



Australian Government
Department of the Environment

Ref:

Ms Christine McDonald
Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Ms McDonald

I write to provide responses to questions that were taken on notice during the Department of the Environment's appearance before the Environment and Communications References Committee's Hearing into the Government's Direct Action Plan on Tuesday, 18 March 2014.

Senator Williams' Questions

Senator Williams sought information about:

- the quantum of carbon tax payments under the Carbon Pricing Mechanism;
- the quantum of carbon tax equivalent payments under the Synthetic Greenhouse Gas levies; and
- the quantum of carbon tax equivalent payments under the fuel arrangements.

Information in response to these questions for 2012-13, which is the only full year of carbon pricing for which information is available, is provided in **Table 1**.

Table 1: Carbon tax revenue in 2012-13

	Accrual revenue 2012-13 (\$m)#	Approximate number of liable parties
Carbon Pricing Mechanism	\$6,600	348
Revenue from SGGs	\$100	1, 059
Revenue from aviation and non-transport gaseous fuels	\$200	75,000†
Fuel tax credit reduction*	\$700	
Total carbon tax	\$7,600	

Notes:

* Revenues are rounded to the nearest \$100 million.

* This is an expenditure reduction, not a revenue measure. Treasury estimates.

† Approximate number of payers is not additive as entities paying via the Carbon Price Mechanism or SGGs may also be affected by the fuel tax credit reduction.

Senator Williams also sought information about the current market value of equivalent carbon taxes/prices in other jurisdictions, including:

- the European Union;
- the Regional Greenhouse Gas Initiative market (United States)

- California;
- Chinese pilot emissions trading schemes; and
- New Zealand.

A comparison of the value of carbon units in international emissions trading schemes is provided in **Table 2**.

Table 2: Comparison of international emissions trading units

Emissions Trading Schemes (ETSs) in operation				
Scheme	Currency	Price	As at:	AUD equivalent as at 19 Mar 2014
Australian Carbon Pricing Mechanism	AUD	24.15	19-Mar-14	24.15
New Zealand ETS (NZETS)	NZD	3.00	14-Mar-14	2.83
European Union ETS (EUETS)	EUR	5.72	18-Mar-14	8.72
Californian ETS	USD	11.48	19-Feb-14	12.57
Regional Greenhouse Gas initiative (RGGI)	USD	4.00	5-Mar-14	4.38
China - Shenzhen Pilot ETS	RMB	80	27-Nov-13	14.15
China - Shanghai Pilot ETS	RMB	28	27-Nov-13	4.95
China - Beijing Pilot ETS	RMB	50	28-Nov-13	8.84
China - Guangdong Pilot ETS	RMB	60	20-Jan-14	10.61
China - Tianjin Pilot ETS	RMB	26 to 28	26-Dec-13	4.60 to 4.95

Sources:

Australian CPM	<i>Clean Energy Act 2011</i>
NZ ETS	PointCarbon, 14 March 2014 reporting of the lowest NZETS price in seven months. (www.pointcarbon.com/news/reutersnews/1.4502381)
EUETS	PointCarbon, EUETS spot price at 18 March 2014. (www.pointcarbon.com/)
California ETS	Californian Air Resources Board, February 2014 auction clearing price. (http://www.arb.ca.gov/cc/capandtrade/auction/february-2014/results.pdf)
RGGI	RGGI, 5 March auction clearing price. (www.rggi.org/docs/Auctions/23/PR030714_Auction23.pdf)
Shenzhen Pilot ETS	Reuters, 28 November 2013 reporting of price at market close. (www.reuters.com/article/2013/11/28/us-china-carbon-beijing-idUSBRE9AR07C20131128)
Shanghai Pilot ETS	Reuters, 28 November 2013 reporting of price at market close. (www.reuters.com/article/2013/11/28/us-china-carbon-beijing-idUSBRE9AR07C20131128)
Beijing Pilot ETS	Reuters, 28 November 2013 reporting of trades of 40,000 permits. (www.reuters.com/article/2013/11/28/us-china-carbon-beijing-idUSBRE9AR07C20131128)
Guangdong Pilot ETS	PointCarbon, 20 January 2014 reporting of 28 companies purchasing over 3 million permits at auction at the suggested price of 60 RMB. (www.pointcarbon.com/aboutus/pressroom/pressreleases/1.3782935)
Tianjin Pilot ETS	Reuters, 26 December 2013 reporting of five trades for a total of 45,000 permits. (www.reuters.com/article/2013/12/26/china-tianjin-carbon-idUSL3N0K50AS20131226)

Senator Williams also sought information on coverage and free permit allocations in emissions trading schemes. A comparison of this information is provided in **Table 3**.

