

Privatisation Master Plan

Energy Sector Report

Redraft

Updated by

National Energy Policy Office

2 September 1998

18. Energy Sector

A gradual evolution has been taking place within the energy sector that has as its foundation enhanced private sector participation through the opening of market. To date, this has occurred primarily in the form of a comprehensive Independent Power Producer (IPP) program and the facilitation of privately owned distributed generation facilities under the Small Power Producer (SPP) program. Competitive markets play a part in the refining and distribution of petroleum products and the exploration of gas.

18.1 Sector Structure

18.1.1 Power Industry

Current Electricity Supply Industry (ESI)

Generation and Transmission Level:

1. The Electricity Generating Authority of Thailand (EGAT) is the principal entity in the power sector of Thailand. EGAT has the responsibility to provide electric energy for the whole Kingdom by generating, transmitting and selling bulk energy to distributors.
2. Private sector participation in the power sector is in the form of IPPs and SPPs. Additionally, the Electricity Generating Company Plc (EGCO) was initially formed as a subsidiary of EGAT and has a total installed capacity of 2,056 MW. EGAT, currently, hold a 25% stake in EGCO.

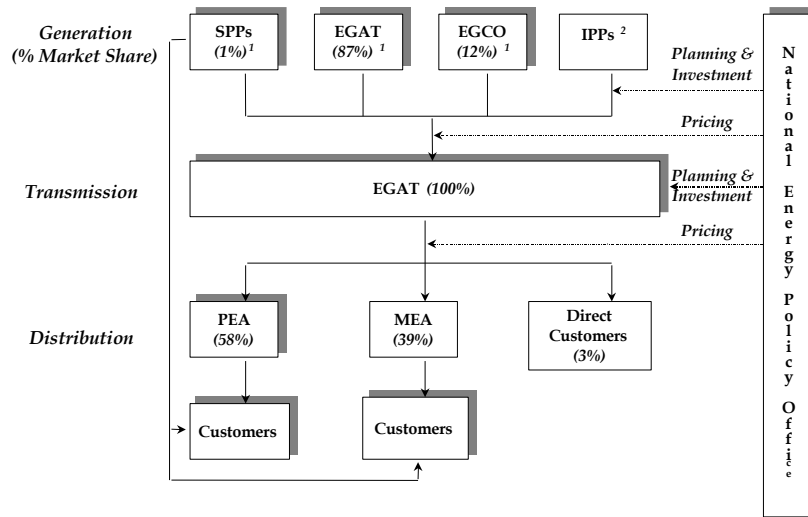
The first round IPP solicitation selected seven bidders for a total capacity of 5,944 MW. The first project is scheduled for operation in late 1999. The SPP program currently has approved projects of 4,638 MW, of which 2,436 MW will be sold to EGAT based on negotiated contracts.

Distribution Level:

The two principal distribution companies are :

1. The Metropolitan Electricity Authority (MEA), which is responsible for the distribution in the greater Bangkok area, Nonthaburi and Samut Prakarn provinces.
2. The Provincial Electricity Authority (PEA) is the distributor for the rest of Thailand.

Figure 18.1: Current ESI Structure



Note

1. As of December 1997, total installed capacity was 17,391 MW

2. Currently, seven IPPs are in the construction period

Source: NEPO, EGAT

Future Structure

The future structure will follow the competitive model being implemented in many countries around the world. This competitive model provides for competitive generation companies (GENCOs), which both compete into a power pool as well as having individual bilateral contracts with major customers.

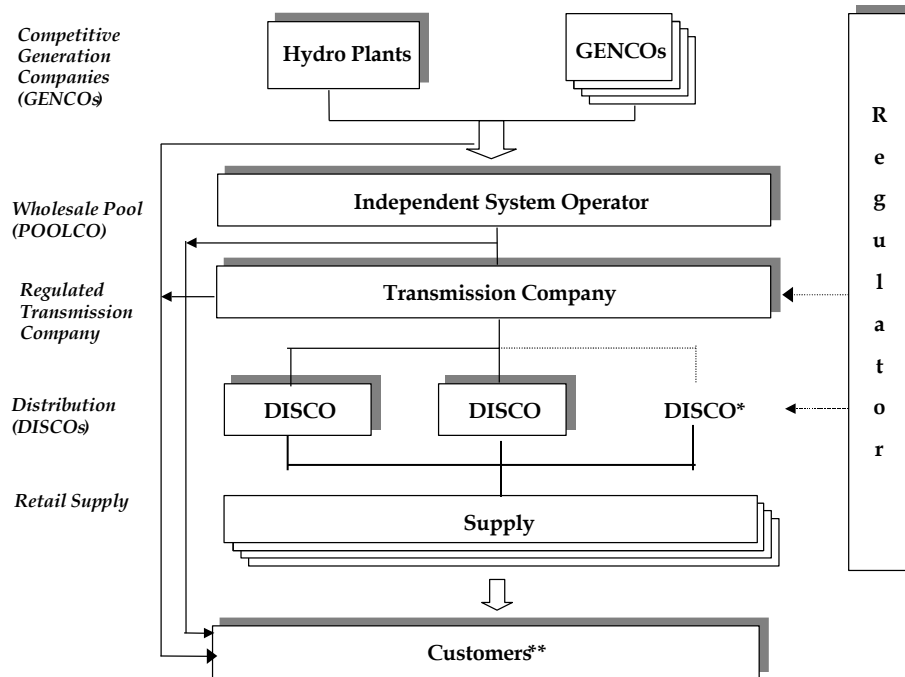
An independent system operator (ISO) provides for the competitive power market. It is important that the ISO own no generation, so that it functions as an independent referee over the competitive generation process. With the ISO having no asset ownership, potential and perceived conflicts of interest are avoided. The transmission company is owned and maintained by a separate company from the ISO. The transmission company is regulated by the national regulator because it is a natural monopoly, and regulation will ensure open access as well as a reasonable tariff.

