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EFFECTIVE CLIMATE CHANGE POLICY: THE SEVEN 'CS'

SOME DESIGN PRINCIPLES FOR EVALUATING GREENHOUSE GAS ABATEMENT POLICIES

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FOREWORD

SEVEN 'INCONVENIENT TRUTHS' ABOUT CLIMATE CHANGE POLICY FOR AUSTRALIA

- I.** Australia *could* act to cut greenhouse gas emissions a bit ahead of other countries.
(Inconvenient for the Opposition?)
- II.** But this would require a different, 'no regrets', consumption-based model, in place of the CPRS.
(Inconvenient for the Government?)
- III.** At best, Australia's contribution to solving global warming, *per se*, will be small.
(Inconvenient for the Greens?)
- IV.** If a production-based model is used, China, India, (and the USA?), will not act soon, if ever.
(Inconvenient for the European Community – and the world?)
- V.** Production-based models like the CPRS could induce more trade protectionism.
(Inconvenient for the EC, Pascal Lamy, the WTO – and the world?)
- VI.** Whatever the science says, points I-IV are facts, and V is a high risk.
(Inconvenient for Al Gore, the EC, Pascal Lamy, the WTO – and the world?)
- VII.** Australia's climate change policy must reflect truths I-V – or fail to reduce emissions much.
(Inconvenient for those hoping to profit from a new emissions trading market based on the CPRS in Australia?)

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31 July 2008

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Executive Summary

Background

The Doha round of international trade negotiations has just collapsed after seven years of talk. Protecting national agricultural interests was a key reason for this outcome.

In this sombre environment, many governments are pressing for coordinated action to reduce global warming attributable to greenhouse gas emissions. The emissions trading system (ETS) model advocated for this purpose undermines national competitiveness and jobs where nations do not move together to deal with the problem.

Climate change policies inhabit the very real world of the 'free rider' or (less accurately) the 'prisoners' dilemma' problems. Here, there's *no* margin to be gained by nations acting ahead of the pack, and a commercial benefit for those bringing up the rear.

If we cannot cut a deal on global trade liberalisation, where even unilateral action confers benefits on most if not all countries, what chance do we have of cutting a deal where such action confers zero or negative benefits, and we only gain if we all move together? The answer for Australia is: none whatsoever. Welcome to the world of Kyoto and post-2012.

Commercially, the USA, China and India (and others) are unlikely to act to reduce greenhouse gas emissions based on an ETS production-based model. Recession, or even slowing economic growth, make such expectations laughable. Jobs are already being lost. No more losses will be accepted for promotion of distant climate change objectives.

Is there an alternative approach, where putting a price on carbon emissions by countries acting unilaterally will **not** drive production, investment, and jobs offshore, and have zero or negative effects on greenhouse gas emissions anyway? The answer has two parts:

- Conceptually, the answer, very clearly, is 'yes'.
- Practically, the answer is, 'with a lot of difficulty'.

Dealing with assumed climate change problems, by definition, is complex, detailed, and interventionist. Moreover, there's unlikely to be a simple answer.

But consider the choices:

- We can opt for a 'simpler' model that seems more 'practical' (but to which, as in the past, most hard-headed national governments will not *really* subscribe). That's a recipe for more red tape, more 'deadweight' economic losses, and little or no result in reducing greenhouse gases. We'll suffer more job losses, and for little or no global emission reduction result.
- Alternatively, we can opt for a better-based model, despite its greater complexity, that insulates Australia from unnecessary economic and employment losses, and actually encourages other countries to adopt a similar course, ultimately increasing chances of a global compact that minimises the 'free rider' or 'prisoners' dilemma' problem.
- Will this alternative approach *solve* the 'free rider' or 'prisoners' dilemma' problem? Almost certainly not. But it *will* minimise policy features *adding* to that problem. The practical obstacles are substantial. But the obstacles associated with the current *production*-based ETS model are probably *insuperable* in a world of sovereign national governments.

The alternative national emissions *consumption*-based model outlined in this policy note should be thoroughly debated and road-tested before it is discarded. To date, the public discussion of this alternative emissions reduction target base has been very limited (and confused).

This model may increase chances of getting the USA and other important countries on board.

To be sure, it may be more complex. But if the choice is between simpler models that do not work, and more complex models that do work, it makes sense to choose either, (i) the latter or, (ii) neither.

Key points

Geoff Carmody & Associates (GCA) develops the following key points in this policy note:

- In order to evaluate greenhouse gas (GHG) abatement policies, it is essential to have an analytical framework, based on key assumptions and principles that are broadly agreed. Otherwise, the policy debate is likely to flail around in emotional, quasi-religious, name-calling.
- This is not a new approach. Take tax reform. Typically, assessments of 'good' or 'bad' tax reforms are based on the generally agreed design principles of efficiency, equity and simplicity.
- There are two key assumptions relevant to the design of climate change policy:
 1. Climate change is a problem, GHG emissions are a significant cause, and human action can help improve prospects. GCA is not competent to judge the science of climate change, but accepts the majority view for the purposes of this policy note.
 2. With the best will in the world, countries will *not* move together to deal with the assumed global problem of climate change. There are global governance, 'free rider' and (narrow) economic development imperatives that make this the only realistic assumption.
- Principles for effective and efficient GHG abatement policies should reflect these assumptions.
- GCA proposes seven design principles for assessing GHG abatement policies – the 'seven Cs'.
 - I. **'COUNTABLE'** GHG emissions: if we can't measure them, we can't control them. Good carbon accounting systems – climate change policy's 'national accounts' – are essential.
 - II. **CREDIBLE** country policies: this means not just stating targets, but spelling out credible mechanisms (including the price for carbon) through which they will be achieved. Ambitious targets with low (or no) carbon prices are *not* credible.
 - III. **CONSUMPTION-BASED, COMPREHENSIVE** country policies: the policy target base should be country *consumption* of GHG emissions, not country *production* of emissions. Australia can only control its *consumption* of emissions. Attempts to control Australian *production* are likely to drive it offshore, to countries with less stringent – or no – policy controls over GHG emissions. The current confused debate in Australia about 'concessions' for trade-exposed sectors reflects a *production* policy target base. This base intensifies the 'free rider' or 'prisoners' dilemma' problem, and sets policy up for country and global failure.

It may also induce a defensive trade protectionism response, especially post-Doha.

- IV. **COMPARABLE EFFORT**-based country policies: Australia should neither lead (much) nor lag the world in dealing with GHG emissions. If Australia decides to act alongside the developed economies as a group (with developing countries to act later according to a broadly agreed timetable) its effort should be 'comparable' with developed countries' average efforts. 'Comparable effort' should be defined by policies that set the Australian carbon price equal to a weighted average of market prices for carbon across all developed economies. The weights should be country-specific *consumption* of GHG emissions, or, as an approximation, country real Gross National Expenditures.

This policy (like targeting a 2%-3% inflation band) should be determined by the Government of the day. *Given* that target, the average carbon price can and should be calculated and set by bodies such as the Treasury, the Department of Climate Change, the ABS, or the RBA. *It should not be set by the Government or Parliament.*

- V. **COMPENSATION-CONSTRAINED** country policies: 'compensation' should be minimised, preferably zero. Trade-exposed industries do not need compensation if a GHG

consumption base is chosen. Other industries do not warrant compensation provided impediments to passing-on carbon prices are removed. Consumers do not warrant compensation if the policy is serious about reducing GHG emissions consumption. Price signals (ie, the price for carbon) need to be passed on – and felt – if the policy is to be effective. Political realities probably dictate low-income compensation, but this should take the form of tax cuts or transfer increases, and not be described as compensation.

VI. **CARROT-INCLUSIVE** country policies: if penalties (eg, a carbon price) apply for GHG emissions, an effective GHG abatement policy should also offer rewards (a carbon withdrawal subsidy) for activities demonstrated to remove GHG from the atmosphere and 'fix' it in sustainable ways. Indeed, ideally *all* revenue from pricing GHG emissions should go first to rewarding such GHG-reducing activities. This would make the policy (i) more effective and efficient, (ii) more (net) revenue-neutral (desirable unless there is a 'larger government' agenda), and (iii) more likely to be price-neutral (reducing demand for consumer compensation).

VII. **COST-EFFECTIVE** country policies: GHG emissions abatement policies should be broad-based, generally understood, and comprehensively felt. This makes them effective. They should also be as easy as possible to administer and with which to comply. This makes them efficient. 'Red tape' is inevitable with such policies, but the challenge is to choose an option that minimises this 'deadweight' economic cost.

