

# Session: Development of an Environmental Expenditure Account for Australia



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# Development of an EEA for Australia

- Introduction – a brief history of environmental expenditure statistics for Australia
- Scope and Coverage
- Presentation and Results
- Data Sources and Limitations
- Lessons learnt, issues and observations
- Summary and Conclusion





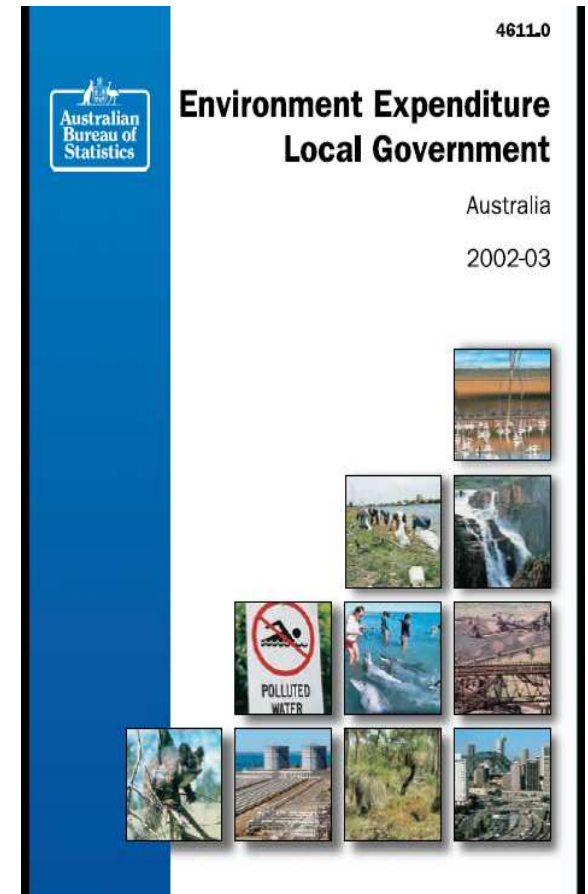
# Introduction – a brief history

- ABS first collected statistics on expenditure to protect the environment in 1990-91 – *Cost of Environment Protection, Australia: Selected Industries 1990-91*
- Early compilations were based on the OECD's Pollution Abatement and Control (PAC) framework
- From 1995-96 until 2002-03, data collection and compilation was guided by SERIEE



# Introduction – a brief history *(cont.)*

- Publications included:
  - *Environment Protection Expenditure, Australia, 1995-96 and 1996-97* and
  - *Environment Expenditure, Local Government, Australia, 2002-03*





# Scope and Coverage

- Based on the scope and definition of environmental activities as specified in the SEEA CF:
  - *“...those economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources.”*
- Underpinned by the Classification of Environmental Activities (CEA)





## Scope and Coverage (*cont.*)

- Due to data limitations, results were grouped as follows:
  - Waste water management
  - Solid waste management
  - Protection of air and climate
  - Water management
  - Other EP and NRM
  - Research & Development



# Scope and Coverage (cont.)

## PRODUCTION OF ENVIRONMENTAL SERVICES

## EXPENDITURE ON ENVIRONMENTAL GOODS AND SERVICES

	Specialist producers (a)	Environmental services as secondary activities (non-specialist producers) (b)	Own account activities (non-specialist producers) (c)	Domains	Connected/adapted products	Services
Agriculture, Forestry, Fishing	..	E	na	Wastewater	na	Y
Mining	..	Y (waste)	na	Water management	E	P,E
Manufacturing	..	Y, E (waste, R&D)	na	Waste management	P	Y
Construction	..	Y (waste)	na	R&D	..	P
Electricity and Gas	P,E	E	na	Other EP & NRM	E	P,E
Water supply	..	E	na			
Wastewater	Y	E	na			
Waste	Y	E	na			
Local Government authorities	Y	..	..			
All other Industries	E	Y (waste, R&D), E (air, other EP&NRM, water)	na			
Households/NPISH	..	..	na			
General Government	P,E	..	..			

.. not applicable

na not available

(a) Units whose primary activity is the production of environmental services. Includes Waste and Wastewater management services plus Environment-specific services produced by Government and Other organisations.

(c) Units that produce environmental services but do not sell these services to other economic units and consume these outputs themselves. SEEA recommends that own-account production activities be separately identified wherever possible.

