

# Who are the (un)intended losers from emissions trading?

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## 1. Introduction

The Rudd Government has announced that it will introduce an Emissions Trading Scheme (ETS), now known as the Carbon Pollution Reduction Scheme (CPRS), in 2010. In its recent Green Paper, the Commonwealth sought to spell out the main design features of the CPRS and, in turn, the groups most likely to require compensation.

One of the benefits of the ETS is that the impact on final users should be no more than the value of the permits sold to emitters. Even if all costs to emitters are fully passed on, there should be sufficient to compensate the final users. The issue is not whether compensation can be paid but which groups should be compensated. The Government has flagged compensation for households although the exact mechanism is as yet unclear.

This paper examines the four groups whose need for compensation was overlooked in the Green Paper, namely the state governments (discussed in Richardson and Denniss 2008), local governments, the community sector and the fourth, and most unlikely group, the Australian Government itself. The likely costs to these sectors in 2010 are as follows:

State governments	\$1.4 billion
Local governments	\$344 million
The community sector	\$822 million
Australian Government	\$991 million

Together, these sectors may require up to an estimated \$3.5 billion per annum in compensation if they are to deliver the same level of services they currently provide.

The paper begins with an overview of the methodology used in Richardson and Denniss (2008) to estimate the likely \$1.4 billion annual cost of the CPRS to the state governments. It then provides an explanation of how the CPRS will impact on local governments and on the community sector.

## **2. The likely impact of the CPRS on the states<sup>1</sup>**

In estimating the likely cost of the CPRS to the states, the following method is used. ABS data on state government expenditure are combined with ABS input-output tables to determine the energy intensity of state government expenditures. This is then combined with the indicative price of \$20 per tonne of CO<sub>2</sub> emissions used in the Green Paper to estimate the amount of Commonwealth compensation likely to be required by the states after the CPRS is implemented to ensure that they can continue to deliver the same level of services they currently provide.<sup>2</sup>

The paper finds that the cost of emissions permits will impose a large burden on state and territory governments, probably close to \$1.5 billion in 2010–11 when the CPRS is planned to come into effect. That represents a charge of \$1.5 billion on state governments by the Australian Government, the equivalent of more than 15,000 teachers, nurses or police officers. The states have a strong claim for compensation from the Australian Government.

In order to derive this figure, the estimated impact of a \$20 per tonne price of carbon on the price of various forms of energy included in the Green Paper was applied to the energy demand of the various state and territory governments to determine the direct impact of the CPRS on state government budgets. Based on forecasts contained in the Green Paper, electricity costs are expected to increase by 16 per cent, household fuels by nine per cent and the CPI by 0.9 per cent. The CPI increase was applied to the non-energy related expenses of the state and territory governments.<sup>3</sup> It is assumed that labour costs will also increase by the CPI.<sup>4</sup>

The pattern of services delivered by state and territory governments varies widely as is shown in Table 1. The extent of the interstate variations will have significant consequences for the future energy costs of each of the states and territories.

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<sup>1</sup> This is based heavily on Richardson and Denniss (2008), which cites the various sources used in this section.

<sup>2</sup> We ignore the possible issue of free permits, which at best will provide a temporary reduction in the impact on the states.

<sup>3</sup> In principle, categories such as road transport expenditures should also be examined because of their high energy content and the fact that some states spend quite heavily on road transport. However, while road transport appears in both the ABS government finance statistics and the input-output tables, the content of the two items differs considerably. For example, road transport in the government finance figures includes items such as planning, designing and constructing roads, vehicle registration and driver licensing functions. The input-output tables use a narrower definition of road transport.

<sup>4</sup> This seems a reasonable assumption since wages tend to increase in response to price increases, albeit with delays in many cases.

**Table 1: State and territory outlays by purpose (per cent of total)**

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
	%							
Total education	25.5	27.1	24.0	25.5	26.3	25.8	21.8	21.6
Agriculture, forestry and fishing	1.9	1.3	3.7	1.7	2.5	2.3	1.3	0.0
Total transport and communications	13.3	10.7	10.7	6.5	9.8	5.2	6.1	5.9

A simplified version of the ABS input-output data is provided in Table 2. While the data in Table 2 relate to the Australian economy in 2004–05, the structure of the economy has not changed significantly since then and provides a useful framework for analysis.

