

# THE EMERALD PLAN

Multi Role Integrated Indigenous Landscape Design  
From idealism through to present reality in Australia.





GASIFICATION AUSTRALIA

PTY LTD ACN 122 033 890

## **Mark Feltrin**

Co-Director Gasification Australia Pty Ltd. Involved in a wide range of bio-energy consultations. Specialising in bio-mass primary production resources.

Natural Resource Manager. Currently involved with landscape scale community orientated pest predatory animal eradication – the lowest cost, immediate positive action for terrestrial biodiversity

Interest in developing future sustainable agricultural landscapes.

Practicing small farmer involved in farm forestry.

***Representation of an old Guard that entered into this field at time of potential, optimism and idealism.***

## History

2006 Developed conceptual paper –“**The Emerald Plan**”.

2006 South Australian Government cabinet level meeting.

2007 Federal Labor Rudd Government meetings

2008 Presented “**The Emerald plan**” at the Bioenergy Australia Conference

2009 Presented at World Agroforestry Congress in UNEP/ICRAF Kenya

2011 Presented modelling paper –“**Environmental and economic benefits of multiple use tree plantings for landscape restoration, wood products & bio-energy production**” at the Bioenergy Australia Conference.

***2013-15 On ground implementation project called Strath Creek Biodiversity and Carbon Project – The largest Victorian private Federal Government Funded Carbon Farming Initiative Project***

# The Context

2006 A climate change public awakening

Response to Palm oil in Asia.

Bio-energy beyond carbon neutral.

**Where the science of the future could move on from just climate issue.**

Agricultural landscape and bio-energy interlinked.

**A Natural Resource Management perspective.**

Agriculture is the largest impacting man made feature on the planet – growing with population growth.

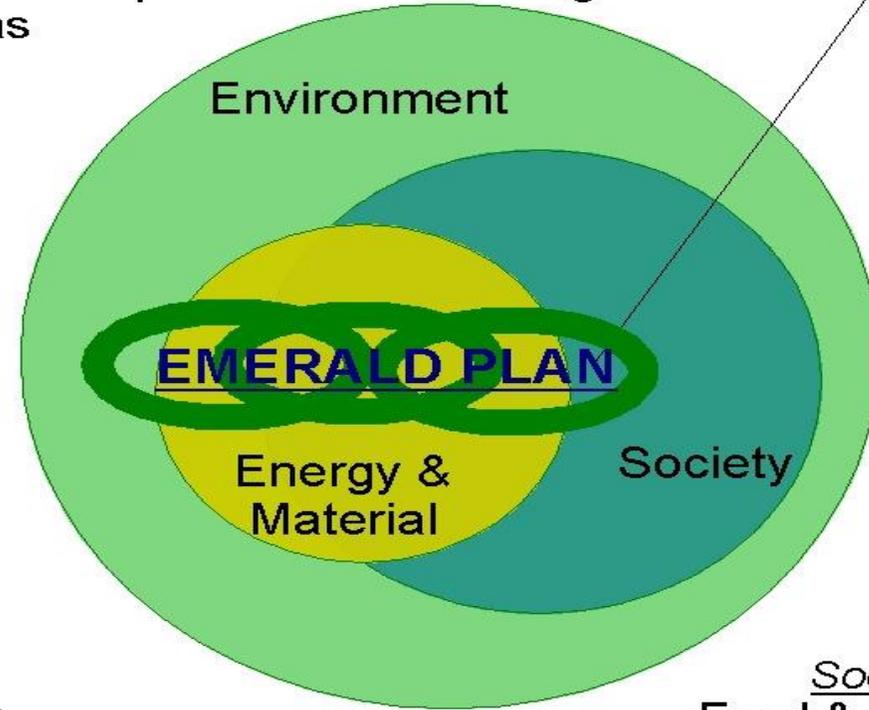
Potential responses to a carbon tax.

