World Asphalt (Bitumen)

Industry Study with Forecasts for 2019 & 2024

Study #3351 | November 2015 | $6500 | 411 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

General .......................................................... 4
World Demographic Overview ......................... 5
Population ......................................................... 5
Households ....................................................... 7
World Economic Overview ............................... 9
Recent Historical Trends .................................10
World Economic Outlook .................................11
World Construction Overview ........................ 14
  Building Construction ....................................17
  Residential Buildings ....................................20
  Nonresidential Buildings ...............................23
  Nonbuilding Construction ...............................25
Paved Roads Overview .................................... 27
World Crude Petroleum Outlook ...................... 29
World Refining Outlook .................................... 31
Environmental & Regulatory Issues .................. 34
  Recycling .......................................................36
  Legal & Legislative Issues ...............................38
  Technology Trends .........................................43
Asphalt Paving Mixtures ................................. 44
Asphalt Roofing Products ............................... 51

OVERVIEW

General .......................................................... 53
Asphalt Demand by Region ............................... 53
Asphalt Demand by Product ............................... 57
  Paving Products .............................................. 60
  Roofing Products ............................................ 65
  Other Asphalt Products ................................. 67
Relationship of Primary Asphalt to Asphalt Products .......................... 69
Primary Asphalt Market by Region ..................... 72
Primary Asphalt Production by Region ................ 74
International Trade in Primary Asphalt .............. 76
Asphalt Demand & Economic Activity ............ 79

NORTH AMERICA

Market Environment ....................................... 83
Asphalt Supply & Demand ............................... 84
Asphalt Demand by Product ............................... 87
  United States ............................................... 90
  Canada ......................................................... 96
  Mexico .........................................................102

WESTERN EUROPE

Market Environment .......................................108
Asphalt Supply & Demand ...............................109
Asphalt Demand by Product ...............................113
  France ........................................................116

ASIA/PACIFIC

Market Environment ......................................157
Asphalt Supply & Demand ...............................158
Asphalt Demand by Product ...............................161
  China ..........................................................164
  India ..........................................................172
  Japan ..........................................................178
  Indonesia ....................................................184
  South Korea ...............................................190
  Australia .....................................................196
  Other Asia/Pacific .........................................200

OTHER REGIONS

Central & South America .................................208
  Market Environment ......................................208
  Asphalt Supply & Demand ...............................209
  Asphalt Demand by Product ...............................212
  Brazil ..........................................................215
  Other Central & South America ......................220
Eastern Europe ..............................................228
  Market Environment ......................................228
  Asphalt Supply & Demand ...............................229
  Asphalt Demand by Product ...............................231
  Russia ..........................................................234
  Poland ..........................................................239
  Other Eastern Europe ...................................244
Africa/Mideast ..............................................252
  Market Environment ......................................252
  Asphalt Supply & Demand ...............................253
  Asphalt Demand by Product ...............................256
  Turkey ..........................................................259
  Other Africa/Mideast ....................................264

INDUSTRY STRUCTURE

General ..........................................................274
  Market Share .................................................275
  Primary Asphalt Market Leaders ......................275
  Paving Asphalt Market Leaders .......................281
  Roofing Asphalt Market Leaders ......................284
  Acquisitions & Divestitures ............................287
  Cooperative Agreements ..................................290
  Marketing & Distribution .................................293
  Manufacturing ...............................................295
  Product Development .....................................296

COMPANY PROFILES

Anglo American .............................................300
Berkshire Hathaway ........................................301

List of Tables/Charts

EXECUTIVE SUMMARY

  1 Summary Table .................................................3

MARKET ENVIRONMENT

  1 World Population by Region ......................... 7
  2 World Households by Region ......................... 9

(continued on following page)
## List of Tables/Charts

(continued from previous page)

3 World Gross Domestic Product by Region...14
4 World Construction Expenditures by Region...17
5 World Building Construction Expenditures by Region...20
6 World Residential Building Construction Expenditures by Region...23
7 World Nonresidential Building Construction Expenditures by Region...25
8 World Nonbuilding Construction Expenditures by Region...27
9 World Paved Roads by Region...29
10 World Crude Petroleum Production by Region...31
11 World Refined Petroleum Product Output by Region...34

## OVERVIEW

1 World Asphalt Demand by Region...56
2 World Asphalt Demand by Product...59
3 World Asphalt Demand by Product, 2014...60
4 World Asphalt Demand in Roofing Products...64
5 World Asphalt Demand in Paving Products...67
6 World Asphalt Demand in Other Products...69
7 World Primary Asphalt Production by Region...76
8 World Primary Asphalt Trade Flows...79
Cht Per Capita Asphalt Demand & Per Capita Gross Domestic Product Relationship, 2014...82

