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Australian Wool Innovation

Modelling the potential impact of
a carbon tax on the Australian
sheep industry
GHD Agriculture

September 2011

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Executive Summary

This report provides an estimate of the likely impact of a carbon tax on input costs for Australian sheep farming enterprises.

The analysis applied Commonwealth Treasury modelling regarding the inflationary impact of a carbon tax, to model farms representing average sheep enterprises (as determined by ABARES 2005 – 2010 survey data)¹ in both the Pastoral and High Rainfall production zones in Australia.

The results are as follows:

Table 1 Carbon tax impact in high rainfall zones (transport excluded)

Carbon Price	\$	10	\$	20	\$	30	\$	40
Per enterprise	\$	1,214	\$	2,427	\$	3,641	\$	4,855
per head	\$	0.37	\$	0.75	\$	1.12	\$	1.49
per KG wool	\$	0.10	\$	0.19	\$	0.29	\$	0.38
Per cent cost increase		0.54%		1.07%		1.61%		2.14%

Table 2 Carbon tax impact in pastoral zones (transport excluded)

Carbon Price	\$	10	\$	20	\$	30	\$	40
total	\$	859	\$	1,718	\$	2,577	\$	3,436
per head	\$	0.26	\$	0.53	\$	0.79	\$	1.06
per KG wool	\$	0.07	\$	0.13	\$	0.20	\$	0.27
Per cent cost increase		0.38%		0.76%		1.14%		1.52%

The above results represent a scenario where transport fuels are excluded from a carbon tax (or the impact is compensated through a reduction in the fuel excise tax). The additional costs associated with applying a carbon tax to transport fuels are summarised in Table 3 below.

¹ Agsurf, 2011, *Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)*, <http://www.abare.gov.au/interactive/agsurf/>

Table 3 Additional cost impact for inclusion of transport fuels

	\$ 10	\$ 20	\$ 30	\$ 40
High rainfall zone	\$ 1,138	\$ 2,276	\$ 3,414	\$ 4,551
Pastoral Zone	\$ 691	\$ 1,382	\$ 2,072	\$ 2,763

The total potential impact on the Australian sheep industry through higher input costs is summarised in Table 4 below.

Table 4 Total industry impact (\$ Million)

	\$ 10	\$ 20	\$ 30	\$ 40
Industry Impact				
Transport excluded	\$19.64	\$39.91	\$59.55	\$79.50
Transport included	\$31.49	\$63.29	\$94.78	\$126.27

This analysis only considers the impact on input costs and therefore does not account for other factors likely to influence farm profitability including:

- The provision of household or business compensation.
- The possible opportunities for producers to market carbon offsets, e.g. through wool production, soil carbon, reforestation or any other change of land use or practices.
- Any possible actions taken by producers to mitigate carbon emissions and reduce inputs.
- Any possible benefits to wool growing operations resulting from reduced carbon emissions, as a result of the introduction of the carbon tax.
- Possible changes to trade competitiveness on the export or domestic markets
- Possible impacts of increased cost pressures within the supply chain.

1. Introduction

GHD Pty Ltd (GHD) was commissioned by Australian Wool Innovation (AWI) to provide an assessment of the potential impact of a carbon tax on the Australian sheep industry. Specifically, AWI sought an estimate of the potential impact of the Federal Government's proposal to introduce a carbon tax into the Australian economy.²

At the time of writing the Federal Government's carbon tax proposal has not been enacted into legislation, nor have all the details of the proposed tax been revealed, including:

- The magnitude of the carbon tax or price
- The level of household compensation
- The level of industry compensation

In the absence of the full details of the proposed tax, this project aims to model potential impacts on farm input costs under the most likely policy settings and using a range of potential carbon prices (ranging between \$10 and \$40 per tonne CO²).

It remains unclear if transport fuel will be included or excluded from the carbon tax. The most likely scenario is that transport fuel will be included, but with compensation provided through a reduction in the fuel excise tax. This project provides modelling under two scenarios, 'with transport fuel included' and 'with transport fuel excluded' (or with equal compensation through a reduction in the fuel excise tax).

² Office of the Prime Minister 2011, *Climate Change Framework Announced*, media release, accessed 6 June 2011, <http://www.pm.gov.au/press-office/climate-change-framework-announced>.

2. Review of Current Knowledge

A carbon tax is a policy measure, which aims to place a price on carbon emissions, with the aim of reducing the impact on climate change.

Since carbon taxes result in higher energy and fuel prices, they are likely to increase overall prices across an economy. The degree of this increase depends on:

- The scale of the increase in energy and fuel costs;
- How easy it is for industry and consumers to switch between fuels to cheaper alternatives and non-energy inputs, and
- How much of the cost is passed on by industry to consumers, which will be dictated by the level of competition in the industry.³

There has been considerable research conducted into the impact of carbon pricing on industry within Australia, including agricultural industries. Much of this research was completed in anticipation of the Federal Government's previous carbon pricing initiative, the Carbon Pollution Reduction Scheme (CPRS). However, many aspects of the earlier research remain relevant to the proposed carbon tax.