The distribution companies (DISCOs) will have geographical responsibility for distributing power within sections of Thailand. Since, under this model, distribution acts as a natural monopoly, the regulation of access and tariff levels will be set by the national regulator. The retail supply function can be achieved by DISCOs or by independent supply companies.

This competitive model was first developed in Chile in 1982 and received international recognition when it was adopted in the United Kingdom in 1989. Subsequently, it has been implemented in Argentina, the Nordic countries of Europe, and Australia. It is being implemented in the United States extensively, with California having implemented it in 1997 and 1998.

The implementation of this future ESI represents a complex, technical and political challenge. To date, it has been implemented primarily in developed economies, and in Asia, only in Australia. Accordingly, for planning purposes, an implementation process in three stages is planned and will require five or more years to accomplish.

Figure 18.2: Long Term ESI Structure



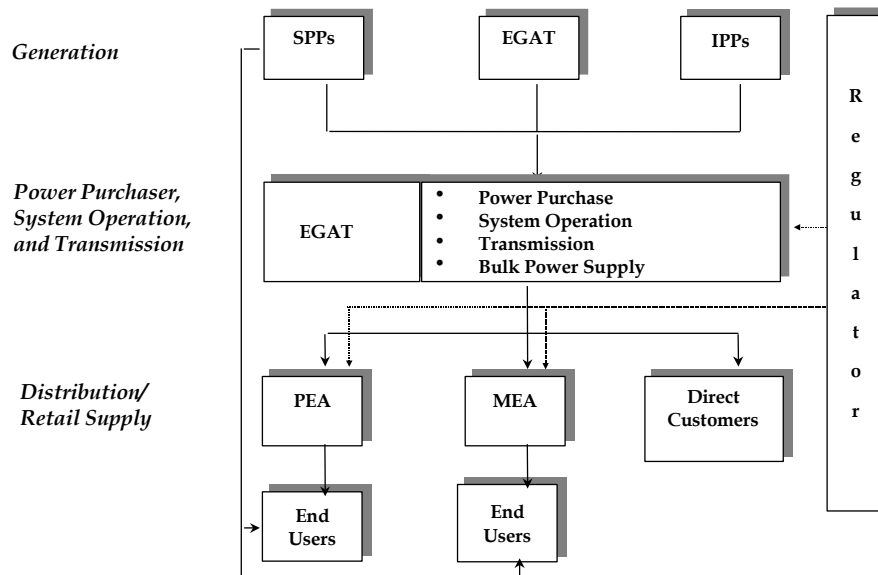
Note :

- * Further study to determine the number of distribution companies is required
- ** The customers demanding for the certain amount of electricity would be able to purchase electricity directly from GENCOs or power pool. The regulator will be responsible to determine the details of the qualified customers.

The 3 stages of power market reform which is consistent with the NEPO's proposed model are shown below:

Stage I: EGAT as primary power purchaser/provider (Starting from the passage of the Corporatisation law-2001)

Figure 18.3: Future ESI Structure – Stage I



Corporatising EGAT as a whole, with autonomous business units operating as profit centers and privatising Ratchaburi power plants, with regulatory controls established to ensure non-discriminatory treatment of all generators by transmission.

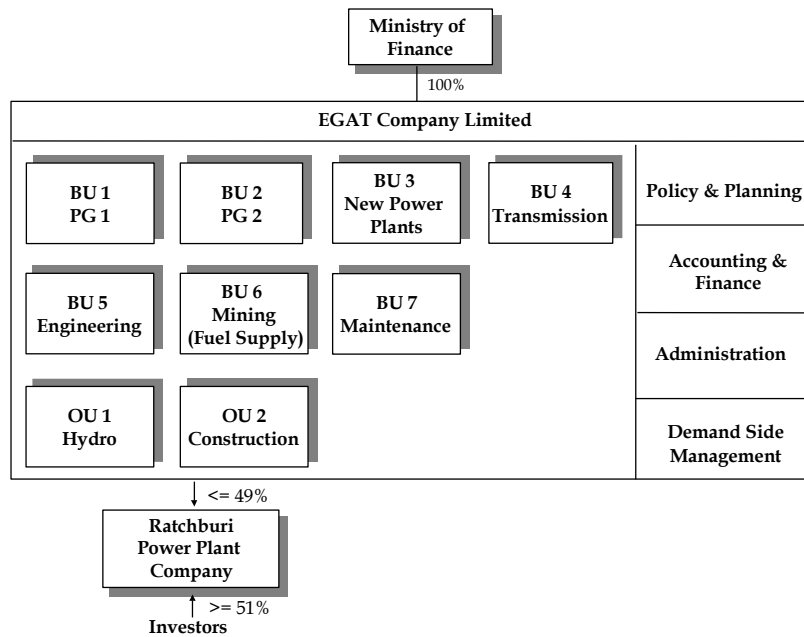
In this stage, EGAT would retain its pre-eminent position in bulk purchase and supply of power, with MEA and PEA retaining their franchise customer base (other than that which is served by SPPs)

The key attributes and issues associated with Stage I are as follows:

- Limited private sector participation in generation providing for a portion of the capital needs of EGAT.
- Long-term central power planning under EGAT’s responsibility.
- Limited accountability or incentives to gain productivity efficiencies, due to a lack of competition between the generators.
- Commercial risk shared by the private sector and the government-owned entities.
- No customer access to competitive power, except through SPPs.
- Approval for an independent regulatory regime for electricity

