



Australia's radiant energy future

Long-time nuclear advocate Hugh Morgan says Australia must export uranium and store the world's spent fuel, writes **Julle Macken**.

Former mining boss and Reserve Bank board member Hugh Morgan has no doubt that Prime Minister John Howard has backed a winner in calling for Australia to become the world's energy superpower. And he argues that, after sorting out housekeeping issues like "port bottlenecks and an overregulated energy market", gas and nuclear energy could make the country become just that – the world's superpower of energy.

"We are second only to Saudi Arabia in terms of our energy abundance," Morgan told *The Australian Financial Review*.

"Which is why very few Australians understand how vital energy security is now or how vital it will become in the future. That's why I think Australia should consider nuclear power, and I think it could prove competitive and necessary in the years ahead."

This was the same comparison made by Howard recently when he addressed a Committee for the Economic Development of Australia conference, saying: "For Australia to bury its head in the sand on nuclear energy is akin to Saudi Arabia turning its back on global oil developments.

"If Australia does not engage, if we sacrifice rational discussion on the altar of anti-nuclear theology and political opportunism, we will pay a price."

However, now that Opposition Leader Kim Beazley has called on the ALP to scrap its three mines policy, and Howard has launched an inquiry into the economic viability of the entire nuclear fuel cycle, including enrichment, Morgan would seem to be well in front of the political debate.

In the early 1980s, as the operator of the Olympic Dam uranium mine and head of WMC, Morgan examined the idea of not only exporting uranium, but also taking responsibility for its storage. Twenty-five years later he is arguing with renewed vigour, telling a uranium conference in Adelaide two weeks ago: "To put together an internationally managed [nuclear] repository would bring great standing in the international community for Australia."

He says such a facility could be overseen by the International Atomic Energy Agency (IAEA) and be a partnership between the Australian government, a number of

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corporations and other governments, "whether it's France, Japan, Korea, by way of example".

While he agrees the financial benefit to

Australia would be great, he says it is Australia's standing in the international community that is most important. "This to me has always been far more important than the money. As a side issue of course, money is not irrelevant because there is a lot of money."

Morgan argues the cost of building nuclear power plants will come down now that "the US President has given approval to a design system for new nuclear plants and no one from the environment movement can object to it". This, and the growing worldwide demand, will make nuclear energy economically competitive. The design referred to is that of advanced burner reactors (ABRs), which the US Department of Energy describes as consuming "transuranic elements [plutonium and other long-lived radioactive material] while extracting their energy".

"The development of ABRs will allow us to build an improved nuclear fuel cycle that recycles used fuel. Accordingly, the US will work with participating international partners on the design, development, and demonstration of ABRs as part of the Global Nuclear Energy Partnership."

Morgan is far from alone within the Australian business community.

One consortium that has already spent "close to \$45 million" developing this idea further is the Nuclear Fuel Leasing Group (NFLG). Headed by John White, chief executive of Global Renewables and chairman of the federal government's Uranium Industry Framework, the group argues that the preoccupation with Australia's involvement in enrichment is misplaced because there is surplus capacity of enrichment facilities globally.

White told the *AFR* that it might be some time before new investment was needed or justified because of the global oversupply of enrichment capacity of between 10 and 20 per cent.

White, who is to make a submission to the nuclear fuel inquiry, argues that either Russia or Japan could be subcontracted by the NFLG, to enrich Australia's uranium.

He says that as Sweden, Finland, Russia and the US develop their involvement in their own nuclear fuel-leasing plans, Australia could make close to \$6 billion a year and achieve international credibility by agreeing to get into the full life cycle of nuclear power.

That would mean managing the mining of the uranium, enrichment and fabrication of



the fuel rods — possibly in either Japan or Russia — and the return and storage of the waste.

In this way NFLG would own the intellectual property of the management and, in conjunction with the IAEA and the United Nations, guarantee supply and safe storage for its clients in India and China.

However, White argues it is wrong to portray this as Australia becoming the world's nuclear fuel dump.

“It would be our [Australia's] nuclear fuel we would be storing,” he says.

He argues the business case is such that the enterprise would be readily financed by the NFLG, without government subsidy. Even with NFLG financing all the start-up costs of about \$800 million, the company “would earn revenues from both the front-end and back-end components of a package contract”.

“The front-end component will reflect the best prices we can negotiate from suppliers, including the Australian uranium producers.”

White argues that “Australia's stable geology, the emptiness and dryness of our interior and our political stability”, is what makes the country cost-competitive when it comes to storing NFLG's spent fuel rods.

The leased package price would be between \$US2000 and \$US2600 (\$2600 and \$3400) a kilogram of leased nuclear fuel. This compares with the current price for Australia's high-grade yellowcake of between \$US30 and \$US40 a kilogram.

Inevitably, much of that difference would be accounted for by costs incurred, but White believes there is a substantial profit to be made.

“We have targeted a market of approximately 2000 to 2250 metric tonnes of fabricated fuel per annum,” White says.

However, Morgan argues the nuclear debate is being made more difficult because the current accounting system disadvantages “the high capital cost, but low operational costs of nuclear power”, he says. Adding, “we need to look at the numbers more closely to have a better-informed debate”.

Morgan argues that having a one-size-fits-all approach to energy accounting makes the

true cost of every energy source difficult to find. “The cost analysis of each form of energy should be specific to the kind of energy used,” he says.

A point reiterated by White, who says: “To have an informed debate we need to price the entire life cycle of coal, gas, nuclear and renewables and that must include pricing the cost of waste in whatever form that waste comes.”

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