



Australian Government

Department of Industry, Innovation, Climate Change,
Science, Research and Tertiary Education

Measuring Mitigation using the National Inventory: Australia's Experience

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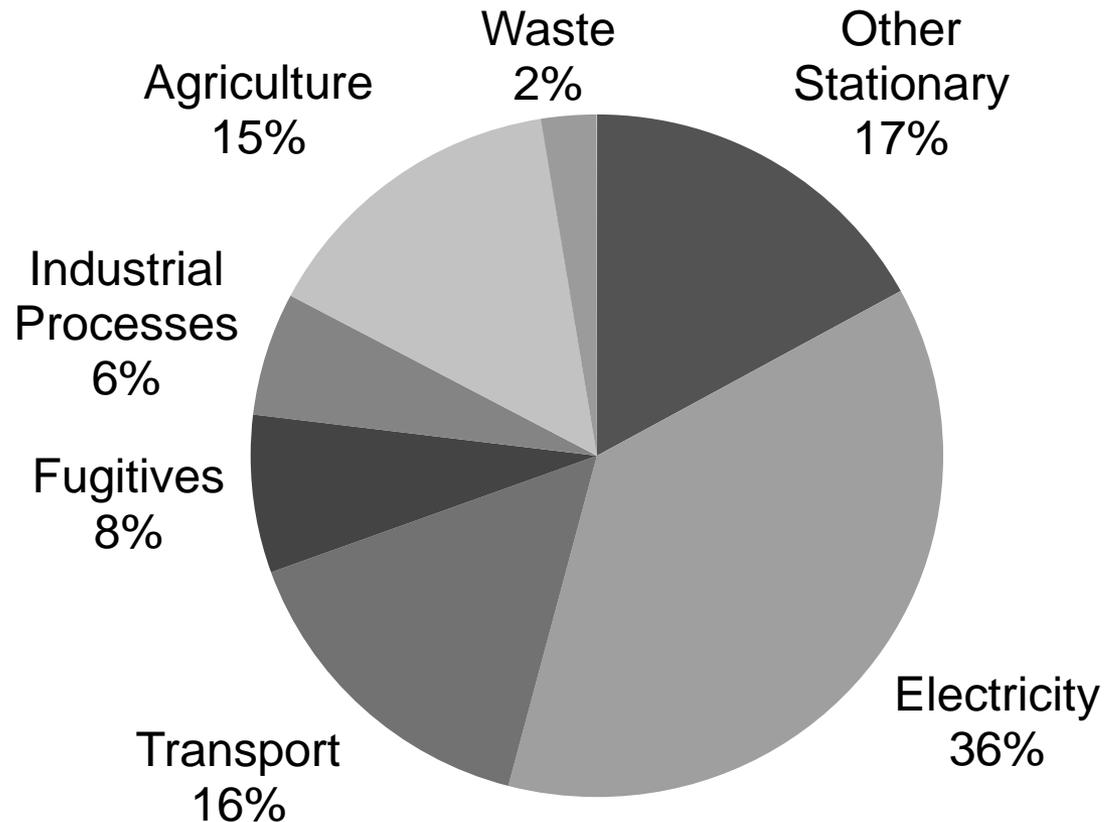
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- Mitigation:
 - ‘the act of making a condition or consequence less severe’*
- *Australia’s climate change philosophy*
 - Transparent MRV is fundamental
 - as a driver for policy action
 - to assess policy effectiveness
 - Once a target is set, need to objectively track progress towards it



Australia's Emission Profile (excluding LULUCF)





1. Australia's KP CP1 Target

		Emissions Mt CO ₂ -e				
		2007-08	2008-09	2009-10	Preliminary 2010-11	Preliminary 2011-12
<i>National Inventory - Annex A sectors</i>						
1	National Inventory total	549.6	547.6	543.7	551.3	551.0
<i>Kyoto Protocol units</i>						
2	Initial assigned amount per year under the Kyoto Protocol ^(a)	591.5	591.5	591.5	591.5	591.5
3	Net credits from Article 3.3 LULUCF activities - Deforestation, afforestation and reforestation ^(b)	-33.2	-25.8	-18.1	-24.2	-26.8
	Kyoto Protocol units – domestic sources total (2) + (3)	558.4	565.7	573.4	567.3	564.7
4	Net purchases of credits from international sources under Articles 6, 12 and 17	0	0	0	0	0
5	Kyoto Protocol units - national total (2)+(3)+(4)	558.4	565.7	573.4	567.3	564.7
	Annual net balance (5) - (1) ^(a)	8.8	18.1	29.7	16.0	13.7

