ENERGY AND THE ENVIRONMENT

By Joergen Oerstroem Moeller

The figures are crystal clear. The same goes for the message they convey. Over the next twenty-five years — to 2030 — world consumption of energy will rise by approximately 55 per cent. Most of the rise will come from Asia excluding Japan, with an annual increase of 3.2 per cent, equal to a doubling of energy consumption by 2030. China and India are in the forefront.

Recalling an estimated annual economic growth rate of 5.89 per cent for this part of the world, these figures do not come as a surprise.

The price of oil reached more than US$90 per barrel in November 2007. Irrespective of how one looks at it, the conclusion seems inevitable that future rising demand will continue to boost oil prices. A switch to other energy sources is possible depending on price and demand structure, but this takes time, requires large sum of investment, and will sometimes be under political scrutiny as in the case of utilizing nuclear energy.

A forecast by the U.S. government with two scenarios for the oil price in 2030 — one at US$100 and another at US$34 per barrel — concludes that the total world energy consumption in 2030 will not differ much, but the composition of energy sources will. (See http://www.eia.doe.gov/oiaf/ieo/world.html.)

With a lower oil price, the incentive to switch from oil to other sources will be feeble. The world continues to be heavily dependent on oil, which is a major source of greenhouse gas emissions. If the price of oil goes up, substitution will take place, but to a considerable extent to coal (coal will then overtake oil as the most important source of energy), which produces even more green gas emissions.

In the context of energy and environment, this is discouraging. A substantial reduction of emission levels would require a major switch into more sustainable energy sources, but that will not take place irrespective of the level of oil prices. Fossil fuels will continue to be the dominant source of energy by far. This leads to the next conclusion that even with a continued drive to switch to clean energy sources, reduction of greenhouse gases must primarily come from higher energy efficiency and better anti-pollution technology.

Looking at energy efficiency, 2004 was a decisive year. Prior to that, economic growth rates surpassed the rise in energy consumption only for the OECD countries. After that year, non-OECD countries moved from equality between economic growth and rise in energy consumption to much higher energy efficiency — economic growth clearly surpassing rise in energy consumption. This augurs more production per unit of energy used for the world as a whole.

It can be expected that energy efficiency will continue to improve until 2030 for both OECD and non-OECD countries. New equipment will be much more energy efficient than existing ones, not the least because of the growing environmental awareness of greenhouse gas emissions and climate change opening the door for economic incentives and possibly regulatory measures to that effect.

Human activities are almost universally acknowledged as a driver of global warming, but scientists have not totally agreed upon the proportion generated by human activity and by other causes. The same vocabulary applies to climate change. Scientists agree that there will be climate change, but not totally on how much and how this will affect the globe. These differences or uncertainties are used and misused in political debate by some players to pursue their own agenda; not surprising in view of the economic and political interests at stake. Nation-states and enterprises have intervened in the debate to defend vested interests.

For most of the twentieth century, the annual rise in sea level was between 1 and 2 mm but it has accelerated at the end of the century to approximately 3 mm. A number of prognoses for the end of the twenty-first century are at hand. They vary from small changes to rises of over 1 metre or more in worst-case scenarios. Suffice to mention, a rise of 1 metre would submerge the Maldives and make parts of Bangladesh uninhabitable; hence these figures are of major economic and political significance.

Under tha same scenario in Southeast Asia, parts of capitals, major cities and important geographical areas may be threatened. Instability in weather conditions (El Niño, typhoons) could also be added. If some of the worst-case scenarios materialize, Southeast Asia may face unprecedented challenges. This cannot be overlooked by policy planners in Southeast Asia.

If the U.S. government study is correct, high oil prices will not in itself change relative prices sufficiently to solve the problem. We cannot count upon the market mechanism to combat global warming.

A deliberate policy primarily based on a combination of fiscal measures, subsidies and restrictions seems to be what is needed to bring about higher energy efficiency and introduce incentives to switch into renewable energy sources where sun energy, wind power and bioetanol are on top of the agenda. The difficult item, however, is bioethanol, where a drive to convert areas to produce bioethenol could create a scenario of a jump from the frying pan into

ENERGY AND THE ENVIRONMENT (continued)

the fire. A sharp reduction in forests will cut into what is called the world's lungs and further diminish the global capacity to deal with greenhouse gases. It will also produce pollution in the form of haze as has been seen several times. The ethical perspective of using farmland to produce energy springs to mind with the observation voiced in a hearing in the U.S. Congress that 800 million people behind the wheel of their car competes for land with 2 billion undernourished people in the developing world. If managed incorrectly, bioethanol may not be the blessing it has promised to be.

Meeting after meeting — for example the 2007 APEC summit in Sydney — have announced the imperative of doing something about the emission of greenhouse gases and global warming. These are often accompanied by objectives and goals normally measured by a quantitative reduction of emissions within a certain time scale or period. The same meetings are conspicuously more silent about how to go about achieving this.

Behind this hides one of the most brutal battles about burden sharing that the world has seen for a long time. The industrialized countries are ready to take the lion's share of cutting greenhouse gas emissions, but not to the extent wished by the newly industrialized and developing countries. These countries are willing to do something, but at the same time display suspicion — not that the issue is invented to keep them in check — but that the rich countries see it as an opportunity for doing so. In the years to come this battle unfold before our eyes.

Southeast Asian countries are at a crossroad. They have a leg in both camps. ASEAN has oil exporters and oil importers. It will not be easy to sketch a common position, but it will be even more difficult not to do so. After all, this is going to dominate the agenda in the years to come.