Tasmanian Round Table for
Sustainable Industries Project



Sustainable development in Tasmania: is the proposed pulp mill sustainable?

Prepared by
Launceston Environment Centre

August 2007

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DISCLAIMER: This information is provided as a contribution to the current public debate on Tasmania's future, specifically the sustainability of its various development options. Sources are provided, and personal enquiries should be made to verify all facts. If you wish to call attention to any inaccuracies in this report please contact the LEC. This document is intended to inform policy makers, not as the basis for investment decisions.

Executive Summary

The Tasmanian Roundtable for Sustainable Industries Project (TRSIP) is an initiative coordinated by the Launceston Environment Centre. The project commenced in April 2007, and involved consulting with the business community to develop policy outcomes that promote sustainable development in Tasmania.

The TRSIP consulted with representatives from the following industry groups:

- ⇒ Property Development
- ⇒ Tourism: state, interstate and international
- ⇒ Farming and Grazing Industry
- ⇒ Organic Agriculture
- ⇒ IT and Business Services
- ⇒ Fisheries
- ⇒ Viticulture and Winemaking
- ⇒ Non Government Organisations

As the largest single development proposed for Tasmania is the Gunns proposed pulp mill, it was suggested that the mill be investigated for its impact on a sustainable economy for Tasmania, and alternatives explored.

As a result, the TRSIP commissioned a team of economists to study the economic claims made by the proponents and the impact the project will have upon the state's economy.

Tasmanian based *Wells Economic Analysis* and Melbourne based *Economist@Large* were chosen to conduct the study.

The TRSI study provides, for the first time, the entire picture - an assessment based on the **costs, benefits and risks** of the proposal.

The study also makes a first-time attempt at identifying the components of a sustainable economy in Tasmania.

Since embarking upon the TRISP initiative, Premier Paul Lennon has called upon the business community to participate in the debate surrounding the pulp mill. This project provides an important input into that debate.

Key findings

1. The proponents have made a simple but significant error by double counting the Pulp Mills tax benefit to the Tasmanian economy.

2. A benefits analysis conducted by the proponents show an $834 million tax contribution over the life of the project but failed to show the $847.3 million in subsidies provided to the project.

3. The proponents have only provided a benefits analysis to the Tasmanian economy. They have not factored in risks and costs, including:

    a. Risk of respiratory disease caused by the emissions from the proposed mill, quantified in the report at $350 million.

    b. The cost to the Tasmania economy from converting additional agricultural land to plantations from to supply the proposed mill, quantified in the report at $403 million.

    c. Risks to Tasmania's fishing industry due to dioxin contamination from pulp mill effluent, quantified as a medium risk scenario could cost the industry $693.5 million and 700 job losses over the life of the project

    d. Following a survey conducted by the Tasmanian Tourism Industry Council, economists were able to quantify the risk to Tasmania's tourist industry. With 84% of growth in Tourism attributable to repeat visits, a medium risk scenario will cost the Tasmanian economy $1.1 billion and 1044 jobs over the life of the project.

    e. If you add up risks to health and other industries plus the costs and subsidies the total is $3.3 billion.

4. Only subsidies provided by the Australian taxpayer makes the mill profitable.

5. Job gains during mill construction may well be offset by the "crowding out" of other development opportunities and job losses elsewhere.

6. On a range of realistic scenarios, the Pulp Mill project may cause an economic loss to the State of Tasmania.

7. The proposed pulp mill does not represent sustainable development for Tasmania.

The Alternatives

Tasmania's economy is currently healthy and unemployment is at a record low. Although the pulp mill represents the largest single investment in Tasmania, there are currently over $2 billion worth of other developments on the books for the State.

Our study demonstrates that the proposed mill could threaten the other development proposals which we believe constitutes an unnecessary and unsustainable risk.

The TRSIP recommends that the Tasmanian Government:

- ⇒ conduct its own assessment on the potential economic costs and risks associated with the proposal, rather than making a decision based on the information contained in Gunns "benefits analysis"

- ⇒ encourage developments that support, rather than detract, from one another.

- ⇒ avoid developments which require ongoing subsidies

- ⇒ encourage diversity in the Tasmanian economy as a measure to protect our economy from a downturn in one particular sector.

It is highly unlikely that increasing concentration on one heavily-subsidised industry is a sustainable strategy for Tasmania.

The report

The report has been structured around a 15 minute Powerpoint presentation.

The full texts of the reports written by the economists are provided in the Appendices.

We chose to present the report in this way as it allows for the messages contained within to be understood by non-economists.

As a project that aims to promote sustainable development in Tasmania we need to ensure all sectors of our community have access to information that is presented in a format that is easy to understand and digest, not lost in technical jargon that only experts can understand.

The TRSIP welcomes debate on the calculations and conclusions reached.

Contents

1.

Introduction

- The Tasmanian Round Table for Sustainable Industries Project commenced in April 2007. With the aim of promoting sustainable development for Tasmania, business leaders were consulted from a broad cross-section of the Tasmanian economy including agriculture, tourism, property and business services. Collectively, these industries employ 31.8% Tasmanians and provide 17.7% of Tasmania's GSP.
- This report is timely, given Premier Paul Lennon's request for the business community to express its opinions on the Pulp Mill Debate.
- The TRSIP advocates rigorous economic analysis as the only way to ensure optimal allocation of resources, and hence a long-term, sustainable economy for Tasmania
- An economic analysis has been commissioned to analyse the **impacts** of the proposed mill. That is, a coalition of independent economists has analysed the **costs, benefits and risks** of the mill.
- The TRSIP offers this analysis in the interests of stimulating an open debate about the impact of the proposal on Tasmania's future. The TRSIP is happy to be debated, and stand corrected, should any of these conclusions prove incorrect

Comments:

⇒ Forestry contributes $1.4 b to Tasmania's Gross State Product and employs 3900 people directly, approximately 7000 indirectly.

⇒ "New Economy" businesses have been driving the growth of the Tasmanian economy while contributions from traditional industrial sectors have declined

⇒ The TRSIP enters the debate with a desire for the long term, sustainable growth of Tasmania's economy with the welfare of all Tasmanians and Australians in mind.

Verification:
Gross State Product contribution 2005-06 figures:

	Tasmania			Australia		
	Value ($m)	Share of Total Factor Income (%)	Growth from 2004-05 (%)	Value ($m)	Share of Total Factor Income (%)	Growth from 2004-05 (%)
Agric., forestry & fishing	1,042	6.7	4.2	26,256	3.1	0.5
Mining	332	2.1	23.9	65,940	7.7	44.6
Manufacturing	2,237	14.5	0.3	94,638	11.0	1.2
Electricity, gas & water	747	4.8	3.0	21,034	2.4	10.8
Construction	844	5.5	12.2	60,784	7.1	8.5
Wholesale trade	568	3.7	8.0	42,492	4.9	3.2
Retail trade	1,167	7.5	9.0	52,293	6.1	4.0
Accom., cafés & restaurants	412	2.7	1.2	19,210	2.2	0.4
Transport & storage	652	4.2	-0.6	36,221	4.2	4.9
Communication	367	2.4	-4.2	22,754	2.7	-1.2
Finance & insurance	918	5.9	7.1	66,408	7.7	10.5
Property & bus. services	924	6.0	7.6	107,894	12.6	5.0
Govt admin. & defence	844	5.5	7.4	31,990	3.7	9.9
Education	849	5.5	13.8	38,691	4.5	11.3
Health & comm. services	1,494	9.7	16.8	56,242	6.6	11.2
Cultural & rec. services	210	1.4	15.4	12,387	1.4	5.3
Personal & other services	324	2.1	11.7	16,261	1.9	4.9
Ownership of dwellings	1,135	7.3	8.4	70,489	8.2	6.7
General government	412	2.7	6.2	16,591	1.9	6.7
Total	**15,478**	**100.0**	**7.1**	**858,574**	**100.0**	**8.1**

Source: Tasmanian Department of Economic Development

NB: It is somewhat difficult to determine the exact contributions from each industry as the figures do not consistently separate upstream from downstream manufacturing and processing contributions, and available data does not make it possible to neatly separate industries.

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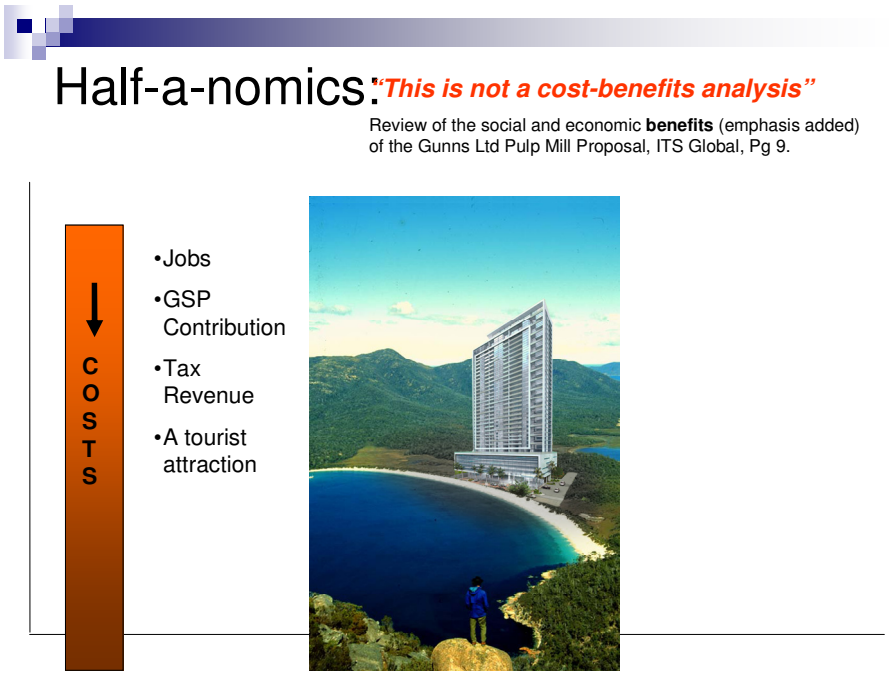
Employment

INDUSTRY	Employment (numbers)	Employment (%)
Food, Fisheries and Agriculture (2)	12,700	5.74%
Construction	15,930	7.2%
Tourism (2)	22,900	10.35%
Property IT and Business Services	18,806	8.5%
TOTAL	**70,336**	**31.79%**
Forestry (direct)	3,900	**1.76%**
Forestry (indirect)	7000	**3.16%**

Source: Tasmanian Prospectus

2.