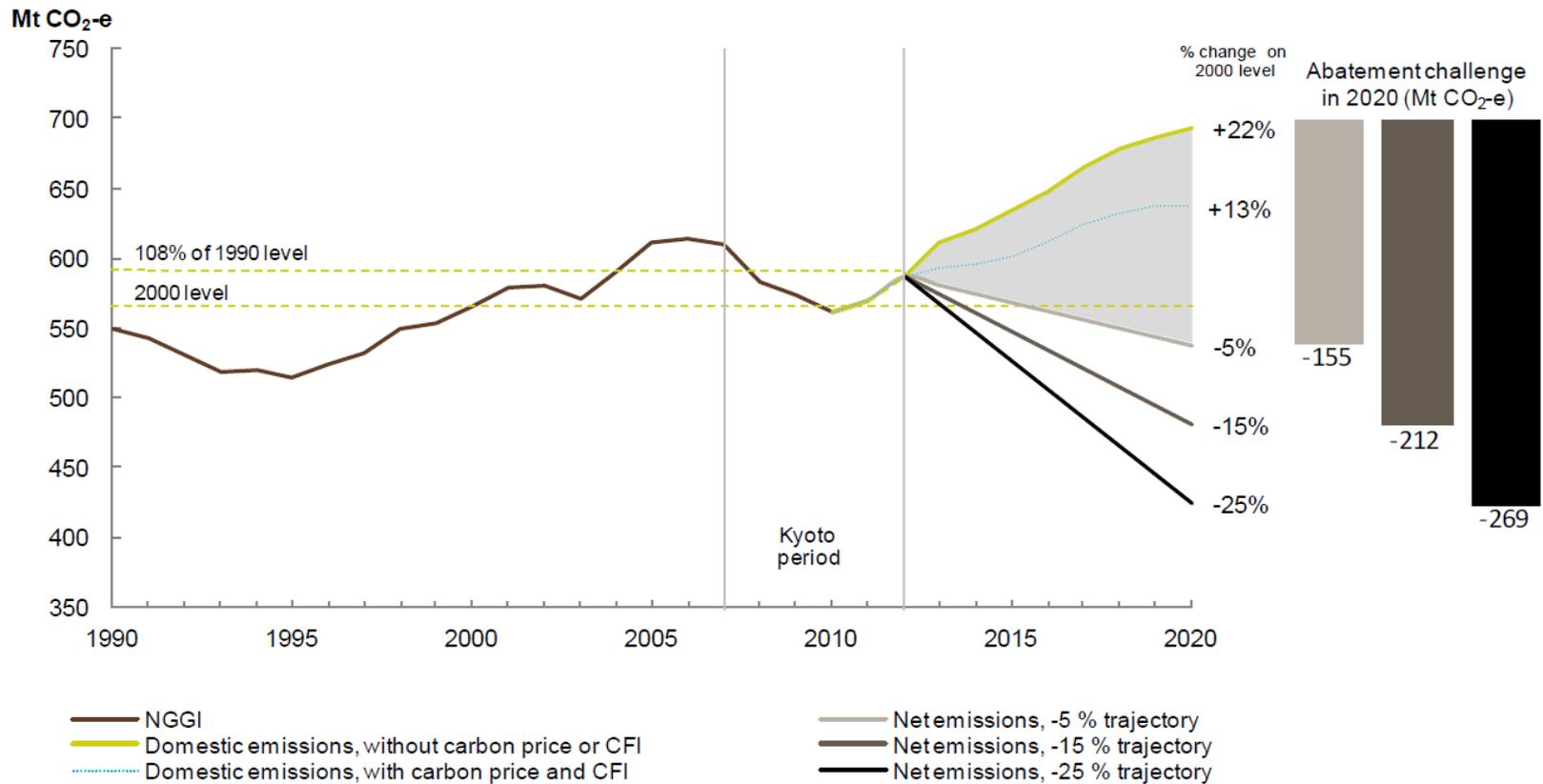


- Confidence in *National Inventory Report* assisted:
 - Govn preparedness to commit to KP CP2
 - Implementation of a major economic reform
 - *Carbon Pricing Mechanism*



