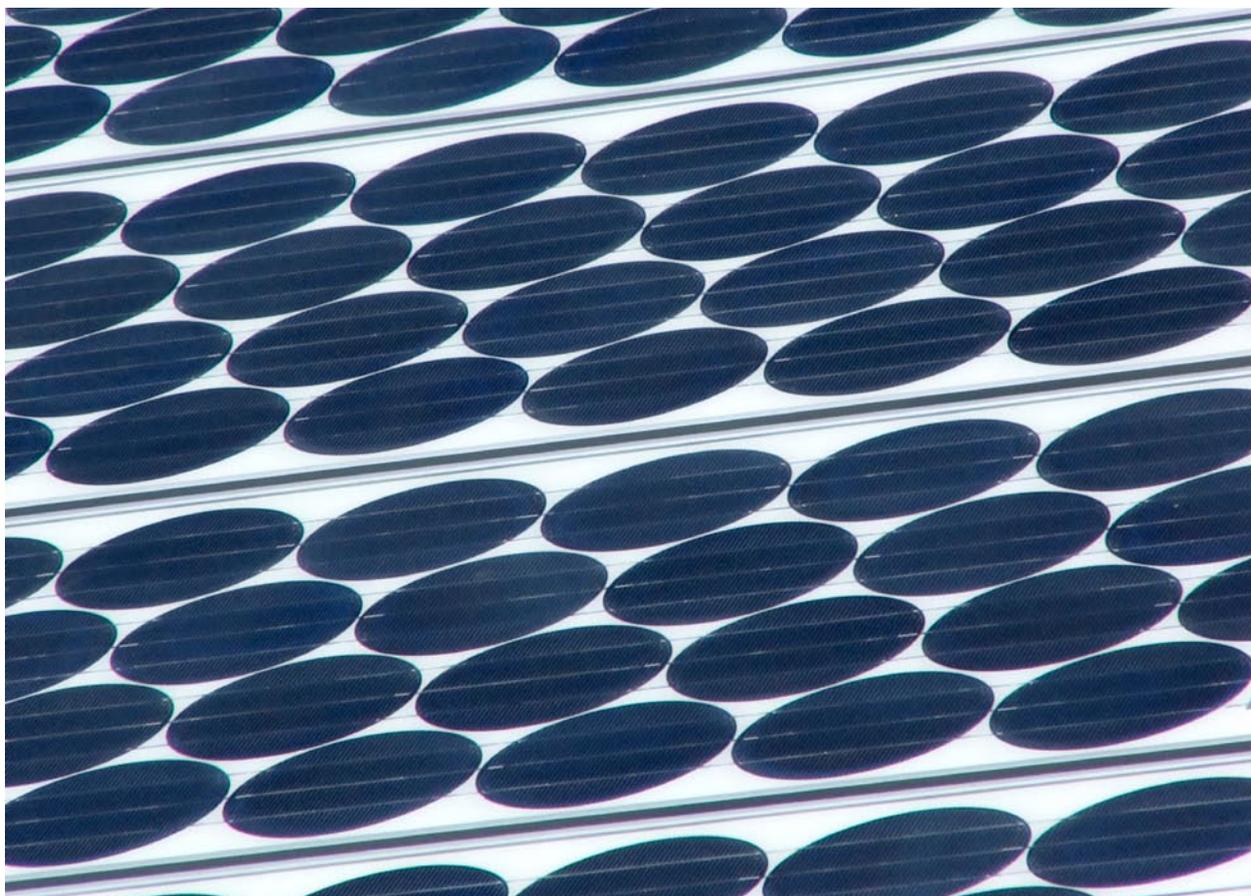


Energy Efficiency

fact sheet
04

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Significant reductions in greenhouse gases can be achieved with energy efficiency.

All the measures to achieve energy efficiency already exist: they just need to be implemented.

The public has become increasingly aware that the massive energy we use to produce goods has led to equally massive pollution by 'greenhouse gases' that threaten the very climate of the earth. One result of this awareness has been a new drive by the nuclear power industry, presenting itself, quite falsely, as a source of 'clean' energy that can solve the problem.

But the problem itself is wrongly posed. There is an obvious alternative we have heard little about, which can greatly reduce the impact on our planet of energy use: stop wasting it!

Even when the media touch on this alternative, it is in misleading terms, with the question being treated as a matter of individual behaviour. Turn out the light when you leave a room; walk more and drive less ... Of course, just a sense of responsibility to the coming generations can quite rightly lead us to act in ways like these. But the main key to cutting out energy waste lies somewhere quite different: in the way we produce things.

We might wonder whether the size of the room for improvement here – the room for greater efficiency in energy use – really matches up to the size of the problem. The answer is: yes, it is more than enough. And every responsible body tackling the question of climate change has acknowledged it.