Comments:

To-date, Gunns have provided a "benefits" analysis which only tells half the story.

⇒ Almost any projects one can imagine have benefits

⇒ There would be ***benefits*** to building a hotel in Wineglass Bay, but common sense tells us that the costs would exceed the benefits, and that therefore the overall ***impact*** would be negative.

⇒ By providing only a "benefits analysis" Gunns has not equipped decision makers to adequately assess the impacts of the mill.

⇒ The Tasmanian Government has admitted relying on Gunns' assessments rather than conducting its own independent analysis.

⇒ A realistic and balanced economic assessment requires an analysis of the ***costs, benefits*** and ***risks,*** including the impact on other industries.

⇒ The TRISP has not commissioned this analysis to be confrontational. It simply believes that for Tasmania to maximise its wealth, it must make sound economic decisions. Therefore it must ensure rigorous cost-benefit economic analysis of all projects.

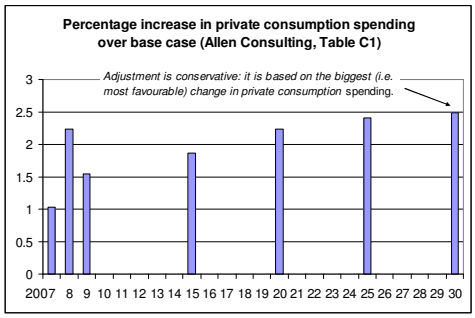
3.

Benefits

Gunns have claimed

- A 2.49% increase in household consumption based on Allen Consulting Welfare Measure (graph below)
- A $6.7billion dollar contribution to the Tasmanian economy
- 280 direct jobs. 1617 indirect jobs
- Premier Lennon has stated that every household in Tasmania will be $870 better off.

BENEFITS



JOBS

Comment:

Gunns/Allen Consulting forecast that the mill's impact on private consumption expenditure will reach its highest point (2.49%) in 2030. The average increase will be lower. Nevertheless, we have used 2.49 % in our calculations. This is simply to give the mill the 'benefit of the doubt'

Anecdote:

⇒ Economist@Large has lengthy experience in assessing economic government and corporate sponsored analyses. In 1997 Economist@large conducted an independent analysis on the Victorian Grand Prix. The Victorian Government cited a forecast economic benefit of $120 million per annum. Economist@Large was commissioned to independently assess the **impact** of the Grand Prix and predicted, once all factors were accounted for, that the Grand Prix would generate an annual $8 million **loss** for Victoria**.** The core reason was that the underlying business did not add up. A 2007 Victorian government enquiry admitted that the GP was in fact a loss-maker **in excess of the amount, and for the reasons,** predicted by Economist@Large.

⇒ The TRSIP requests all decision-makers to read this independent economic analysis of the **impacts** of a Tasmanian Pulp Mill

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Verification: ITS GLOBAL report available online at http://www.justice.tas.gov.au/__data/assets/pdf_file/0004/82282/Final_ITS_Global_Report.pdf

4.

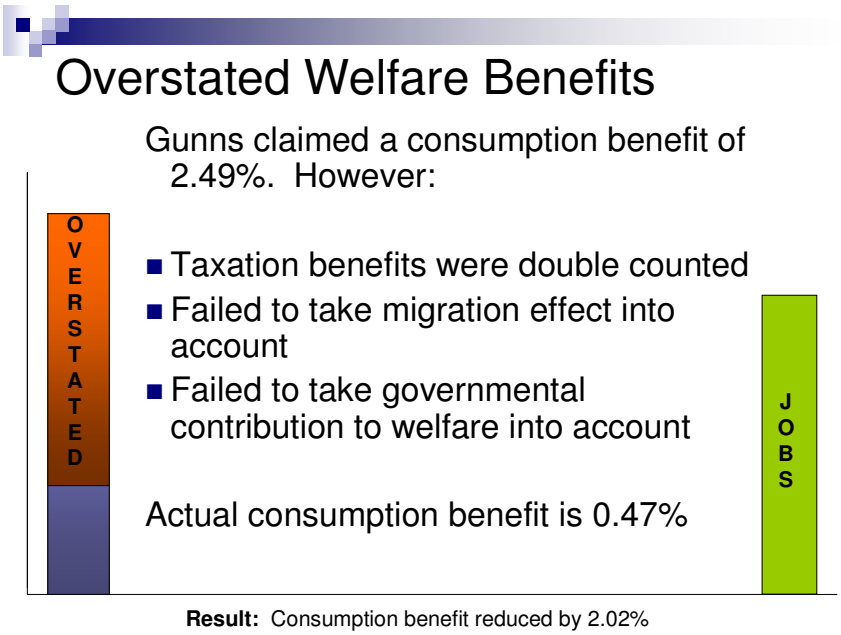
The economic findings:

- Double Counting
- Overstated Welfare Benefits
- Government Subsidies
- Impacts on human health
- Impacts on other jobs and industries: Tourism, Agriculture, Aquaculture
- Impacts on other developments
- Risks
- Alternatives

Comment

This is a contents directory. Each topic is dealt with in detail below.

5.



Result: Consumption benefit reduced by 2.02%

Comment:

⇒ **Double counting:** The proponents have made a simple but significant error by double counting the Pulp Mill's tax benefit to the Tasmanian economy.

⇒ **What they did:** Gross State Product (GSP) contribution was derived from the formula GSP = Consumption + Investment + Government + Exports. Tax benefits were counted as potentially available under the Government expenditure heading, then counted again as an indirect benefits in the "Consumption Heading"

⇒ **Migration effects:** The model included the benefits of new workers coming to Tasmania, but when calculating the benefits that each Tasmanian would get, forgot that these additional people would (a) increase demands on government services, and (b) take a share of the economic gains.

⇒ **Governmental Contribution.** The model assumed that all consumption benefits would be private. This ignores the fact that all households (to varying degrees) also benefit from governmental assistance. As this benefit does not increase at all, most households are not as well off as Gunns reports claim.

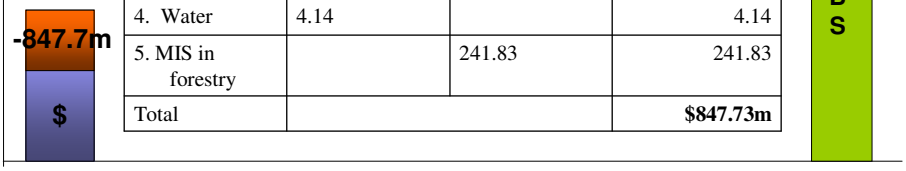
Verification:

This section of the economic analysis was conducted by Wells Economic Analysis. **See Appendix A** below.

6.

Subsidies

Gunns analysis has **added the benefits** of the proposed mill's $**834 million tax contribution** over the life of the project, but didn't **subtract the cost of $847.7 million** in government subsidies to the mill.



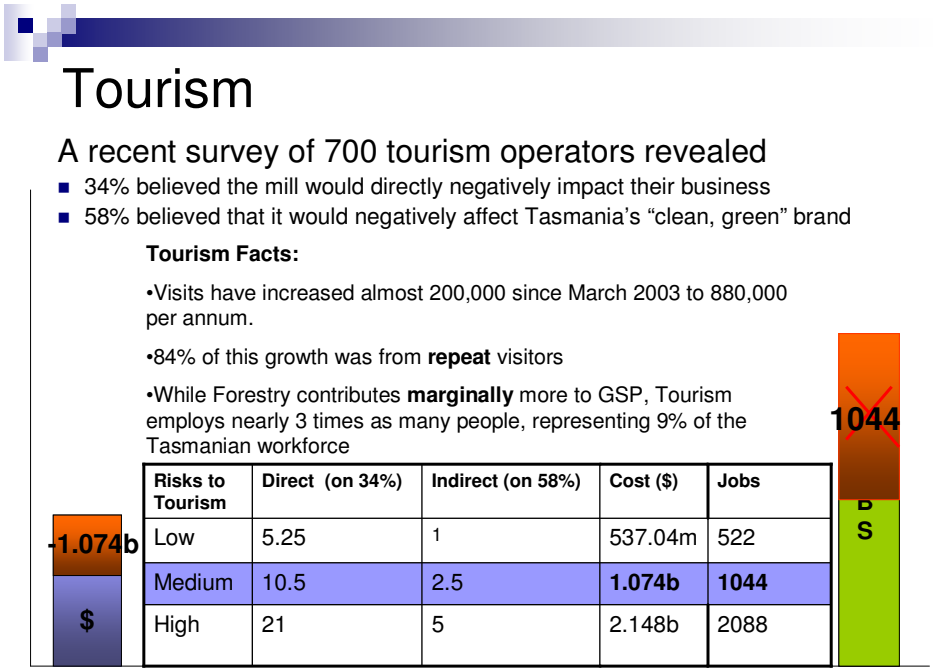
Subsidies to Tasmanian Forestry and to Gunns: (Net Present Value, 2007-2030, $m)			
	State	Commonwealth	Total
1. One-off subsidies	30	65	95
2. RFA and CFA	60.86	73.44	134.29/ 2 = 72.1
3. Stumpage	434.66		434.66
4. Water	4.14		4.14
5. MIS in forestry		241.83	241.83
Total			**$847.73m**

Result: Big cut in consumption benefit from resource misallocation induced by subsidies

Verification:

This section of the economic analysis was conducted by Wells Economic Analysis. See **Appendix B** below

7.



Comments:

The TRSIP obtained Input from business leaders in agriculture, tourism and fisheries industries, and was able to obtain reliable sources of information as a result. Other industries may also be affected but were not consulted.

⇒ **Repeat Visitors:** It is worth emphasizing that of nearly 200,000 additional per annum visits since March 2003, over 165,000 were repeat visitors. This means that:

- Tasmania finds it incredibly difficult to attract first time visitors, BUT is incredibly good at attracting (and its success depends on) repeat visits.

