CHAPTER 1

BACKGROUND AND ENVIRONMENTAL ISSUES ON ENERGY SECURITY

Energy is often compared to being the catalyst for development. The per capita consumption of energy is often used as a indicator to measure the level of economic development in a particular country. However, unless, the country is endowed with abundance of natural resources, such as oil or natural gas, these commodities will need to be imported from other countries. Realizing the importance of energy as a vital component in economic and social development, the government of Thailand has to consistently review its energy policy in order to ensure energy security, as well as, balancing the growing environmental impact on the ways in which energy is consumed. One way of addressing these challenges is to go forward with alternative energy development, where the reliance on foreign import is minimized, and through the usage of renewable energy, is being part of the solution to environmental problems.

In the year 2006, Thailand imported up to 10.7 billion US dollars worth of crude oil; that accounted for 6.5% of the national GDP.[1] With that statistic, it reflected that the amount of money spent of importing could have been allocated used on research and development on alternative forms of energy. In response to this, Thailand has been more assertive with its national policy to prioritize the development of alternatives and explore other potential forms of energy. Most notably are the campaign to promote ethanol, bio-fuels, and the use of natural gas for vehicles or

[1] www.eppo.go.th/index-E.html - 37k - 11 May 2007

NGV. The goal is to be able to increase the share of renewable energy, which was at 5 per cent in 2006, and reach 8 per cent by 2011.[2]

However, a lot of work still needs to be done. The yield of feedstock, or a substance used as a raw material in an industrial process, derived from cassava, solar energy or palm oil, still needs to be further developed. This will also need to be accompanied by the development of new innovation of more efficient technology, such as modified vehicle engines for use with bio-fuels and create the technology which is more efficient and affordable at industrial and private level.[3]

In order to push forward the national policy to promote alternative energy, it would required commitment from various stakeholders such as scientists, engineers, government officials, journalists, the media, local government agencies, state enterprises, the industry, the academia, NGOs, and international agencies, who are involved in the collective process of planning, implementing policies as well as the promotion of new innovation in science and technology development.

Furthermore, linking back to 1970s, when the world first experienced oil crisis, and particularly with the recent surge in world oil prices, energy security has now garnered the appropriate attention it demands.[4] Furthermore, with growing concerns of global warming, the issues of green house gas emissions, now more than ever, the need to develop cleaner, and greener, technology has become vitally essential to the future sustainability of the planet as well as the country. Take for example, Bangkok itself is at the risk of rising sea levels as more reports of the diminishing ice caps appear on the news. Or even the Pacific islands, who have placed

[2] http://www.dede.go.th/dede/index.php?id=152
[3] www.mofa.go.jp/region/latin/fealac/report0606.pdf
[4] en.wikipedia.org/wiki/1973_oil_crisis

so much importance on the Kyoto Protocol as much of their national interests are dependent upon whether or not their islands will be submerged due to rising sea levels

It is noteworthy to know that, although, under the 1997 Kyoto Protocol, Thailand is a non-Annex I country, meaning it has no binding obligation to reduce its carbon emissions.[5] In 2001, the country emitted approximately 48 million metric tons of carbon equivalent, which is more than twice its carbon emission level in 1990, the baseline year for the group of mostly industrialized countries that are required to reduce their greenhouse gas and carbon emissions by an average of 5.2% between 2008 and 2012.[6] Thailand's carbon emissions rose rapidly in the early and mid-1990s in line with increases in the country's gross domestic product (GDP), but the emissions growth rate was halted by the Asian financial crisis in 1997. Thailand's pattern of carbon emissions growth since 1990 has been mirrored by South Korea, Indonesia, Malaysia, and Vietnam, all of which have doubled or nearly doubled their carbon emissions during that time.[7]

Even though, Thailand accounted for just 0.7% of the world's total carbon emissions in 2001, the Thai government is committed to keeping a lid on the country's carbon emissions. Bangkok, positioned on a low-lying coastal area, is considered to be one of the most vulnerable capital cities to a rise in sea level, a phenomenon possibly associated with global warming. Thus, on August 28, 2002, Thailand ratified the Kyoto Protocol.[8]

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[5] unfccc.int/resource/docs/convkp/kpeng.html
[6] ec.europa.eu/environment/climat/kyoto.htm
[7] zebu.uoregon.edu/1999/ph161/l28.html
[8] www.energy.go.th/en/aboutUs_09Law_05.asp

Contended with the challenge of economic performance and balancing out environmental impact, this is where Thailand needs to formulate a national policy which can address both the issue of energy security and environmental challenges. The stakeholders need to be comprised of scientists, engineers, government officials, journalists, the media, local government agencies, state enterprises, the industry, the academia, NGOs, and international agencies, who are involved in the collective process of planning, implementing policies as well as the promotion of new innovation in science and technology development. Efforts need to be built from all levels of society and every dimensions, be it, political, economic and social, is to be involved, as all are interconnected in this globalized world.