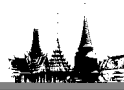


7 พลังงาน



7.1 Energy Situation



Energy is a crucial fundamental production factor; a sufficient supply of energy to meet the demand in various economic activities is essential in order to develop the international competitiveness of the country. The supply of energy must be at reasonable prices with sufficiently high quality consistent with consumer requirements. At the same time, production activities must utilize energy in efficient and economical manner.

In 1997, the major energy consumption in Thailand was oil (42%). The other sources were renewable energy (26%), natural gas (17%), lignite (9%), imported coal (3%), and imported electricity (3%). The proportion of energy consumption in 1997 is shown in Figure 7.1.

7.1.1 Electricity Consumption in Bangkok

The highest figure of electricity consumption is from industrial sector, which was 38.77% of the total electricity consumption of Bangkok in 2000. The others were 34.23% from business, 21.42% from residential and 5.57% from other sectors. The electricity consumption in Bangkok during 1996-2000 is shown in Figure 7.2.

7.1.2 Fuel Consumption in Bangkok

Fuel consumption of Bangkok in 2000 was 12,219.44 million liters, which was 35.3% of total consumption of Thailand. It comprised of diesel (29.49%), aviation fuel (26.83%), fuel oil (20.74%), unleaded gasoline (20%), LPG (2.69%) and Illuminating and Kerosene (0.24%). as shown in Figure 7.3.

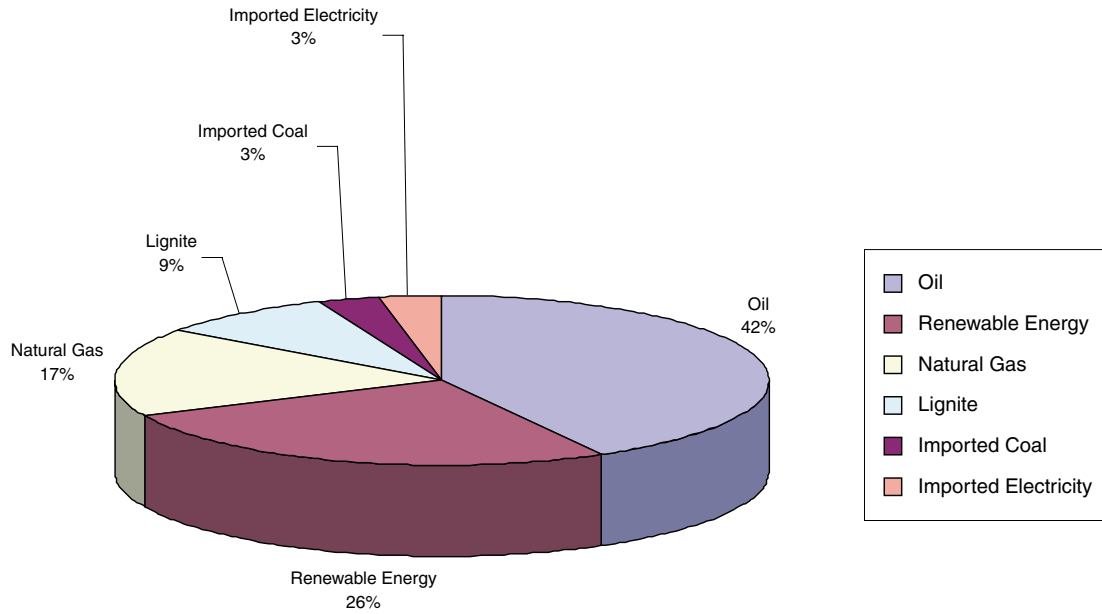


Figure 7.1 Energy Consumption in Thailand 1997
 Source: National Energy Policy Office, 1997

