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Aotearoa Regulators Event
Practical risk-based approaches when setting regulatory priorities

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Access Canberra, ACT Government
Thursday 27 February 2025

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Overview

- Goal
- Definitions
- Disclaimer
- Examples
  - Tier 4 – Resource Efficiency
  - Tier 3 – Activities and Outputs
  - Tier 2 – Behavioural change
  - Tier 1 – Impacts and outcomes
- Focus on risk-based approach to regulatory priority-setting

Cut down version of presentation from Global Summit

Goal

- Explore tiers of regulatory activities
- Develop capacity to deliver and report on outcomes

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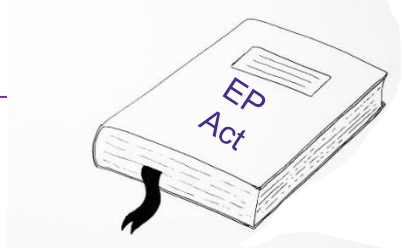
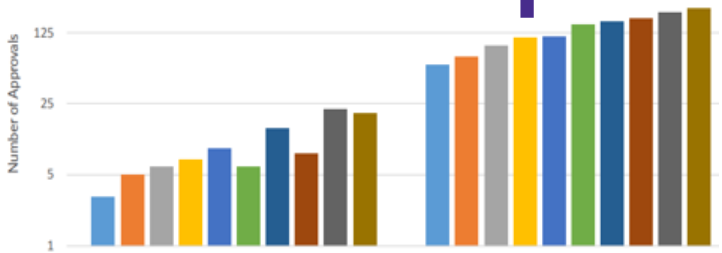
Photo by Anastasia Shuraeva: https://www.pexels.com/photo/person-stepping-on-a-soccer-ball-9517918/

Definitions

- **Tier 4: Resource efficiency**
  - Agency resources and authority
  - Regulated community's resources,
- **Tier 3: Activities and outputs**
  - Enforcement actions (numbers, seriousness, penalties etc),
  - Inspections (numbers, nature, findings etc),
  - Education, outreach, collaborative partnerships,
- **Tier 2: Behavioural change**
  - Compliance and non-compliance,
  - Other changes such as adoption of best practice and other risk reduction activities.
- **Tier 1:Impacts and outcomes**
  - Environmental emissions, health effects, declines in injury and accident rates.





Tiers from Sparrow, M 2000. *The Regulatory Craft: Controlling risks, solving problems and managing compliance.*

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Disclaimer

- Examples are excerpts from broader legislation and reports
- Selected for:
  - Demonstration of the model
  - Compelling graphics
- Do not represent:
  - The best or only examples, or
  - Full extent of agencies' efforts or reporting

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Tier 4

Resource efficiency

- Agency resources and authority
- Regulated community's resources
- State authority

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NZ Environment Protection Authority Act 2011

Establish an EP Authority and provide for its functions and operations.

Non-departmental output expenses for the year ended 30 June 2024

In thousands of NZD	Actual 2024	Budget 2024	Actual 2023
EPA functions	29,799	27,999	24,473
Emissions Trading Scheme	7,266	6,837	7,021
EEZ Major Prosecutions Fund	–	–	–
Non-departmental output expense	**37,065**	**34,836**	**31,494**
Capital funding for the Register	600	600	1,800
Non-departmental capital expenditure	**600**	**600**	**1,800**
TOTAL CROWN FUNDING	**37,665**	**35,436**	**33,294**

https://www.epa.govt.nz/assets/RecordsAPI/EPA-Annual-Report-2024.pdf

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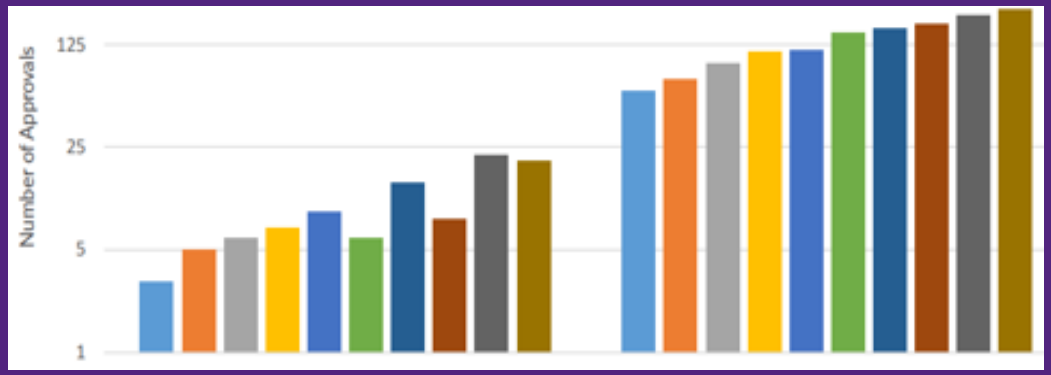

Tier 3

Activities and outputs

- Enforcement actions (numbers, seriousness, penalties etc),
- Inspections (numbers, nature, findings etc),
- Education, outreach, collaborative partnerships,

