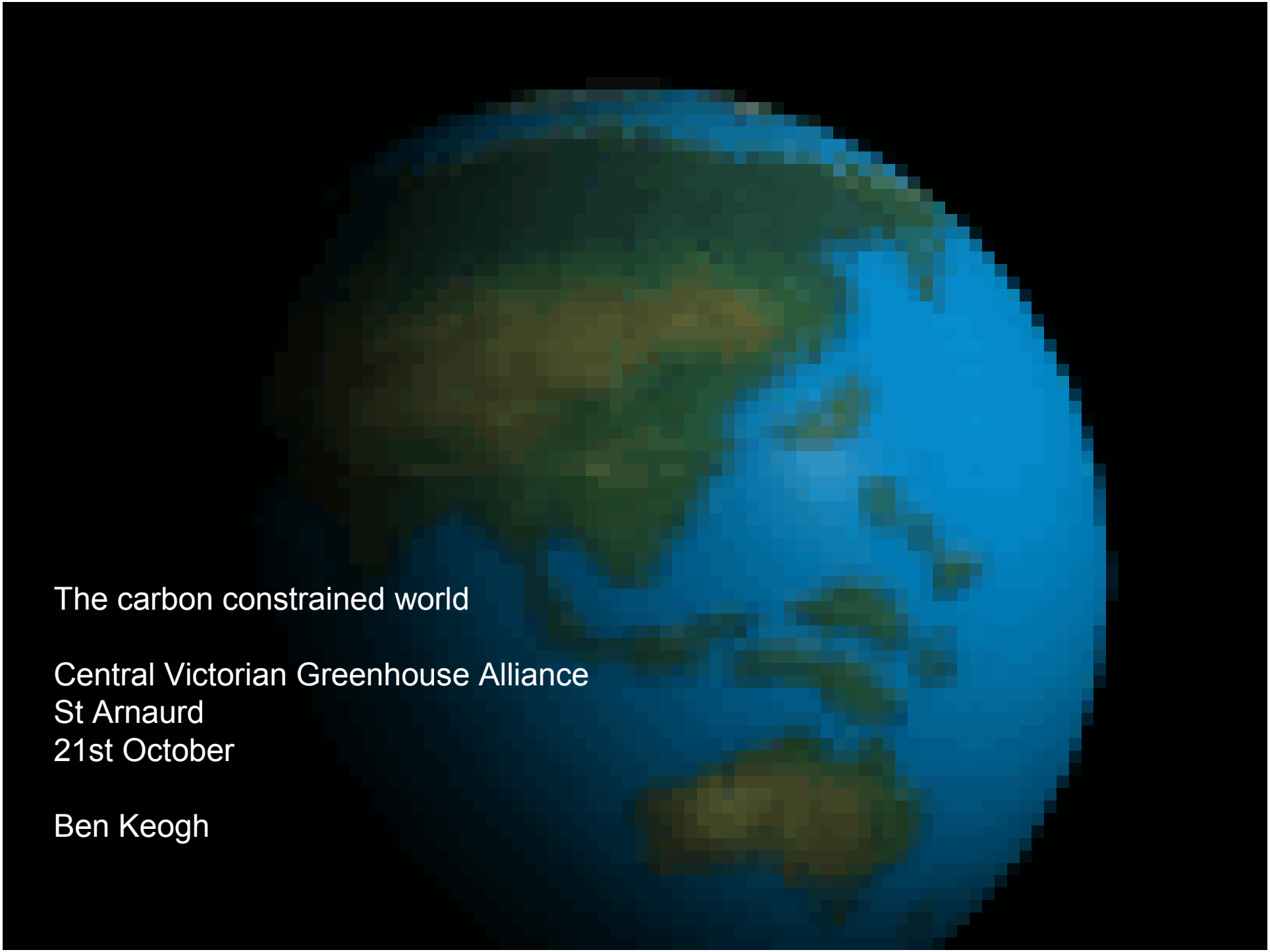


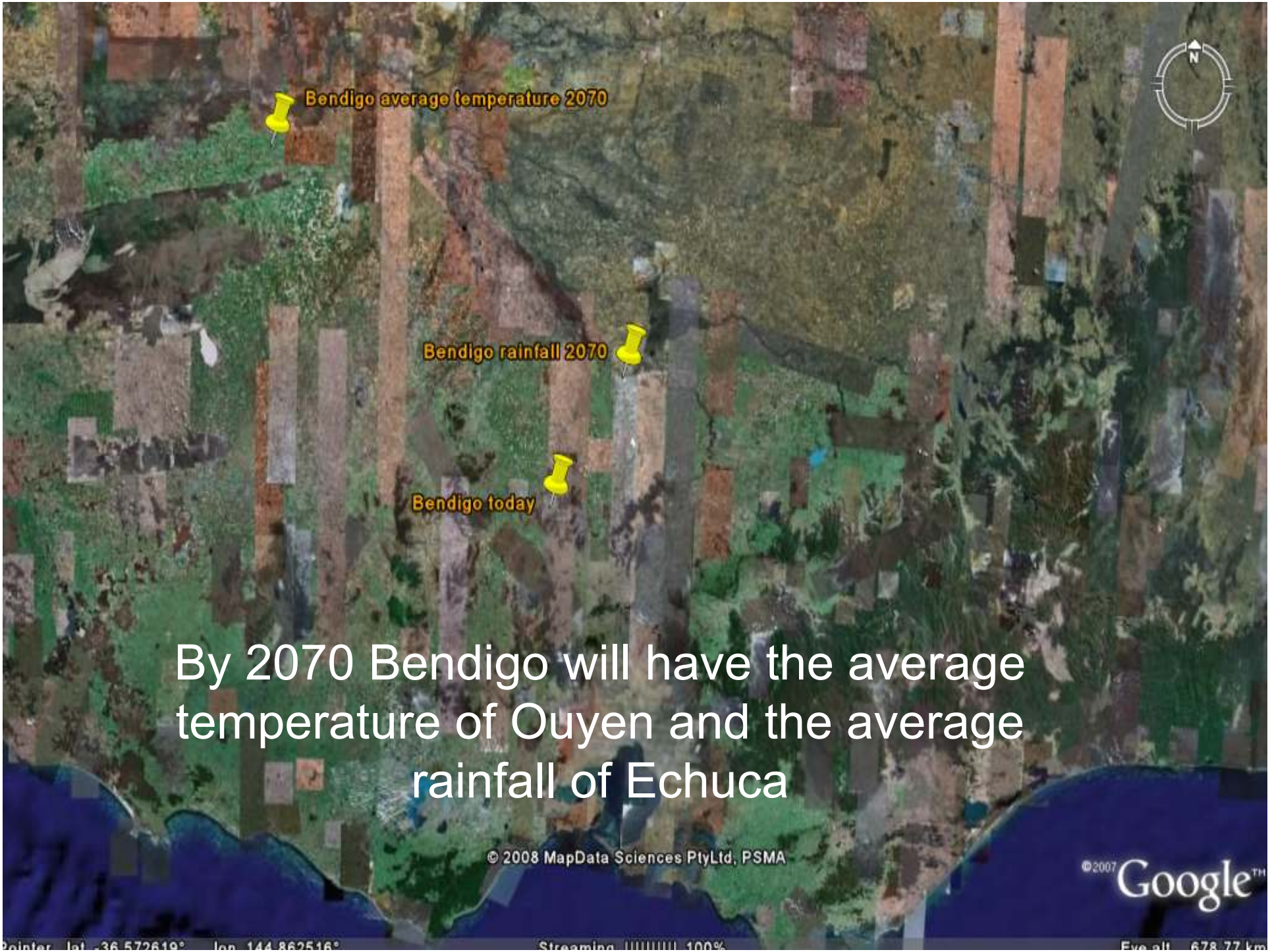
The carbon constrained world

Central Victorian Greenhouse Alliance
St Arnaurd
21st October

Ben Keogh

Environmental changes

- More hot days and fewer cold nights
- More frequent and severe droughts
- Less rain - more intense events
- Increases in storm events
  - more flash flooding
- Up to 40% less run off by 2030
- More days over 35 days
- Fewer frosts



By 2070 Bendigo will have the average temperature of Ouyen and the average rainfall of Echuca

Impacts of environmental change

- impacts will be complex and will vary greatly
- more bushfires
- changes in pests
  - increased animal health/pest management
- changes in infrastructure tolerances/capacity
- changes in community needs
- reduced supply of feed (on farm and purchased)
- reduced reliability and quality of stock irrigation water supply
- potentially unviable products/crops

Policy changes

Year	Policy event
1990	Base year for Kyoto targets and accounts
1992	Rio Earth Summit
1997	Kyoto Protocol
2003	NSW cap and trade scheme
2005	European Union ETS
2006	Russia signs KP – tips it over threshold into law
2007	Rudd govt elected ratifies KP
2008	green paper on climate change NZ ETS starts with forestry white paper on AETS
2009	NZ ETS to start
2010	AETS to start
2012	end first KP commitment period
2013	decisions on Agriculture
2015	earliest inclusion of Ag

- Kyoto Protocol
- National Greenhouse Energy Reporting System (NGERS)
- Carbon Pollution Reduction Scheme (CPRS)