Treasury modelling

The Commonwealth Treasury (Treasury) is the primary government department undertaking analysis around the potential impact of a carbon tax. Treasury produced the 2008 report *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*⁴, which assessed the potential impact of the CPRS. Treasury has been working to update its 2008 report to assess the potential impact of the proposed carbon tax. Initial modelling⁵ (summarised in Table 5 below) provided a cost estimate under different carbon tax prices, and with transport fuel included and excluded. Treasury's analysis was used to inform government decisions and is therefore considered the best estimate available.

This modelling suggests that electricity and gas prices will be more affected by a carbon tax than other items. The modelling also assumes a linear relationship between the carbon price and the impact on prices.

³ *The Reality of Carbon Taxes in the 21st Century*, Janet E. Milne, Stefan Speck, Mikael Skoun Andersen, and David G. Duff, Environmental Tax Policy Institute, South Royalton, Vermont (2008).

⁴ Department of Prime Minister and Treasurer, 2008. *Australia's Low-Pollution Future: The Economics of Climate Change Mitigation*. Accessible at <http://www.treasury.gov.au/lowpollutionfuture/default.asp>

⁵ Department of Prime Minister and Treasurer, 2011. *Treasury Executive Minutes*. 1 February 2011.

Table 5 Treasury carbon tax modelling (economy wide impacts)

Carbon Price (\$/Tonne)	\$10	\$20	\$30	\$40
Electricity	5%	10%	15%	20%
Gas	4%	8%	12%	17%
Food	<1%	<1%	<1%	<1%
Automotive Fuel	2%	4%	6%	8%
Overall CPI Impact (transport fuel excluded)	0.35%	0.7%	1.04%	1.39%
Overall CPI Impact (transport fuel included)	0.49%	0.99%	1.48%	1.97%

Garnaut Review

The 2008 Garnaut Review⁶ provided the economic case for placing a price on carbon pollution through an emissions trading system. In response to the change in Government policy, the Garnaut Review has now been updated⁷ to provide recommendations regarding the implementation of a carbon tax. This updated review was released on 30 May 2011 and recommends the following:

- ▶ The initial carbon price be set between \$20 and \$30;⁸
- ▶ The carbon price be increased at a rate of 4% per annum (in real terms), pending consideration of a range of factors including the global carbon reduction activities;⁹
- ▶ A rapid transition to a floating carbon price (emissions trading scheme);¹⁰
- ▶ Transport fuels incur the carbon tax, however price impacts be offset by a one off reduction in the fuel excise;¹¹
- ▶ Pending full coverage of the land sector in carbon pricing, provision be made for a proportion of the carbon revenue to be allocated for land sector credits;¹²

The funds collected through the carbon tax be expended on household assistance, industry assistance and innovation investments along the lines shown in Table 6.

⁶ Australian Commonwealth, State and Territory Governments, 2008, *Garnaut Climate Change Review*, accessible at <http://www.garnautreview.org.au/2008-review.html>.

⁷ Australian Commonwealth Governments, 2011, *Garnaut Climate Change Review Update*, accessible at <http://www.garnautreview.org.au/index.html>.

⁸ *Ibid.*, p. 72.

⁹ *Ibid.*

¹⁰ *Ibid.*, p. 73.

¹¹ *Ibid.*, p. 83.

¹² *Ibid.*, p. 86.

Table 6 Recommended carbon tax expenditure¹³

	Carbon Tax Expenditure
Household Assistance	55%
Industry Assistance	35%
Innovation Investments	10%

Sheep enterprise modelling

There have been a number of estimates produced for the potential impact of a carbon price on sheep enterprises. Table 7 below provides a summary of these estimates.

Table 7 Summary of sheep enterprise carbon pricing impact studies

Author	Title	Impact
Tulloh, C., Ahammad, H., Mi, R. and Ford, M., 2009 ¹⁴	<i>Effects of the Carbon Pollution Reduction Scheme on the economic value of farm production</i>	Impact ranging from \$0.03 to \$0.21 per head, depending on cost-price pass-through from processor to farmer
Tingsong Jiang, Kevin Hanslow and David Pearce, 2009 ¹⁵	<i>On farm impacts of an Australian ETS</i>	Farm cash income falls by 5.8 per cent for sheep enterprises, with a carbon price of \$25/tonne.
Keogh, M., and Cottle, M., 2010 ¹⁶	<i>The implications of greenhouse emission reduction policies for the Australian sheep industry</i>	Farm cash margins fall by between 3.5 – 12.5% by 2016 under CPRS-5 scenario.

