Energy Management For Economic Growth And Environmental Sustainability

Recycling the Human Mind

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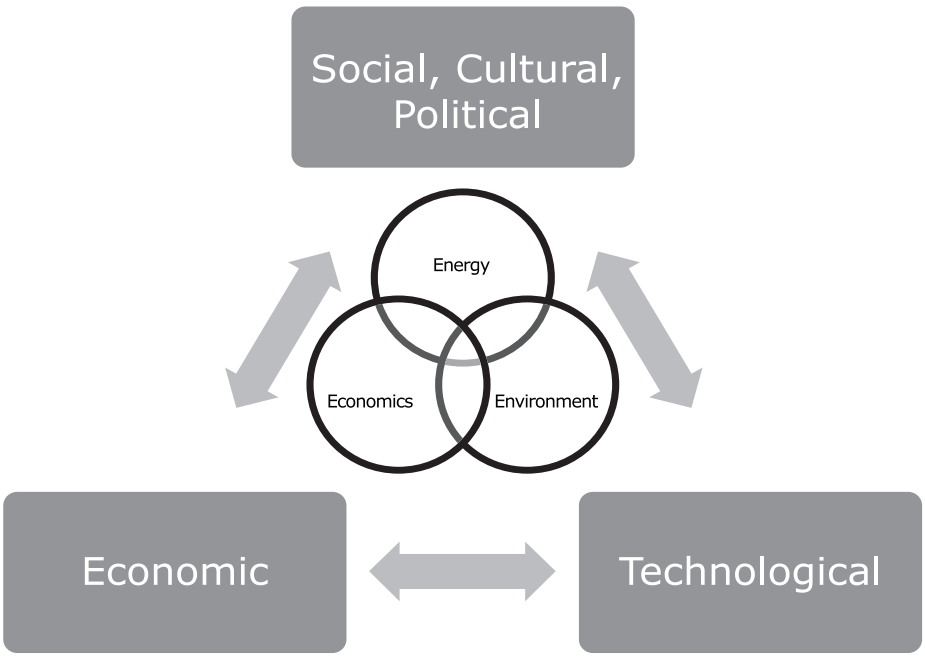
Introduction

Since the recovery of East Asia from the Asian financial crisis, East Asian countries have begun to rapidly industrialize. As countries grow and progress, they become more voracious in their consumption of conventional energy. This leads to inevitable increases of the use of natural resources. Currently, most countries are pre-disposed to use conventional resources such as coal and oil. They primarily contribute to environmental pollution subsequently leading to global warming. Small developing countries compete for investments from multi-national corporations, thus lowering their standards with regard to human capital and environment, known as the “Race to the Bottom” effect. The unprecedented development of rising economic superpowers such as China and India has greatly contributed to the increase in global pollution that degrades the environment. Moreover, oil prices have recently reached historical levels having peaked at USD 150 per barrel. Because of higher oil prices, inflation rates increase and prices of consumer goods rise. Therefore, the quality of life within countries is lowered, especially among the poorest of the poor. Due to these issues, it is important to examine the negative impact of uncontrolled energy consumption. We must also analyze how energy can be used sustainably both to promote development and conservation of the environment. Hence, proper actions need to be executed.

