DRAFT OPENING ADDRESS

YB DATUK SERI PANGLIMA DR. MAXIMUS JONITY ONGKILI
MINISTER OF ENERGY, GREEN TECHNOLOGY AND WATER MALAYSIA

5TH NATIONAL ENERGY FORUM
3RD SEPTEMBER 2013, DORSETT GRAND SUBANG,
SUBANG JAYA

Ladies and Gentlemen,

A very good morning to all.

First of all, I would like to thank the organiser of this Forum, the Energy Council of Malaysia (ECOM), Energy Commission and Malaysian Gas Association, for inviting me to address such a distinguished gathering of energy experts and policymakers from government and industry. The theme of the forum "Delivering A Sustainable Energy Future For Malaysia", is indeed apt and timely as Malaysians strive towards achieving our Vision 2020.

Ladies and Gentlemen,

Global Energy Trend

Against the backdrop of a world population of 7 billion people, the latest report of the International Energy Agency (IEA) predicted that global energy consumption will increase by 36% in 2035 against that of 2008. Meeting this demand will require adding one new power plant and all related infrastructure every week for the next 20 years. Since the industrial revolution, there has been a strong correlation between economic growth and energy use. Reducing or even breaking this link has become one of today's most vital challenges.

The upward trend in energy consumption is reaffirmed in the 2013 edition of BP Statistical Review of World Energy. It is reported that in 2012, the global primary energy consumption rose by 1.8% from the previous year to 12,477 million tons of oil equivalent. Even though primary energy consumption in OECD countries dropped for the fourth straight year due to economic slowdown and continued improvements in fuel efficiency, non-OECD countries recorded a firm increase of 4.2% in 2012, attributed to relatively higher economic growths, rising population and energy subsidies. Among regions, Asia recorded the fastest primary energy consumption growth of 4.7%, driven by a 7.2% increase in China and a 5.1% increase in India.

Under this present situation, balancing supply and demand is complex enough but the situation is further complicated by the climate challenges that the world faces. Keeping global warming to 2 degrees Centigrade or less requires that we severely constrain our use of hydrocarbons for energy. However the “painful truth” is that fossil fuel consumption is generally and remarkably firm. According to the same BP Statistical report, coal accounted for 101 million tons of oil equivalent (Mtoe) or 40% of the 252 Mtoe primary energy consumption increase in 2012. This was followed by consumptions in gas and oil, contributing to an increase in usage of fossil fuel by 223 million tons. As a result, till now, fossil fuel remains the dominant fuel source in the global energy market. We can further conclude that the world is going to depend on hydrocarbons for many years to come. The challenge now is how do we balance these apparently conflicting requirements? Are the issues of energy security and climate change best addressed by reducing fossil fuel combustion?

The Shale Gas Revolution

Meanwhile, technological developments in producing gas from shale have substantially increased its economically recoverable reserves. The US shale revolution is a factor that could influence the interdependent relations between

countries. The United States could become one of the world's leading LNG exporters by 2020 and shale oil production could increase substantially more than expected. Apart from the US, massive offshore shale gas reserves, exceeding 1,000 trillion cubic feet (tcf), was discovered in United Kingdom. This could position the United Kingdom as another of the world's top gas producers.

This indicates that Malaysia and other present oil and gas exporters to the Asian market have no choice but to take into account the great influences or impacts of the shale gas revolution. There are many factors we cannot ignore in anticipating the future course of Asia. This includes the changes in the heavy and light crude oil flows, the US oil refining industry, its petrochemical industry and its petroleum product exports and their impacts on the Asian market.

Since natural gas is the least carbon-intensive fossil fuel, its increased use will reduce growth in carbon dioxide emissions. However, the shale gas revolution, which could improve the energy security of many countries, could be on a collision course with climate change mitigation efforts. The practice of hydraulic fracking has been controversial, with environmentalist claiming that it will cause more harm than good. Apart from contamination of underground waters, there is evidence that the first stages of the fracking activities in the Blackpool site in England had caused two small tremors in April and May 2011. The European Commission, in its report on unconventional gas in the European Union in 2011, revealed that the shale gas development in most member countries may be delayed by concerns about seismic activity and polluted ground water. Fracking experts have since recommended a smaller pre-injection and monitoring stage, as well as an effective monitoring system to provide near real-time locations and magnitudes of any seismic events as part of any future fracking operations.

