all of which was managed.²¹

In recent years, the Australian Government has strongly encouraged waste minimization and recycling efforts among both private citizens and industry. Further, the government has undertaken an ambitious effort to reduce by 50 percent the amount of all solid waste destined for landfills.²² Such efforts

¹⁹ *Survey of Environmental Markets in APEC*, Asia-Pacific Economic Cooperation (APEC) Committee on Trade and Investment, June 2001.

²⁰ Asian Development Bank, *State of the Environment in Asia and the Pacific 2000*.

²¹ *Ibid.*

²² EBI, *Report 2000: The U.S. Environmental Industry and Global Market*.

may provide market opportunities for suppliers of technologically advanced and efficient sorting, recycling, and incineration services.

Treatment of solid and hazardous waste in Australia is primarily regulated through the Environment Protection Act of 1970 and the Environment Protection (Prescribed Waste) Regulations. At the national level, the Environmental Protection Authority establishes waste management guidelines, but each state is responsible for crafting specific regulations that are enforced by local governments. Regional Waste Management Groups were created to develop a more consistent approach in Australia by coordinating and harmonizing nation- and state-wide waste management regulations.

Trade and Investment

Though trade data are not readily available, Australia is considered to be a net exporter of solid and hazardous waste management services.²³ Although heavy reliance on landfilling reduces opportunities in other market segments, Australian imports of waste management services are estimated to account for 25 percent of the country's solid and hazardous waste services market. The two most prominent foreign companies operating in the sector include Collex Pty Ltd., whose largest shareholder is Vivendi (Onyx) of France; and SembSita Australia Pty Ltd., which is 60-percent owned by SITA of France and 40-percent owned by SembCorp Waste Management of Singapore.²⁴ Australian exporters of solid and hazardous waste management services focus largely on the Asia-Pacific and European markets. Most recently, the Melbourne-based Cleanevent Group was awarded an \$80 million cleaning and waste management contract for the 2004 Olympic Games in Athens, Greece.²⁵ Australian GATS commitments grant full market access and national treatment for the provision of refuse disposal services through consumption abroad and commercial presence.²⁶

China

Market Overview

The environmental goods and services market in China is small, but has been growing at an impressive rate in recent years due in part to its increased involvement in world markets and accession to the WTO. In 2002, the Chinese market for environmental goods and services totaled \$7.15 million,²⁷ which represents a 117-percent increase over 1995 levels. Solid and hazardous waste management services accounted for an estimated \$890 million and \$180 million, respectively, of China's environmental goods and services industry revenues in 2000 (table 2).²⁸ Although data on waste generation rates²⁹ tend to be inconsistent, the Chinese Government estimates that in 2002, the country generated 160 million metric tons

²³ A U.S. Government representative in Australia indicates that the country is likely a net exporter of solid and hazardous waste management services based on a comparison of the foreign revenues of Australia's leading solid and hazardous waste management firm in 2003 and revenues generated in Australia's domestic waste management market.

²⁴ IBIS World Pty Ltd., *Waste Disposal Services in Australia*, Aug. 20, 2003.

²⁵ Australian Trade Commission, news release found at <http://www.austrade.gov.au>, retrieved Nov. 24, 2003.

²⁶ GATS, *Australia: Schedule of Specific Commitments*, GATS/SC/6, Apr. 15, 1994.

²⁷ Data from EBI, *The Global Environmental Market by Region, 2000* spreadsheet. Figures include environmental equipment, services, and resources such as water utilities.

²⁸ Although data on the entire environmental market size are available through 2002, data on environmental market by sector are only available through 2000. EBI, *Report 2000: The U.S. Environmental Industry and Global Market*, pp.18-20.

²⁹ China has three basic classifications of waste: municipal waste, industrial solid waste, and hazardous waste.

Table 2
Selected characteristics of the Chinese market for solid and hazardous waste services

Item	Solid waste	Hazardous waste
Waste generation/treatment	160 million metric tons of municipal solid waste per year; 45-50 percent of which is managed. ¹	10 million metric tons per year, most of which is reportedly managed. ¹
Market size (2000)	950 million metric tons of industrial solid waste per year; 85 percent of which is reportedly managed. ¹ \$0.89 billion. ²	\$0.18 billion. ²
Employment (2001)	(³)	(³)
Trade	Based on anecdotal information, the country is considered to be a net importer of services. ⁴	
Nature of industry	Evolving market is highly fragmented and decentralized; many municipalities regard waste management as a free public service. ¹	Evolving market, not consolidated. Public sector dominates but the government is encouraging private sector initiatives. ¹
Key market participants (and location of parent)	Public sector dominates the provision of services. ¹	Public sector dominates the provision of services. ¹
Principal methods of waste treatment and disposal	For municipal waste: landfilling (45 percent) and open dumping (55 percent). ¹ For industrial waste: recycling (53 percent), storing (32 percent), and landfilling (18 percent). ¹	Incineration, chemical neutralization, solidification, and landfilling. ¹
Key regulations	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste, and Regulations on the Declaration and Registration of Pollution Discharge. ¹	
Regulatory authorities	State Environmental Protection Administration, Division of Solid Wastes and Toxic Chemicals. ¹	
GATS commitments	Foreign suppliers of refuse disposal services may only provide services in China through a joint venture. However, foreigners may hold majority stakes in these joint ventures. China reserves the right to restrict the foreign provision of refuse disposal services, with the exception of environmental consultation services, through cross-border supply. ^{4,5}	
Other measures affecting trade and investment	Reportedly ambiguous licensing guidelines make it difficult for foreign engineering firms to obtain necessary permits except on a project-by-project basis. ⁶ All land is owned by the state which grants fee-based usage rights for set periods. Compensation for early repossession of land is assured by law in some cases but reportedly is inconsistent, with unclear standards. ⁶	

¹ Chinese Government and industry representatives, and U.S. government representatives, interviews by USITC staff, Beijing, China, Oct. 2003.

² Environmental Business International, Inc., *EBI Report 2000: The U.S. Environmental Industry and Global Market*, Sept. 2001.

³ Not available.

⁴ Although trade in waste management services is minimal, some foreign companies are operating in China, primarily in the design, construction, and operation of incinerators. There are no known Chinese companies exporting waste management services. Chinese Government representatives, interview with USITC staff, Beijing, China, Oct. 2003.

⁵ World Trade Organization, *China: Schedule of Specific Commitments*, GATS/SC/135, Feb. 14, 2002.

⁶ Office of the U.S. Trade Representative, *2003 National Trade Estimate Report on Foreign Trade Barriers*.

of municipal solid waste, of which an estimated 45-50 percent was managed; 950 million metric tons of industrial solid waste, 85 percent of which was reportedly managed,³⁰ and 10 million metric tons of hazardous waste, most of which was reportedly treated.³¹

³⁰ Of the 950 million metric tons of industrial solid waste generated in 2002, 500 million metric tons were multi-utilized, 170 million metric tons treated, 300 million metric tons put in storage until a suitable means of disposal can be determined, and 26.35 million metric tons released to the environment. Chinese Government representative, interview with USITC staff, Beijing, China, Oct. 15, 2003.

³¹ Estimates provided by Chinese Government representative, interview with USITC staff, Beijing, China, Oct. 15, 2003.

Until recently, the state was almost solely responsible for collecting and disposing municipal waste, but is now encouraging private participation. At least 90 percent of the municipal solid waste that is managed in China is deposited in landfills, largely owing to China's abundance of inexpensive land and a shortage of capital for investing in more sophisticated technologies. Incineration, while not widely practiced, is becoming more acceptable as municipalities gain experience with this treatment method. However, a lack of capital for the construction of new incineration facilities and the absence of the means of separating combustible from noncombustible waste may impede more widespread use of incineration.

