



# **Submission into the Senate Committee on Environment and Communications Inquiry into the Government's Direct Action Policy**

January 2014

## **Introduction**

The Australian Manufacturing Workers' Union (AMWU) represents approximately 100,000 members working across major sectors of the Australian economy. AMWU members are primarily based in manufacturing industries, in particular; metal, vehicle, and food manufacturing, but also in the industries of mining, building and construction, printing and graphic arts, repair and service and laboratory and technical services.

The AMWU has members working in industries on both perceived sides of the climate change debate, such as coal mining, steel and aluminium production, on the one hand, and the installation and commissioning of wind turbines and other clean energy on the other. We also have members in research and development generally and in some government agencies with a particular interest in climate change, such as the Antarctic Division and the Bureau of Meteorology.

In the AMWU's view, a broad based economy is crucial to the generation of wealth and high living standards for all Australians, now and into the future. It enables the economy to better withstand external shocks, it enables individuals to attain their full potential by offering the largest possible variety of career options and crucially, it maximises the growth potential of the economy by allowing the development, take up and commercialisation of the largest possible set of new sources of growth.

A broad based economy includes a strong manufacturing sector by definition. Manufacturing's role is especially important in the maximisation of new growth and productivity enhancing technologies and processes. Manufacturing contributes almost 25 per cent of all business investment in research and development in the economy, even though it represents just over 7 per cent of all economic output.

However, the manufacturing industry has been under considerable pressure in recent years and faces several challenges. The solutions to these challenges require the sector to better innovate and better deploy the results of innovation and crucially increase investment, particularly in efficient capital.

The climate change challenge, specifically the need to lower CO<sub>2</sub> emission intensity and thus improve energy efficiency in manufacturing, is closely related to the need to increase productivity improving investment. For this reason, the AMWU sees the climate change challenge as an opportunity rather than a barrier to a stronger manufacturing sector.

A well designed policy will spur investment in the sector, promote innovation and deployment of new technologies and do so at a negligible cost to the economy.

## **Climate change policy**

Fundamentally, climate change is an externality problem, where the costs of an activity are not fully represented in the institution/market where decisions are made concerning the activity, leading to excessive social costs and what economists call a suboptimal welfare outcome. In addition, it is a fundamentally global problem, with the coordination issues that come with any international

problem. It is also a problem whose solution implies costs for certain powerful vested interests in the economy. And finally, it is a problem on time scales that are larger than the human life span, so in effect it is a long term inter-generational problem with the complicating issues that such problems entail. In short, and as Professor Ross Garnaut has pointed out, it is a “diabolical” public policy problem.

The difficulty of climate change as a problem does not imply it is not solvable. In fact, the most challenging aspects of the problem are practical, not conceptual; in particular the need to create a coordinated international approach. Conceptually, we understand externality problems well, we understand the specific nature of the climate change externality and we understand the mechanisms needed to overcome the inter-generational aspects of the problem. From a domestic point of view (putting to one side the international coordination issue), if the will to address the problem was shared by both sides of politics, it would cease to be a policy problem for government and become a practical engineering/scientific problem for industry and academia, where the challenge would become purely one of invention and investment who's solution would benefit the economy, our long term competitiveness and prosperity.

It is not a result of true disagreements about the best solutions that (some) governments and countries argue about the best policy approach to climate change; it is a result of efforts to delay or avoid the implementation of real solutions. These efforts are born of either a denial of the problem in the first place or the misrepresentation of scientific uncertainty to delay the imposition of solutions in order to delay harm to vested interests.

The AMWU believes that a real policy solution to climate change is not only in the country's long term interests, it is in the interests of AMWU members and the manufacturing industry and the economy more broadly. Any real solution needs to include several features:

- A broad based carbon price to:
  - o Incentivise investment in, deployment of and research in low carbon technologies,
  - o Incentivise abatement across the whole economy, allowing private actors to make low cost abatement decisions, and
  - o Raise revenue in an economically efficient manner (taxing a good which produces a negative societal externality is one of the few methods available of raising revenue that does not produce the usual economic/deadweight cost on the economy), and ensure an equitable approach to climate change is taken.
- The use of revenue raised to support low carbon investment, trade exposed industries (while a global carbon price is lacking) and low income earners,
- It needs to be able to be 'linked' to global carbon markets, and thus become part of a global solution to climate change,
- It needs to be permanent to provide policy and investment certainty, with long term carbon allocations decided on the basis of 'fair' Australian effort and scientific advice.

