

## *Acronyms, Abbreviations, and Units* \_\_\_\_\_ *of Measurement*

APEC: Asia-Pacific Economic Cooperation: members are Australia, Brunei, Canada, Chile, China, Hong Kong Special Administrative Region (SAR), Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, the Philippines, the Republic of Korea, Russia, Singapore, Taiwan, Thailand, the United States, and Vietnam

APM: Administered Pricing Mechanism (India)

APSA: ASEAN Petroleum Security Agreement

ASEAN: Association of Southeast Asian Nations: members are Brunei, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Thailand, Singapore, and Vietnam

ASEAN+3: ASEAN members plus China, Japan, and the Republic of Korea

b/d: barrels per day

boe: barrels of oil equivalent

boe/a: barrels of oil equivalent per annum

boe/d: barrels of oil equivalent per day

BPCL: Bharat Petroleum Corporation, Limited (India)

Btu: British thermal unit

C: centigrade

CAA: Commercial Agreement Area (between Malaysia and Vietnam)

CDM: Clean Development Mechanism (provision of the Kyoto Protocol)

CH<sub>4</sub>: methane

Chinaoil: Petrochina International Company, Limited

CIF: cost, insurance, and freight

CIL: Coal India, Limited

CITIC: China International Trust and Investment Company

CNG: compressed natural gas

CNOOC: China National Offshore Oil Corporation (CNOOC Ltd. is its listed subsidiary)

CNPC: China National Petroleum Corporation (PetroChina is its listed subsidiary)

CO: carbon monoxide

CO<sub>2</sub>: carbon dioxide

DMCC: Dubai Metals and Commodities Centre

DME: Dubai Mercantile Exchange

EIA: Energy Information Administration (United States Department of Energy)

EPA: Environmental Protection Agency (United States)

F: Fahrenheit

FERC: Federal Energy Regulatory Commission (United States)

FIPB: Foreign Investment Promotion Board (India)

FOB: free on board

FPC: Formosa Petrochemical Corporation (Taiwan)

GAIL: Gas Authority of India, Limited  
 GDP: Gross Domestic Product  
 HPCL: Hindustan Petroleum Corporation, Limited (India)  
 IBP: formerly the Indo-Burma Petroleum Company, Limited (India)  
 IEA: International Energy Agency of the Organization for Economic Cooperation and Development (OECD)  
 IMF: International Monetary Fund  
 IOC: Indian Oil Corporation  
 IPCC: Intergovernmental Panel on Climate Change  
 IPE: International Petroleum Exchange (London)  
 JDA: Joint Development Area (between Thailand and Malaysia)  
 JOGMEC: Japan Oil, Gas, and Metals National Corporation  
 km: kilometer  
 KNOC: Korea National Oil Corporation (Republic of Korea)  
 KOGAS: Korea Gas Corporation (Republic of Korea)  
 KW: kilowatt (1 thousand watts)  
 LNG: liquefied natural gas  
 LPG: liquefied petroleum gas  
 m<sup>3</sup>: cubic meter  
 mg/dl: milligrams per deciliter  
 MLNG: Malaysia Liquefied Natural Gas Tiga  
 MW: megawatt (1 million watts)  
 N<sub>2</sub>O: nitrous oxide  
 NAAQS: National Ambient Air Quality Standards (United States Environmental Protection Agency)  
 NDRC: National Development and Reform Commission (China)  
 NGL: natural-gas liquid  
 NO<sub>2</sub>: nitrogen dioxide  
 NO<sub>x</sub>: nitrogen oxides  
 NTPC: National Thermal Power Corporation (India)  
 NWS: Northwest Shelf Consortium (Australia)  
 NYMEX: New York Mercantile Exchange (United States)  
 O<sub>3</sub>: tropospheric ozone  
 OECD: Organization for Economic Cooperation and Development: members are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Republic of Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States  
 OECD/IEA: Organization for Economic Cooperation and Development/International Energy Agency  
 ONGC: Oil and Natural Gas Corporation (India)  
 OPEC: Organization of the Petroleum Exporting Countries: members are Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates (Abu Dhabi and Dubai), and Venezuela  
 OVL: Oil and Natural Gas Corporation (ONGC) Videsh, Limited (India)