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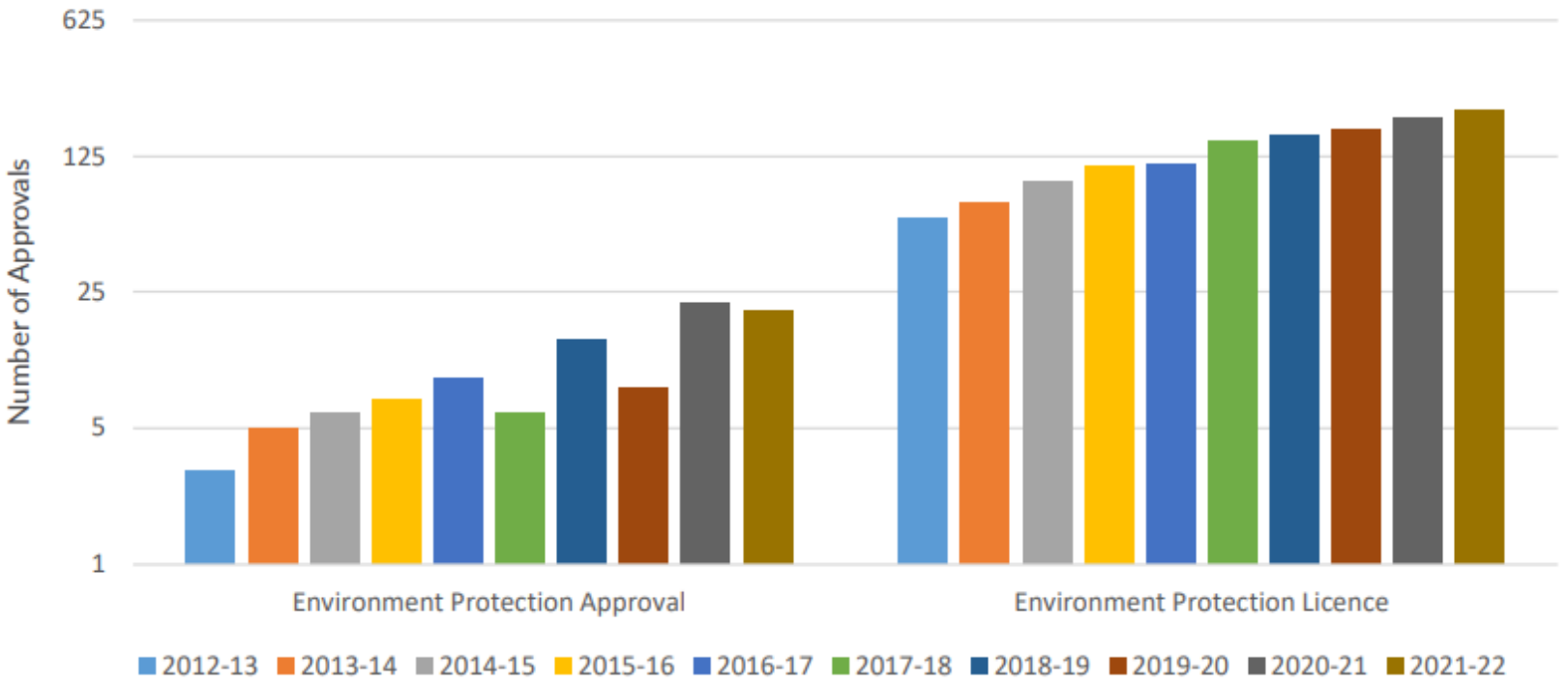
Northern Territory EP Authority Act 2012

Administer licences and approvals

Figure 1: Licences and approvals administered



https://ntepa.nt.gov.au/__data/assets/pdf_file/0004/1170274/ntepa-annual-report-2021-2022.PDF

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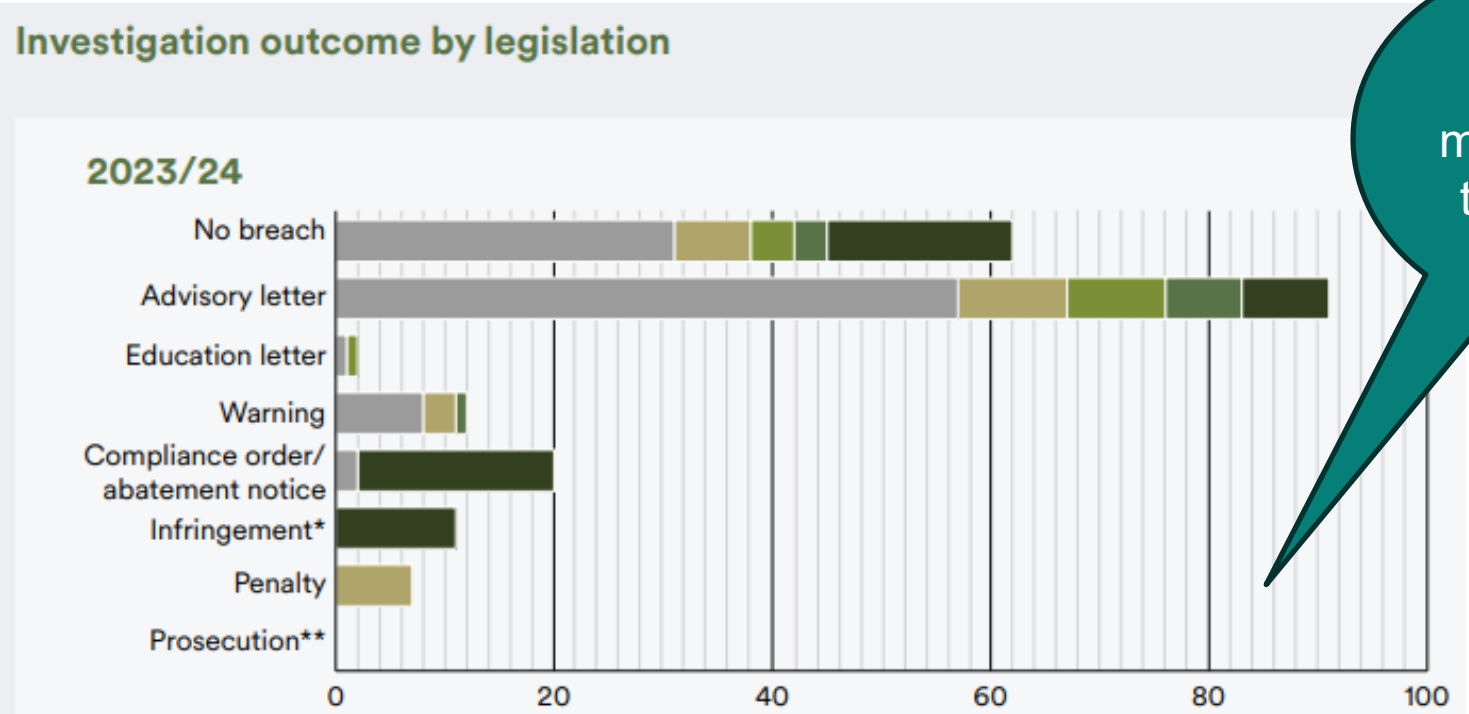
New Zealand Environmental Protection Authority