## Environment needs

- Increased ecosystem area & connectivity
- Biodiversity & eco-service gains
- Regional stabilisation of biosphere
- Reduced pressures on existing natural areas

**GLOBAL:  
• LEADERSHIP  
• OPPORTUNITY  
• INTEGRATED SOLUTIONS**

*Multi  
Role  
Integrated  
Indigenous  
Landscape  
Design*

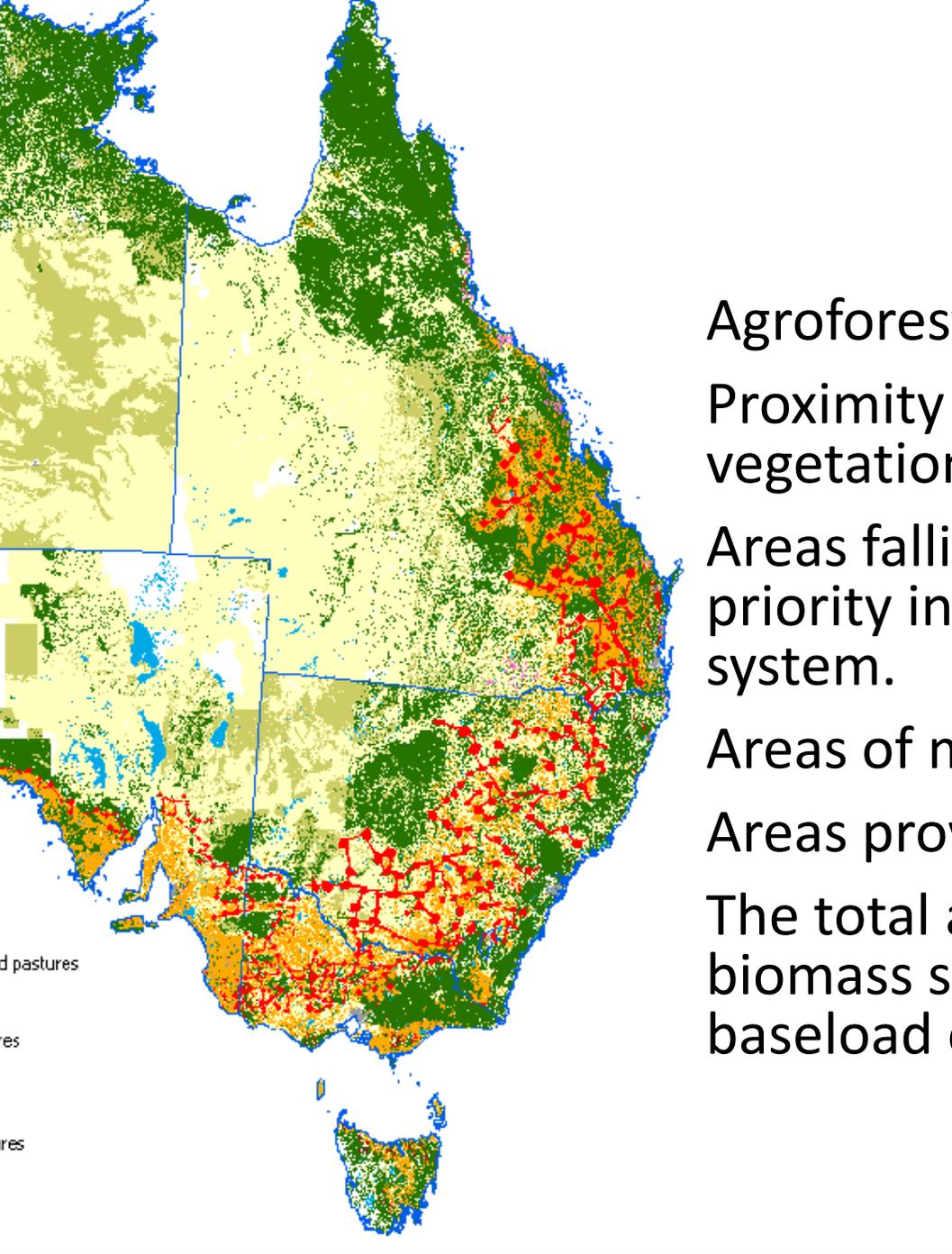


## Energy & Material needs

- Perpetual large scale CO2 neutral on-demand power
- Ecologically sustainable
- Industry skill, knowledge & investment crossover
- Multiple product outcomes
- Economic viability

## Society needs

- Food & water
- Energy & materials
- Security
- Healthy Environment
- Healthy people



# The Parameters

- Agroforestry as a basis of production
- Proximity to existing remnant and/or protected vegetation
- Areas falling within the regions identified as being a priority in consolidating Australia's protected area system.
- Areas of marginal agricultural value
- Areas providing a buffer against future land degradation
- The total area selected should provide a harvestable biomass sufficient to provide at least 20% of the state's baseload electricity of NEMCO needs