Australia's challenge: decreasing GHG emissions

Australia's emissions trends, 1990 to 2020





2. Australia's KP CP2 Target

- A single national target
 - No individual targets for Sectors, companies
- Australia has committed to an unconditional 5% reduction of emissions on 2000 levels by 2020.
- This provisional QELRO equates to an estimated carbon budget of 4,626 Mt over 8 years, or 578 Mt on average each year.
- This includes updated GWPs and internationally agreed KP CP2 accounting rules for the land sector.



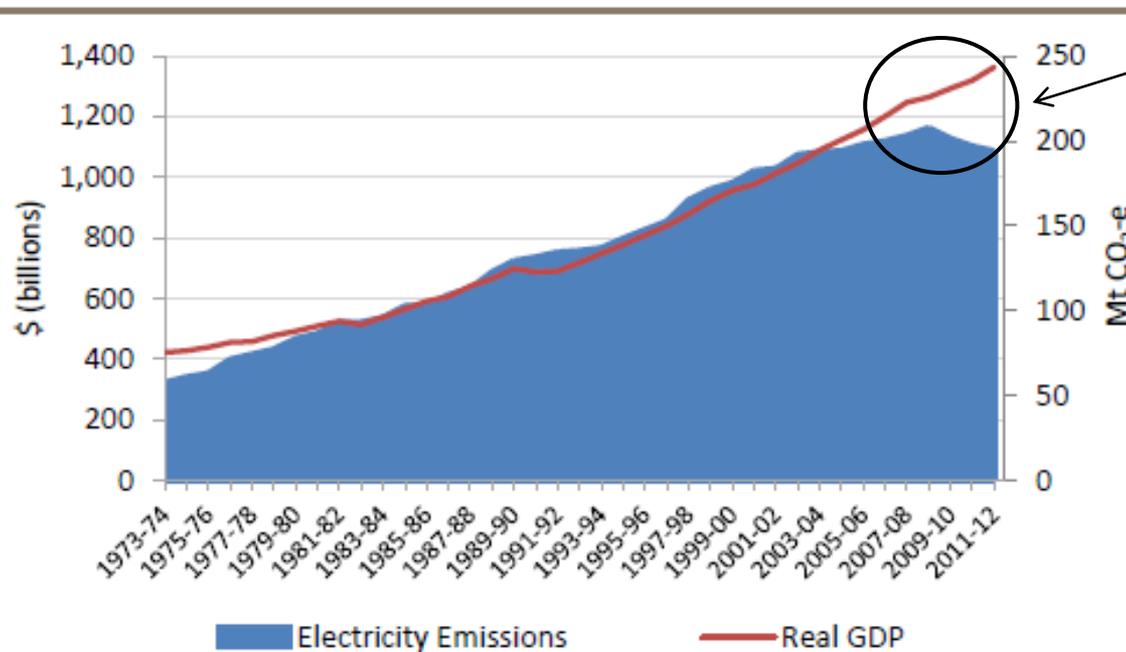
Using National Inventory to measure mitigation

- KP Target
- Decoupling GDP from total emissions
- Emissions per capita / emissions intensity
- Electricity-sector emissions reduction
- Changes to fuel mix
- Waste sector emissions reduction
- Land Sector emissions