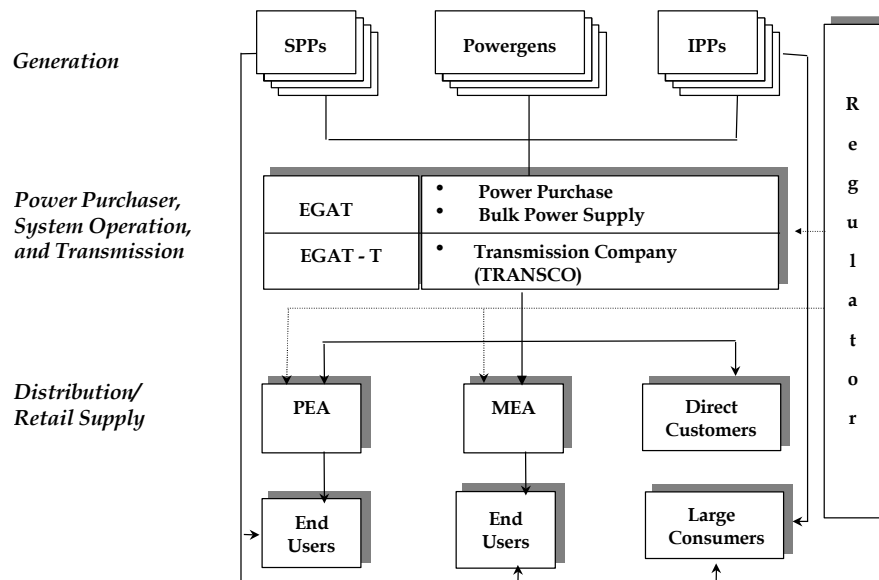
EGAT's structure in this step is presented in figure 18.4

Figure 18.4: Future EGAT Structure - Stage I



Stage II: EGAT as central supplier of power, with gradual introduction of wheeling (From year 2001 to 2003)

Figure 18.5: Future ESI Structure - Stage II



Remark: EGAT has commented that, in their understanding, the term “Direct Customers” is specific to those customers which are sole EGAT customers. It is intended that IPP’s will be able to sell power direct to large customers under Stage 2, rather than to EGAT’s direct customers. Consequently, this figure has been amended to indicate a line from IPP’s to Large Consumers (End Users).

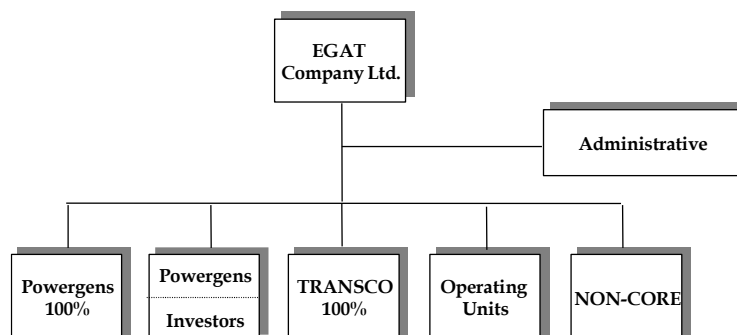
EGAT would retain its position as central supplier of power. EGAT would be a holding company, with a transmission operator (EGAT-T) as a subsidiary and other functions initially as profit centers that are subsequently corporatised. However third party access is gradually introduced to allow power producers to sell directly to users, using the wheeling services of EGAT-T, and MEA’s or PEA’s distribution lines.

The key attributes and issues associated with Stage II are as follows:

- EGAT would face competition in bulk purchase and supply of power.
- Enhanced private sector participation in both generation and retail supply by permitting generators to sell directly to larger customers.
- Generators will be required to compete for sales to large customers, thus enhancing the efficiency drivers on the generation sector.
- A regulatory framework will be required for transmission and distribution pricing (as explained below under *Regulatory Structure*). This would include the establishing an independent regulator and implementing an incentive regulation scheme.
- An alternative mechanism for funding subsidiaries implemented enabling MEA and PEA to be placed on level playing field with new competitors. The most likely mechanism would be a levy on generation, which would produce a pool of funds to be used to provide the target subsidies.
- Continued role for EGAT as the central agency for long-term planning and system operation.

In this state, EGAT’s structure will be as in the below figure.

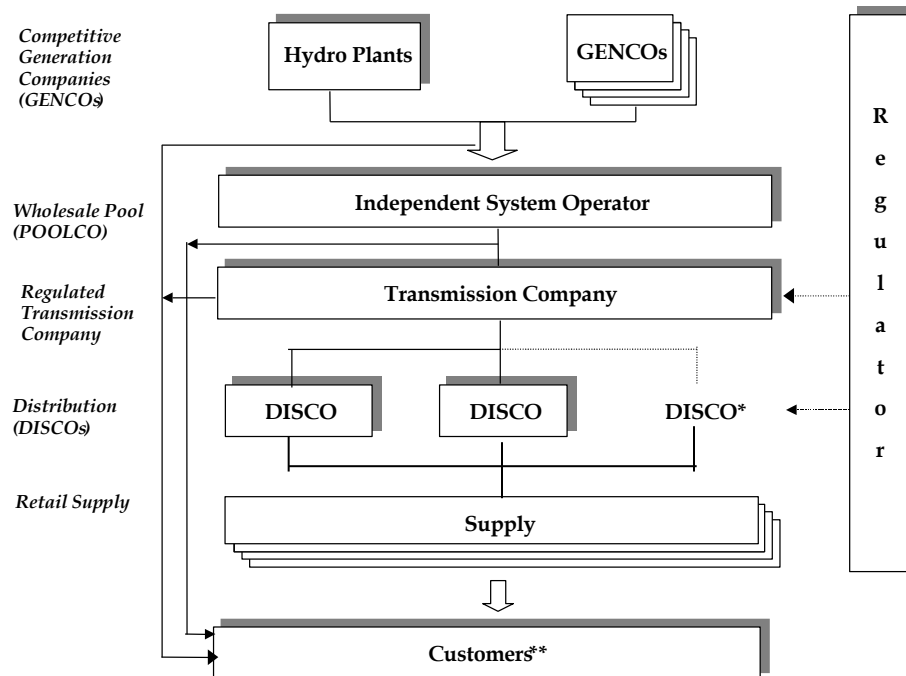
Figure 18.6: Future EGAT Structure - Stage II



- All business units to be corporatised
- Increased private investment in Powergens

Stage III : Competitive wholesale power pool / introduction of retail competition (From year 2003 onward)

Figure 18.7: Future ESI Structure - Stage III



Note :

- * Further study to determine the number of distribution companies is required
- ** The customers demanding for the certain amount of electricity would be able to purchase electricity directly from GENCOs or power pool. The regulator will be responsible to determine the details of the qualified customers.

