

## QUARTERLY FOCUS: 2002 YEAR IN REVIEW

Table 1

<b>C YEAR AT A GLANCE C</b>		
<b><u>TOTAL IMPORTS</u></b>		
<b><u>COUNTRY OF ORIGIN</u></b>	<b><u>BCF</u></b>	<b><u>WEIGHTED AVG. PRICE (\$/MMBtu)</u></b>
Canada	3844.8	\$3.08
Mexico	1.7	\$2.36
Algeria	26.6	\$3.21 *
Brunei	2.4	\$2.82 *
Malaysia	2.4	\$3.13 **
Nigeria	8.1	\$2.89 ***
Oman	3.0	\$2.85 *
Qatar	35.1	\$3.01 ***
Trinidad and Tobago	151.1	\$3.27 *
<b>TOTAL</b>	<b>4075.2</b>	
<b><u>TOTAL EXPORTS</u></b>		
<b><u>COUNTRY OF DESTINATION</u></b>	<b><u>BCF</u></b>	<b><u>WEIGHTED AVG. PRICE (\$/MMBtu)</u></b>
Japan	63.4	\$4.03 ****
Canada	189.3	\$3.28
Mexico	263.5	\$3.30
<b>TOTAL</b>	<b>516.2</b>	
* Landed price. ** Tailgate price. *** Includes both landed and tailgate prices. **** Delivered price.		

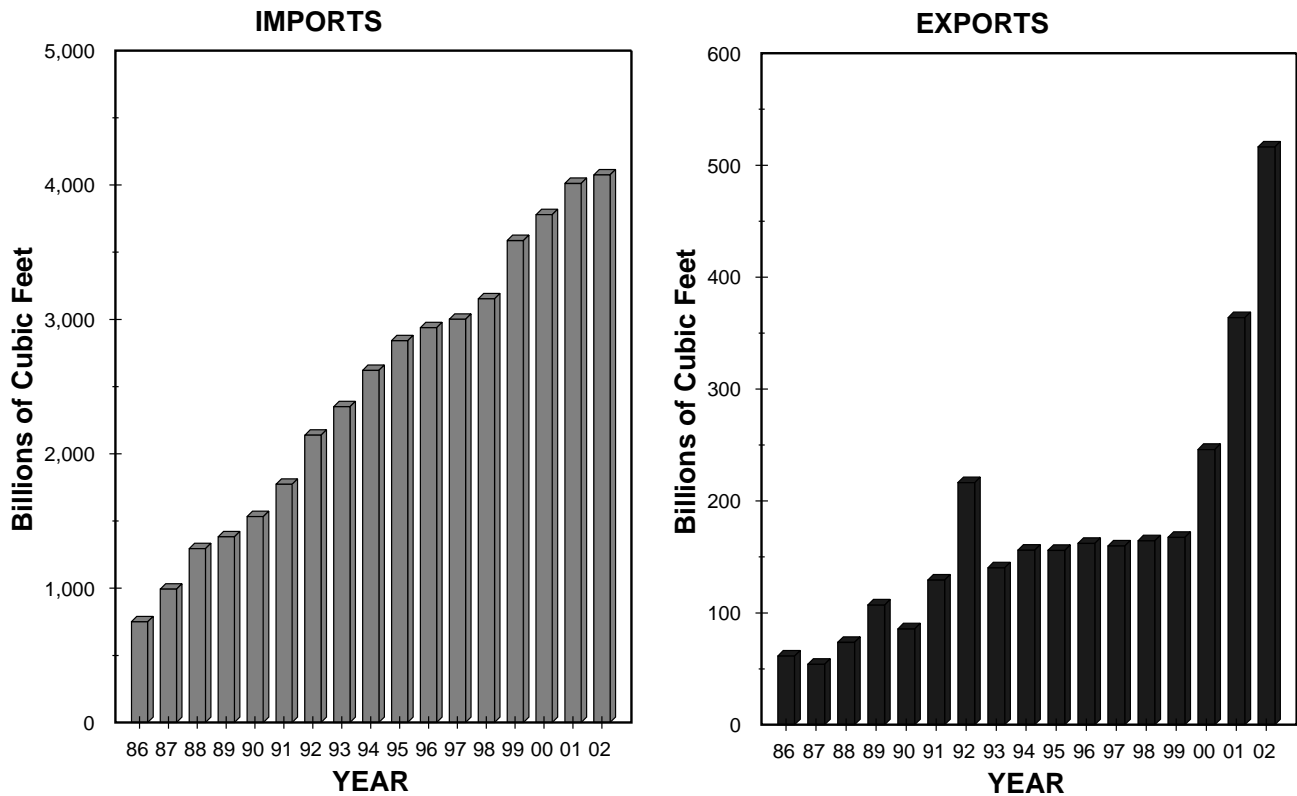
! **Table 1** shows the volumes and prices of natural gas imports by country of origin, and natural gas exports by country of destination for 2002. The weighted average price for imports is the per unit price (MMBtu) at the point of entry into the United States. The price shown for exports is at the point of exit, with the exception of sales to Japan. The price for exports to Japan is shown as a delivered price.

