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Vehicle sales soften in first half of 2003, Japanese market share over 30% for the first time

After record sales last year, new vehicle sales in Canada have weakened through the second quarter of 2003. While sales dipped 4.9% in the first quarter, by the end of June total sales were 6.0% lower than last year. Light vehicle sales stood at 823,017 units for the first six months, down from 875,331 units in 2002. However, during the first six months of 2002, sales were the highest on record, a trend that would be difficult to sustain after six consecutive years of solid growth in the Canadian market.

For Japanese automakers, demand softened over the second quarter, after growing 6.4% in the first three months of 2003. While individual company's results were mixed, total light vehicle sales for the first half of 2003 were up 3.5% at 251,951 units compared to the previous year.

Among individual companies, Toyota Canada holds the top spot with a six-month tally of 85,227 units, a gain of 7.9% over 2002. Nissan Canada was the sales growth leader, up 8.7% to 35,030 units through the end of June due largely to a 54.9% increase in Infiniti vehicle sales. All other JAMA Canada members including Honda, Mazda, Subaru, and Suzuki were in negative sales territory for the first half of 2003. Mitsubishi sold 8,126 vehicles in Canada through the end of June. Since start-up of operations in Canada in September 2002, Mitsubishi has recorded retail sales of 11,349 units.

In terms of market share, Japanese automakers combined share is above 30% for the first time, having risen from 27.8% in 2002 to 30.6% for the first half of 2003.

In the commercial truck sector, Hino reported sales of 513 units for the first six months of 2003, up 9.1% over the previous year. However, during the second quarter (April-June), retail sales dipped 13.8% due in part to the impact of the SARS outbreak in April and May which hit the service sector in Toronto.

With respect to the Big Three automakers in Canada, overall sales have declined 11.8% through the first half of 2003. In spite of a growing array of ever-larger incentives, General Motors sales have fallen 15.3%, while DaimlerChrysler was 12.9% lower and Ford was down 4.1% compared to the same period in 2002. Market share has also dropped from 61.1% to 57.3% in 2003.

Among other automakers, sales at Hyundai and Kia were both ahead of last year, up 4.8% (to 34,735 units) and 9.6% (to 15,698 units) respectively. European automakers have turned in a mixed performance, but overall sales are unchanged from last year at 48,624 units.

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Power blackout: Auto industry runs on half power for a week as energy restored gradually

The power outage that hit a large chunk of Ontario and eight US states in the north east on August 14 not only stopped production at all Canadian auto assembly plants for several days, but also forced the Ontario Government to request all major industrial power consumers including automakers to voluntarily cut power consumption by 50% during the peak hours between 8:00 am and 8:00 pm for the following work week. While power was restored by the weekend after the blackout, the system remained in a fragile state as some power plants, particularly nuclear plants, require several days to safely return to full power. The concern was that if individuals and industry did not take measures to conserve power while the system was being restored to full capacity, either rolling blackouts or even another power failure was possible.

In Alliston, Honda stopped production on August 18 at Plant 1 (Civic & Acura EL) and the afternoon shift was scheduled to begin at 8:00 pm to meet the targeted 50% reduction. At Toyota in Cambridge, Lexus operations at the South Plant were shut down on the same day, along with reduced light and air conditioning at the plant and other offices to lower power consumption to the 50% level. CAMI Automotive in Ingersoll was already on a scheduled shutdown for the week, but not as a result of the power shortage.