The Chinese State Environmental Protection Agency (SEPA) encourages companies to handle their industrial solid and hazardous waste by means of multiple-utilization, that is, by finding alternate uses for waste instead of sending it directly to landfills.³² The central government estimates that 45 percent of industrial solid waste and 50 percent of hazardous waste is successfully reused. Hazardous waste is typically treated by means of chemical neutralization, incineration, or solidification, with much of the remnant ultimately ending up in landfills after treatment. However, because of limited technology and funding, and thus limited treatment capacity, companies are frequently unable to treat all of their hazardous waste so they must store it until treatment is possible. In response, the central government has planned to allocate approximately \$1.94 billion for the construction of hazardous waste treatment facilities throughout the country during 2003-05.³³ Funding will be provided by local, provincial, and foreign governments, as well as by local and foreign industry.³⁴

SEPA drafts and supervises the implementation of China's environmental laws and regulations at the national level, and coordinates with the Ministry of Construction, the Ministry of Health, and the Development and Reform Commission, who are responsible for municipal, medical, and industrial waste, respectively. Provincial and local governments are responsible for the implementation of solid and hazardous waste regulations.³⁵

Trade and Investment

Trade in solid and hazardous waste management services appears to be minimal, although several international companies and donor agencies have designed and built waste treatment facilities in China. However, the Chinese Government is actively encouraging foreign direct investment in the market through joint ventures with Chinese companies. Foreign equity in Chinese waste management operations is limited to 50 percent.³⁶ China's GATS commitments grant national treatment for the provision of refuse disposal services through modes 1, 2, and 3, and grant market access through mode 2.³⁷

Japan

Market Overview

Japan's solid and hazardous waste services market is the largest in the Asia-Pacific region and the second-largest in the world behind the United States.³⁸ Solid and hazardous waste management revenues in Japan totaled \$30.2 billion and \$3.9 billion, respectively, in 2000 (table 3), together accounting for 36 percent

³² For example, coal dust is often used to make bricks, and steel can be stripped from waste and recycled. Chinese Government representative, interview with USITC staff, Beijing, China, Oct. 15, 2003.

³³ Chinese Government representative, interview with USITC staff, Beijing, China, Oct. 15, 2003.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Chinese Government representative, interview by USITC staff, Beijing, China, Oct. 15, 2003.

³⁷ For an explanation of GATS modes of supply, see footnote 16. WTO, *China: Schedule of Specified Commitments*, GATS/SC/135, Feb. 14, 2002.

³⁸ Data from EBI, *The Global Environmental Market by Region, 2000* spreadsheet.

Table 3
Selected characteristics of the Japanese market for solid and hazardous waste services

Item	Solid waste	Hazardous waste
Waste generation/treatment	238.4 million metric tons per year; most of which is managed. ¹	Estimated 220 million metric tons in 2000, most of which was managed. ^{1,2}
Market size (2000)	\$30.2 billion. ³	\$3.9 billion. ³
Employment (2001)	(⁴)	(⁴)
Trade	Anecdotal information suggests that the country is an aggressive exporter of environmental services in the Asia-Pacific region. ⁵	
Nature of industry	Japan's solid waste industry is considered to be highly consolidated, with domestic firms dominating Japanese market. ¹	Mature market, highly competitive, with domestic firms dominant. ¹
Key market participants (and location of parent)	Mitsubishi Heavy Industries (Japan); Ebara Corp. (Japan); Kubota (Japan); and Mitsui (Japan). ¹	
Principal methods of waste treatment and disposal	Incineration (waste-to-energy) accounts for the largest share of solid waste disposal in Japan (75 percent), followed by landfilling and composting. Figures do not account for recycling which is prevalent in Japan. ⁶	Incineration, chemical treatment, and storage. ¹
Key regulations	Waste Disposal and Public Cleansing Law, Law for Promotion of Effective Utilization of Recyclable Resources. ¹	Law Concerning Special Measure Against PCB Waste. ¹
Regulatory authorities	Ministry of the Environment; Ministry of Health and Welfare; Ministry of Economy, Trade, and Industry; and local governments. ¹	
GATS commitments	Japan grants market access and national treatment to foreign suppliers of refuse disposal services through consumption abroad (mode 2) and commercial presence (mode 3), but indicates that the number of licenses conferred to service suppliers of waste oil disposal at sea from vessels may be limited. ⁷	
Other measures affecting trade and investment	Complicated and expensive licensing procedures for waste management service providers are common throughout Japan. ¹	
	Foreign companies are unlikely to enter the market successfully without a joint venture with a Japanese firm. ¹	

¹ Japanese Government and industry representatives, and U.S. government representatives, interviews with USITC staff, Tokyo, Japan, Oct. 2003.

² An unknown but believed to be large quantity of hazardous waste in Japan is treated in-house by the waste-generating companies, and therefore is not reflected in the market-size figures.

³ Environmental Business International, Inc., *EBI Report 2000: The U.S. Environmental Industry and Global Market*, Sept. 2001.

⁴ Not available.

⁵ Although no foreign waste management firms are known to operate in the Japanese market, reportedly Japanese firms are active throughout the Asia-Pacific region. Government and industry representatives, interviews with by USITC staff, Tokyo, Japan; Kuala Lumpur, Malaysia; Beijing, China, Oct. 2003; and IBIS World Pty Ltd., *Waste Disposal Services in Australia*, Aug. 20, 2003.

⁶ Asian Development Bank, *State of the Environment in Asia and Pacific, 2000*, p. 180.

⁷ General Agreement on Trade in Services (GATS), *Japan: Schedule of Specific Commitments*, GATS/DC/46, Apr. 15, 1994.

of Japan's environmental goods and services market. Japan generates an estimated 52.4 million metric tons of municipal solid waste each year, most of which is managed.³⁹ Municipal governments are responsible for the construction of waste management facilities and the collection, transportation, and disposal of waste,

³⁹ Japan has two classifications of waste: generic, which includes all municipal solid waste; and industrial, which includes both solid and hazardous waste generated in the process of industrial activity.

although such activities are routinely contracted out to private companies. The construction of waste management facilities is usually subsidized in part by the central government, whereas waste management services are funded through waste disposal taxes levied upon the public. An estimated 75 percent⁴⁰ of municipal solid waste in Japan is disposed of through incineration, followed by landfilling as the second-most favored disposal option.⁴¹

Japanese companies generate 406 million metric tons of industrial solid and hazardous waste per year,⁴² with the responsibility for treatment and disposal resting solely with the individual firms generating the waste. Construction and operation of industrial waste management facilities are funded through private investment and disposal fees paid by waste-generating firms. Several large manufacturers have incineration facilities to treat their own waste, and in some cases have leveraged surplus capacity to enter the broader waste treatment and disposal market. Together, there are roughly 7,000 incinerators, recycling facilities, and chemical treatment plants for industrial waste, and approximately 2,000 industrial waste landfills in Japan.⁴³

Japan faces a particular and high-priority challenge in the disposal of polychlorinated biphenyl (PCB)⁴⁴ waste. Following a 1968 cooking-oil contamination incident that resulted in widespread illness and, in some cases, death, the government banned all manufacture and use of the substance. Companies using PCBs were instructed to collect and store the waste until suitable disposal methods could be identified.⁴⁵ As a result, approximately 30,000 companies are currently storing an estimated 20,000 metric tons of PCB waste.⁴⁶ In 2001, the Government of Japan passed the Law of Special Measures Concerning Promotion of Appropriate Disposal of PCB Waste, stipulating that existing waste be properly disposed of by 2016. The Government is planning construction of five chemical disposal sites⁴⁷ throughout the country and will contract out the assessment of environmental impacts, construction, and operation of the new facilities to private companies. These services will ultimately be funded by disposal fees. Although the government has not disclosed the estimated cost of the entire project, it reportedly has awarded \$260 million to Mitsubishi Heavy Industries to construct the Tokyo facility.⁴⁸ Japan has no regulations mandating that the facilities be built or

⁴⁰ Asian Development Bank, *State of the Environment in Asia and the Pacific 2000*.

