MALAYSIA

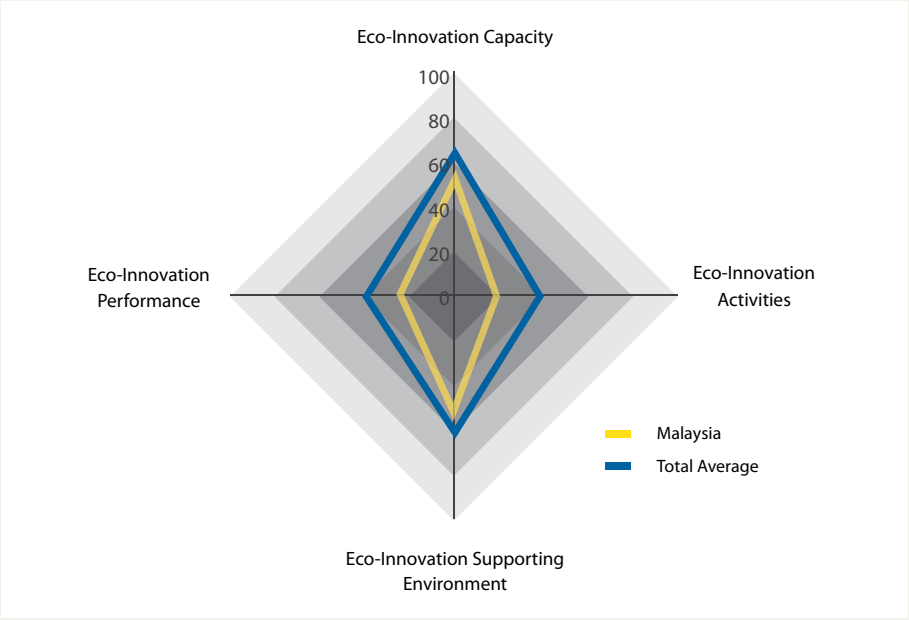

Fig. 17 Result analysis of Malaysia

Country Result & Analysis

With an overall score of 38/100, Malaysia falls below the average of ASEI. In regards to "eco-innovation capacity", Malaysia shows average scores in "general innovation capacity" level and country's "overall economic competitiveness" but low scores in the value of investment capital flow and jobs in green technology industry. For the indicator, "awareness level on sustainability management" Malaysia positions higher than most of the Asian ASEM member countries examined. In the area of "eco-innovation activities", Malaysia positions below the average in all six indicators behind the measuring criteria; "number of green patents", "turnover of environmentally friendly companies", "renewable energy utilization level", "number of green technology SMEs at early stage", "level of environmental management" and "level of commercialized green technology SMEs". For "eco-innovation supporting environment", the country shows below average scores in the "level of investment maturity of green technology industry", "level of government's R&D expenditure in green industry", and "level of participation in international environmental treaties" however, the country scores high for having a good "level of environmental laws". In the area of "eco-innovation performance", the country shows low scores in water consumption and CO2 emission intensity levels. However, for the size of the economy and GDP, the country performs respectively well in the "size of the green industry market" and the "level of environmental impact on society". Overall, Malaysia ranks below average on the ASEI index.

Malaysia's Key Eco-Innovation Environment

There are signs that the Malaysian government is just beginning to understand the concept of eco-innovation. National programs and policies promoting eco-innovation are just beginning to emerge in the recent years. Two years ago, the Malaysian government started the Green Technology Financing Scheme (GTFS) that provides loans with two percent subsidy in interest rates and 60 percent guarantee to green companies. With a fund of 1.5 billion RM, this governmental project has offered loans and investment for 6 projects as of 2012 with the support of 20 financial institutions. Such national scheme will enhance the development and performance of green technology companies, accelerating the expected outcomes and activities of eco-innovation.

Launch of National Policy for Green Technology

In 2009, the Malaysian Government launched the National Green Technology Policy to actively promote green technology as a driver of eco-innovation. To enact this policy, the government restructured the Malaysian Energy Center to GreenTech Malaysia (Malaysian Green Technology Corporation) to support the Ministry of Energy, Green Technology and Water (KeTTHA). The National Green Technology Policy has five objectives; 1) to minimize growth of energy consumption while enhancing economic development, 2) to facilitate the growth of the Green Technology industry and enhance its contribution to the national economy, 3) to increase national capacity for innovation in Green Technology development and enhance Malaysia in Green Technology globally, 4) to ensure sustainable development and conserve the environment for future generation, and 5) to enhance public education and awareness on green technology and encourage its widespread use. Under this policy, the government has also established the Green Technology Financing Scheme (GTFS) to improve the supply and utilization of green technology. With a budget of 1.5 billion RM, the scheme is supporting more than 100 companies.[76] The Malaysian government is further working in collaboration with the EU to create and develop green technology market in Malaysia. In the recent 3rd International Greentech and Eco-products Exhibition launched in October 2012, a seminar was launched under the theme of "Financing Solutions for the Future of Green Growth in Malaysia". Such seminar was hosted by the European Union-Malaysia Chamber of Commerce and Industry (EUMCCI) in collaboration with Malaysian Green Technology Corp and the Ministry of Energy, Green Technology and Water (KeTTHA).