! Natural gas imports, for the fifteenth consecutive year, reached an historic high in 2002. The United States imported 4,075.2 Bcf and exported 516.2 Bcf of natural gas, resulting in **net** imports of 3,559 Bcf for the year. Though imports rose 64.1 Bcf this year, net imports declined compared to 2001 (3,647.4) due to a significant rise in export trade.

! In 2002, natural gas exports increased by 142.4 Bcf, or 38 percent from the 2001 level (516.2 v. 373.8 Bcf). Exports to Mexico increased 33 percent and exports to Canada rose over 106 percent. Exports to Japan fell slightly (63.4 v. 65.8).

## Natural Gas Import and Export Activity 1986 - 2002

Figure 1

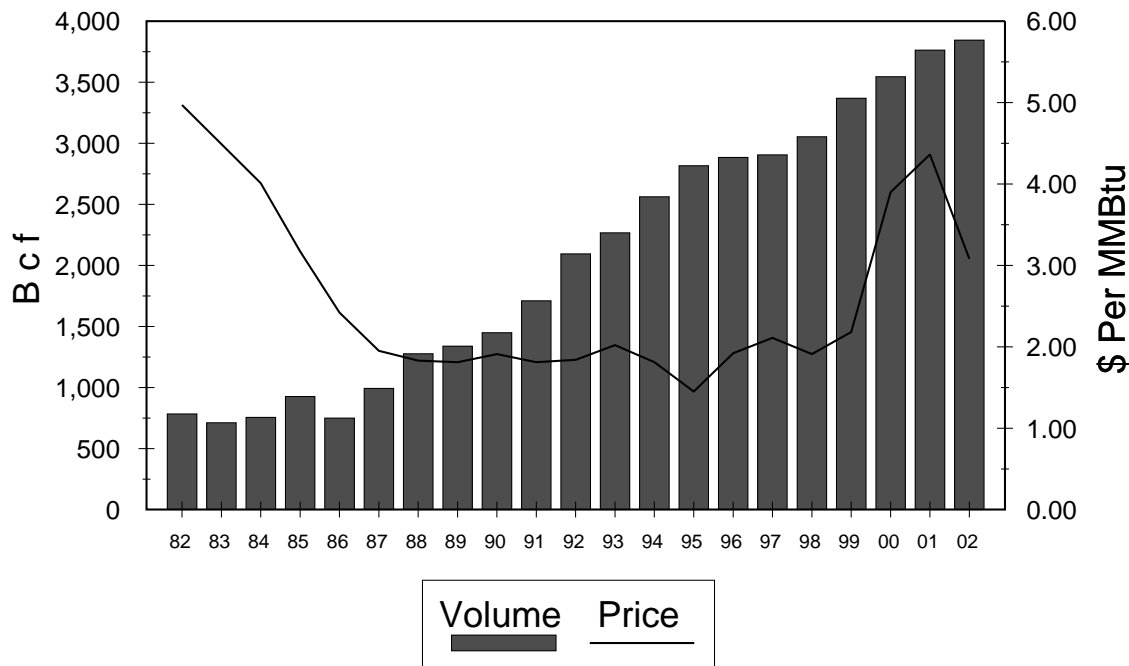


- ! **Figure 1** shows natural gas import and export activity over the past 17 years (1986-2002).
- ! From 1986 to 2002, gross imports have grown by over 443 percent (750 Bcf v. 4,075.2 Bcf). Total gross imports into the U.S. this year increased by 64 Bcf, or 1.6 percent over last year's level (4,075 Bcf v. 4,011 Bcf in 2001). The year's gain in import volumes was the result of growth in short-term Canadian supplies primarily serving Midwest markets.
- ! Total exports this year reached 516.2 Bcf, a record high. During 2002, about 51 percent of the volumes (263.5 Bcf) were exported to Mexico, 37 percent of the volumes (189.3 Bcf) were exported to Canada, and 12 percent (63.4 Bcf) of the gas exports were shipped to Japan.