Table 3: Comparison of coverage and free allocation

Emissions Trading Schemes (ETSs) in operation		
The design features of individual schemes are subject to change.		
Scheme	Coverage	Free allocation
Australian Carbon Pricing Mechanism	67 per cent of national emissions	Free allocation of either 66 per cent or 94.5 per cent of permits for Emissions-Intensive Trade-Exposed (EITE) industries depending on emissions intensity.
	348 directly liable entities are covered by the CPM, of which 57 received assistance in 2012-13.	
New Zealand ETS (NZETS)	53 per cent	Free allocation of either 60 per cent or 90 per cent of permits for Emissions-Intensive Trade-Exposed (EITE) industries depending on emissions intensity.
	221 mandatory entities	
	2 880 total entities	
European Union ETS (EUETS)	45 per cent	Electricity sector: full auctioning. Manufacturing sector: some free allocation based on industry benchmarks.
	>11, 000 installations	
Californian ETS	36 per cent	In the second compliance period (2015-2017) industrial facilities receive free allowances for transition assistance and to prevent leakage, based on emissions intensity and trade-exposure.
	350 entities representing 600 facilities	
Regional Greenhouse Gas initiative (RGGI)	22 per cent 168 facilities	Negligible – 94 per cent of 2013 allowances are auctioned.
China - Shenzhen Pilot ETS	38 per cent	Allowances are distributed for free based on sector-specific carbon intensity benchmarks. Proposal to move to full auctioning over time.
	635 companies and 197 public buildings	
China - Shanghai Pilot ETS	60 per cent	One-off free allocation for 2013–2015 based on 2009–2011 emissions considering company growth. Benchmarking will be used for the energy sector, airlines, ports and airports. Auctioning will be considered.
	Approximately 200 companies	
China - Beijing Pilot ETS	42 per cent	Free allocation based on 2009–2012 emissions and considering sector development. For new entrants, free allocation will be based on sector-specific benchmarks.
	Approximately 490 entities	
China - Guangdong Pilot ETS	55 per cent	Mainly grandfathering (97% in the first two years of operation, 90% in 2015) based on historical emissions (2010–2012), taking account of the characteristics of the sectors. The remaining allowances will be auctioned.
	Approximately 200 companies	

Emissions Trading Schemes (ETSs) in operation		
The design features of individual schemes are subject to change.		
Scheme	Coverage	Free allocation
China - Tianjin Pilot ETS	60 per cent	Free allowances are expected to be distributed mainly based on historical emissions for existing entities and on benchmarks for new entrants. Auctioning may also be used.
	114 entities	

Sources: In January 2014 the International Carbon Action Partnership (ICAP) published a report: *Emissions Trading Worldwide International Carbon Action Partnership (ICAP) Status Report 2014*. This report provides up to date information on emissions trading schemes in operation around the world. The information in this table is taken from this report which can be found at: <https://icapcarbonaction.com/component/attach/?task=download&id=152>.

Senator Brown's Questions

Senator Brown sought information about:

- the impact of the carbon price/tax in Australia, with particular regard to;
 - whether it is true to say that the carbon price has reduced emissions in the electricity sector; and
 - what impact the carbon price has had on electricity prices in Australia?

Based on publicly available information, greenhouse gas emissions from the electricity generation sector are currently falling. **Table 4** provides year-to-year analysis taken from two different published reports.

Table 4: Estimated greenhouse gas emissions from the Australian electricity generation sector

Source of data	2011-12	2012-13	Change
Department of the Environment Quarterly Update of Australia's National Greenhouse Gas Inventory - September 2013	193.0 Mt CO ₂ e	180.8 Mt CO ₂ e	-12.2 Mt CO ₂ e (-6.3%)
Clean Energy Regulator National Greenhouse and Energy Reporting (NGER) published data set - February 2014	194.6 Mt CO ₂ e	182.3 Mt CO ₂ e	-12.3 Mt (-6.3%)

Note: the slight differences between the two reports are a result of a different allocation of some facilities between the electricity generation and other stationary energy sectors.

Emissions from the electricity generation sector have increased steadily in previous decades, with a peak of 205 Mt CO₂e in 2008-09. They make up around a third of Australia's total national inventory of emissions.

It is difficult to attribute these changes to particular factors or policies. Industry players have attributed emissions reductions in the sector in 2012-13 to a range of factors, including reduced demand and specific market events.

Carbon costs contributed to retail electricity price increases of 5-13 per cent in 2012-13 across the National Electricity Market (AER 2013 p 131). In 2012, Synergy Power estimated that an average Western Australian residential customer would pay an additional 9.1 per cent for an average electricity payment from 1 July 2012 due to carbon costs. Power and Water Corporation in the Northern Territory estimated that an average residential customer would pay 6.8 per cent more due to carbon costs in 2012-13.

The Australian Energy Regulator's *2013 State of the Energy Market* report shows that the carbon pass through to spot electricity prices (that is, wholesale electricity prices) in the National Electricity Market:

- was broadly consistent in mainland regions (averaging \$17.70 per MWh); and
- was significantly lower in Tasmania (\$10 per MWh), due to its high concentration of hydro generation (AER 2013, p 8).

As a proportion of total electricity costs, carbon costs contributed 3-12 per cent of the final electricity bills for small customers in 2012-13

I trust this information is of assistance to the Committee.

Yours sincerely

Simon Writer
Assistant Secretary
Domestic Policy and Systems Branch
Department of the Environment
23 March 2014