PEC: primary energy consumption  
PGU: Peninsular Gas Utilization project (Malaysia)  
pH: a measure of the activity of hydrogen ions in a solution, indicating its acidity or alkalinity  
PM<sub>10</sub>: particulate matter  
ppm: parts per million  
PPP: purchasing power parity  
PRB: Population Reference Bureau  
PV: photovoltaic  
RIL: Reliance Industries, Limited (India)  
R/P: Reserve-to-production ratio, calculated as the reserves remaining at the end of a year divided by production in that year, resulting in the number of years that the remaining reserves will last if production continues at the same level  
SAR: Special Administrative Region (Hong Kong)  
scf: standard cubic feet  
scf/d: standard cubic feet per day  
SDPC: formerly State Development Planning Commission (China)  
Sinopec: China Petrochemical Corporation (Sinopec Corp is its listed subsidiary)  
SO<sub>2</sub>: sulfur dioxide  
SPV: Special Purpose Vehicle (India)  
t: tonne or metric ton, equivalent to 1,000 kilograms or 2,205 pounds  
t/a: tonnes per annum  
TAGP: Trans-ASEAN Gas Pipeline  
TEPCO: Tokyo Electric Power Company (Japan)  
TOCOM: Tokyo Commodity Exchange (Japan)  
TWh: terawatt (1 trillion watts) hours  
UNEP: United Nations Environment Program  
UNFCCC: United Nations Framework Convention on Climate Change  
Unipet: United Petroleum and Chemicals Company, Limited (China)  
U.S.: United States  
WHO: World Health Organization  
WMO: World Meteorological Organization  
WTI: West Texas Intermediate crude oil  
WTO: World Trade Organization

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## *Index*

---

- Abu Dhabi, 53–54
- acid precipitation (acid rain), 20, 22
- air pollution, 17–23, 26, 77
- Angarsk oil field, Lake Baikal (Russia), 47
- Asia-Pacific region, 1–2
  - energy, 12
  - natural gas, 49–61
  - oil, 35–47
  - population, 3
  - regional cooperation, 90–93
- Atlantic Basin, 45, 56
- Australia, 9, 11–12, 27–30, 35–37, 42, 53, 58–59, 88, 96, 98–100, 102–103
- Bangalore (India), 18–19, 77
- Bangkok (Thailand), 18–19
- Bangladesh, 6, 8, 11, 23, 31, 43, 45, 92, 112
- Beijing (China), 18–19, 77
- biomass and biofuels, 17, 21, 31–32, 101
- Brunei Darussalam, 6, 9, 11, 35, 45, 53, 103, 107–108, 112
- carbon dioxide (CO<sub>2</sub>), 23–26
- Central Asia, ix, 46, 109
- China, 63–85
  - alternative energy sources, 29–30, 101–102
  - coal, 11, 68–69
  - energy, 5–6, 32, 64–67, 110–111
  - environmental issues, 22–23, 33
  - hydropower, 10, 27, 79–80
  - natural gas, 8, 11, 12, 50, 53, 58–60, 76, 78–79
  - nuclear power, 10, 28, 80, 82–84, 101
  - oil, vi, 8, 11, 35–37, 40–43, 45–47, 70–72, 80, 88–89
  - overseas investments, 80, 83, 94
  - policies, 82–85, 92, 96, 98–101
- climate change, 23–26, 102–104
- coal, 9, 11–12, 17, 20, 68–70, 103–104
- compressed natural gas (CNG), 21, 56, 77–79, 103
- Delhi (India), 18–19, 56, 77–78, 103
- diesel (gasoil), 38, 40–41
- electricity, v, 7, 10, 17, 20, 25, 27–31, 40–41, 56–57, 63, 68–70, 76, 78–82, 100–104
- emission standards, 77, 102–104
- energy
  - alternative sources, 29–32, 101–102
  - consumption, 1–6, 64–67

efficiency/conservation, 32, 95–97  
 insecurity, 107–113  
 markets, vi, 89–91, 96–100  
 model, 116–117  
 policies, 82–85, 87–105  
 production, 10–12, 65–66  
 reserves, 11, 66  
 environment, 17–33, 77, 102–104  
 Europe, 36, 57, 109–110  
 fuel oil, 38, 40–41  
 gasoline, 38, 40–41  
 geothermal energy, 30–31  
 greenhouse gases, 23–26  
 gross domestic product (GDP), 5, 15, 97, 117  
 Hong Kong, 49, 103, 112  
 hydropower, 10, 27, 70–81  
 India, 63–85  
     alternative energy sources, 30–31, 101–102  
     coal, 9, 69–70  
     energy, 5–6, 32, 65–67, 110–112  
     environmental issues, 23, 33  
     hydropower, 10, 27, 80–81  
     natural gas, 76, 78–79  
     nuclear power, 10, 28, 81–82, 101  
     oil, 11, 35–37, 42–44, 70–75, 80, 88–89  
     overseas investments, 80, 84, 94  
     petroleum products, 42–44, 74–75  
     policies, 83–85, 92, 96–101  
 Indonesia, 8–9, 11–12, 15, 31, 35–37, 42, 45, 51, 53, 102–103, 110–112  
 Jakarta (Indonesia), 18–19  
 Japan, 8–11, 15, 19, 23, 28, 32, 37–38, 42, 44, 47, 53, 57–60, 88–89, 92, 96, 98–100,  
     102–103, 110–112  
 joint ventures, 80, 93–94  
 Kazakhstan, 46, 78, 80, 94  
 kerosene/jet fuel, 38, 40–41  
 Kolkata (India), 18–19, 77  
 Korea, Republic of (South Korea), 8, 10–11, 15, 23, 28, 37–38, 42–44, 50, 53, 57, 59–61,  
     88, 92, 94, 96, 98–100, 102–103, 110–112  
 Kyoto Protocol, 25, 29, 100  
 liquefied natural gas (LNG), 49–50, 52–54, 57–61, 76, 78–79  
 liquefied petroleum gas (LPG), 38, 40–42  
 Malacca Strait, 46, 94–95  
 Malaysia, 8, 11–12, 15, 35–36, 45, 49, 51, 53, 94, 103, 107–108, 112  
 Middle East, xi, 1, 12, 35–36, 38–39, 43, 45–47, 53–54, 56, 58, 94, 107–109, 112  
 motor vehicles, 20–21, 40, 56–57, 70, 77, 102–103  
 Mumbai (India), 18–19, 77  
 Myanmar, 6, 31, 51, 112  
 naphtha, 38, 40–42

