

## CHAPTER 4

### ALTERNATIVE ENERGY AND THE WAY FORWARD

In addition, the Energy Conservation Promotion Act has entered into force since April of 1992 with a view to promoting energy conservation discipline and promoting energy conservation investment in factories and buildings. This Act is an innovative policy instrument, blending incentives with mandatory regulations to facilitate the implementation of mandated energy efficiency measures.<sup>25</sup> The Energy Conservation Promotion Fund (ENCON Fund) was established under the Act to provide financial support to government agencies, state enterprises, non-government organizations, individuals, and businesses that wish to implement measures to increase efficiency in energy utilization.<sup>26</sup> At the same time, a punishment clause is stipulated in the Act for owners of any designated factory or building who fail to comply with the standards, criteria and procedures as provided by related ministerial regulations issued under the Act. The role of the public sector is to establish and utilize government mechanisms to encourage and promote energy conservation implementation by consumers, including development and utilization of renewable energy which is environmentally friendly. The target is to reduce energy consumption in industries more than 10% of the energy demand today by 2009. In addition, by the end of 2021, 361 km of underground system and 3,000 km. of dual rail road tracks

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<sup>25</sup> [www.unescap.org/esd/energy/publications/compend/ceccpart4chapter10.htm](http://www.unescap.org/esd/energy/publications/compend/ceccpart4chapter10.htm)

<sup>26</sup> [www.serd.ait.ac.th/eric/EE%20NEWS%20Online/EE%20NEWS-Dec%202005.pdf](http://www.serd.ait.ac.th/eric/EE%20NEWS%20Online/EE%20NEWS-Dec%202005.pdf) -

will be constructed. These are anticipated to save more than 2,540 billion baht of energy costs within 12 years.

Referring back again to the Thailand's Energy Policy and Development Plan of 2006, Thailand will still need to continuously promote energy conservation and energy efficiency scheme. In order to do so successfully and effectively, the government needs to set the energy conservation targets and speed up the implementation in both the public and the private sectors. General public, as end users, will need to be included in order to achieve a practical outcome and bring about continuous practice, and to foster energy conservation consciousness. They will also need to speed up the establishment of energy efficiency standards of appliances, as well as, including the labeling of the products for which standards have been established.

Also, because transportation ranked number one in energy consumption, more effort is needed to promote greater use of public transportation. This, as we have seen, has already been taken place, such as certain station for the Mass Rapid Transportation (MRT), where parking building has been built to facilitate "Park and Ride" for the people commuting downtown. And that could also be done together with energy conservation measures in the transport sector, for example, the improvement of public transport and logistics systems, and the development of energy-saving vehicles.

As for the promoting of alternative energy suitable for Thailand in order to diversify fuel types and reduce dependency on energy import. More still needs to be done in order to promote the use of natural gas for vehicles (NGV), gasohol and biodiesel instead of oil in the transport sector, in proportion to the alternative energy

development potential of the country. The government will need to set up a structure which support the purchase of power generated from renewable energy, such as agricultural residue, industrial wastes, biogas, garbage, wind and solar energy, in a suitable proportion and with appropriate purchasing prices by speeding up the Producers (VSPPs), providing them market incentives.

The establishment of a public organization, as an extension to the government, to carry out the promotion of renewable energy utilization in the communities to bring about tangible and sustainable outcome as its implementation would be flexible and efficient. That also will require support for the policy study, research and development on alternative energy so as to determine practical guidelines on alternative energy development of the country, and the information about alternative fuels will need to be disseminated to the general public so that they would recognize and have confidence in the use of such fuels as NGV, gasohol and biodiesel, and carry out public relations work to create knowledge and understanding of the necessity to promote and develop other fuel options and encourage greater participation.

Furthermore, concrete measures regarding clean energy need to be established to reduce the environmental impact resulting from various forms of energy industry operation. This is done through the upgrading of the standards of refined petroleum products to be in line with the environmental management of the country. There is also the need to attach importance to the reduction of environmental impact resulting from energy business development by entrusting joint responsibility for the costs of environmental protection and solution to energy producers, distributors and consumers whereby activities and practices need to comply with the

environmental commitments that have been ratified by Thailand in the international forums.