- Dealing with climate change is indeed a 'diabolical' policy issue for sovereign nations:
 - The costs of adjustment come early and are (or should be) clearly felt to be effective.
 - Without such cost signals, behaviour won't change.
 - We *hope* that other countries 'do their bit'; otherwise Australia's efforts come to nought.
 - The *real* benefits (not GHG reductions *per se*, but less global warming) can only be measured against a 'business as usual' scenario in the distant future.
 - The science (to a limited extent) is still a matter for debate, at least in relation to anthropogenic influences.
 - Governments operate on a short-term election cycle.

GCA has set out some principles that should guide the development of an effective and efficient country-specific GHG abatement policy. Could these principles be used to promote a policy package that might have more than a snowflake's chance in hell of being adopted globally? The answer is: 'probably not, but nothing else will, either'.

But suppose we suspend disbelief for a moment. Short of specific action, could we get broad agreement on a set of *principles* that might be used to guide policy if and when individual countries decide to adopt specific GHG emission reduction policies?

The following Box summarises the key elements of such a package of principles.

Box. Design principles for an effective and efficient global GHG abatement policy

- I. All countries agree to adopt best-practice carbon accounting ('countability') ASAP.**
- II. All countries agree to principle #2 (credibility) when they adopt GHG abatement policies.**
- III. All countries agree to principle #3 (consumption base) at the same time.**
- IV. All countries agree to principle #4 (comparable effort) at the same time.**
- V. All countries agree to principle #5 (compensation minimised) at the same time.**

- VI. All countries agree to principle #6 (carrots for carbon withdrawal) at the same time.**
- VII. All countries agree to principle #7 (cost-effective policy) at the same time.**
- VIII. Developed countries agree to act first, but with a broad timetable for others to follow.**

This package leaves open precise GHG policy timing and abatement modalities for individual countries. For it to have any chance of working, developed countries (or at least the overwhelming majority of them) probably have to sign on for this package and implement GHG abatement policies first.

Building on existing market prices for carbon (eg, in the EC), this provides a market price 'anchor' for principle #4. With that bedded-down, as developing countries progressively (hopefully) come on board, the carbon price average for principle #4 becomes more global in nature.

On modalities, what about an ETS versus a carbon tax? GCA makes no comment on which is preferable, overall, in this policy note. This will be dealt with in a subsequent policy note.

Global policy strategy

Climate change, by definition, is a global problem. A policy framework that allows *all* countries to cooperate on a 'no regrets' basis in dealing with this problem is essential. The alternative is to surrender completely to the 'free rider' or 'prisoners' dilemma' problem. We need support from the USA, China and India, and others. We should not adopt a system that effectively shuts them out.

Policy imperatives

One thing seems clear.

If 'failure isn't an option', neither is policy design failure.

There seems to be lots of policy design work still to be done.

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31 July 2008

1. What's happening re. climate change?

There's going to be a *lot more* discussion about climate change, greenhouse gases, and emissions trading systems (ETS) in Australia. The Government's green paper on ETS was released on 16 July. This will be a trigger for the debate, along with the (draft) Garnaut report released on 4 July.

This is complicated stuff.

- As Garnaut says, it's probably the most diabolical policy issue ever faced by governments.
- As Garnaut also notes, policy solutions are hampered by the 'prisoners' dilemma'.¹

Both points are spot-on. How can anybody form a view about the difference between 'good' policy and 'bad' policy in this area? We have some ideas on that, summarised in this policy note.

1.1 Background

The Doha round of international trade negotiations has just collapsed after seven years of talk. Protecting national agricultural interests was a key reason for this outcome. In this sombre environment, many governments are pressing for coordinated action to reduce global warming attributable to greenhouse gas emissions. The emissions trading system (ETS) model advocated for this purpose undermines national competitiveness and jobs where nations do not move together to deal with the problem.

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Is there an alternative approach, where putting a price on carbon emissions by countries acting unilaterally will **not** drive production, investment, and jobs offshore, and have zero or negative effects on greenhouse gas emissions anyway? The answer has two parts:

- Conceptually, the answer, very clearly, is 'yes'.
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¹ The prisoners' dilemma refers to a situation where, if one prisoner 'rats' on another – and this applies to all prisoners – they all 'go down'. Alternatively, if nobody 'rats' on anybody else, they all get lighter (or no) jail time. The problem – especially amongst crooks – is, 'who can you trust?' If the answer is 'nobody', they may all 'go down'. An alternative label is the 'free rider' problem. The 'free rider' problem is a situation where a sovereign government decides not to act to reduce greenhouse gas emissions in its country, at least until it sees others acting first, and possibly not at all. If all countries decide to act this way, nothing gets done (sound familiar?). This is the current real-world dilemma in relation to climate change policy. Australia contributes about 1.4-1.5% of global greenhouse gases (and falling?). The incentives for Australia to 'free ride' on others' efforts are large. How do we deal with this problem? That *is* our dilemma, and currently we *are* 'prisoners' on the Third Rock from the Sun!

But consider the choices:

- We can opt for a simpler model that seems more 'practical' (but to which, as in the past, most hard-headed national governments will not *really* subscribe). That's a recipe for more red tape, more 'deadweight' economic losses, and little or no result in reducing greenhouse gases. We'll suffer more job losses, and for little or no global emission reduction result.
- Alternatively, we can opt for a better-based model, despite its greater complexity, that insulates Australia from unnecessary economic and employment losses, and actually encourages other countries to adopt a similar course, ultimately increasing chances of a global compact that minimises the 'free rider' or 'prisoners' dilemma' problem.
- Will this alternative approach *solve* the 'free rider' or 'prisoners' dilemma' problem? Almost certainly not. But it *will* minimise policy features *adding* to that problem. The practical obstacles are substantial. But the obstacles associated with the current *production*-based ETS model are probably *insuperable* in a world of sovereign national governments.

The alternative national emissions *consumption*-based model outlined in this policy note should be thoroughly debated and road-tested before it is discarded. To date, the public discussion of this alternative emissions reduction target base has been very limited.

This model may increase chances of getting the USA and other important countries on board.

To be sure, it may be more complex. But if the choice is between simpler models that do not work, and more complex models that do work, it makes sense to choose either, (i) the latter or, (ii) neither.

2. *De facto* carbon taxes (ETS) or formal carbon taxes?

There's already been much debate about ETS systems versus a carbon tax. In broad terms, this is a debate about whether Tweedledum or Tweedledee – or some hybrid of the two – is better. All use a price on carbon-based emissions as an incentive to reduce them.

The ETS does this in a *de facto* way. Governments set a limit on greenhouse gas emissions by issuing permits to emit, and the market then sets the price for these permits to emit.

A carbon tax involves governments setting a carbon emissions tax rate, and then the market determines how much emissions are deemed cost-effective for the emitters over time.

In theory, the two approaches *might* produce the same outcome. In practice, they probably won't.

But there's no point in trying to determine which alternative is preferable without a framework for deciding which gets a 'tick' (and why), and which gets a 'cross' (and why).

Until Geoff Carmody & Associates can decide on such a framework, *we're* not prepared to vote either for an ETS system or a formal carbon tax. That would be putting the (analytical) cart before the horse.

3. Broad approach: a framework of principles

The notion that we need a framework of principles to evaluate a policy is hardly new.

Take tax policy. There's broad agreement that any tax proposal should be assessed against the three design goals of efficiency, fairness and simplicity. (Check out the terms of reference for the Henry Review of Australia's tax system.² You'll see that these framework principles are prominent.)

In the tax area, this is the framework of principles that most people use to decide whether a particular tax policy proposal is 'good' or 'bad'.

² See <http://www.treasurer.gov.au/DisplayDocs.aspx?doc=pressreleases/2008/036>.

If the environment debate is not to be a pointless exercise generating more heat (and carbon dioxide) than light – as it largely is now – then we need a set of agreed principles here, too.

Sure, getting agreement even at this more general level might be hard, but we need to try. Using these principles as a framework, we can then sort the 'good' policy from the 'bad'.

This policy note sets out some principles for debate. Before that, we need to establish some real-world starting assumptions about the policy environment we're likely to face.

4. Essential starting assumptions

We think there are only two starting assumptions we need to specify to develop our framework.

4.1 Assumption #1: Anthropogenic greenhouse gas emissions are a problem

This first assumption really has three sub-parts:

- ***a significant proportion of observed greenhouse gas increases in the atmosphere is man-made (anthropogenic), or***
- ***our action to reduce such increases can be effective, and***
- ***such increases are causes of global warming.***

Geoff Carmody & Associates (GCA) comprises economists. We're not scientists. We're not competent to judge the merits of the science. We note that 'experts' in the field are not completely unanimous on the science. But, for the purposes of this note, we accept the majority view. We see our job as trying to devise the most effective and efficient way of dealing with the problem, given assumption #1 (just specified) and assumption #2 below.