⁴¹ Japan has approximately 2000 intermediary waste disposal facilities, mainly incinerators, where waste is reduced before final disposal in one of nearly 2000 landfills. Japanese Government representative, interview with USITC staff, Tokyo, Japan, Oct. 6, 2003.

⁴² Official data on industrial waste includes both solid and hazardous waste. The share of solid to hazardous waste contained in this category is estimated to be 290.8 metric tons and 220 metric tons, respectively. Japanese Government representative, interview with USITC staff, Tokyo, Japan, Oct. 3, 2003.

⁴³ There is some overlap between the estimated 2,000 industrial landfills and the estimated 2,000 generic landfills, but the extent of the overlap is unknown.

⁴⁴ PCBs act as a heat transmission material in electronic devices and high-pressure condensers in the manufacture of processed foods.

⁴⁵ PCBs used in electronic devices were allowed to remain in such devices.

⁴⁶ The 20,000 metric ton estimate is based on reports from the prefecture governments. The figure may be understated as it is possible that companies under-report levels of PCB waste. Furthermore, some of the PCB waste is missing and cannot be accounted for.

⁴⁷ Incineration is a generally acceptable method of PCB disposal but is not acceptable to the Japanese public due to concerns over toxic emissions. Japanese Government representative, interview with USITC staff, Tokyo, Japan, Oct. 6, 2003.

⁴⁸ Two other significant bidders on the project were Tokyo Electric (which teamed with Mitsui), and Kansai Electric, the first- and second-largest electric companies in Japan, respectively. Electric companies are some of the biggest generators of PCB waste. U.S. Government representative, interview with USITC staff, Tokyo, Japan, Oct. 6, 2003.

operated by domestic firms.⁴⁹ However, all prospective bidders must construct a demonstration plant, at an estimated cost of \$1 million, in order to obtain approval from the Ministry of the Environment to enter a bid.⁵⁰

Recycling in Japan is typically carried out by private companies without the benefit of government subsidies, except on an ad hoc basis. These companies generate earnings through recycling fees and resale of materials. Some Japanese manufacturers are devising innovative applications for recycled materials, such as substituting recycled plastics for coke in blast furnaces in steel mills. This practice yields both economic and environmental benefits as the plastics emit fewer dioxins when burned, recycled plastic is cheaper, and steel companies can receive compensation for removing the “waste” from municipalities.

Japan’s large solid and hazardous waste market is a product of that country’s substantial environmental regulations. Japan’s Basic Law on the Environment (1993) encourages environmental protection and sustainable development through numerous regulations that legislate, inter alia, waste disposal and recycling.⁵¹ Waste disposal is primarily governed by the Law Concerning Disposal and Cleanup of Disposed Waste, which dictates a standard waste disposal plan. However, it is the responsibility of individual prefectures to tailor the plan to accommodate local needs. Recycling is governed by the Ministry of Economy, Trade, and Industry (METI). International treaties affecting waste management to which Japan is a signatory include the Persistent Organic Pollutants Convention (POP Convention) and the Basel Convention.

Trade and Investment

Japanese Government sources report that data reflecting trade in solid and hazardous waste services are not readily available.⁵² However, anecdotal information suggests that Japan is an aggressive exporter of environmental services in general, and that Japanese firms are active in the design and construction of waste management facilities throughout the Asia-Pacific region. It is reported that only domestic companies provide solid and hazardous waste management services in Japan, principally because it is not a highly profitable industry and it is difficult to obtain waste management licenses from local governments due to complex technical requirements.⁵³ Domestic and foreign contractors are required to register with municipalities in order to be eligible to operate.

Japan’s current GATS commitments grant full market access and national treatment for the foreign provision of refuse disposal services, with the exception of some limitations regarding the disposal of waste oil at sea.⁵⁴ However, according to a Japanese Government official, joint ventures are widely viewed as the only way for foreign companies to enter the market, and there are currently no such business arrangements in Japan’s solid and hazardous waste management industry.⁵⁵

⁴⁹ Japanese Government representative, interview with USITC staff, Tokyo, Japan, Oct. 6, 2003.

⁵⁰ U.S. Government representative, interview with USITC staff, Tokyo, Japan, Oct. 6, 2003.

⁵¹ Clean Japan Center, *Recycle Oriented Society: Toward Sustainable Development*, Mar. 2000.

⁵² According to a U.S. Government official, services trade data is not readily available in Japan because most such business is done via joint venture where a contract is awarded to the Japanese partner and then a private deal is made for payment to the foreign partner.

⁵³ Japanese Government representative, interview with Commission staff, Tokyo, Japan, Oct. 7, 2003.

⁵⁴ GATS, *Japan: Schedule of Commitments*, GATS/DC/46, Apr. 15, 1994.

⁵⁵ *Ibid.*

Malaysia

Market Overview

The environmental goods and services market in Malaysia—which includes the solid and hazardous waste services segment—has grown rapidly in recent years, totaling \$840 million in 2002, a 40-percent increase over 1995 levels.⁵⁶ The Malaysian environmental services market experienced a temporary downturn because of the 1997-98 Asian financial crisis. However, the Malaysian experience was comparatively less severe than that of some of its neighbors, and the environmental market rebounded after a 1-year decline in 1998. Malaysia generates an estimated 5.5 million metric tons⁵⁷ of municipal and industrial solid waste per year, of which an estimated 45 percent is managed (table 4).⁵⁸ The country generated 363,000 metric tons⁵⁹ of hazardous waste in 2002, of which 90-95 percent was reportedly managed.⁶⁰

The Malaysian Government has aggressively pursued privatization of infrastructure in the past decade to include the waste management industry. In 1995, the government awarded a 15-year exclusive contract for the management of all of peninsular Malaysia's hazardous waste to a single firm, Kualiti Alam. This Malaysian company receives its revenue from waste collection and disposal fees paid directly by companies that generate waste. Because Malaysian companies are legally obligated to obtain treatment for their hazardous waste, Kualiti Alam is assured steady revenue until its contract expires in 2013. Kualiti Alam employs multiple hazardous waste treatment techniques, although incineration and chemical treatment are the most prevalent. Although other modes of treatment operate at approximately 40-50 percent⁶¹ of capacity, Kualiti Alam's incinerator is stretched to full capacity and the company is forced to refuse some waste shipments, and thus, some companies are storing their waste until Kualiti Alam can accept it.⁶² In response, Kualiti Alam is actively pursuing the addition of plasma technology to its portfolio of treatment options. Kualiti Alam views oil waste, sludge, and other hazardous waste recycling companies as its greatest competition. Hence, Kualiti Alam offers manufacturers competitive pricing to match what they would receive from recyclers or what they would save by implementing waste-reducing technologies.⁶³

The management of solid waste is also undergoing privatization, though the process is not yet complete. Treatment of solid waste in Malaysia, which is regulated by the Ministry of Housing and Local Government, is much less sophisticated than that for hazardous waste, with most solid waste destined for open dumps. However, as the privatization of the sector advances, more modern methods of handling and treatment are emerging. In 1994, the Malaysian Government identified four domestic companies to receive 20-year concessions to collect, store, and dispose of solid waste in one of the four geographic areas devised under the plan; however, the concessions will not be signed until the central government passes a bill, which

⁵⁶ Data from EBI, *Environmental Markets in the Asia-Pacific, 1995-2000* spreadsheet.

⁵⁷ Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁵⁸ Asian Development Bank, *State of the Environment in Asia and the Pacific 2000*.

⁵⁹ Malaysia has two classifications of waste: solid waste, which includes municipal and industrial, and scheduled waste, which encompasses 107 types of hazardous waste. Small and medium enterprises are more likely to under-report their waste and/or dispose of it illegally. Malaysian Government representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁶⁰ Malaysian Ministry of the Environment, *Environmental Quality Report 2001*.

⁶¹ Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 13, 2003.

⁶² American Chamber of Commerce member companies contend that Kualiti Alam's services are limited, costs are rising each year, and they sometimes have to store or export waste because Kualiti Alam cannot handle it in a timely manner. Industry representative, interview by USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁶³ Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 13, 2003.