Decoupling GDP from Total Emissions

Historical national electricity emissions and real GDP



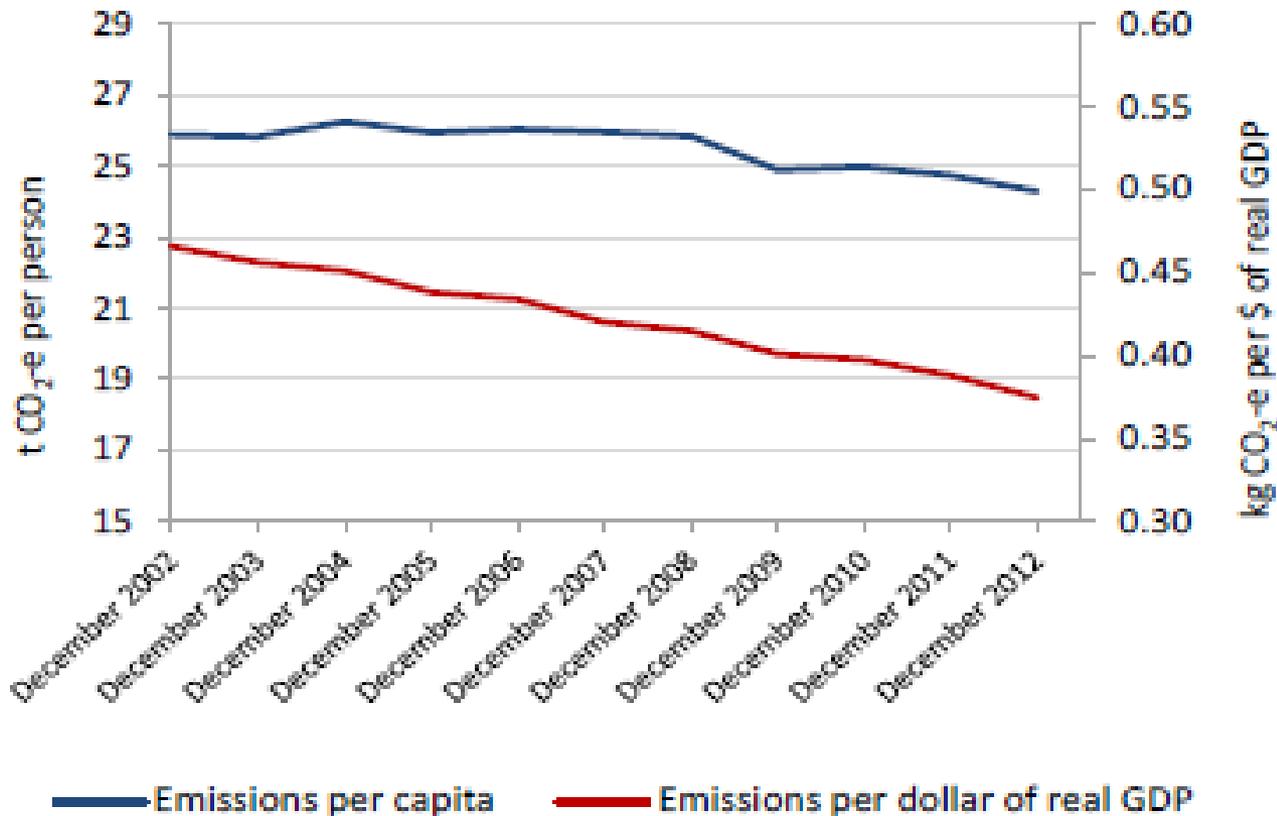
Emissions growth
decoupling from
GDP growth

Source: 1973-74 to 1988-89, ABARES Energy Update 2011 (Table F), 2008-09 and DCCEE National Greenhouse Accounts Factors July 2011. 1989-90 to 2009-10, AGEIS online tool. 2010-11 to 2011-12: DCCEE estimates .