## ASIA/PACIFIC

1 Asia/Pacific: Asphalt Supply & Demand...160
2 Asia/Pacific: Asphalt Demand by Country, 2014...161
3 Asia/Pacific: Asphalt Demand by Product...164
4 China: Asphalt Supply & Demand...168
5 China: Asphalt Demand by Product...171
6 India: Asphalt Supply & Demand...175
7 India: Asphalt Demand by Product...178
8 Japan: Asphalt Roofing Supply & Demand...181
9 Japan: Asphalt Demand by Product...184
10 Indonesia: Asphalt Supply & Demand...187
11 Indonesia: Asphalt Demand by Product...190
12 South Korea: Asphalt Supply & Demand...193
13 South Korea: Asphalt Demand by Product...195
14 Australia: Asphalt Supply & Demand...198
15 Australia: Asphalt Demand by Product...200
16 Other Asia/Pacific: Asphalt Supply & Demand...203
17 Other Asia/Pacific: Asphalt Demand by Product...205
18 Other Asia/Pacific: Asphalt Demand by Country...206

## NORTH AMERICA

1 North America: Asphalt Supply & Demand...86
2 North America: Asphalt Demand by Country, 2014...87
3 North America: Asphalt Demand by Product...89
4 United States: Asphalt Supply & Demand...93
5 United States: Asphalt Demand by Product...96
6 Canada: Asphalt Supply & Demand...100
7 Mexico: Asphalt Supply & Demand...105
8 Mexico: Asphalt Demand by Product...107

## WESTERN EUROPE

1 Western Europe: Asphalt Supply & Demand...112
2 Western Europe: Asphalt Demand by Country, 2014...113
3 Western Europe: Asphalt Demand by Product...115
4 Western Europe: Asphalt Demand Supply & Demand...132
5 Western Europe: Asphalt Demand Supply & Demand by Product...134
6 Western Europe: Asphalt Demand Supply & Demand by Country...150
7 Western Europe: Asphalt Demand Supply & Demand by Product...152
8 Western Europe: Asphalt Demand Supply & Demand by Country...153

## INDUSTRY STRUCTURE

Cht World Primary Asphalt Capacity Share, 2014...278
Cht World Paving Asphalt Market Share, 2014...283
Cht World Asphalt Roofing Market Share, 2014...285
1 Selected Acquisitions & Divestitures...289
2 Selected Cooperative Agreements...291

## OTHER REGIONS

1 Central & South America: Asphalt Supply & Demand...211
2 Central & South America: Asphalt Demand by Product...214
3 Brazil: Asphalt Supply & Demand...215
4 Brazil: Asphalt Demand by Product...220
5 Other Central & South America: Asphalt Supply & Demand...223
6 Other Central & South America: Asphalt Demand by Product...225
7 Other Central & South America: Asphalt Demand by Country...226
8 Eastern Europe: Asphalt Supply & Demand...230
9 Eastern Europe: Asphalt Demand by Product...233
10 Eastern Europe: Asphalt Demand by Country...234
11 Russia: Asphalt Supply & Demand...237
12 Russia: Asphalt Demand by Product...239
13 Poland: Asphalt Supply & Demand...242
14 Poland: Asphalt Demand by Product...244
15 Other Eastern Europe: Asphalt Supply & Demand...247
16 Other Eastern Europe: Asphalt Demand by Product...249
17 Africa/Mideast: Asphalt Supply & Demand...255
18 Africa/Mideast: Asphalt Demand by Product...258
19 Turkey: Asphalt Supply & Demand...262
20 Turkey: Asphalt Demand by Product...264
21 Other Africa/Mideast: Asphalt Supply & Demand...267
22 Other Africa/Mideast: Asphalt Demand by Product...269
23 Other Africa/Mideast: Asphalt Demand by Country...270

## Click here to purchase online
Gains will be driven by solid growth in China and other developing countries as they improve their transportation infrastructures, and by a rebound in roofing asphalt in the US and paving asphalt in Western Europe.

World demand to rise 2.8% annually through 2019

Through 2019, global demand for asphalt is projected to expand 2.8 percent per year to 122.5 million metric tons (742.5 million barrels). Gains will be driven by solid growth in China and other developing countries as they work to improve their transportation infrastructures. A rebound in demand in the US will also boost gains. Mature asphalt markets in higher income countries (many of which declined between 2009 and 2014) will recover steadily, though in most cases demand will not regain 2009 levels until after 2019.

