



# Advancing Environmental Sustainability; Some Lessons From NZ's Experiences

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ESV Ltd

*Working for a more sustainable future*

An aerial photograph of a rural landscape. The scene is dominated by rolling green hills and fields. A river flows through the middle ground, and a road or path runs diagonally across the lower half of the image. The sky is clear, and the overall atmosphere is bright and natural.

# Outline...

- Setting the scene, what shapes NZ
- The Parliamentary Commissioner for the Environment (PCE), a unique agency
- NZ environmental agencies and major statutes
- Key lessons from the last 2 decades of environmental reforms

Where & how we start shapes us for life...





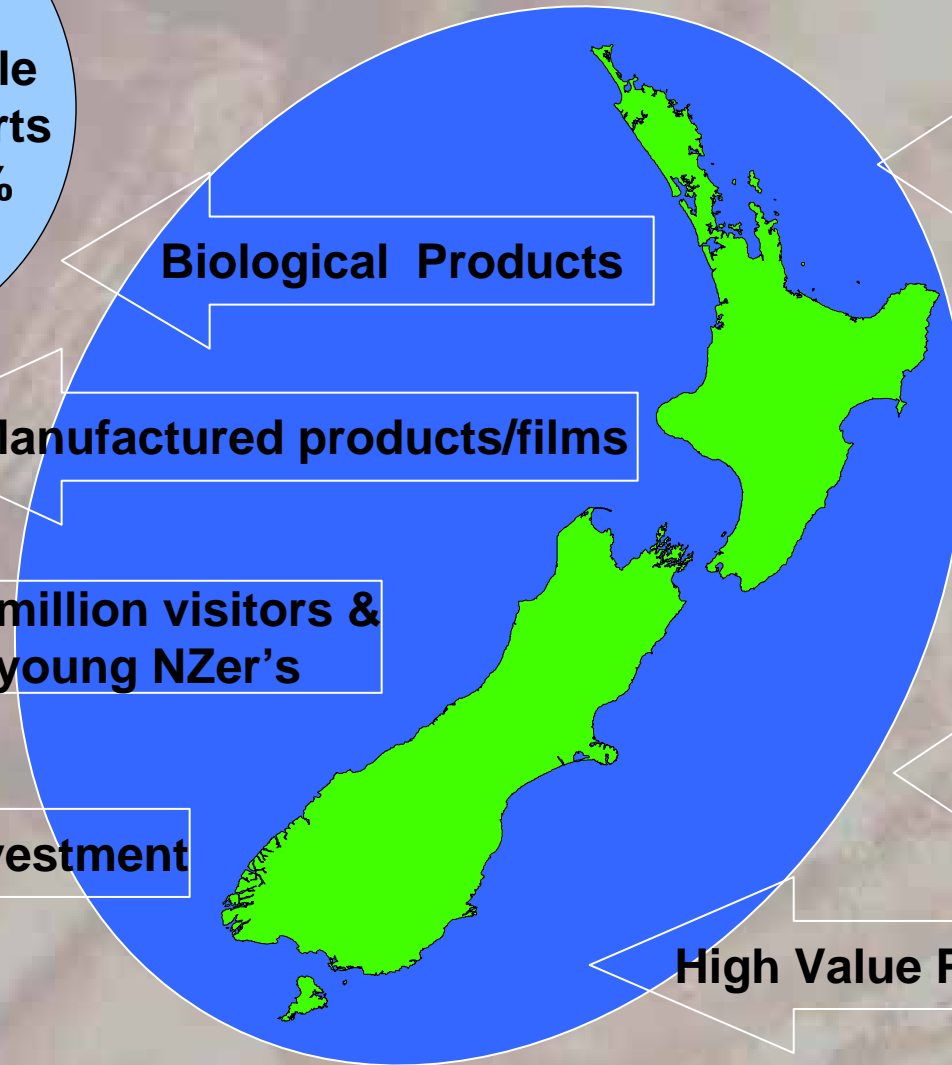
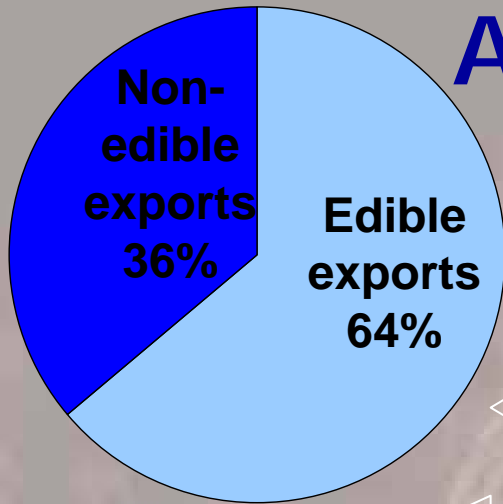
The signing of a treaty at Waitangi on 6 February 1840 by a group of Maori chiefs and the British Government, represented by Lieutenant-Governor Hobson. The treaty was subsequently signed by other Maori chiefs in various locations throughout the country.



THE SIGNING OF THE TREATY OF WAITANGI, FEBRUARY 6, 1840

The first of the original copies of the Treaty of Waitangi. The original is held by the National Archives and Records Administration, Department of State, Washington, D.C. The second copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The third copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The fourth copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The fifth copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The sixth copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The seventh copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The eighth copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The ninth copy is held by the National Archives and Records Administration, Department of State, Washington, D.C. The tenth copy is held by the National Archives and Records Administration, Department of State, Washington, D.C.

# A tiny nation globally linked...



**Pests and Diseases**

**Biological Products**

**New Species**

**Manufactured products/films**

**Foreign Investment**

**2.1 million visitors & young NZer's**

**2.1 million visitors**

**Return on Investment**

**High Value Products and Energy**



What business is NZ in as a tiny global trader, great distances from most of our customers?

“We are in the business of pampering the palates and passions of the world’s more prosperous citizens”

- Delivered by our biotic economy; dependent on our unique ecology



**Like Chile we do start with many advantages**











**Sheep**

- 14,000 farms
- 8.0m hectares
- 40m sheep



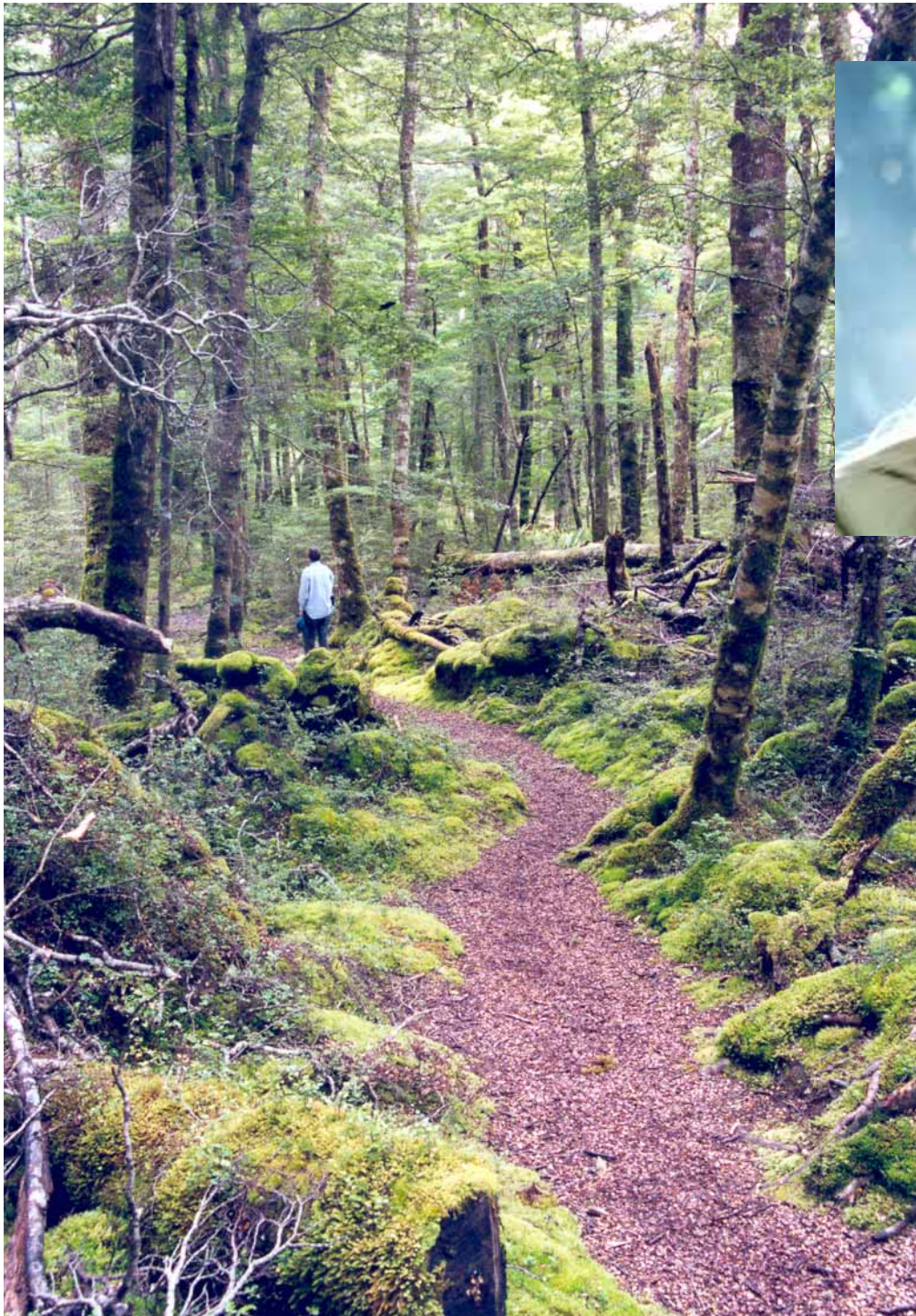
**Agriculture**

- 70,000 farms
- 13.8m hectares











Photograph by Ned Norton







However we are now being shaped by one metropolitan region...



