

Carbon Budgeting when Between Two Worlds

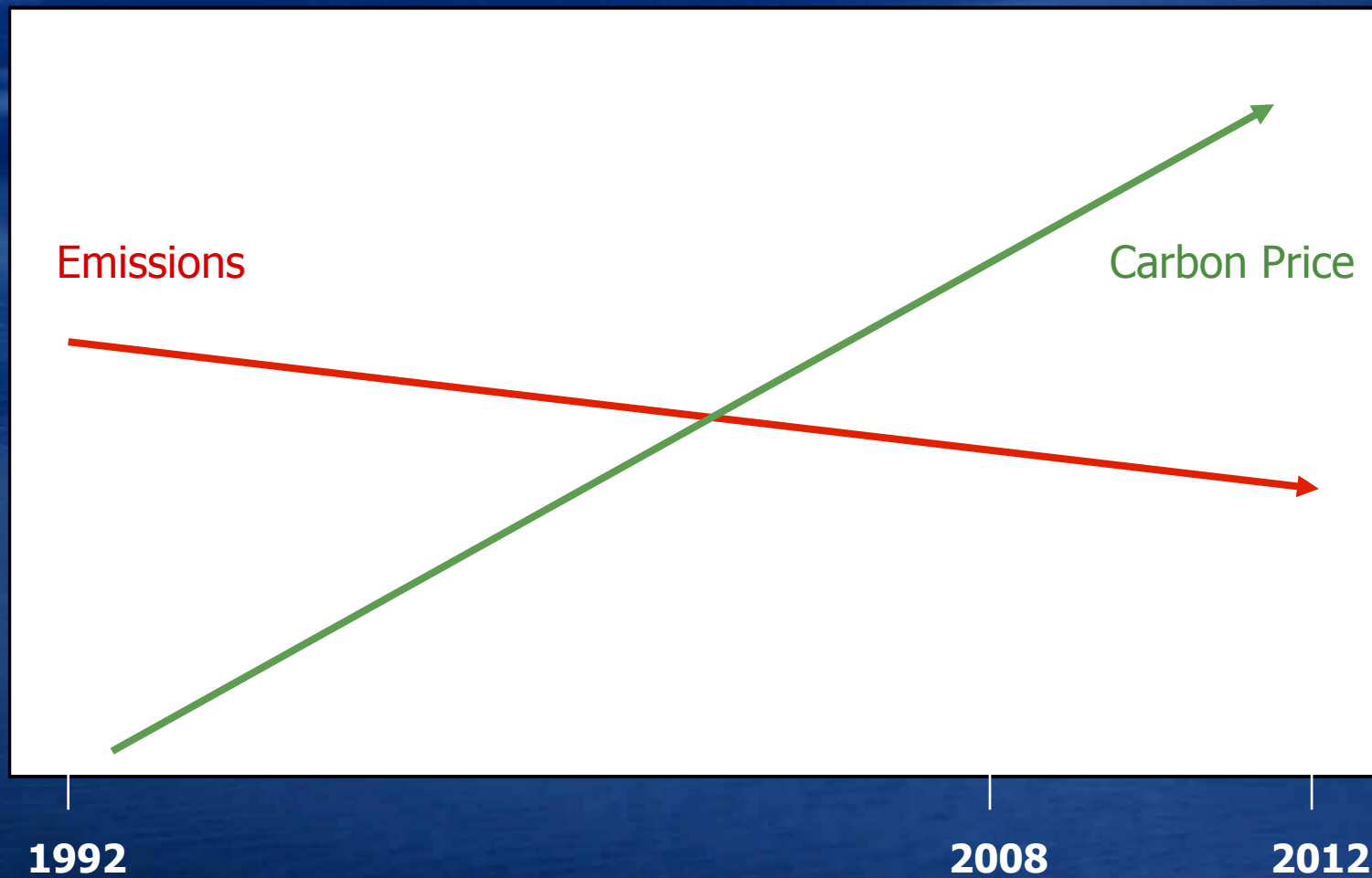
Presentation to *Meeting the Challenge: A Strategy for NZ Climate Policy*