Table 4
Selected characteristics of the Malaysian market for solid and hazardous waste services

Item	Solid waste	Hazardous waste
Waste generation/treatment	5.5 million metric tons per year; an estimated 45 percent of which is managed. ¹	363,000 metric tons in 2002, 90-95 percent of which was reportedly managed. ¹
Market size (2000)	\$0.12 billion. ²	\$24 million. ²
Employment (2001)	(³)	(³)
Trade	Anecdotal evidence suggests that the country is a net importer of services. ⁴	
Nature of industry	Evolving market; 3 companies control 75 percent of market. ¹	A single company has exclusive ¹ rights to all incineration and chemical treatment though 2013.
Key market participants (and location of parent)	Alam Flora (Malaysia) ¹ Southern Waste (Malaysia) Northern Waste (Malaysia)	Kualiti Alam (Malaysia) ¹
Principal methods of waste treatment and disposal	Open dumping (50 percent), landfilling (30 percent). ⁵	Incineration, chemical treatment, and storage. ¹
Key regulations	Environmental Quality Act of 1974 (and subsequent amendments in 1985 and 1996), Environmental Quality Regulations. ¹	
Regulatory authorities	Department of the Environment, and Ministry of Housing and Local Government ¹	
GATS commitments	Malaysia has scheduled no commitments on refuse disposal services. ⁶	
Other measures affecting trade and investment	Foreign investors limited to 30-percent financial stake. ¹ Privatization of solid and hazardous waste management services resulted in exclusive, long-term agreements for Malaysian firms. ¹	

¹ Malaysian and U.S. Government and industry representatives, interviews with USITC staff, Kuala Lumpur, Malaysia, Oct. 2003.

² Environmental Business International, Inc., *EBI Report 2000: The U.S. Environmental Industry and Global Market*, Sept. 2001.

³ Not available.

⁴ Foreign waste management firms are present in niche areas of the Malaysian market, but Malaysian firms are not confirmed as exporting such services. Malaysian and U.S. Government and industry representatives, interviews with USITC staff, Kuala Lumpur, Malaysia, Oct. 2003.

⁵ Asian Development Bank, *State of the Environment in Asia and the Pacific, 2000*, p. 180.

⁶ GATS, *Malaysia: Schedule of Specific Commitments*, GATS/SC/52, Apr. 15, 1994.

transfers authority over solid waste management from local governments to the central government.⁶⁴ As such, two of the selected companies never fully began work, and two others—Alam Flora and Southern Waste⁶⁵—proceeded at their own risk.⁶⁶

Alam Flora was awarded the lucrative Pahang and Selang regions that include the city of Kuala Lumpur and account for an estimated 54 percent of generated waste.⁶⁷ Alam Flora currently manages approximately 6,000 metric tons of waste per day, much of which goes into properly engineered landfills. The company is paid by the 24 municipal governments that it serves, a system that the company favors as it is perceived that direct billing would not be well received by residents.⁶⁸ As the company's operations mature, it plans to build incinerators and more economical and environmentally sound landfills. Alam Flora predicts that in the next 20 years all local landfills will be capped and the country will rely on two super-landfills (likely abandoned tin mines) and two high-volume incinerators. These projects are not currently

⁶⁴ The law will possibly be signed in early 2004.

⁶⁵ Southern Waste won the contract that covers Jahor state.

⁶⁶ Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁶⁷ Percentage based on estimates of waste generation by Malaysian industry source.

⁶⁸ There is unfavorable public sentiment associated with privatization due to a failed effort with sewage privatization. In that case the company awarded the project began charging sewage fees to the public and then did not follow through with the project.

viable due, in part, to the fact that the trash volume generated in Malaysia is not high enough to justify the rail transportation costs.⁶⁹

Few companies provide recycling services in Malaysia as this industry segment is not considered to be lucrative enough due to a lack of participation by the public. Industry sources state that more effective and consistent public awareness campaigns are needed to motivate the population to recycle waste products.⁷⁰ Currently there are no recycling laws in Malaysia, although the government set a 3-percent recycling goal for 2003, which the country has reportedly met.⁷¹ The government intends to increase this recycling goal by 1 percent per annum until it reaches 22 percent in 2023. According to a Malaysian industry source, the country will have difficulty establishing a viable recycling industry because it is not poor enough to spawn an effective informal recycling sector, but it is not yet developed enough to support a modern, efficient recycling system.⁷²

Trade and Investment

Trade and investment in solid and hazardous waste management services in Malaysia is considered to be minimal owing to the monopolistic structure of both industry segments.⁷³ As monopoly contracts are phased out, opportunities may arise for foreign firms to enter the market. However, current regulations limit foreign investment in waste management firms to a 30-percent equity stake. Despite the rather closed market, a handful of foreign companies have found market opportunities. For example, U.S.-based World Resources Co. (WRC), is active in reclamation of precious metals from industrial waste. Although the company actually exports the waste to the United States before treating and recycling the metals, it provides collection and transportation services in Malaysia.⁷⁴ The Government of Malaysia has not made any specific GATS commitments on refuse disposal services.⁷⁵

Outlook

As developing countries in the Asia-Pacific region continue to strengthen and enforce environmental regulations, the demand for proven, cost-effective treatment methods is likely to increase. Japanese companies having already invested in construction of waste management infrastructure, feasibility studies, environmental impact assessments, etc., will likely be in a favorable position to seize upon emerging market opportunities in those countries.

In Japan, demand for environmental services will likely grow, especially as public awareness increases about environmental issues. Although there is not currently any notable competition within the Japanese waste management market, owing to the propensity toward long-term contracts with established

⁶⁹ Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁷⁰ The Government of Malaysia has instituted and promoted recycling programs, but industry sources contend that efforts to date fall short of what is needed to generate widespread participation. Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁷¹ Industry representative, interview with USITC staff, Kuala Lumpur, Malaysia, Oct. 10, 2003.

⁷² Ibid.

⁷³ Design and construction of waste treatment facilities by foreign firms, especially Japanese firms, are prevalent, but operation of such facilities by foreign firms is not.

⁷⁴ WRC recovers silver, copper, nickel, and gold from wastewater sludge (N151 metal hydroxide sludge) from electronics manufacturers. However, it noted that its business is declining as many electronics companies are moving to China and/or becoming more technologically efficient, thereby reducing mineral waste. In 2000, the company exported 2,000 metric tons of sludge, but exported only 300 metric tons during Jan.-Oct. 2003.

⁷⁵ GATS, *Malaysia: Schedule of Specific Commitments*, GATS/SC/52, Apr. 15, 1994.

Waste Services Markets: Asia-Pacific Region

companies, industrial waste management is becoming more competitive as new technologies emerge.⁷⁶ Market segments that may experience particularly rapid growth in the future include environmental management consulting and pesticide disposal. ■

⁷⁶ Japanese Government representative, interview with USITC staff, Tokyo, Japan, Oct. 7, 2003.

APPENDIX A

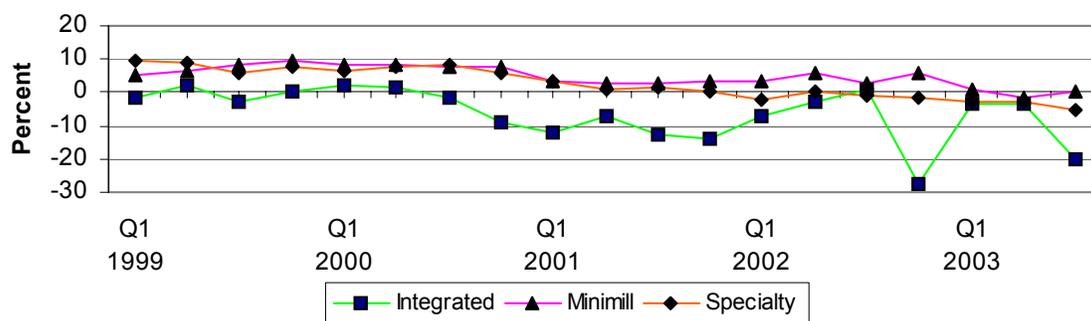
Key Performance Indicators of Selected Industries and Regions¹

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¹ The data and views presented for the following indicators are compiled from the industry sources noted and are those of the authors. They are not the views of the United States International Trade Commission as a whole or of any individual Commissioner. Nothing contained in this information based on published sources should be construed to indicate how the Commission would find in an investigation conducted under any statutory authority.

