

ENERGY



INTRODUCTION

The energy industry is a generic term for all of the industries involved the production and sale of energy, including fuel extraction, manufacturing, refining and distribution. Modern society consumes large amounts of fuel, and the energy industry is a crucial part of the infrastructure and maintenance of society in almost all countries.

In particular, the energy industry comprises:

- the petroleum industry, including oil companies, petroleum refiners, fuel transport and end-user sales at gas stations
- the gas industry, including natural gas extraction, and coal gas manufacture, as well as distribution and sales
- the electrical power industry, including electricity generation, electric power distribution and sales
- the coal industry
- the nuclear power industry
- the renewable energy industry, comprising alternative energy and sustainable energy companies, including those involved in hydroelectric power, wind power, and solar power generation, and the manufacture, distribution and sale of alternative fuels

traditional energy industry based on the collection and distribution of firewood, the use of which, for cooking and heating, is particularly common in poorer countries.

HISTORY

The United Nations developed the International Standard Industrial Classification, which is a list of economic and social classifications. There is no distinct classification for an energy industry, because the classification system is based on activities, products, and expenditures according to purpose.

Countries in North America use the North American Industry Classification System (NAICS). The NAICS sectors #21 and #22 (mining and utilities) might roughly define the energy industry in North America. This classification is used by the U.S. Securities and Exchange Commission.

SUB SECTIONS OF THE INDUSTRY

Energy industry comprise of energy sources like:

1. Biomass
2. Electricity
3. Hydrogen
4. Hydro power
5. Natural gas
6. Coal
7. Nuclear power
8. Petroleum

- 9. Solar power
- 10. Power wind

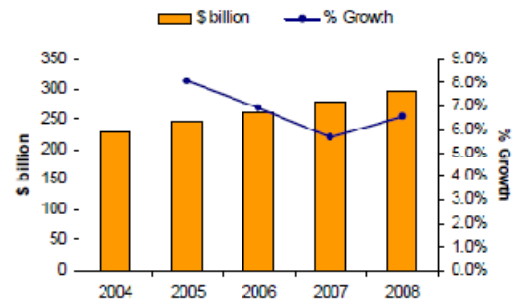
INDUSTRY OPERATIONS

- Energy Industry works on Demand – Supply model, where the Demand for Energy resources is very high as compared to Supply.

| Attribute | World | US | Japan | India |
|--|--------|--------|-------|-------|
| Population m | 6,378 | 297 | 128 | 1,081 |
| Area (10⁶)km² | 148 | 9.37 | 0.378 | 3.29 |
| % arable | 10.8% | 19% | 12% | 54% |
| Urban pop % | 49.2% | 80.8% | 65.7% | 28.7% |
| GDP Sbn | 41,300 | 11,712 | 4,623 | 691 |
| Pop <15 % | 28.2% | 20.8% | 14.0% | 32.1% |
| Pop >60 % | 10.4% | 16.7% | 26.3% | 7.9% |
| Energy mTOE | | | | |
| Total output | 10,672 | 1,631 | 85 | 453 |
| Total consumption | 10,544 | 2,281 | 517 | 553 |
| Net Imports as % consumption | -1% | 28% | 84% | 18% |

PAST PERFORMANCE

- Total global energy use exceeds 350 quadrillion British thermal units⁴ (BTUs) per year, which is equivalent to over 170 million barrels of oil each day⁵. Global energy consumption draws from six primary sources: 44% petroleum, 26% natural gas, 25% coal, 2.4% hydroelectric power, 2.2% nuclear power, and 0.2% nonhydro renewable energy.
- The developing and developed worlds demonstrate striking disparities in annual energy consumption per capita. While the average person in the developing countries consumes 32 million British thermal units (BTUs) per year, equivalent to about 6 barrels of oil, the average person in the developed countries consumes 210 million BTUs/year, equivalent to nearly 40 barrels of oil. The poorest 10% of countries consumes only 3.4 million BTUs per capita per year, while the richest 10% consumes 218 million BTUs per capita per year..



CURRENT PERFORMANCE

IKSC KNOWLEDGE BRIDGE PVT. LTD.

- The petrochemical industry can be regarded as the most emerging energy businesses industry in the coming years and due to high earning probability, world's leading countries are showing their interest to invest in this petrochemical energy sector. Industrialists are trying to innovate ways to adapt fuels for power generation and they are searching for alternative energy resources like energy derived from agricultural food, crops, agricultural crop wastes and residues, and geothermal energy.