Source: June 2012 Quarterly Update



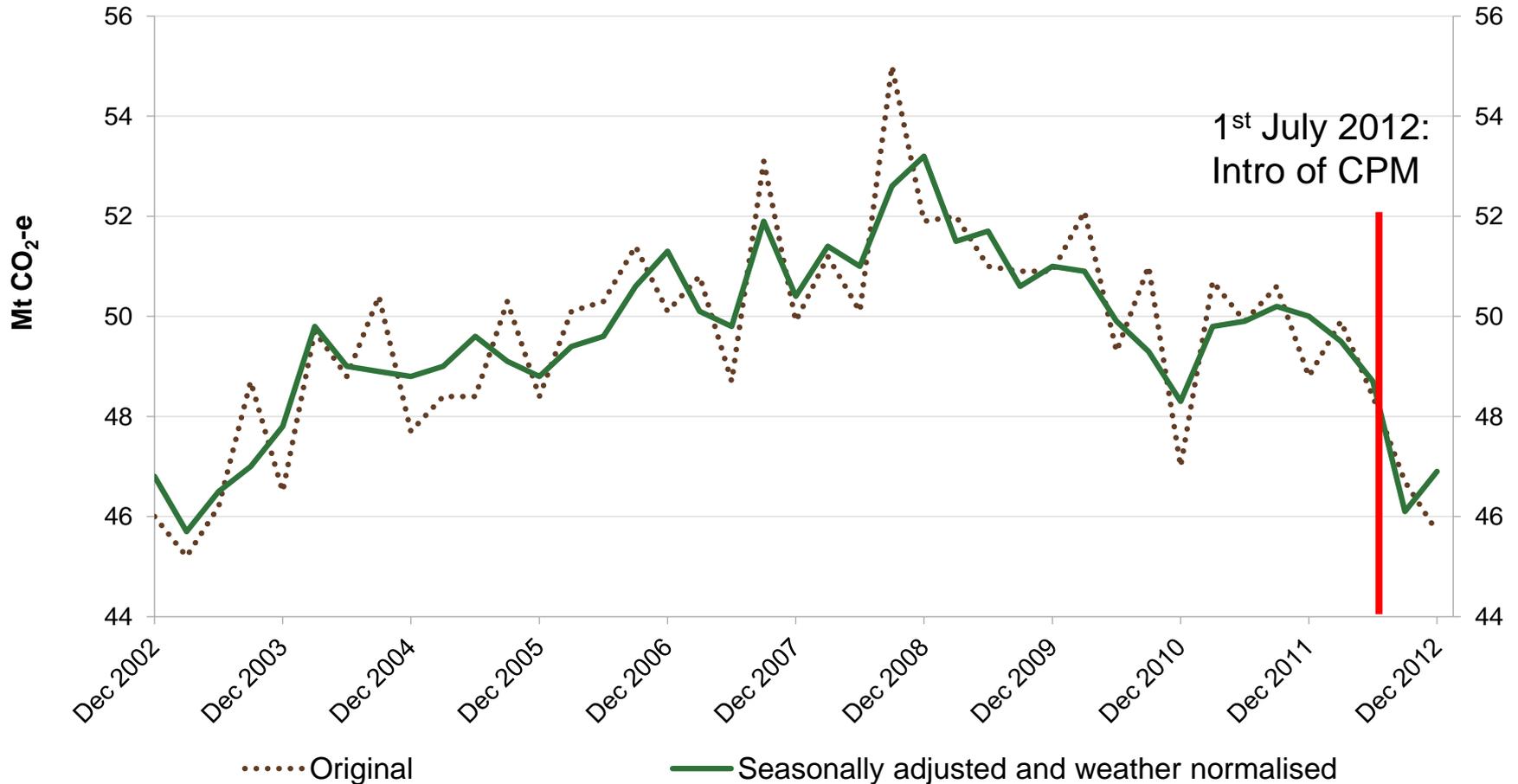
Emissions per capita / Emissions Intensity



Source: DIICCSRTE estimates, ABS (2012), 'Australian Demographic Statistics' 3101.0,
and
ABS (2013), 'Australian National Accounts' 5206.0.