Regulate the use of chemicals and hazardous substances, manage rules for new organisms, regulate offshore activities, administer Emissions Trading Scheme.



Risk that reporting may not tell the whole story

Hazardous Substances and New Organisms Act 1996

Climate Change Response Act 2002

Exclusive Economic Zone Act 2012

Ozone Layer Protection Act 1996

Resource Management Act 1991

https://www.epa.govt.nz/assets/RecordsAPI/EPA-Annual-Report-2024.pdf

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Tier 2

Behavioural change

- Compliance and non-compliance,
- Other changes such as adoption of best practice and other risk reduction activities.

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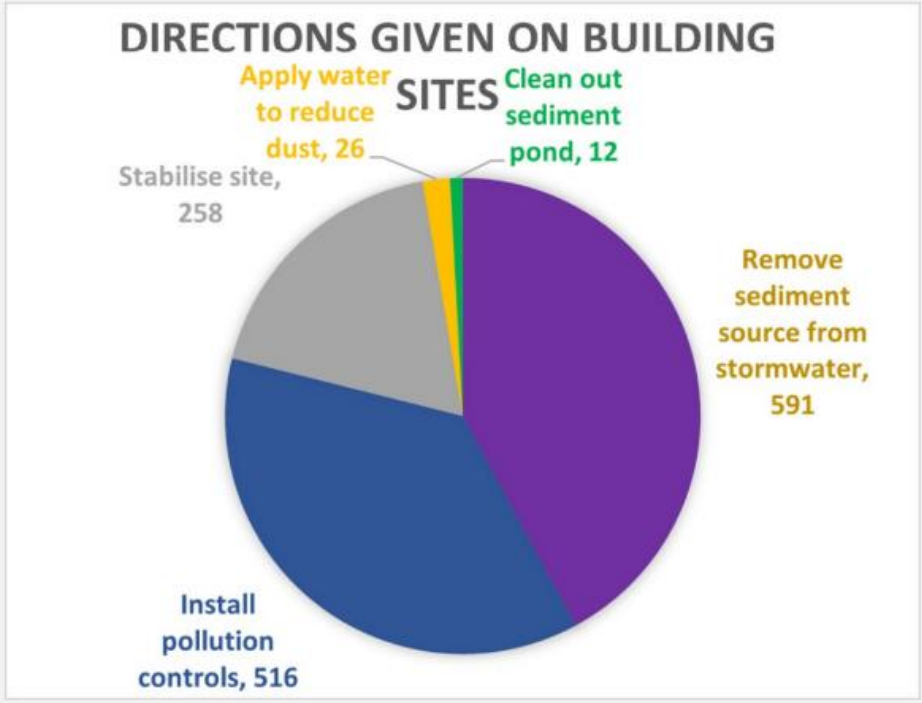
ACT EPA – Environment Protection Act 1997

Require people engaging in polluting activities to make progressive environmental improvements.

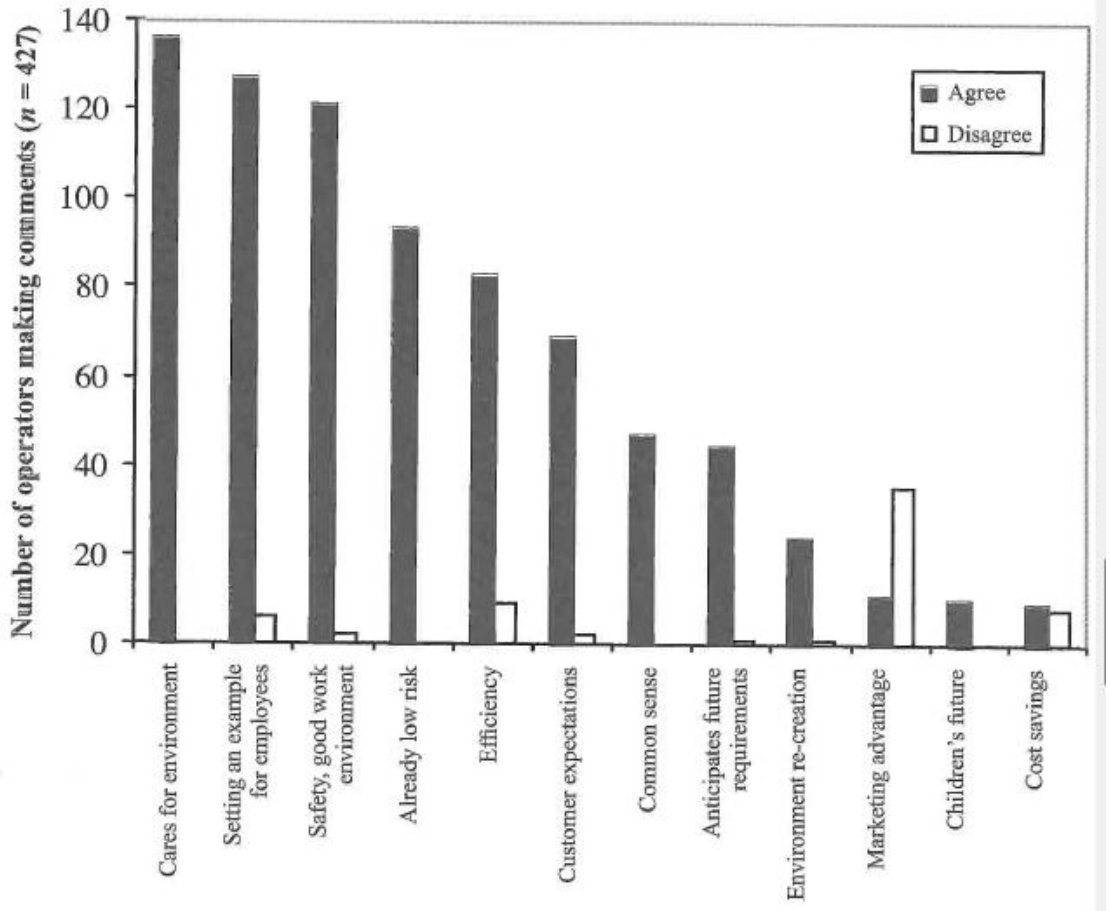
Figure 1: Directions given on building sites