FUTURE PREDICTION

- China and India are the emerging giants of the world economy and international energy markets.
- The world's energy needs would be well over 50% higher in 2030 than today. China and India together account for 45% of the increase in demand in this scenario

CHALLENGES

- Rising global energy demand poses a real and growing threat to the world's energy security.
- The consuming countries' growing reliance on oil and gas imports from a small number of producing countries threatens to exacerbate short-term energy-security risks.
- Rising CO2 and other greenhouse-gas concentrations in the atmosphere, resulting largely from fossil-energy combustion, are contributing to higher global temperatures and to changes in climate

TOP CONTRIBUTORS

World's Largest Oil Companies Based on Liquid Reserves are

| Rank | Company | Country | Liquids Reserves (Millions of Barrels) | Percent of World Reserves |
|------|---------------------------|------------------|--|---------------------------|
| 1 | Saudi Aramco | Saudi Arabia | 259,400 | 21.83% |
| 2 | NIOC | Iran | 125,800 | 10.59% |
| 3 | INOC | Iraq | 115,000 | 9.68% |
| 4 | KPC | Kuwait | 99,000 | 8.33% |
| 5 | PDV | Venezuela | 77,800 | 6.55% |
| 6 | Adnoc | UAE | 55,210 | 4.65% |
| 7 | Libya NOC | Libya | 22,680 | 1.91% |
| 8 | NNPC | Nigeria | 21,153 | 1.78% |
| 9 | Pemex | Mexico | 16,041 | 1.35% |
| 10 | Lukoil | Russia | 15,977 | 1.34% |
| 11 | Gasprom | Russia | 13,561 | 1.14% |
| 12 | Exxon Mobil | United States | 12,856 | 1.08% |
| 13 | Yukos | Russia | 11,833 | 1.00% |
| 14 | PetroChina | China | 10,997 | 0.93% |
| 15 | Qatar Petroleum | Qatar | 10,950 | 0.92% |
| 16 | Sonatrach | Algeria | 10,533 | 0.89% |
| 17 | BP | United Kingdom | 10,081 | 0.85% |
| 18 | Petrobras | Brazil | 9,772 | 0.82% |
| 19 | Chevron/Texaco/Unocal | U.S. | 9,274 | 0.78% |
| 20 | Total | France | 7,323 | 0.62% |
| 21 | Royal Dutch/Shell | UK & Netherlands | 7,257 | 0.61% |
| 22 | Petronas | Malaysia | 7,136 | 0.60% |
| 23 | Surgutneftgas | Russia | 6,771 | 0.57% |
| 24 | ConocoPhillips/Burlington | United States | 5,784 | 0.49% |
| 25 | Pertamina | Indonesia | 4,722 | 0.40% |
| 26 | Sibneft | Russia | 4,623 | 0.39% |
| 27 | Eni | Italy | 4,138 | 0.35% |
| 28 | ONGC | India | 3,711 | 0.31% |
| 29 | Sinopec | China | 3,257 | 0.27% |
| 30 | PDO | Oman | 3,193 | 0.27% |
| 31 | Socar | Azerbaijan | 3,105 | 0.26% |
| 32 | Rosneft | Russia | 2,400 | 0.20% |
| 33 | TNK-BP | Russia/UK | 2,150 | 0.18% |
| 34 | Occidental | United States | 2,038 | 0.17% |
| 35 | Syrian Petroleum | Syria | 1,886 | 0.16% |
| 36 | Repsol YPF | Spain | 1,882 | 0.16% |
| 37 | EGPC | Egypt | 1,800 | 0.15% |
| 38 | Statoil | Norway | 1,789 | 0.15% |
| 39 | Ecopetrol | Colombia | 1,542 | 0.13% |
| 40 | Amerada Hess | United States | 1,226 | 0.10% |
| 41 | Norsk Hydro | Norway | 993 | 0.08% |
| 42 | EnCana | Canada | 957 | 0.08% |
| 43 | Devon Energy | United States | 870 | 0.07% |
| 44 | Apache | United States | 844 | 0.07% |
| 45 | Petro-Canada | Canada | 768 | 0.06% |
| 46 | Anadarko | United States | 646 | 0.05% |
| 47 | BG | United Kingdom | 645 | 0.05% |
| 48 | Marathon | United States | 578 | 0.05% |
| | | World | 1,188,300 | 100.00% |

