

Energy efficient, benefit deficient

- by: *Henry Ergas*
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EVEN if the pink batt program hadn't been bungled, it was a waste of money.

There is a forecast Treasury got right last year: that the government subsidies for insulation would create jobs for workers with few skills and virtually no training. Pity that combination proved fatal, but then again, as Tom Lehrer famously put it: " `Once the rockets are up, who cares where they come down? That's not my department,' says Wernher von Braun."

What is Treasury's department, however, is that the subsidies are such poor public policy. That four young people are dead, and thousands of homes seriously exposed to the risk of fire, is tragic; that this happened because of a program that lacks any credible rationale is a scandal.

That program has been shut down, of course, along with the solar panel subsidies.

But it forms part of a bewildering range of commonwealth, state and territory initiatives aimed at promoting energy efficiency, most of which remain in place, and additional measures, replacing those cancelled, have been promised. Yet not one of those initiatives would pass a credible cost-benefit test.

Let's start from the beginning. The term energy efficiency has been interpreted by successive governments as meaning reducing households' use of electricity.

Whether there is merit in this is controversial, but let's assume there is. After all, electricity generation results in greenhouse gas emissions, whose long-run costs are not reflected in electricity prices, causing more electricity consumption than would be ideally desirable.

Even taking that objective as given, however, it would be foolish to spend a dollar to reduce the damage caused by greenhouse emissions by 10c. Yet that is what these ill-conceived programs do.

Consider the insulation scheme. Improving insulation in existing homes can allow modest reductions in energy use, likely in the order of \$100 a year, though as people become accustomed to the new ambient temperature their power usage typically reverts to pre-insulation levels.

The result is some improvement in comfort, but a negative return on investment.

As for the cost per greenhouse emissions saved, it can be astronomical, with a careful New Zealand study valuing it at \$500 to \$1000 a tonne of emissions saved a year.

The economics of solar panels in homes are even worse.

Valued in terms of energy savings, these would never be worthwhile for homes connected to the grid without very large public subsidies, for the simple reason that providing electric power on a reliable basis involves massive scale economies. Shifting electric load to home solar panels therefore increases costs in the electricity system (as it replaces a low-cost power source with a high-cost power source), while saving very few emissions.

As a result, costs per tonne of abatement in the solar panels program are very high, at \$195 to \$434 a tonne, far above the \$23 carbon price used in the government's proposed emissions trading scheme.

To that excess cost must be added the economic loss caused by the taxes used to provide the subsidies. Given this, the sensible policy would be to eliminate these subsidies. Instead, even greater and more permanent subsidies are being provided through a move, co-ordinated in the Council of Australian Governments to generous feed-in tariffs.

Under these tariffs, electricity companies pay customers to connect their solar panels to the grid, as virtually all do.

That would be fine were the payments set at an amount that reflected any costs the electricity system avoided thanks to the panels, including the value of whatever emissions abatement the panels allowed.

In practice, however, the payments, rather than reflecting avoided costs, which are trivial or even negative, are set so as to make it profitable for households to invest in solar panels.

This the tariffs do all too well. Households that install solar panels are guaranteed risk-free rates of return of up to 13 per cent, far above the returns available on productive investment. Returns are even higher when account is taken of Renewable Energy Certificates that customers with solar panels also receive.

Inevitably, this induces vast waste as capital is diverted to an investment that is essentially useless. Additionally and perversely, flooding the market with RECs cuts the price of these certificates, making it impossible for other, somewhat more economic, renewable energy sources to compete.

But it is even worse, for the feed-in tariffs are funded through levies on electricity users.

Federal Environment Minister Peter Garrett claims that relying on these levies, rather than on budget payments, demonstrates the Rudd government's fiscal conservatism. But every economics student knows the opposite is true.

In effect, the levies are even costlier than conventional taxes because they distort the demand for a productive input, namely electricity. Moreover, as the number of panels in place rises, the implied tax rate on electricity prices increases (since the subsidy payments amount to a greater share of electricity sales).

This causes the distortion not merely to increase but to increase more than proportionately.

Quantifying the resulting efficiency loss is difficult. But it is reasonable to assume an annual subsidy cost in the order of \$500 for each connected site. On that estimate, installing solar

panels in two million homes would impose a cost on Australian society of \$1 billion a year, for an environmental gain that could be obtained for less than one-fifth of that amount.

Introducing these measures in parliament in February last year, Garrett described them as "carefully designed". They have proven to be anything but. That he refuses to take responsibility is a matter for his conscience. But if he has Australia's welfare at heart, he should recognise that his energy efficiency package is too flawed to salvage.

A fresh start is needed. The government says it is committed to evidence-based policy. So far, all it has shown is that haste makes waste and, in this case, costs lives. Rather than rushing to introduce new policies, it should get the Productivity Commission to update its 2005 report on energy efficiency, providing the evidence base serious policy-making requires.

Until it does, its energy efficiency policies will remain a costly shot in the dark.