https://www.cmtedd.act.gov.au/__data/assets/pdf_file/0016/2301244/2022-23-CMTEDD-Annual-Report-Volume-1.pdf

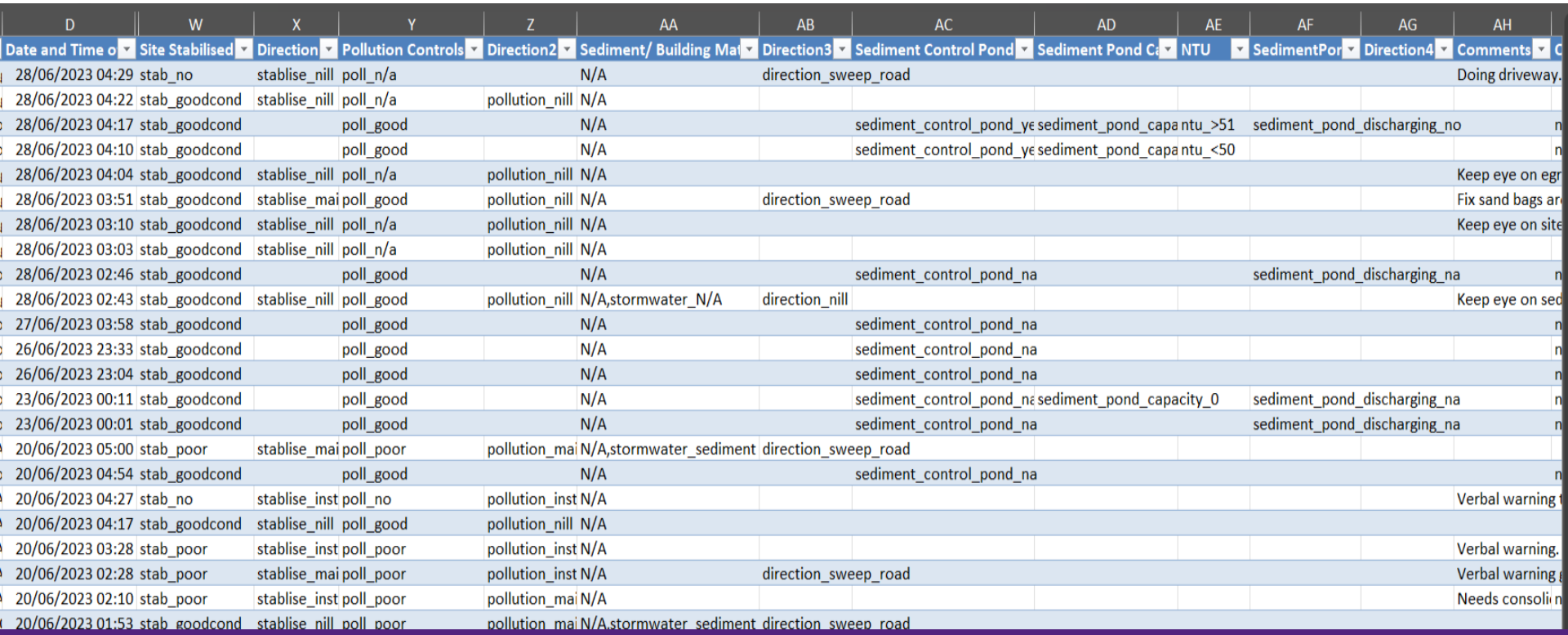
Why people invest to achieve good environmental practices

Figure 6.3 Reasons for good environmental practices



How to measure behaviour change

- Check what your recording databases show
  - Consider including fields, coding,
- Re-inspect after directions given
  - Record if followed