4.2 Assumption #2: Countries will not move together to deal with climate change

If all countries agreed to move together to combat climate change, and the problem (and progress in dealing with it) was objectively measurable, the 'prisoners' dilemma' or 'free rider' problem would disappear. The policy problem no longer would be 'diabolical'.

We assume that this big 'if' is unrealistic. Developing countries, including China and India, have already indicated very clearly that they will not move first, or even alongside the developed economies. The developed economies are a house somewhat divided in this policy area, too (either on the rhetoric, or more importantly, in terms of real action).

So our framework assumes that individual countries will 'do their own thing' – even if they mutter pious platitudes about the need for coordinated action at international talk-fests.

Contrary to Garnaut, we assume low values for the cooperative good-will of sovereign nations in this area. We operate in a world where national aspirations, and many of the various international frameworks (eg, trade), foster competition rather than cooperation.

Armed only with these two assumptions we can now attempt to lay out a framework of principles for evaluating greenhouse gas (GHG for short) abatement policies.

5. Suggested greenhouse gas abatement policy principles: the seven 'Cs'

We think there are seven fundamental design principles that should be reflected in any effective and efficient greenhouse gas abatement policy. We call these 'the seven Cs'. They are as follows:

- I. **Countable** country emissions.
- II. **Credible** country policies.
- III. **Consumption-based, comprehensive** country policies.

- IV. **Comparable effort-based** country policies.
- V. **Compensation-constrained** country policies.
- VI. **Carrot-inclusive** country policies.
- VII. **Cost-effective** country policies.

The rest of this policy note briefly explains what we mean by the seven 'Cs'.

5.1 Principle #1: **'COUNTABLE'** country emissions

The first principle is that the size of the problem, and progress in reducing it, should be measurable. Measurement should be based on internationally-agreed standards.

This seems obvious, but it bears emphasis. If we can't measure what's going on, or can't do so in a way that is internationally accepted, we fall at the first hurdle. A problem not measurable is a problem not understood. It's neither well monitored nor reduced, as well.

While this seems obvious, it's no small issue. 'Carbon accounting' frameworks lie at the heart of both ETS and carbon tax policies. As we understand it, regardless of the science, they're not all that easy to implement in practice. But they're essential for good outcomes.

5.2 Principle #2: **CREDIBLE** country policies

If greenhouse gas abatement policies taken by individual countries are not credible, they're worse than useless.

Such policies foster cynicism internationally (making the 'free rider' problem worse) and, even more importantly, internally. Even if they don't do that, they generate electorate misunderstanding about what's involved, produce initial support based on misunderstanding of what's involved, but ultimately a political backlash if/when the real story becomes clear. Non-credible policies are a political con-job, likely to be treated as such when their implications finally become clear.

Credibility, above all, requires that such policies cover *two* elements:

- the policy **objectives** governments seek to achieve; and, at least as importantly
- credible policy **mechanisms** to achieve them.

Environmental policies that concentrate on this or that 'target', without laying out in detail the broad mechanisms through which various groups (business, individuals and governments) will be encouraged or required to change behaviour to meet such targets, are likely to fail this principle.

There are two issues that are crucial for greenhouse gas abatement policies under principle #2:

- Whether governments adopt an ETS or a carbon tax, the primary weapon against carbon emissions is a higher price to be paid for such emissions – either a formal carbon tax or a *de facto* carbon tax. In competitive markets, this higher price must pass through the customers in the supply chain, and, in the end, to the final step in the chain – the consumer. As with most if not all economic problems, there's no 'free lunch' here. (See also principle #V below.)
- If governments set a GHG emissions reduction target, make sure they also indicate what **realistic** price for carbon (\$ per tonne emitted) will be needed to ensure their countries meet that target. Unless they do, their targets are just so much hot air.

If politicians try to avoid making these points clear, or, worse, try to deny them, they will fail the policy credibility test. This is an important principle to which politicians need to adhere right now.

5.3 Principle #3: CONSUMPTION-BASED COMPREHENSIVE country policies

This principle is *really* important.

Before getting into its detail, we need to be clear about the answer to the following question.

Which of these two statements is closest to the truth?

- I. Australia can control *production* of GHG emissions.
- II. Australia can control *its consumption* of GHG emissions.

The answer is II, 'its consumption'.

While many may *hope* that, through government policy and in other ways, Australia could control *production* of GHG emissions, the reality is that we cannot do so.

We can of course control *Australia's* production of GHG emissions, but that's not the same as controlling *global* emissions:

- If we wanted to, we could stop Australian production of coal as an energy source very quickly. That could have a substantial effect on *Australia's* GHG emissions (and other things too).
- We could do likewise for agriculture, banning the use of sheep and cattle as livestock. This also could substantially reduce *Australian* GHG emissions (and other things too).

But that's not the point. The point is: what effect would such drastic action have on *global* GHG emissions? The answer is: probably not a lot, and possibly *increase* them.

Why?

Because production would shift to more cost-effective locations (ie, cost-effective ignoring environmental costs).

This is a crucial point if we are developing a set of principles based on the assumption that countries will *not* move together to deal with climate change.

A policy designed to reduce *Australian production* of GHG emissions, in a world where countries will not move together, will succeed partly, largely or wholly by displacing such production to other locations where GHG emissions policies are less stringent or non-existent.

A policy designed in defiance of this reality means policy makers have lost the plot.

Yet discussion to date in Australia (and elsewhere?) seems implicitly to have targeted a country's *production* of GHG emissions. This is not the only choice for the policy target.

For the world as a whole, by definition, GHG production equals GHG consumption. In a world where all countries acted together to deal with GHG emissions, it wouldn't matter whether we targeted production or consumption.

But remember assumption #2 above.

Realistically, we assume countries will *not* act together. In this situation, the difference between GHG emissions production and consumption is crucial:

- Because of different resource endowments and international trade between countries, for each country, GHG emissions production usually will not be the same as consumption, even though, across the world as a whole, they are the same.
- Moreover, even if they are the same for any country, targeting production or consumption has different implications for a country's exports and imports, and its international competitive position. Why?
- As the national accounts framework used by the Australian Bureau of Statistics (ABS) tells us, the broadest measure of an economy's production is Gross Domestic Product (GDP), and the broadest measure of consumption (strictly, expenditure) is Gross National Expenditure (GNE). How are these related? As follows:

$$\text{GDP} \textit{ minus Exports} \textit{ plus Imports} = \text{GNE}, \text{ or}$$

$$\text{GNE} \textit{ minus Imports} \textit{ plus Exports} = \text{GDP}.$$

- That is, production (GDP) includes exports and excludes imports, while consumption (GNE) includes imports and excludes exports. The common component of both is local production consumed locally.
- So a broad-based GHG emissions policy targeting *production* hits exports plus production consumed locally and excludes imports, while a policy targeting *consumption* hits imports plus production consumed locally and excludes exports.

Why does this national accounting difference matter? Because of the 'prisoners' dilemma' or 'free rider' problem (see section 1 and assumption #2 above):

- Any country acting alone and targeting GHG emissions *production* makes its exports and import-competing production less price-competitive (because of the de facto or formal carbon tax embodied in its production cost structure).
- In contrast, any country acting alone and targeting GHG emissions *consumption* does not affect its export competitiveness or its import-competing production competitiveness much, if at all. Its exports cost structure is unaffected, while imports are subject to the same carbon tax effect as their locally-produced competitors.
- As a result, a *production* targeted GHG policy sets up incentives to shift local production, economic activity and employment – whether for exports or for import competition – offshore. That is, a production-based GHG reduction policy, by definition, encourages evasion of the intent of the policy by diverting production, employment and trade to countries not acting in the same way to curb GHG emissions production. (On this subversion of the policy's objectives, see below).
- In contrast, a *consumption* targeted GHG policy largely or wholly eliminates incentives to shift local production, economic activity and employment – whether for exports or for import competition – offshore. That is, a consumption-based GHG reduction policy, by definition, encourages compliance with the intent of the policy by being production- and trade-neutral. It focuses the GHG emissions reduction effort within the country taking such action, and minimises or eliminates incentives to shift production to countries not acting in the same way to curb GHG emissions production.