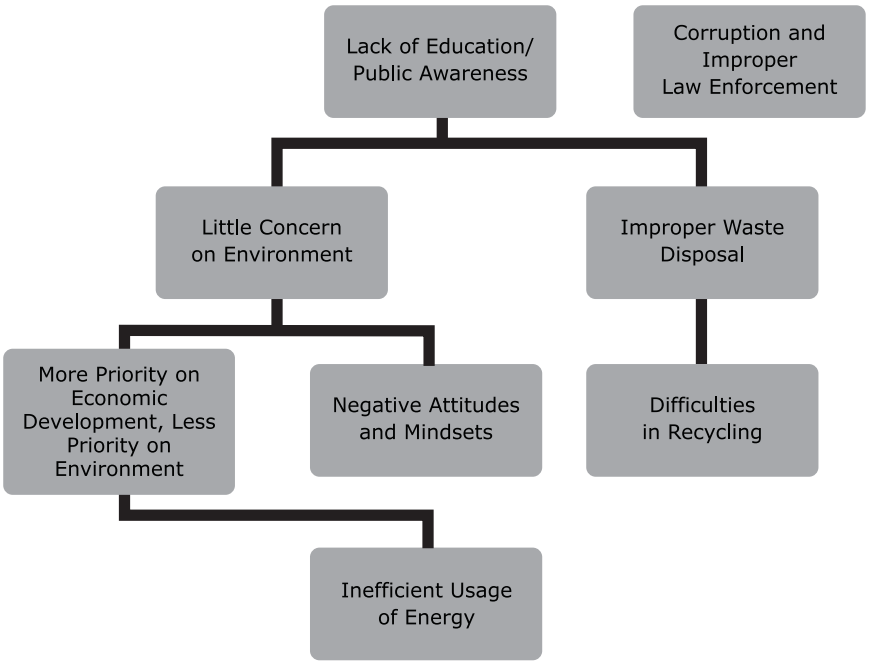


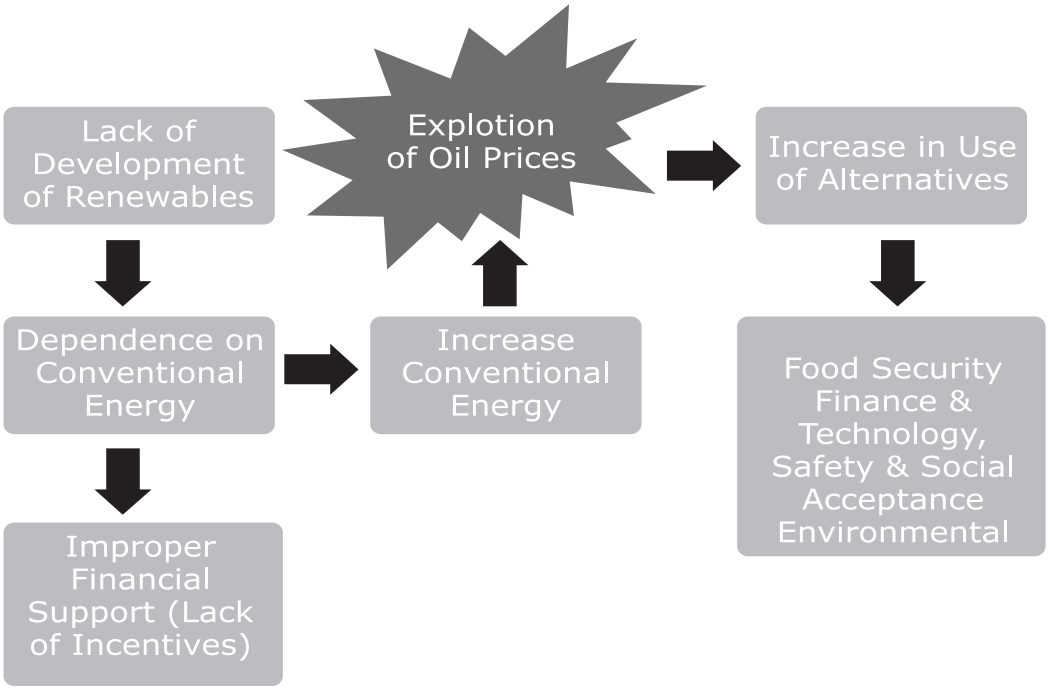
As a group of young, responsible and passionate Asian leaders, we have sub-divided the main problem of energy management for economic growth and environmental sustainability into three main categories for discussion. These are: (a) Social, Political, and Cultural, (b) Technological, and (c) Economic issues. We believe that as long as these three issues are not addressed, the main problem will never be resolved.

