



How much can energy efficiency save you?

OLIVIA KEMBER | 16 JUL 2013, 9:53 AM | 11

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For a solution that can boost the economy, save us all money *and* cut carbon pollution, energy efficiency doesn't get much air time.

For the last few years the national conversation has been dominated by debates over productivity, carbon reduction and electricity prices. Energy efficiency helps achieve our goals in all three. But from the politicians, the pundits, the business groups there's been – well, at best silence, and at worst, pressure to cut back on the existing programs and avoid new ones.

This would only make sense if Australia's energy use was so productive we couldn't squeeze a single drop more value out of it.

But we are very far from that point.

Australia's energy waste costs us billions of dollars annually and reduces economic growth. Ground-breaking new research by Vivid Economics shows that a 1 per cent

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increase in energy efficiency can boost GDP growth by 0.1 percentage point. That's roughly equivalent to \$1.5 billion on last year's GDP. If you keep up that level of annual improvement, Australia would gain an extra \$8 billion by 2020 and \$26 billion by 2030.

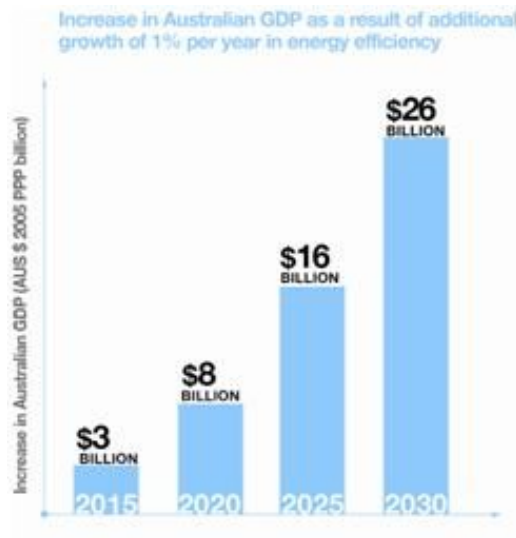
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Research by ClimateWorks Australia has already identified where some of the biggest opportunities lie.

The industrial sector is implementing less than half the energy savings it has identified – leaving roughly \$2 billion a year on the table. We could save 37 per cent of the energy we use in commercial buildings. And if we aimed to catch up with European fuel economy standards by 2024 we could collectively avoid spending \$8 billion on petrol. That's an extra \$850 for the average driver.

If we don't get our act together, not only do we throw those benefits down the drain, we will fall further and further behind our trading partners and competitors.

Canada's rate of energy efficiency improvement, for example, is already double Australia's. The United States' love of gas guzzlers rivals our own, but it has implemented

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ambitious efficiency standards for its vehicle fleet. And just last week [the US and China agreed](#) to work together to boost energy efficiency in their vehicle fleets, freight systems and building stock. Japan, the United Kingdom, France and South Korea are all continuing their efforts to get the most out of their energy use.

By comparison Australia has a patchwork of policies, none of which is optimised for maximum effect. It's true that they're working: [the downward trend in electricity demand](#) reflects (among other factors) both the success of existing energy efficiency initiatives and consumer responses to sustained rises in electricity prices over the last five years.

But these efforts are uneven and piecemeal. Much more can be done – and needs to be done – to address further price pressures resulting from [rising fuel costs](#), inappropriate electricity market regulation and incentives, and the need to decarbonise the country's energy supply.

Energy efficiency can't be improved without addressing the efficiency of our electricity system itself.

There's now a [stack of reports](#) on the inadequacies and distortions of our current electricity market, with most targeting the way we regulate electricity networks.

If Australia *had* made a nationwide effort to improve energy efficiency five years ago, we wouldn't have seen electricity bills go up 70 per cent in the last five years, because we could have avoided spending so much on poles and wires.

Now that electricity consumption has fallen, we don't even need all the poles and wires we built – but we still have to pay for them. We can't afford to carry on like this.