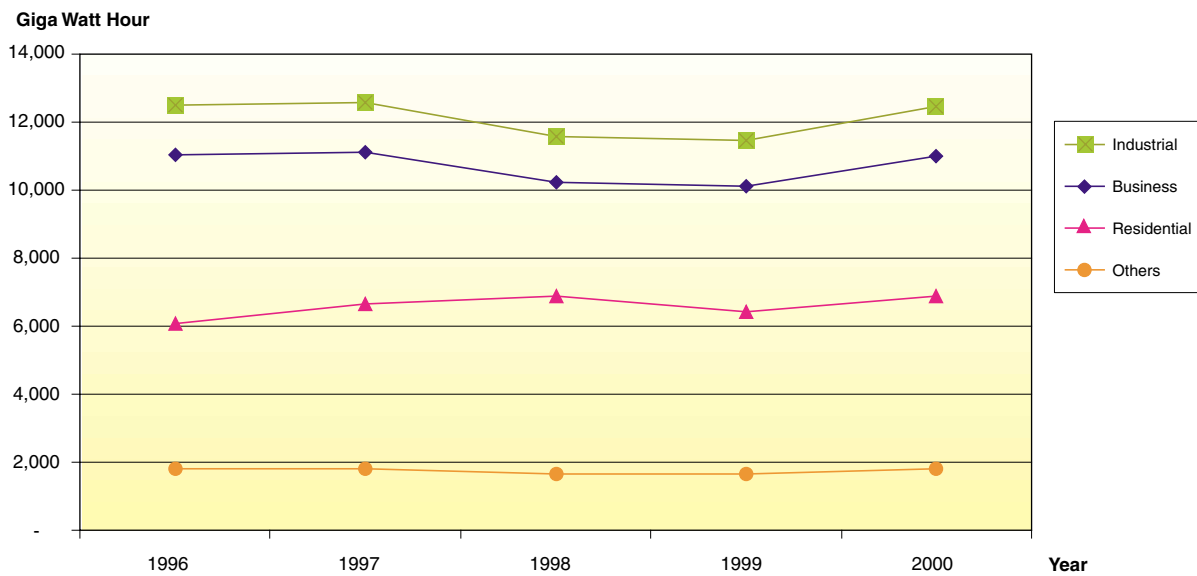


Figure 7.2 Electricity Consumption in Bangkok 1996-2000
 Source: National Energy Policy Office, 2000

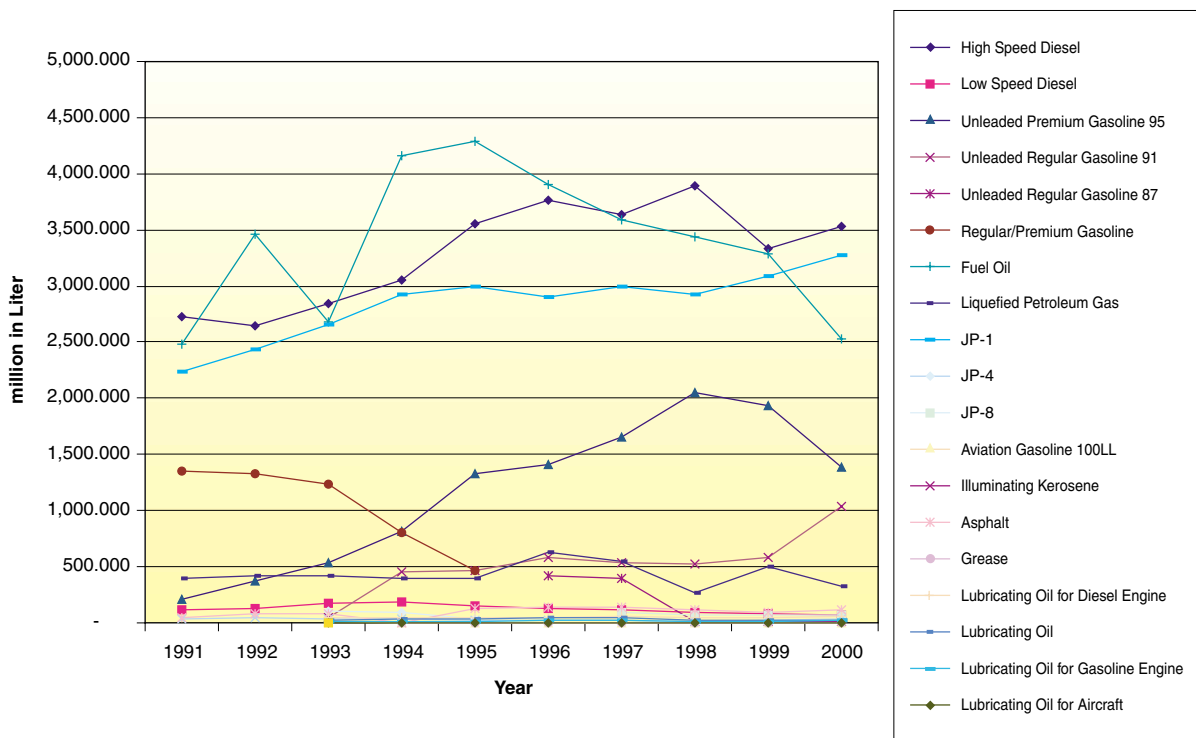
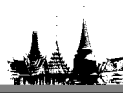