Ladies and gentlemen,

Energy Security Policy

Malaysia's energy security is dependent not only on developing our indigenous energy resources but also on diversifying our energy supplies from foreign sources. With regards to electricity, we want to ensure that we have adequate supply to meet demand and a diverse range of sources, from gas and coal, to hydro and renewables. With gas it has to be considered that it is important to the three major sectors, that is, for power generation, for cooling requirements in the commercial sector, and for industrial usage. We need to maintain a diverse range of suppliers, which at the moment includes domestic production, connection to neighbouring countries, and importation through the LNG regassification terminal which was recently commissioned in June 2013. With oil, which we use mainly for transport, we again need to ensure a diverse source of supply from domestic as well as foreign sources. This need for diversification of supplies is also pertinent for the coal imports for the county.

There is hardly any doubt that energy security will remain high on any government agenda. In Southeast Asia itself, apart from Malaysia, several new LNG receiving terminals have started receiving LNG cargoes. Singapore's LNG receiving terminal has started receiving commissioning cargo in March 2013, following the terminals in Thailand and Indonesia. Development of several LNG exporting projects around the world, particularly in the Pacific coast of Canada, are advancing well, with an eye on sales in the Asian Pacific region. Even Russia looks increasing likely to liberalise its LNG exports to accommodate more new exports projects.

Ladies and Gentlemen,

Energy Pricing

For any country to grow economically, the cost of energy has to be reasonable and affordable. So far, we have achieved high economic growth amidst huge subsidies to ensure reasonable and affordable energy prices. Yet, once introduced, such subsidies are hard to remove, as we have seen from the riots in Nigeria and Indonesia. But as energy costs rise, so does the cost of Government subsidies, which will rise to levels that may damage the country's economy.

This will pose a severe constraint for future growth and sustainability of the energy sector. Without doubt, the faster we move to market pricing of energy, there will be more likelihood of us being competitive in the future. The subsidy rationalization programme which was introduced by the Government, is aimed at correcting the price distortion and gradually bringing the price levels to market pricing in line with the affordability of the people.

In line with those efforts, our Government recently introduced incentive-based regulation (IBR) frameworks for electricity and gas tariff determination. For a start, the IBR framework for electricity tariff setting for Peninsular Malaysia will commence in January 2014. The framework is designed to drive efficiency, reduce costs and improve service levels of the utility, with incentives for exceeding performance targets and penalties for non-performance. Under the IBR framework, a fuel cost pass through mechanism will be implemented to take into account the variability in fuel prices, particularly the coal and LNG prices, apart from the gradual removal of subsidies of indigenous gas.

Ladies and Gentlemen,

Is Renewables The Choice?

In dealing with the threatening climate change, there has been a concerted effort worldwide to shift to non-fossil energy sources. Nevertheless, curtailing fossil fuel use will inevitably raise the cost of energy. Investments in the system of producing, delivering, and using energy would have to be increased, reducing the funds available for other worthwhile investments. Alternative energy sources are also currently much more costly, especially when one takes into account their frequent unavailability and short-term variability, the inability to schedule their time of supply, their remoteness from the load centres, and their low energy densities. At best, alternative energy sources, particularly renewables, can complement conventional energy sources. Without doubt, it will take some time to solve all these issues through research and operating experience, before it can be considered as a credible replacement for conventional energy.

Nevertheless, the pursuit for renewable energy or RE would indeed be the noblest endeavour we could make in this century for the benefit of our planet and children. More research and development efforts will need to be undertaken to reduce the technical and economic barriers to large scale development of RE plants.

