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## Australia's energy choices

HUGH SADDLER explains the shortcomings and consequences of our current approach to energy policy.

**W**HEN the premiers and chief ministers walked out of the last COAG (Council of Australian Governments) meeting a few months ago over their health policy dispute with the Commonwealth, energy policy was one of several agenda items that did not get addressed. Energy policy has been a relatively prominent Australian policy issue over the past decade, and has featured repeatedly on COAG meeting agendas.

At least three factors account for this relative prominence.

- Energy supply facilities are a major component of national infrastructure and the cost of energy purchases are an important input cost for many industries.
- Up until the early 1990s all of Australia's electricity supply capacity and much of its gas supply capacity was provided by publicly owned statutory monopoly enterprise, making these industries a prime target for the neo-liberal 'reform' agenda.
- The energy supply system is overwhelmingly dependent on use of fossil fuels, making the supply and use of energy by far the most important, and the fastest growing, contributor to national greenhouse gas emissions.

These factors alone may not suggest that energy policy should be a matter of broad public interest. However, there are several more fundamental characteristics of energy systems which mean the way

energy is supplied and used has major effects on many aspects of society over the long term. A formal and well-informed policy is essential to engage with these issues too.

- Availability of energy in appropriate quantity and quality is an essential both for subsistence and for the ability of most people to live far above subsistence level.
- Physical fluxes (mass, energy) through the energy systems which support modern societies, and the economic value of those fluxes, are so large that they have major effects on the natural environment, the economy and society at local, national and global levels.
- The physical and social infrastructures which make these fluxes possible are large, complex and have very long lives, both by their physical nature and because of the value of the investment they embody.
- Modern energy systems are highly complex and need coherent planning and operation if they are to function as intended and required.

For all these reasons, the choices involved in deciding how society's energy requirements should be met are very different from the choices involved in deciding, for example, what items to buy at the supermarket. Energy choices have long-term consequences for society, the economy and the environment; moreover, they will probably not deliver the outcomes expected if

made in a random or uncoordinated manner. A policy framework is therefore needed and the choice of policy has major implications.

Parenthetically, a decision not to have a policy, (i.e. a framework), is also a policy decision. The strong assault mounted by advocates of neo-liberal economics in the 1980s, to leave energy choices to 'the market', and the partial implementation of that approach in the 1990s, should be seen in this way.

The development of energy policy undoubtedly merits the commitment of significant and diverse intellectual resources, including resources that are independent of direct economic participants in the energy system. They also mean that many different intellectual disciplines need to be deployed to adequately study all aspects of energy policy, including physics, chemistry, environmental sciences, most engineering disciplines, economics, sociology and political science.

While Australia, no less than any other country, needs a well thought out energy policy, it differs from all other industrialised countries in lacking any significant public capacity to undertake research and analysis in support of energy policy development. By public capacity I mean any organisation that places the majority of its research output in the public domain. This definition covers universities, publicly >

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funded research laboratories and agencies and privately funded 'think tanks'. I consider this to be a strange and troubling situation.

Australia does of course have institutional capacity for energy technology R&D, but that is not what I am talking about. In fact, the effectiveness of much of this R&D is diminished by the lack of capacity to understand and investigate the policy framework into which it might fit. It is recognition of this problem that has led some university energy research groups and CSIRO to employ a handful of individuals to study energy policy issues.

To my knowledge, Australian energy policy research capability comprises the following:

- A few scattered individuals are located in universities and CSIRO, including those mentioned above, mostly working by themselves and as a sideline to the main orientation of the departments and schools within which they are situated, which include various engineering disciplines, physics, architecture, environmental studies and economics;
- In the Commonwealth government, there is capacity within ABARE (Australian Bureau of Agricultural and Resource Economics) to study energy policy questions, but only those questions which can be defined strictly and exclusively in economic terms. Limited capacity was being built up a few years ago in the former Bureau of Rural and Resource Sciences, but the energy and mineral resource policy capability was transferred to Geosciences Australia, which was not interested in policy research and closed it down.

- Short-term resource capacity to support the policy development process formerly existed within the relevant Commonwealth departments, but that is now almost entirely outsourced. In the absence of public capacity to provide the required advice, this function is almost entirely fulfilled by private consultancy businesses (including my own). This means that much of the information, understanding and analytical tools which underpin public policy on energy are removed from the public domain. Note also that consultancy companies cannot choose what questions they investigate, but can only answer the questions that clients want answered; i.e. consultancies (if they want to stay in business) cannot set the agenda in the same way as independently supported agencies can.

Regarding the Commonwealth agencies (ABARE, Geosciences Australia, CSIRO) mentioned above, I believe it is significant that these are essentially mono-disciplinary organisations, unwilling or incapable (quite possibly on resourcing grounds) to take on work which requires multi-disciplinary skills, such as energy policy.

This is a striking contrast to the situation in European countries, most of which have public research institutions dedicated to interdisciplinary energy policy studies, as well as a diversity of university research groups. The USA has the network of Department of Energy national laboratories, which combine energy technology research with a great diversity of economic and policy research.

While I can trace the historical processes which have led to Australia's present lack of energy policy research capability, I am less

sure about whether it is the result of chance or design – probably some of each. (One uncomfortable thought, given the historical origins of much of the energy policy research capacity in the US, Britain and a number of other countries, is that Australia might have been better placed today had it invested much more heavily in nuclear power or even weapons research.) I am also unsure about how the situation can be remedied, given that research funding bodies have few precedents for supporting this area of research. There seem to be no institutional champions to back it, and there is a widespread lack of understanding or awareness within government that it is even an issue (which is probably itself a partial explanatory factor).

All this makes a stark contrast with another field of resource policy, water policy. Over recent years public water policy research has received (much needed) strong support from both government and the private sector. Many water policy issues are distinctively Australian and require Australian made policy solutions. But is that not also the case with energy policy? Certainly Australia's international position on greenhouse policy stands largely on an assertion of Australia's unique energy circumstances. It is unfortunate that the government is at the same time unwilling to recognise that some support for independent policy research might yield results that could help to resolve the problems with which it is obviously confronted.

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