Figure 7.3 Number of Fuel Sales in Bangkok 1991-2000

Source: Bureau of Fuel and Oil, Department of Commercial Registration, Ministry of Commerce, 2000

7.2 Strategies for Energy Sector Development



The National Energy Policy Office (NEPO) has established strategies for the energy development during the Eighth National Economic and Social Development Plan (1997-2001), being a part of the Eighth National Economic and Social Development Plan (1997-2001). NEPO, a national policy agency for energy, is responsible for coordinating the formulation of an operational framework to be a guideline for individual energy-related agencies and to incorporate into their respective operational plans. The strategies for energy development (NEPO, 2001) are as follow;

7.2.1 Provide adequate energy and supply security

This main activities are as follows:

1. Speed up exploration and development of petroleum and coal resources.
2. Speed up negotiations and energy development with neighboring countries.
3. Consider the feasibilities and determine regulatory framework for the use of nuclear energy for electricity generation and speed up energy procurement from foreign sources, in particular that of liquefied natural gas (LNG), orimulsion and coal.



4. Invest to increase reserve capacity for power generation and improve the power transmission and distribution system to ensure reliability of the power system.
5. Establish the customer-service quality standards of the electricity supply to industry.

7.2.2 Promote efficient and economical use of energy

Efficient and economical use of energy will help reduce not only investment requirements in energy supply but also fuel costs in various production processes. Consequently, efficient use of energy will increase the country's competitiveness in the international arena. In this regard, basic policy measures to be implemented are pricing measures which will induce efficient use of energy; provision of additional incentives, raising of the general public's awareness, and compulsory measures. These can be elaborated as follows:

1. Revise the petroleum pricing structure so that it truly reflects the economic costs of supply, and maintain the current price setting mechanism
2. Improve the electricity tariff for both retail and wholesale levels
3. Set guidelines in determining prices of natural gas and pipeline tariff, and develop a clear and transparent regulatory system.
4. Speed up the implementation of the Demand Side Management program and the energy conservation program to be implemented under the framework of the Energy Conservation Promotion Act, B.E. 2535 (1992),
5. Speed up the establishment of the testing standards and the minimum energy efficiency standards of electrical appliances and equipment
6. Promote the establishment of the Energy Efficiency Technology Information Center in major urban centers
7. Implement public relations work to raise the general public's awareness in energy conservation

7.2.3 Promote competition in energy supply industry and increase private sector role

The increase of competition in energy supply industry and the promotion of a greater private sector role will lead to efficient utilization, procurement and distribution of energy as well as a reduction in investment burden of the government. This will also enhance capital market development and savings mobilization from the private sector, and enable the public to participate in energy development.