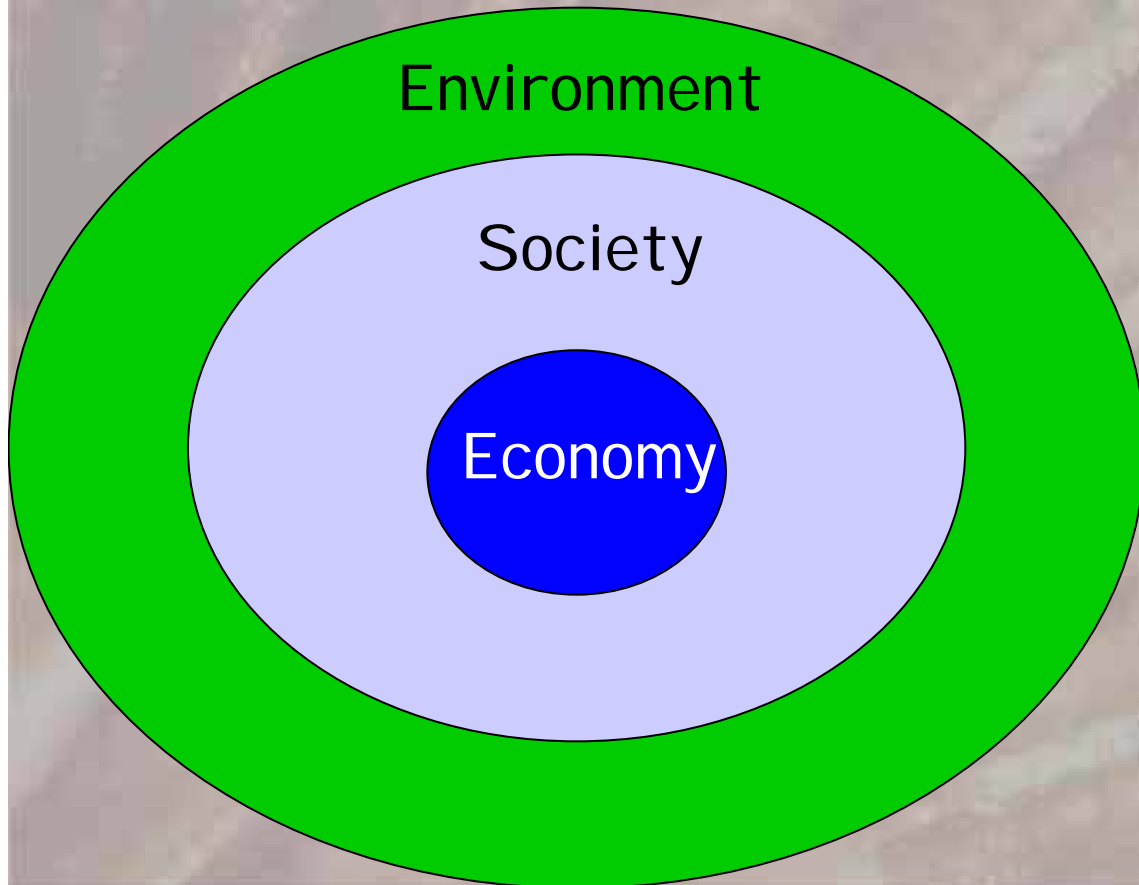
87% of us live in town; we are an increasingly urban culture...





**And we are a deeply biotic economy.  
But rural - urban inter-dependencies  
are not well understood...**

# Sustainability in context...



Key relationships!

# **Sustaining natural capital necessitates getting beyond mitigation of our effects**

**Environmental mitigation = activism to  
protect nature from the ravages of  
human activity**

**Being more sustainable = redesigning the  
processes that deliver human needs & wants  
without making a mess**

# What are we trying to sustain in the long term?



- **Natural capital**; fresh waters, clean air, biodiversity, soils, seas...
- **Landscape and cultural heritage** - space & place
- **Liveability** - human habitat quality
- **Wealth creation capacity**
- **Democratic capabilities**
- **Social & cultural capital**

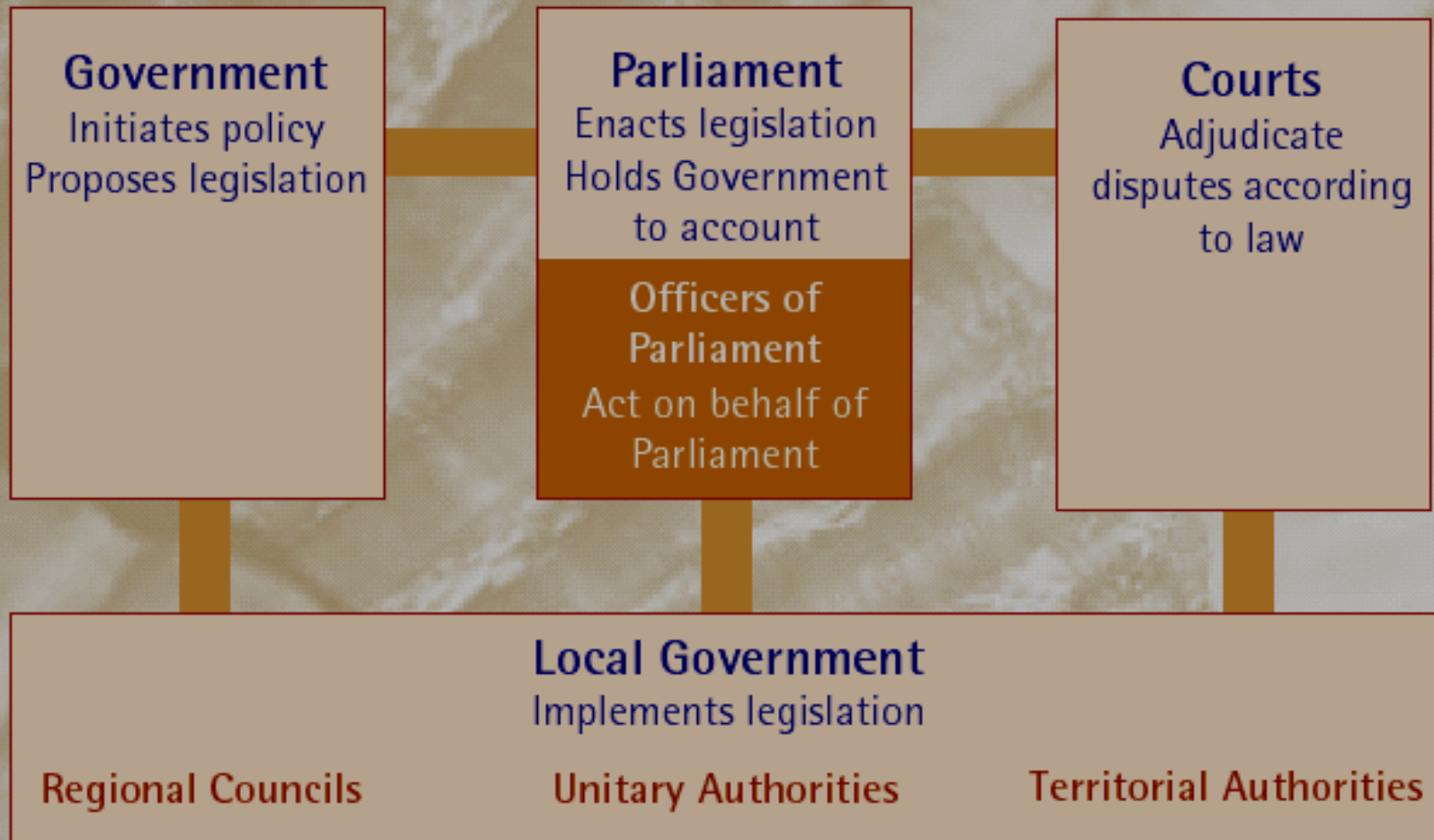




# The PCE

- Officer of Parliament; appointed by Govnr General
- Independent of Government
- Review, scrutinise, investigate (wide powers to collect information); a 'watch-dog'
- Publish, advise, recommend
- Small team (19) and budget (NZ\$2.2M)