Social, Cultural and Political Problems

There are a variety of social, cultural and political issues that contribute to environmental degradation and the unsustainable use of resources. The group believes that these mindsets and practices greatly perpetuate our problem and have to be addressed. The problems create a vicious snowball effect that leads to environmental destruction. The main cause of the problem is the lack of proper education and public awareness in most countries. It leads people to have little concern for the environment, exemplified by over-consumption of unnecessary goods and production of non-recyclable waste. Moreover, the lack of education has also led people to have little concern for the means of waste disposal. As mentioned earlier, due to rapid economic growth, most Asian countries are more concerned about developing their own economies while neglecting the negative impact they create. For example, although China is gaining 8 – 10% yearly in GDP growth, the overall impact of its environmental condition is appalling – it has high pollution rankings across several categories – while several East Asian developing countries are regrettably moving in the same direction. Also, people are reluctant to move out of their comfort zones and hence have developed negative attitudes towards energy consumption and environment conservation. Because of these reasons, energy is used inefficiently.

Although increasing amounts of energy resources are consumed, it does not result in commensurate productivity. This trend is made worse by high levels of corruption and improper law enforcement because of the lack of transparency among several developing states which result in expensive energy supplies and inefficient resource allocation. Some countries do not protect the environment and are not held accountable for it.





Economic Problems

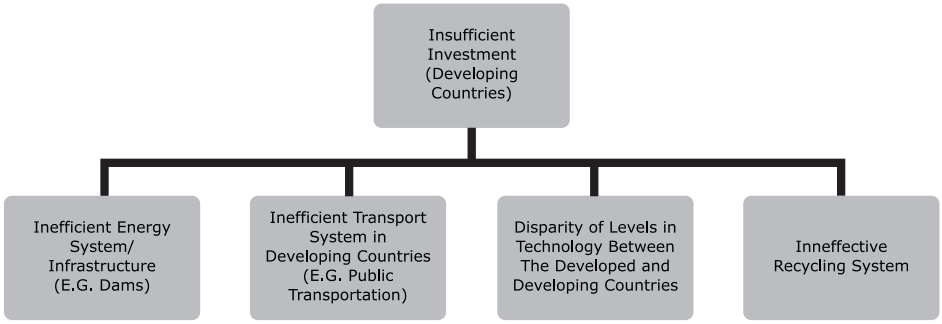
There are two main issues in the economic category. These are (a) fiscal policies and (b) inefficient market mechanisms.

Firstly, under fiscal policies, it should be noted that there is insufficient allocation of budget for renewable energies. Tax incentives have been allocated ineffectively where corporations benefit without acting responsibly. In addition, USD 160 billion was spent in Indonesia to subsidize the usage of oil specifically for transportation and USD 60 billion for electricity production.

Secondly, within the last decade, we have seen an increase in dependency on conventional energy. This is due to the lack of development of renewable energy infrastructure in mainly developing countries. Prices of oil have been continually increasing. Another perspective is the monopoly of production and distribution of energy. This is beneficial only to the supplier due to a lack of price competition.

In order to cope with shortages and higher demand for energy, the production of alternative energies has increased, especially bio-fuels. This has provoked a shift in the cultivation of edible crops for fuels instead of food. Furthermore, according to Wetlands International 2008, Indonesia has increased its land use for cultivating palm oil trees for the production of biodiesel. This has resulted in the country's rise

from being the 21st on the list of the world's top carbon emitters to 3rd globally. The situation has arisen through the massive burning of portions of land for the cultivation of palm oil trees. Besides the issue of food security mentioned above (food crops vs. fuel), the shift to alternative energy has also led to other setbacks. These can be grouped into - finance and technology (expensive ultra-high end technology for solar photovoltaic cells), social acceptance and safety (proper nuclear waste disposal and security) and environmental assessment (ecosystem destruction by construction of macro-hydro facilities).



Technological Problems

Technology is a fundamental force in economic development. However Asia has not been able to utilize technology to its fullest potential. Issues regarding technology stem from one big problem - lack of investment in research and development. Additionally, the disparity in technology levels between developed and developing countries hinders the transfer of knowledge. Furthermore, it leads to ineffective infrastructure such as incompetent transport and recycling systems.