7 June 2013

Simon Terry

Sustainability Council

Once Upon a Plan ... post Rio '92



Reality was Different



NZ Deeper in Carbon Debt

ETS - first five years to 2012

- Reduced emissions less than 1%
- Gave away 121 Mt of units
- Brought in 45 Mt of units

=> **ETS net deficit of 76 Mt** (MFE, Nov 2012)

Today: worth \$150 million

Tomorrow: @\$50/t could cost taxpayer \$3.8 billion

The Phony War (on carbon)

Developed country pledges to reduce emissions by 2020 would allow 'Business as Usual' levels – once 'loopholes' are accounted for

(Sustainability Council 2009 & 2010; UNEP, 2010; den Elzen, 2012)

Loopholes include:

- International aviation & shipping, Hot Air (Russian AAUs), land use rules (LULUCF), CDM accounting

Constraints Have Tightened

Already too much carbon in atmosphere on any reasonable risk assessment

(Harvey, 2008)

Plans that emit more carbon deal in odds for staying under 2 degrees that no prudent operator of critical infrastructure would be seen dead with

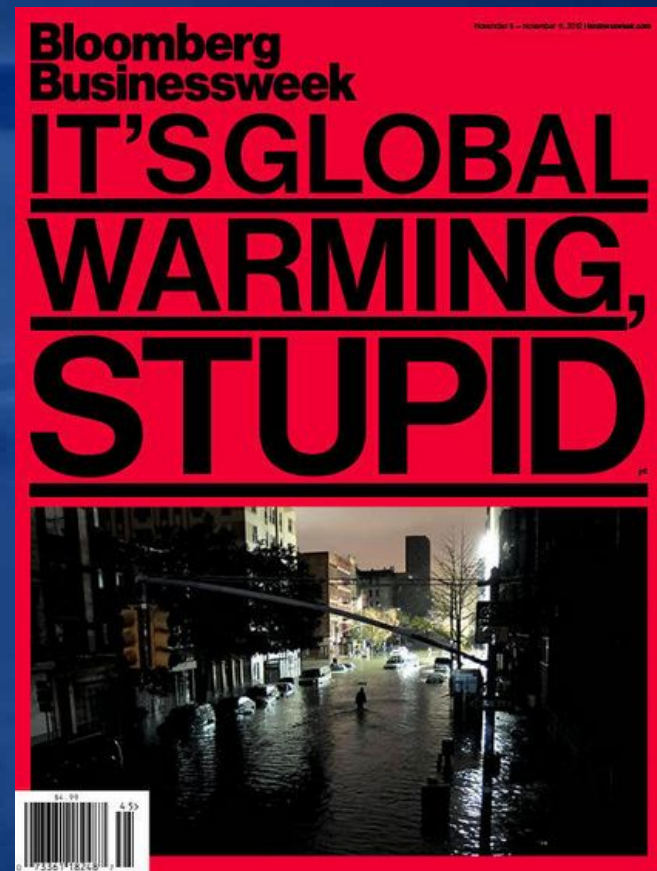
<350

ppm CO₂

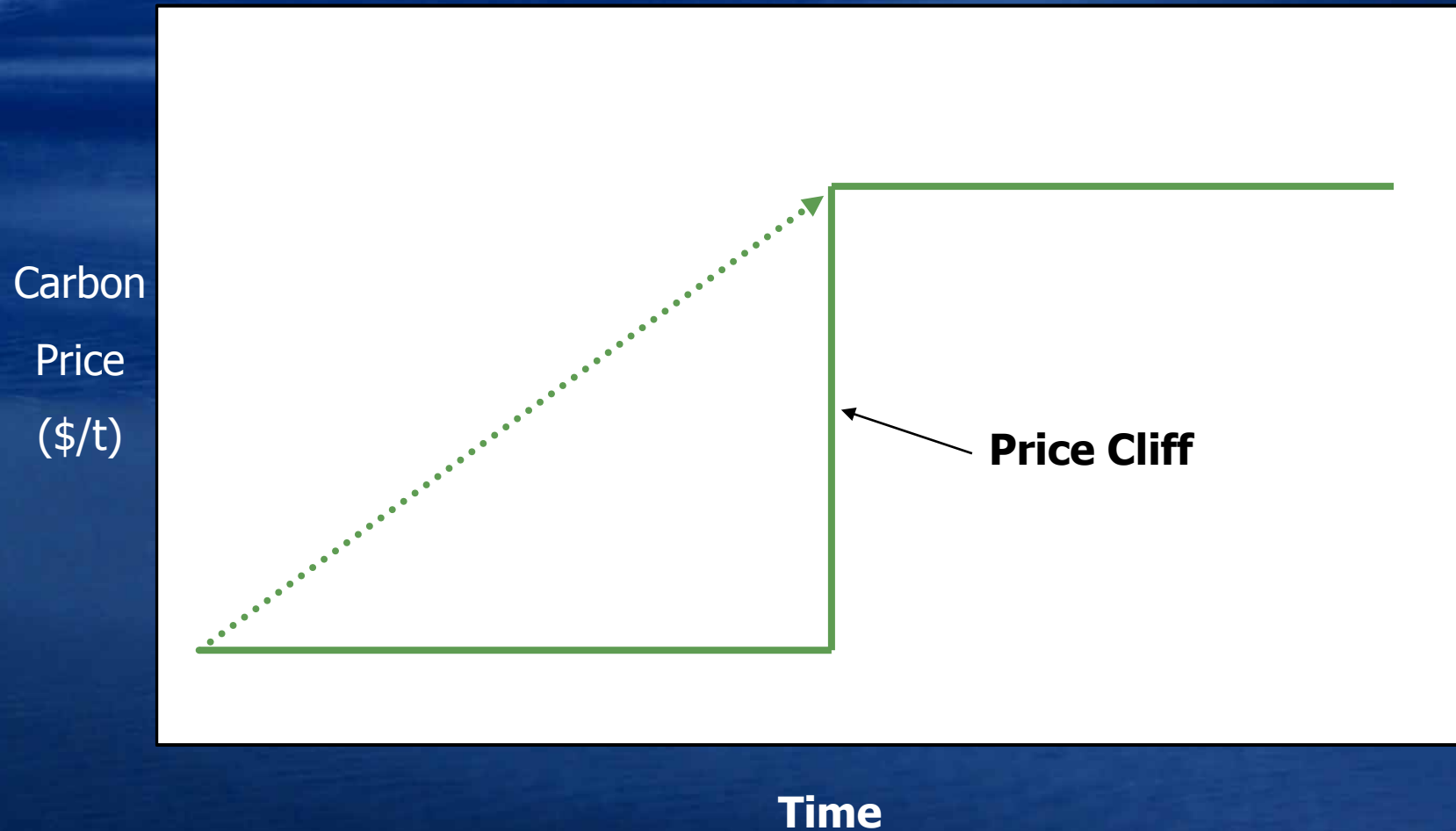
(Hansen, 2008)

The Social Tipping Point

- Incremental change has not taken hold in time
- So now exposed to a sudden flip
- We await a social tipping point
- May be triggered by climate event (Sandy)
- Or by other means

