A single, national market that supplies all of Australia's electricty is looking dangerously outdated – and politically impossible.Shutterstock

The Finkel Review was a valiant attempt to find a path towards a 21st century energy market model for Australia . But political infighting and powerful interests have blocked one of its core proposals, a Clean Energy Target (CET). Despite the creation of a new Energy Security Board to try to hold regulators and policy makers to account, the ability of the present structure to deliver is uncertain.

State energy ministers, who have gathered today for the COAG Energy Council meeting , are now threatening to go it alone if the Commonwealth government does not commit to a CET. But the problem and opportunity is much broader. It's time to step back and rethink energy policy.

The national model is failing

The National Electricity Market (NEM) was established in a context of an energy system comprised of large generators and large energy utilities, with energy flowing in one direction: from power station to consumer. Things have moved on. Most of the activity now is behind the meter, local, or within regions, although interstate energy flows are still very important.

State governments now recognise that their voters will blame or reward them for "keeping the lights on", and are not prepared to suffer to help supply other states. Forward-thinking politicians also know they will win votes, and create jobs, by driving clean energy solutions.

The NEM has failed. Its very narrow economic objective was to provide low prices, reliable and safe energy, and to act in the long term interests of consumers. Many would score it zero out of three.

Despite the government's acceptance of 49 recommendations of the Finkel Review that aim to fix many of the problems, few observers are confident that the deep cultural problems and powerful vested interests can be overcome – let alone the impact of a small number of conservative politicians within the Commonwealth government, who are holding energy policy hostage.

The COAG Energy Council is unworkable. It requires consensus to act, but differing state-level agendas block this on key issues. Indeed, the government has just proposed to go over the heads of the Council, and COAG, to remove the right of energy businesses to appeal against regulatory decisions after years of internal disagreement. Overriding the COAG Energy Council is an extreme tactic that cannot work for many other problematic issues.

The "top-down" nature of the NEM is out of date. Repeated criticisms of the lack of discipline of state governments by federal energy minister Josh Frydenberg merely confirm that this model won't work.

Importantly, a large proportion of the real energy industry is not acknowledged as a formal part of the NEM structure. The NEM framework defines the electricity industry as licensed generators, network operators and retailers. While NEM reports talk about consumer choice and rights, they ignore the emerging industries such as renewable energy, storage, demand management, energy efficiency, businesses with new financial models, and so on. These businesses simply do not have a seat at the table .

The scale of change needed to make the present NEM model work is simply beyond our political system. In any case, there is an emerging alternative that can evolve in parallel with the NEM.

A real 21st century energy model

In practice, the NEM has functioned in parallel with several other mechanisms for years.

The Renewable Energy Target has operated since 2001. It was introduced to address the failure of the NEM to support renewable energy development. This market is quite separate,

and operates on an annual basis, using trading of certificates and obligations on energy retailers.

Several states and the ACT now operate energy efficiency obligation schemes. These also operate through obligations on energy retailers, and most use tradable certificates. These schemes drive the installation of a range of energy efficiency measures.

At the industrial level, increasing numbers of businesses are investing in large renewable energy systems
"behind the meter", so they can insulate themselves from the chaos of the NEM. They need the price stability and reliability the NEM can't deliver.

Several states and the ACT now have aggressive renewable energy targets – which have repeatedly been criticised by Frydenberg. The ACT has demonstrated that these schemes can work very well. They can reduce electricity prices, create local jobs, reinvigorate rural and regional economies – and win votes.

Because they involve long term contracts, their output is predictable. Other states (and consortia of councils, businesses, universities and others) are copying this model. State governments also still have significant powers to regulate network operators and retailers.

The future is distributed

If we look to the future, we see enormous growth in a diverse range of distributed energy solutions. These have many advantages over centralised solutions. Further, we see astounding diversity emerging in the energy system.

These trends cannot be managed by "command and control", top-down mechanisms. Although national standards and coordination can be useful, they are not essential, and can easily block innovation.

Diverse energy service solutions are emerging. Centralised systems still have a role, but distributed ones are gaining. Combinations of solutions often work best, and there will be ongoing transition

FACTOR	CENTRALISED	DISTRIBUTED
Economies of scale	Through larger size	Through mass production
Flexibility of roll-out	Limited	Large
Capital required, risk, subsidies	Large lumps, long-term, subsidies on-going	Small lumps, early cash flow, subsidies up-front
Innovation and 'learning from experience'	Slow	Fast, from diverse markets and technologies
Planning, construction timeframes	Long, limited flexibility	Short, responsive
Resource suitability	Fossil fuels, dams	Renewable energy, diverse water sources, end-use technologies
Resilience to failures, changing conditions	Limited	Diversity, modularity help
Environmental, social impacts	Local, regional, global	Local, linked to beneficiaries
Overall system efficiency	Significant losses in conversion, distribution	Variable – near point of use, so consumer pays

[redacted]

Disclosure

Alan Pears has worked for government, business, industry associations public interest groups and at universities on energy efficiency, climate response and sustainability issues since the late 1970s. He is now an honorary Senior Industry Fellow at RMIT University and a consultant, as well as an adviser to a range of industry associations and public interest groups. His investments in managed funds include firms that benefit from growth in clean energy. He has shares in Hepburn Wind.

Authors: Alan Pears, Senior Industry Fellow, RMIT University

Read more http://theconversation.com/the-national-electricity-market-has-served-its-purpose-its-time-to-move-on-80973