STEEL

Figure A-1

Operating losses¹ increase for integrated and specialty producers during third quarter 2003

¹ Operating income (loss) as a percent of sales. Integrated group comprises 3 firms. Minimill group comprises 7 firms. Specialty group comprises 4 firms.
Note.--As of first quarter 2003 integrated group includes 1 previously untracked firm, and no longer includes 1 previously tracked firm, reflecting ownership changes in the industry.

Source: Individual company financial statements.

- OAO Severstal, the second-largest steel producer in Russia, completed the acquisition of substantially all the assets of Rouge Industries, Inc. and its primary operating subsidiary, Rouge Steel Co., on January 30, 2004. Severstal and former Rouge employees agreed to a 3-year contract for more than 2,000 workers. See <http://www.severstal.ru> and <http://www.uaw.org>
- AK Steel Corp. and the United Steelworkers of America (USWA) reached agreement on issues related to the labor dispute at the company's Mansfield Works in Ohio on January 26, 2004. The company and the union agreed to seek National Labor Relations Board (NLRB) approval for the dismissal of all NLRB charges against each other. See <http://www.aksteel.com> and <http://www.uswa.org>
- Republic Engineered Products, Inc. emerged as a new company after the purchase of substantially all of the assets of Republic Engineered Products LLC by Perry Strategic Capital Inc. The transaction, valued at \$277.5 million, was approved by the U.S. Bankruptcy Court in Akron, Ohio and completed on December 19, 2003. See <http://www.republicengineered.com>
- The U.S. Bankruptcy Court in St. Paul, Minnesota approved a joint purchase of the assets of Eveleth Mines LLC by Cleveland-Cliffs Inc. and Laiwu Steel Group, one of the largest steel producers in China, on November 25, 2003. The iron ore mining and pelletizing assets of Eveleth Mines, which ceased operations and filed for Chapter 11 bankruptcy protection in May 2003, will be acquired by United Taconite LLC, a new company owned 70 percent by Cliffs and 30 percent by Laiwu. See <http://www.cleveland-cliffs.com>

Table A-1

Imports of all types decrease significantly during third quarter 2003 and first 9 months of 2003 compared to year-earlier periods

Item	Q3 2003	Percentage change, Q3 2003		YTD 2003 ¹	Percentage change, YTD 2003	
		from Q3 2002	YTD 2003 ¹		from YTD 2002	from YTD 2002
Producers' shipments (1,000 short tons)	27,974		10.6	79,898		6.8
Finished imports (1,000 short tons)	4,433		-33.7	13,937		-20.0
Ingots, blooms, billets, and slabs (1,000 short tons) . . .	1,219		-50.6	3,589		-45.5
Exports (1,000 short tons)	1,731		14.6	6,388		44.3
Apparent supply, finished (1,000 short tons)	30,676		0.7	87,447		-0.4
Ratio of finished imports to apparent supply (percent)	14.5		² -7.5	15.9		² 3.9

¹ Preliminary.

² Percentage point change.

Note.--Because of rounding, figures may not add to the totals shown.

Source: American Iron and Steel Institute.

STEEL

Table A-2
Steel service centers: Third quarter 2003 inventories decrease compared to third quarter 2002

Item	June 2003	Sept. 2003	Percentage change, Sept. 2003 from		Percentage change, Q3 2003 from	
			June 2003	Q3 2002	Q3 2003	Q3 2002
Shipments (1,000 short tons)	4,045	4,276	5.7	12,310	12,428	1.0
Ending inventories (1,000 short tons) . .	12,836	13,251	3.2	13,968	13,251	-5.1
Inventories on hand (months)	3.2	3.1	(¹)	3.6	3.1	(¹)

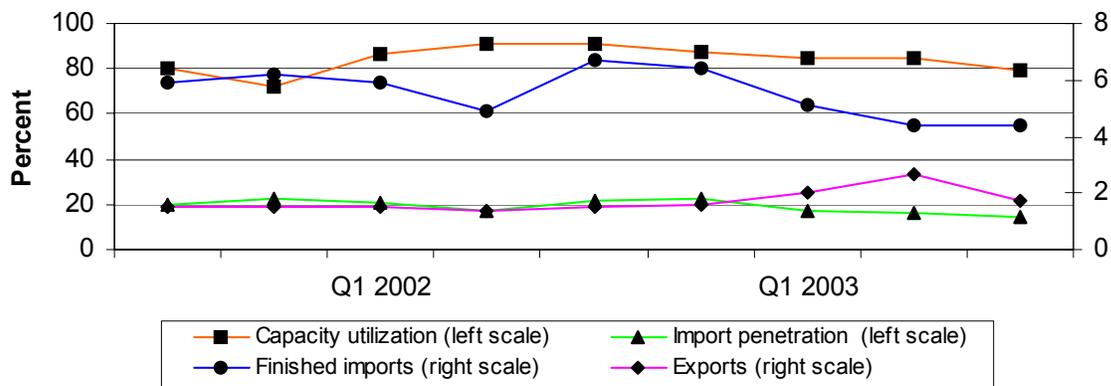
¹ Not applicable.

Note.--Metals Service Center Institute data collection and presentation methods have been updated. Data presented for third quarter 2002 have been updated and differ from previously published data.

Source: Metals Service Center Institute.

- U.S. steel service center inventory continued to decline during third quarter 2003. Ending inventory quantities declined by more than 5 percent, and inventories on hand declined by one-half month during third quarter 2003 compared to third quarter 2002 (table A-2), according to the Metals Service Center Institute. See <http://www.ssci.org>
- The American Institute for International Steel import market survey (January 2004) predicts decreased imports of semifinished, cold-rolled sheet, corrosion resistant, cut-to-length plate, structurals, and stainless sheet during the next 3 to 5 months. The survey predicts no significant changes in imports of hot-rolled sheet, wire rod, and pipe and tube. Imports of merchant bar are predicted to trend slightly upward. See <http://www.aiis.org>
- World crude steel production for 2003 exceeded 1 billion tons, an increase of almost 7 percent, compared with 2002, according to the International Iron and Steel Institute. While production in North America and the European Union remained essentially flat, China's production increased by more than 21 percent between 2002-2003. See <http://www.worldsteel.org>
- Domestic steel mill capability utilization fell to less than 80 percent during third quarter 2003, the lowest utilization level in more than 2 years, as exports trended downward from recent record levels (figure A-2). See <http://www.steel.org>

Figure A-2
Steel mill products, all grades: Import penetration continues to decline during third quarter 2003, after falling to multi-year low during previous quarter



Note.--Capacity utilization is the raw steel tonnage produced divided by the tonnage capability to produce raw steel for a sustained full order book.

Source: American Iron and Steel Institute.