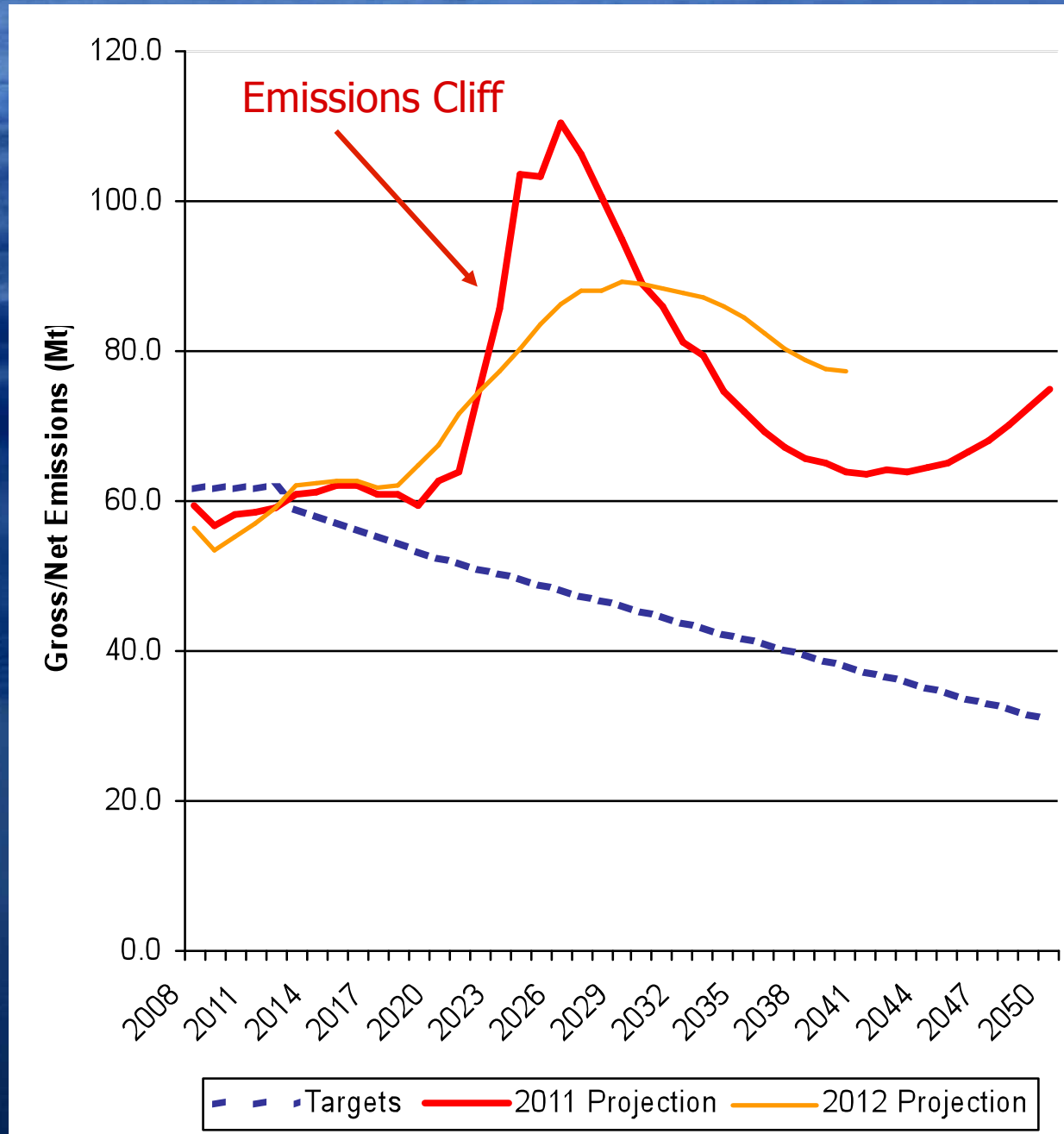


The Risk of Abrupt Change

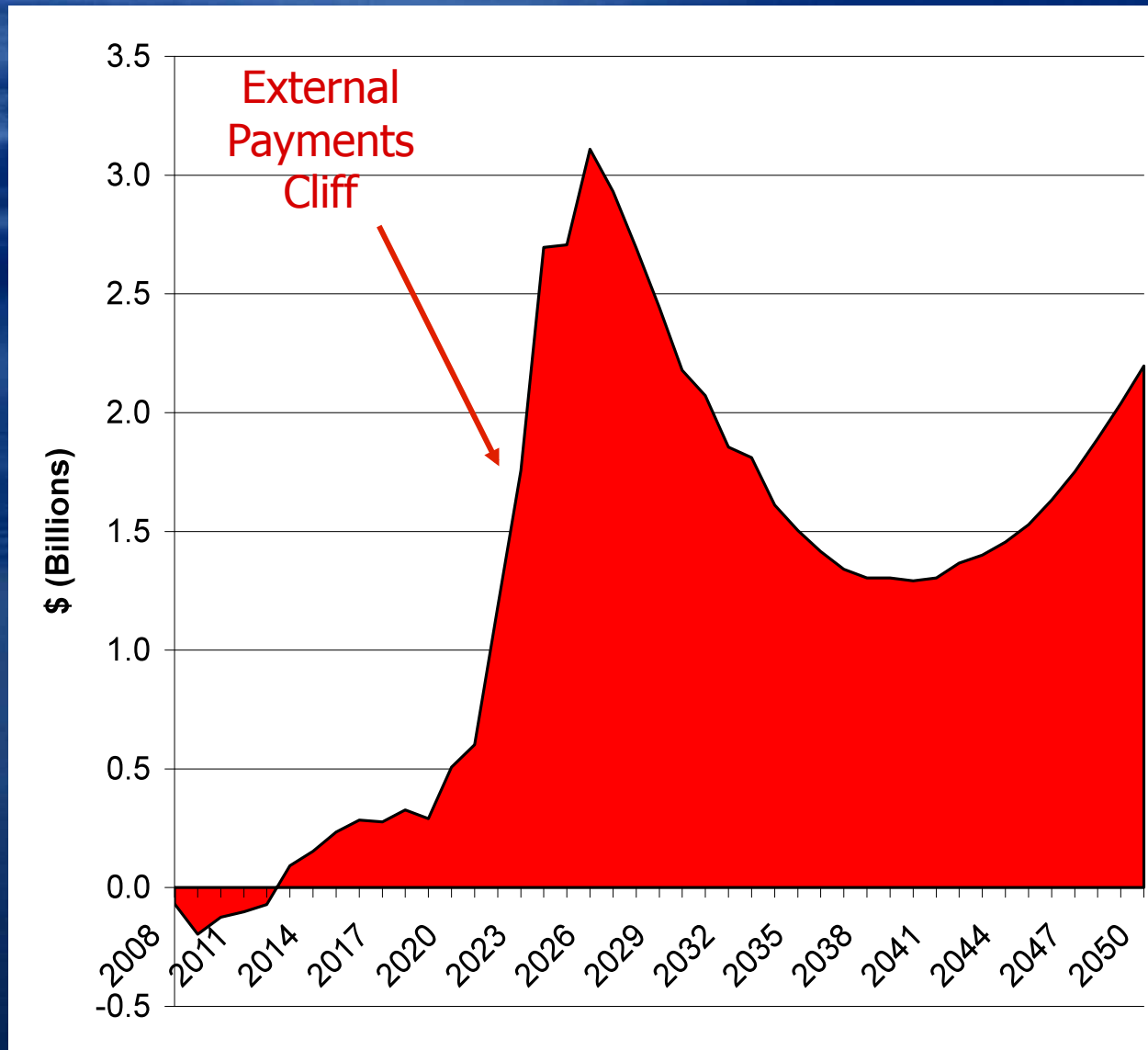


Mount Carbon

Net Emissions
vs
Targets
(Treasury)



External Carbon Deficit



Gap
= 1,108 Mt

Cost at \$50/t
= \$56 billion
(Treasury uses \$25/t)