NGERS

- sets reporting methods and limits
- sets expected limits for emissions trading
- additional costs to business
- defines “operational control”

	corporate group	facility
1 July 08 - 30 June 09	125 kt (CO2-e) or 500 TJ	25 kt GHG CO2-e or 100 TJ •12,500 cows •50,000 sheep •25MW •8.3M/l diesel
2009-10	87.5 kt CO2-e or 350 TJ	
2010-11 onwards	50 kt CO2-e or 200 TJ	

NGERS

- **Scope 1—direct emissions:** greenhouse emissions created directly by you, from sources that are owned or controlled by you.
- **Scope 2—indirect energy emissions:** greenhouse emissions created by your use of purchased energy.

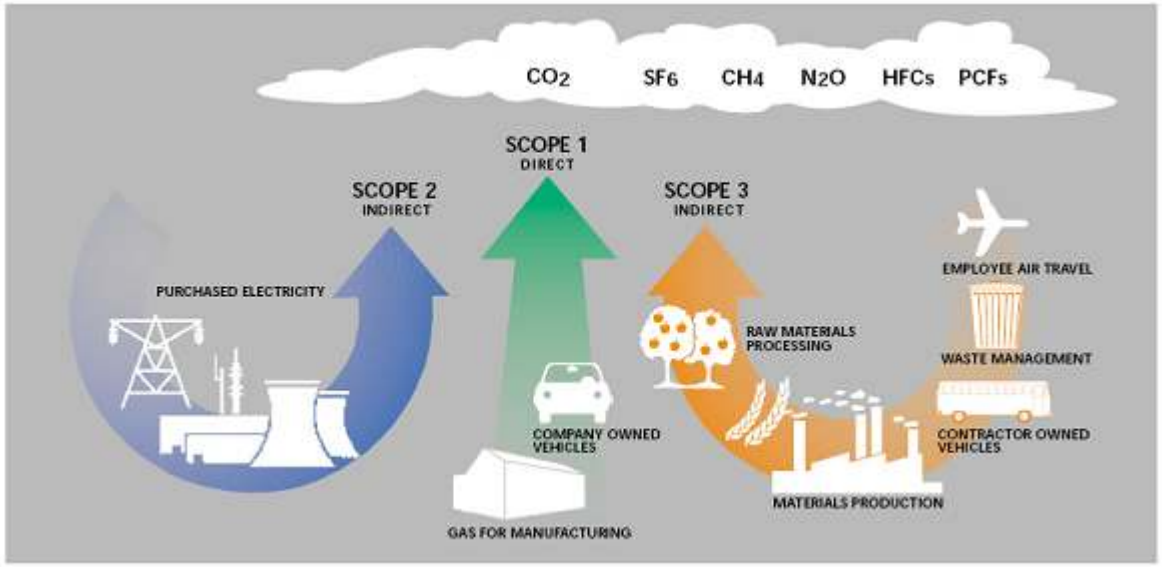


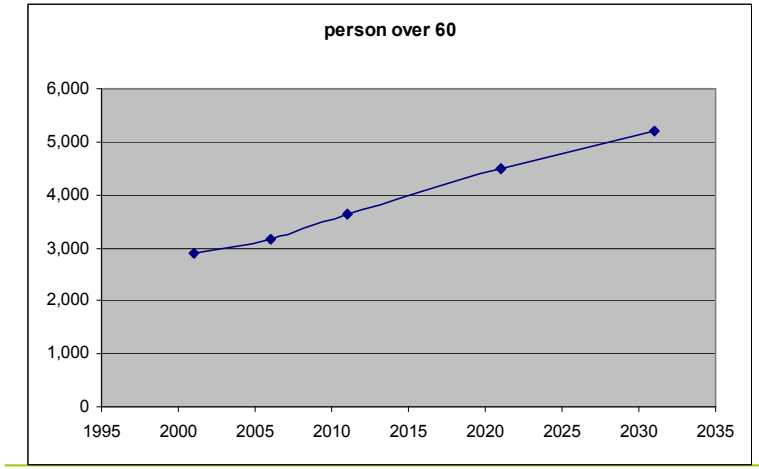
diagram of scope one, two and three emissions sources