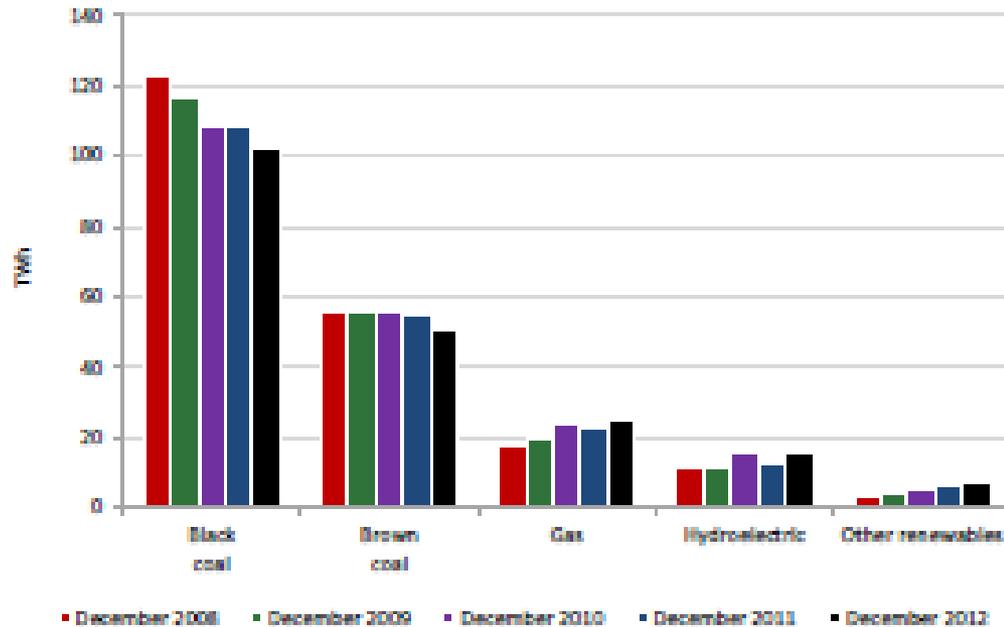


Impact of Carbon Pricing Mechanism Electricity Emissions





Annual electricity generation by fuel in the National Electricity Market, year to December quarter 2008-2012

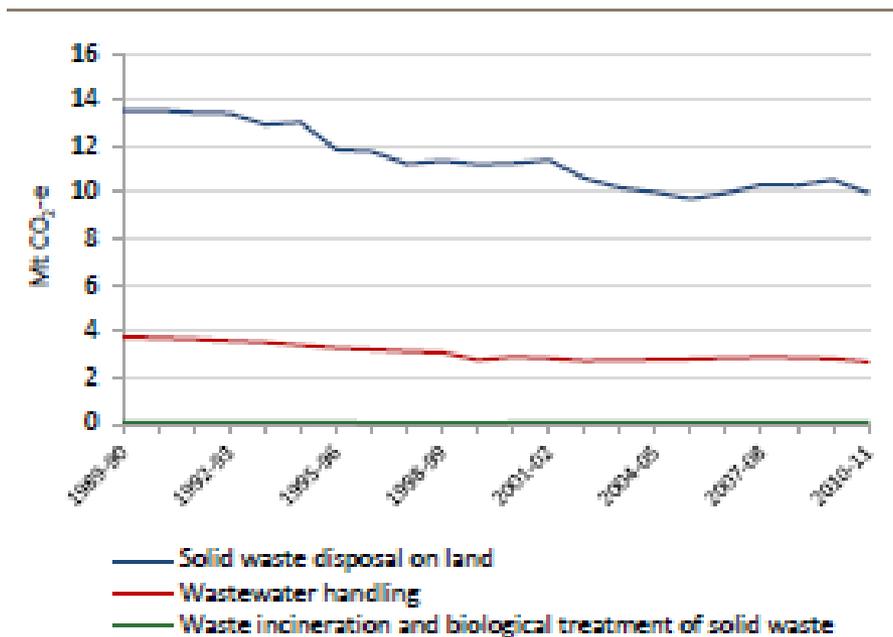


Source: Australian Energy Market Operator (AEMO, 2013), obtained using NEM-Review software.



Waste Sector Emissions Reduction

Waste emissions by sub-sector, 1989-90 to 2010-11

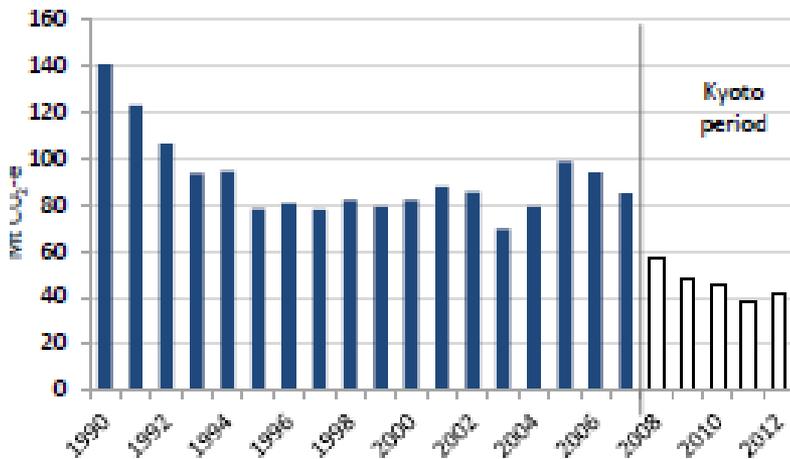


Source: DIICCSRTE estimates.