**UNITED STATES - CANADA TRADE**

**CANADIAN NATURAL GAS IMPORTS  
VOLUMES AND PRICES  
1982 - 2002**

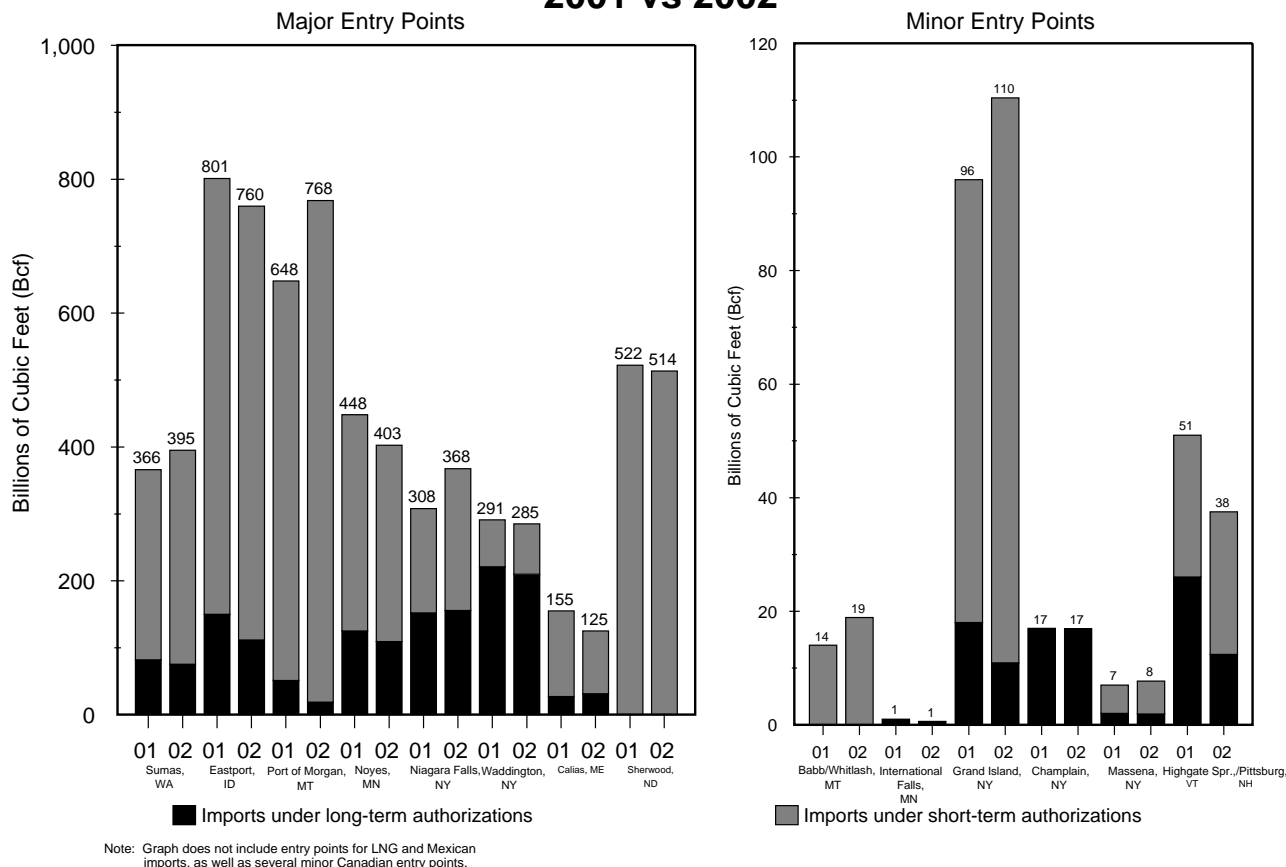
Figure 2



- ! **Figure 2** shows the volume and price trend for Canadian natural gas imports during the past 21 years.
- ! In 2002, Canadian natural gas imports grew by 82.2 Bcf, establishing a new record at 3,845 Bcf. The rate of growth from the 2001 level was 2.2 percent. The average international border price for Canadian gas supplies in 2002 was \$3.08 per MMBtu. This price was almost 30 percent lower than last year's average price of \$4.36 per MMBtu, which was the highest since 1983.
- ! The reduced price for gas supplies during 2002 has resulted in a significant decline in revenues for Canadian gas producers. In 2002, it is estimated that Canadian gas revenues were \$11.8 billion, compared to an estimated \$16.3 billion in 2001.
- ! The average price of gas imported from Canada in 2002 was \$3.33 per MMBtu under long-term contracts (supply contracts longer than 2 years) and \$3.01 per MMBtu under short-term contracts (supply contracts of 2 years or less).
- ! During 2002, Canada's share of the natural gas import market in the United States was 94.3 percent. LNG imports from Algeria, Australia, Nigeria, Oman, Qatar, and Trinidad and Tobago represented about 5.6 percent of the import market, and Mexico's share was less than 1 percent.

## Canadian Natural Gas Imports By Point of Entry 2001 vs 2002

Figure 3



! **Figure 3** compares natural gas imports from Canada by point of entry for 2001 and 2002 and distinguishes between imports made under short-term and long-term import authorizations.