Demand Side Management And Energy Conservation

In line with our climate change responsibilities, we have to work hard to reduce demand, improve energy efficiency whilst also developing our own resources where we can. While we focus on the next 5 to 10 years into the future to achieve a high income nation status, we have to conserve to preserve and energy efficiency would be the first initiative in a long list of things we need to do, apart from bringing the current energy prices to market levels.

In this regard, unfortunately, many companies take a reactive approach to energy issues. People always look for fast solutions when energy prices rise or

when new regulations come into force. However, the best energy efficiency benefits are achieved when there is a process and commitment for continuous improvement.

For example, a manufacturing plant can achieve energy savings of 10 – 25% by taking a systematic, strategic approach to energy efficiency. The business impact of this can be significant for industries where energy is a significant percentage of production costs, such as cement (30 – 40%) or steel (as much as 50%).

The biggest challenge is for companies to understand where and how energy is being used in their operations and buildings. Smart technology in monitoring and reporting can help plant managers to set energy savings and efficiency targets. Process operators can view performance in real time and make better decisions, or even automate efficiency by linking energy management to control systems. Manufacturers can plan and optimize their energy usage by accurately predicting production demand. Demand management such as scheduling a certain energy-intensive process when electricity rates are lowest, or postpone some activities if their energy demand will exceed supply, which is often penalized by higher electricity rates, will help in lowering energy cost. Toward this end, the Energy Commission is working with TNB to look at the possibility of introducing enhanced Time-of-Use tariff, which provides a much better choice for demand side management.

Many industries lack baseline data for energy efficiency efforts, making it difficult to benchmark performance. Lack of energy literacy often clouds the business case for energy efficiency and decisions on energy efficiency investments are difficult to be convincing against the company’s growth-oriented alternatives.

Although the Government offers investment incentives, the commercial banks have not yet developed a broad range of finance offerings for energy efficiency projects. New financing products need to be developed that ensure risks and

benefits are distributed fairly among all stakeholders, which can be offered at rates that make a good business case.

At the consumer end, single initiatives like banning incandescent lights with the attendant use of efficient lighting such as LED lights, could produce positive results. For example, the European Commission projects which ban the use of energy-inefficient bulbs will save about 40 terawatt hours of energy in the EU per year, which is said to enough to meet the energy demands of a small country. In addition, it is said that it could also save about 25 million tons of carbon dioxide emissions per year. It is indeed heartening to see that even developing countries have taken aggressive steps to rid the world of incandescent lights.

Smart Grid

In its efforts to promote energy efficiency and the use of renewable energy, the government realises the importance of having a smart grid to address the various issues that will arise. Towards this end, efforts are being made to implement various aspects of smart grid technologies into the assisting grid and to implement it in a gradual but firm manner.

Ladies and Gentlemen,

Conclusion

As we progress into the future, delivering a sustainable energy future for Malaysia will be of paramount importance and this will not be very different from the approaches in other countries. Critical issues surrounding energy security, climate change, energy prices, subsidy rationalization, reliability and intermittency of RE plants, and initiatives for energy efficiency and demand side management will be high on the Government's agenda for sustainability.

Most countries will harness “green energy” such as solar, wind and other renewable energy, to provide distributed power sources to complement conventional power plants. It is anticipated that new demand-side equipment, including electric vehicles and hybrid electric vehicles will become more widely adopted. The energy management system needs to be able to support the diversified energy sources and new issues that come along with it.

None of us live in a vacuum. The world needs energy and if supplies are inadequate, prices will escalate, economies will be damaged and ultimately conflicts will follow. We have to continuously work at addressing all those issues. To walk away from it all is never an option when our planet and all its living things are on the balance. The developed countries have called upon developing members to also do their part. This time we have, and many of us have put our offers on the table, including Malaysia, which has offered a 40% carbon intensity cut on condition of support and assistance from the developed countries. It is timely that we all adopt a green way of living. To achieve economic growth, it is essential to create a balance between the demand for energy and the energy resources we have at our disposal. That is only possible if we become better at using energy in intelligent ways, while at the same time diversifying our energy sources.

Once again, I would like to thank the organizers for giving me the opportunity to share my thoughts on delivering a sustainable energy future for Malaysia.

Thank you.