In the long term, it is envisaged that a competitive wholesale power pool will be developed with power trading taking place within this pool. Retail competition would be introduced initially for certain customers and gradually expanded to cover a wider group of consumers. Generation companies (GENCOs) would bid into the wholesale “pool” and be dispatched in accordance with the lowest bid offered which satisfies demand for that period (perhaps on a half-hourly basis).

To implement government energy policy such as fuel diversity and maintain adequate competition among GENCOs may require regulation of generation. This may require a fuel preference in fuel licensing or fuel allocation for pool purchase.

An Independent System Operator (ISO) would be responsible for economic merit order dispatch, as well as system security and financial settlements for bulk power purchases. The ISO would be formed as a government corporation funded by use charges on power purchases and sales.

Retailers (which may or may not be a combined distribution and retail enterprise) would have non-discriminatory access to the transmission and distribution network, with a regulated Transmission and Distribution access tariff paid to the relevant network service providers.

As transitional matter, Distribution Companies (DISCOs) would retain a customer franchise base. Only large customers will be given access to the competitive market at first. Franchises will be gradually unwound as the market matures, and certain commercial and regulatory issues are resolved such as the vesting of PPAs and treatment of subsidies.

EGAT in this stage would remain a holding company with TRANSCO (EGAT-T) as its subsidiary, hydro generation plus minority interest in some GENCOs and additional certain supporting functions.

Accomplishing the long-term ESI will require extensive restructuring of existing electric entities in Thailand as follows:

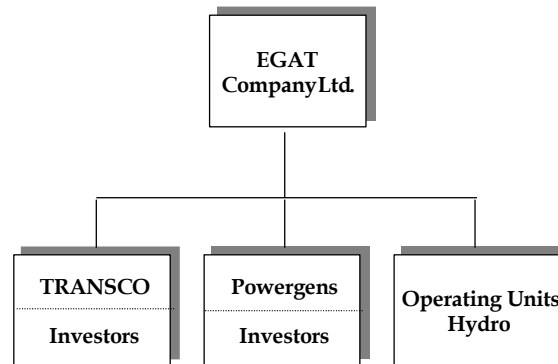
- Generation owned by EGAT would be spun off into separate groups of GENCOs (with the possible exception of hydro).
- An independent system operator would be established.
- PEA may consider to split into corporatised distribution companies (DISCOs). The future study to determine the optimal structure is required. The key factors needed to be considered are the energy consumption in each area, the impact to new distribution entity's performance and its customer.
- A separate supply function would be established and corporatised, either owned or independent from the DISCOs.

The key attributes and issues associated with the competitive electricity structure are as follows:

- Private sector participation in both generation and retail supply.
- Competitive neutrality between state-owned and private sector generation companies, fostering real competition in bulk and retail supply of power.
- With the correct design of a competitive structure, there would be strong efficiency drivers in power generation and retail supply.
- Market signals replace central planning. Since the larger customers will have direct access to generators, new capacity will only be added as economically justified by competitive supply-and-demand relationships.

EGAT's structure in this stage is illustrated as in the figure 18.8 .

Figure 18.8: Future EGAT structure - Stage III



- TRANSCO in process of full privatisation
- All Powergens in process of full privatisation

Remark: Arthur Andersen has proposed that Hydro Power Plants and other operating units be under EGAT PLC in the Stage 3 structure. The issue of the final disposition of Hydro Power Plants is subject to further analysis and study.

Key Power Sector Issues

Three key issues will be addressed in restructuring the electricity supply industry and moving it to a competitive, privately owned sector.

1. Restructuring Authority

The restructuring of the electricity supply industry (ESI) involves broad policy and industry-wide issues. NEPO and the three principal state-owned electric entities are currently addressing these issues.

Effective restructuring best practices as experienced by many countries has demonstrated the need for a front-end, industry-wide restructuring plan implemented by a central authority. NEPO should continue the implementation of the reform program started in the early 1990's through ongoing co-ordination with EGAT, MEA, PEA, and other agencies.

As NEPO restructures itself to separate its energy policy role from regulation, there would need to be co-ordination with SERC and MOF, although restructuring of the power market would be designed and implemented by NEPO. Subsequent privatisation of the government-owned entities would involve decisions by SERC and MOF, in co-ordination with NEPC and NEPO.

2. National Tariffs in a Competitive Market

Although not ideal, the continuation of national tariffs within customer classes can be accommodated within a competitive market. However, a framework for provision of the national tariff will need to be developed to support competitive neutrality among the various market participants.

For example, currently EGAT imposes bulk power tariffs on MEA higher than PEA (levy on MEA's tariff and subsidy on PEA's tariff). This cross-subsidy is the means in which PEA is able to provide power to their customers at a price uniform with Metropolitan customers, even though the underlying economics of the transmission and distribution network in the Provinces entail significantly greater costs per customer. The drawback here is that the price signals related to power purchase are distorted, and would not support true competition in bulk power supply.

The basis for a framework which supports competition is to clearly *identify* the nature of the subsidy (for example, the provision of power to certain customers at less than the cost of supply); establish the financial *cost* of the subsidy to the relevant agency; and establish a means of *funding* that cost short-fall in an equitable and transparent manner.

More specifically, it would be preferable to firmly establish (as a matter of public policy) the nature of subsidy, assign a cost to it, and to then offset the costs to relevant agencies through a funding mechanism.

Advantages of this framework include:

- financial viability of uniform tariffs;
- facilitation of competitive neutrality among market participants;
- transparency of costs in which to support well informed policy making and performance monitoring; and
- provision of subsidies on an equitable and economically efficient basis.