¹³ Ibid., 87

¹⁴ Tulloh, C., Ahammad, H., Mi, R. and Ford, M., 2009. "Effects of the Carbon Pollution Reduction Scheme on the economic value of farm production." Australian Bureau of Agricultural and Resource Economics, Issues Insights 09.6. June 2009.

¹⁵ Tingsong Jiang, Kevin Hanslow and David Pearce, 2009. *On farm impacts of an Australian ETS*, Rural Industries Research and Development Corporation.

¹⁶ Keogh, M. and Cottle, M., 2010, *The implications of greenhouse emission reduction policies for the Australian sheep industry*.

3. Approach

3.1 Establishment of model farms

The ABARES Australian Farm Survey Data provides detailed production and financial information on agricultural enterprises across Australia. Available survey data from “specialty sheep” enterprises in the High Rainfall and Pastoral Zones, were segregated out and averaged over the previous five years, adjusted for inflation to 2011 levels. From this data two model farms were produced representing average wool producing farm enterprises in both production zones (see Appendix A).

Modelling for these two production zones provides estimates at either end of the spectrum, The potential impact on sheep production enterprises in the sheep/cropping zones can be assumed to fall in-between these two estimates.

Model farms include those enterprises whose primary source of revenue comes from the production of sheep for wool as well as meat. Table 8 provides details of the sample.

Table 8 Sampling percentages

Zone	Population (Specialty Sheep Farms)	Survey Sample	Sample Percentage
Pastoral Zone	958	50	5.2%
High Rainfall Zone	14,435	393	2.7%

3.2 Input cost allocation

The survey data segregates enterprise costs into 25 categories. Each of these cost categories was broken down into the following components (Electricity, Gas, Labour, Transport, Manufacturing and Services). Estimates were made as to the percentage of costs which might reasonably be allocated to each of these components. In the absence of any empirical evidence to determine this cost allocation throughout the supply chain, estimates were based on the consultants understanding of the sheep production systems and associated input costs.

The allocations of costs were slightly different for each production zone, with pastoral enterprises deemed to be more reliant on transport, electricity and gas.

Table 9 below provides the overall allocation in costs, while Appendix B provides the full breakdown of estimates for each zone.

Table 9 Overall cost allocation (averaged across input costs)

	Electricity	Gas	Labour	Transport	Manufacturing	Services
Pastoral Zone	5%	1.3%	16%	17%	34%	37%
High Rainfall Zone	2%	0.4%	14%	20%	28%	35%

3.3 Tax impact analysis

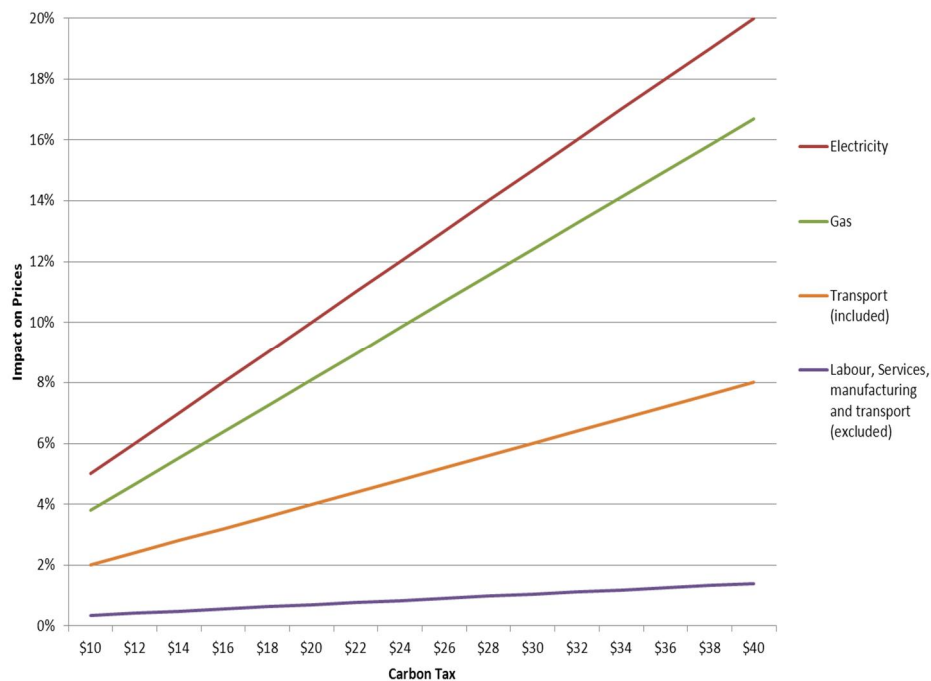
Having broken down enterprise costs into their base components, (Electricity, Gas, Labour, Transport, Manufacturing and Services), Treasury modelling¹⁷ was used to determine the likely impact on these components under different carbon prices.