Take, for example, the European Commission's Action Plan for Energy Efficiency, released in October 2006.¹ It makes over 100 recommendations on the detailed steps to be followed, and sees the potential reductions in greenhouse emissions by 2020 as enormous: 'more than twice the EU (European Union) reductions needed under the Kyoto Protocol by 2012'.² What is more, these steps will actually save money:

"Additional investment expenditure in more efficient and innovative technologies will be more than compensated by the more than € 100 billions (\$A170 billion) annual fuel savings."

Such a bonus is quite usual with improvements in efficiency. As we would expect, wasting energy has wasted money too.

The European Plan is relying, not on some great breakthroughs in technology lying somewhere in the future, but on more efficient procedures that are already known. This is in sharp contrast to the handwaving gestures of the United States and Australian governments, relying on technologies like carbon sequestration that have still to be tested and proved.

The energy-hungry transport industry is a case in point. The State government in California, for example, has taken steps to improve automobile efficiency, with regulations that –

"were adopted by the California Air Resources Board on September 24, 2004. Regulations will apply only to 2009 and later model year vehicles and will require about a 30% reduction of greenhouse gas emissions by 2016."³

The European Plan likewise covers automobile efficiency:

"by ensuring fuel efficiency of cars, developing markets for cleaner vehicles, ensuring the maintenance of proper tyre pressure, and by improving the efficiency of urban, rail, maritime and aviation transport systems, as well as changing transportation behaviour ... Should it become clear that the voluntary commitments of the car industry to reach 140 g CO₂/km by 2008/2009 will not be honoured, the Commission will not hesitate to propose legislation."⁴

The vast potential of such measures, if applied through the whole of production, is illustrated by the European estimate of the savings in energy consumption waiting to be made in every sector – 30% in commercial buildings, 25% in manufacturing industry ...⁵ This is no fantasy of the future – already in 2005, the energy Europe was saving by efficiency gains made since 1971 was about the same as the total amount extracted that year from all nuclear power stations and all uses of oil put together.⁶

These are a few examples of the social actions needed to eliminate the waste of energy in production. In contrast, note these press reports, all from the British Guardian newspaper, which pose their story as one about individual choice:

"Energy-wasting Britons rank top for failing to see the light ... 71% in UK leave electrical devices on standby. (October 23 2006)"

"Britons' slobby habit of leaving electronic appliances on stand-by ... " (October 25 2006)

- and a few days later, the simple, obvious solution:

"The Government is to outlaw standby switches on televisions and video and DVD players to cut the amount of electricity wasted in the home... According to yesterday's Energy Review, standby facilities use 8 per cent of all domestic electricity." (October 28 2006)

Policies like those reviewed above seem just plain common sense: if energy use is a problem, first cut out the waste. But in practice it will be harder; big corporations do not take kindly to government instruction about how they are to run their business. It will take a much stronger public realisation of the climate crisis than currently exists to get governments to act.

Rather than tackle the real problem and launch on the broad range of measures needed to cut the waste, some governments will be attracted to the fictitious 'solution' of nuclear power, coupled with a vague hope for future and still untested technological advances. This would give the appearance of dealing with the climate crisis while avoiding the political difficulties arising when big corporations are told what they must do.

The role of nuclear power could be quite dangerous here. One quality it has shown over the years, to compensate for its economic handicaps is a bottomless hunger for subsidies in a whole range of overt or indirect forms. It thus has the potential to divert funds, focus and political attention away from the pursuit of really effective policies – including energy efficiency. We should not let this dying industry deliver such a parting kick.

References:

- 1 http://ec.europa.eu/energy/action_plan_energy_efficiency/doc/com_2006_0545_en.pdf
- 2 Ref. 1, p.3.
- 3 http://www.ucsusa.org/clean_vehicles/vehicles_health/californias-global-warming-vehicle-law.html
- 4 Ref. 1, p.15.
- 5 Ref. 1, Figure 2, p. 6.
- 6 Ref. 1, Figure 1, p. 5.

About the author:

Alan Roberts holds a Ph.D. in physics (University of Sydney) and has lectured in physics at Sydney and Monash universities. He formerly served on the advisory Nuclear Safety committee of the Australian Radiation Protection and Nuclear Safety Agency. His research work is on problems of theoretical ecology.

About our organisation:

energyscience.org.au is a co-operative production by a group of concerned scientists, engineers and policy experts that seek to promote a balanced and informed discussion on the future energy options for Australia.

With increasing concern over the looming impact of global climate change the community needs to be aware of the issues involved. energyscience aims to provide reliable and evidence based information to our whole community

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