3. PPAs in a competitive market

The model of IPPs selling power under PPAs is based on EGAT's role as the predominant power purchaser / provider. If full competition is to be realised at the generation and retail level, certain adjustments will have to be made in existing PPA's in a manner that is mutually agreeable to all parties.

The existing PPAs represent investments based on Purchase Power Agreements (PPAs) with EGAT. The developer/owner bid the PPA based on terms acceptable to EGAT. In turn, the PPA provided the security for debt financing with financial institutions. These PPAs represent very large, multiyear contracts that would be difficult to unwind.

One possible option involves the assignment of the PPA contracts to these DISCOs or GENCOs that are spun out of EGAT. Given the contractual terms of the PPAs, the provision of substantially equal financial security by the new obligator under the contract to the owner of the IPP will need to be mutually agreed.

Any new PPAs that are entered into by EGAT should be able to transform into the competitive market. One alternative is that any new PPAs that are entered into are either short-lived or are short-lived with automatic extension clauses (in the event, that the competitive market is not yet established). Alternatively, the PPA's could be prepared to allow them to transform to Contracts for Difference's (CFD's) once the power pool commences operation. It may be feasible to consider 5-year agreements, with options to extend under certain conditions. Further study is required on which method should be used and how quickly they can be implemented for EGAT's power plants that are to be privatised.

18.1.2 Natural Gas Industry

Current Gas Supply Industry Structure (GSI)

The gas industry in Thailand is virtually dominated by two players, the Petroleum Authority of Thailand (PTT) and the Electricity Generating Authority of Thailand (EGAT)

1. PTT with the only a few minor exceptions, acts as the sole purchaser, transporter and distributor of natural gas in Thailand. PTT purchases all indigenous gas from the producers including PTT Exploration and Production (PTTEP) and transmit this through its pipeline system to end-users.

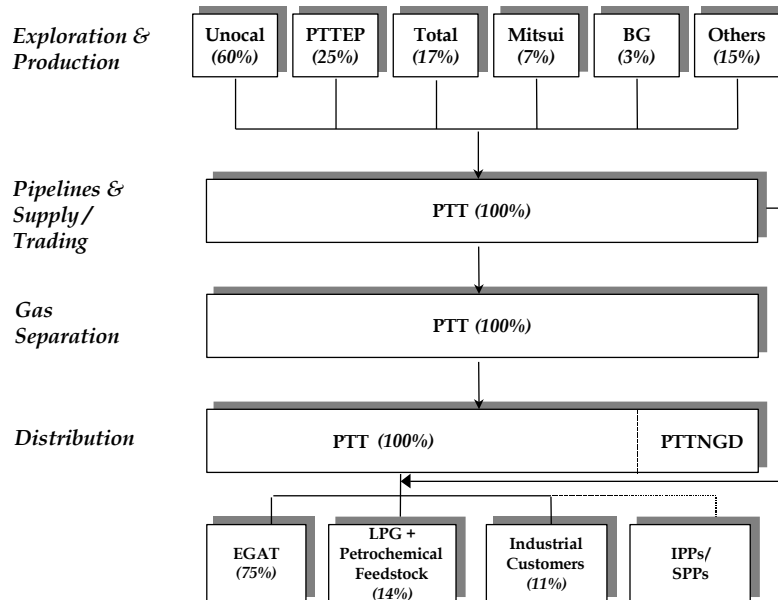
Private participation in pipeline construction has been introduced with the establishment of PTTNGD, a joint venture pipeline owned 49% by PTT and the balance by private companies.

PTT's activities consist of gas exploration and development, gas pipelines, and gas trading. In the petroleum sector, they consist of refining and retail distribution, international trading activities, and a number of international downstream joint venture operations.

Its network of pipelines currently stretches 1,512 km, linking all commercial offshore gas fields to EGAT's power plants, its four gas separation plants (GSPs) and industrial users. All PTT's contracts, whether with suppliers or consumers, are on a long-term (20-30 year) minimum take-or-pay basis.

2. EGAT is by the far largest consumer of natural gas in Thailand. In 1997, 75% of natural gas consumption went for power generation, 14% for the production of LPG and petrochemical feedstock from the GSPs and 11% was consumed as industrial fuel. There is no retail gas industry as yet.

Figure 18.9: Current GSI Structure



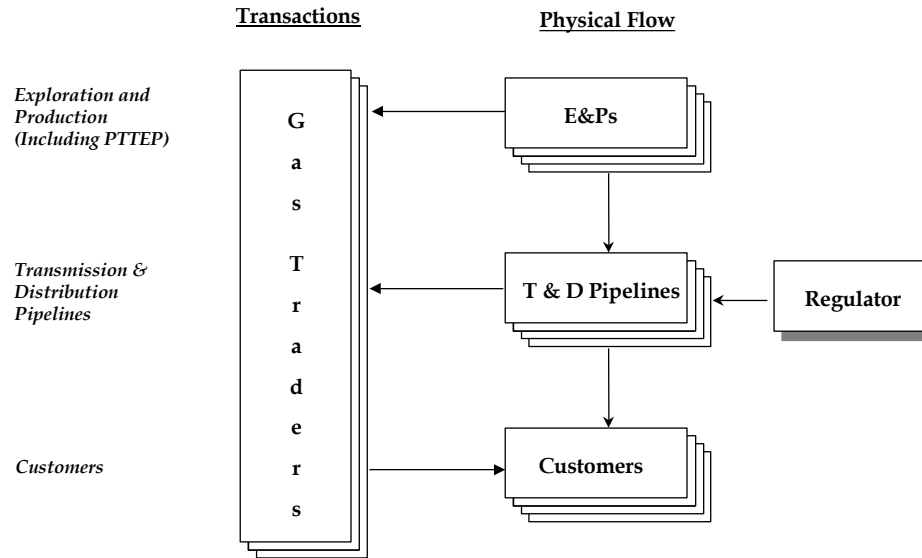
Source: PTT, NEPO

Future Structure

NEPO (14 May, 1998) has proposed a market structure for gas supply which anticipates:

- Separation of transmission and trading
- Third party access
- Common pipeline tariffs
- An independent regulator
- Competition in trading
- Competitive tendering for construction and ownership of new transmission and distribution pipelines

Figure 18.10: Future GSI Structure



The competitive market model described above has been demonstrated in a number of countries to provide for reliable and efficient supply of energy to consumers. There are two essential issues that need to be given further consideration.