While a considerable amount of production was lost, JAMA Canada appreciates the efforts of the Ontario Government, Ontario Power Generation and the Independent Market Operator to manage

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Light Vehicle Sales in Canada, by Company

Company	Jan-June 2003			Jan-June 2002			% Change		
	CARS	TRUCKS	TOTAL	CARS	TRUCKS	TOTAL	CARS	TRUCKS	TOTAL
HONDA	57,937	19,834	77,771	60,563	21,794	82,357	-4.3	-9.0	-5.6
N.A. Built	53,017	11,058	64,075	55,832	10,895	66,727	-5.0	1.5	-4.0
Japan Built	4,920	8,776	13,696	4,731	10,899	15,630	4.0	-19.5	-12.4
TOYOTA	62,961	22,266	85,227	61,058	17,904	78,962	3.1	24.4	7.9
N.A. Built	36,667	10,742	47,409	30,739	7,663	38,402	19.3	40.2	23.5
Japan Built	26,294	11,524	37,818	30,319	10,241	40,560	-13.3	12.5	-6.8
MAZDA	25,302	8,016	33,318	27,602	8,820	36,422	-8.3	-9.1	-8.5
N.A. Built	3,632	4,639	8,271	831	4,979	5,810	337.1	-6.8	42.4
Japan Built	21,670	3,377	25,047	26,771	3,841	30,612	-19.1	-12.1	-18.2
NISSAN	25,227	9,803	35,030	24,607	7,609	32,216	2.5	28.8	8.7
N.A. Built	19,866	2,247	22,113	19,167	2,970	22,137	3.6	-24.3	-0.1
Japan Built	5,361	7,556	12,917	5,440	4,639	10,079	-1.5	62.9	28.2
SUZUKI	2,897	2,034	4,931	2,975	2,263	5,238	-2.6	-10.1	-5.9
N.A. Built	0	450	450	0	649	649	0.0	-30.7	-30.7
Japan Built	2,897	1,584	4,481	2,975	1,614	4,589	-2.6	-1.9	-2.4
SUBARU	5,584	1,964	7,548	6,563	1,663	8,226	-14.9	18.1	-8.2
N.A. Built	2,379	103	2,482	3,565	0	3,565	-33.3	0.0	-30.4
Japan Built	3,205	1,861	5,066	2,998	1,663	4,661	6.9	11.9	8.7
MITSUBISHI	6,850	1,276	8,126	0	0	0	0.0	0.0	0.0
N.A. Built	2,966	0	2,966	0	0	0	0.0	0.0	0.0
Japan Built	3,884	1,276	5,160	0	0	0	0.0	0.0	0.0
TOTAL	186,758	65,193	251,951	183,368	60,053	243,421	1.8	8.6	3.5
N.A. Built	118,527	29,239	147,766	110,134	27,156	137,290	7.6	7.7	7.6
Japan Built	68,231	35,954	104,185	73,234	32,897	106,131	-6.8	9.3	-1.8

* car sales include Mexican built

Source: AIAMC, DesRosiers Automotive Consultants Inc.

Motor Vehicle Production in Canada

	Jan-June 2003	Jan-June 2002	% Change
HONDA (HCM)	204,189	189,875	7.5
TOYOTA (TMMC)	108,370	107,711	0.6
CAMI	27,154	31,572	-14.0
TOTAL	339,713	329,158	3.2

Source: JAMA Canada

Motor Vehicle Exports from Canada

	Jan-June 2003	Jan-June 2002	% Change
HONDA (HCM)	160,969	140,271	14.8
TOYOTA (TMMC)	67,461	79,262	-14.9
CAMI	22,130	26,550	-16.6
TOTAL	250,560	246,083	1.8

Source: JAMA Canada

Vehicle Imports (Shipments) to Canada

	Jan-June 2003	Jan-June 2002	% Change
JAPAN	107,693	112,237	-4.0
U.S./MEXICO	83,325	62,118	34.1
TOTAL	191,018	174,355	9.6

Source: JAMA, JAMA Canada

• Continued from page 1... Vehicle sales soften

Production

Combined motor vehicle production at three Japanese affiliated plants in Canada rose during the first half of 2003 due expanding capacity at Honda of Canada Manufacturing (HCM) in Alliston. Total output climbed 3.2% to 339,713 units. Output at HCM increased 7.5% to 204,189 units, while TMMC production was relatively unchanged and CAMI output was cut back 14% due to poor demand in the key US market. Production at TMMC will expand in September with the launch of the new Lexus RX330 at their plant in Cambridge, Ontario.