In more detail, what are the reasons why countries should target GHG consumption rather than production? Just some of these follow:

- Some may argue that *producers* of GHG emissions should be held responsible for them, and targeting production is therefore natural. The notion of producer responsibility (including extended producer responsibility) is well established in the environmental policy area ('polluter pays', and all that). There are two main arguments against that position in a world where countries don't act in concert on GHG emissions (assumption #2):

- First, it cannot work – or work very well – in a world where producers can relocate production to where it's most cost-advantageous. In some cases, a country's pursuit of a GHG production base may even *increase* global GHG emissions as production shifts to more GHG-intensive locations. In this situation, industrial dislocation in Australia, with all the (at best) transitional employment and income costs that go with it, would come for little or no gain in terms of *global* GHG emissions, or even a net deterioration therein.
- Second, it involves (in Australia's case) a relatively wealthy country attempting to impose national GHG abatement costs on other, in many cases poorer, economies (via raising our export prices). At the same time, Australia would effectively be pretending it won't switch its own spending to GHG-intensive imports even when these become cheaper relative to our own production of substitutes now affected by higher carbon taxes.
- The assumptions that poorer countries won't switch to cheaper sources of supply than Australia, and that we won't switch to cheaper imports ourselves, are not credible.
- But even assuming these unlikely outcomes hold, what right has Australia got to do other than clean up its own act – that is, curtail its own **consumption** of GHG emissions? And if we try, why won't other, poorer, countries defy us?
- These arguments are already implicitly acknowledged, albeit in a rough, very limited, 'special pleading'-sounding, and arbitrary way:
 - First, there's already plenty of discussion about 'carving-out' selected 'trade-exposed' sectors, especially on the export side (eg, LNG, steel, aluminium).
 - Second, there's now rapidly-growing recognition of the problem on the import-competing side (eg, manufacturing, cement).
 - But these acknowledgements, carried to their logical (and equitable) conclusion, would 'carve out' *all* exports, and, (*if* these could be accurately defined) *all* import-competing local production, from GDP.
 - In this situation, the GHG emissions production base would be reduced as follows:

$\text{GDP} \textit{ minus} \textit{ exports} \textit{ minus} \textit{ import-competing goods} = \text{GHG target base.}$

A big chunk would be 'carved out' of the production base. Real GDP at present³ is roughly \$A1,000 billion per annum, of which real exports are about \$A190 billion (almost 20% of the total).

Real imports are about \$A250 billion.

We don't know precisely what amount of the remaining \$A810 billion of GDP should be classified as import-competing, but it might be at least another \$200 billion or more, leaving the GHG production base in Australia at around \$A600 billion or less – 40% (or more) lower than GDP.

(By the way, the practical difficulty of even *measuring* what local production really is import-competing is another reason why a production base for GHG policy is not a good way to go.)

³

See *Australian National Accounts: National Income, Expenditure and Product*, ABS Cat. No. 5206.0.

See Figures 5.1 and 5.2 below.

Figure 5.1. Production and consumption target bases for GHG abatement policies

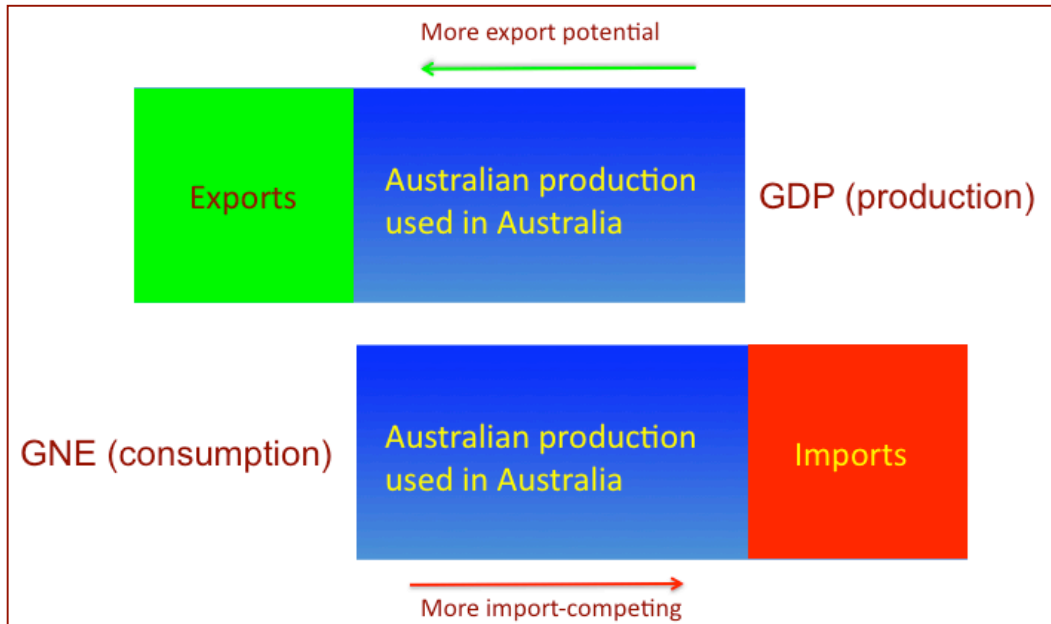
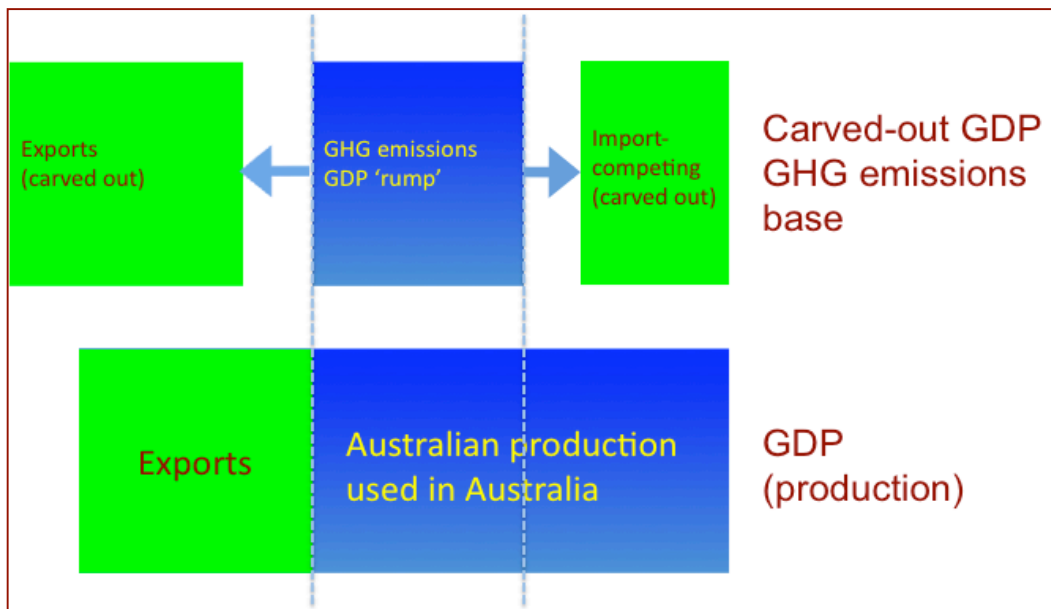


Figure 5.2. Fully 'carved out' production base for GHG abatement policies



- Note the wider implications of this 'carve-out' approach, too.
- A (probably) best-case scenario is that all countries (or all developed countries, initially) decide to adopt a production base for their GHG emissions reduction policies, but with something like the extensive 'carve-outs' just described. What is the result?
 - A large chunk of internationally traded goods and services will remain unaffected by the GHG policy.

- It is this portion of economic activity that is growing most rapidly (and, presumably, accounting for the fastest-growing GHG emissions).
- That leaves the world with a large residual 'free rider' problem: who will move first to remove these 'carve-outs'?
- So even if the world adopts a (carved-out) production base, we still face the 'free rider' problem for the most dynamic portion of world economic activity.

See Figures 5.3 and 5.4 below.