1. Separation of PTT's gas transportation and trading functions.

Separation of PTT's gas transmission pipeline function, either accounting or legal, from its gas trading is a pre-condition to promote competition. Full legal separation by corporatised entity would be preferable to facilitate transparency and regulation.

The most important point here is that most gas sales in Thailand are to power plants under long term contracts. With this in mind, the establishment of a competitive market based on **further** sales and flexible supply arrangements is anticipated to evolve over a fairly long time horizon.

In the interim, PTT will be the dominant trader as well as providing transmission services. This will result in a gradual transition to a competitive market which is needed to phase out PTT long term purchase commitments. Also, this transition will give comfort regarding gas security concerns.

Remark: PTT and NEPO have agreed to a legal separation between transportation (transmission) and trading at a meeting on 26 August 1998. This position is endorsed by the Department of Mineral Resources.

2. Third Party Access

The primary aim of promoting competition in certain market components of the gas industry is to increase industry efficiency and ultimately yield benefits to end users in the form of lower prices and improved service.

The establishment of third party access to gas transmission pipelines is seen as a means of facilitating the development of competition in gas supply. The provision of access to these facilities by third parties on fair terms and conditions (potentially) allows end users to purchase gas from upstream producers, or continue to purchase the bundled service of gas transmission and supply from the pipeline owner. Currently, the issue and possible use of Third Party Access is under review. Additional analysis is required on this and other possible options.

“Special Purpose Pipelines”

While common (predefined) charges are appropriate for common carrier transmission pipelines, a more flexible approach may better support ongoing investment in gas infrastructure. The basis for this approach would be that the developers of new pipelines would be granted a franchise under terms that will allow them to negotiate use of the pipeline with customers. This alternative approach would be relevant for special purpose pipelines with a limited number of customers.

Under this approach, the broad framework for access would be well defined, but the actual setting of the terms and conditions (such as tariffs) would be subject to negotiation. This allows for a level of commercial control on the part of the owner. On the other hand, there is potential for abuse of this position in terms of monopolistic pricing of the transmission service. To balance these matters, a process would need to be established to address disputes arising from the negotiation process, with recourse to a predefined means of arbitration.

Remark: PTT, DMR and NEPO have agreed on the development of a Third Party Access Code to set the terms of access to common carrier pipelines. This code will be developed by the end of 1998, with implementation in 1999 in preparation for the introduction of competition in 2000. The recommendation by Andersen Consulting that access to “Special Purpose Pipelines” be provided through individual negotiation is subject to further review and consequently does not constitute policy for the GSI at this time.

18.1.3 Oil industry

The oil industry operates in a liberalised and competitive market and has significant private capital participation in refining and the distribution of petroleum products. The pricing of refined oil is under free market conditions.

PTT is the one of the key players in oil refinery and trading. Its operations include refining, retail distribution, and oil international procurement.

PTT has a number of passive investments in a number of energy related activities including minority interests in oil refineries including Bangchak, petrochemical plants and international joint ventures. This portfolio strategy needs to be reconsidered resulting in exiting certain investments and redeploying the capital to more focused opportunities under PTT control.

The exit strategy should consider offering such investments to the majority owners, strategic partners, and/or public.

After the completion of the re-deployment of capital and creating an open access gas transmission system, PTT will be a synergistic, integrated petroleum company. At that point in time, the privatisation of PTT should proceed ensuring the maximum proceeds.

PTT Structural Alternatives

Together with the structure of the GSI, the selection of the corporate structure of PTT represents the most important decision for the future oil and gas industry. Two corporate structural options for PTT have been considered:

1. The IPO of PTT as an integrated oil and gas company.
2. The IPO of PTT gas.

The principal argument for PTT as an integrated company with oil and gas operations is that it would have significant strategic advantages for the company. These strategic advantages would include:

- More effective execution of multi-business regional opportunities.
- Scale strengthening competitive negotiating positions.
- Protection of domestic position from integrated competitors.
- Diversity of investment opportunities making PTT the partner of choice.
- Rapid, strategic and operational adjustments facilitated in a changing competitive context.

Other arguments for an integrated PTT are related to operational and financial synergies. These include:

- Potential cost savings by consolidating corporate overheads.
- A reduced earning volatility because of this business diversity.
- An integrated structure providing for economies of scale.

- Capital investment optimised by allowing flexibility to reallocate capital.

The Board of Directors of PTT has approved the recommendation of PTT's financial advisors to proceed with an IPO of PTT as an integrated oil and gas company. This recommendation is proceeding through the government approval process.

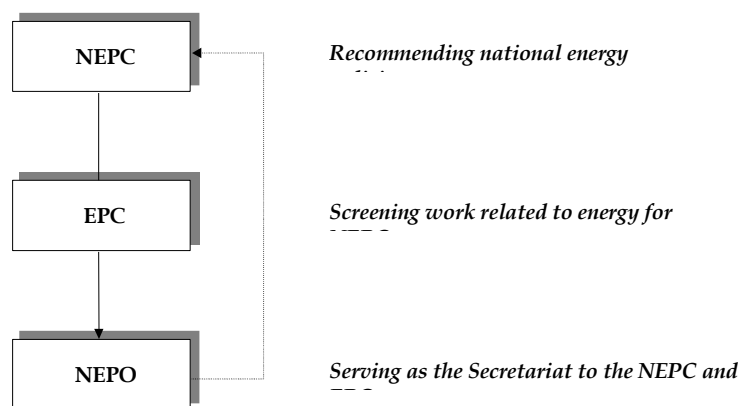
Remark: Given acceptance by all parties of the policy for legal separation of transmission and trading, NEPO accepted the PTT's proposal on 26 August 1998 for the corporatisation and privatisation of PTT Holding to include PTT Gas as a legally separated entity.

