Research, Development and Extension (RD&E)

Program Objectives

FWPA invests in and coordinates research & development and extension through technology transfer and adoption to improve the industry's competitiveness, inform its climate change response, enhance investment, increase usage, and ensure the sustainability of forests, wood products and services

Preferred FWPA project investments

- Precompetitive, collaborative with whole of industry access to outputs and benefits
- Benefits should be tangible, quantifiable (recognizable)
- Formal project proposals required to spell out issues, planned approach, final benefits and stakeholder endorsement

Current budget trends decreasing

	Annual Spend RD&E
2007/08*	5.594
2008/09*	6.053
2009/10*	5.702
2010/11*	7.559
2011/12	5.808
2012/13#	4.264
2013/14#	3.330

* *Excluding corporate overheads*

\# *Excluding statistics and economics program*

Significant R&D Investment outcomes in recent years

- SeedPlan, MatePlan and TreePlan – delivering up to $150 increase to softwood NPV pha pa over 10 year period.
- Use of Near InfraRed technologies for wood quality and panel adhesive performance – 90% reduction in sampling and assessment costs for pulp yield.
- Tools and technologies developed in Solid Wood Innovations consortium
  - Optimised kiln scheduling
  - Log and stem segregation for warp free timber
  - Segregation of warp resistant boards to allow for higher moisture content.

Significant R&D Investment outcomes

- STIC technologies for commercial and multi-residential buildings.
- Deployment of non contact grading in Australian softwood sawmills – rapidly replacing previous stress graders
- Mass uptake of LIDAR technologies for remote monitoring and assessment of estate productivity.

Funding Agreements

- Full research agreement – traditional R&D project
  - Project IP owned by researcher, equity allocated to all participants based on cash and in kind contributions
  - Formal steering committee to endorse milestones
  - End of project audit report required
- Supply Agreement
  - Delivery of defined objective or activities
  - All IP and copyright retained by FWPA
  - No formal audit
  - No formal requirement for steering committee although a reference or advisory committee could be need for some taks.

Funding Approval Delegations

- Board
  - Any project > 3 years (sets strategy for Company)
  - Any project > 2 years or >$100k pa not described in approved investment plan
- MD
  - Any project < 2 years and < $100k pa
  - Any project identified and budgeted in an approved investment plan

R&D priorities and project descriptions

- Driven by R&D investment plans
- Developed by independent experts engaged to undertake in depth consultation with FWPA members and levy payers and R&D providers (in that order)
- Are all industry outcome and benefit focused
- Timeline for benefit delivery and recognition <5 years.
- Very little scope for ‘strategic/blue sky’ R&D – all projects identified in R&D plans developed to address specific industry needs.

FWPA Industry Advisory Groups

- Market Access and Development
- Solid Wood Products
- Sustainability and Resources
- Each Chaired by FWPA Director
- Membership comprises senior management (direct reports to CEO) of FWPA member companies only
- No researcher, consultant or association members
- Provides guidance and final endorsement of R&D investment plans
- Provides review and endorsement function for projects developed in response to R&D investment plans
- Strategic input into FWPA activities

Current FWPA R&D Priorities

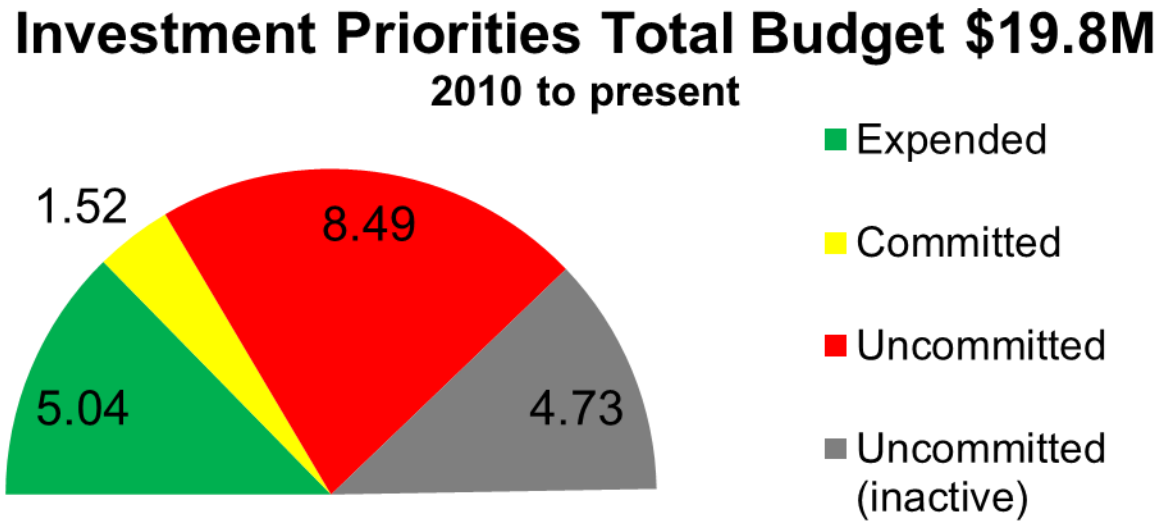
Active investment plans – seeking proposals in current funding round