Asia/Pacific market to slow but remain strong

The Asia/Pacific region has overtaken North America as the largest regional market for asphalt and will continue to record the fastest advances through 2019, driven primarily by strong growth in China and India. China surpassed the US as the world’s leading asphalt consumer in 2012 and accounted for over one-fifth of the global market in 2014. However, growth in China will decelerate from the rapid gains of the 2009-2014 period as the country shifts its focus to repairing and maintaining current roadways rather than expanding the road network. Asphalt demand in India will benefit from the large public works projects necessary for the country’s continued economic development. Growth is also expected to be strong in other developing Asian countries where large public works projects are planned, although activity will be affected by political and financial issues. By contrast, mature markets in the region, such as Japan and Australia, will post much slower growth.

Demand to recover in North America, Western Europe

North America is a major asphalt consumer because of the need for maintenance on the massive regional network of roads and highways (nearly 90 percent of which is in the US). Asphalt demand in the US is forecast to rebound from the sharp declines seen between 2005 and 2013, driven by stronger economic growth and increased construction activity, and demand in 2019 is expected to surpass the 2009 level. The US is also a significant consumer of asphalt for roofing products, and demand for those products will rise with rebounding building construction expenditures. Recovery in asphalt demand in Western Europe will be driven by increased expenditures on road maintenance and repair applications after years of very low spending on infrastructure improvements. Many countries have road repair backlogs, which will bolster demand for asphalt. However, gains in asphalt demand will not match those in the US through 2019, and will not make up for the declines during the 2009-2014 period.
Russia: Asphalt Demand by Product -- In 2014, per capita asphalt consumption in Russia was 29 kilograms, a level above the regional average but still below that seen in the more mature asphalt markets. Demand for asphalt in Russia totaled 4.2 million metric tons (25.3 million barrels) in 2014, and it is projected to advance 1.1 percent annually through 2019 to 4.4 million metric tons (26.7 million barrels). While asphalt demand is largely concentrated in paving markets, asphalt for roofing and other applications will see stronger growth through 2019.

Production of asphalt in Russia is expected to rise 1.6 percent per annum to 31.5 million barrels in 2019. Russia is the region's largest net exporter of primary asphalt, with most of the exports going to other countries in Asia, particularly to countries in central Asia. The country's trade surplus has fallen since 2004 due to falling production, but that trend is expected to reverse going forward. In 2019, Russia is forecast to retain a trade surplus equivalent to 15 percent of production.

There are several primary asphalt producers including Lukoil, Rosneft, Gazprom Neft, Tafnet, Slavneft, and Surgutneftegas, which are all oil refiners in Russia.

Historically, most Russian refineries concentrated on the production of lighter oil fractions, such as gasoline, diesel fuel, and jet fuel, because of the higher profit margins for these products and their relatively easy production from West Siberian light crude, which most Russian refineries use. However, with strong demand for distillates, rising asphalt values and an ongoing need for asphalt for road paving, it has become more profitable for refiners of crude oil to own advanced refineries capable of processing heavier crudes. While Russia has significant deposits of natural asphalt in oil sands and other geologic structures, deposits are generally small and remote and are not currently being mined. Russia’s conventional oil reserves are so large, it is unlikely

---

**TABLE VI-4**

<table>
<thead>
<tr>
<th>Item</th>
<th>2004</th>
<th>2009</th>
<th>2014</th>
<th>2019</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Expenditures</td>
<td>1147</td>
<td>2576</td>
<td>5037</td>
<td>7440</td>
<td>10450</td>
</tr>
<tr>
<td>Paved Roads (000 kilometers)</td>
<td>1260</td>
<td>2253</td>
<td>3050</td>
<td>3885</td>
<td>4720</td>
</tr>
<tr>
<td>kg asphalt/000$ construction</td>
<td>9.5</td>
<td>6.5</td>
<td>4.6</td>
<td>3.8</td>
<td>3.0</td>
</tr>
<tr>
<td>m tons paving products/km road</td>
<td>7.4</td>
<td>6.2</td>
<td>6.1</td>
<td>5.6</td>
<td>4.9</td>
</tr>
<tr>
<td>Asphalt Demand</td>
<td>10.93</td>
<td>16.83</td>
<td>23.26</td>
<td>28.55</td>
<td>31.15</td>
</tr>
<tr>
<td>Paving Products:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asphalt Cement</td>
<td>8.84</td>
<td>12.77</td>
<td>16.20</td>
<td>18.89</td>
<td>19.12</td>
</tr>
<tr>
<td>Asphalt Emulsions, Other Paving Prdts</td>
<td>0.49</td>
<td>1.14</td>
<td>2.36</td>
<td>2.99</td>
<td>4.01</td>
</tr>
<tr>
<td>Roofing Products</td>
<td>1.57</td>
<td>2.88</td>
<td>4.61</td>
<td>6.55</td>
<td>7.87</td>
</tr>
<tr>
<td>Other Asphalt Products</td>
<td>0.03</td>
<td>0.04</td>
<td>0.09</td>
<td>0.12</td>
<td>0.15</td>
</tr>
<tr>
<td>% China</td>
<td>43.7%</td>
<td>51.4%</td>
<td>55.9%</td>
<td>57.3%</td>
<td>56.9%</td>
</tr>
<tr>
<td>Asia/Pacific Asphalt Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The Freedonia Group, Inc.
Sample Profile & Table, & Study Coverage