Figure 5.3. The intended global meshing of GHG abatement efforts

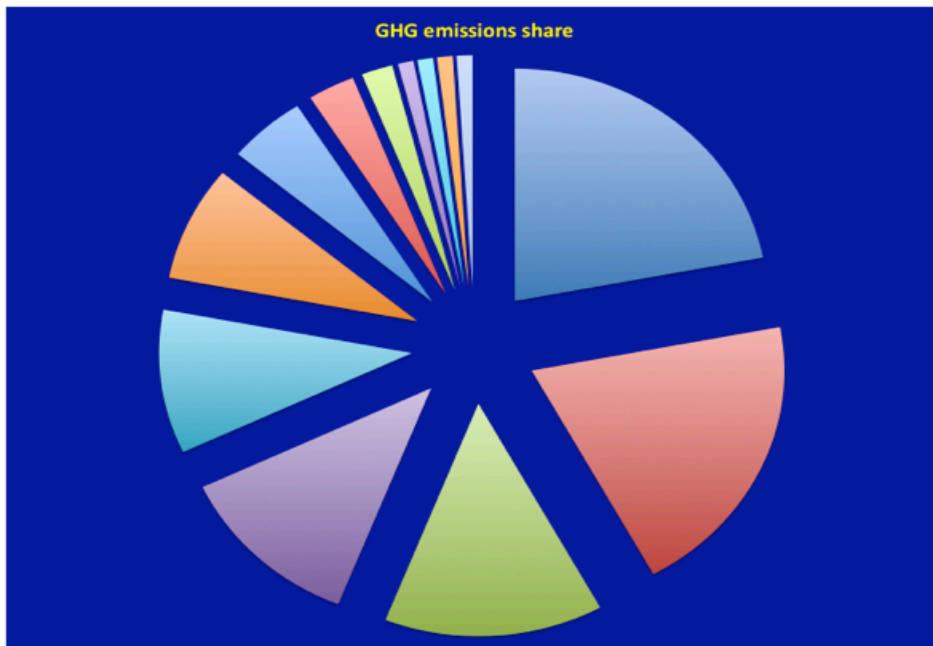
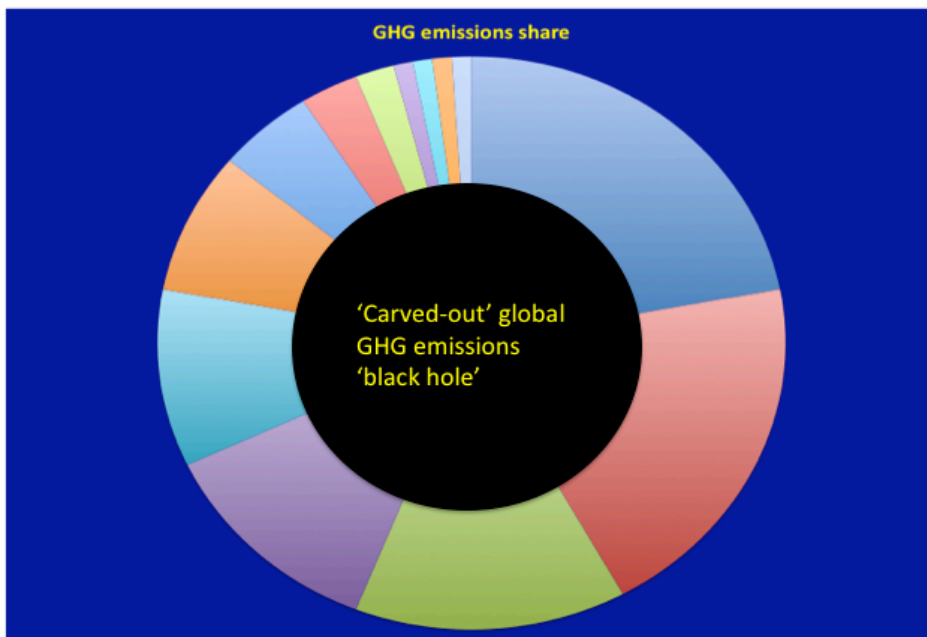


Figure 5.4. Actual global meshing of GHG abatement efforts, using a 'carved-out' production base



There's a broader, more ominous, more economically threatening prospect as well, following the collapse of the Doha trade negotiations. If a production-based model is imposed, demands for 'compensation' or 'offsets' could rapidly morph away from reasonable demand for equal carbon price treatment towards a generalised resurgence of trade protectionism.

If attempts to reduce greenhouse gas emissions not only failed to achieve the intended outcomes, but also intensified pressures cutting into living standards, not least in developing economies, they would be neither effective nor efficient. They could well be counterproductive.

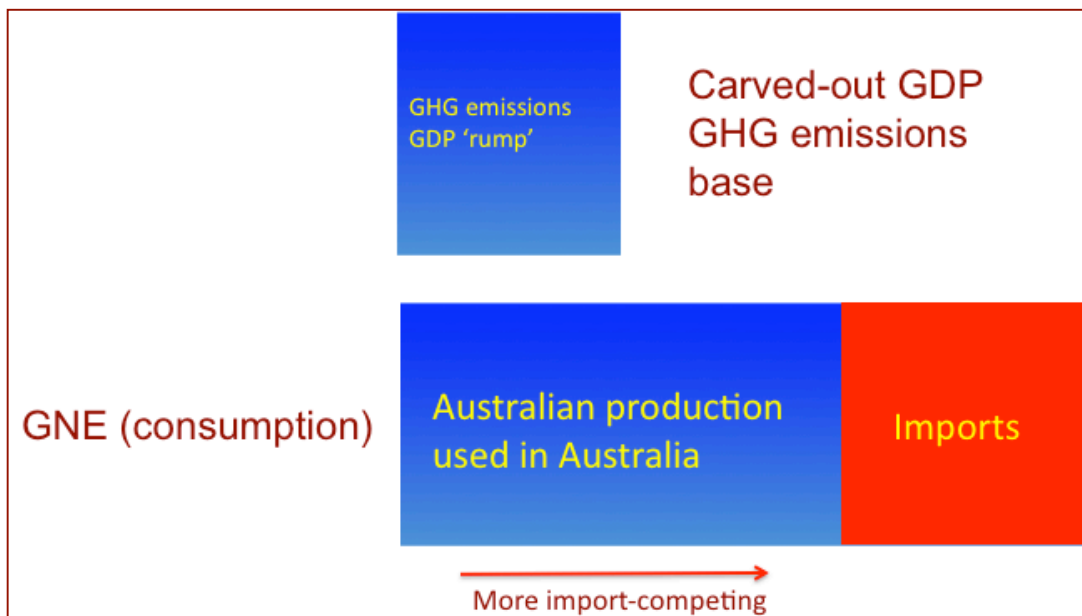
Now note the difference if we use a consumption base in Australia:

- GDP *minus* exports *plus* imports = GNE = GHG target base.

For a start, we can measure exports and imports readily. At the present time, the GHG reduction policy base, using real GNE, is roughly \$A1,050 billion. This is a bit *larger* than GDP, and 75% (or more?) larger than a fully 'carved-out' rump of a GHG production base.

See Figure 5.5 below.

Figure 5.5. Alternative, broader, consumption base for GHG abatement policies



Why is a larger target base better? Because, for a given reduction target, it spreads the adjustment load more broadly and distributes the burden of adjustment pain more lightly. This helps promote equity and community acceptance of the adjustment costs.

- This last point leads on to the obvious real-politic argument in favour of a consumption base for GHG abatement policies. Because it's trade-neutral, this base maximises chances of delivering a net reduction in Australian consumption of GHG emissions that is equal to the global reduction attributable to Australian actions. Moreover, it does so while minimising industry dislocation and transitional employment costs. In short, a consumption base is likely to be both effective and efficient. An Australian GHG production base – even (*especially*) if heavily 'carved-out' – is neither.
- Another crucial argument supporting a consumption base rather than a production base is that, in addition to reducing Australian consumption of GHG emissions, it maximises chances that others will do likewise for their consumption of emissions (ie, it minimises the 'free rider' problem). How? Consider the alternative of a production base:

- This makes our exports and import-competing goods less competitive against countries taking no GHG abatement action. **Note also that this would be happening at a time when the global resources boom is driving up the value of the \$A, putting strong competitive pressure on non-resource exports and import-competing industries.**
- By being a 'good global citizen' Australia, by its own actions, loses competitiveness against countries 'free riding' on our efforts. These countries gain from being slow to act (or not acting at all) as production shifts to them, their imports decline and their exports increase.
- Worse, Australia becomes an 'accomplice after the fact' by increasing its (GHG-laden) imports from such countries. A GHG production target base actually generates incentives that encourage growth-hungry economies to 'free ride' on the efforts of those prepared to act in advance on GHG abatement (and encourage Australia to undermine its own efforts by importing from them).
- In combination, these consequences of a production base encourage *Australia itself* not to act, or to only 'pretend' to act, and even if we do act (perhaps *especially* if we do) provides an incentive for others not to act as well.
- In contrast, a consumption base largely if not wholly eliminates these problems. Countries get no trade/production advantage by being laggards in this area. This helps build confidence that unilaterally acting on this problem will not result in large domestic production, income and employment costs in individual countries – and all in exchange for little or no global GHG abatement benefit.
- In fact, in a back-handed way, the European Community acknowledges this point. It has threatened to impose a border carbon tax on imports from countries not acting to reduce GHG emissions in order to (i) 'encourage' them to do their bit, and (ii) presumably to neutralise competitive disadvantages faced by the EU relative to such countries. GCA believes that *all* countries should impose such carbon taxes (or their equivalent) to ensure carbon imports are treated in the same way as competing local production, while not so taxing their exports. When all countries act in this way, all GHG emissions – including internationally traded goods and services – are subject to a carbon price.
- Principle #3 is a design criterion that explicitly recognises the 'prisoners' dilemma' or 'free rider' problem, **and sets out to ensure that any GHG abatement policy does not make that problem worse than it has to be.**

This seems to be a policy 'no brainer'. If, as people like Garnaut stress at the outset, the GHG policy arena is a 'diabolical' problem because of the 'prisoners' dilemma' or 'free rider' problem, **one of the first things policymakers should do is make sure they don't make this problem even worse.**

Principle #3 reflects this imperative.