# Multi Role Integrated Indigenous Landscape Design =MRIILD

Further forestry on private agricultural landscapes

Show how bio-energy recourses at scales can be achieved including material outcomes for regions, states and nations

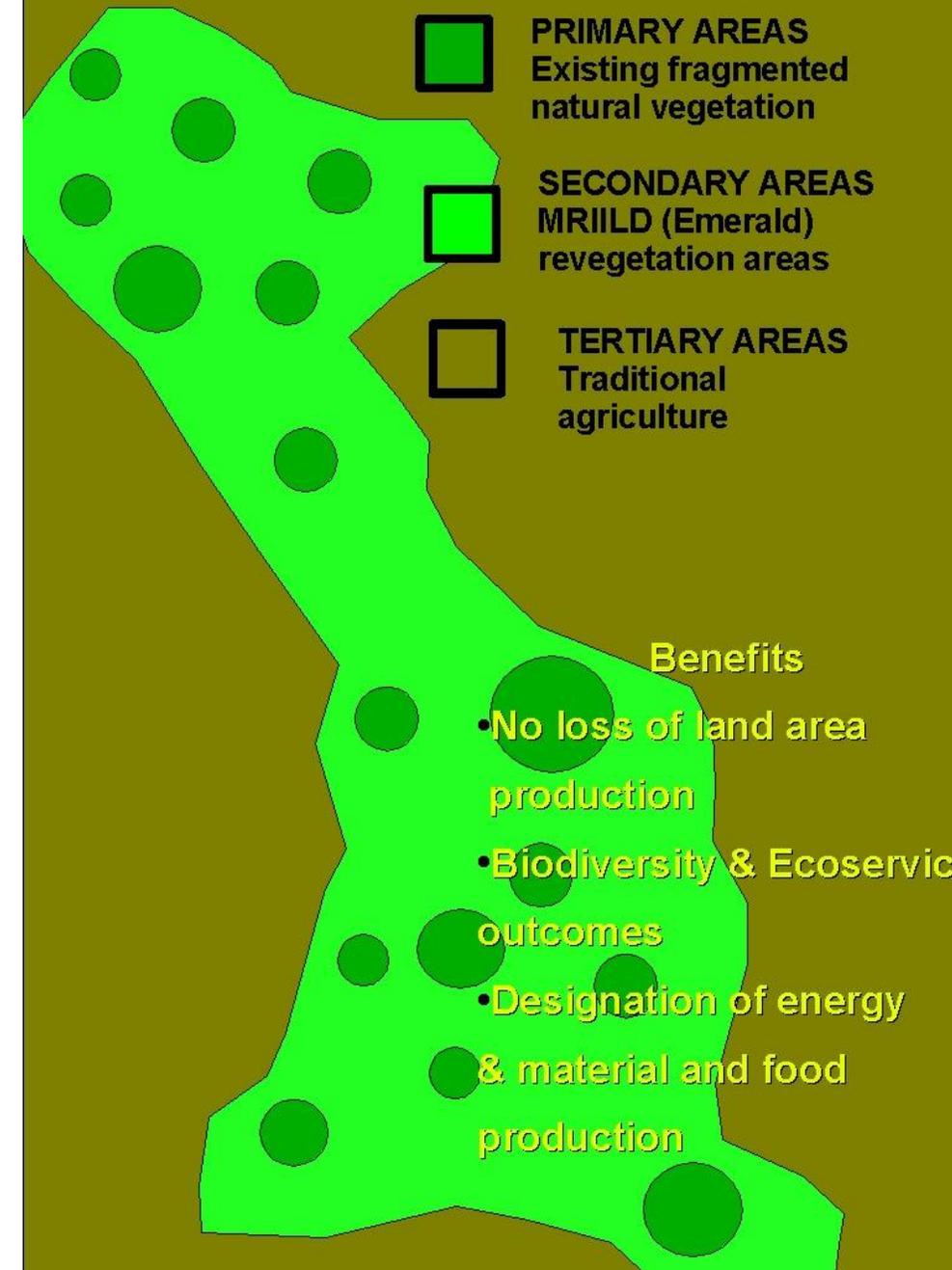
Build healthier landscapes through reconnection of fragmented indigenous vegetation.