⇒ It is widely accepted that Tourists come to Tasmania for 3 reasons; **wilderness, history and heritage and food and wine.** The mill will affect 2 of these 3.

⇒ **Jobs**: Many jobs could be lost if a contraction in tourism occurs as a consequence of the mill being built. While forestry makes a marginally higher contribution to GSP (Forestry $1.4b, Tourism $1.3b) tourism employs three times more people. As a result, a small contraction in tourism will cost more jobs than the potential gains to be made in forestry.

Verification: Calculations were done as follows:

1. Direct Impacts: 34% of operators thought they would be directly impacted. We provided three risk assumptions on the magnitude of this impact (5.25, 10.5 and 21%) multiplied by 0.34 and then by tourism's total contribution to GSP ($1.3b).

2. Indirect impacts: 58% of tourism operators believed Tasmania's brand would be adversely impacted. Risk assumptions of 1%, 2.5% and 5% were applied.

3. Present value of costs were calculated over 24 years of the pulp mill project at 5% (multiplier of 14.448)

Visitor numbers: Tasmanian Visitor Survey March 2003 – March 2007

Employment Figures: Tasmanian Prospectus

Survey: Tourism Council:
http://tict.com.au/cms/mediareleases/tourismindustrycalls_text.php

8.

Agriculture and Fisheries

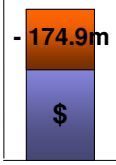
Agriculture:

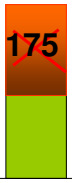
- Direct cost of lost output from conversion of farmland to additional plantation: $403m
- Water. Growth in plantation timber uses water that will be needed for irrigation.

Fisheries:

- The Seafood Industry contributes $473m annually to the economy, and provides 7000 jobs. The following risks apply:

Risks to Fisheries	% Loss	Cost	Jobs
Perceived loss of clean green image	**Brand Loss (2.5%)**	**174.95m**	**175**
Real loss of clean green image	Dioxin Contamination (10%)	693.5m	700





Verification

Farmland conversion calculation can be referenced to **Appendix B**

Tasmanian Fisheries Industry Council's "Fisheries Industry Scorecard" shows direct and downstream revenue from fisheries provides $472 million and 7000 jobs. **See Appendix C.**

Risk Calculations

TFIC's independently verified position is that Gunns' hydrodynamic modeling (marine effluent dispersal) is unable to provide any certainty that there will not be impacts on fisheries. Therefore, a risk exists.

We have calculated the potential cost of (a) a market **perception** that Tasmanian Seafood is no longer clean and green and (b) a market **event** whereby seafood is found to be contaminated. The downturn has been assumed at 2.5% and 10% of the industry respectively over the life of the project and then expressed as a net present value.

9.

Human Health

- Sweco Pic's report stated that NOx emissions will not meet guidelines
- It is well established that for every 10 microgram increase in fine particulates, respiratory diseases increase by 4%.
- The Tamar Valley has a unique "air shed." which concentrates pollution The Tasmanian Government has calculated the cost of 8 additional deaths from respiratory diseases is $160m/annum
- Additional contributions from the mill will conservatively increase Fine Particulates by between .94 and 2.83 micrograms:
- Deaths from Logging Truck Accidents are also likely.

Absolute Contribution of Pulp Mill	Increase in Death and disease	Increased Deaths	Cost ($m)	Increase in Hospitalisations	Cost of Hospitalisation	Work Days Lost (asthma only)	Lost Productivity	Total over life of project (NPV)
0.94 µ/m³	.37%	4	$10	380	$1.9m	1480	$.225 m	$175.2m
1.89 µ/m³	0.756%	8	$20 m	760	$3.8m	2960	$.45 m	$350.4m
2.83 µ/m³	1.32%	12	$30 m	1140	$5.7m	4440	$.675 m	$700.8m

*clearly, this just quantifies economic cost, not the value of a human life)

-350.4m $

-216 LIVES

Result: 216 lives lost over 24 year life of project

Comments:

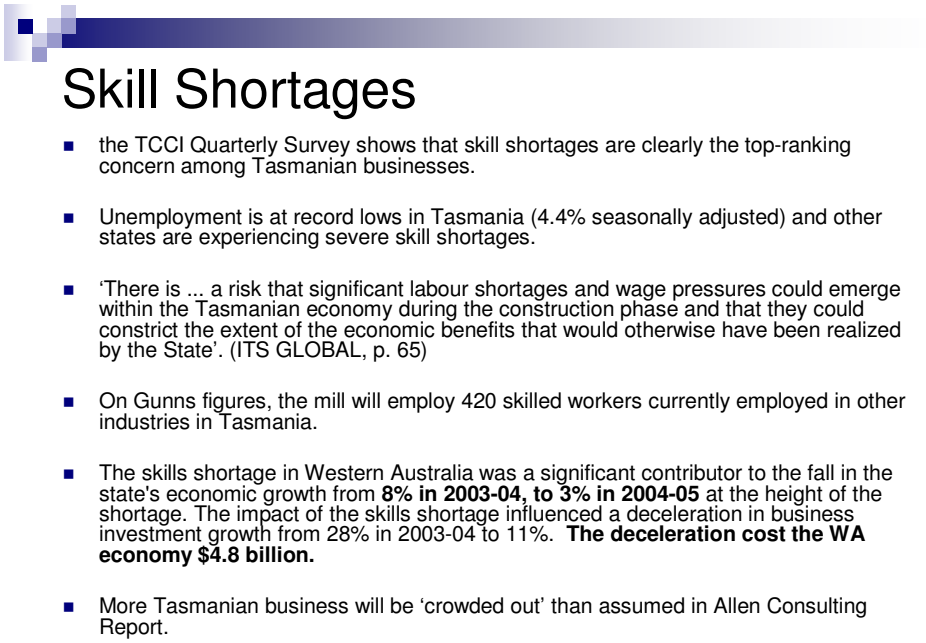
⇒ While information on PM 10 (fine particulates) has been provided, data on PM 2.5 (ultra-fine particulates) has severe shortcomings. It is the health effects from additional emissions that concerns the Australian Medical Authority the most and these emissions are considered by them to be the major health issue in respect to the pulp mill development.

⇒ The medium risk scenario is of 8 deaths per year. Add 1 log truck death per annum and over 24 years of the lifespan of the project and deaths increase from 192 to 216. It is all very well creating 280 direct jobs, but not at the expense of 216 lives.

Verification:

See **Appendix D**

10.



Comments:

This is one aspect of the economic debate on the pulp mill that has received little attention, and deserves to as so many sectors of the Tasmanian economy will be affected.

If Gunns need 2000 skilled workers in the construction phase, one must ask where they will come from.

Gunns states that 80% will come from interstate, which begs the question of what terms Gunns will have to offer to entice workers to relocate. There is already a long-standing shortage of workers in WA, and West Australian employers have not been as successful as they would like at attracting interstate employees, despite offering pay in excess of $2000 per week for most skilled labour.

In these circumstances, Gunns is likely to find it far easier to employ local skilled workers who, given Tasmania's current record employment figures (only 4.9% unemployed) are currently employed elsewhere.

If workers are taken from enterprises with greater Returns on Investment (ROI) Tasmania will be worse off. A subsidised industry will take workers from industries that stand on their own two feet. This is economically destructive, and hardly a "fair go".

This was of great concern to the business leaders consulted by the TRSIP, and is likely to concern every employer of skilled workers in Tasmania.

Verification: See Appendix E

WA skill shortage calculations:

An Australian Bureau of Statistics report examined the WA economy following a significant slowing in 2004/5. GSP growth fell from 8.1% in 2003-4 to only 2.7% in 2004/5.

Skill shortages were cited as a significant factor in the downturn. In 2003/4 WA's GSP was $93,339b. Had GSP grown by 8.1% in 2004/5 GSP would have been $99726b. Instead, GSP was $94,827, a loss of $4.8 billion.

See:

http://www.abs.gov.au/AUSSTATS/abs@.nsf/7d12b0f6763c78caca257061001cc588/18d5ad97d35892afca2570f8008245d2!OpenDocument

Tasmanian Skill Shortage Figures:

Excerpt from **"InSummary**" Issue 17, July 2007

Where is the labour?

It is fair to say that June 2007 has been the most challenging month for employers in Tasmania thus far. There has been considerable discussion about low levels of unemployment and skill shortages for a number of year now, but this month Tasmania achieved what has probably previously been thought impossible. Tasmania's unemployment rate is the lowest it has ever been at 4.8% (4.4% seasonally adjusted) and it is even lower than two other states in Australia, New South Wales (5.0%) and South Australia (4.9%).

Tasmania's unemployment figure is lower than NSW and South Australia.

Source: www.tasmanianjobs.com

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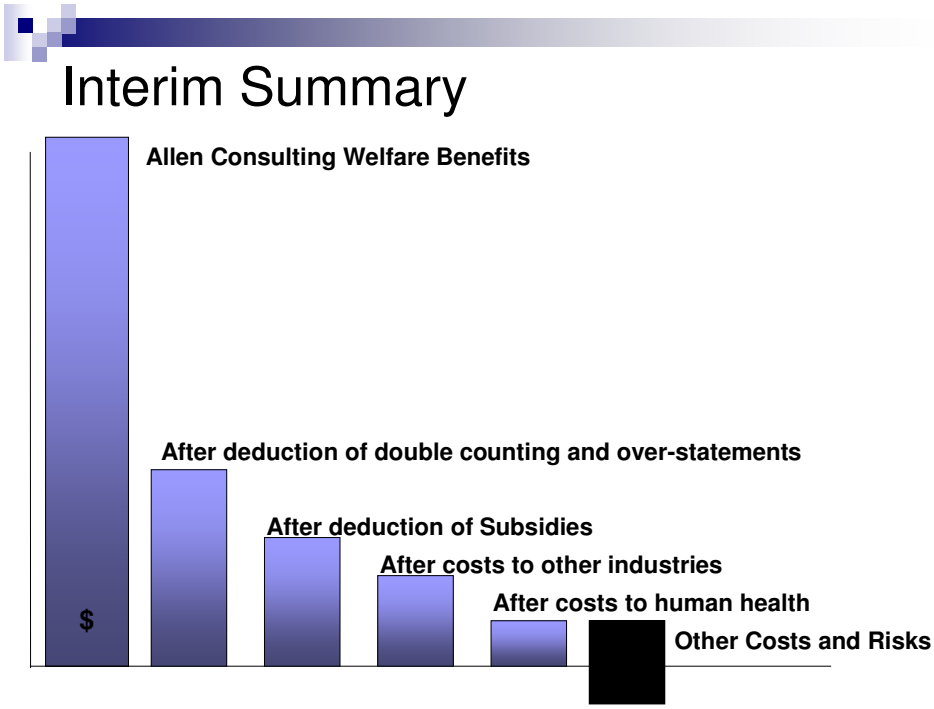


Comments

⇒ Once welfare benefits are correctly stated, and costs and subsidies netted out, societal gains from the mill are marginal

Verification:

This is an interim summary based on the information above.