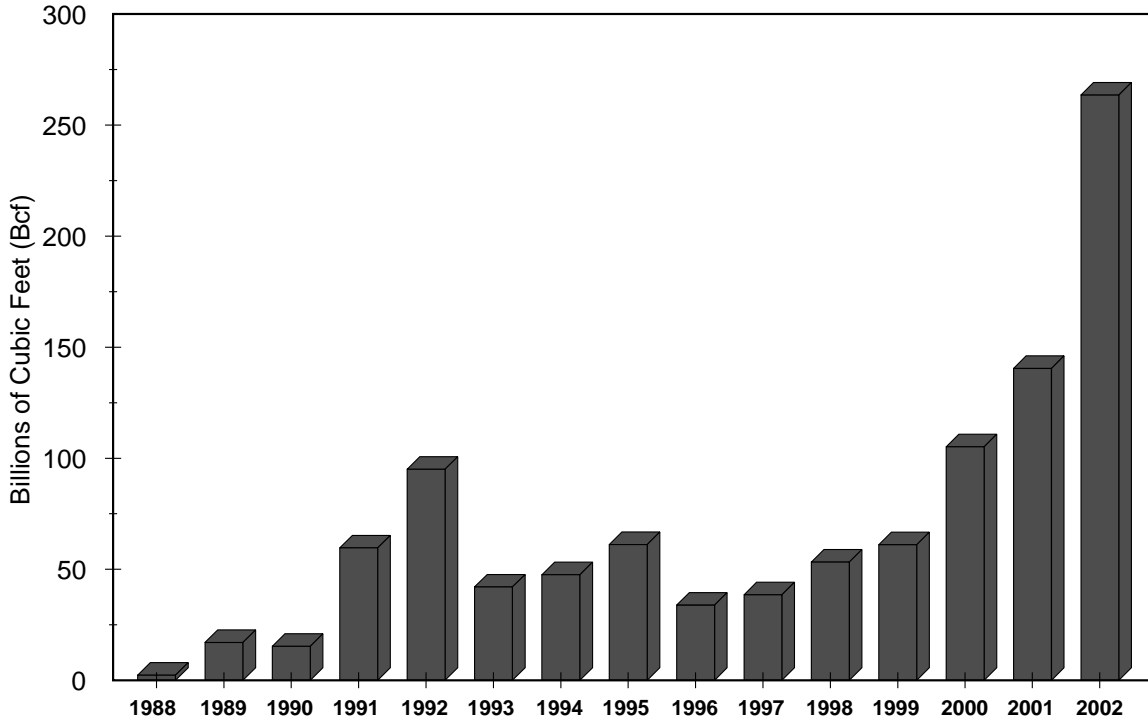
! **Figure 3** shows varied activity at the major import points this year. During 2002, the international border points of Port of Morgan, Montana, and Niagara Falls, New York, showed the largest increase in volumes. Imports at both these points rose 19 percent this year. An increase in activity was also seen at Sumas, Washington (up 8 percent). Import levels at all other major entry points fell this year: Eastport, Idaho (down 5 percent); Noyes, Minnesota, (down 10 percent); Waddington, New York (down 2 percent); Calais, Maine (down 19 percent); and Sherwood, North Dakota (down 2 percent).

! Natural gas imports at the minor entry points on the U.S.- Canada international border showed varied activity in 2002 compared to the previous year. The largest increase was seen at Grand Island, New York, where Canadian imports increased by almost 15 percent. This was due to an increase in spot sales to the mid-Atlantic region (primarily New York State). Imports at the Pittsburg, New Hampshire, point fell by 25 percent this year due to a drop in long-term contract activity.