COMPANY PROFILES

China National Offshore Oil Corporation
No. 25, Chaoyangmenbei Dajie, Dongcheng District
Beijing 100010
China
86-10-8452-1000
www.cnooc.com.cn

Revenues: $99.6 billion (2014)
Employment: 115,000 (2014)

Key Services: paving-grade asphalt

China National Offshore Oil Corporation (CNOOC) is one of the largest offshore oil and gas producers in China. The Company is owned by the government of China.

CNOOC is active in the world asphalt industry through China Offshore Oil & Gas Development & Utilization Company, a wholly owned subsidiary that specializes in the production and marketing of midstream and downstream products. Among these products are paving-grade asphalt, low sulfur fuel oil, and naphthenic derivatives. Specifically, paving grade asphalt from the company is sold under the CNOOC 36-1 brand name. In 2014, CNOOC produced 8.2 million metric tons of asphalt.

CNOOC 36-1 paving grade asphalt is produced in several grades, including CNOOC 36-1 AH-50. This asphalt grade is made from heavy crude oil via atmospheric/vacuum distillation, oxidation, and blending processes. Among the properties of CNOOC 36-1 AH-50 are high viscosity, high temperature stability, and effective low-temperature performance. This asphalt, which meets RG70-16 and PG70-22 asphalt requirements, can be applied to the paving of high-grade highways.

TABLE V-3
FRANCE: ASPHALT SUPPLY & DEMAND

<table>
<thead>
<tr>
<th>Item</th>
<th>2004</th>
<th>2009</th>
<th>2014</th>
<th>2019</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (mil persons)</td>
<td>61.3</td>
<td>63.2</td>
<td>64.7</td>
<td>66.1</td>
<td>67.4</td>
</tr>
<tr>
<td>$ GDP/capita</td>
<td>37390</td>
<td>37530</td>
<td>38530</td>
<td>40700</td>
<td>43470</td>
</tr>
<tr>
<td>Gross Domestic Product (bil 2013$)</td>
<td>2292</td>
<td>2372</td>
<td>2493</td>
<td>2690</td>
<td>2930</td>
</tr>
<tr>
<td>kg asphalt/capita</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kg asphalt/000$ GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Asphalt Demand (mil metric tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Asphalt Demand (mil bbls)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ net exports &amp; stock increases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Asphalt Production (mil bbls)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The Freedonia Group, Inc.

STUDY COVERAGE

World Asphalt (Bitumen) is a Freedonia study that presents historical data (2004, 2009, 2014) plus forecasts (2019, 2024) for supply and demand, as well as demand by product, in 6 regions and 18 countries. The study also considers market environment factors, examines the industry structure, evaluates company market share and profiles 44 industry competitors worldwide.
**Order Form**

**World Asphalt Demand** .................................................................................................................. $6500

- [ ] Corporate Use License (add to study price) *
  - [ ] Additional Print Copies @ $600 each
    - Total (including selected option) $

- [ ] Enclosed is my check (5% discount) drawn on a US bank and payable to The Freedonia Group, Inc., in US funds (Ohio residents add 8% sales tax)

- [ ] Bill my company
  - [ ] American Express
  - [ ] MasterCard
  - [ ] Visa

**Name**

**Title**

**Company**

**Division**

**Street**
  - (No PO Box please)

**City/State/Zip**

**Country**

**Phone**

**Fax**

**Email**

**Signature**

**Credit Card #**

**Expires mm/yy**

**Security Code**

*Please check appropriate option and sign below to order an electronic version of the study.*

**Individual Use License Agreement**

The undersigned hereby represents that the above captioned study will be used by only ___ individual(s) who are employees of the company and that the study will not be loaded on a network for multiple users. In the event that usage of the study changes, the Company will promptly notify Freedonia of such change and will pay to Freedonia the appropriate fee based on Freedonia’s standard fee schedule then in effect. Note: Entire company corporate use license, add $2600; one additional user, add $600; two additional users, add $1200; three additional users, add $1800.

