

An Analysis of the Economic Impacts of Australia's Carbon Price

Mary-Jane Watkins

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Declaration

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Signed.....

Mary-Jane Watkins

June 2013

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List of Abbreviations and Acronyms

ABS	Australian Bureau of Statistics
(ANREU)	Australian National Registry of Emissions Units
CO ₂	Carbon Dioxide
(CPRS)	Carbon Pollution Reduction Scheme
CER	Certified emission reductions
CDM	Carbon Development Mechanism
CFI	Carbon Farming Initiative
CPI	Consumer Price Index
CPM	Carbon Price Mechanism
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EITE	Emissions Intensive Trade Exposed
(ETS)	Emissions Trading Scheme
EU	European Union
EU-ETS	European Union Emissions Trading Scheme
(GHGs),	Greenhouse gases
GDP	Gross Domestic Product
GNI	Gross National Income
HAP	Household Assistance Package
HES	Household Expenditure Survey
IPCC	Intergovernmental Panel on Climate Change

(LEPID)	Liabe Entities Public Information Database
(MPCCC)	Multi-Party Climate Change Committee
(MEC)	Marginal External Cost
(MPC)	Marginal Private Costs
(MSC)	Marginal Social Costs
MPB	Marginal Private Benefit
MSB	Marginal Social Benefits
MEB	Marginal External Benefit
NATSEM	National Centre for Social and Economic Modelling
NEM	National Electricity Market
ppm	parts per million
PPI	Producer Price Index
RBA	Reserve Bank of Australia
RET	Renewable Energy Target
R&D	Research and Development
STP	Steel Transformation Plan
tCO ₂	tonne of carbon dioxide
\$/MWh	Wholesale electricity spot prices

Introduction

Climate Change poses a substantial risk to humans and the world's ecosystem. Although there is scientific uncertainty in relation to the magnitude that global warming will have, the risk is real. There is a need to acknowledge and reduce the risks of climate change through the implementation of a means to lower greenhouse gas emissions. Climate change is an example of market failure which involves externalities in relation to the consumption and production and the subsequent use public goods. The atmosphere is a common resource that is being exploited and exhausted. Public policy must be implemented to reduce market failure which is why the Australian Government is placing a price on carbon to create a market and promote the reduction of emissions.

The issue of greenhouse gases is a global concern and a solution to human-induced climate change is required through both local and international responses. The Australia Government has implemented a carbon price mechanism which will enable the transition to an Emissions Trading Scheme (ETS) that will see the Australian carbon market link with the European Union Carbon Permit Scheme (2015). This corresponds with the aim of promoting international effective climate change mitigation.

The Australian Government's, environmental policy is based on the recommendations of Ross Garnaut. The Garnaut Climate Change Review (2008) was commissioned by Kevin Rudd and by Australia's State and Territory Governments on 30 April 2007. In September 2010 Garnaut was selected to be the independent expert advisor to the Multi-Party Climate Change Committee. In November 2010, Garnaut was appointed by the Minister of Climate Change and Energy Efficiency to update his 2008 Garnaut Climate Change Review. The Committee explored the options for the implementation of a carbon price and helped to build consensus on how Australia will tackle the challenge of climate change. The Garnaut Climate Change Review Update (2011) was presented to Government on 31 May 2011. The Climate Change Minister Penny Wong wanted the economic concerns in response to the report to be addressed, thus Treasury modelling in relation to climate change mitigation was provided. Therefore it is Ross Garnaut's policy recommendations that formed the foundations of the Australian public policy in relation to climate change mitigation that is now in place.

Climate change is a risk to Australia's future prosperity. Global action can reduce greenhouse gas emissions to the level that can lower the risk of dangerous climate change. Effective global agreement and actions are required and the developed world needs to lead. Australia is making a contribution by implementing efficient market-based policies to reduce domestic emissions in a cost-effective way. The Carbon Price Mechanism and the Carbon Pollution Reduction Scheme (CPRS) are the core components of Australia's mitigation policy. A low carbon future plan will help provide sustainable low-emission growth that will allow Australia's future prosperity.

In 2011 the Australian Government needed to understand the costs and benefits of the economy meeting its emission reduction targets. The Treasury Department conducted one of largest economic modelling projects ever undertaken in Australia which analysed the potential impacts of reducing emission over the medium to long-term. The Report examines national, global and sectorial areas and refers to the distributional impacts which include the implications of carbon pricing on goods and services that household's consume. The Government will continue to analyse the costs and benefits of climate change policy which will make sure Australia makes a substantial contribution to global efforts in relation to climate change mitigation. Australia must take advantage of the transition to a low carbon economy in order to remain competitive, and it must consider renewable energies and sustainable technologies.

The Australia and the global economy will continue to grow as governments cut pollution in order to lower the risk of dangerous climate change. Global action is cheaper than delayed action, the occurrence of a delay will only add to the cost of action as it will imply that there would be more emissions-intensive industry and infrastructure. This would in turn delay investment in low-emissions technology, industry and jobs. A price on carbon will drive structural change in the economy; alter resource direction towards lower emission-intensive industries. This will enable Australia to maintain and improve its competitiveness in a world moving towards a new low-carbon future.

Structural change within the economy will result from the existence of a market-based carbon pricing mechanism, compared with other changes within the economy, those driven by high terms of trade, demographic changes and consumer taste preferences. Treasury indicates the economy will continue to grow strongly, whilst reducing carbon emissions. Treasury policy modelling analysis aim was to provide details of the economic, environmental and social impacts of climate change and the benefits

of lowering global emissions. The level of Australia's real income per person is expected to be higher with a carbon price than without a price on pollution. For example, real national income per person will slow by one approximately one-tenth of one percentage point per year under a carbon price, with real incomes around \$9000 higher in 2020 in relation to today's dollars. In 2020 national employment is predicted to increase by 1.6 million with or without a carbon price. Household's consumption will face higher prices for highly emissions-intensive products such as electricity and gas (Clean Energy Future 2012).

Scope

There will be a presentation in Chapter 1 of the science of climate change to indicate that human activity is contributing to the climate change issue which indicates why Australia is acting to reduce emissions. Our climate is changing, mainly due to the observed increases in human activities involving the burning of fossil fuels (coal, oil, and natural gas), agriculture and deforestation. There have been changes over the 20th century which include, increases in global average air and ocean temperature, widespread melting of snow and ice and rising global sea levels. Chapter 2 will provide an analysis of the greenhouse gas reduction policy choices that the Australian Government could have selected and the overall conclusions as to why the Australian Government chose a carbon price mechanism will be analysed. This will see an analysis of what makes an effective policy and what are some of the criticisms of alternative policy choices. Chapter 3 will examine the Carbon Price Mechanism and the Carbon Pollution Reduction Scheme (CPRS) the details of the policy will be addressed and key criticisms will be proposed particularly in relation to Australia linking with the European Union Emissions Trading Scheme (EU-ETS) in 2015. The aim of this thesis is provide an analyse of the economic impacts of Australia's carbon price and to provide a basis for conclusions as to what effect the carbon price initially had on the Australian economy. These arguments will be presented in Chapter 4 as the economic impacts of the carbon price will be analysed. There will be concluding remarks and recommendations provided in Chapter 5, which will see particular findings and potential future areas research to be presented.