**UNITED STATES - MEXICO TRADE**

**Natural Gas Exports To Mexico  
(1988 - 2002)**

Figure 4

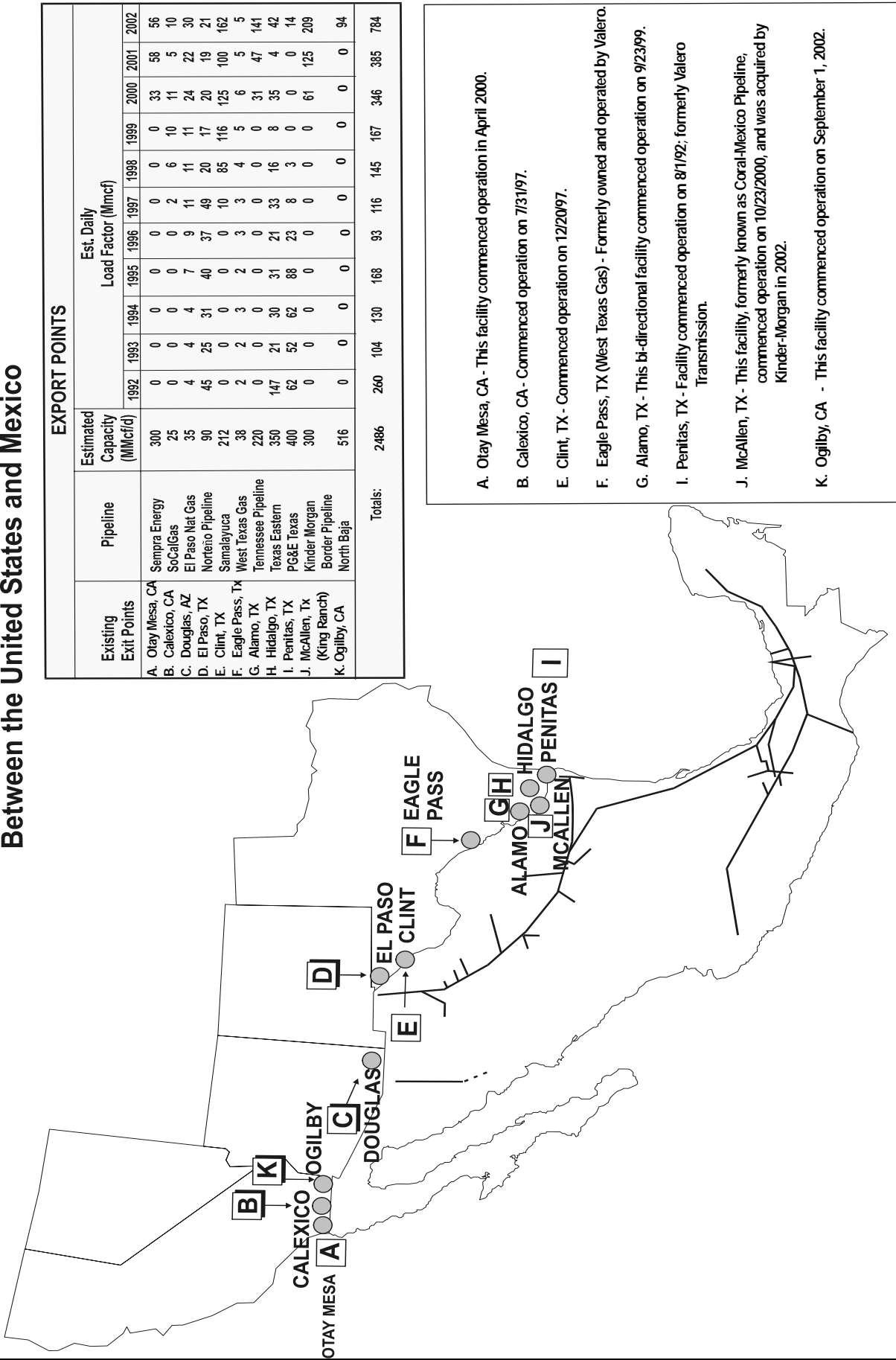


**Natural Gas Exports to Mexico by Point of Exit  
(Bcf)**

	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
Alamo, TX	-	-	-	-	-	-	-	-	-	-	-	-	11.3	17.0	51.4
Calexico, CA	-	-	-	-	-	-	-	-	-	.3	2.1	3.7	3.9	1.7	3.6
Clint, TX	-	-	-	-	-	-	-	-	-	.1	30.9	42.4	45.5	36.5	59.2
Douglas, AZ	1.9	1.5	1.7	1.5	1.7	1.4	1.6	2.5	3.4	3.9	4.1	4.0	8.8	8.0	10.9
Eagle Pass, TX	.4	.5	.3	.7	.6	5.1	1.0	.7	.9	1.3	1.5	2.0	2.1	1.9	1.9
El Paso, TX	-	-	-	.8	16.4	9.3	11.3	14.6	13.4	17.8	7.4	6.1	7.5	6.8	7.6
Hidalgo, TX	-	15.0	13.3	56.6	53.7	7.8	11.0	11.5	7.6	12.0	6.0	2.8	12.6	1.4	15.3
McAllen, TX	-	-	-	-	-	-	-	-	-	-	-	-	4.3	45.5	76.3
Ogilby, CA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.5
Otay Mesa, CA	-	-	-	-	-	-	-	-	-	-	-	-	9.1	21.3	20.3
Penitas, TX	-	-	-	-	22.6	18.4	22.6	32.0	8.5	3.0	1.2	-	-	-	5.1
<b>Total Exports</b>	<b>2.3</b>	<b>17.0</b>	<b>15.3</b>	<b>59.6</b>	<b>95.0</b>	<b>42.0</b>	<b>47.5</b>	<b>61.3</b>	<b>33.8</b>	<b>38.5</b>	<b>53.2</b>	<b>61.3</b>	<b>105.5</b>	<b>140.4</b>	<b>263.5</b>

- ! During 2002, 263.5 Bcf of natural gas was exported to Mexico. This represents the highest level of natural gas exports to Mexico on record. As shown in **Figure 4**, the gas was exported at eleven interconnects along the U.S.-Mexico border. Approximately 30 percent of the year's exports to Mexico occurred at the McAllen, Texas, border point on the Kinder Morgan Border Pipeline, formerly the Coral-Mexico Pipeline. In addition, 22 percent was exported on the Samalayuca Pipeline, located near Clint, Texas, and 20 percent was exported at Alamo, Texas, on the Tennessee Gas Pipeline. This year's total exports to Mexico (263.5 Bcf) includes 402.6 MMcf of LNG, which was exported via truck, to Nogales, Sonora, and Baja California, Mexico.
  
- ! The weighted average price of exports to Mexico in 2002 was \$3.30 per MMBtu, which was 24 percent lower than last year's average price of \$4.34 per MMBtu. Last year's price was the highest since 1984, when the price was \$4.48 per MMBtu (EIA/DOE-0130 (August 2001), *Natural Gas Monthly*, Table SR9, page xxxii).
  
- ! During 2002, imports from Mexico decreased 83 percent from the 2001 level (1.7 Bcf v.10.3 Bcf). The average price for Mexican gas supplies was \$2.36 per MMBtu. This price was 53 percent lower than last year's price of \$5.00. This year, 45 percent of the volumes were imported on the Texas Eastern Pipeline, in Hidalgo, Texas; 32 percent were imported on the Tennessee Pipeline, near Alamo, Texas; and 23 percent were imported on the Kinder Morgan Border Pipeline near McAllen, Texas.
  
- ! **Figure 5** on the following page is a map showing the identity and location of the nine existing natural gas pipelines enabling cross-border trade between the United States and Mexico. The table included with Figure 5 estimates the daily design capacities in MMcf for all of the pipelines and provides their actual average daily throughput from 1992 through 2002.
  