# New Zealand Administration System and the Role of Officers of Parliament





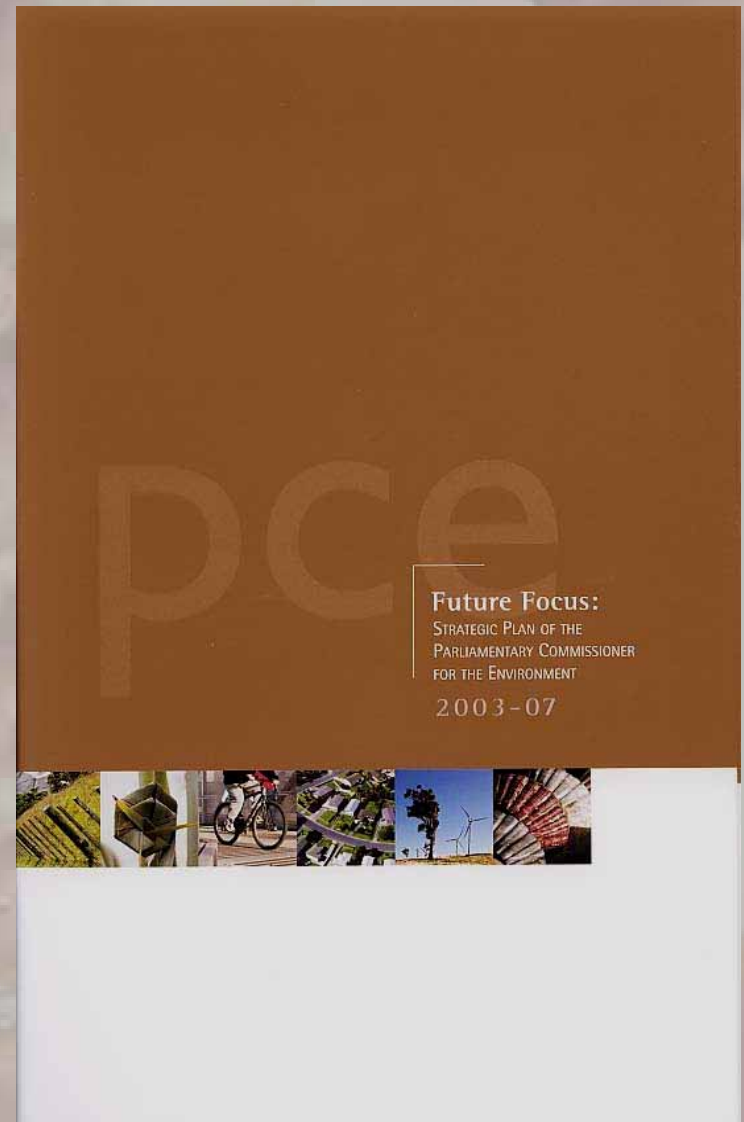
# Roles of the PCE

- Environmental systems guardian
- Environmental ombudsman
- Environmental auditor
- Advisor to Parliamentary Select Committees

## The focus 2003–2007

- Ecosystems:
  - coastal seas
  - rural lowlands
  - urban environs
- Legislation & Policies:
  - adapting to climate change
  - energy/electricity
  - marine & coastal
  - RMA outcomes
  - transport strategies
- Agency Performance:
  - local gov. capacities
  - central gov advancing sust.
  - central gov. agency links

## Strategic plan



# How the PCE works...

- A catalyst for change
- Joins up the silos of many institutions
- Looks for gaps
- Focuses on environmental sustainability
- Promotes the value of Maori perspectives
- Follows up on recommendations

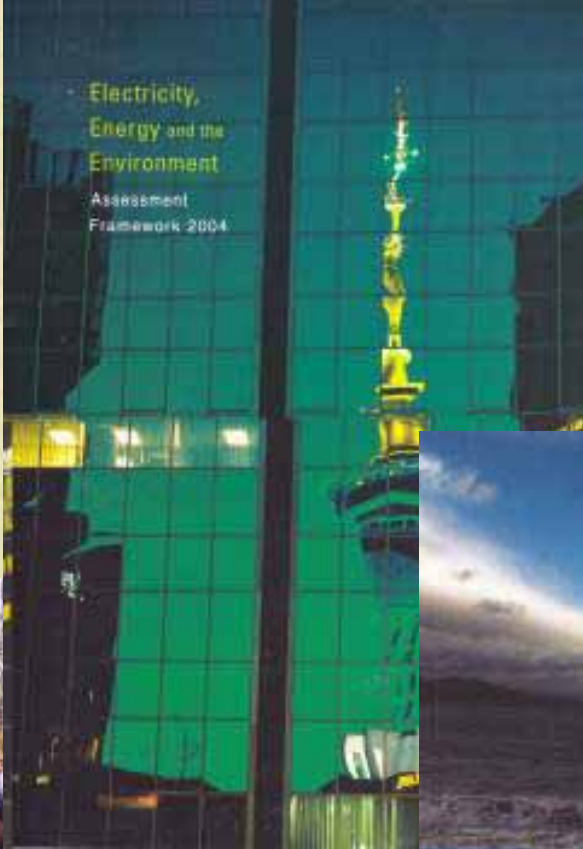


MANAGING CHANGE IN PARADISE  
Sustainable Development in Paradise

GETTING MORE



CAUGHT IN THE HEADLIGHTS:  
New Zealanders' Reflections on Pestand, Control Systems and Science Engineering



Electricity, Energy and the Environment  
Assessment Framework 2004



Missing Links:  
Connecting science with environmental policy

September 2004



Parliamentary Commission  
Te Kaitiaki Take Kōwhiri  
PO Box 10, 241, 1



Growing for good  
Intensive farming, sustainability and New Zealand's environment



SHOWING

Curitiba



See Change

Learning and education for sustainability

Office of the Parliamentary Commissioner for the Environment  
In Wellington, Te Whanganui-a-Tara

# Advancing environmental sustainability; the big pieces...



Our society, many  
cultures & values



Our society's  
systems of  
meeting  
needs &  
wants



Our governace  
processes



Our laws &  
policies &  
knowledge  
systems

# Central Gov. agencies with environmental responsibilities...



- Ministry for the Environment
- Department of Conservation
- Ministry of Agriculture & Forestry
- Ministry of Fisheries
- Ministry of Economic Development

PLUS Parliamentary roles;  
PCE & Auditor General

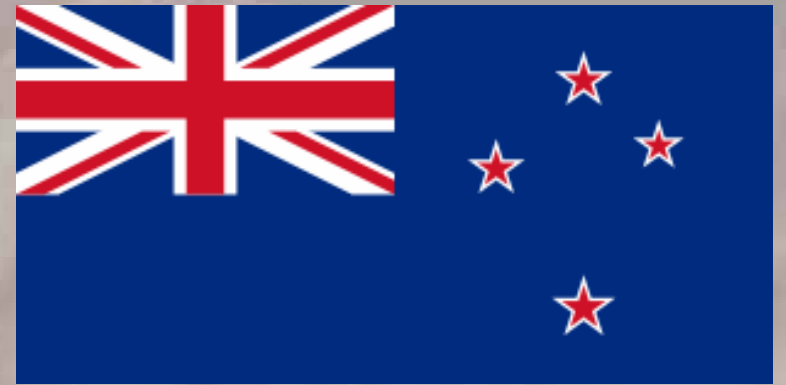


# Major Environmental Legislation...

- MfE
  - Enviro. Act 1986
  - Resource Mgmt Act 1991
  - Hazardous Substances & New Organisms Act 1996
  - Climate Change Response Act 2002
  - Energy Efficiency & Conservation Act 2000

# Enviro. Legislation cont....

- DOC
  - Conservation Act 1987
  - Wildlife Act 1953
- MAF
  - Biosecurity Act 1993
  - Forestry Act 1949 (1993 amend.)
- Mfish
  - Fisheries Act 1996
- MED
  - Crown Minerals Act 1991