AUTOMOBILES

Table A-3

U.S. sales of new passenger vehicles (cars and light trucks), domestic and imported, and share of U.S. market accounted for by sales of total imports and Japanese imports, by specified periods, January 2002-December 2003

Item	Percentage change			
	Oct.-Dec. 2003	Jan.-Dec. 2003	Oct.-Dec. 2003	Jan.-Dec. 2003
			from July-Sept. 2003	from Jan.-Dec. 2002
U.S. sales of domestic passenger vehicles (1,000 units)	3,226	13,370	-9.1	-1.6
U.S. sales of imported passenger vehicles (1,000 units)	774	3,308	-13.7	1.3
Total U.S. sales (1,000 units)	3,999	16,678	-10.1	-1.0
Ratio of U.S. sales of imported passenger vehicles to total U.S. sales (percent)	19.3	19.8	-4.1	2.3
U.S. sales of Japanese imports as a share of the total U.S. market (percent)	9.8	10.5	-9.3	0.2

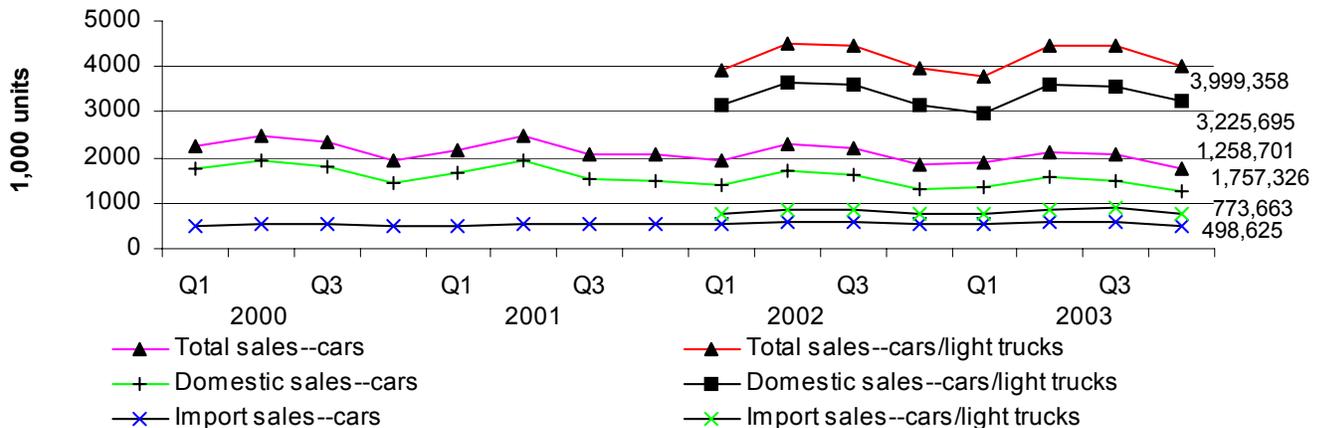
Note.—Domestic passenger vehicles include U.S., Canadian-, and Mexican-built cars and light trucks sold in the United States. Imported passenger vehicles do not include cars and light trucks supplied by Canada and Mexico.

Source: Compiled from data obtained from *Automotive News*.

- Sales in 2003 were down 1.0 percent over 2002 levels, making 2003 the fifth-best passenger vehicle sales year in U.S. history. However, the combined market share of the Big Three's domestic brands slipped to a historical low - 60.2 percent - down 1.5 points from 2002. The Big Three's share of car sales was 44.9 percent, down from 46.7 percent in 2002; their share of light truck sales was 73.7 percent, down from 76.4 percent in 2002.
- Six of the 11 Japanese brands sold in the United States set sales records, and two others sold more cars and trucks than in 2002. The combined sales volume for Japanese brands increased by 3.3 percent, and their combined market share rose by 1.2 percentage points, to 28.8 percent.
- Combined sales for European brands were up by 2.1 percent, and combined market share rose by 0.3 percentage points, to 7.2 percent. Korean brands maintained their 2002 combined market share of 3.8 percent in 2003, despite the fact that there were two manufacturers in 2003 as opposed to three in 2002. Daewoo dropped out of the market in late 2002, leaving Hyundai and Kia as the only two Korean brands in the U.S. market.
- Light trucks accounted for 53.2 percent of the passenger vehicle market in 2003, up from 50.6 percent in 2002. Prior to 2002, cars always outsold light trucks.

Figure A-3

U.S. sales of new passenger vehicles (cars and light trucks) decreased in the fourth quarter 2003. For the quarter, the import passenger vehicle share of total U.S. sales decreased by a larger percentage than the domestic vehicle share

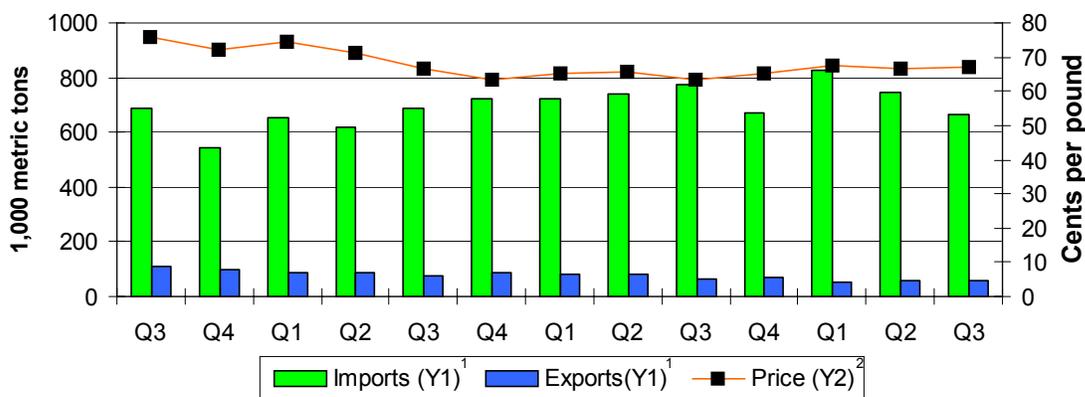


Note.—Domestic sales include U.S., Canadian-, and Mexican-built vehicles sold in the United States; these same units are not included in import sales.

Source: *Automotive News*; prepared by the Office of Industries.

UNWROUGHT ALUMINUM¹

Figure A-4
Imports continue to decline in the third quarter of 2003 due to lower imports from Russia



¹Unwrought aluminum and aluminum alloys.

²Quarterly average of the monthly U.S. market price of primary aluminum ingots.

Source: Compiled by USITC staff based on data obtained from the U.S. Geological Survey.

- The price of aluminum remained stagnant during 2003 because of increasing production worldwide but sustained demand by the Chinese may change the outlook. According to industry analysts, a shortage of alumina (the raw material used to produce aluminum), due to high levels of purchases by the Chinese for their rapidly expanding primary aluminum industry, may result in higher aluminum prices in 2004.
- Consolidation continues in the aluminum industry as Alcan's bid for Pechiney was approved by both EU and U.S. regulatory authorities. However, regulatory approval of the deal required that Alcan divest of some key properties in order to meet anti-monopoly provisions in both Europe and the United States.
- According to Alcoa, a recent surge of aluminum plate from South Africa (of comparable quality to U.S.-made plate) contributed to Alcoa's filing of an antidumping petition before the U.S. International Trade Commission (ITC). In December 2003, the ITC determined that there was a reasonable indication that a U.S. industry is materially injured by reason of imports of certain aluminum plate from South Africa that are allegedly sold in the United States at less than fair value.

