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The real cost of direct action

An analysis of the Coalition's Direct Action Plan

Policy brief No. 29
July 2011
ISSN 1836-9014

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Policy Brief

Introduction

The Coalition has committed to reducing greenhouse gas emissions by five per cent on 2000 levels by 2020. It proposes to achieve this target with a "Direct Action Plan" [1]: a competitive grant scheme that would buy greenhouse gas reductions from businesses and farmers. Over the past decade various Australian governments have announced more than seven billion dollars of competitive grant schemes. The Australian National Audit Office (ANAO) and the Grattan Institute have reviewed competitive grant schemes in Australia and found that they:

- Take far longer to achieve their objectives than originally planned
- Achieve much less than expected
- Cost far more than was budgeted.

This analysis finds that the Coalition's Direct Action Plan will cost far more than is budgeted for and is unlikely to find sufficient greenhouse gas reduction projects in order to reach the Coalition's emissions reduction target.

What is the Coalition's Direct Action Plan?

The Coalition has committed to reducing greenhouse gas emissions by five per cent on 2000 levels by 2020 and their policy to achieve this target is what they refer to as their Direct Action Plan. The term direct action is used to distinguish their plan from the government's approach of relying on price mechanisms to change industry and consumer behaviour. Direct action in general includes regulation, government subsidies as well as many other direct government programs designed to reduce greenhouse gas emissions. The Coalition is however proposing a specific form of direct action.

The Coalition's Direct Action Plan is a competitive grant program under which people would submit proposals to the government on how they would reduce their greenhouse gas emissions and how much it would cost. A Coalition Government would then choose those reductions that cost the least and use taxpayers' money to fund them to do so. It would continue to fund projects up to the reduction target.

The Coalition has committed $3.2 billion over the next four years to set up the Emissions Reduction Fund. In total the Fund will be allocated $10.5 billion to 2020 or an average of $1.2 billion each year to 2020.

The Coalition has further committed to achieving the five per cent target "without new or increased taxes on Australian industries or increased costs to Australian households and families". Further the Emissions Reduction Fund will, according to the Coalition, only fund projects that will "not result in price increases to consumers".

[1] All references to the Direct Action Plan comes from http://www.liberal.org.au/~/media/Files/Policies%20and%20Media/Environment/The%20Coalitions%20Direct%20Action%20Plan%20Policy%20Web.ashx

How effective are competitive grant schemes?

The ANAO in 2010[2] conducted an audit of several of the biggest competitive grant schemes. It found that these schemes had a number of common outcomes.

The first was that competitive grant schemes took significantly longer to achieve any abatement than originally planned. The ANAO said that delays of two years were not uncommon.

The second common outcome was that despite having a large amount of money on offer all such schemes were unable to find enough suitable projects. In fact none of the grant projects looked at by the ANAO spent more than 40 per cent of their budget. The Grattan Institute also recently conducted a study that found over the past decade State and Federal governments have announced $7.1 billion in competitive grant schemes of which only three per cent of announced funding produced operational projects in the first five years and 18 per cent of announced funding produced operational projects in 10 years[3].

The third thing that the competitive grant schemes had in common was that they achieved substantially less emission reductions than originally planned. The largest, longest running and considered by many the most successful grant scheme was the New South Wales Government's Greenhouse Gas Abatement Program (GGAP). GGAP achieved only 40 per cent of its planned emissions reduction.

The final thing these schemes had in common was that the cost of the abatement was high. GGAP's emissions reduction cost about $40 per tonne of CO_2e. That is significantly more than the $20 to $30 being proposed as a broad-based carbon tax. The average cost of emissions reduction over all the competitive grant schemes was $140 per tonne of CO_2e[4]. This compares very unfavourably with the cost of a carbon tax.

While competitive grant schemes might at first glance look like a market based outcome they are not. In reality they are a tendering process. The Coalition's scheme relies on tenders to put forward detailed proposals without any guarantee that they will get funding. Tendering also suffers from information asymmetries where government bureaucrats will not have the same level of technical knowledge as the group submitting the tender. These issues are highlighted in the experience of previous competitive grant schemes.

Direct action in general and competitive grants in particular, could potentially play a part in a well designed suite of policies to reduce emissions. However given experience and the conclusions of the ANAO it would seem excessively optimistic to place all of Australia's emissions reduction eggs in the competitive grant basket.

What are the likely outcomes of the Direct Action Plan?

As a competitive grant program direct action will likely suffer from two large problems. The first is it will be unable to produce the amount of abatement that is required to reach the Coalition's target of reducing emissions by five per cent on 2000 levels by 2020.