The Climate Institute is calling for a national target – an ambitious but achievable aim to raise Australia's energy productivity by 30 per cent by 2020 (from 2010 levels). This could be done through policies such as:

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CALLAM PICKERING: A darkening outlook for thermal coal producers (\$) buff.ly/1K59QcM
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Seaborne Thermal Coal Production Costs*
2015, free on board basis

Cumulative annual production (Mt)	Indonesia (US\$/t)	Australia (US\$/t)	Rest of the world (US\$/t)
0	~25	~25	~25
100	~35	~35	~35
200	~45	~45	~45
300	~55	~55	~55
400	~65	~65	~65
500	~75	~75	~75
600	~85	~85	~85
700	~95	~95	~95
800	~105	~105	~105

* Costs are quality adjusted
Sources: AME Group; Department of Industry and Science

Expand

Tristan Edis @TristanEdis 17h
So [@johnculvenor](#) remind me how many people deliberately voted for Senators Madigan, Leyonhjelm and Day?
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-- Expanding state-based energy saving schemes into a nationally consistent and robust Energy Saving Initiative covering the whole country.

-- Implementing ambitious emissions or efficiency standards for vehicles equivalent to United States standards by 2015 and European standards by 2020.

-- Using the new national framework for regulating Minimum Energy Performance Standards (MEPS) to drive more ambitious equipment standards.

-- Pricing that more accurately reflects the true costs of energy use: time-of-use and critical peak electricity pricing; removal of fossil fuel subsidies; pricing of externalities like pollution.

-- Bipartisan support for maintaining the carbon price mechanism, which contributes to shorter payback periods for energy efficiency investments. Maintaining the carbon price also suppresses sovereign risk premiums attached to financing of investments.

Kevin Rudd's National Press club speech last Thursday picked out electricity market reform as the first priority in a renewed competitiveness agenda. He's not wrong – but that's still only part of the story. We need to recognise that efficient energy use is not just about swapping light bulbs; it's an increasingly important driver of productivity.

Tackling Australia's energy waste won't be easy but now's the time for our politicians to rise to the challenge.

***Olivia Kember** is National Policy and Research Manager for The Climate Institute.*

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Anonymous, July 16, 2013 10:49

So you become more efficient and thus save energy costs and reduce carbon emissions, this allows you to grow your business or to buy more stuff which creates more carbon emissions.

When will people realise, growth = imminent catastrophe. We need a morally driven economic system based on science, not greed, growth and corruption.

STOP GROWTH

EDUCATE PEOPLE IN MORALLY AND ETHICS

INVEST IN SCIENCE AND TECHNOLOGY

SUPPORT BUSINESS THAT CREATES QUALITY OF LIFE FOR ALL, NOT WEALTH

GIVE THE NATURAL WORLD ECONOMIC VALUE TO BE EQUALLY OWNED BY ALL

PUNISH PEOPLE OR BUSINESS FOR DAMAGING THE NATURAL ENVIRONMENT

REPLACE GREED WITH COMPASSION AND RESPONSIBILITY

REPLACE INDIFFERENCE WITH EQUALITY

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Anonymous, July 16, 2013 12:04

Interesting comment, but I wonder if you're referring to growth for the developed world or the world as a whole? There are hundreds of millions of people without access to modern communication and infrastructure and education and transportation. Growth is needed to bring them a higher standard of living. Or would you advocate locking them into their present circumstances?

And even if the developed world says no more increases to material standards of living but we try to help those in the developing world, that still results in net growth. And energy is central to this. BP forecasted energy use would decrease in developed nations due to efficiency, but overall increase due to rising demand in developing countries.

This really is a major philosophical issue people on the left need to face - do we prioritise protecting the environment or helping to improve the lives of impoverished people? It's not going to be easy at all to gun for both goals.

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Anonymous, July 16, 2013 12:34

With all due respect Olivia Kember, your only goal is to address the climate NOT save me money.

I do not trust people like you to put in measures to save me even ONE cent in my living costs.

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Anonymous, July 16, 2013 14:32

Well Sam, we reap huge benefits from energy efficiency measures in our house.

We went from 17kWh a day to 8.2kWh a day (2person household in QLD)! And I want to stress that we own a pool. that's more than fifty percent savings. My opinion is, that's a lot of cents.

So, don't you think you are able to reproduce the same benefits? Government policies or not, energy efficiency makes always sense, especially after the last huge electricity price hikes.

Look for all the great websites out there that have tremendous information, or take the simpler and less time consuming path of hiring an energy efficiency auditor.

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Anonymous, July 16, 2013 13:27

Drew's analysis was pretty good until he went all tea party and assumed that prudent economic management is the bastion of some sort of quasi-religious conservative enlightenment.

Attempting to simplify massive, dynamic and complex physical and economic issues down to a binary philosophical issue that "the left" needs to face isn't just wrong, it's a brand of smug idiocy that Sarah Palin and FOX News made famous.