D	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
Date and Time o	Site Stabilised	Direction	Pollution Controls	Direction2	Sediment/ Building Mat	Direction3	Sediment Control Pond	Sediment Pond Ca	NTU	SedimentPor	Direction4	Comments
28/06/2023 04:29	stab_no	stablise_nill	poll_n/a		N/A	direction_sweep_road						Doing driveway.
28/06/2023 04:22	stab_goodcond	stablise_nill	poll_n/a	pollution_nill	N/A							
28/06/2023 04:17	stab_goodcond		poll_good		N/A		sediment_control_pond_ye	sediment_pond_capa	ntu_>51	sediment_pond_discharging_no		
28/06/2023 04:10	stab_goodcond		poll_good		N/A		sediment_control_pond_ye	sediment_pond_capa	ntu_<50			
28/06/2023 04:04	stab_goodcond	stablise_nill	poll_n/a	pollution_nill	N/A							Keep eye on egr
28/06/2023 03:51	stab_goodcond	stablise_mai	poll_good	pollution_nill	N/A	direction_sweep_road						Fix sand bags ar
28/06/2023 03:10	stab_goodcond	stablise_nill	poll_n/a	pollution_nill	N/A							Keep eye on site
28/06/2023 03:03	stab_goodcond	stablise_nill	poll_n/a	pollution_nill	N/A							
28/06/2023 02:46	stab_goodcond		poll_good		N/A		sediment_control_pond_na			sediment_pond_discharging_na		
28/06/2023 02:43	stab_goodcond	stablise_nill	poll_good	pollution_nill	N/A,stormwater_N/A	direction_nill						Keep eye on sed
27/06/2023 03:58	stab_goodcond		poll_good		N/A		sediment_control_pond_na					
26/06/2023 23:33	stab_goodcond		poll_good		N/A		sediment_control_pond_na					
26/06/2023 23:04	stab_goodcond		poll_good		N/A		sediment_control_pond_na					
23/06/2023 00:11	stab_goodcond		poll_good		N/A		sediment_control_pond_na	sediment_pond_capacity_0		sediment_pond_discharging_na		
23/06/2023 00:01	stab_goodcond		poll_good		N/A		sediment_control_pond_na			sediment_pond_discharging_na		
20/06/2023 05:00	stab_poor	stablise_mai	poll_poor	pollution_mai	N/A,stormwater_sediment	direction_sweep_road						
20/06/2023 04:54	stab_goodcond		poll_good		N/A		sediment_control_pond_na					
20/06/2023 04:27	stab_no	stablise_inst	poll_no	pollution_inst	N/A							Verbal warning t
20/06/2023 04:17	stab_goodcond	stablise_nill	poll_good	pollution_nill	N/A							
20/06/2023 03:28	stab_poor	stablise_inst	poll_poor	pollution_inst	N/A							Verbal warning.
20/06/2023 02:28	stab_poor	stablise_mai	poll_poor	pollution_inst	N/A	direction_sweep_road						Verbal warning g
20/06/2023 02:10	stab_poor	stablise_inst	poll_poor	pollution_mai	N/A							Needs consoli n
20/06/2023 01:53	stab_goodcond	stablise_nill	poll_poor	pollution_mai	N/A,stormwater_sediment	direction_sweep_road						

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Tier 1

Impacts and outcomes

- Environmental emissions, health effects, declines in injury and accident rates.

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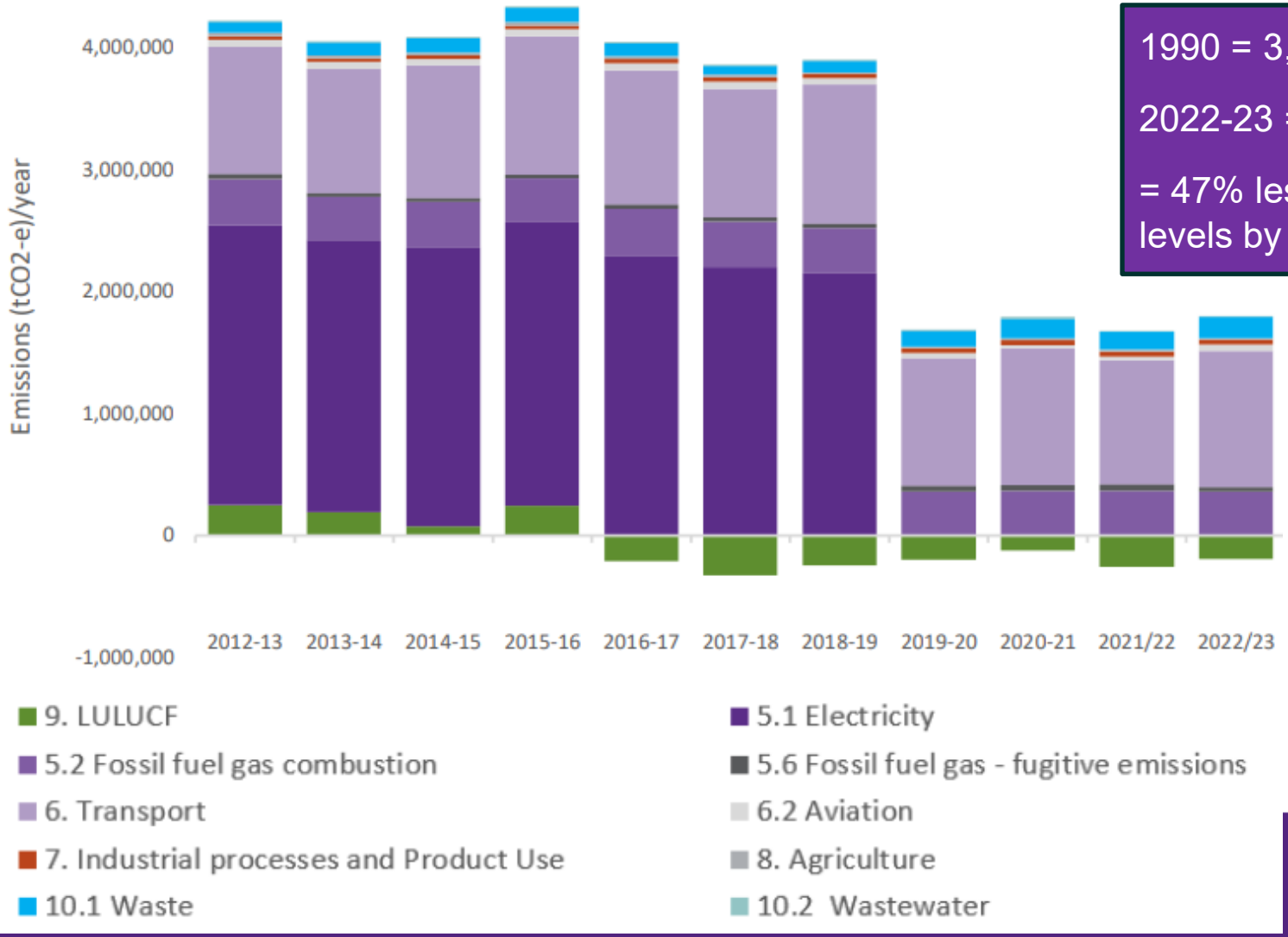
ACT Greenhouse Gas Emission Reduction