Land Sector Emissions

Net emissions from deforestation, calendar year, 1990-2012¹⁴

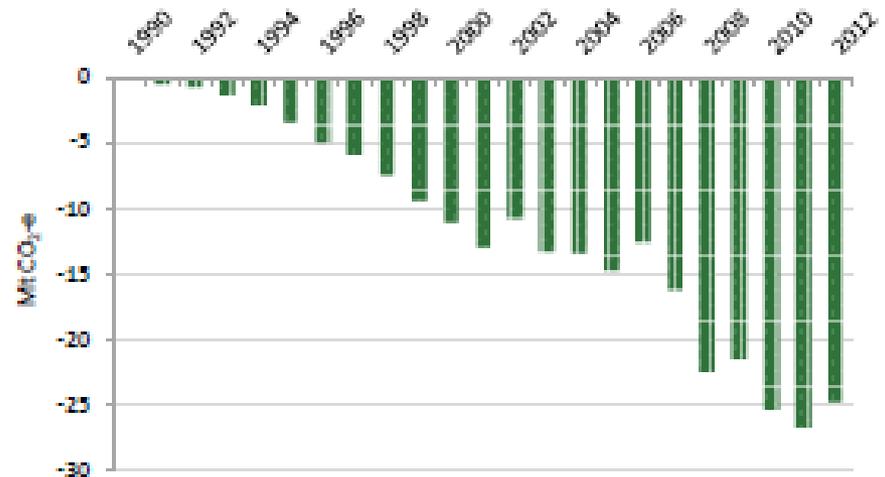


Source: DIICCSRTE estimates.

Afforestation / Reforestation

Deforestation

Net emissions from afforestation and reforestation, calendar year, 1990-2012



Source: DIICCSRTE estimates.



Transparency → Mitigation

- Achieving **Transparency**: Publishing Data

- Publishing Inventory data online: **AGEIS**

Australian

Greenhouse

Emissions

Information

System



• AGEIS Functions

1. Data management:

- secure storage/archival/retrieval
- QA/QC

2. Method capture & automation:

- Codifies routine equations
- Calculates implied emission factors

3. Data publishing:

- Population of CRF templates → Meet international reporting obligations
- Online public access → Meet domestic transparency principle
 - data query, download
 - Additional QA/QC

Why automate routine steps?

1. *Productivity multiplier*
 - * Efficiency dividend
 - * Frees up staff time for higher-value tasks, e.g. analysis & interpretation
2. *Accuracy*
 - * Reduces human error (cf. manual data entry / transcription)



Coverage → Mitigation

- Increasing coverage → increases Mitigation opportunities
- Achieving Coverage: Mandatory Company Reporting – **NGER** legislation

National
Greenhouse &
Energy
Reporting

Legal requirement:

All companies in Australia must report their emissions and energy consumption/production (above certain thresholds)

→ This generates a comprehensive, high-resolution data set for Inventory compilation

→ Identifies opportunities to mitigate at facility level, prioritising public & private investment



International Engagement: Sharing Australia's Inventory Experience

- Australia's international MRV activities are Asian-focused
- Australia interested in engaging with Asian partners



Conclusion

1. Transparent, long term MRV (including publication of *National Inventory Report*) is fundamental to:
 - Providing confidence to set emission reduction targets
 - Tracking progress towards targets
 - Framing evidence-based policy questions
 - Driving policy initiatives
 - Mandatory and voluntary actions
 - Sustaining policy momentum
 - Measuring policy effectiveness (incl. cost effectiveness)

2. Mainstreaming Greenhouse Accounts
 - Similar to national economic accounts: a Business-As-Usual activity



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Thank you!

Questions?

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