The former Government's Clean Energy Future Act satisfied all of these criteria, and the AMWU remains supportive of this Act. In our view this Act should not be repealed until a proposed alternative which also meets the above criteria and includes a demonstrable superiority is proposed. The AMWU does not believe Direct Action meets these criteria, let alone includes a demonstrable superiority to the Clean Energy Future Act.

This submission discusses Direct Action from three perspectives to justify this view. From the perspectives of; the allocation of property rights in the case of an externality (which deals with the equity of the Direct Action policy), the role of a market mechanism in addressing an externality (which deals with the efficiency of the policy) and the possibility of coordinated global action to address climate change (which deals with its adequacy as part of a global solution).

## **Direct Action and property rights**

An externality is a situation where a cost (or benefit) of an action is not accounted for when an agent chooses to perform that action. In effect, the cost (benefit) is real but not part of the decision making process and therefore the optimal amount of the action isn't chosen because it has consequences that are not being considered. Externalities (both positive and negative) are pervasive in the real economy, from passive smoking, to societal benefits of individuals exercising (lower public health care expenditures) to unregulated industrial pollution.

What we know about externalities, in particular as an economic phenomenon, can in a large part be attributed to the work of Nobel Prize winning economist, Ronald Coase. One of Dr Coase's most important insights was that the specific solution to a problem involving externalities (or in economic parlance, the efficient allocation<sup>1</sup>) is invariant to or doesn't depend on the allocation of property rights between the relevant parties (in the absence of transaction costs).

This may seem neither relevant nor clear without an example.

Consider a case where there is a factory which dumps harmful waste into a stream and further down the stream there is a farmer who uses the stream for irrigation. Coase's insight<sup>2</sup> is that if the parties (factory and farmer) are allowed to bargain and there are no transaction costs involved, regardless of the allocation of property rights between the two parties (ie, whether the factory has a right to dump pollution freely or whether the farmer has a right to a clean water source), the amount of pollution which will go into the stream will be the same.

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<sup>1</sup> It is worth noting that in this submission efficiency should be taken to mean the economic theorists 'Pareto efficiency' definition; or an allocation where no one can be made better off without someone else being made worse off. However, this definition can be shown to be equivalent to 'allocative efficiency' (in a production economy) or the 'least cost' common usage definition of the term. Pareto efficiency is preferred here because it is more general and therefore more useful in conceptual analysis/discussion.

<sup>2</sup> This is known as the Coase Theorem in economics.

This seems like a counterintuitive result and in some ways it is, but it comes about because through the bargaining process, the (marginal) value of the stream for the farmer is equated to the value of the stream to the factory<sup>[3]</sup> (post side payments – payments from farmer or factory). However, the process or the outcome places absolutely no emphasis on equity at all.

If the property right is given to the farmer, then the factory will pay the farmer for the right to pollute in the efficient outcome. If on the other hand, the property right is given to the factory, in the outcome the farmer will pay the factory to lower its pollution. So while the outcome (amount of pollution) will be the same (and economically efficient) in both cases, the welfare of farmer and factory do depend on the allocation of property rights. In particular, the agent with the property right needs to be compensated for any violation of this right.

This example, and Coase's insight, is relevant to climate change policy in a way that is typically missed, namely in the implied allocation of property rights that different approaches to climate change policy generate and therefore in their equity implications.

Climate change is caused by the build up of CO<sub>2</sub> (and other greenhouse gasses) in the atmosphere, largely by industry. Its consequences are felt by the whole (global) population (and largely by future generations). The example above can be transposed onto the problem of climate change with the factory replaced by industry and the farmer replaced by society as a whole (including future generations).