**Table 2: Simplified input-output relations, 2004–05 (\$m)**

Supply	Uses				
	Road transport	Government administration	Education	Health services	Community services
Petroleum and coal products	3,497	145	4	121	56
Electricity supply	67	315	682	147	116
Gas supply	2	18	25	29	32
Road transport	1,651	547	239	194	73
<b>Total intermediate use</b>	<b>19,137</b>	<b>23,372</b>	<b>11,153</b>	<b>10,770</b>	<b>4,304</b>
Employment costs	7,972	24,826	34,730	37,716	4,977
<b>Total use</b>	<b>34,922</b>	<b>51,870</b>	<b>50,957</b>	<b>57,127</b>	<b>10,941</b>

Table 2 can be interpreted as follows. For each of the ‘uses’ across the top of the table, the value of the raw materials, labour and other ‘intermediate goods’ required is listed beneath it. For example, in 2004–05, \$57,127 million was spent on health services of which \$37,716 million was spent on wages and only \$147 million on electricity.

Our estimates can be refined further because the electricity generated in the various states and territories have different carbon intensities; hence there will be different electricity price increases that vary around the 16 per cent average for Australia as a whole. These are calculated by adjusting for the carbon intensity of the electricity generated in each state and territory. The figures are the ‘emissions factors for consumption of purchased electricity by end users’ published by the Department of Climate Change(2008). If the national average increase in electricity prices is 16 per cent, it is assumed that the increase in individual states and territories will vary according to the CO<sub>2</sub> emissions intensity of their electricity generators.

We have used petroleum prices from the consumer price series to adjust for the category used here called ‘petroleum and coal products’. From the producer price index the ‘electricity and gas’ series can be applied to both products.<sup>5</sup> Using those price increases to adjust the base input-output relation in the construction of Table 2 and following that through into the rest of our methodology, present values are derived.

<sup>5</sup> ANZIC codes 36-37.

How will this look in 2010–11? To provide a better estimate for the burden in 2010–11, the behaviour of state government spending needs to be projected forwards a number of years. We assume that state and territory spending will be a constant share of GDP. In that case, the 2006–07 data can be scaled up to 2010–11 using the Australian Government estimates and projections for nominal GDP through to 2010–11. The projection is that nominal GDP will increase by 27.9 per cent between 2006–07 and 2010–11, which would imply that the additional burden of the \$20 carbon tax will be \$1,909 million when it is introduced in 2010–11.

There will be some offset to the carbon tax burden as a result of the expected increase in GST receipts, which, according to the Green Paper, will come about as the carbon permit price works its way through the system and drives up prices by 0.9 per cent. Assuming volumes are unchanged, the nominal value of sales attracting the GST should also increase by 0.9 per cent and the increase in the GST take by 0.9 per cent also. The official forecast is that the GST will raise \$52.7 billion in 2010–11; hence the additional GST revenue would be 0.9 per cent of that or \$474 million. However, this would have to be regarded as an upper estimate since it ignores any possible deflationary impacts due to the carbon price.<sup>6</sup>

The extra GST revenue will be distributed among the individual states and territories according to well-established formulae. Basically, GST revenue is distributed according to population, adjusted for the ‘state revenue sharing relativities’. Treasury has provided projections of both state and territory populations and the likely state revenue sharing relativities in 2010–11 (Commonwealth of Australia 2008b).

When all the adjustments described above are made, the results obtained are presented in Table 3.

**Table 3: Summary of carbon price impacts on state and territory governments projected for 2010–11 (\$m)**

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	All states
Additional cost of government services	613	469	377	141	197	38	38	35	1,909
Additional GST receipts	147	111	88	42	38	16	22	9	474
<b>Net additional burden</b>	<b>466</b>	<b>358</b>	<b>289</b>	<b>99</b>	<b>159</b>	<b>22</b>	<b>16</b>	<b>26</b>	<b>1,435</b>
Net additional burden as share of total expenditures in 2010–11 (%)	0.79	0.84	0.75	0.67	0.82	0.48	0.41	0.72	0.77

Source: Tables 1 and 2, Commonwealth of Australia 2008a and 2008b 1.