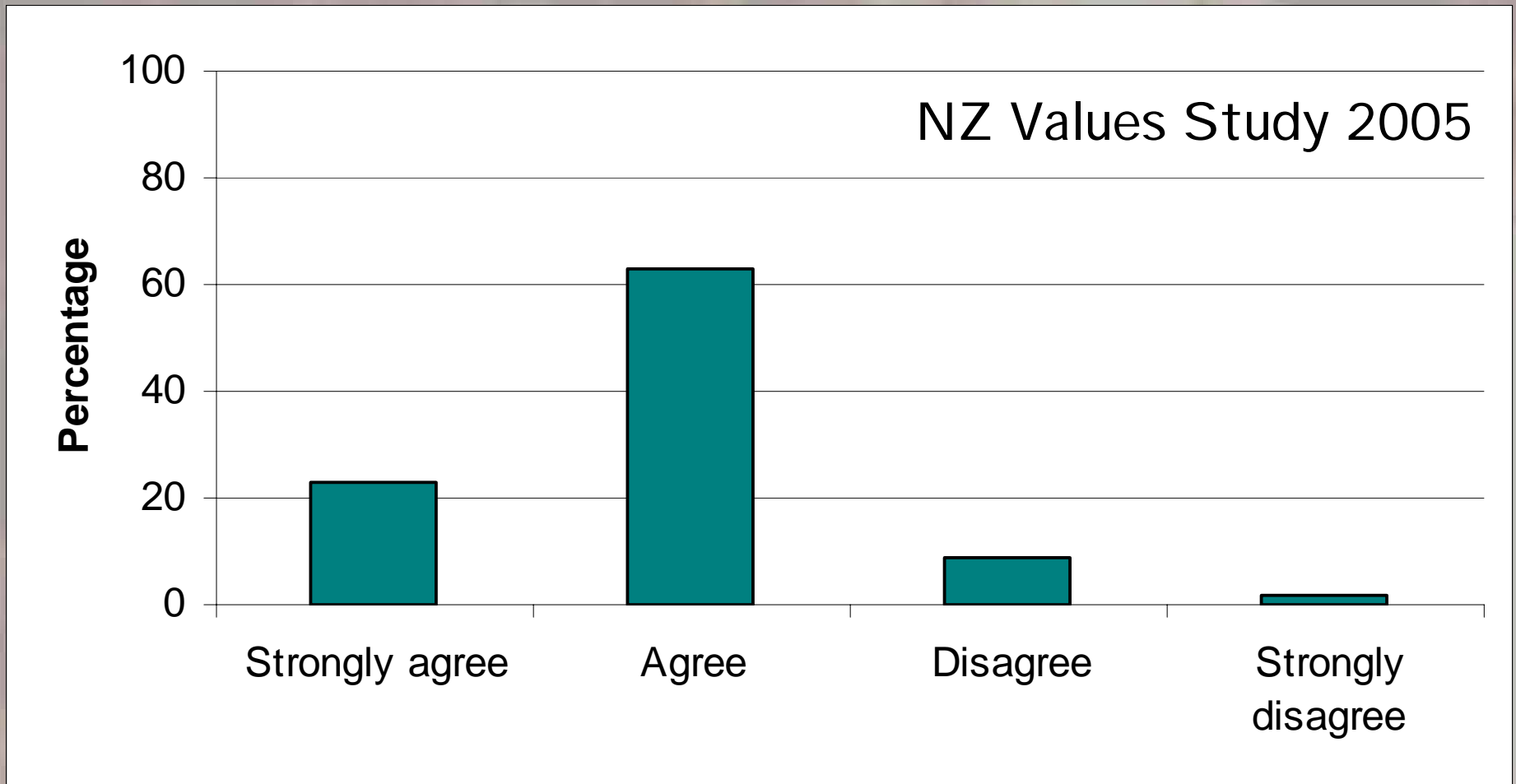


Lessons from NZ, points of reference rather than models to copy....

## Key lessons from NZ...

- Clearly understand the social, political & economic context within which new environmental policies & institutions are being developed

# What we value...



Q. "Economic growth & development should only occur if it does not cause lasting damage to the environment"

Lifestyle mags  
have become  
focused on the  
environment...



# Brits use 'food miles' against Fonterra

A BRITISH dairy company has launched an \$18 million advertising campaign knocking Fonterra's Anchor butter with jibes about how far it has to travel.

Dairy Crest has mounted the campaign — a variation on a “food miles” focus that is beginning to worry New Zealand politicians and exporters — to promote its butter brand, Country Life, as “home-grown”. It implies Anchor butter is of poorer quality and does more harm to the environment because it travels 17,700 kilometres to market.

New Zealand officials have said environmentalists' concerns over the distance food travels from paddock to plate could undermine efforts to portray primary produce sent to affluent northern hemisphere markets as environmentally sustainable.

Lobbyists in Britain have argued that by eating produce from countries such as New Zealand, consumers are in effect eating oil because of the energy spent in transporting the goods.

Dairy Crest advertisements to run in Britain's daily newspapers tomorrow feature a rusty-looking container ship, with the line: “Why choose Anchor butter that's shipped frozen . . .”

Underneath there is a picture of a thatched cottage and the completion of the line: “ . . . when you can choose Country Life?”

Environmental campaigners in Europe have used the examples of New Zealand fruit and meat being carried thousands of kilometres to market to argue that locally pro-

duced foods are more environmentally sustainable.

Agriculture Minister Jim Anderton said last month that New Zealand farmers could expect new competitive pressures as trade rivals in the northern hemisphere were forced to reduce subsidies and tariffs.

He warned that one focus in Europe was on the “food miles” involved in shipping produce to consumers, and talk about the carbon emissions from shipping produce around the world was directly aimed at shipments from New Zealand.

“We have to respond to these changing market conditions,” he said.

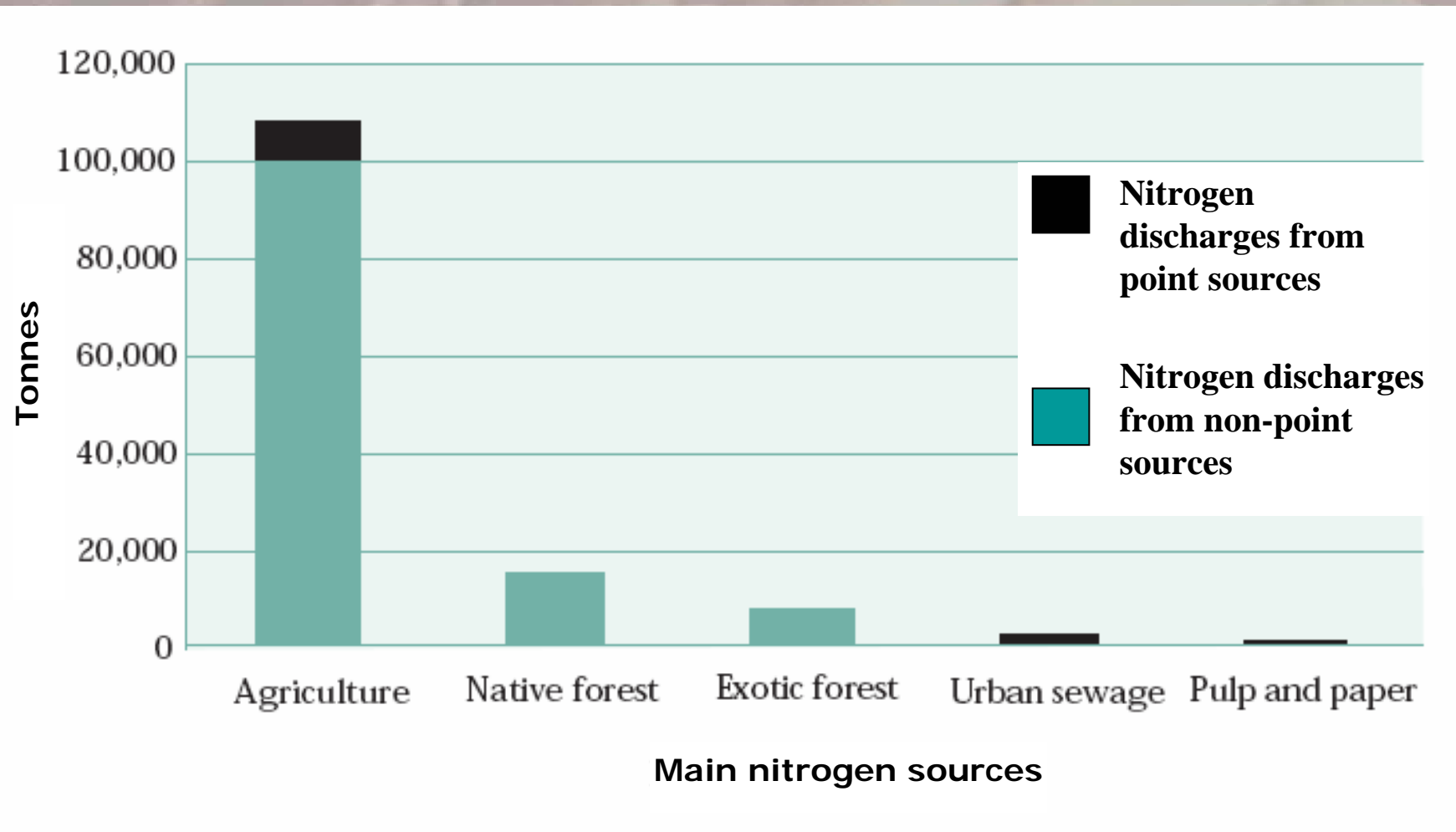
“If we don't act, overseas markets are increasingly likely to penalise New Zealand producers.” — NZPA