Thailand will need to join and participate in international cooperation in implementing environmental measures pertaining to the energy industry operation to enhance sustainable energy development; and forge ahead the Clean Development Mechanism (CDM) to promote efficient use of energy and to enhance greater use of renewable energy.

Participation is required from the private sector and general public in policy-making to create understanding and cooperation in energy development of the country, determining energy policy and measures so that energy development would be sustainable.

In the longer term, study and research to formulate energy management that is sustainable needs to be conducted in order to take advantage of new knowledge, innovation, and build upon that body of knowledge to support and promote the use of alternative energy as well as the study and research & development of other new alternative energy. And ultimately, be able to work toward sustainable energy development and providing national energy security by attach importance to the application of modern technology to energy development in parallel with the reduction of environmental impact resulting from energy business development, which comply with the environmental commitments that have been ratified by Thailand in the international forums.

Considering the unveiling of the new WTC Freedom Tower in New York City and Thai government considering subsidizing renewable energy sources this week, we can see how each of their managements are thinking in different terms and

directions. The New WTC Freedom Tower will fill with energy-generating windmills that would provide 20 percent of its power. Gardens, passive solar system, biological and none-organic air purification system. Apparently, someone took time to consider the alternative and long term costs of energy for this building complex besides being the tallest building in the world. Considering alternative energy sources, natural gas or another gases like methane are renewable energy sources. Thai government should not think that they will have to generate energy from all these alternative energy sources. Thai government need to educate and regulate private and public sectors in utilizing alternative energy source like the Freedom Tower in NY. The mass production of efficient solar and wind power units will bring the production cost down. The mass energy production would depend on the power companies for using renewable gases and garbage incineration. Thai government needs to give its people and companies the incentives to incorporate solar and wind power units by tax reduction, which is being done at other parts of the world. We should think of long term gain and not short term loss.

Nonetheless, substantial progress is being made. For example, the government is mounting a solar energy program that is in experimental stage in the rural areas. The larger programs will require certain degree of government subsidy programs to help reduce the cost. A Solartron Co.,LTD. is a Thai solar venture with its main office in Bangkok and manufacturing base in Korat area. Solartron also have dealing with Siemens and BP solar. The company established in 1986 and is involved with the on going research with Chulalongkorn University and other universities and countries like Japan. Most of their contracted jobs are from the government and surrounding countries for rural projects. Private usages of this technology is still

proven too expensive for ordinary Thai households without government subsidy. For the totally off grid, a house would have to have solar panels, wind/hydro generators, and diesel generator as back-up system. It would depend on the calculated total usages like housewhole appliances. A typical urban home with multiple consumer electronics would require at least two energy generating systems beside solar power.

Old energy sources are depleting, and global politics are causing division between countries. Thailand can not rely on these old energy sources and building own future infrastructures and economy basing on these old technology. And with the current political climate and pollution problems in Thailand, the Thai people and government need to seriously thinking about alternative energy sources. Thai government and private companies need to come up with alternative fuse sources that would free Thailand from imported oil from the Middle East. Solar and wind energy in large and small scales would be use by the private and public sectors. Hydroelectric and fusion energy would mass produce electricity for commercial and residential usages.

The promotion of renewable energy technology research and development is considered to be of great importance and will continue need to be supported by the government. It is the jobs of government to set policies and procedures, and the leaderships in the government to advocate and encourage the use/for alternative energies. The remaining technical and financial problems would have to solve by the private companies, which is how it would work in the capitalism countries. Thai people and its leaders have to have foresight thinking and vision of the future. Close cooperation among various agencies and institutions dealing with energy plays a critical role in achieving the targets of the Energy Conservation Program in Thailand.

Most importantly, consumers need to be educated on the importance and necessity to conserve energy as they are energy end-users. Their awareness and participation are, therefore, crucial for achieving the success of the existing energy efficiency, conservation programs, and the promotion of alternative energy for the future sustainability. It is the responsibility that no one should neglect, because no matter how important energy security may be, the future sustainability of the planet, threatened by global warming and rising sea level, should more or less supersede human conscience.