The net additional burden on the states and territories is \$1,435 million in 2010–11 or just under \$1.5 billion, amounting to 0.77 per cent of states’ spending as shown in the final row in Table 3. NSW is worst affected in absolute terms, incurring a net additional burden of \$466 million. Worst affected in relative terms is Victoria. Least affected are the

<sup>6</sup> Normally it is assumed, for example, that the impact of rising petrol prices is to reduce spending on other items by consumers. That would have a deflationary impact on the economy.

Northern Territory and Tasmania as a result of the GST formula working in their favour combined, in Tasmania's case, with low-carbon electricity generation.

### 3. The impact of the CPRS on local governments

Just as the CPRS will increase the costs faced by state governments, it will increase the costs incurred by local governments in the provision of services. In 2007, local governments spent \$22 billion, accounting for 5.6 per cent of public sector spending, most of it directed towards the provision of local services, which comprised in decreasing significance: housing and community amenities; transport and communications; recreation and culture; and social security and welfare.

**Table 4: Local government outlays (\$m)**

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Total
General public services	1,683	601	1,511	179	222	95	84	0	4,376
Defence	0	0	0	0	0	0	0	0	0
Public order and safety	223	109	103	21	66	7	3	0	532
Education	30	47	2	0	6	0	1	0	87
Health	76	63	41	34	36	13	8	0	272
Social security and welfare	305	772	50	78	95	20	11	0	1,332
Housing and community amenities	1,489	924	1,840	280	306	227	106	0	5,172
Recreation and culture	899	853	574	239	459	71	30	0	3,126
Fuel and energy	42	100	942	40	97	19	114	0	1,354
Agriculture, forestry and fishing	1	2	29	13	2	0	0	0	49
Mining, manufacturing and construction	124	0	91	24	31	1	4	0	273
Transport and communications	1,353	927	1,387	297	616	135	36	0	4,752
Other economic affairs	246	234	131	58	44	18	87	0	818
Public debt transactions	122	41	179	32	15	8	1	0	399
Other	366	238	75	87	82	25	18	0	892
<b>Total</b>	<b>6,919</b>	<b>4,812</b>	<b>6,016</b>	<b>1,353</b>	<b>1,982</b>	<b>622</b>	<b>391</b>	<b>0</b>	<b>22,096</b>

Source: ABS 2008a.

In order to estimate the financial impact of the CPRS on the local government sector, we have repeated the process applied to the state governments outlined above. The size of the local government sector suggests that the likely impact of the CPRS on local government budgets will be \$334 million. That figure and the impact for each state are given in Table 5.

**Table 5: Projected increase in local government outlays as a result of CPRS**

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	All states
Projected outlays in 2010–11 (\$m)	8,852	6,156	7,697	1,731	2,536	796	500	0	28,269
Additional expenditure required as a result of CPRS (\$m)	101	73	104	20	32	9	7	0	344
Increase percentage	1.14	1.18	1.35	1.13	1.27	1.07	1.32	0.0	1.22

Unless local governments receive compensation from the Commonwealth, they will either need to reduce the quality of the services they provide to residents, pay their employees lower wages or increase the rates paid by their residents.

#### **4. The impact of the CPRS on the community sector**

While the Government has discussed the need to provide compensation to households and to business, it appears that the community sector has been entirely overlooked. According to ABS (2008b), the community sector accounts for seven per cent of GDP, employs 884,000 people and, in 2007, incurred total expenses of \$68.3 billion. We estimate that the cost of the CPRS to the community sector will be between \$822 million and \$1,191 million, depending on the willingness and ability of the sector to maintain the real wages of their employees. If their labour costs are assumed to increase in line with the CPI, the impact of the CPRS will be at the upper estimate of \$1,191 million. Put simply, as a result of the CPRS the costs of providing community services will likely rise by between 0.9 per and 1.4 per cent, depending on the extent to which community sector workers are willing to take a real reduction in their incomes.