Emissions to be 50-60% less then 1990 by mid-2025



1990 = 3,041 $ktCO_2e$

2022-23 = 1,622 $ktCO_2e$

= 47% less than 1990 levels by mid-2023

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https://www.climatechoices.act.gov.au/__data/assets/pdf_file/0003/2329824/ACT-Greenhouse-Gas-Inventory-Report-2022-23.pdf

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Using risk-based approaches to set regulatory priorities

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Risk framework is hardwired into EP Act definitions of environmental harm

- S137 ACT EPA - A person must not knowingly or recklessly pollute the environment causing serious environmental harm or likely serious environmental harm.

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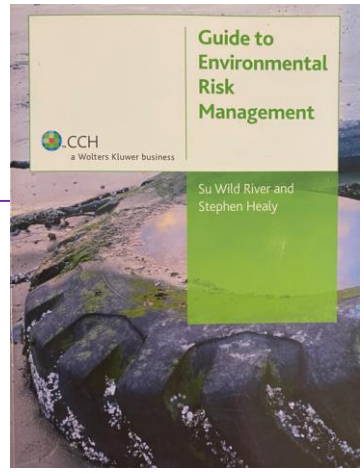
Inherent and residual risk



Inherent risk: the likelihood and consequences of environmental harm from the activity if there were no risk control measures in place.

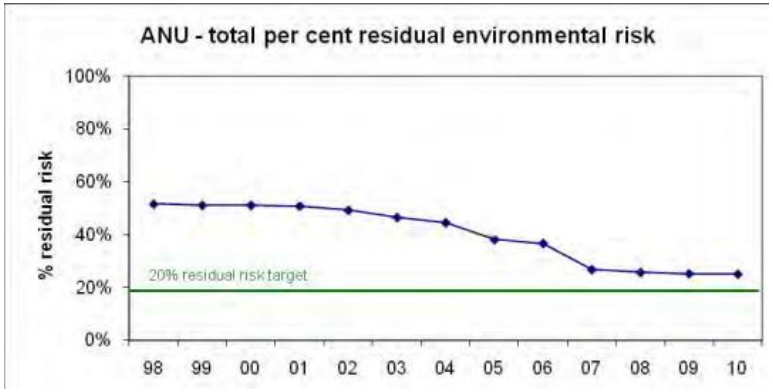
Residual risk: the likelihood and consequences of environmental harm occurring, taking account of risk control measures

Risk analysis example: Groundwater pollution from landfills accepting hazardous wastes

Likeli-	**Consequences**				
hood ↓	1 (negligible)	2 (minor)	3 (severe)	4 (major)	5 (catastrophic)
A (certain)	8(M)	16 (M)	32 (H)	64 (VH)	128 (E)
B (likely)	4 (L)	8(M)	16 (M)	32 (H)	64 (VH)
C (moderate)	2 (N)	4 (L)	8(M)	16 (M)	32 (H)
D (unlikely)	1 (N)	2 (N)	4 (L)	8(M)	16 (M)
E (rare)	0 (N)	1 (N)	2 (N)	4 (L)	8(M)

