



Australian Government  
Department of Climate Change  
and Energy Efficiency

# DCCEE research priorities

**Brendan Phippen**

Forests and Inventory Models Unit  
Land Accounts and Analysis Branch  
Land Division



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# DCCEE Land Division

- The Land Division was established in July 2010 to provide a coherent and coordinated approach to climate change mitigation and carbon accounting in the land sector in both international and domestic spheres
- Core business of the Land Accounts and Analysis Branch (LAAB) – the annual National Inventory Report (NIR);
  - Maintaining and developing the National Inventory Systems that are used to create the NIR



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# National Inventory System: history

- Australia's first proto-type inventory – 1991
- Current international reporting obligations;
  - UN Framework Convention on Climate Change (UNFCCC) (1992)
  - Kyoto Protocol (1997)
- NIR covers both reporting obligations
- National inventories at heart of commitments;
  - Used to track progress towards targets for international obligations



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# UNFCCC/Kyoto requirements

- National Inventories;
  - National inventory methods are reviewed every year by international experts
  - Methods are assessed for consistency with international guidelines
  - Methods can be rejected and estimates imposed by the reviewers
- In preparing the NIR it is DCCEE's responsibility to ensure compliance with international reporting obligations



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# Current DCCEE research priorities

- Improving the afforestation and reforestation components of the inventory;
  - Environmental plantings
  - Above ground biomass measurements in oil mallee
- Improving the agricultural components of the inventory;
  - Soil carbon
  - Soil nitrous oxide
  - Emissions from livestock



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# Current research; CSIRO - DCCEE environmental plantings study

- Results will;
  - Inform refinement of the inventory for environmental and oil mallee plantings
  - Inventory refinements will update the data underpinning the CFI Reforestation Modelling Tool
- Interim results expected mid 2011
- DCCEE currently considering a CSIRO proposal for further research

# Current research; Above ground biomass measurements in oil mallee

- Future Farm Industries Cooperative Research Centre
- Provides valuable above ground biomass data for permanent plantings



- Photos: <http://www.biosystems.com.au/current-projects/>



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# Current research; Agriculture

- DCCEE on the expert science review panel of DAFF funded national programs
- Soil Carbon;
  - Mainly pasture and broad acre crops
  - *Inventory* - Testing and improving assumptions on soil carbon
- *Soil carbon subcomponent* – Biochar;
  - Feeder stock type, pyrolysis temp, burn time
  - *Inventory* - Improved information on N content, recalcitrant carbon, labile carbon of char and residue



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# Current research; Agriculture

- Nitrous Oxide Research Program;
  - Investigating soil nitrous oxide in response to different crops, environments, management (e.g. fertiliser)
  - *Inventory* - Testing and improving NIR emission factors
- Reduced Emissions from Livestock Research Program;
  - Genetics, feeder additives, rumen modification, herd management
  - *Inventory* – Improving the input parameters to allow for finer resolution than state level



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# Incorporating new data into the inventory

- The inventory is subject to ongoing improvement
- As part of that process DCCEE examines all new sources of data
- CFI data is one means that DCCEE can use to inform improvements to the inventory
- DOIC approval process provides a framework to assess the integrity of CFI data



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# Summary

- Data from DCCEE and DAFF research and CFI projects will be taken into account when compiling the inventory
- Data from DCCEE and DAFF research will inform new CFI methodologies