FACTOR	COST	JOBS
Welfare Overstatement and Double Counting	Takes welfare from 2.5% in aggregate to an increase to 0.5% per person	-
Accounting for Subsidies	Reduces contribution by $847m	-
Risks to Tourism	Cost of $1.156b (mid scenario)	1044 jobs
Risks to Agriculture and Fisheries	Cost of $346.9b (mid-scenario)	174 jobs (mid scenario)
Health Risks	Cost of $350.4m (mid-scenario)	216 lives
Skill Shortages	Unquantified, but significant	-
Other costs and risks	Unquantified, but significant	-

12.

Assuming, of course, that the mill is as profitable as Gunns say it will be….

Since benefits to the economy are extrapolated from the profitability of the TPM, independent financial modelling of the TPM was undertaken to assess NPV

Figures in RED are for manual input

Tasmanian Pulp Mill Financial Model

Assumptions		
Build Costs		
Local Equipment and Development Costs	A$m	300
Civil work construction costs	A$m	500
Mill Plant Equipment based financing	A$m	800
Ongoing Costs		
Debt Funding	%	75%
After tax cost of debt	%	7%
Cost of stumpage from native forest	A$ per tonne	11
Cost of stumpage from plantations	A$ per tonne	36
Cost of harvest & transport from source to m	A$ per tonne	36.5
Mill Labour	USD per ADT	60
Mill Chemicals	USD per ADT	40
Other Manufacturing Costs	USD per ADT	40
Tranport from Mill to Shanghai	USD per ADT	70
% of Pulp shipped overseas	%	80%
Revenues		
Conversion ratio of wood chips to pulp	%	25%
Pulp Price	USD per tonne	550
exchange rate	A$/USD	0.83
Calculations		
Rate of Depreciation & Amortimisation	%	7%
WACC	%	9.2%
Terminal Growth Rate	A$m	3%

Outputs		
EBITDA (2010)	A$m	159
EBIT (2010)	A$m	103
NPAT (2010)	A$m	- 12
Annualised ROI (EBIT 2010-19)	%	5.9%
Annualised ROI (NPAT 2010-19)	%	0.1%
NPV of Project (using FCF)	**A$m**	**289**
NPV of Project (before tax)	**A$m**	**778**

"Despite a strong economy the demand for paper and paperboard has increased by only 19% over the past 9 years compared to economic growth of 39% for the same period."

http://www.iris.tas.gov.au

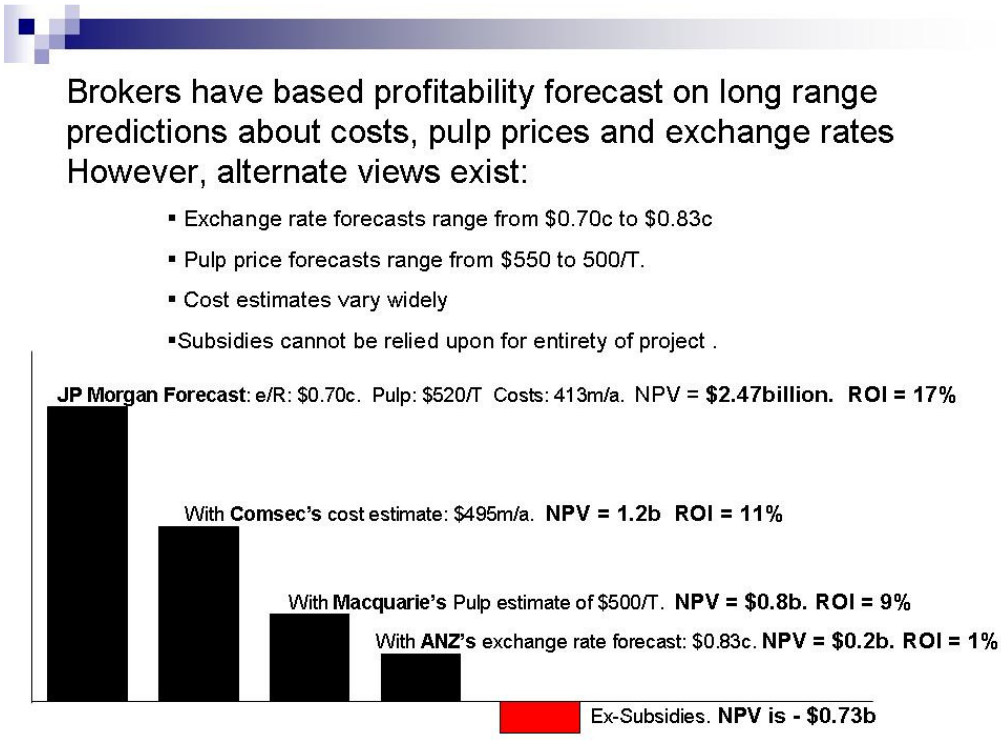
Notes
1. Source: Financial Analysis by Economists @ Large and Associates from data provided by ComSec, Macquarie Bank, JPMorgan and ANZ.

Comments

⇒ This model is a "live" model. This means that data can be changed and the model will calculate the impact on the profitability of the mill. The "live" model is available on request for those who wish to investigate the impacts of variables such as commodity prices, subsidies and exchange rate, many of which the mill is highly sensitive to.

⇒ We have examined broker reports from Comsec, Macquarie and others to set data within predicted ranges. A sample of the outputs follow:

13.



Comments:

⇒ In layman's terms, Net Present Value is the profit of the proposed mill over its lifetime

⇒ ROI is the Return on Investment.

⇒ A 20% ROI is the benchmark for new projects

⇒ Pulp milling is a highly competitive, low margin business which is highly sensitive to economic forces that neither Gunns nor the Tasmanian government have control over.

⇒ Subsidies may be understandable if there is proportional public good to be gained, but subsidising industries with questionable public good, and defined public harm, must be seen as having a negative impact.

Verification:

See APPENDIX E: model prepared by Economist@Large

Calculations:

Based on Gunns' guidance, JP Morgan has forecast that when the pulp mill operates at close to full capacity (1 million ADT pa), it will generate EBITDA of A$330m (ROI on EBIT = 17%), NPV = A$2.47bn. For this forecast JP Morgan used the following assumptions:

- ⇒ total production costs of A$413m pa (including delivery costs)
- ⇒ pulp price of US $520
- ⇒ exchange rate of 70c.

However:

- ⇒ Comsec estimates total production costs will be A$495m (including delivery costs). If Comsec cost estimates are used, EBITDA will fall to A$248m (ROI on EBIT = 11%), NPV = $1.2bn.

- ⇒ Macquarie Bank's analysis uses a long-term pulp price forecast of US$500. If this is used EBITDA will fall to A$219m (ROI on EBIT = 9%), NPV = $0.8bn

- ⇒ ANZ forecasts the long-term exchange rate will be 0.83. If this is used, EBITDA will fall to $122m (ROI on EBIT = 5%), NPV = $0.2bn.

- ⇒ If output is not at 1m ADT pa, but rather starts at 0.75m ADT pa and gradually builds up to 1.1m ADT pa by 2018, EBITDA will fall to $113m (ROI on EBIT = 4%), NPV = $0.03bn.

- ⇒ Furthermore, if native timber subsidy, MIS subsidies, Regional and Community Forest Agreement subsidies, and one-off subsidies are excluded, EBITDA will fall to $71m (ROI on EBIT= 4%), NPV will fall to -$783m

14.

Pulp Mill Closures

- A CIFOR Study of 67 mills concluded that overwhelmingly, mills were less profitable than predicted
- The US and Canada has recently seen a rash of pulp mill closures Between 2004 and 2006, **7 mills closed in Canada alone.**
- Tasmania has the same underlying problems as Canada relative to the Asian and South American markets
  - Low growth rates due to low temperatures and rainfall
  - High cost of labour

Sept. 2004	UPM-Kymmene (pulp line)	Miramichi, N.B.	• softwood kraft pulp/100 000 tonnes
Sept. 2004	St. Anne-Nackawick	Nackawick, N.B.	• bleached hardwood kraft pulp for high-quality photo paper/251 000 T
Oct. 2004	Port Alice	Port Alice, B.C.	• pulp/160 000 tonnes
Dec. 2004	Domtar (partial closure)	Cornwall Pulp Mill, Ont.	• bleached hardwood kraft pulp/150 000 tonnes
March 2005	Neenah Paper	Terrace Bay, Ont.	• pulp/125 000 tonnes
January 2006	Weyerhaeuser (Prince Albert pulp and paper mill)	Prince Albert, Saskatchewan	market pulp and fine papers / 410 000 tonnes
March 2006	Domtar Inc. (pulp and paper mills)	Cornwall, Ontario	kraft pulp and fine paper / 425 000 tonnes

Comments:

⇒ Asia and South America, where enormous plantation estates have been established, have faster growth rates and lower costs of labour. Tasmania is at a significant competitive disadvantage

⇒ Many of the Canadian mills, following years of ongoing “propping up“ through subsidies, are closing within 15 years of commissioning

⇒ The socio-economic legacy of these closures has been bitter

⇒ It goes without saying that the proponents of these failed mills expected significant positive economic benefits prior to commencing construction.