A broad based carbon price allocates the property right to society (in which case the right becomes the right to live in a world free from human induced climate change) and makes industry pay society for the right to pollute, just as when the property right is allocated to the farmer (in which case the right becomes the right to clean water), the factory pays the farmer for the right to pollute.

Alternatively, a policy which pays industry taxpayer (or societal) funds to lower pollution is a policy which allocates the property right to industry (and the property right becomes one to pollute the atmosphere). Direct Action, with its abatement mechanism being the taxpayer funded Emission Reduction Fund is exactly this type of policy. It effectively states that private industry has a right to pollute the atmosphere and this right overrules the right of living and future generations to a planet with a stable climate. In effect, under Direct Action, society (taxpayers) need to compensate industry (through the Emission Reduction Fund) to lower their pollution and achieve a stable climate.

This is an incredible stance for a Government to take, especially in light of decade's long precedent which has allocated property rights in cases conceptually equivalent to this to society rather than private business interests. What is even more disturbing is that the Environment Minister is perfectly aware of this aspect of his policy, as he is not only a lawyer by training but his honours thesis was on this very topic.

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<sup>[3]</sup> This equivalence of marginal values is a common feature of market equilibria generally. Interested readers can read the Wikipedia page on 'competitive equilibrium' or any number of (micro)economics textbooks.

In effect, the Government's proposed climate change policy overturns the precedent of allocating property rights in the presence of negative externalities generated by industry to society,<sup>3</sup> in favour of allocating these rights to private shareholders and other business owners<sup>4</sup>. In the AMWU's view, such a policy represents a complete disregard for a fundamental principle which should guide all governments, namely the placement of societal interests above private interests, or put more simply, the pursuit of the national interest.

Not only is this clearly unjust and a neglect of a fundamental principle of good government, but because it involves a transfer of wealth from society to private industry through a dangerous precedent whereby property rights previously held by society are conceded to industry, it is fundamentally inequitable.

Of course there are circumstances which call for Governments to make payments to industry (whether they be co-investment grants, tax relief or other benefits which are funded by taxpayers), but these cases are justified by the support of some positive goal which is generated by positive externalities or spill overs from industrial activity. Unlike the case of Direct Action, such industry support does not imply an allocation of property rights which places private interests over societal interests.

Even before addressing the economic efficiency or international aspects of the Direct Action policy, the above analysis should be enough for any person or organisation which cares about equity, fairness and the principles of sound government (such as the AMWU) to reject the Government's Direct Action policy.

## **Direct Action and efficiency**

Externalities which are small and localised, like the factory/farmer example above can be solved by the allocation of property rights and the provision of a bargaining institution (including an enforcement mechanism). Externalities that are pervasive, widely dispersed and involve the entire economic system require more sophisticated policy responses. The difference between these two extremes can be attributed to the transaction costs that are borne in finding the best outcome (or an efficient solution). The transaction costs associated with the climate change problem effectively rule out a solution that doesn't involve the direct addressing of the externality, or put another way, its internalisation into decision making through a policy intervention.

The question then becomes what policy intervention is least cost and most efficient. Economists argue that a market mechanism represents such a policy. This has lead to a debate about what

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<sup>3</sup> It is worth noting that the pure regulation of activity that is harmful to society implies the property right in question is held by society rather than industry.

<sup>4</sup> Who may or may not be Australian citizens.

exactly is a market mechanism, with the Government arguing Direct Action is a market mechanism because it involves a reverse auction and others arguing that it does not and is rather a grant tendering scheme.

### **The theory of markets and Direct Action**

It is insightful to take a step back and consider why economists make the argument about market based mechanisms in the first place. While this is a question which involves largely conceptual issues, it is relevant for the consideration of Direct Action as a policy response to an externality.

Externalities like climate change can be thought of as missing market problems; in effect there is a missing market that would internalise the external cost of the activity in decision making, were it to exist. In this sense, an externality is a scarce resource allocation problem (the very problem that lies at the heart of economics as a discipline), with the scarce resource to be allocated being CO<sub>2</sub> emissions (the restriction on CO<sub>2</sub> emissions to avoid dangerous climate change and achieve CO<sub>2</sub> atmospheric stabilisation being responsible for scarcity of the resource).

