


Forest Biosecurity Workshop Feb 2012

**Society & science - science  
& society: understanding  
relationships**

 FutureSteps

Dr J Morgan Williams

**We are looking into a very  
different future....**



## The challenges are daunting...

*“Unfortunately, humanity’s behavior remains utterly inappropriate for dealing with the potentially lethal fallout from a combination of increasingly rapid technological evolution matched with very slow ethical-social evolution. The human ability to do has vastly outstripped the ability to understand. As a result civilization is faced with a perfect storm of problems driven by overpopulation, overconsumption by the rich, the use of environmentally malign technologies, and gross inequalities.”*

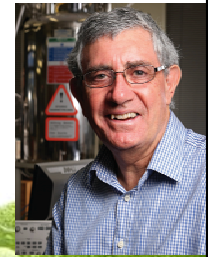
Dr Gro Harlem Brundtland, Sir Robert Watson, Dr James Hansen, Lord Nicholas Stern, Dr Amory Lovins, Prof. Paul Ehrlich and 12 other Blue Planet Prize laureates (the environmental Nobel Prize), Feb 20<sup>th</sup> 2012



## But optimism must prevail...

- “If we can embrace the potential, science could be a game changer for NZ.”
- “The challenge for the scientists is to articulate and act upon the values that will inspire their fellow citizens”

Sir Paul Callaghan,  
Foreword, ‘Science Embraced’  
Feb. 2012



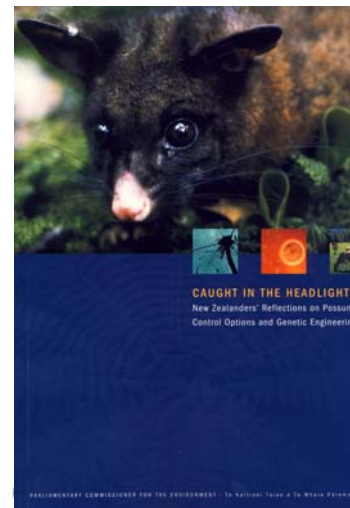
## Where am I going?

- Two themes, both fundamental to bio-security:
  - Society, values, beliefs, matters of trust; big shifts
  - Science and society; investing to enhance a nations well-being