- ! On September 1, 2002, the North Baja Pipeline commenced operation. The \$230 million, 220-mile pipeline was developed jointly by Sempra Energy International, which owns Gasoducto Bajanorte Pipeline, the 140-mile Mexican leg of the pipeline, and PG&E Gas Transmission Northwest, which owns North Baja Pipeline LLC, the 80-mile U.S. segment. The pipeline begins at an interconnection with El Paso Natural Gas Company, near Ehrenberg, Arizona, traverses California, then crosses the border near Ogilby, California, west of Yuma, Arizona. It continues west through Northern Baja California, Mexico, and terminates near Tijuana, Mexico. The pipeline is authorized to transport 516 MMcf per day and will serve markets in Southern California, Mexico, and Northern Baja California, Mexico. In 2002, 11.5 Bcf of natural gas flowed to Mexico on the North Baja Pipeline.
  
- ! Kinder Morgan Energy Partners LP's (KMP) Mier-Monterrey gas pipeline was placed into service on March 20, 2003. The 95-mile pipeline interconnects with KMP's Texas intrastate system in Starr County and connects to a power plant complex near Monterrey, Mexico. The pipeline is currently transporting 375 MMcf per day of gas under a 15-year contract with Pemex. Monterrey is one of Mexico's fastest growing industrial areas. The pipeline has the capacity to transport up to 550 MMcf per day of compressed natural gas.

## Existing Natural Gas Pipeline Interconnects Between the United States and Mexico



Existing Exit Points	Pipeline	Estimated Capacity (MMcf/d)	EXPORT POINTS											
			Est. Daily Load Factor (Mmcf)											
			1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
A. Otay Mesa, CA	Sempra Energy	300	0	0	0	0	0	0	0	0	33	58	56	
B. Calexico, CA	SoCalGas	25	0	0	0	0	0	2	6	10	11	5	10	
C. Douglas, AZ	El Paso Nat Gas	35	4	4	4	7	9	11	11	11	24	22	30	
D. El Paso, TX	Norteno Pipeline	90	45	25	31	40	37	49	20	17	20	19	21	
E. Clint, TX	Samalayuca	212	0	0	0	0	0	10	85	116	125	100	162	
F. Eagle Pass, TX	West Texas Gas	38	2	2	3	2	3	3	4	5	6	5	5	
G. Alamo, TX	Tennessee Pipeline	220	0	0	0	0	0	0	0	0	31	47	141	
H. Hidalgo, TX	Texas Eastern	350	147	21	30	31	21	33	16	8	35	4	42	
I. McAllen, TX	PG&E Texas	400	62	52	62	88	23	8	3	0	0	0	14	
J. McAllen, TX (King Ranch)	Kinder Morgan Border Pipeline	300	0	0	0	0	0	0	0	0	61	125	209	
K. Ogilby, CA	North Baja	516	0	0	0	0	0	0	0	0	0	0	94	
<b>Totals:</b>			2486	260	104	130	168	93	116	145	167	346	385	784

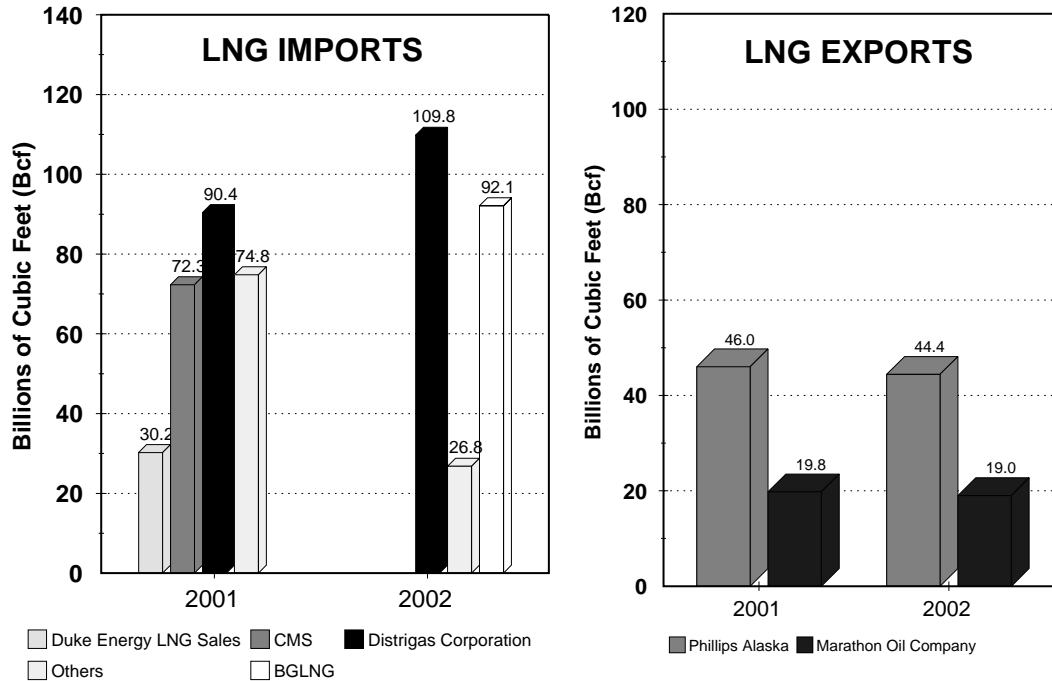
- A. Otay Mesa, CA - This facility commenced operation in April 2000.
- B. Calexico, CA - Commenced operation on 7/31/97.
- E. Clint, TX - Commenced operation on 12/20/97.
- F. Eagle Pass, TX (West Texas Gas) - Formerly owned and operated by Valero.
- G. Alamo, TX - This bi-directional facility commenced operation on 9/23/99.
- I. Penitas, TX - Facility commenced operation on 8/1/92; formerly Valero Transmission.
- J. McAllen, TX - This facility, formerly known as Coral-Mexico Pipeline, commenced operation on 10/23/2000, and was acquired by Kinder-Morgan in 2002.
- K. Ogilby, CA - This facility commenced operation on September 1, 2002.