Economists have shown long ago (the First Fundamental Welfare Theorem) that if a certain set of conditions are met, a 'market' will allocate the resource in question efficiently. This is the fundamental conceptual reason why 'market mechanisms' are considered to be the most efficient interventions in missing market or externality problems, not to mention why markets are considered the most efficient ways of organising economies<sup>5</sup>. However, there are two things that need to be noted about how this translates to an analysis of Direct Action.

Firstly, the 'certain conditions' include there being many buyers and sellers, who compete with each other and who each have no individual power over the price of the good in question. Secondly, the 'market' through which the resource is allocated includes the existence of an explicit price for the good in question that all buyers and sellers react to. In fact, it is this explicit price that is central to the functioning of the market and the generation of efficiency. The price serves as a coordination mechanism as well as an information transmission mechanism.

The Direct Action policy proposes one seller (the government), who is able to price discriminate between buyers (businesses) to achieve abatement. Conceptually, while this mechanism can be called a market, it would never be considered a 'competitive market' and it would never be associated with an efficient allocation of the resource (indeed, it can and has been shown that such a mechanism will not lead to efficiency).

The point being that regardless of whether you believe Direct Action is a market mechanism or not, it will not by design create a 'competitive market' which is the type of market that generates

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<sup>5</sup> This result does not imply there is no role for Governments in regulating or intervening in markets. Firstly, the conditions required for markets to generate efficiency are often if not always not met (agents are price takers, perfect information, no externalities, no public goods etc....) and secondly, an allocation can be efficient but society may still seek to intervene due to a desire for equity (note the Welfare Theorem is silent on the equity of allocations), even if a more equitable outcome comes at an efficiency cost.

efficient resource allocation. Such a market involves an explicit price (in this case a price on carbon pollution) and the ability of any agent to buy and sell carbon pollution permits to any other agent.

### **The practicality of markets and Direct Action**

Practically, efficiency and lowest cost abatement is generated by several things:

1. attaching a cost to pollution (or benefit to abatement – these two things can be thought of as the inverse of each other) to as many polluters in the economy as possible, including down stream users of carbon intensive goods and including consumers,
  - a. this can be thought of as providing an incentive to abate
2. providing certainty about this incentive, its long term existence and level,
3. ruling out non-additive abatement from gaining from the incentive (abatement that would have occurred in the absence of the incentive),
4. providing the incentive with minimal associated distortions to the economy

Direct Action provides a monetary incentive to abate in the form of government payments funded by other taxes. These payments will be offered to all polluters and their quantum (or price per tonne of abatement) will be decided by a reverse auction (so lowest prices will be bought by the Government first, on an increasing scale).

### **The abatement mechanism**

The voluntary nature of the policy implies several problems in terms of achieving lowest cost abatement.

Since polluters would not be obliged to purchase abatement, some would opt out limiting the set of abatement available in the system. This opting out could be for several reasons, but it is well known that businesses often make seemingly irrational decisions due to organisational structures, internal informational and coordination problems and limited resources, including the time of management.

As polluters would not be obliged to participate, they would require a price per tonne of abatement that was greater than the cost per tonne of abatement in order to participate, otherwise there would be no benefit (and therefore no reason) to participate. This would by definition guarantee that the Government would be overpaying for every tonne of abatement (as it would be paying a premium to every participant). This is an often overlooked feature of Direct Action.

Only a punitive mandatory carbon price imposed on all polluters would trigger all polluters to be subject to the Direct Action incentive to abate, in which case Direct Action would revert to an explicit carbon price policy (in the form of a tax rather than an emission trading scheme), with additional grants for abatement from the Emission Reduction Fund.

Since abatement would be generated from the sale of abatement to the government rather than the internalisation of the social cost of pollution, firms would fail to change their own resource allocation decisions. Firms would see abatement as an opportunity for the sale of fixed packages of abatement (or fixed abatement projects) rather than the accumulation of small incremental changes



to lower (carbon price) costs which each leads to improved industry productivity as well as the realisation of low cost abatement.

As firms would not be subject to increased prices based on carbon intensity, they would not pass on these prices through to customers and the economy as a whole would not be subject to the incentive to abate. As a result, the majority of the economy would not take action to abate and countless sources of low cost abatement would not be harvested.