- **Timber construction in commercial and industrial buildings.**
- **Wood products in sustainable buildings.**
- Maximising product yields and values from current resources.
- Improving wood quality and yield, and tools for forest management.
- Forest biosecurity and preparedness.
- Mitigation of, and adaption to, climate change and the management of the carbon cycle in plantations and native forests

Mothballed plans pending future availability of sufficient resources

- **Solid wood, engineered wood and pulp and paper: performance and yield.**
- **Timber construction in residential buildings.**
- Genetic improvement and delivery for increased wood yield, quality and for managing risks.
- Water-use efficiency, access to resources and balanced policy outcomes.

Current status of FWPA R&D Priorities



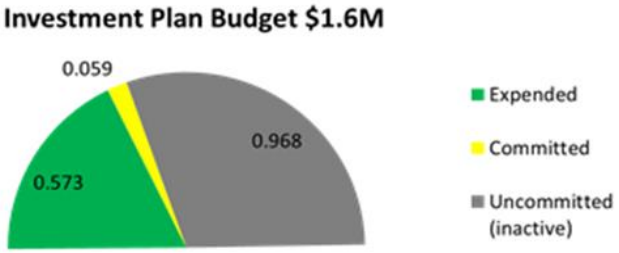
Further $4.4M expended since 2010 on previously contracted projects not described in current R&D investment plans.

Current FWPA R&D Priorities

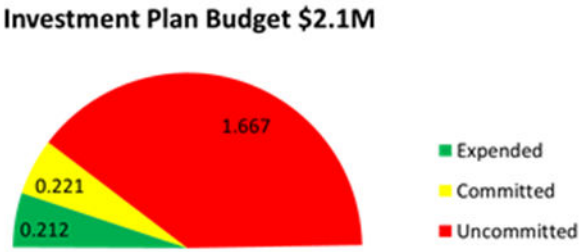
Market Access & Development

2. Timber construction in residential buildings (February 2011)

Inactive as January 2013



3. Increased Use of Timber and Wood Construction Systems in Multi-Residential and Commercial Buildings (December 2012)



Current FWPA R&D Priorities

Solid Wood Processing

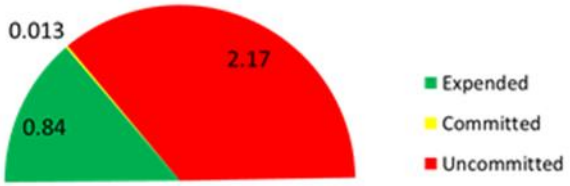
5. Solid wood, engineered wood and pulp and paper products: Performance and yield

Plan not ratified at December 2012 Board Meeting*

Proposed Investment Plan Budget $2.25M

4. Wood products in sustainable buildings (April 2010)

Investment Plan Budget $3.025M



50% of identified projects delivered. Further 25% of identified projects unlikely to be initiated in short term

Project completion

- Peer review of final reports
- All reports made available on Web page and publicised via R&DWorks newsletter and industry press
- Workshops, seminars, conference presentations supported
- Webinars becoming dominant delivery platform.
- Regional seminars to showcase R&D results and impacts to industry leaders shown to be economically non viable. Presentations available for 24/7 access via archived webinars.

Webinars

- Becoming dominant form of R&D project communication to stakeholders
- Efficient use of time and FWPA funds
- Recordings archived for subsequent access on web page
- Permits 2 way dialogue between researchers and industry
- Evolution of previous R&D Works regional roadshow format
- Since program launch in May 2013
  - 21webinars hosted
  - 133 individuals registered for webinars.
  - 1 individual enrolled for 9 webinars
  - 32 individuals enrolled for more than 1
  - Registrants primarily technical/business development managers and researchers/consultants
  - Low levels of access to archived recordings

Benefit Cost Evaluations

- Agreement amongst RDCs to subject random sample of completed projects to formal BCA review. Intended to provide confidence to Government of the ongoing value of matching funds
- For FWPA - accumulation of 4 years of BCA assessments across portfolio of completed projects.
- Greatest benefits consistently received from grower related projects – protocol sums 20 years of returns.
- Gains from market focused projects are shorter term in nature.