To summarise, principle #3 is that countries adopting GHG emissions reduction policies should comprehensively target their *consumption* of emissions, not their *production* of emissions.⁴ There should be *no* carve outs: *all* GHG emission consumption should be covered.

⁴ This is not to say that targeting a country's consumption of emissions is straightforward. Apart from the need for a good carbon accounting system that is globally recognised (principle #1), the treatment of the GHG emissions content of imports and import-competing substitutes raises some practical difficulties and possibly WTO concerns. That said, the fundamental arguments in favour of a consumption base over a production base remain. The task is to implement the closest possible practical approximation to a consumption base. This matter will be the subject of Geoff Carmody & Associates' policy note no. 2.

5.4 Principle #4: **COMPARABLE EFFORT-BASED** country policies

Australia has high per capita GHG emissions (using a production base?). These, in part, reflect differing resource endowments across countries and comparative advantage considerations.

But the fact remains that, as best we can tell, Australia contributes about 1.4-1.5% of global GHG emissions (based on a production benchmark?) – and falling. We might be rich, but we have a small population and in absolute terms our percentage contribution to the problem is therefore relatively small.

Should Australia *lead* the world in reducing GHG emissions? The answer is 'no'. Garnaut accepts this reality, but is much more optimistic than we are about the chances of getting coordinated global action.

The answer is 'no' *especially* if we choose a GHG production base, for the reasons outlined in section 5.3 above. But it's still 'no' if we choose a GHG consumption base. Even with effective and efficient GHG abatement policies, Australia is too small to make much difference acting alone. We could cut our GHG emissions to zero tomorrow and the *increment* to GHG emissions from countries like China and India (and the United States and Western Europe) would eat up the difference in no time at all.

OK, if we're so small, should Australia *lag* the rest of the world in reducing GHG emissions? Based on assumption #1 above, the answer is 'no'. We should not be a contributor to the 'free rider' problem.

Should we move to reduce our GHG emissions in line with, say, developed economies as a group? Some will argue we have a moral obligation, along with other developed countries, to take the lead. The developed economies are charged with contributing most to the current *stock* of GHG in the atmosphere, even if, as measured by *flows*, some of the developing, industrialising countries (notably China and India) are catching up fast.

Let's accept that the answer is 'yes' for a few reasons:

- We accept a moral argument that richer countries, as a group, should take the lead.
- This enhances our credibility when we argue for a more comprehensive approach in international negotiations with others, including major developing country emitters such as China and India.
- It helps contribute to international confidence building as part of the negotiation process.
- If the science indicates that Australia is especially exposed to the adverse effects of climate change, we have a strong interest in securing a global response to this global problem.

That leads us to the conclusion that our GHG emission abatement efforts should be 'comparable'; that is, in line with developed economies as a group.

That's easy to state, but how do we measure 'comparable' or 'in line' in practice? What is the metric establishing that Australia is making an effort that is comparable with developed countries as a group?

The answer has two parts:

- Australia should *not* base its effort on adopting as policy the same or similar policy statements by other governments about GHG reduction policy targets. History has shown these can be meaningless, or worse. In the past, these have been more 'talk than walk'; more honoured in the breach than in the observance. Don't trust what governments *say*. Instead, look at what they actually *do*. That reveals their true intentions and efforts.

- Australia *should* benchmark its GHG emission reduction effort on the actual market signals telling producers and consumers to reduce emissions in developed countries. In particular, we should set a carbon price for our GHG emission abatement efforts that benchmarks a weighted average of the developed countries' current carbon prices. Ideally, the weights should be based on (annual?) country consumption of GHG emissions, not GDP (see section 5.3 above). Alternatively, pending the bedding-down of a solid global carbon accounting system, a GNE-weighted average of developed country carbon prices could be used as an approximation to country consumption of GHG emissions.

As long as Australian consumers of GHG emissions face the same carbon price (however that is delivered) as the weighted average of developed countries, we will be making the same effort to reduce such emissions, on average, as they are.⁵

Note, incidentally, that this essentially mechanical formula obviates the need for annual Government/Parliament reviews of GHG emissions 'caps', with all of the *truly* diabolical governance and potential conflict of interest issues to which they give rise. Treasury could do it. The Department of Climate Change could do it. The Reserve Bank could do it. The ABS could do it. Parliament does not need to (and should not) do it.

Australia, *by definition*, would be acting just as fast as other developed countries to deal with GHG emissions, based on (as close as we can get to) truly objective measures of their real efforts.

Of course, we should also try to persuade other countries to adopt a consumption base rather than a production base (see section 5.3 above) to make their own efforts more effective and efficient – and more globally consistent.

If the weighted average carbon price benchmark is volatile (eg, due to use of an ETS by other countries) we might also want to benchmark against (say) a rolling twelve-month average to smooth things out for investors.

To summarise, principle #4 is that, in order to ensure a comparable Australian effort, we should benchmark against the average effort demonstrated – not just announced – by other developed countries. We think the best benchmark is a country GHG emission consumption-weighted average carbon price, or, failing that, a GNE-weighted average of the market carbon prices in developed economies. This best reflects developed countries' individual efforts to signal the need for a reduction in *their* GHG emission consumption.

Principle #4 links in closely with principles #2 and #3.

5.5 Principle #5: **COMPENSATION-CONSTRAINED** country policies

Why have compensation as a feature of an effective and efficient GHG abatement policy? Provided the policy is properly designed, why should compensation be needed at all?

GHG abatement policies are all about recognising that communities have been pricing climate change costs at zero when the real costs to them are assessed to be positive and rising. If we are now to recognise this assumed reality, why should we be compensated for facing up to it? The community as a whole must face any market cost of carbon, and the

⁵ Actually, a more global benchmark to which Australia might adhere is a GHG emission consumption-weighted average of world carbon prices. This would lower the average world carbon price relative to a developed country average, as long as developing countries had zero GHG abatement policies as manifested in zero carbon prices, but it would then raise the average carbon price as developing countries 'came on board'. As a relatively small total contributor to the assumed global problem, with still-high reliance on GHG intensive energy sources, this might be seen as a more logical definition of 'comparable effort' for Australia. That said, the moral arguments, plus improving the credibility of our efforts to persuade developing countries to 'come on board', might be held by some to favour a developed country weighted average carbon price as the benchmark. Note also that this principle would allow Australia to move either ahead or, or behind, developed countries as a group. For example, we could set our carbon price at, say, 20% above the developed country average; or, say, 20% below that average.

more exemptions there are from that, the higher the burden shouldered by the rest of the community to achieve any given target:

- Carve-outs and compensation amount to the same thing: recognising a problem and then exempting some groups from their responsibility to accept their share of dealing with it.
- Indeed, various CPI and other price indices used for indexation of incomes and other benefits, and the CPI target band used to guide monetary policy decisions, should all be discounted for such price effects to ensure that their incentive effects are not blunted, and to avoid them either being built into ongoing wage-price inflation pressures or unnecessary interest rate increases. (Note that this sets up some difficult policy problems. Presumably there won't be just a single, one-off, price spike, like there was with the introduction of the GST, but a long series of them as the carbon price is ramped up over time. That said, the 'discounting' case remains valid.)
- Based on the assumptions in section 4 above, a GHG abatement policy is intended to send price signals to the community to change its behaviour. Providing compensation as well serves only to blunt those signals (at best), rendering the policy less effective and efficient.

That said, it is useful to distinguish possible reasons why compensation may be sought along the production supply chain to the final consumer. Three groups may be considered:

- Those that are international trade-exposed.
- Intermediate demand and investment demand stages in the supply chain apart from the trade-exposed group.
- Final consumers of goods and services in the country taking GHG abatement action.

The first group has already been covered under principle #3 above. For this group, there's no compensation needed, provided a consumption base is chosen as the GHG emission reduction target (which confers equal treatment on local production and international trade competitors). If all countries adopt a consumption base, global GHG emissions are covered.