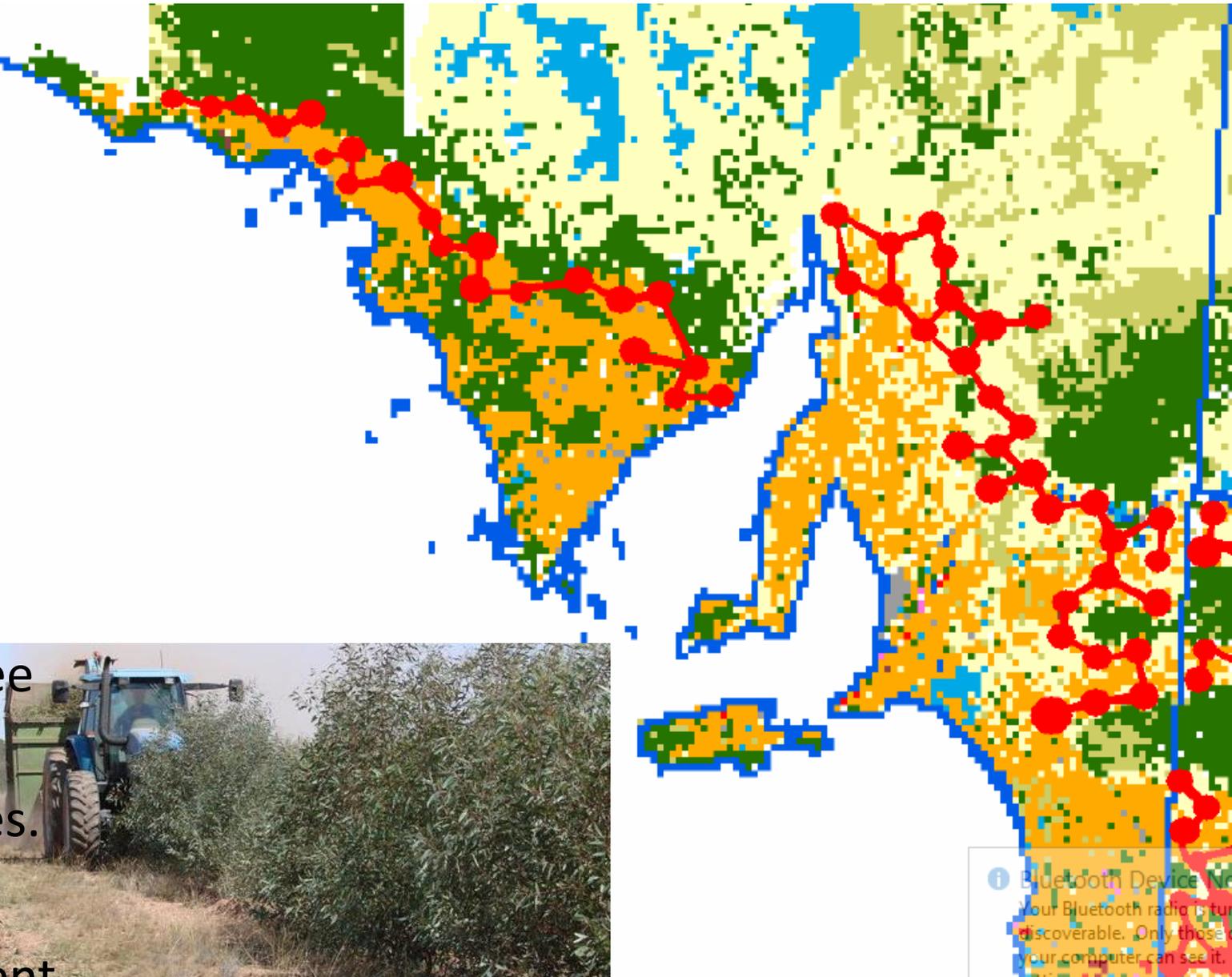
Produce energy and multiple material outputs with future tolerance to climate variability.

Apply planning formulae to agricultural landscapes. Either in retrospect or future development.

Leverage pragmatism & Economic plausibility.

## ON GROUND EMERALD EXAMPLE





## South Australia

Running out of gas supply –  
Moomba

CSIRO development of “Oil Mallee  
EU. Sp & harvesting machinery”

Climatic and desertification issues.