Treasury
projects gap
filled with
imported
carbon credits

Coping Strategy

An approach that credible today, and robust when reality breaks through

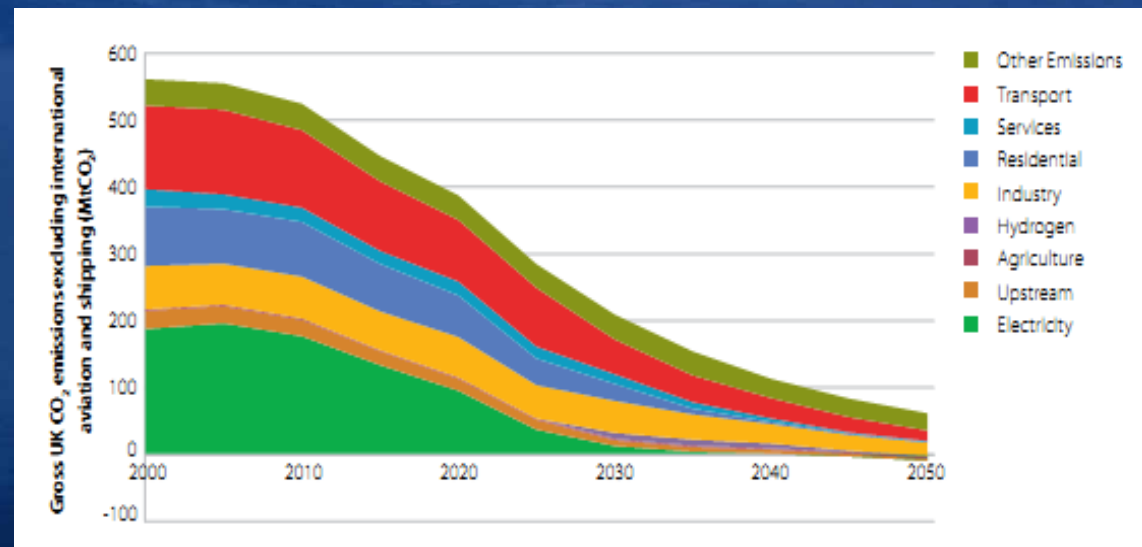
- Price on carbon is a key component
- So are complementary measures

Need a mechanism to coordinate price and non-price measures

... across two potential worlds

Carbon Budgeting

- A carbon budget details expected carbon flows and how they will be reduced
 - sets limits on total emissions
 - develops action plans for each sector
- UK cutting to 80% below 1990 levels by 2050