18.2 Regulatory Structure

The National Energy Policy Council (NEPC), reporting to the Prime Minister, is the highest level organisation involved in energy regulation and established under the National Energy Policy Council Act.

Under the act, the Energy Policy Committee (EPC) has been established to assist the NEPC by screening work related to energy management and development prior to submission for the NEPC commission. The National Energy Policy Office (NEPO) serves as the secretariat to NEPC and EPC. Currently, NEPO acts as both policy-maker and regulatory body for energy sector:

Figure 18.11: NEPC Structure

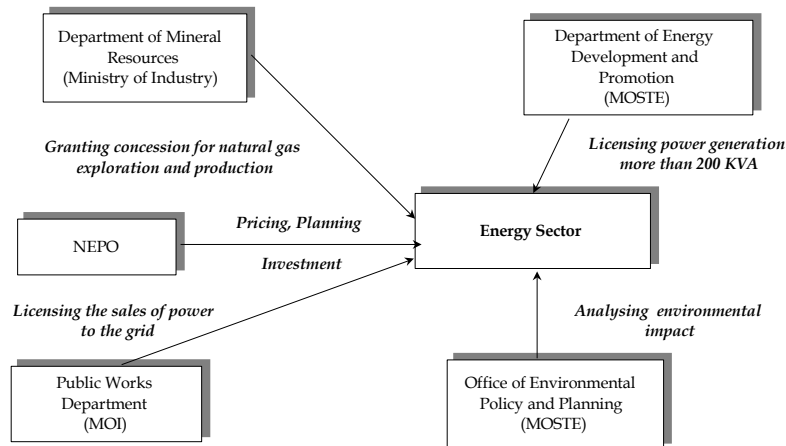


Source: NEPO

EPC recommends to NEPC for approval the investment plans and a structure and level of electricity rates. The level of base electricity rates is determined on the cost-of-service model, which includes all costs plus a return on equity. By class of customer, the electricity price in Thailand is uniform across the country. In addition, there is a fuel adjustment clause that currently tracks changes in the cost of fuel for generation.

As well as NEPO, the energy sector is subject to regulation by a series of government agencies.

Figure 18.12: Existing Energy Regulatory Bodies



Note: Regulatory bodies related with privatisation program
Source: NEPO

Proposed Regulatory Structure

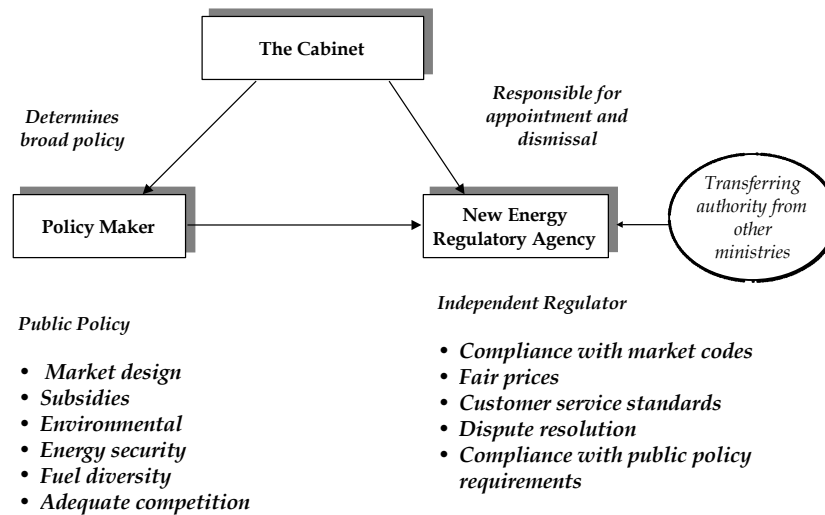
In restructuring the energy sector and moving it to a competitive market, there is a need for orienting the regulatory framework to a more commercial and independent sector structure.

The independence of the regulator is seen as an important feature in fostering an environment of “competitive neutrality” between public and private sector enterprises. This is accomplished by separating the functions of public policy from regulation.

The regulator may be industry specific (energy) or cover a broader area such as energy and utilities. The convergence in regulation is evolving in other countries, such as Australia and the U.K., in which industry regulators are being combined to form a broader utility regulator. The current context of energy regulation would support the establishment of an industry specific energy regulatory body.

With the emerging of monopoly under private owned ownership, the key role for the regulator would be to protect the interest of the customers.

Figure 18.13: Proposed Regulatory Framework



Based on NEPO's study of the regulatory framework proposals under active consideration for future regulation for both the electricity and gas sectors include the following principles: -

- a regulator responsible for regulation of the electricity and gas industries, independent from NEPO, accountable to the Prime Minister
- a regulator responsible for key economic (pricing, investment and competition policy) and non-economic functions (establishing performance measures and monitoring the quality of service). It would also issue licenses as an instrument for regulation. This action will need to involve interfaces with other relevant bodies.
- use of primary legislation to establish the regulator and secondary legislation and related administrative procedures to implement the regime.
- price cap regulation is being proposed with regular review periods
- the co-ordination of the transition phase by NEPO would involve establishing key regulatory functions
- the re-classification of roles and responsibilities of the relevant existing agencies will be subject to further study and evaluation to optimise their effectiveness and efficiency.