Drew's implied straw man argument that "the left" wants to deny economic development in developing nations to protect the environment is a false construct. It's a fabrication made up to make "the left" look like a bunch of unwashed tree hugging dimwits just as "the right" are often painted as mouth foaming fundamentalists waving pitchforks at boats. There's examples of both out there but neither are a fair representation of reality.

Developing nations will develop and this will have social and environmental costs. Developed nations have and will increase their efficiency and transfer the resulting new technology to developing world markets. What is being proposed here is the elevation of standards to encourage more efficient energy use here resulting in new technology that can be sold into developing world markets thus increasing their overall energy efficiency.

Sam, nobody's asking you to trust Olivia. You're a grown up and should be making decisions based on your own ability to process information. Olivia has written an article and included various references. You should probably afford her the effort of evaluating these as the basis for her argument before you announce your distrust. It might help people take your comments more seriously.

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Anonymous, July 16, 2013 13:30

Improvements in energy efficiency are a win for everyone, except for the energy producers.

I'm amazed what a difference the fre roof bats I received a few years back. Even though my house was only build in 96, it was bitterly cold in winter, and very hot in summer, especially upstairs.

Since the insualtion was put in the roof the house is pleasant most of the time. So far I've not felt cold enough to use the heater this winter, even when waking up at 4.30 to go to work.

The great thing with efficiency is it's usually a one off cost and long term savings.

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Anonymous, July 16, 2013 14:31

The poor third world countries do not need growth either, they need to follow the same 12 polices I stated in capitals letters above. This will reduce their populations massively. They will need the help of rich countries in providing the education and the technology. They do not need our capitalistic wealth creation model. Education and technology will bring quality of life through community ownership, shared outcomes and mutual respect for each other and all natural resources. Wealthy countries have none of these basic principles as they are based on selfish and competitive polices directed at wealth creation and consumerism, which do no

guarantee quality of life.

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Anonymous, July 16, 2013 14:40

Great article Olivia, it is interesting that policy developers seem reluctant to grab the low hanging fruit on the federal stage. A national 'negawatt' scheme and the use of capacity credits on the NEM especially at peak periods might be a good start to incentivising businesses and households to save energy/money (although a forced 'superannuation' style energy saving scheme might yield better results in the long run!).

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Anonymous, July 16, 2013 14:42

Olivia Kember writes that energy efficiency will also lower electricity prices. Well, probably not in the short term. Like she writes further, the poles and wires that were installed have to be paid for, even more so with lower demand. But the overall bill will still be lower.

RenewEconomy.com writes

"The issue with network costs is that they are not moderating at all. Some \$40 billion have been spent and the network operators want their money back, plus the regulated return on their investment that is decided by market regulators. And they will get it."

Unless we depreciate the now useless network capacity...

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Anonymous, July 17, 2013 9:06

At last some economic sense from a post, Diego! The great irony here is that Australian households, and much of industry, have been responding rationally to the signals of surging electricity prices by economising on their power consumption. Yet that notable fall in demand has collided with a policy-induced surge of over-investment by the privatised and/or State owned utilities, so that prices are going through the roof. And it's not at all obvious that the producers and distributors of energy have been investing in greater efficiency. Rather, the spending has been in duplicating and gold-plating their existing infrastructure, ostensibly to 'guarantee peak supply', but in reality to claim the depreciation benefits while justifying their price gouging. The privatised utilities need growing profits for their shareholders. Those still in State hands need to provide their stakeholder

with huge dividends and are thus tax farmers.

Intriguingly, as mentioned elsewhere, the much reviled Pink Batts have made a substantial contribution to household energy efficiency through conservation -- but have also helped to push regulated electricity prices higher than would otherwise have been the case.

So there you have it. Until our national energy policy becomes rational, our conservation and efficiency efforts will continue to reward the supplier at the expense of the consumer. Now go figure what to do about that!

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Anonymous, July 17, 2013 13:29

I agree that electricity pricing should reflect the actual cost of generation and delivery. The converse, not reflecting the actual cost of generation and delivery results in the currently situation where flat tariffs allow huge and expensive spikes in demand. There is no disincentive for one to leave the AC on during a 45c day whilst not present so that the house it is cool upon return.

I think the preference for increasing efficiency of the vehicle fleet would be a market based approach by way of increased fuel excise, making inefficient vehicles more costly to run, and putting the consumer in control.

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