	Number of projects	Total value invested ($'000)	Value of sample projects ($'000)	Sample projects as % of total invested	Weighted average BCR	Estimated benefits from total investment ($'000)
Growing category	42	$17,980	$3,742	21%	12.7	$228,346
Processing category	70	$35,880	$3,505	10%	4.5	$161,460
Marketing category	57	$21,824	$3,035	14%	2.9	$63,289

Over the horizon benefits and R&D opportunities

- Completing and delivery of mothballed R&D investment plans
- Focus on competitiveness of current production systems.
- Enhance productivity of current estate through adoption of available R&D outputs. Genetics, silviculture, nutrition, remote sensing, optimised harvesting, log and stem characterisation
- Excellent opportunities for international collaboration. Surviving R&D community well connected.

Proposed CRC for Transforming Wood Fibres

- CRCs are multi year multi disciplinary programs linking industry, academia and research community to work on issues of industry and community importance.
- Programs can run for 5 – 10 years
- Government funding available through Department of Industry
- Current Government focus on development of advanced manufacturing capabilities
- Substantial levels of cash commitment are required to gain Government support.
- CRC for Transforming Wood Fibres – 7 years, $10 – 11 million annual operating cost, $5 million from CRC program, $5.5 million from participants

Proposed CRC for Transforming Wood Fibres

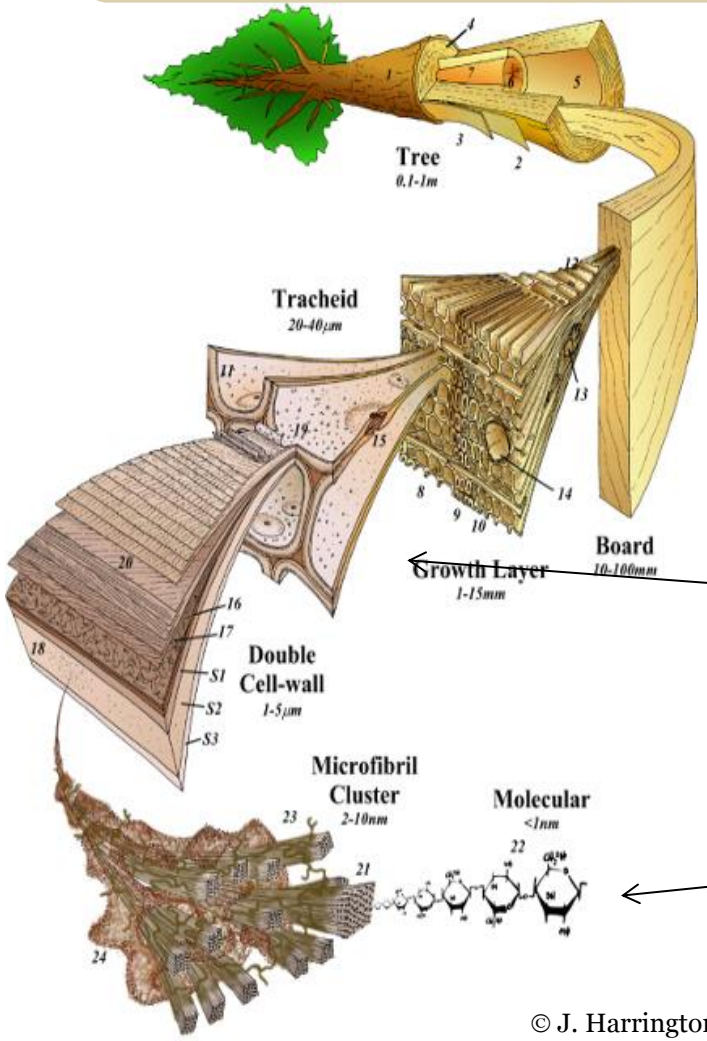
- Current plantation estate supplying building markets is static and has not been expanded substantially since 1990, close to a full rotation.
- Population and housing forecasts are all indicating substantially higher levels of demand into the future.
- Current population of 23 million trending towards 150k house starts.
- Population by 2030 approaching 30 million …..

Proposed CRC for Transforming Wood Fibres

- Current sawmilling sector struggles to be internationally competitive.
  - Labour and energy costs.
  - Residue markets are collapsing under international competition.
- Panel plants aging and dropping below scale of international competitors
- Future markets for newsprint and high value paper looking grim.
- Decimated R&D community to engage with and develop industry solutions.

Is there an alternate way to process the available resource into structural sawn, reconstituted and value added residue markets to satisfy 2030 building sector and improve profitability and investor confidence to the sector

Proposed CRC for Transforming Wood Fibres



Value added structural products

Value added fibre products

Value added residue producing platform chemicals

Proposed CRC for Transforming Wood Fibres

Industry outcomes

- Through application of the FPInnovations/Scion WoodScape model, identification of the optimal mix of next generation sawn, reconstituted and valued added fibre products for value creation from the existing planted estate.
- Renewed investor confidence in the sector to support expansion of the plantation estate.
- In partnership with international research leaders and Australian universities, re-establishment of R&D capacity within the sector in key areas of industry priority.