Sources: Data derived from quarterly reports filed with Fossil Energy by natural gas exporters and filings before the FERC.

**LNG TRADE**

**LNG TRADE**  
2001 vs 2002

Figure 6



- ! **Figure 6** compares imports and exports of liquefied natural gas (LNG) for 2001 and 2002.
  
- ! During 2002, 5 companies, led by Distrigas Corporation (Distrigas) and BG LNG Services, imported 228.7 Bcf of LNG into the United States. As shown in **Figure 6**, total LNG imports in 2002 decreased by 9.4 Bcf or 3.9 percent from the 2001 level (228.7 v. 238.1 Bcf). Imports by Distrigas into its Everett, Massachusetts, terminal increased 21.5 percent compared to 2001 (109.8 v. 90.4 Bcf). BG LNG Services, the year’s second largest importer of LNG, imported 92.1 Bcf of supplies into the Lake Charles, Louisiana, terminal. In addition, two other companies imported 10 Bcf of LNG under short-term/spot arrangements at Lake Charles this year: CMS Marketing, Services and Trading Company (CMS) and Shell NA LNG. Imports into the Elba Island, Georgia, terminal by El Paso Global Gas (Cayman) Company (El Paso Global) totaled 16.8 Bcf this year.
  
- ! **Table 2** on the following page shows a detailed listing of 2002 imports of LNG. During 2002, a total of 105 cargoes of LNG were imported into the United States. Distrigas imported a total of 48 cargoes into its Everett, Massachusetts, receiving terminal (up from 39 cargoes in 2001). It purchased 1 cargo from Algeria under a long-term import authorization and 47 cargoes from Trinidad and Tobago using both long-term and short-term authority. BG LNG, the largest importer at the Lake Charles, Louisiana, terminal this year, imported 43 cargoes from five countries.



## 2002 Imports of Liquefied Natural Gas

**Table 2**

Name of Importer	Country of Origin	Number of Cargoes	Receiving Terminal	Volume (Mcf)	Avg. Price (\$/MMBtu)
BG LNG Services	Algeria	10	Lake Charles, LA	23,857,876	\$3.20
BG LNG Services	Nigeria	2	Lake Charles, LA	5,402,885	\$2.71
BG LNG Services	Oman	1	Lake Charles, LA	3,013,462	\$2.85
BG LNG Services	Qatar	12	Lake Charles, LA	32,642,616	\$3.04
BG LNG Services	Trinidad	18	Lake Charles, LA	27,229,808	\$3.27
CMS Marketing	Malaysia	1	Lake Charles, LA	2,422,954	\$3.13*
CMS Marketing	Nigeria	1	Lake Charles, LA	2,720,284	\$3.25*
CMS Marketing	Qatar	1	Lake Charles, LA	2,438,760	\$2.60*
Distrigas Corp.	Algeria	1	Everett, MA	2,725,850	\$3.35
Distrigas Corp.	Trinidad	47	Everett, MA	107,036,872	\$3.25
El Paso Global	Trinidad	10	Elba Island, GA	16,837,260	\$3.38
Shell NA LNG	Brunei	1	Lake Charles, LA	2,401,111	\$2.82
		<b>105</b>		<b>228,729,738</b>	<b>\$3.20</b>

\* Denotes tailgate price. All other imports are at "landed cost."

! Other spot market sales at Lake Charles in 2002 included CMS Marketing (1 cargo each from Malaysia, Nigeria and Qatar); El Paso Global (10 spot cargoes from Trinidad); and Shell NA LNG (1 spot cargo from Brunei).

! **Long-term authorizations:** The average landed price of Algerian LNG imported in 2002 by Distrigas was \$3.35 per MMBtu, a 22 percent decrease from the 2001 price of \$4.28. The average landed price of LNG imported from Trinidad was \$3.04, down 25 percent from last year's price of \$4.06.

! **Short-term authorizations:** The average landed prices paid by BG LNG Services, Distrigas, El Paso Global, and Shell were \$3.12, \$3.49, \$3.38, and \$2.82 per MMBtu, respectively. The average tailgate price paid by CMS was \$3.00.