Note: Y – Available data. E – Modelled estimates. P – Partial data available. Other EP & NRM – Other Environmental Protection and



# Presentation and Results

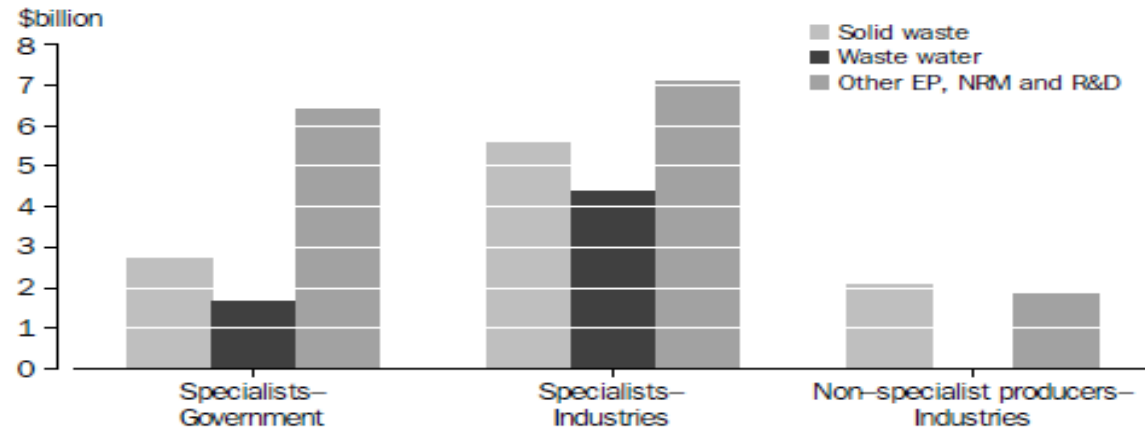
- The SEEA proposes four sets of tables as the basis for a full set of EPE Accounts:
  - Supply and Use tables for environmental protection specific services;
  - Production (output) of environmental protection specific services by resident producers;
  - Total national expenditure on environmental protection
  - Financing of national expenditure on EP





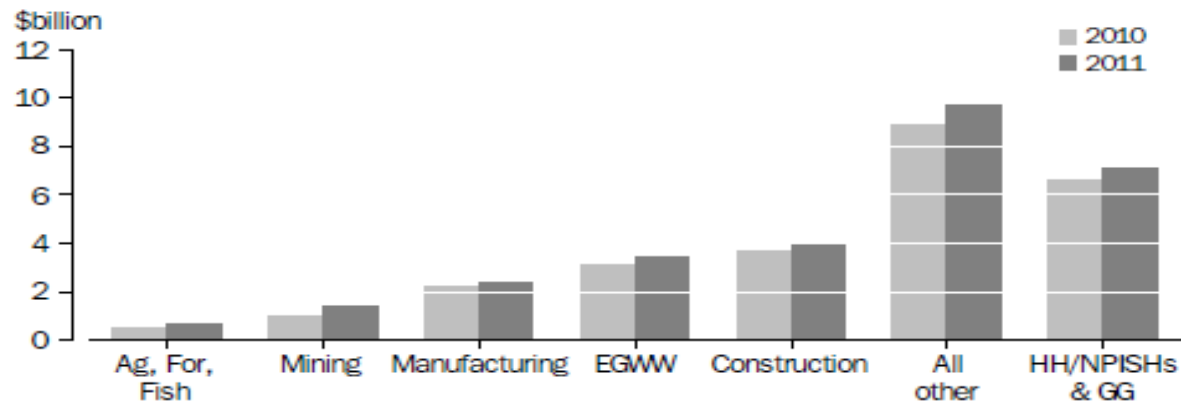
# Presentation and Results *(cont.)*

**GRAPH 2: TOTAL OUTPUT OF SELECTED ENVIRONMENTAL SERVICES, by producer of Service, Australia, 2011**



Note: Other EP, NRM and R&D – Other Environmental Protection, Natural Resource Management and Research and Development.

**GRAPH 3: CONSUMPTION EXPENDITURE ON ENVIRONMENTAL SERVICES, by sector, Australia**



Notes: Ag, For, Fish – Agriculture, Forestry and Fishery.  
EGWW – Electricity, Gas, Water Supply, Drainage & Sewerage and Waste.  
HH/NPISHs & GG – Households/ Non Profit Institutions Serving Households and General Government.



# Results and Presentation (cont.)

TABLE 2.8: EXPERIMENTAL USE OF ENVIRONMENTAL SERVICES, by Industry and Domain, 2010–11(\$m)