For the second group, it's important to distinguish between (i) compensation for the price effects of the GHG policy and (ii) compensation for the inability to pass on the price effects of the GHG policy. In GCA's opinion:

- There is no good reason for the first type of compensation. It just blunts the price signals that are intended to produce changes in behaviour through the supply chain. In some cases (eg, in Europe, when emission permits were given to producers?) it may even allow windfall profit gains to some in the supply chain even as price signals are passed through to final consumers, corrupting the process. In competitive markets, the price signals will be more or less fully passed on down the supply chain, and that's as it should be.
- The second type of compensation ideally should not be provided, either. If there are demands for compensation for such reasons, the underlying impediments hampering the full pass-through of GHG policy price effects should be addressed directly, rather than being accepted. After all, these impediments are preventing effective and efficient GHG policies. Such impediments might include:
 - Long-term supply contracts (eg, for electricity) that do not allow GHG policy price effects to be passed on to customers. Why can't such contracts include GHG price effects that, after all, are the result of government policy *force majeure*? If necessary, legislation to allow pass-through of such price effects should be introduced.

- Pricing rules or other features (eg, possibly in the so-called National Electricity Market – the NEM) that may constrain power generators' ability to pass on GHG policy price effects. Any such rules or features should be amended directly.
- Retail electricity price caps – still common in most Australian States – that cannot be adjusted to allow full pass-through of the price effects of GHG policies. Such price caps should either be abolished or adjusted upwards by at least the amount of the relevant carbon price.

Governments unwilling to deal directly with these impediments by removing them are violating principle #2 above. They are failing the credibility test. GCA acknowledges the politics that is usually involved in such situations, but politicians need to accept the political costs of adopting a credible – and therefore difficult – GHG abatement policy.

For the third group – domestic consumers – what is the case for compensation? The short answer, again, is 'none'. But it's worth looking at alternative types of compensation:

- One option is directly to neutralise GHG price effects (eg, on transport fuel) by, for example, reducing existing taxes (eg, excise duty) by the amount of the price increase due to the GHG policy.
- The other is to deliver income tax cuts or transfer payment increases so that the reduction in real incomes caused by the price effects of the GHG policy is offset.

The first option isn't sensible. It wipes out the very product-specific price signal intended to change behaviour. It narrows the GHG emissions consumption base affected by the GHG policy. That makes the target harder to achieve, or increases the cost paid by the narrower base affected by the policy. The whole idea of the policy is to make GHG emissions-intensive products more expensive relative to other products to encourage a switch in demand away from them. Having decided on the GHG emissions target base, what's the point of then 'carving out' chunks from that base?

It might be argued that, in the case of petroleum products, the current sharp run-up in oil prices has already been substantial, and that it will already serve as a powerful signal to cut back on consumption of such products. Provided that current high prices are sustained and/or go higher, that is true.

But these forces are also driving up prices for substitute/alternative power sources as well. Should the same logic apply to them as well? How can it be, if they are not liable for petroleum product excise?

What happens if oil prices begin to fall (eg, as the world economy slows)? Will governments then reduce the offset to the carbon tax on a cent-by-cent basis?

Is Australia notable for relatively high excise and other taxes on oil products? The contrary is the case.⁶

⁶ Actually, it could be argued that, because excise on petroleum products does not apply to other energy products, such as coal, this excise should be completely abolished when a carbon tax takes effect to ensure the latter operates on all energy sources based on a level playing field. The past rationales for the petroleum product excise are a mixture of reality and myth. The reality is that the excise is levied on an efficient tax base under 'optimal tax'-type considerations. The myth is that the revenue is hypothecated for road investment (it shouldn't be, anyway). If oil products are a rapidly depleting resource – especially if 'peak oil' considerations have validity – the counter-argument might be that the excise on petroleum products should be retained as a resource-rationing measure. In that context, it might be argued that we should not be taking action that increases demand for oil. Note that the real value of the petroleum product excise is falling over time anyway, as a result of the decision by the Howard Government in 2001 to abandon petroleum product excise indexation.

The high price of oil is a useful signal, but mainly to economise on oil and switch to substitute products where possible. These may be less or more GHG intensive. For example, if the proposed excise offset to the carbon price resulted in road freight transport being (more) advantaged relative to less GHG-intensive rail freight transport, that would be a bizarre outcome given the objectives of the policy (eg, Asciano versus Toll?). A GHG policy that reverses this relative price signal (by imposing a net carbon price on non-oil fuels but not on oil) has an ambiguous effect *at best* on GHG emissions abatement.

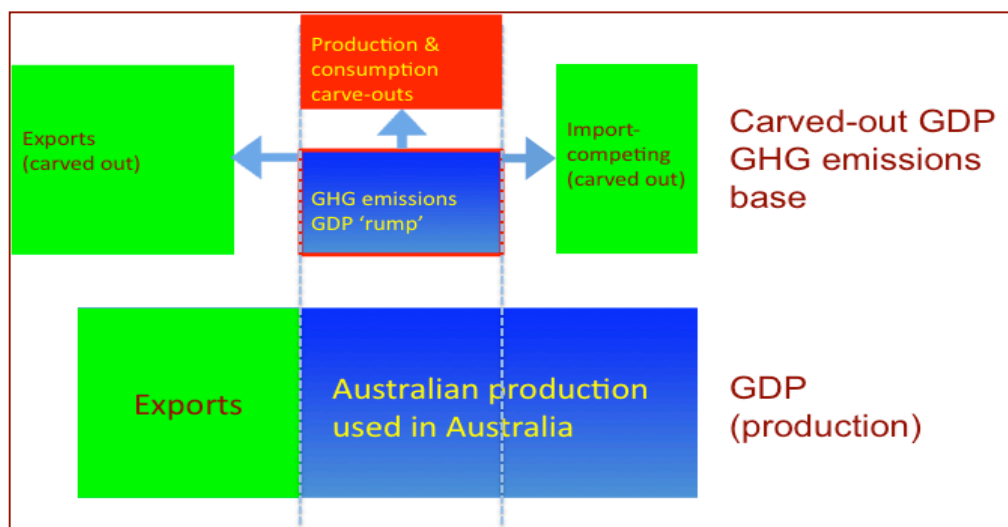
The other final consumer option is income compensation. In this case, the price signals of the GHG policy are not directly blunted, but the real income effect of them is neutralised. Overall, this option still blunts the policy signal. Higher incomes (after compensation) allow higher consumption of all products than would otherwise be possible, including GHG emissions-intensive products. This partly offsets substitution effects away from such products due to their higher relative prices. For products with a low short-term price-sensitivity of demand (such as power, heating, lighting and transport fuels) these partial offsets can be large.

Accepting the politics associated with looking after those deemed most in need, and the fact that even income compensation blunts the price signals needed for effective GHG abatement policies, such compensation should be kept as low as possible, and as temporary as possible. Under a *production* focus, the GHG abatement base is in danger of shrinking a lot. See Figure 5.6 below.

Beyond all this, there is a broader reason why compensation – especially the first option for consumers discussed above – should be avoided:

- Principles #1, #2, #3 and #4 are designed to boost country comparability, credibility, negotiating influence and international confidence that an effective GHG policy can be implemented globally.
- That's going to be hard enough without governments *appearing* to set a price for carbon, but then, 'through the back door', partially negating the effect of that carbon price by lowering some other tax, such as excise on petroleum products. (By the way, if Australia can do that, how much more scope is there for other countries – notably within the EC – to pull the same trick?)
- Harking back to the trade protection debate, compensation – especially direct carbon price offset compensation – smells a lot like cutting tariffs but then offsetting that action by raising non-tariff barriers. We've seen plenty of that sort of sleight of hand in the international trade field already. It won't help effective global action to deal with GHG emissions if it takes root in this policy area as well.

Figure 5.6. Compensation 'carve-outs': further shrinking the GHG emissions reduction base



None of the above should be taken to rule out measures to *increase* relative price signals encouraging switching away from GHG emissions-intensive consumption by offering rewards (negative carbon prices) for activity that *effectively* locks carbon out of the atmosphere rather than adding to current atmospheric concentrations.