! In addition, EcoElectrica, L.P. imported 13 LNG cargoes totaling 22.3 Bcf from Trinidad and Oman for its gas-fired cogeneration plant in Puerto Rico. The LNG was imported under a long-term authorization and had an average price of \$4.31 per MMBtu.

! **Table 3** below shows the growth and diversity of countries supplying LNG to the U.S. over the past eight years, and shows the growing importance of spot sales to this trade. The growth in LNG this year is directly attributable to a record number of spot cargoes from seven countries: Algeria, Brunei, Malaysia, Nigeria, Oman, Qatar, and Trinidad and Tobago. Spot sales this year accounted for 74 percent of total LNG imports, up from 64.3 percent in 2001.

**Table 3**

<b>Spot/Short-Term Sellers of LNG To The United States (Billions of Cubic Feet )</b>								
<b>Country</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Algeria	5.1			2.7	10.1	5.7	23.0	23.9
United Arab Emirates		4.9	2.4	5.3	2.7	2.7		
Australia			9.7	11.6	11.9	5.9	2.4	
Qatar					19.7	46.0	22.8	35.1
Trinidad and Tobago					13.2	30.3	55.0	94.3
Malaysia					2.6			2.4
Nigeria						12.7	38.0	8.1
Oman						10.0	12.0	3.0
Indonesia						2.8		
Brunei								2.4
<b>Total Spot Market Cargoes</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>27</b>	<b>56</b>	<b>68</b>	<b>83 *</b>
<b>Total LNG Spot Sales</b>	<b>5.1</b>	<b>4.9</b>	<b>12.1</b>	<b>19.6</b>	<b>60.2</b>	<b>116.1</b>	<b>153.2</b>	<b>169.2</b>
<b>% of Total LNG Imports</b>	<b>28.5</b>	<b>12.2</b>	<b>15.6</b>	<b>22.8</b>	<b>36.8</b>	<b>51.4</b>	<b>64.3</b>	<b>74.0</b>

\* In 2002, seven of the spot market cargoes were split cargoes, meaning that a portion of the cargo was imported under a long-term import authorization (Distrigas' Docket No. 95-100-LNG).

! LNG is now widely considered a viable option to domestic supplies. Increased demand for natural gas, especially for new power-plant construction, coupled with a general decline in gas production, have positioned LNG to become a small but significant supply source. Approximately 20 new LNG projects have been announced, and proposals for the construction of numerous receiving terminals are being considered for North America, the Bahamas, and Mexico. In addition, new types of projects, where LNG would be regasified offshore then transported through offshore pipelines to the U.S., are being proposed and evaluated.

! Heightened interest in LNG is also prompting changes at many of the existing U.S. facilities. Over the last four years, all four LNG facilities have seen changes in ownership and many are overseeing facility expansions and enhancements in preparation for increased activity. A summary of current activity is provided below:

S On December 18, 2002, CMS Energy Corporation received approval from the Federal Energy Regulatory Commission (FERC) to expand its Lake Charles, Louisiana, LNG terminal, the largest operating facility in the country. CMS Trunkline LNG Company plans to expand the facility to approximately 1.2 Bcf per day of sendout capacity, up from its current sendout capacity of 630 MMcf per day. An increase in storage capacity is also planned at the terminal, pushing it to 9 Bcf from the current 6.3 Bcf. The capacity is expected to be available in early 2005.

S On September 5, 2002, Williams sold its Cove Point LNG Facility to a subsidiary of Dominion Resources for \$217 million in cash. The facility, located on the Chesapeake Bay in Lusby, Maryland, currently is used for storage and to serve customers during peak demand periods. Cove Point has the capacity to store 5 Bcf of LNG and has a daily sendout capacity of 1 Bcf. The facility is expected to become reactivated as the nation's largest LNG import terminal by mid-2003. An additional 2.5 Bcf of storage capacity is being planned and expected to be in service by 2004.

S Southern LNG, a subsidiary of El Paso Corporation, plans to expand its Elba Island LNG facility. As part of an application filed with the FERC on May 31, 2002, Southern LNG seeks authority to expand the storage capacity of the terminal by constructing and operating a fourth cryogenic storage tank; to increase its average design sendout rate from 446 MMcf per day to 806 MMcf per day; and to increase its maximum sendout rate from 675 MMcf per day to 1,215 MMcf per day.

! **Figure 6** shows the volume of LNG exported by Phillips Alaska Natural Gas Corporation (Phillips) and Marathon Oil Company (Marathon) from Kenai, Alaska, to Japan during 2001 and 2002.

! LNG exports to Japan this year decreased slightly from the 2001 level (63.4 v. 65.8 Bcf). The weighted average delivered price for these volumes in 2002 was \$4.03 per MMBtu, which represents a 7.4 percent decrease over the 2001 price of \$4.35.

! LNG volumes totaling 402.6 MMcf were exported to Nogales, Sonora, Mexico, and Baja California, Mexico, via truck, this year.

**Note:** Data used in this report are from company filings made with the Office of Fossil Energy (FE). All 2001/2002 year-to-year comparisons utilize FE data. One should be mindful of the fact that FE data is collected on an equity (sales) basis, rather than on a custody (physical movements) basis, as employed by the Energy Information Administration (EIA) in its reports. As a consequence, the data may have some minor variances.