Exports & Imports

Over 75% of vehicles produced at the above plants were exported in the first half of 2003, primarily to the US. However, exports by unit volume for three automakers rose only 1.8% to 250,560 units over 2002 due to slower demand in the US and a comparatively stronger market in Canada. Shipments from HCM gained 14.8% over last year, while shipments of finished vehicles from both TMMC and CAMI were down 14.9% and 16.6% respectively for the same period.

Imports of finished vehicles from Japan during the first six months of 2003 fell 4.0% to 107,693 units, while vehicles imported from plants in the US and Mexico jumped 34.1% to 83,325 units over the same period. With production capacity on the rise among Japanese automakers in North America, the reliance on local sourcing is likely to continue to grow as these expansions become fully operational, and in response to market demand.

• Continued from page 1... Power blackout

the emergency. The Ontario Government acted quickly to set up daily teleconferences with representatives from the auto sector and related industries to share information about the power status and to consult with stakeholders on the state of emergency measures. However, questions and concerns remain about the reliability and cost of power supply in the longer term. We are encouraged that a joint US / Canada Task Force has been set up to investigate the causes of the power outage and to make recommendations on how to prevent a future power outage of this magnitude.

Results for Japanese automakers from The Harbour Report, North America 2003:

Among participating plants, Toyota, Honda and Nissan continued to be the benchmarks in assembly productivity. In addition to Nissan's record-setting performance, Honda and Toyota also had some very strong performances despite some launch degradations. For example, Toyota Georgetown's two assembly operations combined for an overall 8.6% improvement in labor HPV (hours per vehicle).

The Harbour Report, which was first published in 1989, measures assembly, stamping and powertrain productivity performances – plant by plant, and company by company – for North American automotive manufacturers. The hours per unit measure calculates the labor content required to assemble a vehicle.

Despite performances that regressed in several categories, Honda and Toyota remained two of strongest manufacturers, along with Nissan. Harbour attributed degradations by Honda and Toyota to several factors, including a number of new product launches, an increase in the number and complexity of their vehicles, the lockout of West Coast dock workers, and the implementation of new systems and processes that are expected to pay off in improved performances in the future.

"Both Toyota and Honda undertook many tasks in 2002, which had an impact on their manufacturing performance," said Ron Harbour, President of Harbour Associates. "But these companies continue to set the course for designing and developing simple, low-cost manufacturing systems that produce high quality and highly sought vehicles in North America."

Nissan's operation in Smyrna, Tenn., established a new benchmark for assembly productivity. Smyrna's car plant, which produces the Altima, led all assembly plants in the report with a measure of 15.74 labor hours per vehicle (HPV), the best performance in Report history.

For the first time, Mitsubishi led the overall company assembly rankings with a labor hours per vehicle measure of 21.33 at its operations in Normal, Ill. This year, only the companies that fully participated with all of their North American plants were included in the company rankings (plant rankings continued to include all participating plants).

Nissan was not included in the company rankings because its operations in Mexico did not fully participate in the Report measures. Honda and Toyota also were not included in the rankings. Honda's Alliston #1, Alabama and Mexico plants did not participate in this year's Report, nor did Toyota's assembly plant in Princeton, Ind.

In addition to the performance of its car line, which was No. 1 overall, Nissan Smyrna's two truck lines finished 1st and 2nd in truck plant productivity. Its truck line for the Frontier small pickup had a HPV measure of 18.23, and its line that produced the Xterra recorded an 18.35 HPV.

"The performance of Nissan's Smyrna operation is testament to Nissan's strength in manufacturing," Harbour said. "Although it has not received the same acclaim as Toyota and Honda, Nissan's manufacturing operations have always compared favorably with their Japanese rivals."