Anecdote:

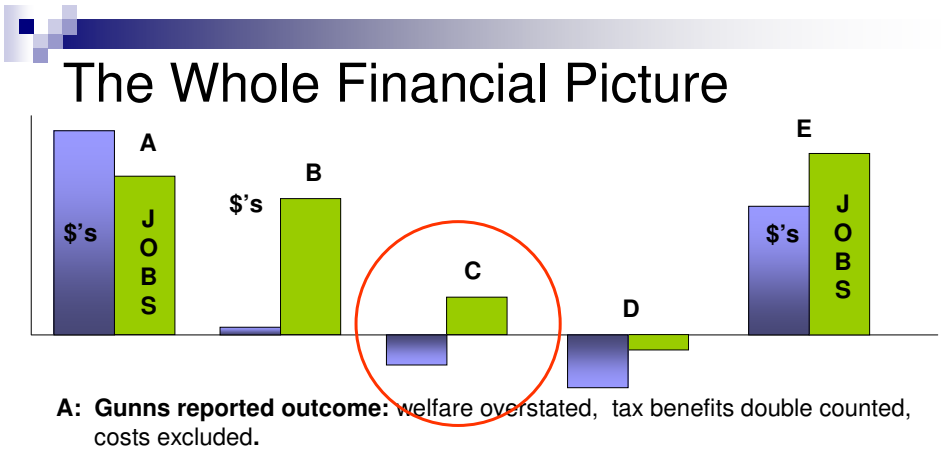
We don’t compete with China to manufacture cheap drills. Business leaders question whether Australia should attempt to compete in markets where Asia and South America have such clear advantages.

Verification:

CIFOR Study:

⇒ Canadian Pulp Mill Closures:
⇒ http://cfs.nrcan.gc.ca/sof/sof05/mergers_e.html
and http://cfs.nrcan.gc.ca/sof/sof06/mergers_e.html

15.



A: Gunns reported outcome: welfare overstated, tax benefits double counted, costs excluded.

B: Best Case Scenario. Mill profitable as most optimistic long range forecasts, **no** costs or risks eventuate, modelling errors corrected, subsidies subtracted.

C: Predicted (mid range) Outcome: Mill as profitable as average of long range forecasts suggest, mid range risks eventuate, modelling errors corrected

D: Worst Case Scenario. Mill only as profitable as long range forecasts suggest, known costs eventuate as do mid-range of risks, modelling errors corrected.

E: Alternative Scenario. Alternative projects are pursued (see next slide)

Comments:

⇒ The first point is that Gunns scenario (A) is simply impossible. It is impossible to have benefits without costs or risks.

⇒ Scenario B is the best possible case – if all goes perfectly for Gunns, there will be a boost to employment (assuming no crowding out), and Gunns will make a profit. However, given the level of subsidy, the economic benefits to Tasmania are marginal.

⇒ Scenario C is an optimistic scenario as predicted by the economic analysis. In this case, job gains are largely offset by crowding out and job losses elsewhere, and the mill causes an economic loss, but there is still a marginal positive impact on jobs.

⇒ Scenario D shows the result if market conditions are not as positive as Gunns hopes, and if some of the risks quantified above eventuate.

Scenarios A-D do not take into account the opportunity cost of approving the mill.

Scenario E does illustrate that there are alternatives. If these are not pursued, these become lost opportunities.

Verification:

Premier Lennon's statement that every Tasmanian will be $870 better off is not part of the original Allen Consulting report. As a result, we are unable to determine how this figure was reached

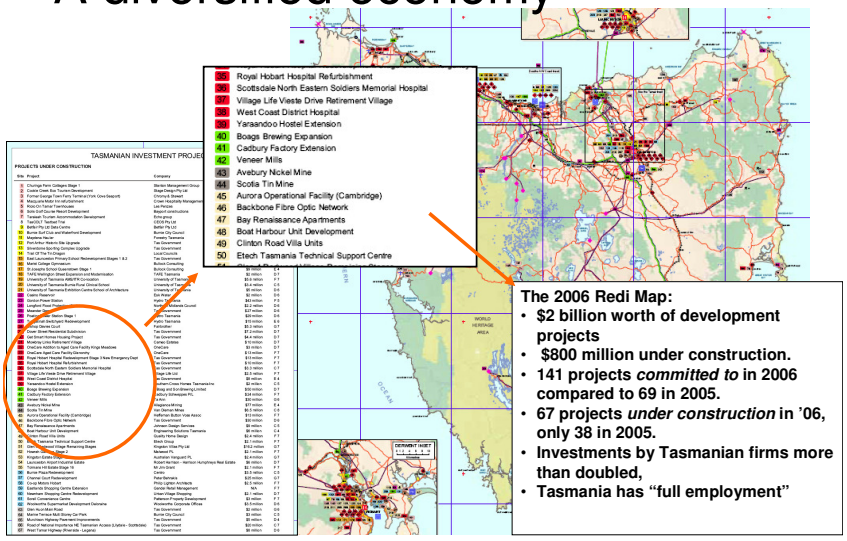
As the Tasmanian government has not responded to our requests for the basis of this calculation it is difficult to compare the impacts on wealth with the real costs

Therefore, the graphs above are indicative rather than corresponding to figures that we are able to calculate with exactitude.

If the government wishes to share that information with us, we would be able to calculate the impacts with greater accuracy

16.

A diversified economy



Comments:

⇒ The 2006 REDI-Map is a compilation of all projects proposed and commenced in Tasmania. The 2006 REDI Map shows over $2 billion worth of development proposals, a large increase in proposals from the 2005 survey. This is a sign of a healthy, growing, diversified economy.

⇒ The TRSIP believes that the key to Tasmania's continued growth is a judicious and balanced approach to stimulating all of Tasmania's industries, building a resilient, diversified economy where each sector supports, rather than detracts, from others.

⇒ "Too many eggs in one basket" is the phrase that applies to this proposal. A diversified economy is far more immune to risk – a basic tenet of investment governance.

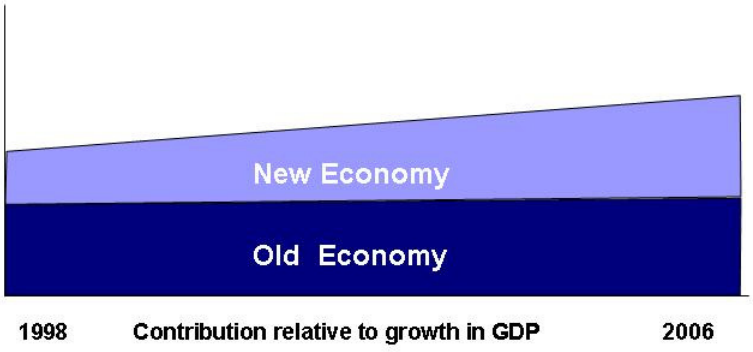
Redi-Map available online through the Department of Economic Development's Website: http://www.development.tas.gov.au/investintas/economy/redimap.html

17.

Alternatives:

- **Tourism/Construction:** To take one example, the proposed Musselroe eco-tourism development is estimated to directly generate 1040 FTE jobs during the three-year construction phase of the project, and provide ongoing direct employment for 160 staff. 1 more project of that scale per year for the next three will confer the same benefit on Tasmania as Gunns claims the mill will generate, with none of the drawbacks, and no subsidies required.

- **Agriculture:** With water shortages nationwide, Tasmanian graziers have a significant opportunity to increase market share in the coming decades. Tasmanian Government research (IRIS) recommends grazing as an area for further development, citing several competitive advantages. 26GL of water, if used for the purpose of raising sheep on irrigated pasture, would deliver an annual benefit of $4.5milion.. This is far from the highest-value use of water, but produces a commodity for sale into a stable market where Tasmania holds competitive advantage.



Comments:

⇒ Over the past 10 years, the relative contribution from "old economy" industries such as forestry and heavy industry has fallen, while "new economy" industries such as IT and business services, tourism and property has increased. This has been a large factor in Tasmania's economic success in the past decade. In this context, promoting an "old economy" business at the expense of the new economy is a backwards step.

Conclusion

1. The proponents have made a simple but significant error by double counting the Pulp Mill's tax benefit to the Tasmanian economy.

2. A benefits analysis conducted by the proponents show an $834 million tax contribution over the life of the project but failed to show the $847.3 million in subsidies provided to the project.

3. The proponents have only provided a benefits analysis to the Tasmanian economy. They have not factored in risks and costs, including:

    a) Risk of respiratory disease caused by the emissions from the proposed mill, quantified in the report at $350 million.

    b) The cost to the Tasmania economy from converting agricultural land to plantations to supply the proposed mill, quantified in the report at $403 million.

    c) Risks to Tasmania's fishing industry due to dioxin contamination from pulp mill effluent, quantified at a cost of $693.5 million and 700 job losses.

    d) Following a survey conducted by the Tasmanian Tourism Industry Council, economists were able to quantify the risk to Tasmania's tourist industry. With 84% of growth in Tourism attributable to repeat visits, a medium risk scenario will cost the Tasmanian economy $1.1 billion and 1044 jobs.

4. On a range of economic scenarios, the mill will be reliant on Australian taxpayer subsidies to remain profitable.

5. Job gains during mill construction may be offset by the "crowding out" of other development opportunities and job losses elsewhere.

6. On a range of realistic scenarios, the Pulp Mill project may cause an economic loss to Tasmania.

7. The proposed pulp mill does not represent sustainable development for Tasmania.

The Alternatives

Tasmania's economy is currently healthy and unemployment at a record low. Although the pulp mill represents the largest single investment in Tasmania, there are currently over $2 billion worth of other developments on the books for the State.

Our report demonstrates that the proposed mill could threaten the other development proposals which we believe constitutes an unnecessary and unsustainable risk.

Recommendations

The TRSIP recommends:

- ⇒ the Tasmanian government conduct its own assessment on the potential economic costs and risks associated with the proposal, rather than making a decision on the information contained in Gunns "benefits analysis"

- ⇒ encouraging developments that support, rather than detract, from one another.

- ⇒ avoiding developments which require ongoing subsidies

- ⇒ encouraging diversity in the Tasmanian economy as a measure to protect our economy from a downturn in one particular sector.

It is highly unlikely that increasing concentration on one heavily-subsidised industry is a sustainable strategy for Tasmania.

