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World Industrial Gases

Industry Study with Forecasts for **2014 & 2019**

Study #2659 | August 2010 | \$5900 | 433 pages



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The Asia/Pacific region will remain the fastest growing region based on its ever expanding manufacturing base, followed by the Africa/Mideast region based on its oil reserves and refining industry.

Global demand to rise 8% annually through 2014

World demand for industrial gases is forecast to increase 8.0 percent annually to \$52.4 billion in 2014, with volume exceeding 530 billion cubic meters. Although the US is presently the largest national consumer of industrial gases, China is expected to overtake the US by 2014. The Asia/Pacific region will remain the fastest growing region thanks to its ever expanding manufacturing base. The Africa/Mideast region is the only other region expected to exceed average global growth through 2014, owing to its current small base, emerging industrial economy, immense petroleum reserves and large refining industry. The more mature economies of North America and Western Europe will lag average global growth rates.

Diverse applications help to stabilize growth

Although demand for industrial gases is subject to the cyclical nature of some of its markets, the diversity and indispensable nature of many industrial gas applications somewhat mitigates these effects. Market cyclical nature is further muted by the high degree of stability in some industrial gas markets, such as food and beverage processing, and health care. Finally, and perhaps more importantly in the long term, the steady and ongoing development of new products and new technologies will remain a major driver in establishing new industrial gas applications. The many

World Industrial Gas Demand (\$35.7 billion, 2009)



applications of industrial gases, coupled with increases in global economic output, stimulate their consumption.

Steelmaking, health care markets to lead gains

The chemical processing and petroleum refining segment will be the largest market for industrial gases. Gains will be led by hydrogen consumption in oil refineries. The increasing production of low-sulfur, clean burning fuels requires massive amounts of hydrogen for the hydrotreating of petroleum distillates, which is driving considerable demand for merchant supplies. Metals production and fabrication is the second largest market for industrial gases. The global

economic recession in recent years resulted in a severe reduction in steel output in many countries. Recovery from this low level of output will cause steel-making to be the fastest growing market for industrial gases through 2014. Industrial gas gains in the electronics industry will increase at a healthy rate based on the rising popularity of electronic devices throughout the world and on the growing photovoltaics market. The health care market will be the second fastest growing market segment for industrial gases. Gains will be based on the expansion of health care services in developing nations and the rapidly increasing use of home health care respiratory therapies in advanced economies.

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**Sample Text,
 Table & Chart**

ASIA/PACIFIC

Japan: Industrial Gas Demand

Demand for industrial gases in Japan is projected to increase 2.3 percent annually to 31.4 billion cubic meters in 2014. Total industrial gas consumption will advance 4.1 percent annually to 40.1 billion cubic meters in 2014. The industrial gas market reflects the high level of sophistication and the maturity of the conductor industries. In 2009, Japan's industrial gas market was valued at \$1.1 billion, the largest market in the world, after the U.S. market. Japan has a high rate of industrial gas consumption as well as a high rate of consumption (fourth largest in the world). However, because of the high level of sophistication and maturity of the Japanese economy, and the limits imposed on it as an island nation, Japan's industrial gas demand gains will be modest in the long run.

**SAMPLE
 TEXT**

Demand for industrial gases in chemical processing and petroleum refining applications is forecast to increase 2.3 percent annually and reach \$930 million in 2014. Gains will be limited by declining production of refined petroleum and the declining population. Although new chemical production processes will offer opportunities, overall gains will be below average because of this market's maturity. Given the maturity of the Japanese economy, high growth rates for commodity products are phenomena more of the past than of the future. Also, the nation has recently shuttered some petrochemical processing capacity.

In petroleum refining, Japan ranks second in the region, after China. Japan must import most of its petroleum needs, and as petroleum refining activities will remain significant, output of petroleum products is expected to decrease in the future. Increased demand will suffer accordingly, but decreases will be offset by the continuing trend toward cleaner burning fuels, which require more hydrogen to produce. This rising use of (mostly merchant) hydrogen is driven primarily by hydrotreating processes, which grew steadily

TABLE VI-5

JAPAN INDUSTRIAL GAS SUPPLY & DEMAND

Item	1999	2004	2009	2014	2019
Population (mil persons)	124.4	126.4	128.4	130.4	132.4
GDP/capita	30,000	32,000	34,000	36,000	38,000
Gross Domestic Product (bil 2008\$)	3,744	4,048	4,372	4,704	5,048
cubic meters/capita	249	264	279	294	309
cubic meters/000\$ GDP	6.7	6.5	6.3	6.1	5.9
Manufacturing Value-Added (bil 2008\$)	1,878	2,016	2,164	2,322	2,490
Chemical MVA (bil 2008\$)	177	187	197	207	217
Food & Beverage MVA (bil 2008\$)	188	198	208	218	228
Refined Petroleum Prdn (mil metric tons)	10.0	9.5	9.0	8.5	8.0
Crude Steel Production (mil metric tons)	15.0	14.5	14.0	13.5	13.0
Health Expenditures (bil \$)	10.0	11.0	12.0	13.0	14.0
Industrial Gas Demand (bil cubic meters)	24.0	26.0	28.0	30.0	32.0
+ net exports	0.0	0.0	0.0	0.0	0.0
Industrial Gas Production (bil cubic meters)	24.0	26.0	28.0	30.0	32.0

**SAMPLE
 TABLE**

CHART VIII-1

**WORLD INDUSTRIAL GAS MARKET SHARE BY COMPANY
 (\$35.7 billion, 2009)**



**SAMPLE
 CHART**

Sample Profile, Table & Forecast

COMPANY PROFILES

Kinder Morgan Energy Partners LP

500 Dallas Street, Suite 1000
 Houston, TX 77002
 713-369-9000
<http://www.kne.com>

Revenues
 Geograph US 95
 4%, and
 Employe

Key Proc

**SAMPLE
PROFILE**

Kin... limite...
 with gen... (Houston, Texas),
 a subsidiary of Kinder Morgan Incorporated (Houston, Texas), which
 changed its name from Knight Incorporated in July 2009. The Com-
 pany operates through five segments: Products Pipeline, Natural Gas
 Pipelines, CO₂, Terminals and Kinder Morgan Canada.