Scale cropping farming

2006 South Australian Government  
cabinet level meeting.

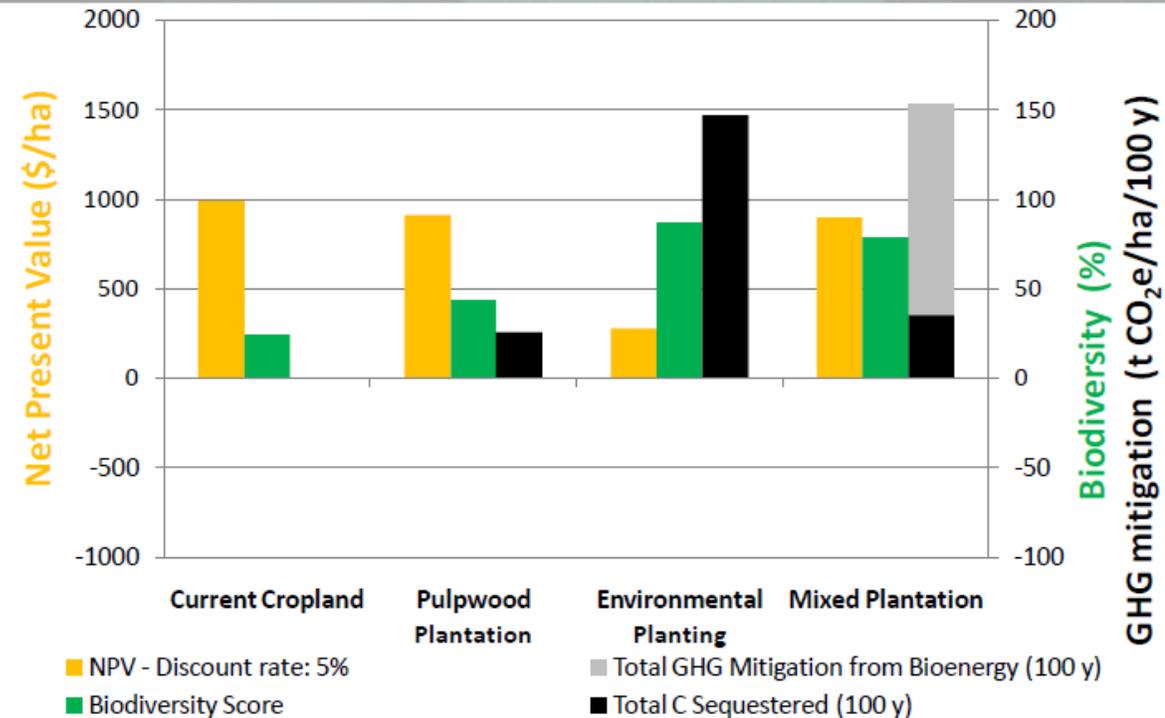
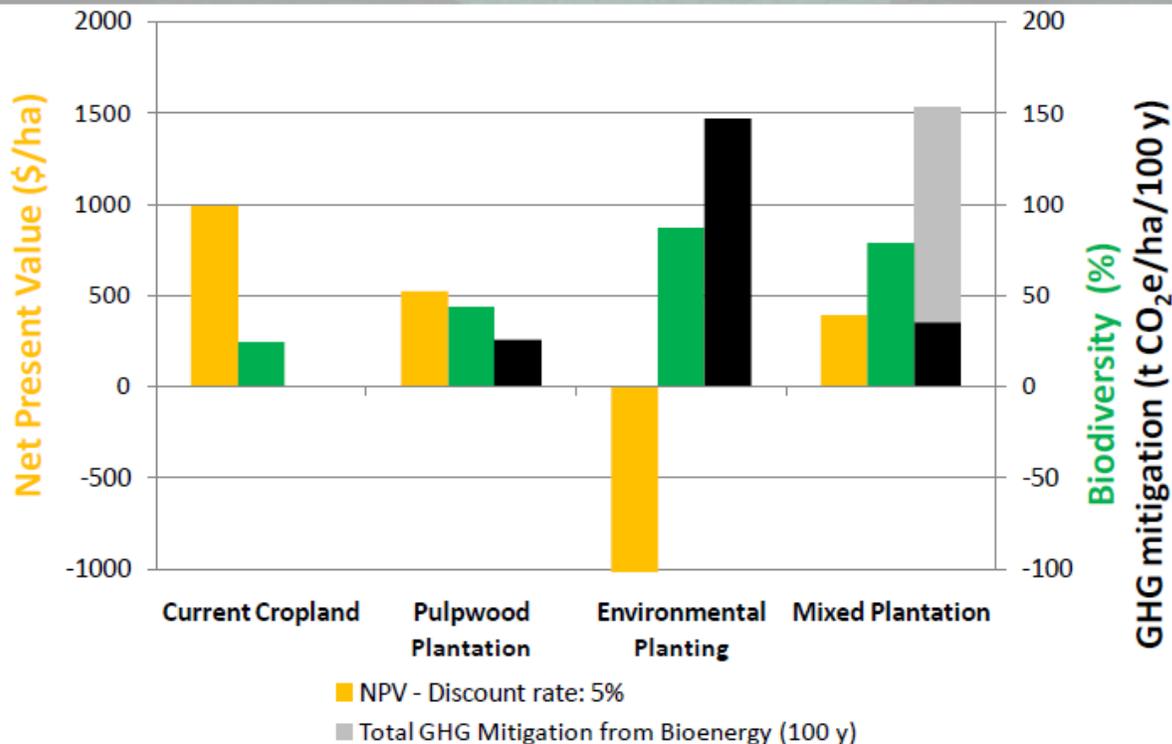


