



Future energy

Several recent articles in the international press have indicated that evidence shows that the rate of climate warming is not quite what was being promoted last decade, with the related dire consequences if we did not drastically reduce our dependence on fossil fuels spewing forth harmful carbon gases, especially CO₂.

It now seems that the warmest period of last century was between the two World Wars, before the rapid ex-

pansion of population growth from the 1960s and 70s and attendant industrial expansion, especially in emerging markets, over the past 30 years.

Some are now also predicting that we are in for a cool decade, stating that Arctic ice has once more started to spread, and significantly. This past year the Northwest Passage for the first time for a while was closed to summer-time shipping.

It is thought a funny thing that without a goodly content of CO₂ in our

atmosphere there would be no plant life, without which there would be no animal (including human) life.

This does not mean that we should not be promoting renewable or just clean forms of energy. In the longer term we shall increasingly have to rely on alternatives to fossil fuels although there remains sufficient of these in their several forms to provide the energy needs for most parts of the world for a very long time.

Fossil fuels will remain the foundation for energy supply for many decades ahead, especially for industry and large urban areas of which, by mid-century, will be home to some 70% of the world's population, or over 6 billion people.



This is already beginning to affect urban design, which will have to find energy solutions that are a mixture of large bulk major plant supply, probably through coal-fired stations, combined with locally-applied renewable energy inputs, for which solar approaches, perhaps linked to water collection, could well be adapted.

No shortage of options

Energy policies have to be pragmatic and realistic. Indonesia is well blessed with a wide range of energy options for today's needs and for many decades into the future, whether fossil-based or renewable, and capable of sustaining the demands of both urban and rural growth even without looking further into the nuclear option. It is also capable of supplying the needs of other countries, especially via coal even when cleaner supplies will be requested.

The important issue is to have a well-balanced and thought-through energy policy, but today this is far from clear. The production of new supply of energy nationwide continues to fail to meet the demand that is or could be there to support sustainable economic growth. In turn, this leads to underperformance and lack of power supply continues to thwart large areas of regional development, especially when not linked into the public sector grid system.

It is in the regions that several of the proven and viable renewable forms of energy are well-placed to support many regional needs, with many hydro or mini-hydro projects identified, many realistic options for solar in the sunshine areas of eastern Indonesia, some particular agricultural areas for biomass production and much greater application of geothermally-generated power, especially along the Ring of Fire through Sumatra and Java/Bali. Wind



turbines, while having a part to play in places such as Mongolia, offer little to the Indonesian power equation.

It is well understood that delivery of the power required needs considerable technical and funding input from the private sector. There is insufficient funding available from government. However, fair and transparent regulatory instruments to attract the private sector in order to achieve even a reasonable proportion of what is required remain elusive. They are not on the table, even though encouraging noises can be heard. It is more than time that clarity is provided and that a significant increase in the number of identified power projects is seen to be underway.

It would be good to see a commitment of another 2,000 MW or more of hydro, geothermal and solar power completed and operating across the country, powering regional development by 2018. Certainly this is physically possible but will government be in tune to implementing this?

Elsewhere much research is going on towards the next stages of solar

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power development. Strides are also being made for the potential successful harnessing of wave and tidal energy, although outputs from these sources are not likely to be more than local in effect for the foreseeable future. And other minds are experimenting with energy applications that are not yet in the general domain. Remember Telstra?

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