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APPENDIX A:

ITS GLOBAL REPORT OVERSTATES CONSUMPTION BENEFIT FROM GUNNS PULP MILL

Report by **Wells Economic Analysis**

The ITS Global Review significantly overstates the effects of the proposed Gunns pulp mill on Tasmanian household welfare.

It has been widely reported that 'at the end of the assessment period, Tasmanian households would be consuming about **2.5%** more goods and services than they would have without the pulp mill' (ITS Global Review, p.25).

A more relevant estimate, based on the same Allen Consulting report as used by ITS Global is that, at the end of the assessment period, Tasmanian households would be consuming, on average, about **0.5%** more goods and services than they would have without the pulp mill.

In other words, for every $1000 of annual consumption undertaken by Tasmanian households, the modeling on which the ITS Global Review is based suggests that as a result of the pulp mill we will instead be able to undertake **$1005** of annual consumption. That is, an increase of $5 worth of annual consumption for every $1000 previously consumed.

This is a positive economic impact, but it is very much less than has been claimed by ITS Global and in media commentary.

How is this lower estimate – an increase in per capita consumption of 0.5% – derived?

The first point to note is that ITS Global engages in double counting. Their analysis adds together consumption spending by households **and** additional tax collections by government. This is illegitimate, given the modeling assumptions used in the Allen Consulting report (AC hereafter).

The AC approach is stated explicitly, and worth repeating:

> We assume that real government spending by regional governments and real consumption by the federal government are unaffected by the Project. We assume that all indirect tax rates have the same values as in the base case simulation. The Federal government's budget balance is fixed to its base case value via endogenous adjustments to the average PAYG tax rate. State government budget balances are fixed via endogenous change in direct transfers to households' (AC p.54.)

In other words, the AC model holds real government spending constant, and gives any increased taxes generated by the pulp mill **back to households** to spend.

Hence it is clearly misleading to state that 'the best measure of the project's impact on the welfare of Tasmanian is the sum of changes in household consumption and State

tax revenues', and that 'Tasmanian households would be consuming about 2.5 per cent more goods and services than they would have without the pulp mill. For its part, the State Government would be collecting an additional $48 million in tax revenue.' (ITS Global (p.25)).

The AC economic model assumption is that, at the end of the day, there is **no** change in State tax revenues. Additional tax revenue has all been given back to households, and the relevant welfare effect includes only additional household consumption.

The second source of overstatement arises because, in evaluating the change in household welfare, ITS Global assume that household consumption and household consumption expenditure are the same thing. This flies in the face of the commonsense observation that taxpayer-funded services also provide consumption benefits to households. Public schools and hospitals provide the same consumption benefits as private schools and hospitals. In the jargon of economists, government consumption spending yields private consumption benefits.

So if a consumption measure is to be used to gauge welfare effects, it should be based on private *consumption* rather than private *consumption expenditure*.

Importantly, and as noted from the above AC quotation, taxpayer-funded consumption benefits are assumed to be unchanged as a result of the Gunns project – government spending is assumed to be fixed.

The third point to note is that a welfare measure should be based on the change in per capita consumption, not the change in aggregate consumption. Hence, because the Gunns project will change the Tasmanian population, we need to take population change into account when assessing the change in per capita consumption benefits.

Now calculate the impact of these three points. Estimates of the change in private consumption and population from their baseline levels are derived as follows:

- In 2005/06 the trend estimate of real private final consumption expenditure in Tasmania was $11285m; trend real general government consumption expenditure was $4011m[1]. Conservatively, assume only half of general government consumption expenditure yields private consumption benefits. On this basis real private final consumption expenditure in 2005/06 is 85% of total private consumption.

  As indicated above, AC's modeling assumption is that there is no change to real government consumption expenditure as a result of the expansion in economic activity consequent on construction of the pulp mill. (AC, Table C.1) indicates that in 2030 real private consumption *expenditure* is 2.49% higher than it otherwise would be. Hence the increase in private consumption is 85% of this figure[2].

- The average employment impact in the operating phase (2007-2030) is, assuming no increase in the number of hours worked per person, an increase in employment 2.0% over what it otherwise would be. Although the change in State population is not modeled it is reasonable to assume that by 2030 the State

[1] ABS cat.no. 5206027, downloaded 19 September 2006.
[2] Note that the figure of 2.49% appears to have been 'rounded up' to 2.6% in both AC and ITS Global.

population will increase by roughly the same proportion as the increase in employment satisfied by interstate migration. From AC, Table C.2, interstate migration accounts for 84% of the total increase in employment in 2030.

Although both assumptions – the change in State population and the extent to which government consumption expenditure yield private consumption benefits – seem reasonable, they could be challenged[3]. However, these assumptions imply that the AC model estimates only a relatively small overall welfare improvement, since in 2030 the overall change in per capita consumption is

Estimated percentage change in per capita consumption
= 0.85*2.49 - 0.84*2.0
= 0.43%

The conclusion is that data given in the original AC report, on which the ITS Global Review is based, suggest the project would lead to a relatively small increase in per capita consumption in Tasmania, making it **around half a percentage point higher than it otherwise would be in 2030**.

ITS Global acknowledge that their Review is based primarily on impact assessments previously presented to the RPDC, and that its Review does not provide a cost-benefit analysis (ITS Global, p.8), and it is a significant shortcoming that a cost-benefit analysis has not been conducted.

In the absence of a more complete analysis, it is important that the results of earlier impact assessments be presented accurately and unambiguously. In our view a more accurate representation of the earlier work is that, for every $1000 of consumption, construction of the pulp mill will mean that the average Tasmanian will enjoy only $1005 of consumption.

[3] The estimate that only half of government consumption expenditure gives private consumption benefits may be conservative. On the other hand our estimate of the change in State population may be too high. Our assumption is that there is no change in hours worked by the average Tasmanian as a result of the pulp mill. If, as is assumed in the AC report, there is an increase in hours worked by the average Tasmanian, our calculation overstates the increase in the Tasmanian population. However, it should be noted that the probable biases work in opposite directions and so will to some extent cancel each other.

APPENDIX B:

Proposed Gunns Pulp Mill: Subsidies

Report by **Wells Economic Analysis**

The Allen Consulting report (AC hereafter) enumerates only the positive impacts for Tasmanian households, including taxation benefits, increased employment and higher household consumption.

While the studies include tax benefits from the proposed mill, neither AC nor the ITS Global Review attempt to identify the extent of subsidies to the proposed Gunns pulp mill or to the Tasmanian forest industry more generally. Any reasonable attempt to evaluate the net benefit to Tasmanians must take these subsidies into account. **It is a serious deficiency of both these two studies that they have declined to undertake this work[4].**

As is detailed below, these subsidies are large, particularly when set against the increase in household consumption assessed by AC.

Our preferred estimate of the net present value of subsidies to the proposed pulp mill is $847.73m[5].

This estimate is similar to the estimate of the Net Present Value of increased tax collections by the Commonwealth and Tasmanian governments obtained in the Allen Consulting Report, and relied on by the ITS Global Review.

In other words the proposed pulp mill is not expected to make <u>any</u> net contribution to tax collections to either the Commonwealth or Tasmanian government.

Subsidies to the proposed pulp mill fall into four groups:

1. Government assistance with start-up costs and provision of infrastructure to support the pulp mill;
2. Subsidies paid by the Commonwealth and Tasmania under Regional and Community Forest Agreements;
3. Subsidies from Tasmanian taxpayers to Gunns because Forestry Tasmania sells pulpwood to Gunns at stumpage rates below market prices;
4. Subsidies from Tasmanian taxpayers to Gunns because Hydro Tasmania sells water to Gunns at a price less than its alternative value in irrigation.

[4] AC (p.33) acknowledges that the project has received or is likely to receive government assistance via provision of infrastructure, Commonwealth Government R&D support, and Managed Investment Schemes. However these forms of assistance are excluded from the AC assessment on the grounds that they are not subject to specific contractual agreement between Gunns and the relevant levels of government (p.33). In the case of taxation arrangements such as the MIS or the stumpage agreement with Forestry Tasmania it is difficult to see the rationale for this position – were that logic to be followed in other parts of the impact assessment process it would be unnecessary to model the effects of taxes on other inputs, such as the payroll tax.

[5] The NPV of subsidies is obtained by discounting at the same rate as used by AC – a real rate of 5%.

5. Subsidies to plantation forestry via the use of preferential tax treatment offered by Managed Investment Schemes.

Subsequent sections of this report detail the calculations underlying estimates of each form of subsidy. We also provide a partial accounting of the opportunity costs of the pulp mill project, focusing on the cost of lost agricultural production

Table 1 Subsidies to Tasmanian Forestry and to Gunns: Summary

(Net Present Value, 2007-2030, $m)

	State	Commonwealth	Total
1. One-off subsidies	30	65	95
2. RFA and CFA	60.86	73.44	134.29/ 2 = 72.1
3. Stumpage	434.66		434.66
4. Water	4.14		
5. MIS in forestry		241.83	241.83
Total			**$847.73m**

Source: Calculations in subsequent sections.

One-off subsidies

One-off subsidies include provision of assistance for development of documentation for the proposed pulp mill, consultancy fees, RPDC expenses, government advertising, upgrades to the East Tamar highway and other roads, and funding for the Pulp Mill Taskforce. Estimates shown in Table 1 are taken from Edwards Submission to RPDC, (September, 2006) and updated with information on costs of RPDC assessments and consultants' reports as provided in the tabulation in the *Sunday Tasmanian*, 15 July, 2007.

Regional and Community Forest Agreements

In 1997, a Regional Forestry Agreement between the Commonwealth and Tasmanian governments was signed. A subsequent Community Forest Agreement was signed in 2005. Both provide for preservation of old growth forests and various forms of subsidy to the Tasmanian forestry industry. Since 2005, payments over the remaining life of the agreement (to 2009-10) are as shown in Table 2.

Table 2 Contributions under Community Forest Agreement ($m)

	05-06	06-07	07-08	08-09	09-10	NPV 07-10

Commonwealth	24.0	45.2	38.0	24.0		60.86
Tasmanian Government	13.8	13.3	13.7	26.2	27.0	73.44
Total	37.8	58.5	41.7	50.2	27.0	134.29
Source: Supplementary Regional Forest Agreement, Attachment 2.						