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[2] http://www.anao.gov.au/uploads/documents/2009-10_Audit_Report_26.pdf

[3] http://www.grattan.edu.au//publications/077_report_energy_learning_the_hard_way.pdf

[4] http://www.grattan.edu.au//publications/077_report_energy_learning_the_hard_way.pdf

The Coalition would need to fund projects that will achieve 160 million tonnes of emissions reduction in 2020 or 713 million tonnes of emissions reduction over the nine years to 2020[5]. Given the previous experience of different grants programs, many of which were run under the Howard Government, the scheme is unlikely to achieve more than 18 per cent of this reduction. If this occurred then rather than emissions falling by five per cent on 2000 levels in 2020 they would actually rise by 18.4 per cent.

Even if the Coalition were to somehow overcome this problem of finding enough abatement projects and getting them to deliver on time it has a second, even larger problem; the cost. The amount of money set aside for the Emissions Reduction Fund is highly unlikely to be sufficient to induce the quantity of abatement that would be required to meet the target. If we use the average cost of abatement for competitive grant schemes that have been previously conducted in Australia then by 2020 the Fund would have to allocate around $100 billion. That is on average $11.1 billion every year to 2020. To put that in context that would require on average tax payments of about $1300 per household per year set aside for the Emissions Reduction Fund. This is far in excess of what the Coalition has budgeted for. Rather than on average $11.1 billion per year the Emissions Reduction Fund is proposed to receive on average $1.2 billion per year.

These calculations assume that the Emissions Reduction Fund would have nine years to buy abatement to meet the 2020 target. The next election is not due until 2013 and so the Emissions Reduction Fund is unlikely be up and running before 2014. This decreases the amount of time needed to reduce emissions to six years. This will increase further the annual cost to the budget.

Since the Coalition has committed to not introducing any new taxes or increasing any old taxes to fund the emissions reduction then the money would need to come from cuts in other areas. To find $11.1 billion each year the Coalition would need to make large budget cuts. To put this in context $11.1 billion is the equivalent to the cost of employing approximately 111,000 teachers or nurses.

What if we assume an optimistic outcome?

The figures above are based on the actual average cost of previous grant programs. But what if we assume that not only can the Coalition manage to find enough projects but also does it at a cost that is the same as the lowest large scale competitive grant program. We will call this the optimistic scenario.

The lowest cost large scale competitive grant program was GGAP, which achieved abatement at $40 per tonnes of CO_2e[6]. If we use this as a basis for cost and assume the unlikely outcome that it can be scaled up to meet the entire abatement target then the Emissions Reduction Fund would need to spend $28.5 billion. This would be on average $3.2 billion per year which is a figure just short of three times the amount that the Coalition has allocated. In the optimistic scenario we are also assuming that all the abatement occurs at $40 per tonne unadjusted for inflation. So in real terms the cost of abatement is falling at the inflation rate.

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[5] http://www.climatechange.gov.au/publications/projections/australias-emissions-projections.aspx

[6] http://www.climatechange.gov.au/minister/previous/wong/2010/media-releases/February/~/media/Files/minister/previous%20minister/wong/2010/media-releases/february/mr20100204a.ashx

The Department of Climate Change and Energy Efficiency (DCCEE) looked into how much emission reduction the Coalition could achieve with their Emissions Reduction Fund and found that emissions would rise by 17 per cent[7]. The difference between their number and ours is because DCCEE assumed that the Coalition would purchase overseas offsets at a cheaper cost than domestic emissions reduction. We have not assumed that since the Coalition specifically ruled out doing so. The Coalition has committed to "all abatement activity supported by the Emissions Reduction Fund to achieve the 5 per cent emissions reduction target will occur in Australia delivering environmental benefits here rather than overseas."[8]

How easy will it be to administer?

The Coalition's Emissions Reduction Fund would also require a large number of public servants to administer the tendering process. In order to be captured under the government's National Greenhouse and Energy Reporting (NGERs) scheme a firm must emit 25,000 tonnes of emissions per year. If we make the generous assumption that the average abatement per project under the Coalition's scheme is also 25,000 tonnes of emissions then there would need to be about 28,500 successful projects. If we assume four unsuccessful projects for every successful one then the number of projects assessed would be close to 150,000. This number is optimistic. As a comparison GGAP had about nine unsuccessful applications for every successful one, so the final number of tenders that would need to be assessed under the Coalition's plan may be far higher.

A large number of public servants would be needed to assess all of these tenders. They would also need to have excellent up to date knowledge on all cutting edge technologies designed to reduce emissions as well as excellent knowledge on almost all production techniques currently carried out in Australia in order to accurately assess the applications. Given the wide range of possible projects the Emissions Reduction Fund could finance, grant applications are likely to be varied and dissimilar which would increase the cost in assessing them.

Could tree planting achieve the target more easily?

The Coalition has promoted tree planting as a possible way to cheaply reduce emissions. To put the scale of the emissions reduction that the Coalition has committed to into context let's look at how many trees would need to be planted to reach the 2020 target. To reduce emissions by 160 million tonnes of CO_2e in 2020 it would require planting trees over an area of 265,600 square kilometres or far more than the size of Victoria. The trees would also require 96,944 gigalitres (GL) of water per year. The controversial draft Murray Darling Basin plan released last year planned to buy back water entitlements by 3,500 GL. This means the trees planted as a carbon sink would require more than 27 times the water proposed to be cut from the Murray Darling Basin. The Coalition is not proposing cutting all the emissions by planting trees. The above figures are just to highlight the scale of the undertaking if trees were to be used as a major way of offsetting emissions.