	Waste water management	Solid waste management (a)	Protection of air and climate	Other EP & NRM (b)	Water management	R&D services	R&D – own account	Total
Agriculture, Forestry, Fishing	3	58	51	120	393	0	0	625
Mining	29	66	367	857	26	2	0	1 346
Manufacturing	475	720	311	726	129	2	0	2 363
Electricity, Gas, Water supply, drainage sewerage and waste	9	3 290	18	41	33	1	0	3 392
Construction	(c)na	1 841	615	1 435	13	1	0	3 904
All other Industries	1 456	2 595	1 386	3 236	957	111	0	9 742
<b>Total industries</b>	<b>1 972</b>	<b>8 570</b>	<b>2 748</b>	<b>6 415</b>	<b>1 550</b>	<b>117</b>	<b>0</b>	<b>21 373</b>
Final consumption by HH/NPISHs and GG	4 105	1 861	63	148	784	127	0	7 089
<b>TOTAL domestic consumption expenditure</b>	<b>6 077</b>	<b>10 431</b>	<b>2 811</b>	<b>6 563</b>	<b>2 334</b>	<b>244</b>	<b>0</b>	<b>28 462</b>
Exports	0	0	0	0	0	101	0	101
Capital formation	..	..	245	573	0	0	2 546	3 364
<b>TOTAL</b>	<b>6 077</b>	<b>10 431</b>	<b>3 056</b>	<b>7 136</b>	<b>2 334</b>	<b>345</b>	<b>2 546</b>	<b>31 926</b>

.. not applicable

na not available

(a) Includes recycling services.

(b) Includes protection of biodiversity, protection and remediation of soil, groundwater and surface water, noise and vibration abatement, other environmental protection activities not stated elsewhere, other natural resource management (e.g. land, timber, aquatic resources).

(c) Included under All other industries.

Note: Other EP & NRM services – Other Environmental Protection and Natural Resource Management services. R&D – Research and Development. GG – General Government. HH/NPISH – Households / Non Profit Institutions Serving Households.



# Results and Presentation (*cont.*)

TABLE 4.2: EXPERIMENTAL TOTAL NATIONAL EXPENDITURE ON ENVIRONMENT PROTECTION AND NATURAL RESOURCE MANAGEMENT, 2010–11(\$m)

	INDUSTRY					Total
	Specialist producers of Environment related goods and services	Non-specialist producers	Other industries	Households/ NPISH	General Government	
<b>Environment related Services</b>						
Intermediate consumption	(a)	1 349	12 754	--	--	14 102
Final consumption	--	--	--	6 009	1 080	7 089
Gross Fixed Capital Formation	(a)	0	3 364	--	--	3 364
<b>Environment related Connected/adapted goods</b>						
Intermediate consumption	(a)	363	4 438	--	--	4 801
Final consumption	--	--	--	287	0	287
Gross Fixed Capital Formation	(a)	na	0	0	0	0
Capital formation for characteristic activities	5 578	21	na	--	--	5 598
Specific transfers for environmental protection not included above	na	na	na	na	152	152
Environmental protection transfers to and from the rest of the world (net)	65	0	0	(a)na	315	379
<b>Total national expenditure on environmental protection</b>	<b>5 642</b>	<b>1 732</b>	<b>20 556</b>	<b>6 297</b>	<b>1 546</b>	<b>35 773</b>

-- not applicable  
na not available

(a) Not included in the derivation of total national expenditure on environmental protection.

Note: NPISH – Non-Profit Institutions Serving Households.







# Data Sources and Limitations

- Results are considered experimental and used to illustrate the type of information that can be derived and presented
- Best and most comprehensive data relate to Waste Management and Waste water management
- Most other data were sourced, estimated or modelled from collections and administrative data sources whose primary aim was not for the purpose of producing environmental expenditure estimates







## Data Sources and Limitations (*cont.*)

- Other major data sources included:
  - ABS economy-wide *Energy, Water and Environment Survey, 2011-12*
  - ABS unpublished R&D collections
  - ABS unpublished Local Government Finance data collections
  - State and Commonwealth Annual Financial Reports and Budget Papers
  - Australian National Accounts (Input-Output tables)





# Lessons, Issues & Observations

- Production of the EEA was primarily as a feasibility project to determine:
  - The extent of data availability (and quality) to produce these estimates
  - What a full suite of EEA might look like and how it might be interpreted; and
  - Potential user-interest in these SEEA-style accounts





## Lessons, Issues & Observations (*cont.*)

- Most fundamental problem was the presentation of relatively complex ideas and terminology in a format that was user-friendly
- Inclusion of NRM was partly a consequence of using data sources that often did not distinguish between “preventing, reducing pollution and degradation” and “preserving and maintaining...natural resources”
- Measurement of own account production was not attempted – this may have been significant and could be considered for any future compilation





## Key Messages – Experimental Environmental Expenditure Account

- Data is from a wide range of sources including ABS environmental accounts, other ABS data and government financial & budget reports
- Uses the SEEA Classification of Environmental Activities (CEA) and ANZSIC industry classifications
- Outputs include the four SEEA tables using experimental data (estimates and modelling)
- Future compilation should consider prioritising environmental issues and target accounts
- Additional analyses, such as linking EEA data to physical accounts, would greatly enhance the value of the information