Mitsubishi, another Japanese manufacturer, also earned praise for its continuing improvement. Mitsubishi's assembly operation has improved nearly 45% over the last five years, including a 2.2% improvement in this year's Report.

"Mitsubishi may be only a one-plant operation in North America, but that one plant currently has six different models in production all running on primarily the same assembly line," Harbour said. "The plant's progress over the last five years has been outstanding. While gains were much more modest in 2002, it also showed that Mitsubishi has not stopped its efforts to eliminate waste and further improve its performance."

Stamping Results

Toyota again had the strongest performance with 44 pieces per labour hour. Despite degradations in some measures, the company led all participants in such key labor productivity measures as hits per labor hour and pieces per labor hour, as well as key equipment productivity measures as hits per hour and pieces per hour. Nissan also saw nearly across-the-board improvements thanks to sharp increases in volume to finish second with 40 pieces per labour hour. CAMI in Ingersoll ranked third with 33 pieces per labour hour.

Power train Results

Toyota and Honda finished 1st and 2nd in the engine productivity rankings, reversing their order from the previous year. Toyota led the 4-cylinder segment with a HPE of 2.36, and Toyota's West Virginia engine plant was the No. 1 plant in engine productivity with a HPE of 2.18. Despite an overall 9.3% degradation of its engine operations, Honda remained first in 6-cylinder productivity with a 3.64 HPE.

Toyota Canada opens Quebec regional office

Toyota Canada Inc recently celebrated the official opening of its new Québec Zone headquarters, on Montréal's South Shore. The ceremonies were presided over by TCI President and CEO Ken Tomikawa; Nicole Carrier, President of the borough of Brossard, and Fatima Houda-Pépin, Member of the National Assembly for Lapinière (Brossard).

To mark the event, Mr. Tomikawa donated a Sienna minivan to the Borough of Brossard. "We are donating this vehicle, which can be used for community work, as a proof of our desire to be a responsible corporate citizen that will be actively involved in this community," declared Mr. Tomikawa.

• See *Toyota Canada*... continued on page 4

Construction on the 26,350 sq. ft. building, which is over two and a half times the size of the building it replaces, began just over a year ago, in April, 2002. It includes not only office space for about 40 Toyota, Lexus and Toyota Financial Services associates, but state-of-the-art meeting and videoconferencing facilities. It is also the regional home of Toyota University, which serves the dealerships of Toyota's Québec and Atlantic Zones. The building was completed at a total cost of over \$7 million.



(l to r) Gilles Pelletier, Director, Zone Managers, Toyota Canada; Nicole Carrier, President, Borough of Brossard; Kenji Tomikawa, President & CEO, Toyota Canada Inc.

Supplier News:

Canadian Autoparts Toyota to expand capacity by 20%

Canadian Autoparts Toyota, Inc. (CAPTIN), a Toyota manufacturing affiliate that engineers and produces aluminum wheels, today announced the fifth expansion in the company's 20-year history. By 2004, CAPTIN will have the capacity to produce 1.45 million wheels per year. The expansion represents an approximate \$10 million (Canadian) additional investment by Toyota in CAPTIN.

CAPTIN was incorporated in 1983 by Toyota Motor Corporation and was the first manufacturing investment by a Japanese automaker in Canada. The plant produces 22 wheel models for Toyota's vehicles globally and employs approximately 230 team members.

"This is a proud day for our team members and suppliers," said Gary Smallenberg, president of CAPTIN. "Since our founding, we have produced over 11 million wheels at this facility. In the last two decades, the process of designing and creating aluminum wheels has evolved, but the philosophy of every team member – continuous improvement and a commitment to quality – has not."

"As one of our first plants in North America, CAPTIN has always played a vital role in our growing North American manufacturing operations," added Atsushi Niimi, president of Toyota Motor Manufacturing North America, Inc., who attended the festivities today. "Every aspect of Toyota's operations – sales, manufacturing, R&D, and more – is touched by the quality products of CAPTIN. This expansion will be a vital part of Toyota's overall manufacturing expansion."