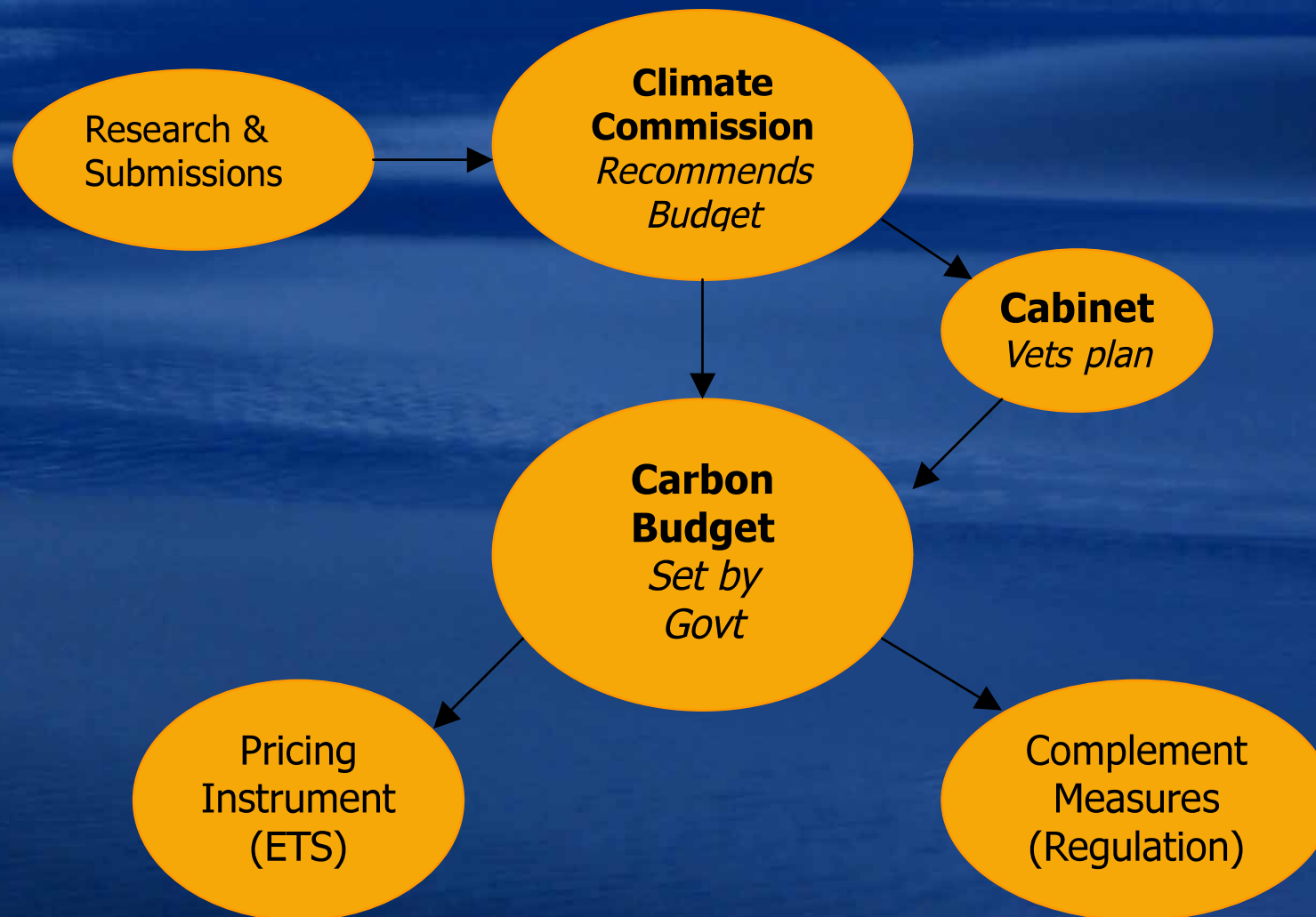


Account in Carbon, not Dollars

- Carbon budgets are written in tonnes of carbon, not dollars or carbon credits
- Driven off emission reduction commitments specified in legislation
- A series of five year budgets are struck as the actual potential to cut is identified

**Integrates ETS and
complementary measures**

The Budget Setting Process



ETS vs Carbon Tax

- Can get equally appalling results from a carbon tax as an ETS
- They are tools, not plans
 - Need a hard focus on outcomes, and the plan to get there**
- Either tool can be used for delivery
 - quantity limiting capability of ETS is useful

Buying Options & Resilience

**Not interesting to be a 'fast follower'
when headed up a cliff**

**Need a head start to reduce the incline
and build in resilience to shocks**

Easy Early Options

Emission cuts that cost effective at carbon price of \$30/t or more

Programme	Ten year Potential For Cuts
Dairy Efficiency	10%
Permanent Afforestation	10%

An economy on a real carbon war footing will find many more low cost options

Resilience Options

Transport is the focal point for resilience as well as additional decarbonisation

Electric vehicles

- Can all be powered from renewable electricity
- Provide reserve capacity in power network

Coastal shipping

Rail freight



“Nature does not do bailouts”

- When the world decides to keep carbon down, NZ is going to pay
- Carbon responsibilities will be enforced with trade sanctions
- NZ is storing up trouble for the future and ignoring its moral responsibility to act
- Carbon budgeting provides a mechanism to progressively decarbonise and plan for resilience against shocks