# The Modelling

## Environmental and economic benefits of multiple use tree plantings for landscape restoration, wood products & bio-energy production.

### Comparison with no C price

### Comparison with \$20/t CO<sub>2</sub>e



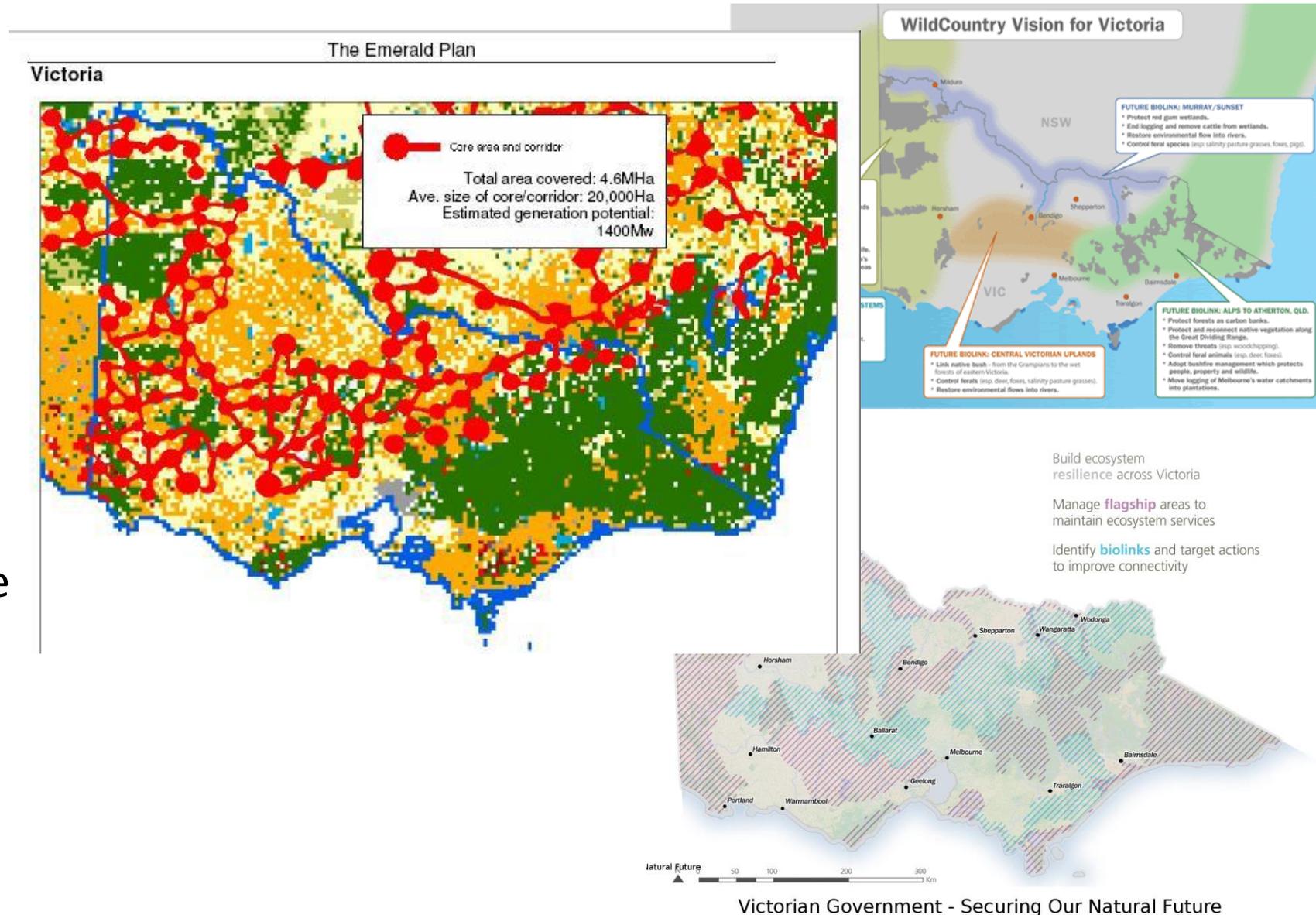
# Aligned with national and international aims

