

Is Nuclear Power Sustainable?

Terence Jeyaretnam

Nuclear scientist Leslie Kemeny recently claimed in the Australian Financial Review (AFR) that Australia has 40% of the world's uranium reserves, but does not generate one kilowatt of carbon-free nuclear electricity from it. We export uranium all around the world. It already accounts for one sixth of the global power production. Yet, in Australia, it does not even merit discussion on topics such as greenhouse gas abatement and carbon tax. Is this because of cost constraints, or community acceptance? More than likely, both. Add to that the unknown issue of nuclear waste disposal and the deep-rooted reliance on coal, and you have a potent mix of issues that the coalition government has not dared stir up. Yet, various governments have continued to permit expansions in uranium mining in Australia.

When discussing sustainability, the tension and trade-offs between environmental, economic and social considerations are often central to the subject. In addition, incorporation of ethical parameters in the debate has also become a trend of late. Nuclear energy involves economic (financial gain to be made from proliferating a carbon emission-free energy source, yet a reliance on coal-based economy), environmental (reduced greenhouse impacts, but significant hazardous waste issues, including 'not-in-my-backyard' syndrome), social (potential for nuclear zones/radiation accidents/disasters/terrorist target issues) and ethical (perception that 'nuclear' equates to evil – arising from use of nuclear weapons of mass destruction). A complex set of issues that the politicians would rather treat as a can of worms.

As recently well-enunciated in the AFR (01/09/04), scientists are increasingly leaning towards exploring replacement sources of energy to the traditional fossil fuels, including the controversial. James Lovelock, the scientist that originated the Gaia theory of the Earth's biosphere as a living, self-regulating entity more than thirty years ago, now believes that we must embrace available science – such as nuclear – to give the Earth a rest. Just as the Brundland's report suggests that we apply the 'Precautionary Principle' in considering new technologies, perhaps we also ought to apply the precautionary principle in continuing to use dinosaurian technologies (fossil fuels – pun intended) that we know are not sustainable?

Terence Jeyaretnam is a Principal at URS Australia in Melbourne, Chair of the Environmental Engineering Society (<http://ees.ieaust.org.au>) and the Editor of *The Environmental Engineer*, the Journal of the Society (terence_jeyaretnam@urscorp.com).