The modelling provides impact estimates on electricity and gas as well as an estimate on the overall impact on CPI. This modelling exercise assumes that the impact on the less energy intensive, components (i.e. labour, transport, manufacturing and services) will be in line with the Treasury estimates for the overall CPI impact.

The transport component was modelled under two scenarios (included and excluded). When transport fuel is included Treasury modelling provides for a higher overall CPI impact.

¹⁷ Department of Prime Minister and Treasurer, 2011.

Figure 1: Tax Impact modelling



3.4 Cost estimation

The likely impact of the carbon tax was calculated by multiplying each input cost item by its estimated component percentage. The product of which was then multiplied by its corresponding tax impact percentage (for a particular carbon price). This calculation is summarised in the equation below.

$$\text{Tax impact} = \text{Input cost item} \times \text{component percentage} \times \text{tax impact percentage}$$

This process was replicated for each of the 6 components (electricity, gas, labour, transport, manufacturing and services), of each of the 25 input cost items. The total sum of each of these calculations provides the likely cost impact of the tax. This process was repeated for each carbon price between \$10 and \$30 and the results were presented as:

- costs per enterprise,
- costs per head and
- costs per kg of wool produced.

An estimate of the total cost to the Australian sheep industry was obtained by averaging the expected per head cost impact across each production zone and multiplying by Australian sheep and lamb numbers (62,356,000 in 2010)¹⁸.

3.5 Assumptions

This modelling exercise assumes the most likely scenario in terms of carbon tax policy settings, based on Federal Government's carbon tax policy and signalling.

The following policy settings are considered the most likely:

- Emissions resulting from agricultural activities will be exempt from the tax
- The proposed carbon tax will cover carbon emissions resulting from the following industries/processes:
 - Stationary energy (i.e. electricity generation and industrial fuel combustion)
 - Industrial processes and waste
 - Fugitive emissions from coal mining, oil and gas extraction, and gas pipeline transport
- Compensation will only be provided to trade exposed industries only
- All six greenhouse gases included under the Kyoto Protocol are to be covered by the scheme
- Where possible industries covered by the carbon tax will pass all costs onto their Australian customers.

In focusing solely on the potential impact on farm input costs, this modelling exercise does not account for the following:

- The provision of household or business compensation.
- The possible opportunities for producers to market carbon offsets, e.g. through wool production, soil carbon, reforestation or any other change of land use or practices.
- Any possible actions taken by producers to mitigate carbon emissions and reduce inputs.
- Any possible benefits to wool growing operations resulting from reduced carbon emissions, as a result of the introduction of the carbon tax.

¹⁸ Agsurf, 2011, *Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)*, <http://www.abare.gov.au/interactive/agsurf/>.

3.5.1 Transport fuel

At the time of writing it remains unclear as to whether transport fuel would be covered by a carbon tax. Any of the following three policies could be adopted:

1. Transport fuels are included in the tax.
2. Transport fuels are excluded from the tax.
3. Transport fuels are included in tax, however the price impact is neutralised by a reduction in the fuel excise.

3.6 Reliance on third party modelling

The modelling undertaken in this project relies on inputs from credible third parties. The main sources of information were the following:

Table 10 Third party sources

Source	Information Used
Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)	▶ Australian Farm Survey Data
The Commonwealth Treasury	▶ <i>Australia's Low Pollution Future: The Economics of Climate Change Mitigation</i> ▶ <i>Treasury Executive Minutes</i> . 1 February 2011.
Garnaut Climate Change Review	▶ 2008 Review, ▶ 2011 Review Update

4. Results

4.1 Transport fuel excluded (or compensated)

The results of the analysis suggest a carbon tax of \$30 per tonne will increase input costs on the average high rainfall zone sheep enterprise by \$3,641 per annum. This equates to \$1.12 per head per annum, \$0.29 per Kg wool produced, and an overall impact of 1.61%.

Table 11 Carbon tax impact in high rainfall zones (transport excluded)

Carbon Price	\$10	\$20	\$30	\$40
Per enterprise	\$1,214	\$2,427	\$3,641	\$4,855
per head	\$0.37	\$0.75	\$1.12	\$1.49
per KG wool	\$0.10	\$0.19	\$0.29	\$0.38
Per cent cost increase	0.54%	1.07%	1.61%	2.14%

The results suggest a \$30 per tonne carbon tax will increase input costs on the average pastoral zone sheep enterprise by \$2,577 per annum. This equates to \$0.48 per head per annum, \$0.10 per Kg wool produced, and an overall impact of 1.14%.