2016 Paris Agreement.

2008 Kyoto Protocol's first commitment period ending 2012

1993 Australian National Strategy for the Conservation of Australia's Biological Diversity. Objective 2.2  
"Achieve the conservation of biological diversity through the adoption of ecologically sustainable agricultural and pastoral management practices."

1992 International Convention on Biological Diversity.



# Alignment and promotion of farm forestry and reforestation globally

## Large scale revegetation/afforestation efforts

China – revegetation of the Gobi desert

South Korea.

India.

EU forestry development – a process of revegetation of Europe

**FECOFUN Nepalese farm forestry** – developed by Australians

The Great African Wall Project – Sahel sub-Saharan vegetation belt. Many areas still conflict zones.



Reforestation is the largest natural pathway and deserves more attention to identify low-cost mitigation opportunities. Reforestation may involve trade-offs with alternative land uses, can incur high costs of establishment, and is more expensive than Avoided Forest Conversion (38). However, this conclusion from available marginal abatement cost curves ignores opportunities to reduce costs, such as involving the private sector in reforestation activities by establishing plantations for an initial commercial harvest to facilitate natural and assisted forest regeneration

## .....– 2017. The Trajectory of Reality

“And the long term fiscal, economic growth and environmental challenges identified in four intergenerational reports over the past 15 years? The opportunities identified in the *White Paper on Australia in the Asian Century*? Simply ignored.”

“The biggest challenge confronting the energy sector is that climate change policy in Australia is a shambles. At least 14 years ago, our political leaders were told that there was an urgent need to address the crisis in business confidence, in the energy and energy-intensive manufacturing sectors, due to the absence of credible long-term policies to address carbon abatement. It is quite extraordinary, but nevertheless true, that things are very much worse today.”

Ken Henry National Australia Bank NAB Chairman

**CEDA speech 2017**



## Stumbling blocks in Australia

South eastern public native forestry conflict.

The lack of support from political parties.  
-special mention “The Greens”

Lack of support from rural organisations.

Renewables seen as only wind and solar.

**Poor general public understanding of climate change through poor level of media discussion.**

Active environmental lobbying resistance.

Failure of tree taxation schemes -MIS  
Failure of the Australian Carbon trading system.

Failure of a Federal energy policy

Failure of farm forestry and production trees to take traction in Australia.

Failure of a manufacturing industry.



# Is Australia up to the challenge of the future?

Little taste for long & large scale vision.  
Australia is a POOR place for innovation.

**There is no patient investor**

The failure of environmental market mechanisms

Continued tension between conservation and primary production groups.

No bi-partisan Federal energy or carbon direction.

Broad failure by the Australian farmer to adopt trees for timber production.



## Conclusion

**The Emerald type planning has *increasing* scientific, economic and social reasoning to occur globally**

There is precedence even at large scales and in poor nations.

Bio-energy is just an adjunct to agricultural practice with positive and negative connotations.

Lack of investment in production trees in this country hampers bio-energies green credentials.

**.....Further more.....**

Australian land clearing damages the collective bio-energy green narrative.

Future challenges are greater than climate and Bio-energies role can both assist or hamper.

There is a growing divergence between what's needed and reality in Australia.



Thank you  
If you have a passion for this  
subject please contact me.

[mfeltrin@yahoo.com.au](mailto:mfeltrin@yahoo.com.au)

0427879227