Table A-4
Inventories in LME warehouses reached levels not seen since February 1995

Item	Q3 2002	Q2 2003	Q3 2003	Percentage change	
				Q3 2003 from Q3 2002	Q3 2003 from Q2 2003
Primary production (1,000 metric tons)	702	674	668	-4.8	-0.9
Secondary recovery (1,000 metric tons)	759r	738	738	-2.8	0.0
Imports (1,000 metric tons)	773	746	666	-13.8	-10.7
Import penetration (percent)	35.7	36	33.1	¹ -2.6	¹ -2.4
Exports (1,000 metric tons)	66	56.0	60	-9.1	7.1
Average nominal price (cents/lb)	63.5	67	67.1	5.8	1.0
LME inventory level (1,000 metric tons)	1,290	1,142	1,372	6.4	20.1

¹ Percentage point change

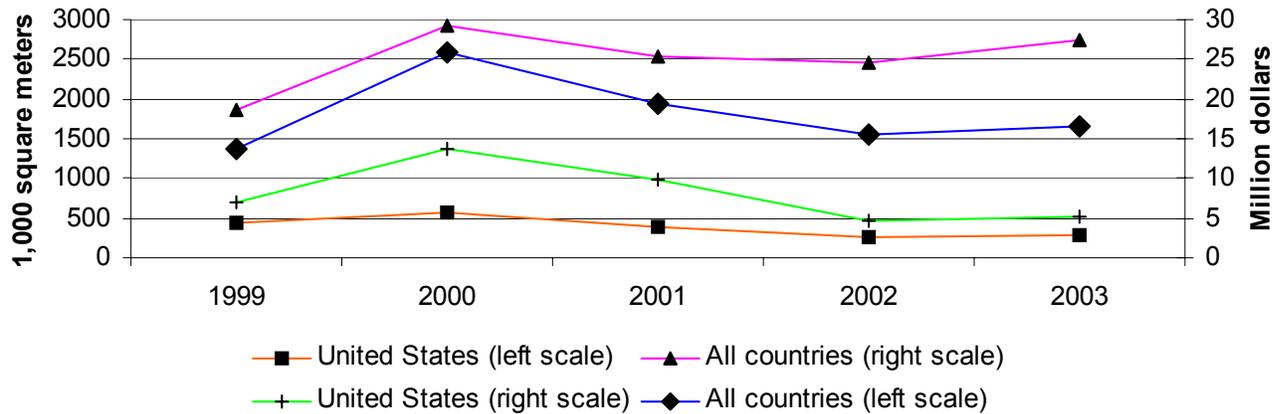
Note.—Revised data indicated by "r."

Sources: Compiled from data obtained from U.S. Geological Survey and World Bureau of Metal Statistics.

¹Product coverage includes only unwrought aluminum and certain aluminum alloys for improved data comparability.

FLAT GLASS

Figure A-5
Japanese monthly average imports show increases during first 8 months of 2003



Source: Compiled from "World Trade Atlas: Japan" at <http://www.globaltradeatlas.Com>, using official statistics provided by the Government of Japan.

Background

- Although the U.S.-Japanese agreement on Japanese market access for imports of flat glass which sought to increase access and sales of foreign flat glass in Japan expired on December 31, 1999,¹ the U.S. Government continues to engage the Japanese Government in discussions over access to the Japanese market. Most recently, in the 2003 Trade Forum discussion held in July 2003 under the U.S.-Japan Partnership for Economic Growth, the U.S. Government "highlighted the continuing problems that prevent market entry, including the need for tighter enforcement of rules against anticompetitive behavior."² The U.S. Government also has urged Japan to modify regulations to facilitate use of energy-efficient glass in Japan.
- U.S. and Japanese negotiators have agreed that Japan's Ministry of Trade and Industry (MITI), in conjunction with the Japan Fair Trade Commission (JFTC), should monitor Japanese flat-glass manufacturers and the glass distribution system in Japan to promote competition in the sector.³

Current

- Increased Japanese demand for imported flat glass, encouraged by a somewhat more positive outlook for the Japanese economy, resulted in an increase in average monthly Japanese imports in 2003 from all countries by 8 percent, compared with levels in 2002, to 2.7 million square meters. The average monthly value of total Japanese flat glass imports in 2003 increased by 7 percent, compared with levels in 2002, to \$16.6 million. In 2002, the quantity of average monthly Japanese imports remained unchanged compared with the same imports in 2001, and decreased 20 percent in value during the same period.
- Average monthly Japanese imports from the United States increased by quantity and value during full-year 2003 compared with 2002 (up 10 percent to 291,000 square meters and up 16 percent to \$5.2 million, respectively) due largely to increased demand in Japan for higher-value, construction-related flat-glass products from the United States. Average monthly imports from the United States for full-year 2002 had decreased 32 percent in quantity and 54 percent in value over the same imports for full-year 2001.

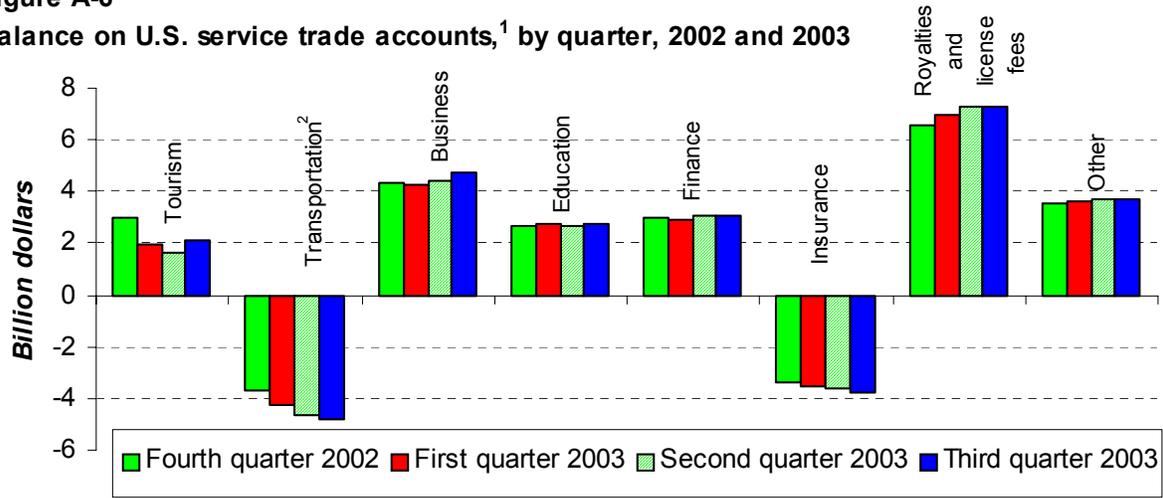
¹Office of the United States Trade Representative (USTR), *The President's 1999 Annual Report on the Trade Agreements Program*, p. 227, downloaded from <http://www.ustr.gov/reports/tpa/2000index.html> on Mar. 3 2004.

²USTR, *2004 Trade Policy Agenda and 2003 Annual Report of the President of the United States on the Trade Agreements Program* (final draft), 2003, pp. 21-22.

³USTR, *Fourth Annual Submission by the Government of the United States to the Government of Japan on Deregulation and Competition Policy*, Oct. 12, 2000, p. 32.

SERVICES

Figure A-6
 Balance on U.S. service trade accounts,¹ by quarter, 2002 and 2003

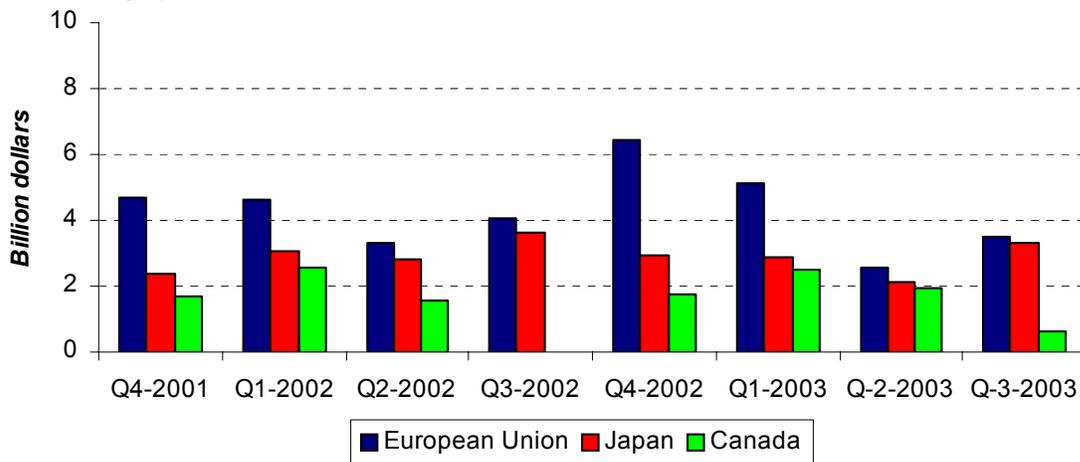


¹ Data for telecommunication services are too small to be revealed graphically.