natural gas, 49–61  
     consumption, 8–9, 53, 56–57, 76, 78–79, 104  
     market, prices, vii–viii, 12–13, 50, 57–60  
     measurement, 55  
     pipelines, 49–52, 78–79  
     production, 11–12, 53–54, 100  
     reserves, 11–12, 53  
 Nepal, 6, 31, 42, 112  
 New Zealand, 8, 27–28, 31, 88, 96, 98–99, 101–103, 112  
 nitrogen dioxide (NO<sub>2</sub>), 18–19, 21  
 Northwest Shelf (NWS) consortium (Australia), 58–60  
 nuclear power, 10, 28–29, 80–82, 100–101, 104  
 oil, 35–47  
     consumption, vi, 6–8, 36–38, 70–75  
     environmental impact, 17  
     imports, 44–47  
     market, prices, v–vii, xii–xiii, 12–13, 96–100  
     pipelines, 46–47  
     policies, 88–89, 96–100  
     production, ix–xi, 11, 35–37, 39, 70–73, 80, 100  
     refining, 38, 40–44, 74, 98  
     reserves, ix, xi, 11, 35–37, 71, 73  
 Oman, 53–54, 60  
 Organization of the Petroleum Exporting Countries (OPEC), ix, xi–xiii, 35, 39, 112  
 ozone (O<sub>3</sub>), 21, 23  
 Pakistan, 6, 9–11, 27–28, 30–31, 42–43, 45, 53, 92, 112  
 Papua New Guinea, 43, 45  
 particulate matter, 18–19, 21  
 petroleum products, 38, 40–44, 74–75, 92–93  
 Philippines, 8, 15, 31, 42, 45, 53, 98–100, 103, 112  
 pipelines, 46–47, 49–52, 94–95  
 Qatar, 53–54, 60  
 renewable energy, 29–32, 101–102  
 Russia, ix, 46–47, 50, 94, 109  
 Saudi Arabia, ix, 94  
 Seoul (Republic of Korea), 19, 56, 103  
 Shanghai (China), 18–19, 77  
 Singapore, 8, 15, 38, 42–44, 46, 49, 53, 88, 98–99, 103, 108–109, 112  
 Sri Lanka, 6, 30–31  
 stockpiles, 82–84, 88–89, 91–92  
 sulfur dioxide (SO<sub>2</sub>), 18–19, 21  
 Taiwan, 8–11, 15, 28, 42–44, 53, 88, 96, 98–101, 103, 110–112  
 Thailand, 8, 30, 35, 43, 45, 49, 51, 53, 88, 98–100, 103, 112  
 Three Gorges Dam (Yangtze River, China), 27, 80  
 United States, xi, 56–57, 60–61, 104, 109–110  
 Vietnam, 6, 8, 11, 31, 35–36, 42, 45, 101, 107–108  
 wind power, 29–30, 101–102



BELOW

*Time-lapse photo taken during rush hour in a commuter train station, Mumbai, India. By 2025, India will have surpassed China to become the most populous nation in the world. © Raghu Rai/ Magnum Photos*



FRONT COVER

*Shipyards worker repairs an oil tanker at Qili Port, Zhejiang Province, China. In 1993, China became a net oil importer, and imports of crude oil and petroleum products have risen steadily ever since. © Edward Burtynsky, courtesy Robert Koch Gallery, San Francisco, and Charles Cowles Gallery, New York*