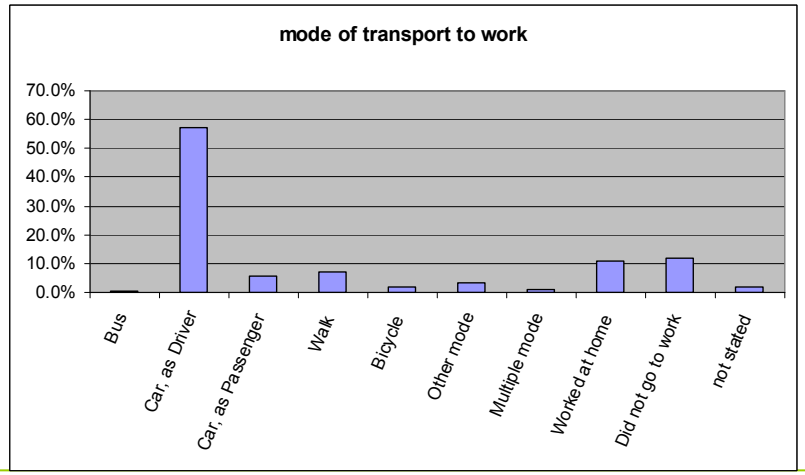
Carbon Pollution Reduction Scheme

- Introduction planned for 2010
- Six Kyoto gases (includes Methane)
- Wide coverage of economic sectors with permits released within sectors according to trajectory
- Include Agriculture as soon as possible
- Forestry on an opt-in basis – harvest is treated as an emission
- A set emissions limit (cap) @108% to 2012

impacts on the community

- price increases for goods and services (petrol, energy, etc)
- reduced services as businesses relocate
- supply chain disruption
- increasing climate events such as heatwaves, fire, flash flood
- water shortages
- employment options will change – new skills – re-skilling





impacts on organisations

- NEGRS/CPRS reporting requirements
- may see geographical consolidation of some industries
- changing infrastructure requirements
- transport costs
- energy supply and costs
- extreme weather events
- labour sources and skills
- indirect impacts in supply chain

Why is that organisation located in this area? Will climate change affect that? Can I do anything to change that?

impacts of NGERS/CPRS on landholders

- will hit some sectors harder – particularly grazing
- reporting, compliance requirements
- price increases supply chain
- point of obligation
  - up stream – suppliers – charged more
  - down Stream - processors – paid less
  - flow on price effects to
    - fertiliser
    - energy - electricity/fuel
    - emissions intensive products/services
      - plastics, chemicals, transport
- competing land uses
  - sequestration, land use change

positioning for the carbon constrained economy

- develop and extend understanding
  - impacts of legislation
  - impacts of climate change
  - needs of stakeholders
    - » industry
    - » community
    - » environment
  - capabilities of stakeholders
  - available resources

how to adapt and mitigate

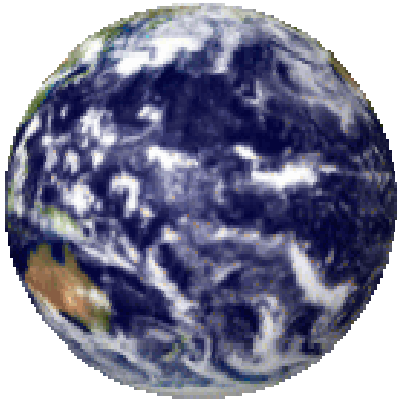
- plan early
- be systematic and strategic – use principles of risk management
- engage stakeholders
- identify and set priorities for action
- resource adaption and mitigation adequately.
- look for examples of what to do and what not to do
- include CC considerations at all levels of organisation
  - planning – house design, minimum requirements

a risk approach

- likelihood of climate change and effects on environmental and infrastructure, business and community assets
- direct and indirect effects – what can you manage and mitigate
- prioritise and rationalise mitigation strategies
    - apply a matrix –
        - importance of asset/service
        - likelihood of success of action
        - complicating or complimentary issues
        - relative cost of action
        - lead time, prerequisites

Opportunities

- research and development
- emission reduction projects
- soil carbon
  - bio char, organic carbon
- new technologies/industries
  - renewable energy, solar, wind, biomass
- new land uses
  - new crops, new cultivars
- sequestration
  - forestry - create permits
  - soil carbon
- outcome is more efficient practices



What can the organisations do to help

- act responsibly as an organisation
- provide demonstrations, test procedures
  - new technology proving ground
- source funding for adaption strategies
  - local projects
- prepare business and communities to
  - adapt
  - mitigate and
  - capitalise
- by providing
  - information
  - support
  - coordination

Contact

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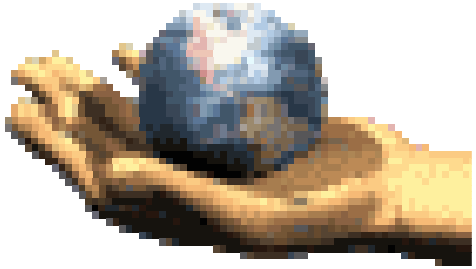
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