18.3 Action Plan

Objectives of the privatisation program

The main objective in promoting greater private sector participation in the sector are to:¹

- Increase competition in the energy industry to bring about more efficiency within the industry and the provision of adequate energy at reasonable prices for consumers;
- Reduce the investment burden of the government as well as the public sector debt;
- Promote the more efficient use of energy such as that demonstrated by SPP projects using the cogeneration system;
- Ensure power users are provided with the best possible services, price levels and safety standards;
- Encourage the general public's participation in the energy industry development of the country through the development of the capital market;
- Develop the capital market.

Sector Action Plan

Sector Specific Action - Future Market Structure

Market reforms

Power

- Study to determine competitive market structure undertaken in 1999.
- Action plan established for implementation of new market structure in 2000.
- Establish third party access regime for network services in 2001.
- Implement third party access in 2002.
- Open market to competition in bulk supply in 2003.
- Establish wholesale electricity pool 2003
- Establish an independent system operator 2003
- Open market to retail competition on a phased basis starting in 2003.

Gas

- Determine gas supply industry structure in 1998.
- Detail study for gas supply industry in first half of 1999.
- Establish third party access regime for network services in first half 1999.
- Open market gas to competition in 2000 onward.

¹ Documented in the National Energy Policy Office's 14May statement on "Privatization and Increasing Private Sector Participation in the Energy Sector in Thailand"

Legal and Regulatory Reform

Legal/legislative issues to be addressed

- Submission to the Cabinet or other appropriate authorities of secondary legislation for the regulation in 1999.
- Submission to the Parliament approval for market reform law in 2000.
- NEPO to co-ordinate the transition to the regulatory structure among all government entities.

Regulator operationalised

- Board and Executive named by Cabinet 2nd half 1999.
- Organisational structure established 2nd half 1999.
- Senior staff hired by end of 1999.
- Develop and implement regulatory systems and procedures in 2000.
- Operating licenses placed with agencies in 2000.
- Dispute resolution body operationalised in 2000.

Enterprise Action Plan/EGAT

- **By the end of 1999**, corporatise EGAT as a whole and the internal restructuring of EGAT into autonomous business units as profit centres.
- 1999 - privatisation of Ratchaburi power plants.
- 1999 and thereafter - will undertake the development, construction and operation of any new thermal power plants only by means of wholly owned subsidiaries.
- 2001 - establish as a wholly owned subsidiary of EGAT a transmission subsidiary operating as "single buyer" of power from all duly licensed generators on an arms-length basis.
- 2001 - transfer the thermal generating and the non-core assets into wholly owned corporatised subsidiaries of EGAT.

Enterprise Privatisation Plan/EGAT

- 1999 - Ratchaburi power plants privatised.
- 2001 onward - privatised new power plant.
- 2002 - onward existing subsidiaries of EGAT privatised over a phase period of time.

Enterprise Action Plan/MEA and PEA

- By the end of 2000, establish non-core activities as business units
- By the end of 2001, corporatise as wholly owned subsidiaries the non-core activities.
- By the end of 2001, the functions of distribution and supply established as separate cost centres within MEA.
- By the end of 2001, the functions of distribution and supply established as separate cost centres within PEA.
- By the end of 2001, PEA reorganised into regional distribution units, established as cost centres, in preparation for profit Center operation.
- 2002 - MEA core electric distribution business corporatised.
- Within the first half of 2004 - PEA regional distribution units corporatised

Enterprise Privatisation Plan/MEA and PEA

- 2002 - 2004 - MEA non-core subsidiaries privatised.
- 2003 - 2004 - MEA privatised.
- 2002 - 2004 - PEA non-core subsidiaries privatised.
- Second half of 2004 onward - PEA DISCOs privatised.

Enterprise Action Plan/PTT

- By the end of 1999, Corporatise PTT

Enterprise Privatisation Plan PTT

- Within 1999, commencing privatise PTT

Energy Sector Action Plan

	1998			1999		2000	2001	2002	2003	2004
	Oct	Nov	Dec	HI	H2					
1. Market Reforms										
1.1 Power										
1. Determine competitive market structure										
2. Action for implementation new market structure										
3. Establish third party access regime										
4. Implement third party access										
5. Open market to competition in bulk supply										
6. Establish wholesale power pool										
7. Establish Independent System Operator										
8. Open market to retail competition on a phase basis										
1.2 Gas										
1. Determine gas supply industry structure										
2. Detail study for gas supply industry										
3. Establish third party access regime										
4. Open market to competition										
2. Legal and Regulatory Reform										
2.1 The cabinet approval for secondary legislation for regulation										
2.2 The parliament approval for market reform law										
2.3 Regulatory operation ; Organizational structure, Board & Executive named by Cabinet, senior staff hired										

	1998			1999		2000	2001	2002	2003	2004
	Oct	Nov	Dec	H1	H2					
3.1 EGAT										
1. Corporatise EGAT as a whole			■	■	■					
2. Privatise Ratchaburi power plant	■	■	■	■	■					
3. Corporatise and privatise new power plants				■	■	■	■	■	■	■
4. Corporatise each business unit to company							■			
5. Privatise each subsidiary								■	■	■
3.2 MEA/PEA										
1. Establish non-core activities as business units				■	■	■				
2. Corporatise non-core subsidiaries						■	■			
3. Establish distribution and supply units as separate cost centers				■	■	■	■			
4. Reorganise PEA into regional distribution units						■	■			
5. Privatise non-core subsidiaries (MEA/PEA)								■	■	■
6. Corporatise core electric distribution							■	■		
- MEA									■	■
- PEA										■
7. Privatise core business									■	■
- MEA										■
- PEA										■
3.3 PTT										
1. Corporatise PTT			■	■	■					
2. Privatise PTT				■	■	■	■	■	■	■

Note : Privatisation SOEs represents the process of initial and subsequent privatisation process. The completion of privatisation process will be finished when the government hold less than 50% stake in such SOEs.

Remark: While "privatisation" may be completed and the enterprise is no longer a state owned enterprise, the process of selling down the government's shareholding would continue as appropriate.