7.2.4 Prevent and solve environmental problems resulting from energy development

1. Study the feasibility on the extension of the mandatory requirement for sale of fuel oil grades 1 - 4 (with no more than 2.0% of sulfur content) and grade 5 (with no more than 0.5% of sulfur content), which currently covers only the Bangkok Metropolis and Samut Prakarn

province, to other provinces where industrial factories are located.

2. Advance the date for the mandatory sale of the low sulfur diesel oil with 0.05% by weight of sulfur to 1 January 1999 in order to correspond with the vehicle emission standards to be enforced and consider further improvement of quality specifications of gasoline and high speed diesel in order to reduce pollution.

3. Control and monitor the storage and disposal of lube oil residue and used lube oils, and promote investment in technically sound recycling system for used lube oil.

4. Install vapor recovery systems in oil depots, oil trucks and petroleum service stations in the Bangkok Metropolis and major urban centers.

5. Promote substitution of fuel oil by clean fuels, such as natural gas and LPG, in power plants and in industrial factories, in particular in the areas where a large number of industrial factories are located, as well as speed up the application of natural gas in commercial vehicles in order to reduce air pollution, especially in the Bangkok.

6. Improve the standards and regulations on safety in energy transportation, storage and utilization, in particular oil trucks, oil tankers, and LPG utilization, and ensure strict enforcement of such standards and regulations.

7. Encourage garbage disposal projects which yield energy as a by-product in order to reduce environmental problems in large communities.

7.2.5 Develop Legislation related to energy administration mechanism

1. Accelerate the proclamation of the Oil Control Act to replace the Oil Storage Act, B.E. 2474 (1931) which is obsolete, and amend the Fuel Oil Act, B.E. 2521 (1978) which has already been approved by the cabinet.
2. Amend the Revolutionary Decree No. 28, legislation and regulations related to LPG to ensure that the LPG business would be safe, organized and fair for all parties.
3. Consider the appropriateness of establishing an Independent Regulatory Body to independently regulate energy-related activities in order to provide assurance for investors and at the same time to ensure fairness for energy consumers.

7.3 Policy of the Government



The Government (The Government of H.E. Prime Minister Thaksin Shinawatra Delivered to the National Assembly on Monday, 26 February 2001) has the policy to conserve and develop energy as well as promote the efficient use of energy in balance with the country's environment and natural resources. Efforts will be made to reduce dependency on energy sources from foreign countries. Towards this end, the following policies will be pursued:

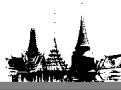


(1) Promote the combined use of energy by further developing the use and exploitation of Thailand's natural gas, which is a domestic resource, as the country's major source of energy.

(2) Promote the efficient procurement and use of alternative energy sources by expediting the survey, development and procurement of alternative energy sources as well as by promoting research and development of innovative energy sources for the purpose of energy conservation.

(3) Emphasize energy management to increase the competitiveness of Thailand's production sector and to enhance the stability of energy prices through appropriate monetary, fiscal and managerial measures.

7.4 BMAs Energy Conservation Policy



To be in line with the government's energy conservation policy, the Bangkok Metropolitan Administration has issued the executive order with the following activities.

1. Energy saving by
 - setting the turn on and off time for electricity, no electricity turned on during lunch time except the necessary areas
 - setting the air conditioning temperature to be 25 Degree Celsius as well as setting the switching on and off time
 - setting the servicing time for escalator, starting from 06.00 to 18.00 except the escalator in front of the General Affair Division
2. Tap Water saving
 - maintain the tap water pipeline and relevant equipment to ensure well functioning of water supply
 - closing water tap properly after use
3. Fuel and lubricating oil
 - regularly maintain the fleet vehicles as recommended by the vehicle manual
 - switching off engines while parking
 - minimize use of vehicles and promote telecommunication uses
 - establish more efficient routing of vehicles by introducing the GIS map
 - promote carpooling between BMA offices
4. Office paper
 - back to back photocopy (both sides of paper)