Table 12 Carbon tax impact in pastoral zones (transport excluded)

Carbon Price	\$10	\$20	\$30	\$40
total	\$859	\$1,718	\$2,577	\$3,436
per head	\$0.16	\$0.32	\$0.48	\$0.64
per KG wool	\$0.03	\$0.07	\$0.10	\$0.13
Per cent cost increase	0.38%	0.76%	1.14%	1.52%

The above results suggest that high rainfall enterprises will experience a higher overall cost increase (Figure 2), percentage increase over current prices (Figure 5), cost increase per head (Figure 3) and per Kg of wool produced (Figure 4).

While pastoral zone properties are more reliant on transport, electricity and gas, their production systems are considerably less intensive and therefore less

reliant on inputs such as fertiliser, crop and pasture chemicals, materials, seed etc.

Pastoral zone enterprises also run less lambs as a percentage of overall sheep numbers compared with high rainfall enterprises and therefore cut less wool per animal. As a result the cost impact of the carbon tax per Kg of wool produced will be considerably lower in the pastoral zone, as the impact is distributed across more wool per head.

Figure 2 Annual cost increase per enterprise

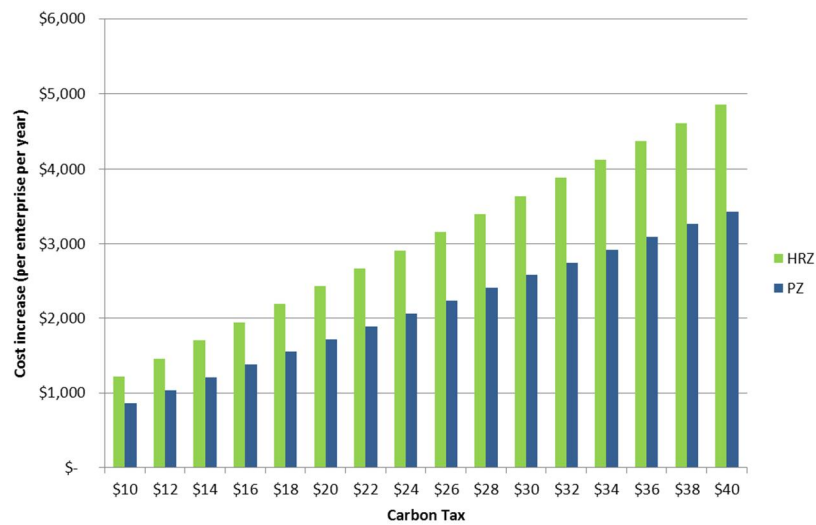


Figure 3 Annual cost increase per head

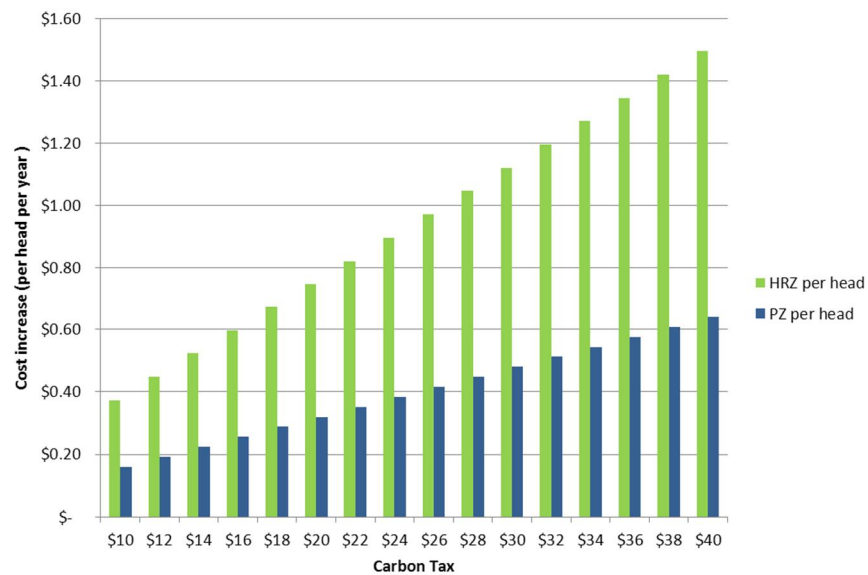


Figure 4 Annual cost increase per Kg wool produced

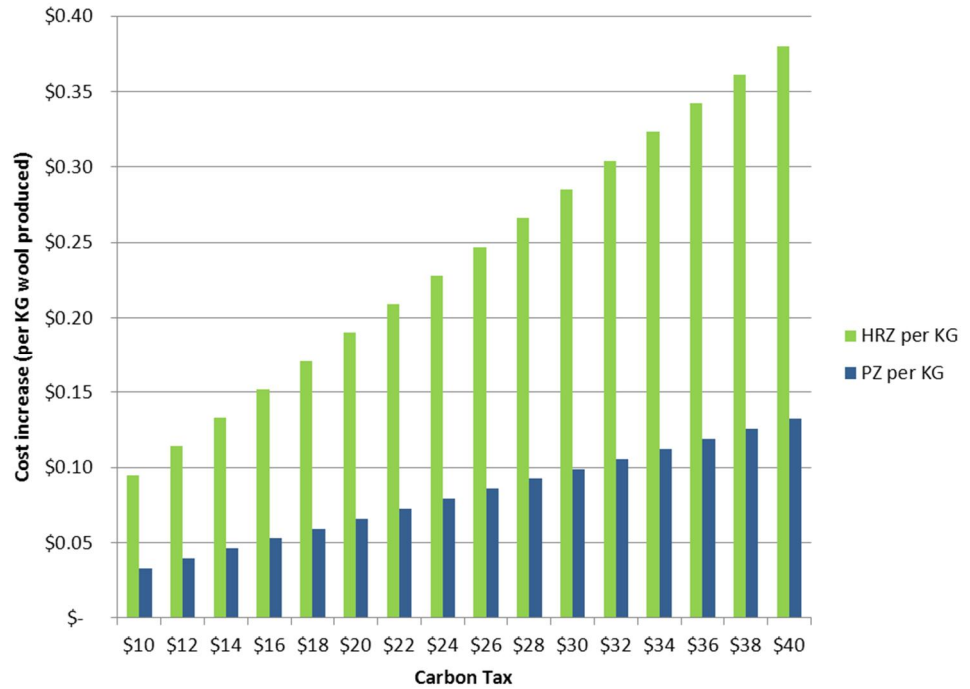
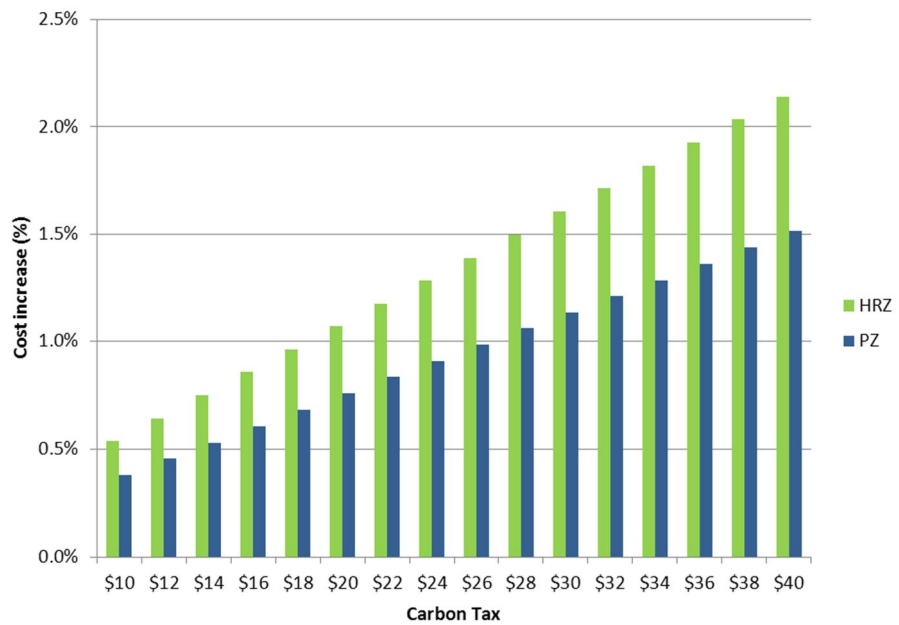


Figure 5: Percentage cost increase



4.2 Transport fuel included

Including transport fuel in the modelling (without compensation) increases the annual cost impact on high rainfall enterprises from \$3,641 to \$7,055, under a \$30 tax (see Table 13 below). For pastoral zone enterprises the inclusion of transport fuel would increase the impact from \$2,577 to \$4,649 (see Table 14 below).

Table 13 Carbon tax impact in high rainfall zones (transport included)

Carbon Price	\$ 10	\$ 20	\$ 30	\$ 40
Per enterprise	\$ 2,352	\$ 4,703	\$ 7,055	\$ 9,406
per head	\$ 0.72	\$ 1.45	\$ 2.17	\$ 2.90
per KG wool	\$ 0.18	\$ 0.37	\$ 0.55	\$ 0.74
Per cent cost increase	1.04%	2.07%	3.11%	4.15%

Table 14 Carbon tax impact in pastoral zones (transport included)