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[7] http://www.climatechange.gov.au/~/media/Files/minister/combet/2011/media/march/mr20110302a.pdf

[8] http://www.liberal.org.au/~/media/Files/Policies%20and%20Media/Environment/The%20Coalitions%20Direct%20Action%20Plan%20Policy%20Web.ashx

Another difference in the numbers is because we used the latest emissions projections which have been revised upwards since the analysis done by the DCCEE

According to their Direct Action Plan the Coalition plans to offset emissions by 15 million tonnes from planting trees. To achieve this would require an area of 25,000 square kilometres and about 9,100 GL, two and a half times the amount of water proposed to be bought back by the Murray Darling Basin Plan.

What about soil carbon?

The Coalition's plan relies on large abatement from soil carbon. About 60 per cent of their proposed abatement comes from this source. Soil carbon is currently a largely untested source of abatement. There are further issues to resolve around soil variability and the maintenance of the sequestered carbon over time. Due to uncertainties large scale use of soil carbon sequestration is a risky exercise. It requires further investigation and until the measurement methodology is resolved it seems unwise to rely on it as heavily as the Coalition does in its Direct Action Plan.

In a recent article[9] Tony Abbott highlighted the potential for fraud under an Emissions Trading Scheme. Many of the issues he raised could equally apply to direct action and in particular to soil carbon.

Why direct action?

There are many different ways to cut Australia's emissions. What economic theory brings to the development of climate change policy is some insight into how different ways of cutting emissions will affect the economy. What economists are consistently saying is that a price on carbon is the cheapest way to reduce emissions. So it is not surprising to find that after analysing the Coalition's Direct Action Plan we find that it is significantly more expensive than what could be achieved with a broad-based carbon price. The Coalition's plan is an expensive approach funded from the budget and requiring a very large number of public servants to administer effectively. Based on past experience it will take far longer to achieve much less than is planned at a much bigger cost than has been budgeted. What's most ironic is that the Coalition's policy is a caricature of big government programs. It is not surprising then that the Coalition has been unable to find any economist that supports its direct action policy. It has also had great difficulty finding any business leaders to support it either.

[9] http://www.theaustralian.com.au/national-affairs/opposition-leader-tony-abbott-defies-economists-on-carbon-tax/story-fn961iy1-1226085675981

FAQs

Where will the money for the Emissions Reduction Fund come from?

The Coalition has committed to not creating any new taxes or increasing any old taxes to fund the Emissions Reduction Fund. All funding would therefore have to come from consolidated revenue. For this not to reduce the budget bottom line the Coalition would need to implement spending cuts in other areas.

What will the Coalition do if it becomes more expensive?

If abatement became more expensive the Coalition would need to either spend more (and hence introduce larger budget cuts in other areas) or fail to meet the emissions reduction target. This would see emissions rising by up to 22 per cent on 2000 levels by 2020 rather than falling by five per cent.

Has direct action been tried anywhere else in the world?

Direct action has been tried in Australia on many occasions. A review of other competitive grant programs show that on average abatement is achieved at a cost of $140 per tonne of CO_2e. This compares very unfavourably with any proposed carbon price. Competitive grant programs have also been unable to achieve the amount of abatement originally intended.

Part of the Direct Action Plan is to convert brown coal to gas. This will increase electricity prices. Will the Coalition compensate electricity consumers? If they do where will this money come from? Will it be part of the Emissions Reduction Fund?

The Coalition has committed to ensuring that there is no increase in prices to consumers so any electricity price increase would need to be compensated for. It is not clear where this money would come from. If it came from the Emissions Reduction Fund then this would reduce the amount of money available to buy other abatement.

Direct action includes planting trees. Where will they be planted? How much land will be needed for tree planting? Where will the water come from for the new trees?

265,600 square kilometres would need to be planted if all of the Co_2e was to be offset by trees. That quantity of planted trees would require 96,944 gigalitres of water per year. About 25,000 square kilometres land would need to be planted with trees if the 15 million tonnes of CO_2e is to be offset as spelt out in their Direct Action Plan. The trees would use about 9,100 GL of water per year. Planting trees can be an important way of reducing emissions but they cannot reduce emissions on the scale that the Coalition is suggesting without large scale changes to land use in Australia.

How many public servants will be required to implement the Coalition's Direct Action Plan? Which department will have responsibility for the Direct Action Plan?

This is a difficult question to answer. We can say that it would require a large number of public servants to assess the quantity of tenders that the Coalition would require in order to achieve its emissions reduction target. This at a time when Joe Hockey is claiming he wants to cut public servant numbers in order to save money.