This restriction on the set of abatement possibilities subject to the incentive will have the effect of increasing the cost of abatement that is realised when compared to the case of a broad based carbon price, ensuring Direct Action achieves abatement at a higher relative cost to a carbon price.

Fundamentally, due to its limited scope, (economic) depth and lack of an explicit price, Direct Action will fail to change the relative prices in the economy and as a result will not lead to the access to abatement opportunities and long term structural economic change that a carbon price will generate. For this reason, the efficiency of the Direct Action abatement mechanism cannot be greater than a broad based carbon price and in fact will be lower.

### **Certainty**

Rather than provide certainty about the existence of the incentive mechanism, the Government has been explicit and clear that the incentive mechanism is limited in both funding (\$1.5 billion) and time (to end by 2020). This ensures that business and the economy more broadly has no incentive to take up longer term abatement measures. In addition, and perhaps more disturbingly, it ensures that industry has no incentive to invest in low pollution technology and innovation that doesn't have a positive return prior to 2020 (and that is assuming the end result of this investment has a guaranteed ability to be sold to the Government, which it does not).

In effect, Direct Action provides absolutely no incentive to invest in long term abatement measures, technology or processes, all of which are crucial for both a lowest cost policy response and a successful policy response to climate change. And it does not provide this crucial policy certainty by design. Given the long term nature of the problem and the long term economic transformation that is required to address it, this is an extremely strong indication that Direct Action was not designed as a real solution to address climate change.

### **Additive abatement**

Under a broad based carbon price, the question of whether certain abatement is additive or not (would have occurred without a carbon price or not) is irrelevant as the cost of abatement is borne by the firm abating. Under Direct Action, as it is the taxpayer who bares the cost of abatement through grants from the Emission Reduction Fund, this is a central issue. If abatement would have occurred in any event, then Direct Action will simply represent a wealth transfer from taxpayers to firms for no environmental benefit.

In reality, there is no way for the Government to guarantee that such non-additive abatement isn't purchased by the Government. Many capital investment projects would lead to improved energy efficiency and thus abatement as a bi-product of the efficiency improvement. Such projects can be presented as abatement projects and can participate in Direct Action auctions in an attempt to

secure funding for a part of the projects cost. Indeed, it is not unlikely that firms are holding off implementing such projects in anticipation of having the project cost decreased through an Emission Reduction Fund grant.

The only way for the Government to ensure that this doesn't occur is for the Government to have access to all information about planned investment projects which could potentially seek support through the Emission Reduction Fund, and based on this information rule out projects that would proceed in absence of the policy. This is not possible, nor if it were possible would it be efficient.

### **Minimal associated distortions**

As Direct Action is funded by general tax revenue, the generation of this revenue is associated with the standard economic/welfare costs of taxation. These costs are referred to as the 'dead weight loss' or 'excess burden' of taxation by economists and are generated due to the economic activity that taxation supplants in excess of its re-distributive effects.

Even if Direct Action was equivalent to a broad based carbon price in every other respect, this additional cost relative to a carbon price should be significant enough for policy makers to prefer a broad based carbon price, as such a price does not have the same associated taxation cost (as outlined above).

Indeed a carbon price is an extremely efficient way to generate revenue, as it internalises the externality of carbon pollution which leads to lower pollution and investment in alternatives. It is the lower economic activity associated with the lowering of pollution that would in a non-externality setting be considered the cost of taxation, but in this case is actually the achievement of a socially optimal allocation of resources, as well as the creation of a strong and permanent incentive to invest and abate.

### **Direct Action and the Global solution**

Any solution to climate change will require the stabilisation of global CO<sub>2</sub> levels. This will mean that a global CO<sub>2</sub> 'budget' will need to be determined (effectively a global stabilisation level of CO<sub>2</sub>) and divided so each country has its own allocation of CO<sub>2</sub> emissions (a national budget). Each country will need to be able to demonstrate to every other country that they are functioning within their budget.