Carbon Price	\$10	\$ 20	\$ 30	\$ 40
Per enterprise	\$ 1,550	\$ 3,100	\$ 4,649	\$ 6,199
per head	\$ 0.29	\$ 0.58	\$ 0.87	\$ 1.15
per KG wool	\$ 0.06	\$ 0.12	\$ 0.18	\$ 0.24
Per cent cost increase	0.68%	1.37%	2.05%	2.73%

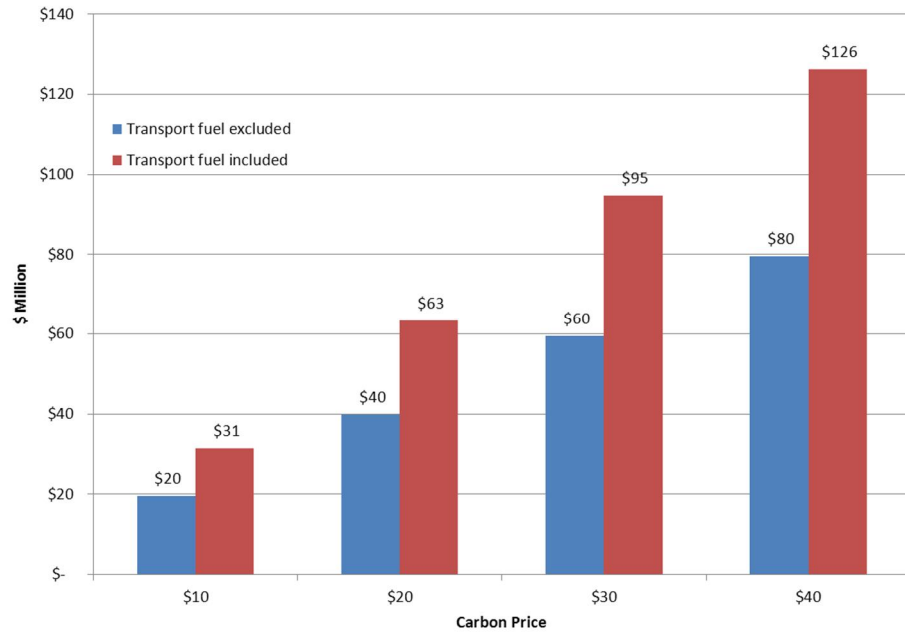
4.3 Industry wide impact

This modelling suggests a \$30 carbon tax would cost the Australian sheep industry \$59.55 million in input cost increases. If transport fuel was covered by the tax this cost would rise to \$94.78 million (see Table 15)

Table 15 Total industry impact (\$ Million)

	\$ 10	\$ 20	\$ 30	\$ 40
Industry Impact				
Transport excluded	\$19.64	\$39.91	\$59.55	\$79.50
Transport included	\$31.49	\$63.29	\$94.78	\$126.27

Figure 6 Total sheep industry impacts



5. References

Agsurf, 2011, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), <http://www.abare.gov.au/interactive/agsurf>.

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The Reality of Carbon Taxes in the 21st Century, Janet E. Milne, Stefan Speck, Mikael Skou Andersen, and David G. Duff, Environmental Tax Policy Institute, South Royalton, Vermont (2008).

Tulloh, C., Ahammad, H., Mi, R. and Ford, M., 2009. "*Effects of the Carbon Pollution Reduction Scheme on the economic value of farm production.*" Australian Bureau of Agricultural and Resource Economics, Issues Insights 09.6. June 2009.

Appendix A: Model Farms in the Pastoral and High Rainfall Zones

	Pastoral Zone	High Rainfall Zone
Costs per farm per year		
Administration expenses	\$ 10,571	\$ 7,779
Crop and pasture chemicals	\$ 1,090	\$ 3,953
Fertiliser	\$ 1,153	\$ 15,264
Fodder	\$ 6,925	\$ 11,756
Fuel, oil and lubricants	\$ 18,340	\$ 10,225
Interest payments	\$ 20,125	\$ 18,054
Land rent	\$ 3,952	\$ 4,727
Leasing payments	\$ 1,265	\$ 1,488
Livestock materials and chemicals	\$ 7,045	\$ 8,681
Total rates (incl water)	\$ 6,927	\$ 6,368
Water charges	\$ 121	\$ 163
Repairs and maintenance	\$ 25,478	\$ 14,661
Seed	\$ 586	\$ 2,023
Shearing and crutching	\$ 31,343	\$ 14,541
Payments to sharefarmers	\$ 650	\$ 278
Contracts	\$ 5,831	\$ 4,824
Handling and marketing expenses	\$ 9,124	\$ 7,654
Freight	\$ 8,268	\$ 4,046
Wages paid to hired labour	\$ 12,354	\$ 7,898
Agistment	\$ 1,322	\$ 804
Beef cattle purchases	\$ 8,515	\$ 5,871
Other livestock purchases	\$ 8	\$ 30
Sheep purchases	\$ 18,035	\$ 11,252
Livestock transfers - inwards	\$ 1,779	\$ 251
Other cash costs	\$ 25,873	\$ 18,296
TOTAL	\$ 226,678	\$ 180,886