- note the 'real' top and bottom of scale

Outcomes from ANU



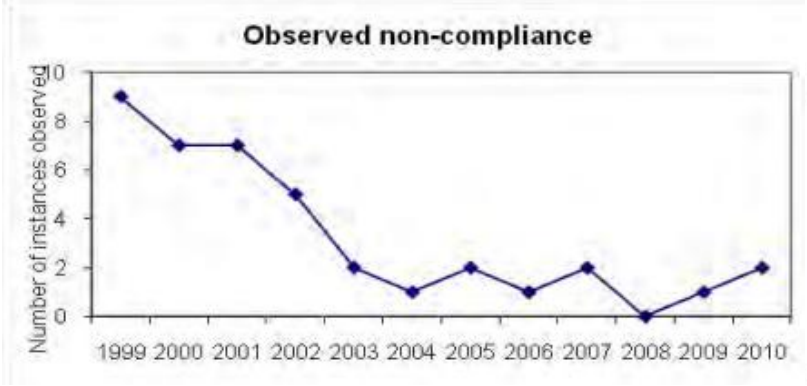
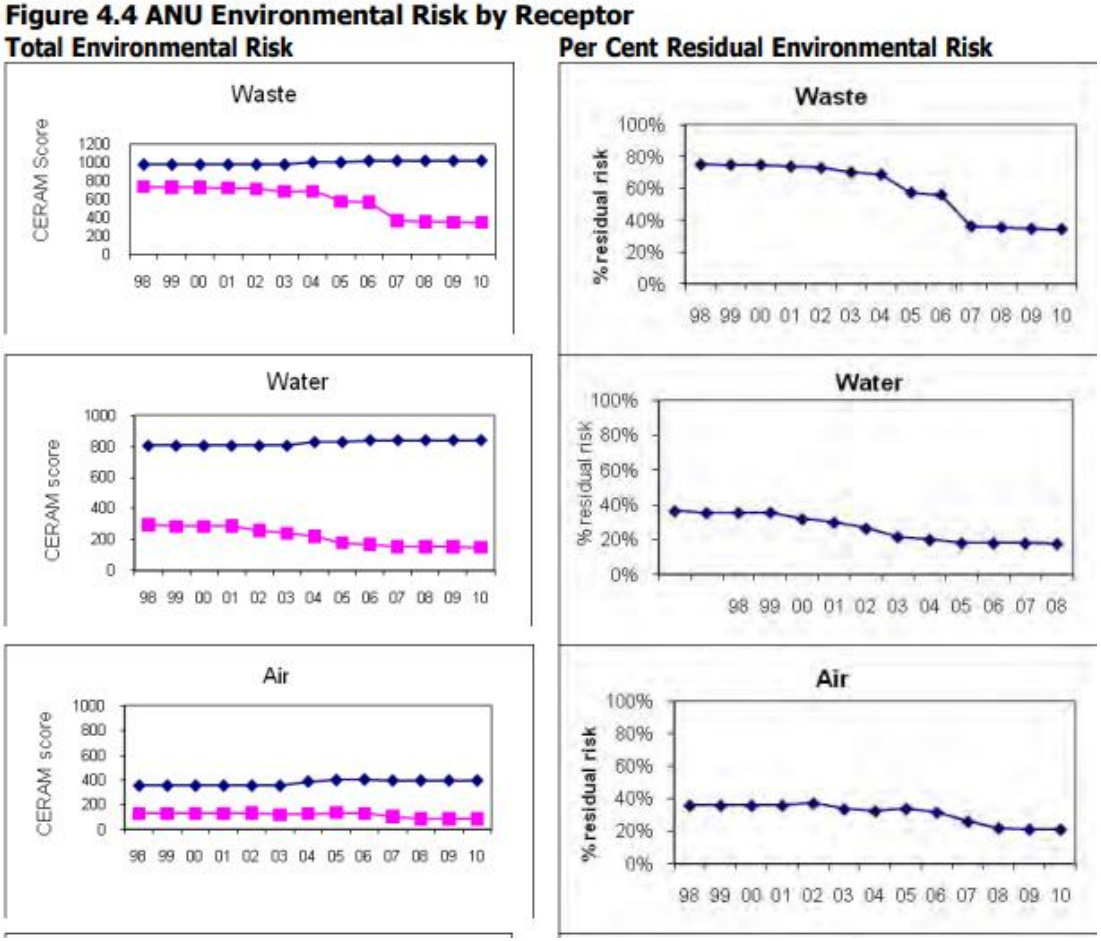
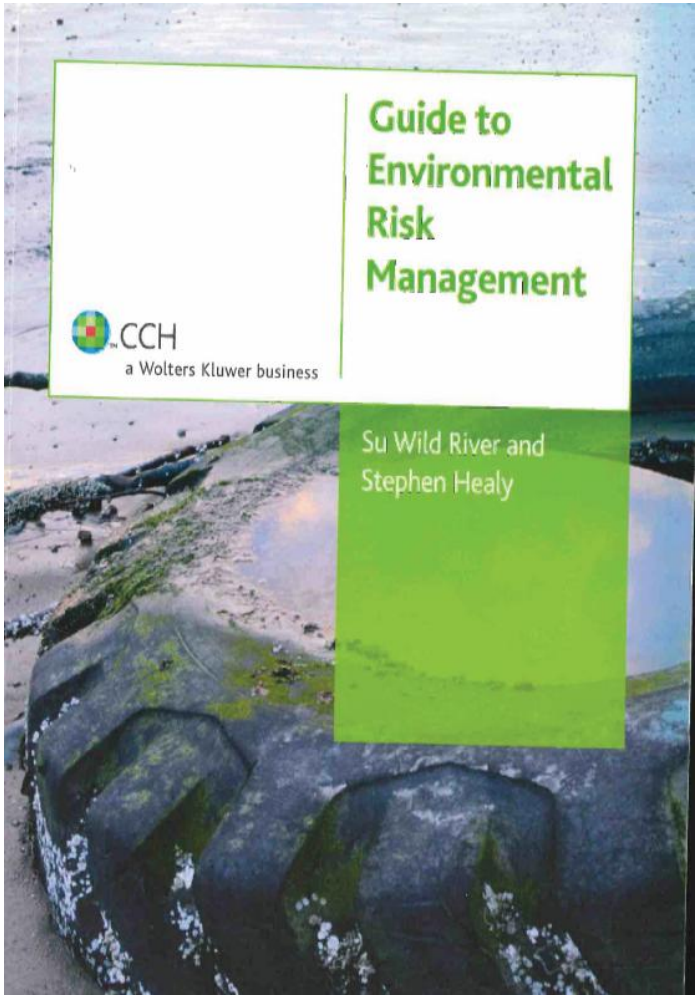