Government's Effort to Activate Eco-industry Market

The Malaysian government has put efforts in establishing various programs to activate eco-industry market. As one of them, the GreenTAG Endorse Program was established with the objective to encourage more producers, manufacturers, importers, service providers, wholesalers and retailers to produce green products and services. The GreenTAG Endorse program provides information to consumers to help them make sustainable purchasing decision and at the same time encourages producers to create sustainable products through eco-innovation. Government is also using the Economic Transformation Program (ETP), an initiative to encourage green products and renewable energy. Through ETP, it has been reported that Malaysia is expected to create 53 billion RM of GNI by 2020 through green industries. Moreover, it has been reported that Malaysian green industry market already sized 67 billion RM and grew 6 percent between 2010 and 2011.[77] ETP along with The Malaysian government is putting effort to increase awareness of eco-innovation in the market mechanism through programs such as ETP, GreenTAG and feed-in tariff-system towards renewable energy solutions.

Industry Specific Eco-innovation: Automotive Industry

The Malaysian government is stimulating eco-innovation in specific industries by integrating the concept into industry specific policies and sub-policies. Malaysia is well known to be the global automotive hub, offering opportunities for global automotive and component manufacturers to set up manufacturing and distribution operations in the country. The automotive industry has been developed further by the establishment of national car projects such as Proton and Perodua. In 2009, the Malaysian Government reviewed the National Automotive Policy (NAP) and introduced several sub-policies related to energy efficiency and the use of green technologies. The new NAP promotes hybrid and electric vehicles to make Malaysia a regional and global hub for energy efficient vehicles (EEVs). This is encouraging a shift from fuel efficient vehicles to hybrid, electric and alternatively fuelled vehicles such as compressed natural gas (CNG), liquefied petroleum gas (LPG), biodiesel, ethanol, hydrogen and fuel cell. The newly revised policy also promotes automotive recycling to ensure the

[76] *Ministry of International Trade and Industry, www.miti.gov.my/*

[77] *http://www.aseanaffairs.com/malaysia_news/environment/pm_malaysia_electric_cars_on_the_roads_soon*

sustainability of the industry. The government is encouraging the increase of sales and production of hybrid vehicles through tax incentives, new model launches, consumer education and funding for hybrid vehicle projects. Malaysia is promoting industry specific policies and providing necessary funding to activate eco-innovation in targeted industries.

Eco-Innovation Case Studies

CASE STUDY 1

Proton

Proton is a national car manufacturing company established in 1983. Proton's hybrid feasibility study started in 2004 and hit its stride through government's large-scale grant funding given for research and development of hybrid cars in accordance with National Automotive Policy (NAP) Review. Patron is currently collaborating with UK-based electric & hybrid vehicle technology company, Frazer-Nash Research, and South Korea-based LG. A large support from the government and cooperation between industry and universities have enabled Proton to go further in developing and researching in green technology in the automotive industry. Proton received large amount of grants from the government; 270 million MYR (89 million USD) in 2010, and 100 million MYR (33million USD) in 2012. In 2011, Proton's electric car model 'Saga EV' and extended range electric car model 'Exora REEV' had been subjected to the fleet testing program. Malaysia government is still very positive on the possibility of commercialization of hybrid cars and promised to offer 120 million MYR grants to Proton in 2013. In recent Proton Green Mobility Challenge 2012, it has been announced that the company is expected to gain profits after commercializing EVs in 2014.

Source: http://corporate.proton.com

CASE STUDY 2

Return2Green Sdn. Bhd.

Return2Green (R2G), established in 2009, is an SME which develops and manufactures 100 percent degradable packaging products using biomass. R2B's bio-degradable eco-packaging products are disposable plates, bowl, medical disposal packaging products and AV/IT disposable packing made of polystyrene or plastic. The main material of the products is sugar-cane waste (husk) that degrades and returns to nature within 45-180 days of composting. In 2010, R2B commenced mass production at its new factory attached to a research center. The production process complied with the international quality system such as FDA, HACCP, ISO 9001 and LCA & GMP standards to prepare for exportation of products to foreign countries. As a starting point, R2G is carrying forward Green Technology Park Project which involves the construction of a Bio Tech Center to process agricultural waste into eco-packaging products with the government of Ghana and Africa2Green.
R2G is one of the 217 SMEs which awarded Bio-Nexus status from the Government and the SME Innovation Award 2012 in green technology sector. The Bio-Nexus companies were provided with fiscal supports including Seed Fund, R&D Matching Fund and International Business Development (IBD) Matching Fund as well as tax incentives. They were also provided with non-fiscal support such as corporate management education, accessibility to local laboratories and infrastructure for product testing and research and networking opportunities with other Bio-Nexus companies.

Source: http://return2green.com.my

CASE STUDY 3

Exis Tech Sdn. Bhd.

Exis Tech Sdn. Bhd. (Exis Tech), founded in 2002, is an original equipment manufacturer testing segments for semiconductor and automation industries. As the company seeks sustainability, Exis Tech demonstrates its dedication to introduce green process activities for production. Such effort is well shown in its 'green factory,' a newly constructed facility to target reduction in environmental burden and production costs. Main criteria to be considered and targeted in establishment of the green factory include high energy & resource efficiency, GHGs emission reduction, renewable energy use, environmental certificates, compliance with environmental regulations and etc. Through application of green processes such as water resources with rainwater harvesting, fluorescent lights with LED lights, and etc, Exis Tech is expected to reach not only transition to green process but also great economic benefits. The projected advantages include reduced GHGs emission of 79 tons of CO2 and reduced annual electricity consumption of up to 114,411 kWh which leads to saved cost of approximately 10,000 USD.

Source: ASEIC (2011), ASEM Eco-Innovation Consulting Projects for SMEs Best Practices in Malaysia