These subsidies are directed to a variety of purposes in the Tasmanian forest industry. For the purposes of this calculation it is conservatively assumed that half the total subsidy flows through to benefit the proposed pulp mill.

Stumpage

Sources of pulpwood supply for the proposed pulp mill include

- Forestry Tasmania (native forests and plantation)
- Private forests
- Gunns freehold forests.

Competitive neutrality (CN) principles developed by the National Competition Council and agreed to by all states and territories are designed to ensure that GBEs face the same costs and commercial pressures as their private sector competitors. If these principles are applied to the sale of pulpwood timber by Forestry Tasmania, the market value of standing timber would be determined by its residual value, obtained by subtracting harvesting, transport and processing costs from international prices of processed wood products, in this case either woodchips or pulp[6].

This approach to pricing is essentially the same as adopted by the Gunns subsidiary, Gunns Plantations Limited (GPL) which offers woodlot projects to investors as Managed Investment Schemes. Gunns has entered into an agreement with GPL to purchase all harvested timber in pulpwood woodlot projects, with a price to be the higher of the then prevailing market price and a floor price. The floor price is calculated from the Leading Australian Hardwood Chip Export (LAHCE) price by subtracting the costs of harvesting, processing transporting and management fees. On this basis, and allowing for the fact that the yield of plantation timber is up to 15% higher than for native forest timber, the equivalent CN price for sales of native forest pulpwood by Forestry Tasmania can be estimated to be approximately $30 per green metric tonne.

If Forestry Tasmania's projected sales volumes and prices for native-forest pulpwood to Gunns were known, the subsidy could be readily calculated. However neither set of data is publicly available.

In the absence of firm data forest industry investment analysts must, of necessity, make best-estimate assumptions in order to provide advice to clients considering purchasing shares in Gunns Limited. In what follows we use the estimates developed by Comsec to derive a base-case estimate of the NPV of subsidy Comsec report, 27 October 2006[7]. Estimates based on alternative scenarios are also presented.

[6] Productivity Commission (2001), 'Competitive Neutrality in Forestry', CCNCO Research Paper. p.vii.
[7] Comsec report, 27 October 2006.

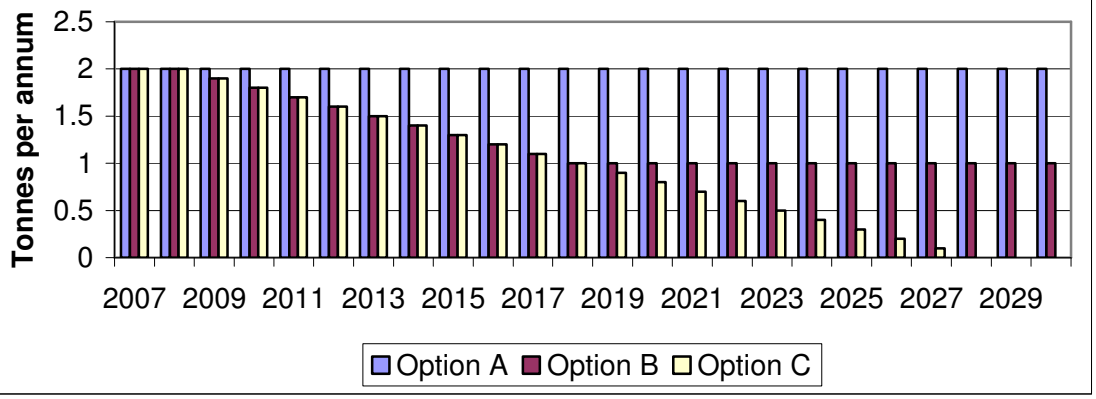
When operating at 820,000 Air Dried Tonnes (ADT) of pulp per year, the proposed pulp mill will require approximately 3.2 million Green Metric Tonnes (GMT) of pulpwood per year. Allowance for additional tonnage of forest residues and other waste for power generation from biomass increases this annual tonnage to over 3.5GMT. Gunns propose that 80% of pulpwood timber will initially be drawn from native forests, moving to 80% supply from plantation timber by 2018.[8] So, excluding demand for export woodchips, initial demand for native forest pulpwood is 2.8m GMT, falling to 0.7m GMT in 2018.

Comsec assumes that the long-term wood supply agreement with Forestry Tasmania guarantees Gunns access to a minimum of 2 million GMT per annum of native forest timber over a period of 20 years, and this assumption is the starting point for the three scenarios developed below. The three scenarios are believed to be conservative estimates of annual purchases a native-forest pulpwood over the life of the project, particularly in the earlier years.

- Option A assumes that annual purchases from Forestry Tasmania are 2m GMT per annum, for the life of the project. As the project shifts to plantation timber for supply to the pulp mill, excess native timber pulpwood is exported by Gunns as woodchips.
- Option B assumes that annual purchases from Forestry Tasmania start at 2m GMT and decline linearly until 2018, remaining constant at 1m GMT per annum thereafter.
- Option C assumes that annual purchases from Forestry Tasmania start at 2m GMT per annum and decline linearly until 2028 at which point there are no purchases of native forest pulpwood from Forestry Tasmania.

These scenarios are illustrated in Figure 1.

Figure 1 Forestry Tasmania Sales Scenarios



[8] As the proportion of plantation timber rises, the higher yield of plantation timber allows for increased output of pulp. Our scenarios assume that this, rather than a reduction of overall demand for pulpwood, will occur.

Now turn to the per-unit subsidy. Comsec estimate that Gunns will pay Forestry Tasmania $12-$14 per GMT for native forest pulpwood[9]. Given the equivalent-productivity stumpage of $30 per GMT from private plantation timber, this equates to a subsidy of around $16-$18 per GMT. For the purpose of generating scenarios, we again adopt an alternative approach and consider three cases – subsidies of $13 per GMT, $15 per GMT and $17 per GMT.

To put these assumptions into the context of Forestry Tasmania returns, removal of a $17 per GMT subsidy of 2m GMT per annum would increase Forestry Tasmania profit by $34m per annum. Had that additional profit been earned in 2005-06, Forestry Tasmania would have achieved a return on equity of approximately 6% instead of the actual return of -0.1%.[10]

The net present value of subsidies under the nine scenarios is shown in Table 3, ranging from a low value of $221.98m to a high value of $492.61m. Recalling that we believe the tonnage assumptions to be conservative, we take the $15 / Option A value of $434.66m to be a realistic estimate of the subsidy, and this the value entered in the summary Table 1 above.

As it turns out, this amount of $436.66m is almost exactly the same as the AC estimate ($440m) of the net present value of the increase in Tasmanian state tax revenues (including GST, royalties and payroll tax) over the life of the project (CA, p.32).

These estimates suggest that the stumpage subsidy alone is sufficiently large to completely offset the projected increase in State tax revenues over the life of the project.

Table 3 NPV of Subsidy to Gunns via Forestry Tasmania Stumpage
$m

Subsidy per GMT	Option A	Option B	Option C
$13	376.70	260.58	221.98
$15	**434.66**	300.67	256.13
$17	492.61	340.77	290.28

Water

We have included a modest subsidy figure for Gunns purchase of water. Gunns is able to purchase water $11/Megalitre cheaper than the lowest market price

[9] See also testimony by Mr Rolley, then Managing Director of Forestry Tasmania, to the 2006 GBE hearings in the Tasmanian Parliament. This price is likely to be indexed to inflation but that is not an issue here as the social discount rate is a real rate of 5%. Hence the analysis is conducted in 'real' terms.
[10] By comparison in 2005-06 Hydro Tasmania achieved a return on equity of 5.2% which meets the 5% benchmark rate for GBEs. See Report of the Tasmanian Auditor General, Vol. 2, November 2006.

($35/ML) though other irrigators are paying much more ($120-200/ML). Over 26 Gigalitres, this equates to a subsidy of $286,000/yr, or an NPV of $4.1m over the life of the project

Managed Investment Schemes

Gunns Plantations Limited (GPL) is a wholly-owned subsidiary of Gunns which entered the Managed Investment (MI) market in 2000 and has since offered a range of investment projects to investors in woodlots, walnuts and wine grapes. In 2006 the woodlot projects offered a choice between plantings of short rotation (13 years) Eucalyptus pulpwood, longer rotation (20 year) Eucalyptus veneer and pulpwood logs, and 25-year rotation radiata pine sawlogs and pulpwood.

Managed investment schemes in forestry offer taxation advantages over other forms of investment, arising from a 'time distance effect', a 'leverage effect' and a 'retirement effect'. These taxation advantages have underpinned the rapid expansion of plantation forestry and the higher after-tax rates of return have enabled companies such as GPL to convert what were viable farms into forestry plantations. So, while it sometimes claimed that the proposed pulp mill will lead to diversification of the Tasmanian economy, the MI schemes have had the opposite effect – leading to a greater concentration of Tasmanian agricultural land in eucalypt plantation monoculture.

The time distance effect arises because establishment costs can be claimed immediately as a tax deduction, and the leverage effect means that financing costs (if the investor chooses to leverage the investment) can also be claimed as a deduction in the early years of the project. By contrast, the income from the project (and hence tax payable) is deferred until harvest. For example, in the case of woodlot 2006 option 1 (short rotation Eucalypt pulpwood), costs can be claimed in the year before planting, while income is received at the thinning stage in year 9 and the harvest stage in year 13. This sequence of tax payoffs can significantly increase the after-tax return on the project.

The retirement effect arises if income at harvest is received when the investor's marginal tax rate is lower than initially, when the investment is made. In this case the initial tax deduction is large, while tax payable on investment income at harvest is low. Data on the number of Eucalyptus woodlots sold by GPL, and the associated contribution to Gunns profits, are shown in Table 4.