The Company is involved in the world industrial gas industry
 through the CO₂ segment, which generated 2009 revenues of \$1 billion.
 The segment, which operates as Kinder Morgan CO₂ Company LP
 (Houston, Texas), conducts activities related to carbon dioxide (CO₂),
 as well as crude oil, natural gas and natural gas liquids. Kinder Morgan
 CO₂ manufactures, transports and CO₂ for use in enhanced oil recovery
 operations. The Company claims to be the leading provider of CO₂ for
 enhanced oil recovery projects in North America. Kinder Morgan CO₂
 produces CO₂ at reserves and transports the gas via pipeline to mature
 oilfields, mainly in the Permian Basin area in Texas, where the CO₂ is
 used to increase the production of oil. Kinder Morgan CO₂ transports
 about 37 million cubic meters per day of CO₂ via more than 2,000

383

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TABLE VI-6

JAPAN INDUSTRIAL GAS DEMAND BY MARKET & TYPE (million dollars)

Item	1999	2004	2009	2014	2019
Gross Domestic Product (bil 2008\$)	38	48	57	67	70
cubic meters gas/000\$ GDP					3
Industrial Gas Demand (bil cubic meters					40
\$/000 cubic meters					14
Industrial Gas Demand	1	1	1	1	10
By Market:					
Chemicals & Refining					50
Metal Manufacturing & Fabricating					50
Medical & Health					90
Food & Beverages					40
Electronics					30
Other Markets					00
By Type:					
Hydrogen					50
Nitrogen					20
Oxygen					50
Carbon Dioxide					90
Argon, Helium & Acetylene					00
% Japan	2	2	2	2	7
Asia/Pacific Industrial Gas Demand	58	58	58	58	00

**SAMPLE
TABLE**

"The combined metals manufacturing and fabricating sectors are Japan's second largest market sector for industrial gases, valued at \$560 million in 2009. Japan is the world's second largest producer of steel, after China, but the Japanese steel industry's growth will be stunted by lower cost competition from neighboring China and other regional producers. On the heels of global economic recovery, industrial gas demand in this market will increase at a healthy 7.7 percent annual rate and reach \$810 million in 2014."
 --Section VI, pg. 220

OTHER STUDIES

World Oilfield Chemicals

Global oilfield chemical demand will rise 8.6% yearly through 2014, driven by a recovery in the oil and gas industry and higher oil and gas prices. North America will remain the dominant market while the Central and South American region grows the fastest. Stimulation and enhanced oil recovery chemicals will lead gains. This study analyzes the \$13.7 billion world oilfield chemical industry, with forecasts for 2014 and 2019 by product, world region and for 26 countries. It also evaluates market share and profiles industry players.
 #2702December 2010 \$5900

Refinery Chemicals

US refinery chemical demand will rise 5% annually through 2014, driven by the use of new, higher-value products that offer enhanced performance. Merchant hydrogen will remain the largest product type and grow the fastest. Petroleum treatment and conversion will remain the largest and fastest growing applications. This study analyzes the \$5.5 billion US refinery chemical industry, with forecasts for 2014 and 2019 by application and product. It also evaluates company market share and profiles industry players.
 #2629April 2010 \$4700

World Hydrogen

Global demand for hydrogen is forecast to expand 3.4% yearly through 2013. Gains will be driven in part by the use of more hydrogen in refining low sulfur fuels. The Asia/Pacific region will surpass North America as the global leader in hydrogen consumption by 2013. This study analyzes the \$39 billion world hydrogen industry, with forecasts for 2013 and 2018 by market, world region and for 17 countries. It also discusses the "hydrogen economy," evaluates company market share and profiles industry participants.
 #2605February 2010 \$5300

World Refinery Chemicals

Global oil refinery chemical demand will rise 3.5% yearly through 2013, driven by tightening environmental laws and efforts to boost gasoline and diesel fuel yields. North America will remain the dominant regional market, while the Asia/Pacific and Africa/Mid-east regions grow the fastest. This study analyzes the 15.4 million metric ton world refinery chemical industry, with forecasts for 2013 and 2018 by application, product, world region and for 19 countries. It also evaluates company market share and profiles industry players.
 #2570December 2009 \$5700

Specialty Gases

US specialty gas demand will rise 3.5% yearly through 2013. Manufacturing will remain the largest market while health care grows the fastest. Analytical gases will outpace other applications due to the increasing need to monitor pollutants, maximize production efficiency, monitor product quality, render diagnosis, etc. This study analyzes the \$2.9 billion US specialty gases industry, with forecasts for 2013 and 2018 by product, market and application. It also details market share and profiles industry players.
 #2519August 2009 \$4700

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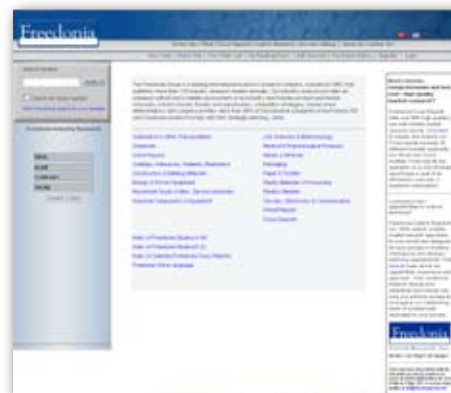
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