**Signature**

---

**Credit Card Orders**

For convenience, Freedonia accepts American Express, MasterCard or Visa. Credit card purchases must include account number, expiration date and authorized signature.

**Orders Outside of the US**

Checks must be made payable in US funds, drawn against a US bank and mailed directly to The Freedonia Group. For wire transfers please contact our customer service department at info@freedoniagroup.com. Credit cards accepted.

**Save 15%**

If you order three (3) different titles at the same time, you can receive a 15% discount. If your order is accompanied by a check or wire transfer, you may take a 5% cash discount (discounts do not apply to Corporate Use Licenses).
World Cement & Concrete Additives
This study analyzes the world cement and concrete additive industry. It presents historical demand data (2004, 2009 and 2014) and forecasts (2019 and 2024) by type (e.g., water reducers, set controllers, coloring agents, air entrainers, blast furnace slag, gypsum, fly ash, silica fume, fiber additives), market (e.g., buildings, highways and streets), world region, and major country. The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry players.
#3358............. January 2016............... $6300

Fiber Cement
US demand for fiber cement products is forecast to grow 5.8 percent annually through 2019 to 2.9 billion square feet, valued at $2.2 billion. Siding will remain the dominant application, while backerboard grows the fastest. Growth in the dominant residential market will continue to outpace the nonresidential segment. This study analyzes the 2.2 billion square foot US fiber cement industry, with forecasts for 2019 and 2024 by material, application, market, and US region. The study also evaluates company market share and profiles industry players.
#3348............. December 2015............. $5300

Outdoor Noise Barriers
Demand for outdoor noise barriers in the US is forecast to rise 3.7 percent annually to 9.5 million square feet in 2019, valued at $191 million. Concrete will remain the dominant material and will offer the best growth opportunities. Highways will remain by far the largest market, but will be outpaced by the building construction segment. This study analyzes the 7.9 million square foot US outdoor noise barrier industry, with forecasts for 2019 and 2024 by material, product, market and US region. The study also evaluates company market share and profiles industry players.
#3334......... September 2015............. $5200

World Cement
World demand for cement will rise 4.5 percent yearly to 5.2 billion metric tons in 2019. India will be the fastest growing major market, as the pace of growth in China slows considerably. Blended cement will remain the most popular type, and will gain market share. This study analyzes the 4.2 billion metric ton world cement industry, with forecasts for 2019 and 2024 by type and market for six world regions and 20 major countries, along with total supply and demand for an additional 23 countries. The study also evaluates company market share and profiles industry players.
#3303............. August 2015............... $6500

Asphalt
US demand for asphalt will increase 3.3 percent annually to 26.8 million tons in 2019. Roofing and other building construction products will outpace the dominant paving sector. Asphalt emulsions will pace gains among paving products. Residential buildings will be the fastest growing market, while nonbuilding uses remain the largest segment. This study analyzes the 22.8 million ton US asphalt industry, with forecasts for 2019 and 2024 by use, product, market and US region. The study also evaluates company market share and profiles industry players.
#3304............. July 2015............... $5500

About The Freedonia Group
The Freedonia Group, Inc., is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States and other world markets. Industries analyzed by Freedonia include:

- Automotive & Transport
- Chemicals
- Construction & Building Products
- Consumer Goods
- Energy & Petroleum
- Industrial Components
- Healthcare & Life Sciences
- Machinery & Equipment
- Metals, Minerals & Glass
- Packaging
- Plastics & Other Polymers
- Security
- Services
- Textiles & Nonwovens
- Water Treatment

Freedonia Custom Research
Freedonia Custom Research delivers the same high quality, thorough and unbiased assessment of an industry or market as an industry study. Since the research initiative is based upon a company’s specific needs, companies harness Freedonia’s research capabilities and resources to answer unique questions. When you leverage the results of a Freedonia Custom Research engagement, you are able to obtain important answers to specific questions and issues associated with: mergers and acquisitions, new product launches/development, geographic expansion, entry into new markets, strategic business planning, and investment and funding decisions.

Freedonia Custom Research is ideal for companies seeking to make a strategic difference in the status quo and focus on future business growth. Working side by side with clients, Freedonia’s team is able to define a research project that is custom-tailored to answer specific questions and provide the basis from which a company can make informed business decisions.