² Includes passenger fares, freight and port services.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, Jan. 2004, p. 83.

Figure A-7
 Surpluses on cross-border U.S. services transactions with selected trading partners, by quarter, 2001-2003¹



¹ Private-sector transactions only; military shipments and other public-sector transactions have been excluded.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, Jan. 2004, pp. 92-95.

NORTH AMERICAN TRADE HIGHLIGHTS

U.S. trade with its North American Free Trade Agreement (NAFTA) partners is highlighted in table A-5. The following is a summary of key developments in 2003.

- A burst of U.S. economic activity and higher prices in the energy sector fueled a 5-percent (\$16.6-billion) rise in U.S. imports from its NAFTA partners in 2003 compared with 2002. Escalating prices for petroleum, petroleum products, and natural gas accounted for much of the increase in imports from both Canada and Mexico.¹ By contrast, more restrained gross domestic product (GDP) growth among its NAFTA partners—and especially Mexico's sluggish assembly industry—held the overall rise in U.S. exports to 1 percent (\$3.2 billion). As a result, the U.S. merchandise trade deficit with Canada (\$75.3 billion) increased by \$7.3 billion, while the deficit with Mexico (\$54.1) rose by \$6.0 billion.
- The year-to-year increase in U.S. imports from its NAFTA partners lagged far behind the 22-percent rise in imports from China in 2003, and was below the 6-percent growth in U.S. imports from all other suppliers.
- Despite the Canadian economy's modest GDP growth of 1.7 percent in 2003,² consumption of U.S. exports rose by 4 percent (\$6.2 billion). The driving force in the Canadian economy in 2003 was a build up of business inventories, and record orders by the transportation and computer industries. Additionally, brisk Canadian business investment in plant and equipment in 2003 boosted demand for U.S. exports of machinery and equipment after 2 years of decline.³
- The Canadian dollar's 15-percent appreciation against the U.S. dollar during 2003 stymied export growth of most manufactured goods to the United States,⁴ in contrast to rising exports in the energy sector. Although U.S. imports of auto parts from Canada expanded by \$1.2 billion in 2003, imports of motor vehicles declined by \$0.6 billion; telephone equipment, by \$0.5 billion; and computer hardware, by \$0.2 billion.
- Strong U.S. demand for energy products during 2003 in a tight global energy market with higher prices—attributable to caps on exports by members of the Organization of Petroleum Exporting Countries (OPEC) and the 9-percent GDP growth in China (challenging the United States as the world's leading consumer of petroleum)—resulted in the value of U.S. imports from Canada increasing by 6 percent (\$13.5 billion) in 2003.
- Mexico's GDP growth of 1.3 percent in 2003 also primarily reflected higher prices paid by the United States for its imports of petroleum.⁵ The 2.7-percent increase in U.S. manufacturers' shipments in the United States did not translate into increased demand for assembly services in Mexico, and escalating prices for electricity and intense competition from China slowed the flow of foreign direct investment into Mexico. Manufacturers' shipments in Mexico fell by 2 percent in 2003 and employment in companies registered under the Maquiladora Program was reduced by 12,500 jobs.⁶
- The downward trend in U.S. exports to Mexico nearly mirrored the decline in manufacturing in Mexico as exports fell by 3 percent (\$2.9 billion) in 2003. The bulk of U.S. exports to Mexico remained intermediate products (machinery, materials, components, and other industrial inputs) destined for companies operating under Mexico's Maquiladora Program and PITEX.

¹ Crude petroleum prices rose by 22 percent in 2003 compared with 2002, whereas natural-gas prices climbed by 73 percent. The volume of crude petroleum imported from Canada grew by 7 percent, and from Mexico, by 6 percent.

² Statistics Canada, "Canadian Economic Accounts 2003," found at <http://www.statscan.ca/daily/english/html>, retrieved on Feb. 27, 2004.

³ The Americas, "Canada Records Surprisingly Strong Growth," *Wall Street Journal*, Mar. 2, 2004.

⁴ Zoltan Pozsar, T, "GDP Analysis - Canada," *Economy*, found at <http://www.economy.com/dismal/pro/release>, retrieved on Feb. 18, 2004.

⁵ David Givens, "First Take," *Economy*, found at <http://www.economy.com/dismal/pro/release> retrieved on Feb. 17, 2004.

⁶ "Economic Summary," *Mexico Watch*, Mar. 1, 2004, p. 3.

NORTH AMERICAN TRADE HIGHLIGHTS

Table A-5
North American trade, 1998-2003

Item	1998	1999	2000	2001	2002	2003	Percent
							change
							2002/03
—————Value (million dollars)—————							
U.S.-Mexico trade:							
Total imports from Mexico	93,017	109,018	134,734	130,509	134,121	137,199	2
U.S. imports under NAFTA:							
Total value	68,326	71,317	83,995	81,162	84,747	87,750	4
Percent of total imports	73	65	62	62	63	64	¹ 1
Total exports to Mexico	75,369	81,381	100,442	90,537	86,076	83,108	-3
U.S. merchandise trade balance							
with Mexico ²	-17,648	-27,637	-34,292	-39,971	-48,045	-54,091	-13
U.S. -Canada trade:							
Total imports from Canada	174,685	198,242	229,060	216,836	210,518	224,016	6
U.S. imports under NAFTA:							
Total value	111,675	115,715	123,052	113,179	115,807	119,416	3
Percent of total imports	64	58	54	52	55	53	¹ -2
Total exports to Canada	137,768	145,731	155,601	144,621	142,543	148,749	4
U.S. merchandise trade balance							
with Canada ³	-36,918	-52,511	-73,459	-72,215	-67,975	-75,267	-11

¹Percentage-point change.

² The negative (-) symbol indicates a loss or trade deficit. The \$48.0-billion deficit in U.S. merchandise trade with Mexico in 2002 was partially offset by a \$4.7-billion U.S. surplus in bilateral services trade.

³ The \$68.0-billion deficit in U.S. merchandise trade with Canada in 2002 was partially offset by a \$5.8-billion U.S. surplus in bilateral services trade. During the first three quarters of 2003 the U.S. surplus in bilateral services trade totaled approximately \$7 billion, not seasonally adjusted.

Source: Compiled by USITC staff from official statistics of the U.S. Department of Commerce. Statistics on U.S. services trade with Canada and Mexico are based on preliminary data provided in U.S. Department of Commerce, Bureau of Economic Analysis, "U.S. International Transactions Accounts Data," tables 10 and 10a, found at http://www.BEA.DOC.GOV/BEA/International/BP_web/list.CFM?ANON=92.

- Higher petroleum prices largely accounted for the net 2-percent (\$3.1-billion) growth in U.S. imports from Mexico in 2003. The 10-percent depreciation of the Mexican peso vis-a-vis the U.S. dollar in 2003 reportedly slowed the shift in sourcing by U.S. companies away from Mexico towards China, and probably prevented an absolute decline in U.S. imports from Mexico.⁷
- Leading categories of manufactured goods exhibiting U.S. import increases from Mexico in 2003 were auto parts (\$1.3 billion); telephone equipment (\$0.5 billion); television receivers (\$0.3 billion); measuring, testing, and controlling instruments (\$0.3 billion); and medical goods (\$0.3 billion). Manufactured goods with the largest decreases in imports from Mexico were motor vehicles (\$1.5 billion); computer hardware (\$1.3 billion); toys, dolls, games, sporting goods, and bicycles (\$0.6 billion); and apparel (\$0.5 billion). Except for motor vehicles, the declines in U.S. imports from Mexico in these sectors reflected a loss of U.S. market share to imports from China.

⁷ John Cristman, "Mexico's Economic, Political Update and Trade Forecasts: Projections and Implications for Investment in Mexico 2004-2008," *Global Insight*, Mar. 10, 2004.