By 2006, Toyota will have capacity to build 1.65 million cars and trucks a year and 1.16 million engines in North America. Beginning

in September 2003, the Lexus RX 330 will be produced at the Toyota Motor Manufacturing Canada plant in Cambridge, Ontario.

Tokai Rika Purchases Canadian Seatbelt Manufacturer

Tokai Rika Co. and TRW Canada Limited have announced the purchase of TRW Canada's 60% interest in Quality Safety Systems (QSS) by a Canadian subsidiary of Tokai Rika. QSS employs 800 people in two plants in Ontario, Canada, and is a major supplier of seatbelts in North America, with annual sales in excess of US\$100 million. Tokai Rika previously owned 40% of QSS.



QSS plant in Tecumseh, Ontario.

Omron to build third plant in Ontario

Omron Dualtec Automotive Electronics, a supplier of automotive electronics, announced in May that it would begin construction of a third plant in Ontario in the spring of 2004. Currently, Omron Dualtec manufactures electro-mechanical relays and controls at the Relay Division, as well as switch assemblies for power seats, windows and doors and other micro-based switch assemblies at the Switch/ECU Division. Both plants are located in Oakville Ontario and have been in operation since 1991 and 1999 respectively.



Omron Dualtec plant in Oakville, Ontario.

The impact of currency appreciation

Since January 2003, the Canadian dollar has been rapidly appreciating against the US dollar, rising from about \$0.63 to over \$0.74 in June, a jump of 17.5% in six months. More recently, the dollar has dropped to about \$0.72, but many economists expect the Canadian currency may hit \$0.75 by the end of the year.

The reasons for the rising value is not fundamentally due to changes in the Canadian economy, but primarily as a result of the weaker US currency and the sluggish US economy. At the same time, some analysts have argued that the Canadian dollar has been undervalued for some time, due in part to the perception by international currency markets that the Canadian economy is highly

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dependent on resources and commodities, prices of which have been depressed on world markets in recent years.

Canadian exporters, particularly small companies who are highly dependent on the US, have been negatively affected as their ability to be competitive has been undermined by the rapid rise in the dollar. Some layoffs in the auto parts and other export-focused sectors have been blamed on the sharp rise in the Canadian currency. At the same time, Canadian manufacturers who rely on imports of US parts, materials or production machinery have generally seen a benefit from the appreciated value of the dollar.

While the jump in the loonie will have short-term impacts on profits and exports, exporters will have to adjust to the fact that the dollar is likely to continue to appreciate as the economic fundamentals in Canada continue to outperform the US. While the US Federal Reserve recently cut interest rates to 1%, the Bank of Canada overnight rate was reduced by 25 basis points in mid July and again by another 0.25% to 2.75% in early September. The cuts in the bank rate were prompted by the slowing pace of economic growth due to SARS, BSE, lower inflation, the recent power blackout in Ontario and large wildfires in Western Canada.

Among automakers in Canada, the higher Canadian dollar has had an impact on off-vehicle leases (vehicles returned at the end of the lease), as higher prices (in US currency) have dramatically reduced the number of US buyers at used car dealer auctions. In turn, this has led to lower prices in Canada of used vehicles. The volatility in the currency markets is expected to continue, with some analysts forecasting a further softening of the dollar before rising above US\$0.75 in the next six months.

Report on AUTO21 2003 Scientific Conference

Improving the automobile and the Canadian automotive sector in the 21st century were the main topics of discussion for the 150 delegates attending the 2nd annual AUTO21 Scientific Conference in Niagara-on-the-Lake, Ontario in June. JAMA Canada with Honda Canada and Toyota Motor Manufacturing Canada were among several industry sponsors of the event.