## Key lessons...

- Improving environmental sustainability is very dependant on establishing robust systems to measure the state of the environment & pressures on it.
- Compliance with regulations, laws etc. is no substitute for SOE measures

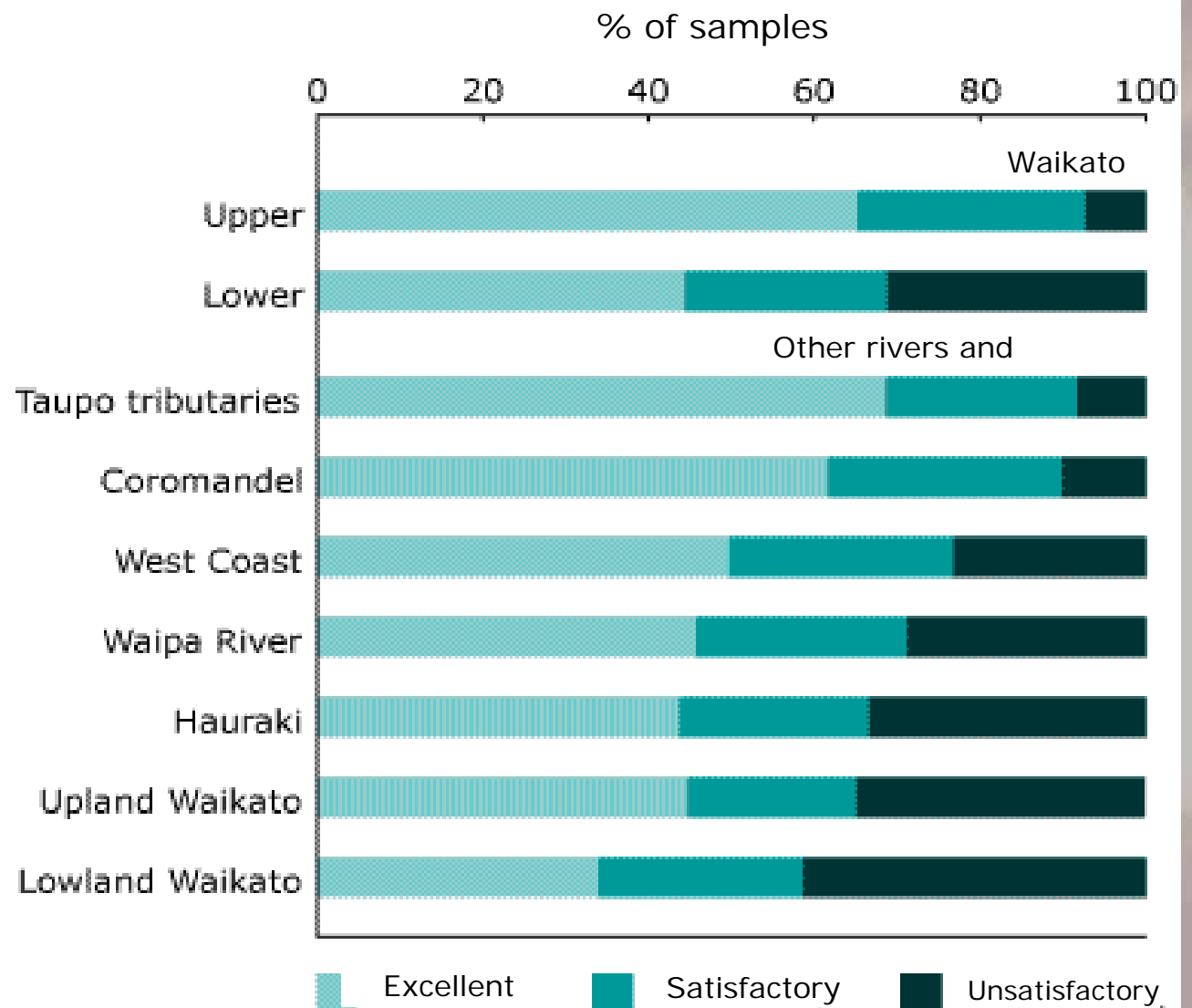


# Estimated yearly nitrogen loadings to NZ surface waters



# Ecological health of lowland rivers...

Waikato region  
ecological  
health trends,  
2005



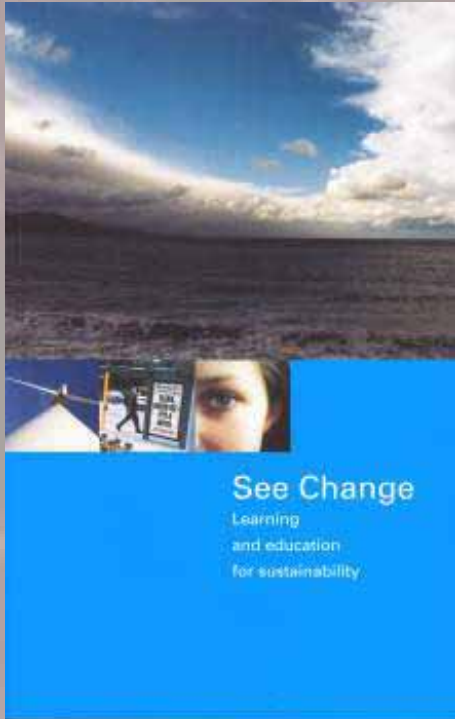
## Key lessons...

- Invest in building capacity in all central and local government agencies responsible for implementation & application of environmental policies and legislation. They in turn can then invest in business and community understanding of what's needed.

## Key lessons...

- It is essential that there are widespread environmental sustainability education and experiential learning programmes within all levels of formal education and within communities

# Major new learnings are needed for 21st C survival



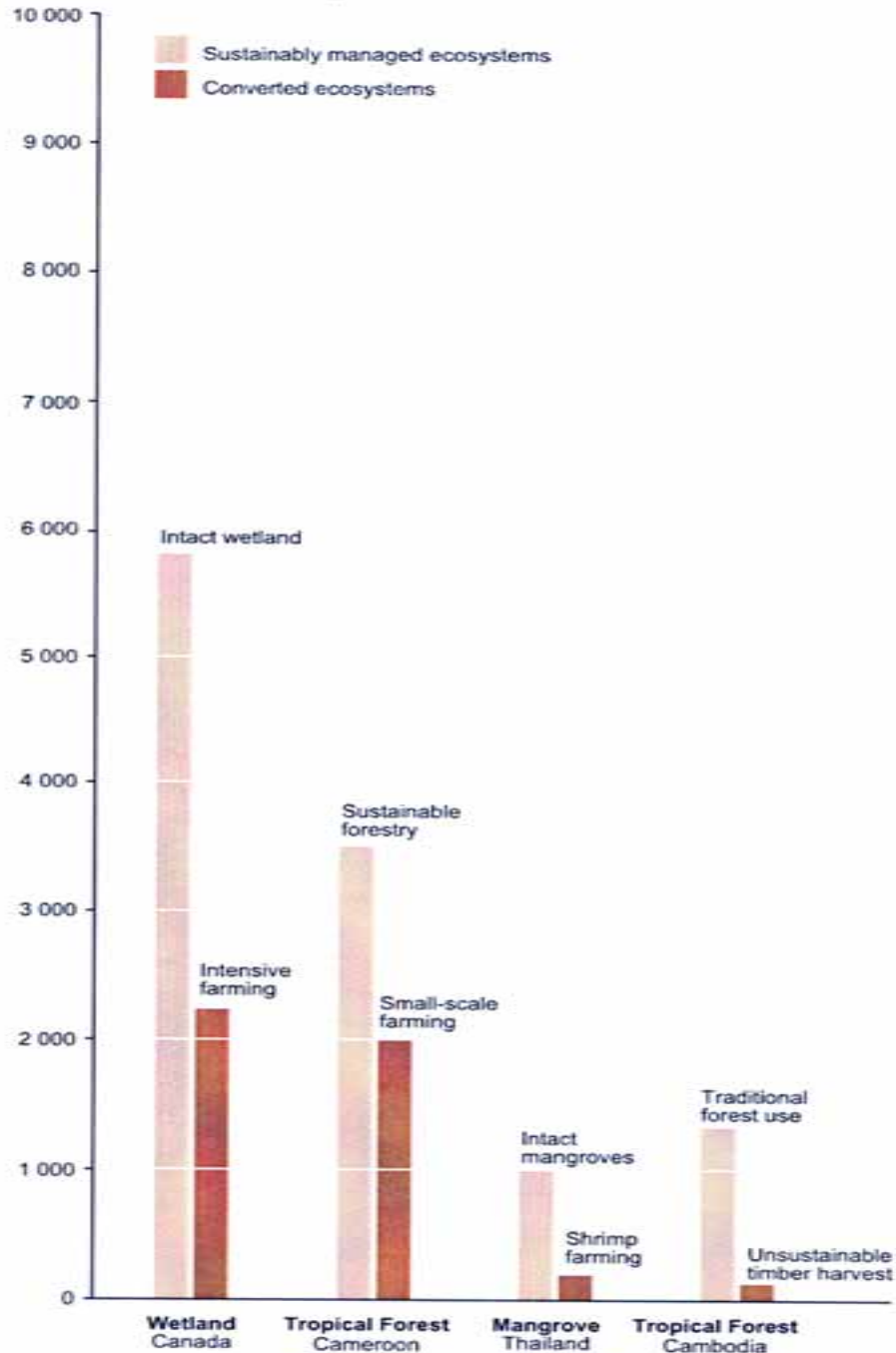
Education for sustainability requires:

- Ongoing learning
- Lots of reflection and creative thinking
- Developing visions for the future
- Good participation in decision making
- Dialogue and working with others
- Aiming for systemic / institutional redesign (not just individual changes)

## Key lessons...

- Ensure a rich mix of policy instruments are used and beware over reliance on voluntary programmes - they can simply delay needed improvements

Net Present Value, in dollars per hectare



# Economic benefits under alternate management practices for wetlands & forests

The total economic value associated with managing ecosystems more sustainably is often higher than the value associated with conversion

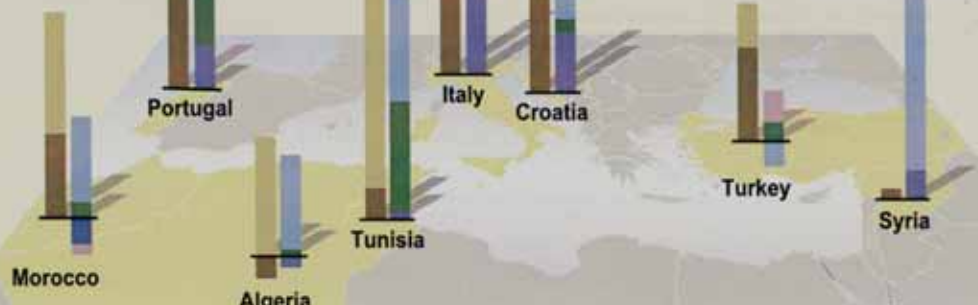
Left column: Commonly measured economic values

- Grazing
- Timber and fuelwood

Right column: Nonmarketed and other economic values

- Carbon sequestration
- Watershed protection
- Non-timber forest products
- Recreation and hunting

Total economic value  
dollars per hectare



# Annual flow of benefits from forests in selected countries

Living Beyond Our Means  
Millennium Ecosystem Assessment



## Key lessons...

- When designing/redesigning environmental institutional arrangements ensure that 'form' follows 'function' and that there is wide understanding, & ideally political consensus, on their functions

# NZ environmental functions & institutions...

## Functions

- Allocate resources  
mitigate effects
- Control introduction of  
new compounds &  
organisms
- Develop enviro. policies  
& regulations
- Measure & research enviro.  
health
- Empower & educate  
communities, citizens &  
business's
- Adjudicate on enviro. Law
- Enviro, guardian/watchdog

## Institutions

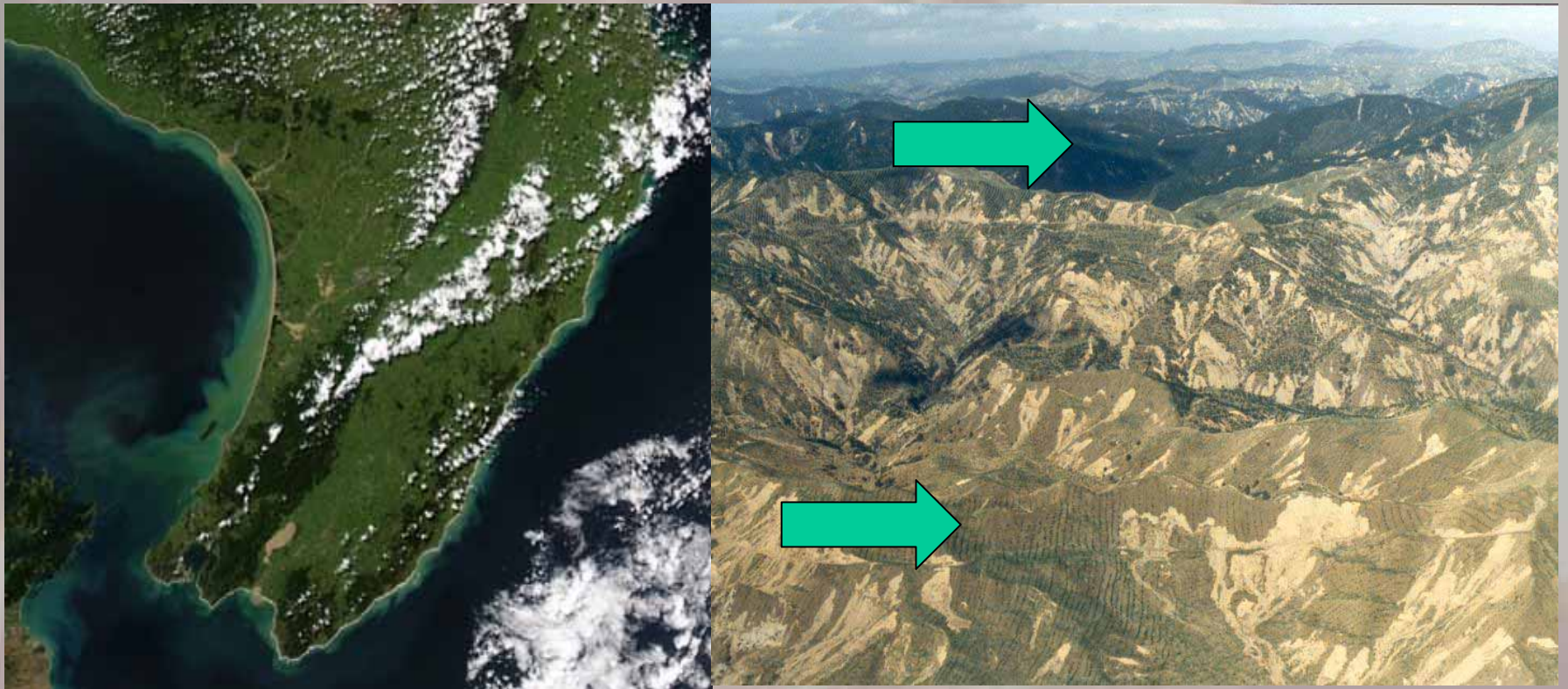
- Regional & district  
Councils via plans &  
consents
- Environmental Risk  
Management Authority
- Ministry for the  
Environment (could be an EPA)
- Regional & territorial  
Councils, CRI 's, Uni's &  
Statistics NZ
- Common law Courts & Environment  
Court
- PCE, Auditor General





# Lands also under pressure...

Trees are the rivets of this landscape;  
Manawatu storm damage, 2004







# New Zealand Landcare Trust

*"sustainable land management  
through community  
involvement"*









# New Zealand Landcare Trust

- Trustees from non-government organisations representing production, recreation and environmental interests
- Around 500 groups – from active to dormant
- Evolved from the Australian model
- Staff of 25, located around New Zealand
- Range of funding sources, including corporate
- Grants programme to support groups

# Landcare concepts..

- The Resource Management Act (RMA) has a single overarching purpose: to promote the sustainable management of natural and physical resources
- We would like to achieve economic and ecologic sustainability, BUT!!
- Once people actually **understand sustainability** and believe they can make a difference, awareness will contribute to action
  - Devolve decision making to the appropriate level
  - Trust is a key
  - Building a platform of local knowledge and skill from a community.
  - Keep a people focus
  - Create alliances beyond the usual
  - Shop for good science
  - Keep a memory of project work
- **Strengthening and empowering communities** to enable them to take action to protect, restore and enhance the environment is seen as a clear role for the NZ Landcare Trust