To implement a global solution through a carbon tax regime would present great practical problems. Any specific level of carbon tax cannot guarantee a given level of CO<sub>2</sub> abatement (as the costs of abatement of all economic actors are not and cannot be known by the government). Regardless whether the carbon tax was set uniformly or not, a global carbon tax system would need to be accompanied by an international transfer system where countries that over emitted relative to their carbon budget would pay (essentially penalties) to countries who over abated. In addition, the global tax, or national taxes would need to be continuously refined (in their level) to ensure the achievement of the global budget. Needless to say, such a system presents practically insurmountable difficulties in the real world.

A global solution can most easily be implemented by the establishment of a global emission trading scheme, with international trade in CO<sub>2</sub> permits and a single global carbon price. There would be no need for intergovernmental transfers as each country would meet its allocated carbon budget by design (through private international trade in CO<sub>2</sub> permits). Indeed, this is the solution that the UNFCCC has been working towards since its establishment and it is the solution that individual nations have been working towards through the establishment of national but internationally linkable emission trading schemes. Until recently, it was also the solution the Australian Government was working towards, with significant progress.

It is clear that since Direct Action does not include the issuing or trading of CO<sub>2</sub> permits, and it is a short term policy only ending in 2020, it is not compatible with this type of global solution. In addition, the Government has made it clear that any type of international linking of their policy is not acceptable, effectively ensuring Direct Action will not be and will not attempt to be part of any global effort to address climate change – a fundamentally global problem.

In addition, Direct Action cannot guarantee a set amount of abatement (or the reaching of a particular CO<sub>2</sub> budget) for the same reason that a pure carbon tax cannot, namely the Government does not and cannot know the abatement costs of all relevant actors in the economy (and therefore when setting the tax or the size of the Emission Reduction Fund, cannot know the amount of abatement that will be generated). In addition, the Government has made it clear that the funds allocated under Direct Action are fixed and will not be increased. Since it is these funds that provide the incentive to abate, in effect the amount of abatement under Direct Action is already fixed, it is just not yet known.

Numerous analyses of Direct Action (including submissions to this inquiry, such as the Climate Institute's) have concluded that the current funding will not be able to meet Australia's 2020 5 per cent emission reduction target. While meeting the 5 per cent target is doubtful, it seems a certainty that meeting any higher target is an impossibility, a fact which severely limits Australia's ability to be a constructive participant in any discussions on a global solution to climate change.

As a direct result of the Government's pledge to not increase funding under Direct Action, the policy is not scalable at all, ensuring the Government cannot accept a higher abatement target even if the rest of the world agrees to a global carbon budget and its division between nations. In addition, Direct Action ends in 2020 with no alternative or extension being contemplated by the Government, effectively meaning that according to the Government's plans, in 2020 climate change will cease to exist as a problem worthy of even the most fig-leaf of policies.

In effect, Direct Action is by design incompatible with any progress towards a global solution to climate change. As stated above, abatement under the policy is already fixed, it is just not yet known. The Government has made it clear they have no intention to even consider it being expanded in scope or time and it cannot be linked to any form of international mechanism. It is a policy which fundamentally denies climate change is a global problem which requires a global solution.

## Conclusion

This submission has outlined the reasons why Direct Action is not seen by the AMWU as a real or credible climate change policy.

A real and credible climate change policy should be seen as a great opportunity for the Australian economy. Such a policy will generate massive new investment in Australian industry, across all sectors spurring growth. It would create countless new jobs and be responsible for an improvement in productivity across the whole economy. It would spur massive investment in new technologies, processes and products, putting Australia at the forefront of the \$1.3 trillion per year global clean energy industry. It would form part of a global solution to climate change, and it would do this in a low cost, fair and equitable way.

However, this is an opportunity that will be missed if the Government's Direct Action Plan is implemented in place of the currently legislated Clean Energy Future Act. Direct Action is neither equitable, economically efficient, nor capable of bringing about significant economic change. It will hinder not help the development of a global solution to climate change, and it will set a dangerous precedent where society is denied property rights when issues of societal harm are in question.

Rather than any serious attempt at a policy to address climate change, Direct Action is more likely an attempt to delay a real climate change policy at taxpayer expense.