AUTO21 was created to enhance Canada's reputation and position as a global leader in automotive research and development. The annual Scientific Conference is a chance for the researchers and graduate students who are working at numerous universities and private laboratories across Canada to come together with representatives from industry and government to discuss their work and share milestones and results.

Speakers at the conference included Michael Grimaldi, President of General Motors of Canada; Gerald Fedchun, President of the Automotive Parts Manufacturers Association; John Mann, Director of Engineering and Regulatory Affairs for DaimlerChrysler Canada; and Jeremy Burne, North American Automotive Sector Specialist for the British Government.

Some AUTO21 researchers also presented key findings of their work on topics including the development of a hydrogen infrastruc-

ture in Canada; re-designing children's vehicle restraint systems to better protect passengers; testing the limits of high-strength dual-density steels in hydroforming automotive parts; and enhancing rapid manufacturing systems.

The Government of Canada awarded the AUTO21 Network of Centres of Excellence an initial four-year grant of \$23 million in 2001 to help it enhance Canada's position as a center for automotive research and development. At 32 Canadian universities, more than 220 researchers and 250 graduate and post-graduate student researchers are working on innovative, auto-related projects in the areas of health, safety and injury prevention; societal issues; materials and manufacturing; design processes; powertrains, fuels and emissions; and intelligent systems and sensors. In addition to the federal grant, AUTO21 is supported by industry, government and institutional contributions of \$11 million.

Further information is available at www.auto21.ca.

Canadian Fuel Cell Commercialization Roadmap announced by Industry Minister Allan Rock

Canada has recently taken an important step toward a hydrogen economy as Allan Rock, Minister of Industry, released the Canadian Fuel Cell Commercialization Roadmap. The Roadmap identifies how Canadian companies, institutions and governments can plan their investment decisions, industrial development activities, and research and educational programs to accelerate the commercialization of fuel cell and hydrogen technologies, which hold significant potential for environmental benefit and economic opportunity.

"Canadian companies, researchers, universities and governments now have a plan to build on our successes and remain on the cutting edge of new fuel cell technologies," said Minister Rock. "With a strategy for bringing new, environmentally-friendly technology to market, Canada will continue to be a world leader in environmental technologies, and have the environmental quality that makes Canadian communities great places in which to work, play and live."

The industry-led Roadmap is the result of the collaborative work of over 45 organizations across the fuel cell and hydrogen sectors, spearheaded by Industry Canada and national industry association, Fuel Cells Canada, and facilitated by PriceWaterhouseCoopers. The Roadmap identifies four key steps to be taken for the Canadian fuel cell industry to extend its leadership position in this emerging technology. They are:

- stimulating market demand;
- improving product quality while reducing costs;
- gaining increased access to capital for growth; and
- creating a support infrastructure.

"For the first time, industry, governments and academia have come together to chart the path for this diverse and important sector, and we must continue our broad collaboration to implement our recommendations and realize our objectives," said Ron Britton, President and Chief Executive Officer of Fuel Cells Canada. "These

• *See Canadian Fuel Cell Commercialization... continued on page 6*



Japan's Vehicle Market Improves Slightly During Fiscal 2002 Car Sales Increase; Truck Sales Decline

Japan's vehicle market barely managed a gain of 0.8 percent in the fiscal year that ended in March.

The continued softening of Japan's truck market, which dropped 13 percent during the fiscal year, contributed to the anemic performance, an analysis of sales data shows. While truck sales declined, passenger car sales actually rose 6 percent primarily because of the introduction of new models, including the Toyota iist, the Nissan March and the Cube, and the Mazda Demio.

The fast-selling Nissan March contributed to Japan's slightly improved vehicle market.

Sales in the month of March alone also played a major role in lifting sales for fiscal 2002. That month, domestic sales of passenger cars in Japan rose 10.2 percent, compared with a 4.8 percent decline in truck sales.

