




In 2005, Alex Jay developed a carbon prediction model for various forestry production regimes. It can be found on-line (posted by W.Smart) at

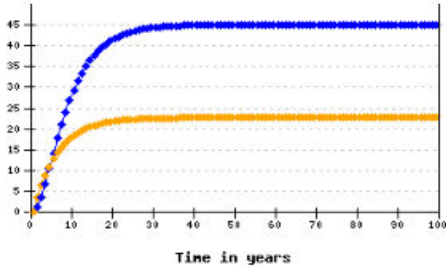
<http://www.australianforestcorporation.com.au/CO2calc/index.php>


carboncreditscarbontrading

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alex, enter your choices in this form

Single Hectare
Basal Area Standing m²/ha & Average Diameter cm



Basal area standing in m² per hectare is shown in blue
Average diameter in centimeters shown in orange

Species and Site Information

Choose species to plant: ▾

Select Site Quality: ▾

Select Site Preparation Intensity: ▾

Select Management Style: ▾

Meters between trees:

Meters between rows:

Total trees/hectare:

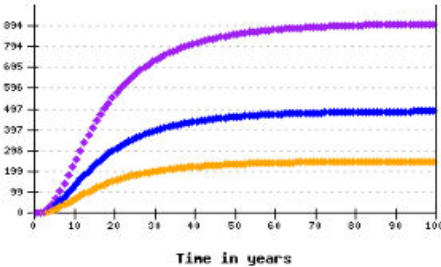
Re-calculate Timber/Carbon Details

Timber Rotation Information

Hectares planted	Year planted
1 st Stand: <input style="width: 40px;" type="text" value="1"/>	Year: <input style="width: 40px;" type="text" value="2010"/>
2 nd Stand: <input style="width: 40px;" type="text"/>	Year: <input style="width: 40px;" type="text"/>
3 rd Stand: <input style="width: 40px;" type="text"/>	Year: <input style="width: 40px;" type="text"/>

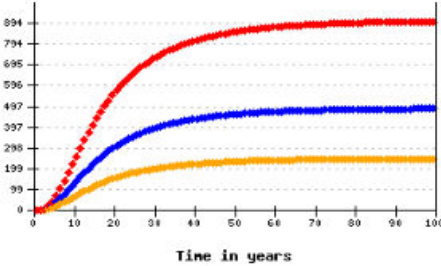
Result of alex's input displayed

Single Hectare
Total volume m³, carbon t, & available NGAC's t CO₂e



Standing timber volume m³ shown in blue
Standing carbon in tonne shown in orange
Available NGACs in tonne CO₂e shown in purple

Totals for Stand 1
Total volume m³, carbon t, available & claimable NGACs t CO₂e



Standing timber volume m³ shown in blue
Standing carbon in tonne shown in orange
Claimable NGACs in tonne CO₂e shown in red

Total for all Stands
Total volume - m³ & standing carbon - t & Available NGACs & Claimable NGACs

The single stand model is useful, but the greatest benefits can come from combining a pool of plantations with different management strategies applied

Forestry Estate Management

3 hypothetical estate blocks planted at 0 years, 15 years and 30 years in a 50 year planting pool

Year Planted	2006	2021	2036
Area	50	200	50
Site Quality	high	low	average
Species	Blackbutt	Spotted Gum	Dunns White Gum
Trees per ha	667	500	500
Management regime	Pulp @15yrs	Long Pulp & Sawlogs @40yrs	Short Pulp & Sawlog @25yrs
Costs & Management Inputs	minimal	standard	intensive

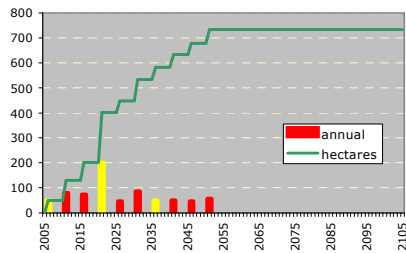
NPV @5% REAL discount rate

\$ 893,703 Costs
 \$ 1,219,845 Carbon sales
 \$ 1,516,808 Log sales

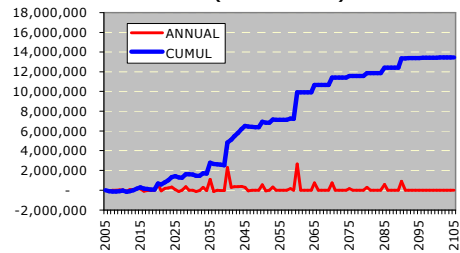
Internal Rate of Return

22.4% Timber + Carbon
 8.2% Timber only

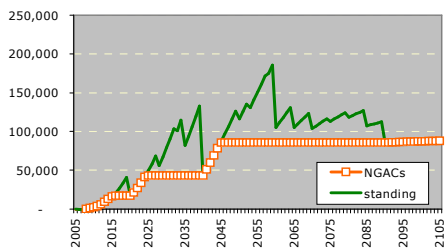
Plantation Area



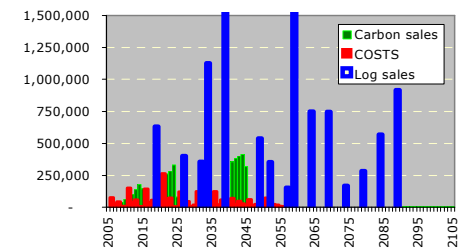
Cash Flow (excl land cost)



Carbon Sequestration t CO2e



Annual Costs and Sales



- Note that early sales of Carbon Credits (NGACs), despite being substantially less value than timber, have the effect of nearly tripling IRR because of early cash flow to offset establishment and management costs
- IRR figures do not include land cost. This is treated separately.