	Pastoral Zone	High Rainfall Zone
RECEIPTS		
Total lambs sales	\$ 32,791	\$ 53,345
Other cash receipts	\$ 62,063	\$ 55,876
Sheep sales	\$ 54,707	\$ 33,949
Total wool gross receipts	\$ 133,828	\$ 79,360
Total cash receipts	\$ 283,388	\$ 222,530
PRODUCTION INFORMATION		
Area operated (ha)	35654.6	860.4
Lambs at 30 June (no.)	1244	707
Sheep transferred in (no.)	11.6	4
Total wool produced (kg)	26005.4	12771.8
Wool cut per sheep shorn (kg)	4.84	3.94
Sheep numbers at 30 June (no.)	5324.6	2938.4
Ewes mated (no.)	2746.4	1503.4
Sheep and lambs shorn (no.)	5369	3248.6
SAMPLE INFORMATION		
Population (farms)	958	6249
Sample (farms)	49.8	158.2

Appendix B: Cost Allocation

Table 16 Cost Allocation (High Rainfall Zone)

	Elec.	Gas	Labour	Transp.	Manufac.	Services
Administration expenses	13%	2%	20%	13%	22%	30%
Crop and pasture chemicals	0%	0%	15%	10%	50%	25%
Fertiliser	0%	0%	15%	25%	47%	13%
Fodder	0%	0%	15%	30%	40%	15%
Fuel, oil and lubricants	0%	0%	5%	45%	45%	5%
Interest payments	0%	0%	10%	10%	10%	70%
Land rent	0%	0%	0%	0%	0%	100%
Leasing payments	0%	0%	5%	0%	0%	95%
Livestock materials (drenches, dips etc)	4%	1%	10%	20%	50%	15%
Total rates (incl water)	0%	0%	5%	0%	5%	90%
Water charges	0%	0%	5%	0%	5%	90%
Repairs and maintenance	5%	1%	20%	5%	30%	39%
Seed	0%	0%	20%	14%	48%	18%
Shearing and crutching	7%	0%	30%	10%	15%	38%
Payments to sharefarmers	5%	0%	20%	0%	20%	55%
Contracts	0%	1%	20%	20%	15%	44%
Handling and marketing expenses	4%	1%	20%	20%	11%	44%
Freight	2%	1%	10%	81%	3%	3%
Wages paid to hired labour	0%	0%	90%	6%	2%	2%
Agistment	2%	0%	5%	3%	2%	88%
Beef cattle purchases	0%	0%	5%	5%	85%	5%
Other livestock purchases	0%	0%	5%	5%	85%	5%
Sheep purchases	0%	0%	5%	5%	85%	5%
Livestock transfers - inwards	0%	0%	5%	5%	85%	5%
Other cash costs	3%	2%	15%	15%	30%	35%

Table 17 Cost Allocation (Pastoral Zone)

	Elec.	Gas	Labour	Transp.	Manufac.	Services
Administration expenses	13%	2%	20%	16%	19%	30%
Crop and pasture chemicals	0%	0%	15%	12%	48%	25%
Fertiliser	0%	0%	15%	30%	42%	13%
Fodder	0%	0%	10%	45%	30%	15%
Fuel, oil and lubricants	0%	0%	5%	80%	10%	5%
Interest payments	0%	0%	10%	12%	8%	70%
Land rent	0%	0%	0%	0%	0%	100%
Leasing payments	0%	0%	5%	0%	0%	95%
Livestock materials (drenches, dips etc)	4%	1%	10%	24%	46%	15%
Total rates (incl water)	0%	0%	5%	15%	5%	75%
Water charges	0%	0%	5%	15%	5%	75%
Repairs and maintenance	5%	1%	20%	15%	29%	30%
Seed	0%	0%	20%	17%	45%	18%
Shearing and crutching	10%	0%	30%	20%	13%	27%
Payments to sharefarmers	5%	0%	20%	0%	20%	55%
Contracts	0%	1%	20%	24%	11%	44%
Handling and marketing expenses	4%	1%	20%	24%	7%	44%
Freight	2%	1%	0%	97%	0%	0%
Wages paid to hired labour	0%	0%	90%	7%	1%	2%
Agistment	2%	0%	5%	4%	1%	88%
Beef cattle purchases	0%	0%	5%	6%	84%	5%
Other livestock purchases	0%	0%	5%	10%	80%	5%
Sheep purchases	0%	0%	5%	10%	80%	5%
Livestock transfers - inwards	0%	0%	5%	10%	80%	5%
Other cash costs	5%	2%	15%	18%	27%	33%

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