# NZ Landcare Trust Strategic Plan 2005 - 2010

"Sustainable land management through community involvement"

## 2006 Milestones

## 2010 Scorecard

## 2010 Outcomes

1. Develop boundary relationships with 1 major knowledge organisation
2. Added 20 new Landcare groups
3. Register of R&D projects established
4. \$100k funding secured for facilitation training
5. One more regional co-ordinator employed
6. Developed more capacity at Head Office
7. New communication plan in place + owned
8. Two producer groups committed to sustainable practices
9. Project management training completed
10. Performance review + PT Plan for staff
11. Improved IT Infrastructure
12. One new corporate funder secured

Media first point of contact  
Community groups approaching us  
Baseline funding

**Leader in  
Community Engagement**

Active successful landcare groups nationwide  
Survey landcare groups to assess if they are achieving their goals  
Landcare is expanding in NZ, including skills

**Empowering Action  
On the Ground**

Groups engaged in good scientific R&D  
System in place to measure achievement  
Success stories in media

**Measurable &  
Demonstrable Results**

People approaching us for best practice  
Number of clients  
CRIs institutions seeking assistance

**Preferred  
Knowledge Broker**

Landcare Trust written in to funding bids  
LCT makes a difference to how bids funded  
Stakeholders look to LCT to facilitate/get involved with projects

**No 1 'Integrated  
Projects' Facilitator**

Leading sector in recognising opportunities  
Evaluation of events  
High staff retention

**Passionate &  
Innovative Team**

Diversity of funding  
Secured over a period of time  
Funders encouraging us to make further application  
Positive feedback for funders

**Secure Long Term  
Funding**

## Pathways

**Sustain &  
Enhance  
Partnerships  
& Networks**

**Build  
our  
Profile**

**Up skill &  
Support  
Staff**

**Develop  
Cutting Edge  
Facilitation  
Skills**

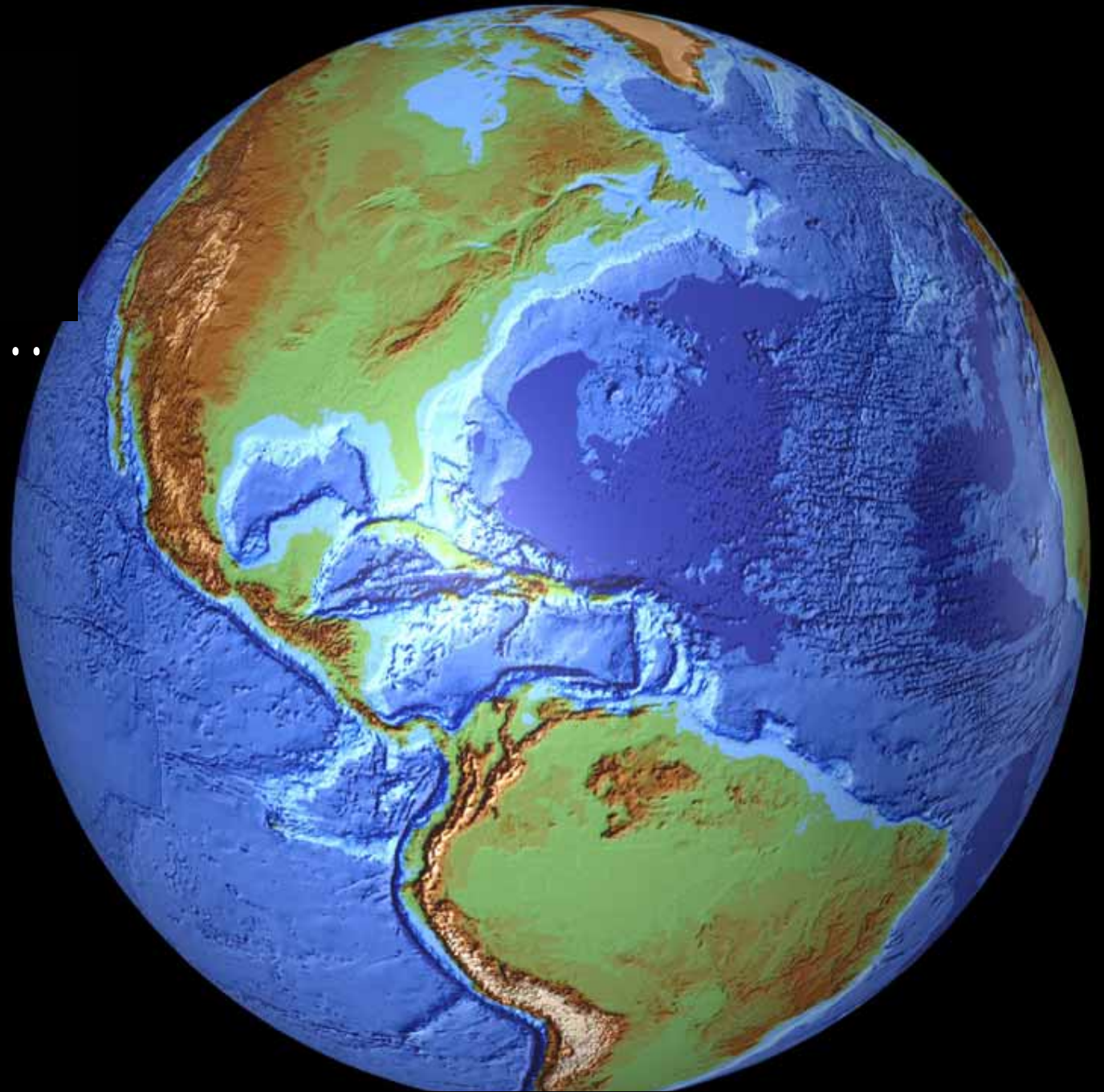
**Use  
Good  
Science**

**Catalyst for  
Integrated  
Projects**

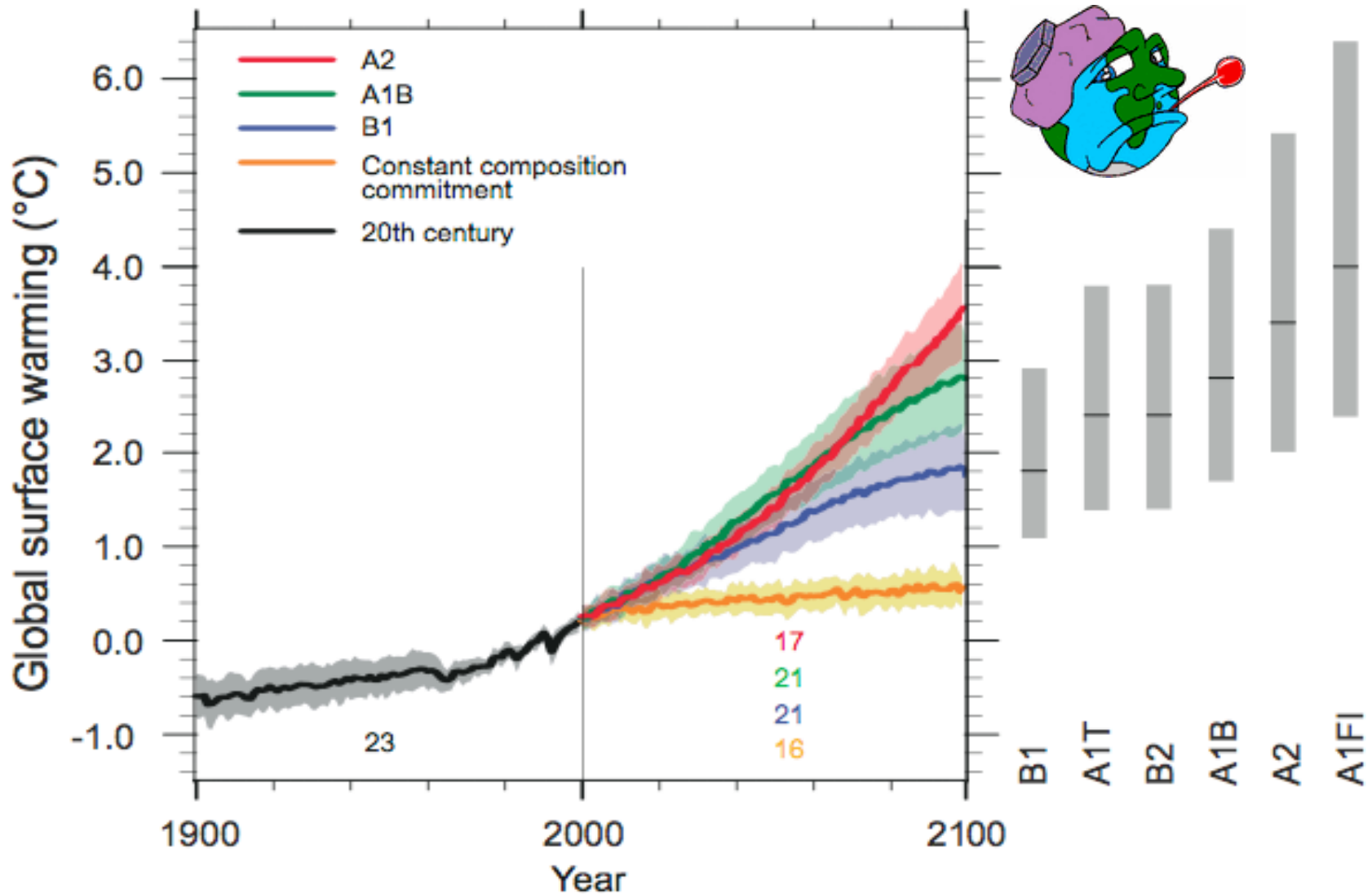
**Improve  
Information  
Systems &  
Measurement**