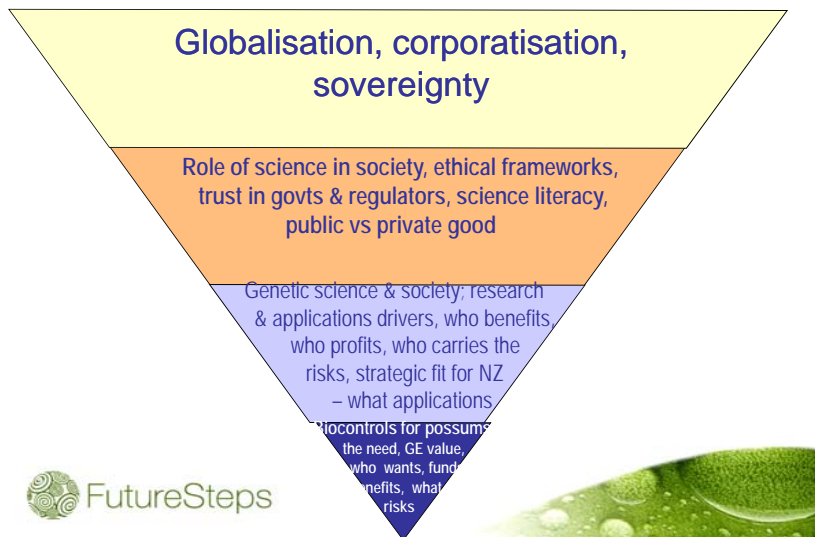


## Context & a little history....

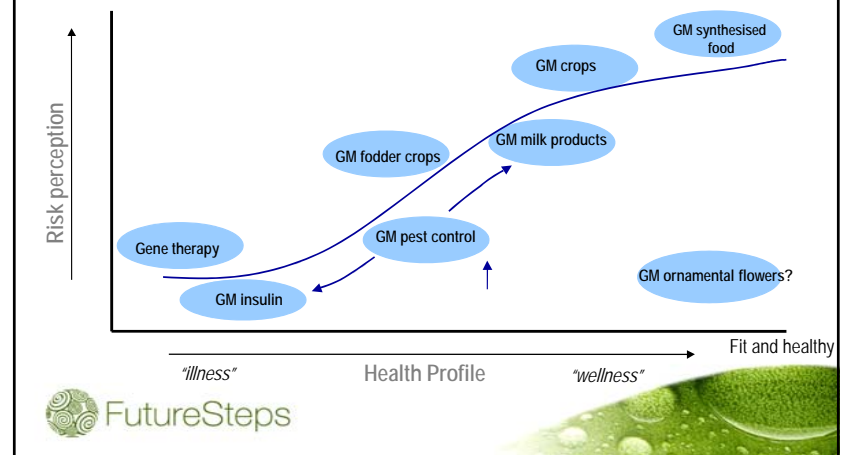
Testing the GM 'waters' in NZ at the turn of the century!




## Focus of conversations...



## Perception of risks 'profile' for some genetic science products...






**Concluding quotes & thoughts – in Oct. 2000**

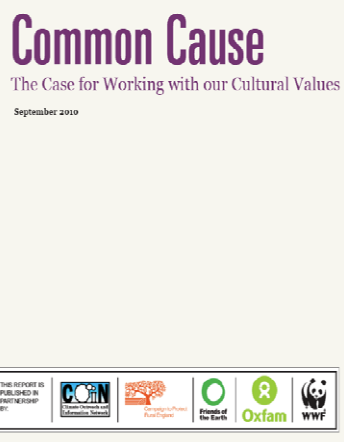
“Knowing your ignorance is the best part of knowledge”  
*Lao Tzu*

“It’s not the answer that enlightens but the question”  
*Eugene Ionesco*


**So....NZ scientists must focus on the questions, particularly those society wants addressed**



**Values shape our behaviours...**

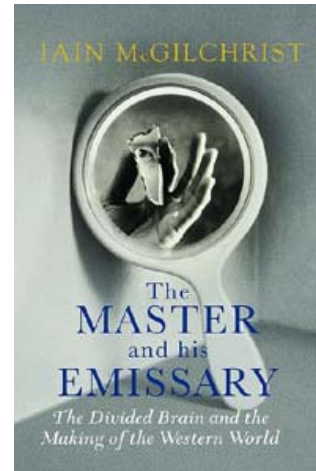


- “There is mounting evidence that facts play only a partial role in shaping people’s judgment. Emotions are far more important.”
- **‘Bigger than self’** problems are increasingly dominating our social, political and economic landscapes
- “Some values provide a better source of motivation for engaging ‘bigger than self problems’ than other values.
- Recognition of how we (or others – Government/marketers) ‘frame’ issues is important; reflect on ‘tax relief’



## Our divided brain rules us...

- A great story of how our brain works and has shaped the western world over the last 5 centuries.
- The characteristics of our left hemisphere (our autistic one) are encouraged in our society – precision, decisive action – at the expense of....
- ...our right hemisphere which shapes our visions, experience, comprehension and a longer view



## Science threatens beliefs and values, evidence and ideologies are clashing...

“We are sliding back into a dark era” she said “and there appears little we can do about it. **I am profoundly depressed** at just how difficult it has become merely to get a realistic conversation started on issues such as climate change or genetically modified organisms”.

Dr Nina Fedoroff, President American Association for the Advancement of Science, Presidential Address, 2012 Annual Congress, Vancouver.