Figure 4.4 ANU Environmental Risk by Receptor



Some of the best bits form CCH Guide



Contents

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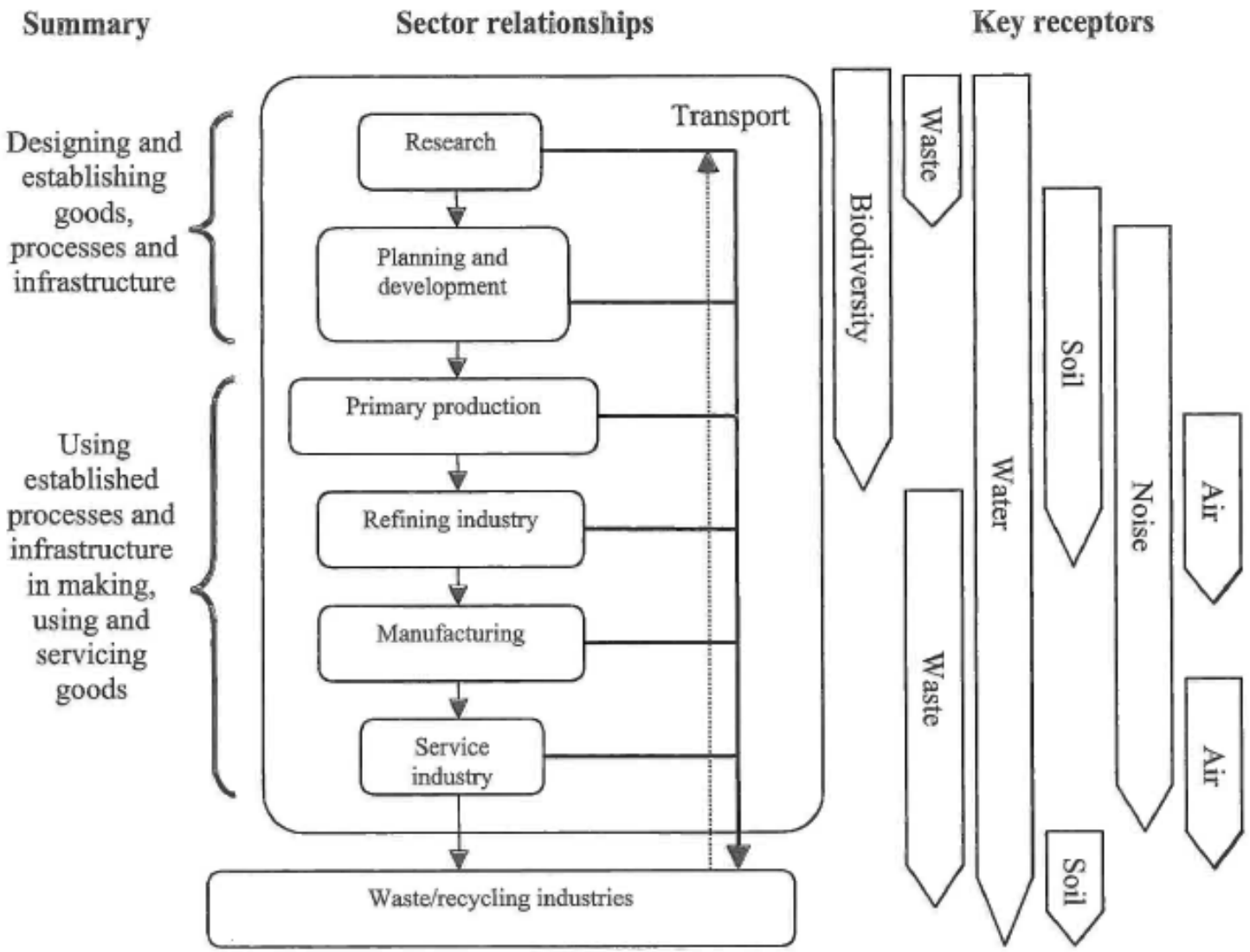
Risk of different types of harm by sector



Evaluation

- Results from Queensland studies, in CCH Guide to Environmental Risk Management

Figure 6.1 Investment to comply with the Queensland *Environmental Protection Act 1994*, by sector

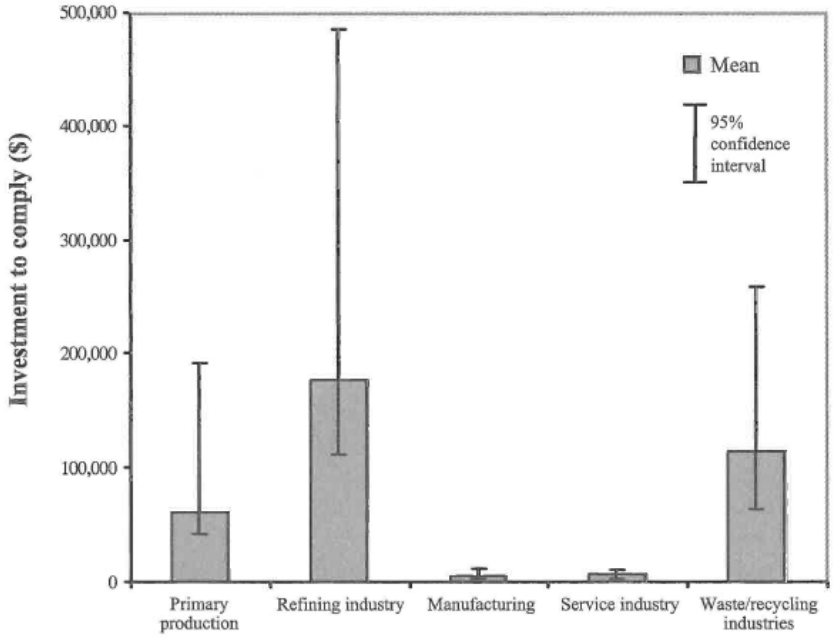


Table 6.1 Mean investment to comply with the Queensland *Environmental Protection Act 1994*, by sector

	Per cent investing to comply	Mean investment	Lower confidence interval	Upper confidence interval
Primary production	71%	$60,000	$19,000	$20,000
Refining industry	85%	$175,000	$64,000	$485,000
Manufacturing	34%	$4,500	$1,800	$11,000
Service industry	56%	$6,000	$4,000	$9,500

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Cost by outcome by sector

Figure 6.2 Cost by environmental risk reduction outcomes, by sector