**Improve  
Integration  
Between  
Projects &  
Groups**

A patient  
with some  
serious  
conditions...



# It's temperature is rising...



## GLACIERS SLIP-SLIDING AWAY

Evidence is mounting fast...

"Two of the largest glaciers in eastern Greenland...have both doubled their speed in the past two years to around 14km per year. ....the two glaciers are dumping 100 cubic kms of ice into the ocean every year."

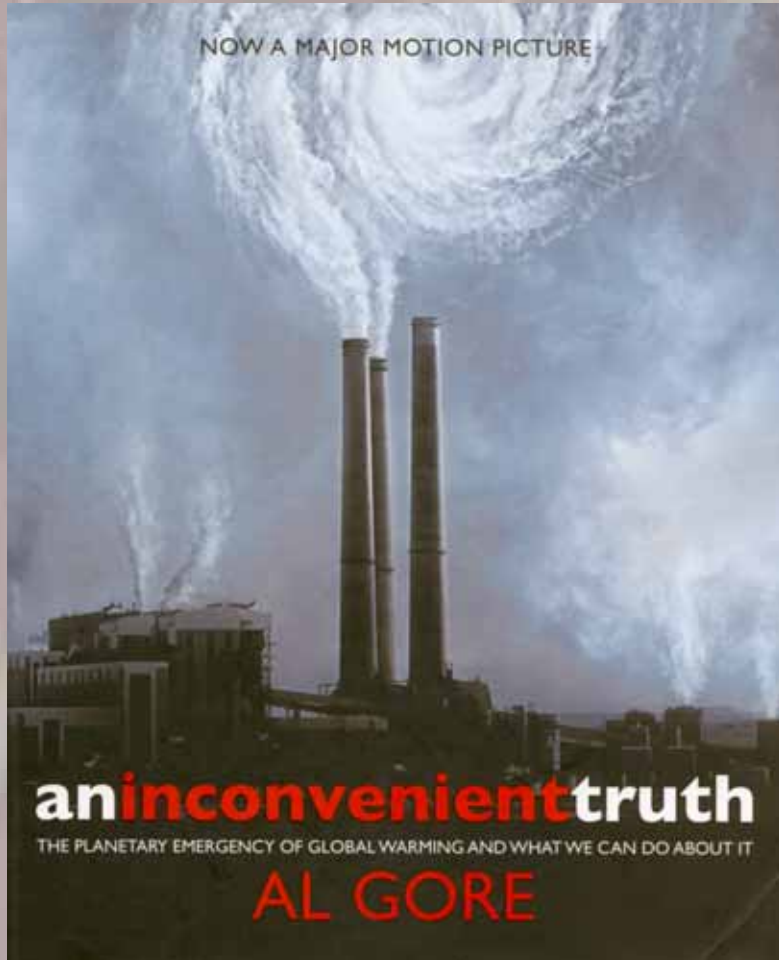


New Scientist

11th Feb 2006



Al Gore communicates the challenges well...



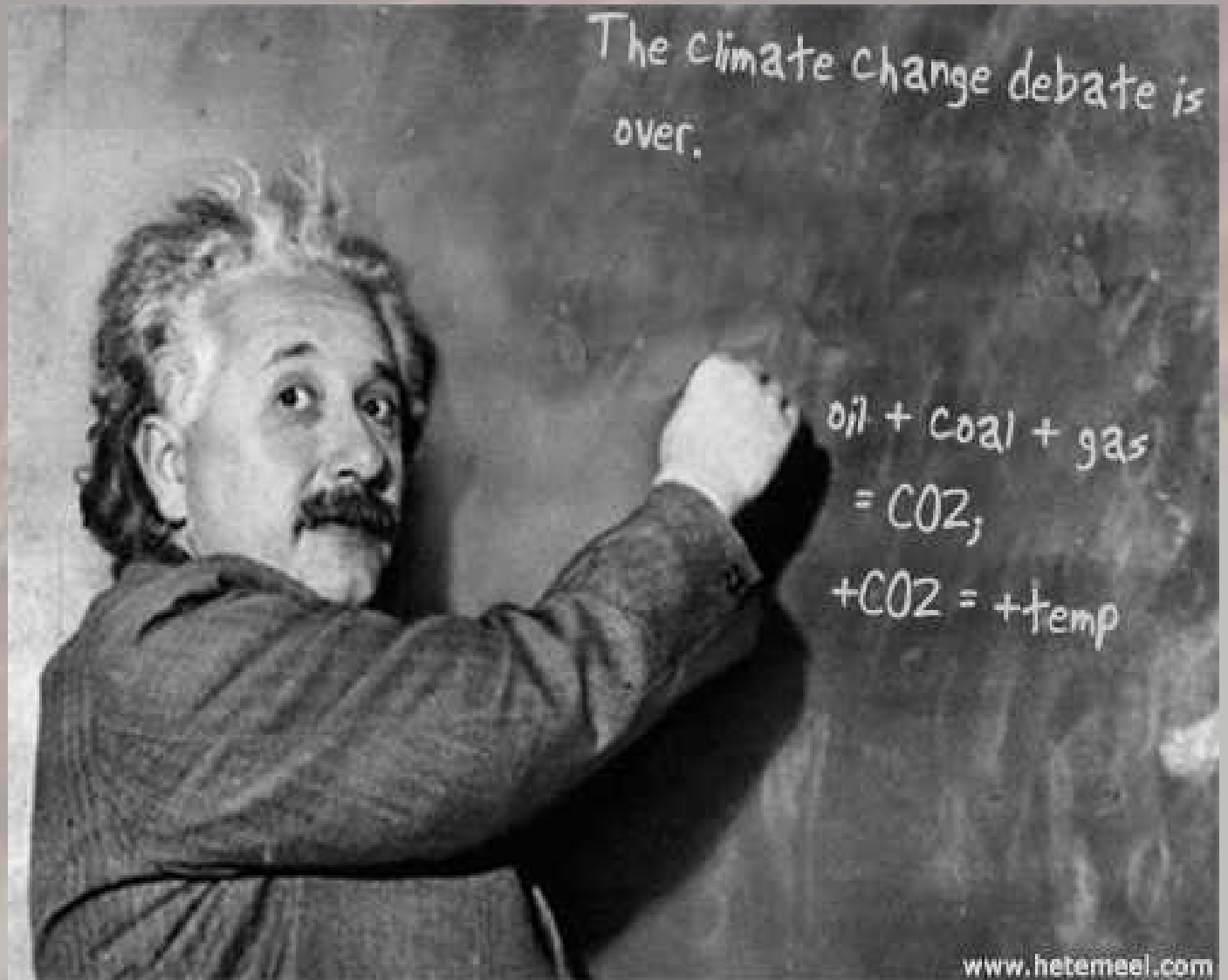
an inconvenient truth

The economic case for action  
has been made...

***STERN REVIEW: The  
Economics of Climate Change,  
30 Oct 2006***

- “the scientific evidence is now overwhelming: climate is a serious global threat & it demands an urgent global response”
- “the evidence gathered by the review leads to a simple conclusion: the benefits of strong and early action far outweigh the economic costs of not acting”

The  
debate  
is over!



# Concluding quote...

“Most of the changes we must make are in our economic life. The system of taxes, subsidies, regulations and policies through which governments motivate the behaviour of individuals and corporations continues to incent unsustainable behaviours”

Maurice Strong, July 24<sup>th</sup> 2002 – addressing the

US Senate Environment Treaty Implementation Review

**The End**