February 2012  
Report 9

2058

Science  
Embraced

Government-funded  
Science under the  
Microscope

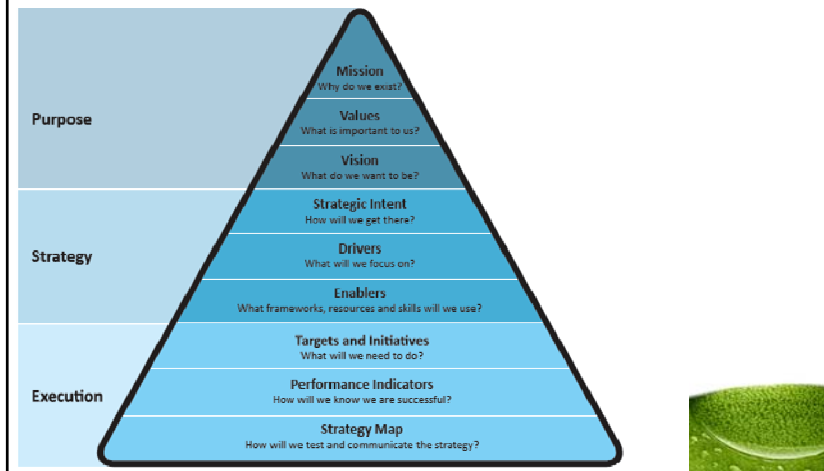
**Science & society:  
investing for a  
nations wellbeing...**

McGuinness Institute

**'Science Embraced'** “looks not at the specifics of science but society’s investment in science. The proper role of this investment is to foster science that serves the public interest. Government funded science has a vital role to play in shaping NZ’s future, but the successful fulfillment of that role depends on the will of its citizens to embrace science, and the will of its scientists to embrace the needs and wants of society.”

 FutureSteps

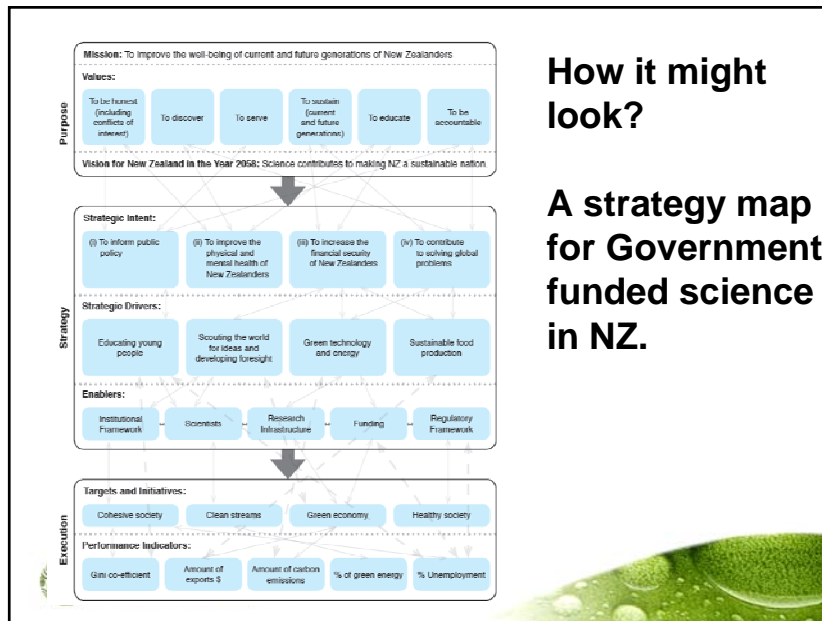
## Nine pillars of an optimal science system...



## Dominant beliefs (myths) that are unlikely to be true...

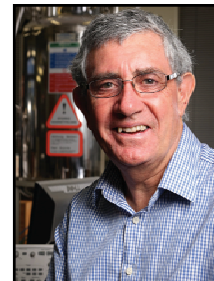
- Myth 1: More NZ research leads to more NZ development
- Myth 2: More NZ research informs NZ public policy
- Myth3 : Science ethics are embedded in science practice
- Myth 4: “Innovation’ is a useful term to drive the government-funded science system





## How it might look?

## A strategy map for Government funded science in NZ.



## The critical element, leadership...

- Forest bio-security needs can ultimately only be addressed within the wider social and political landscape that is shaping science investment and expectations of within society.
- NZ needs a robust science strategy where the outcomes sought are much more transparent and the benefits focus on 'ends' (e.g. well-being) rather than 'means' (e.g. wealth creation).
- We all have a leadership role