Industry analysts attributed the surge in passenger car sales during the month of March to consumers who rushed to showrooms to take advantage of the Japanese government's emissions-based tax break, which expired at the end of March 2003. This tax break came in the form of a credit against the 5 percent "acquisition tax," a kind of luxury sales tax on the base price of the vehicle at the time of purchase (see www.jama.org, *Japan Auto Trends, March 2003, Volume 7#1, page 1*).

Japanese lawmakers first implemented the incentive program to encourage the purchase of low-emission, fuel-efficient models. However, they decided to scrap the program on all but the ultra-low emission vehicles (ULEVs), such as the Toyota Prius and the Nissan Bluebird Sylphie, because the incentives had created a significant budget shortfall. As originally conceived, the program included many of the most popular models on the market today.

Lower-than-normal sales then followed. In April 2003, passenger car sales dropped 7 percent from the previous year. On balance, however, total March and April 2003 sales exceeded March and April 2002 sales by 4.2 percent.

2003 Outlook Uncertain

Given the fluctuation in passenger car sales and the continued decline in truck sales, analysts are having a difficult time predicting the rest of the year. One securities analyst told Reuters that the rise in fiscal 2002 didn't warrant much excitement. "Once the economy recovers, vehicle sales could come back to 6.5 to 6.6 million (1997 levels), but who knows when that will be."

Some analysts expect a 1 to 2 percent fall in sales, while other forecasters predict that sales will rise another 3 percent to around 6.1 million units. The key appears to be continued growth in the passenger car market as well as recovery of the truck market, which is particularly sensitive to the overall economic and business investment climate.

In the continuing flat overall vehicle market, though, a few winners have emerged. Sports car sales are up. In addition, fuel efficient and relatively inexpensive liter cars—those equipped with 1,000 cc engines—are selling well. They include the Nissan March, the Honda Fit and the Toyota Vitz. Sales of regular-sized cars—the market in which most imports occupy—fell 4.1 percent. That followed a 3.7 percent drop in 2001.

Motor Vehicle Industry in Japan		
Passenger Cars, Trucks, Buses		TOTAL
PRODUCTION ¹	Jan-June 2003	5,134,903
	Jan-June 2002	5,056,166
	% change	1.6
EXPORTS ²	Jan-June 2003	2,299,608
	Jan-June 2002	2,243,615
	% change	2.5
SALES/ REGISTRATIONS ³	Jan-June 2003	3,023,840
	Jan-June 2002	2,982,161
	% change	1.4
IMPORT VEHICLE SALES ⁴	Jan-June 2003	137,655
	Jan-June 2002	136,989
	% change	0.5

* (including models built by Japanese automakers overseas) source: 1,2-JAMA; 3-JADA, JMVA; 4-JAIA

• Continued from page 5... Canadian Fuel Cell Commercialization

efforts will not only position Canada to take advantage of a predicted \$46-billion annual global market by 2011, but will also help to reduce greenhouse gas emissions, local air pollution and develop long-term sustainable energy solutions."

The Roadmap steering committee has articulated a series of proposed actions and recommendations to ensure Canadian fuel cell success. Continued private — public partnerships and investments in research, development and demonstration will realize the greatest benefits for all.

"Canada is in an excellent position to exploit and benefit from the development of this sector," said John Webster, Managing Partner for British Columbia, PriceWaterhouseCoopers. "The Roadmap clearly lays out the challenges and specific recommended actions that will need to be addressed, as well as the leaders who are best positioned to help ensure successful implementation."

Commercialization roadmaps identify critical factors for industry to bring technologies to market, and provide strategic planning tools for industry, academia and governments. For companies, these roadmaps are tools to identify gaps between current capabilities and future requirements, and to guide investment decisions to close this gap. For research organizations and educational institutions, roadmaps provide guidance for structuring future programs. For governments, they provide a strategic direction for industrial development activities. Further information can be found on Fuel Cells Canada's website — www.fuelcellscanada.ca.