In addition to the cost burden imposed by the CPRS on the community sector, it is also important to highlight the probable severity of its impact due to the sector's inability to pass on costs to 'consumers'. That is, as the community sector does not always rely on cost recovery pricing in the provision of its services, in many instances there will be no capacity for these organisations to offset the increase in the costs of providing the services. Unless donations to charity rise proportionately with the impact of the CPRS, services to the most vulnerable members of society will be cut unless compensation is provided by the Commonwealth.

Consider the following examples of the impact of the CPRS on the community sector:

- Not-for-profit aged care centres incur substantial energy costs associated with water heating, space heating and air conditioning. The Green Paper estimates that the price of electricity will rise by 16 per cent.
- According to the Green Paper, all prices are expected to rise by an average of 0.9 per cent. Organisations such as Meals on Wheels will face higher energy and food prices

- The Green Paper suggests that the impact on the CPI of the CPRS will be 0.9 per cent. Either the community sector will need to fund a 0.9 per cent wage rise to maintain real wages or employees in the sector will experience a real reduction their pay.

Unless significant compensation is paid to the community sector, there is little doubt that the ability of these organisations to provide services to the most vulnerable groups in society will be significantly reduced.

## 5. Commonwealth

While it may seem like an unlikely candidate for compensation as it will be the recipient of revenue from the sale of emissions permits, the Commonwealth, or more precisely individual Commonwealth departments and agencies, will require a significant amount of compensation if they are to maintain their ability to provide current levels of services.

In 2008–09, the Australian Government expects to spend \$292 billion. However, for present purposes we focus only on Commonwealth ‘own-spending’, which excludes all transfer payments such as payments to pensioners and to the states. Commonwealth own purpose spending is summarised in Table 6.

**Table 6: Commonwealth spending on own-purpose activities (\$m)**

	2008–09
Wages and salaries	15,307
Superannuation	2,900
Depreciation and amortisation	5,533
Payment for supply of goods and services	54,888
Other operating expenses	4,178
<b>Total gross operating expenses</b>	<b>82,807</b>

Source: Commonwealth of Australia 2008a, p. 9-3

Our estimate of the likely cost of the CPRS to the Commonwealth is calculated by applying the 0.9 per cent CPI increase to labour costs and then estimating the cost increases in the item ‘payment for supply of goods and services’. This figure is arrived at using the ABS input-output tables to provide the proportion of expenditure accounted for by gas and electricity in public administration and then adjusting for cost increases to the present. The result is then taken forward to 2010–11. The increase in costs is around \$991 million, equivalent to 1.1 per cent. That, in turn, is approximately equal to the annual ‘efficiency dividend’ required of departments.

In principle, the Commonwealth is compensated because it is the one that collects the value of the permits it sells. However, there is no mechanism through which increases in those receipts are channelled into higher departmental and agency outlays. In fact, the Commonwealth imposes quite strict discipline on its own spending as evidenced by the efficiency dividend, which was increased in the May budget with a one-off additional two per cent cut in departmental expenses. Otherwise, most government outlays are subject to escalation against an index that is not made public. The Green Paper makes no mention

of the need to isolate some of the revenue from the sale of emission permits to fund an increase in the rate of indexation for public sector expenses.

## 6. Conclusions

The emissions trading system is slated to begin in 2010 and it will impose costs on most players in the economic system. It is expected that the costs will be passed on until they are eventually borne by final users. This tax is not designed to punish final users but it is designed to change the relative prices they pay so they will be motivated to switch their spending away from carbon intensive products.

While there is increasing pressure on the Commonwealth Government from big polluters for greater compensation, this paper highlights the need for the Government to consider more carefully a widening range of ‘unintended consequences’ before making such commitments to the loudest voices in the business community.

The paper estimates that the following sectors will require significant compensation:

State governments	\$1.4 billion
Local governments	\$344 million
The community sector	\$822 million
Australian Government	\$991 million

Given that these sectors account for nearly 30 per cent of GDP, the size of this potential compensation should come as no surprise. What is surprising, however, is the continuing silence of the Australian Government on its intention, even if only in principle, to provide such compensation to those sectors of the economy responsible for the provision of services to the most vulnerable members of the community.

## References

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