Conclusion

Social, Cultural and Political Solutions

- To urge various parties to propagate the concept of ethical consumption such as preference for eco-products through the media and academic curricula. (Propagate ethical consumption through the media and academic curricula)
- To provide a sufficient budget and incentives toward promoting environmentally friendly acts. (Budget and incentives for environmental friendly acts)
- To promote environmentally friendly development projects through cooperation and consensus between government and stakeholders. (Cooperation in consensus between government and stakeholders)
- To create information transparency through a reliable feedback system with NGOs or independent bodies, who act as alternative voices that check and balance the government's performance in energy. (Transparency, reliable feedback system, checks and balances)
- To implement an integrated analytical framework between overall planning, financial decisions and policy planning such as energy audits, guidelines, standards, and others within the energy sector. (Implement overall integrated analytical framework for energy)

Economic Solutions

- Managing demand-side properly through regulation of oil consumption quotas and progressive tariffs of oil used at excessive levels. (Oil consumption quotas, demand-side management)
- Discouraging monopolies of energy production and distribution through open market mechanisms – unrestricted access, heightened competitiveness, etc. (Open market mechanisms)
- Nurturing a conducive environment for renewable energy producers and distributors. (Expand market for renewable energy)
- Overcoming the threat of future food scarcity by putting a cap on land used for bio-fuel crops and ensuring that crops used for bio-fuels are not edible. (Limit the land used for bio-fuels, crops should be non-edible)
- Gradually removing the fossil-fuel pricing subsidy and restructuring it into a direct subsidy for selective groups of society to increase their quality of life. (Direct subsidy)
- Reallocating portions of the national budget from oil subsidies into investment for renewable energies. (Budget reallocation to renewable)
- Developing proper incentives to reward eco-friendly entities (ex. tax breaks, rebates), appropriate disincentives to penalize polluting entities (ex. fines, taxes). Such mechanisms refer to the Clean Development Mechanism (CDM) and other similar systems. (Mechanisms of incentives and disincentives)

Technological Solutions

- Optimizing the economic feasibility of alternative energies by finding new energy substitutes (ex. algae cultivation), and enhancing alternative energies' production system (ex. biomass production system). (New energy substitutes and enhance renewable energy production system)
- Strengthening financial support, human capital development and technology infrastructure to suit local demand, through global cooperation for transfer of technology. (Proper and localized transfer of technology)
- Encouraging and incentivizing the research and development of new technologies with regard to renewable energies to ensure environmental sustainability. (Government – for community purposes, private sectors – mainly for economic purposes, universities, etc.)

Perspectives

As young Asian leaders, we feel that future representatives should have the opportunity to establish networks at a much earlier stage, such as through the Hitachi Young Leaders Initiative.

The attitude of citizens in each country has to change so that they care about issues in Asia as much as issues in their own countries. Respecting historical conflicts will greatly facilitate economic integration, regional energy security, and environmental sustainability. Organizations from developed countries also have to adopt an open mind when dealing with other organizations from developing countries.

Ideally, strengthening transparency, checks and balances between East Asian states without sacrificing sovereignty would be essential in order for the ASEAN body to impose regulations and standards while enforcing punishments when countries' members flout these regulations and standards.

However, there are limitations to the hopes that we have. Due to economic disparities among developed and developing countries, the idea of an East Asian Union is a far-fetched one. Furthermore, the commitment of developed countries to investing and contributing to the funding of projects in developing countries is questionable, given the different political stability and level of technology in these developing countries. A worrying trend could be that developing countries prioritize economic development over human resource

development. This happens when countries would rather import technology, expertise in technology and management than nurturing it within their own country (although it must be noted that the original set-up has to be imported).

In conclusion, the recommendations have to be implemented immediately in order to combat the pressing issues highlighted at the start of the paper. By doing so, we would ensure that our future would not be as bleak as we paint it to be; a brighter cleaner future with sufficient energy management and substantial economic integration. Once the recommended set of actions is taken, then environmental sustainability WILL BE achieved.