The expected large amounts of revenue to be raised by a GHG abatement policy should be treated carefully:

- To the extent that the policy is successful over time, presumably the amount of such revenue, at least relative to the size of the economy, will fall. To that extent, it will become progressively less available for 'compensation' purposes.
- Indeed, to maximise the effectiveness of the GHG abatement policy, the early revenue 'gains' from it should be allocated mainly to R&D accelerating the roll-out of technologies that at worst are carbon-neutral, and at best act to withdraw carbon from the atmosphere in desirable and sustainable ways, as well as (possibly) to existing carbon-negative (and carbon-neutral?) technology subsidies in some cases.
- Over time, allocating early revenues to these uses:
 - increases the relative price signal encouraging a switch to a low-carbon economy (not only in Australia, but, through technology transfer, globally);
 - progressively reduces net revenue raised from implementation of the GHG abatement policy towards revenue-neutrality (surely a desirable outcome, unless governments have a hidden agenda to use this policy as a revenue 'milch cow'); and
 - as it does this, over time, it will push the net price effects of the GHG abatement policy towards zero as well, obviating the need for consumer compensation as a permanent response.

See principle #6 below.

5.6 Principle #6: **CARROT-INCLUSIVE** country policies

Carbon price-based policies rely on a 'stick' approach, punishing GHG emissions in an effort to reduce them. Either *de facto* or formally, they rely on a carbon tax to deliver the desired outcomes.

Carbon-neutral activities are 'rewarded' in the sense that they are not liable for carbon taxes. (There may be a case, based on avoided climate change costs, for subsidising carbon-neutral activities. However, because these activities avoid any carbon tax, they stand to gain in relative terms anyway.)

But what about activities that actually withdraw GHGs from the atmosphere and 'fix' them in non-adverse and sustainable ways?

If GHG *emissions* are to be punished by being taxed, symmetry suggests activities that actually *withdraw* GHGs from the atmosphere and effectively lock them away on a sustainable basis should be rewarded.

In GCA's opinion, and as noted above, a priority use for any revenue raised from GHG abatement policies should be subsidies for GHG withdrawal activities:

- This reinforces the relative price signal encouraging a switch from a high-carbon to a low-carbon economy and accelerates the transition path.
- It may help make implementation of a GHG reduction policy more revenue-neutral and more price-neutral, overall, as lower prices for subsidised activities help to offset higher prices for taxed activities. That would blunt demands for compensation as well.
- There might be a case for extending such subsidies to truly carbon-neutral activities.
- Use to deal with R&D 'market failure' cases?

This leads into a broader question for the Henry Review of Australia's tax system (see Henry Review Terms of Reference 3.6).⁷ In general, should Australia shift from taxing 'goods' to taxing 'bads', on a revenue-neutral basis, to sharpen relative price incentives driving taxpayers away from 'bad' towards 'good' behaviour? (We would need agreement on what are 'bads' and what are 'goods'.)

5.7 Principle #7: **COST-EFFECTIVE** country policies

This principle is both obvious and hard to specify without going into the minutiae of the GHG emission abatement policy detail.

But, in general terms, and assuming all other things are equal, the design focus should be on a policy that is simple as possible to administer and comply with, and where the incentive signals are clear, reasonably predictable over time, and widely perceived.

This principle comprises two key elements:

- Foster the broadest possible spread, recognition and impact of the signals encouraging a switch away from GHG emissions. This maximises effectiveness.
- Minimise the (scarce) resources in the economy (and therefore costs) that will be tied up in administering and complying with the GHG abatement policy. This maximises efficiency.

6. Some concluding observations

6.1 Can the world cut a truly *global* deal on GHG abatement policy?

GCA has set out some principles that should guide the development of an effective and efficient country-specific GHG abatement policy.

Could these principles be used to promote a policy package that might have more than a snowflake's chance in hell of being adopted globally?

The answer is:

'Probably not, but nothing else will, either'.

The following Box summarises the key elements of such a package of principles.

⁷

See <http://www.treasurer.gov.au/DisplayDocs.aspx?doc=pressreleases/2008/036>.

Box. Design principles for an effective and efficient global GHG abatement policy

- I. All countries agree to adopt best-practice carbon accounting ('countability') ASAP.**
- II. All countries agree to principle #2 (credibility) when they adopt GHG abatement policies.**
- III. All countries agree to principle #3 (consumption base) at the same time.**
- IV. All countries agree to principle #4 (comparable effort) at the same time.**
- V. All countries agree to principle #5 (compensation minimised) at the same time.**
- VI. All countries agree to principle #6 (carrots for carbon withdrawal) at the same time.**
- VII. All countries agree to principle #7 (cost-effective policy) at the same time.**
- VIII. Developed countries agree to act first, but with a broad timetable for others to follow.**

This package leaves open precise GHG policy timing and abatement modalities for individual countries.

For it to have any chance of working, developed countries (or at least the overwhelming majority of them) probably have to sign on for this package and implement GHG abatement policies first.

Building on existing market prices for carbon (eg, in the EC), this provides a market price 'anchor' for principle #4. With that bedded-down, as developing countries progressively (hopefully) come on board, the carbon price average for principle #4 becomes more global in nature.

On modalities, what about an ETS versus a carbon tax? GCA makes no comment on which is preferable, overall, in this policy note. This will be dealt with in a subsequent policy note.⁸

6.2 Don't underestimate implementation problems

Implementing an effective and efficient GHG emission abatement policy on a country-by-country basis is a really tough ask for politicians.

The costs come early. If properly and comprehensively distributed, they can be political dynamite.

The required trust that the rest of the world will come on board *soon* must be high (and is a triumph of hope over experience). If it doesn't come on board, and the science is right, we're stuffed anyway.

The real benefits come late – *and are measured against an estimated 'counterfactual' scenario that can only be experienced if no action is taken* (by which time it will be too late to retrieve the situation).

This indeed is a 'diabolical' policy dilemma for a country like Australia. Garnaut's right on this.

Australia cannot solve the problem by 'going it alone'. Garnaut's right on this, too.

⁸ GCA's assessment will depend on (i) the appropriateness of the design principles set out in this policy note, and (ii) the feasibility of GHG consumption-based abatement policies (see footnote 4 above). Its assessment will be presented in GCA policy note no. 3. That said, inevitably countries will make their own (probably different) choices.

The 'free rider' or 'prisoners' dilemma' problem is real. Only a world government with full powers to govern globally could 'internalise' the relevant 'externalities'. We haven't got one of those, and we're not likely to get one.

The United Nations is hardly a role model here, anyway. Various multilateral forums of sovereign nations seem bogged down in 'lowest common denominator' and 'pious platitudes' outcomes, too.

In this difficult environment, it seems especially important to spend time getting the design features of any country-specific GHG emissions abatement policy 'right'.

In building such a policy, the first thing to do is recognise the real-world constraints within which it must operate. They determine the foundations for the policy architecture. To ignore them is to build a policy on quicksand.

The second thing is to develop principles on these foundations that ensure the structure of the policy is sound. That's what this policy note is trying to achieve.

With the foundations and the structure sorted, we can move on to flesh out the detail of the policy edifice.

Dealing with assumed climate change problems, by definition, is complex, detailed, and highly interventionist.

But consider the choices. As noted at the start of this note:

- We can opt for a simpler model that seems more 'practical' (but to which, as in the past, most hard-headed national governments will not *really* subscribe). That's a recipe for more red tape, more 'deadweight' economic losses, and little or no result in reducing greenhouse gases. We'll suffer more job losses, and for little or no global emission reduction result.
- Alternatively, we can opt for a better-based model, despite its greater complexity, that insulates Australia from unnecessary economic and employment losses, and actually encourages other countries to adopt a similar course, ultimately increasing chances of a global compact that minimises the 'free rider' or 'prisoners' dilemma' problem.
- Will this alternative approach *solve* the 'free rider' or 'prisoners' dilemma' problem? Almost certainly not. But it *will* minimise policy features *adding* to that problem. The practical obstacles are substantial. But the obstacles associated with the current *production*-based ETS model are probably *insuperable* in a world of sovereign national governments.

The alternative national emissions *consumption*-based model should be thoroughly debated and road-tested before it is discarded. To date, the public discussion of this alternative emission reduction target base has been very limited.

This model may increase chances of getting the USA and other important countries on board.

To be sure, it may be more complex. But if the choice is between simpler models that do not work, and more complex models that do work, it makes sense to choose either, (i) the latter or, (ii) neither.

6.3 Global policy strategy

Climate change, by definition, is a global problem. A policy framework that allows *all* countries to cooperate on a 'no regrets' basis in dealing with this problem is essential. The alternative is to surrender to the 'free rider' or 'prisoners' dilemma' problem. We need support from the USA, China and India, and others. We should not adopt a system that shuts them out.

6.4 Policy imperatives

One thing seems clear. If 'failure isn't an option' neither is policy design failure.

There seems to be lots of policy design work still to be done.

Design principles for evaluating
greenhouse gas abatement policies: the seven 'Cs'