

Low carbon future must also be low cost

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*Keeping power affordable and achieving carbon target is a delicate balance, writes **Tony Wood**.*

It is increasingly clear that a carbon pricing scheme alone will not do enough to enable low-emission technologies to generate enough of our electricity at sufficiently low cost.

Locking into a future dependent on gas would be expensive. We will either have to invest substantially in low-emission technologies or make up the difference by buying emission-reduction permits in the global marketplace. The latter could become expensive if relied on too much. To produce electricity at politically acceptable prices, low-emission technologies will need more support from the government.

A new Grattan Institute report, *No Easy Choices: Which Way to Australia's Energy Future?*, assesses the prospects for seven technologies which generate electricity with near-zero emissions: wind, solar photovoltaic, concentrating solar thermal, geothermal, carbon capture and storage, bioenergy and nuclear.

There is no guarantee that any will deliver at a reasonable cost. Wind and solar PV, for example, could become competitive without subsidies if carbon prices rise to levels that have been forecast over the next 20 to 30 years. But, even so, without storage technology that is far from commercial viability, wind and solar PV combined could not provide more than half of our electricity needs. Achieving major expansion in wind, large-scale solar and geothermal power will also mean removing obstacles that impede these technologies from connecting easily to electricity grids that were built around the needs of very large fossil fuel plants.

Early movers in the electricity market face higher costs than followers. Finance costs are higher, regulatory delays are expensive and early movers pay to develop and deploy technology. Yet private companies have little incentive to pay to be the first to acquire knowledge such as exploration and mapping of resources when past examples suggest it will spill out to all players on the field. Nor can early movers count on high long-term revenues because government policy on climate change and energy is inherently unreliable. As a result, if their only motivation is a market backed by a carbon price, companies that might develop low-emission technologies are wise to sit on the sidelines and do nothing.

Governments need to find effective ways to help develop new technologies that could generate power at lower costs. This often goes beyond research and development to include sponsoring exploration, mapping, demonstration and early-stage deployment. Yet it is hard to steer a course between inadequate support for low-emission technologies and unduly favouring one technology over another.

If support for a low-emission technology will encourage its development under local conditions or remove barriers to deployment at a reasonable cost, governments should provide it – but not if further introduction of a technology in Australia will not reduce costs.

To build on the carbon pricing scheme, governments must intervene intelligently. Otherwise, the low carbon future will be too expensive.

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