Table 4 Sales of Eucalypt Woodlots by GPL

	E. pulpwood woodlots sold	E. pulpwood and veneer woodlots sold	EBIT contribution of woodlots to profit ($m)
2000	164	179	n.a.
2001	670	495	n.a.
2002	13,693	1936	11.6
2003	14,805	2,000	15.1
2004	4,291	467	26.3
2005	9,773	1,426	27.8
2006	11,000 (aggregate target for two types of		Not yet available

	woodlot; sales closed on 30 June 2007; results not yet available)	
Sources: Gunns Limited Annual Reports. *Note: A woodlot unit is one hectare planted and maintained by GPL to specification. .*		

The importance of MI schemes in sustaining plantation forestry in Tasmania is self evident[11]. However it is difficult to quantify the extent of the subsidy afforded to the industry because the sequence of tax payoffs can differ markedly between investors depending on their income and on the way in which their investment is financed. This can be illustrated by reference to the sequence of tax payoffs for three hypothetical investors who purchase a unit of option 1 of Woodlot Project 2006.

It is assumed that all three investors initially earn annual income of $150,000 indexed to inflation, assumed to be 2.9% p.a. over the life of the project. The application fee for a single one-hectare unit in the woodlot at the GST-inclusive price is $6820, and the illustrative stumpage and mean annual increments for trees are those offered by the GPL Cashflow Calculator.

- Investor A does not borrow to finance purchase of the project, and earns $150,000 (indexed) over the life of the project.
- Investor B earns $150,000 (indexed) until 2014/15, but in the following year (when income from plantation thinning is received), income falls to $50,000 (indexed) and remains at that level thereafter.
- Investor C earns $150,000 throughout, makes a 10% deposit on the application fee and borrows the remainder as a 2-year interest-only loan followed by 8 years during which monthly payments of interest and principal are made [at 11.5% p.a.][12].

The illustrative internal rates of return to these investors are, respectively, 6.8%, 8.1% and 9.6%. As the underlying project is identical in each of the three cases, these differences are entirely driven by the different sequences of tax savings.

The three scenarios are intended to illustrate the difficulty in establishing an 'average' tax-subsidy rate for plantation forestry under the MI arrangements. However it is useful to consider scenarios in order to establish possible orders of magnitude. To this end, assumptions are made concerning the per-woodlot subsidy and the number of woodlots to be used to produce pulpwood for the proposed mill.

The subsidy is expressed as a one-off percentage of the ex-GST application fee, which for Woodlot Project 2006 was $6200. For illustrative purposes we consider a subsidy rate of 20% or, in dollar terms, $1240. Drawing on data from Table 4, 43396 short-rotation pulpwood woodlots were sold over the six years to 2005. Bearing in mind that the intention is to supply 80% of the proposed mill requirements by plantation timber by 2018, it is assumed that 10,000 woodlots are sold every year over the life of the project.

[11] An overview of plantation forestry in Tasmania is provided in *Private Property Plantations in the Tasmanian Landscape as at 31 December 2006*, Private Forests Tasmania, June 2007.

[12] These examples were constructed using the GPL Cashflow Calculator 2007, which was publicly available to inform investors considering purchasing lots in the Woodlot Project 2006. The disclaimer in the Cashflow Calculator emphasises that the illustrative calculations do not constitute financial advice. Applications to this product closed on 30 June 2007.

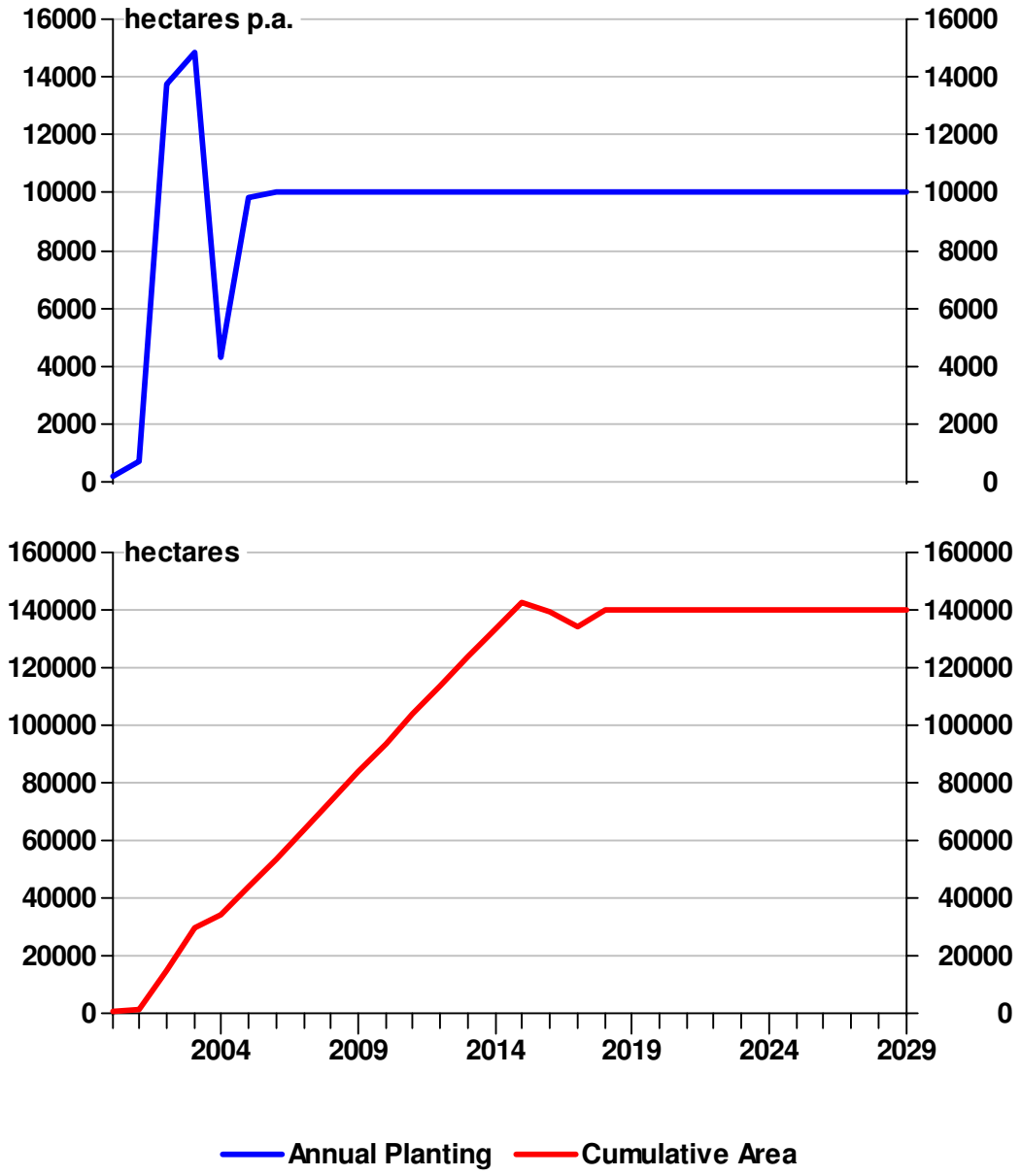
Given a 13-year rotation this implies that the acreage under MI schemes offered by GPL rises to 140,000 hectares by 2019 and is constant thereafter. This scenario is illustrated in Figure 3.

On these assumptions, the net present value of subsidies to GPL pulpwood plantations over the life of the proposed pulp mill is $241m.

Clearly this figure is dependent on assumptions as to subsidy and planting rates. The effect of alternative assumptions is that

- The net present value of the subsidy changes proportionately with the assumed subsidy rate so, for example, a subsidy rate of 30% would increase the net present value from $241m to $361m.
- For a given subsidy rate, the net present value changes approximately proportionately with the assumed planting rate. For example, if an annual planting rate of 12,000 hectares is assumed, acreage peaks at 168,000 hectares in 2019 and the NPV of the subsidy is $279m; if an annual rate of 8000 hectares is assumed acreage peaks at 114,000 hectares in 2018 and falls to 112,000 thereafter. In this case the NPV of the subsidy is $204m.

Figure 2 Planting assumption for GPL woodlots.



Effects of subsidies: Lost output from Conversion of Agricultural Land

The previous section estimated the net present value of subsidies to the proposed pulp mill arising from tax-favoured investment in woodlots via Managed Investment Schemes (MIS). **Calculation of these subsidies in the present report corrects a serious omission from the AC and ITS Global reports.**

That is not the end of the story, however. **Another cost not accounted for in the Allen Consulting (AC) and ITS Global reports is the cost of lost agricultural output consequent on the conversion of agricultural land to plantation forestry.**

The approach followed by AC can be seen by referring to the discussion in AC (p.41-42) which, essentially, argues that output losses from conversion of agricultural land should not be counted because the rate of establishment of plantation is within the rate of planting previously planned by Gunns Ltd (i.e. achievement of a plantation estate within Tasmania of 150,000 hectares within 10 years). Following this line of argument, the only cost to Tasmanian agriculture included in the AC and ITS Global reports is the cost imposed by the appreciation of the Australian dollar – as is illustrated in AC Figure 8.20 and Table C.3[13], this impact is very small except during the construction phase of the pulp mill project. The exchange-rate appreciation induced by the project leads to a contraction (relative to the base case) in agricultural output of 0.4%, 0.9% and 0.6% in the three years of the construction phase of the project. Impacts thereafter are negligible.

However, the cost of land conversion induced by MIS schemes clearly leads to a contraction in agricultural output, and this should be accounted for when assessing the costs of the proposed pulp mill. In this report the costs of land conversion are expressed as the net present value of the loss in agricultural value-added induced by MIS-subsidised land conversion. It should be emphasised that **this calculation is conservative** as it only counts the **direct** costs of land conversion – as always, there are indirect effects in agricultural supply and processing industries.

In 2006-07 value added in Tasmanian agriculture (i.e. the contribution to Gross State Product) is estimated to be $700m[14]. There are currently approximately 600,000 hectares of class 1-4 privately-owned agricultural land in Tasmania in non-plantation forestry use, giving an average annual value-added per hectare of approximately $1200 per hectare[15]. It is likely that forestry plantations are established, on average, on lower-value land – to this effect, the baseline assumption is that average agricultural value added on land converted to woodlots is two thirds of the state-wide average for all class 1-4 agricultural land, or $800 per annum per hectare.

As in the calculation of the subsidies implied by Managed Investment Schemes, it is assumed that 10,000 woodlots are sold every year over the life of the project. Conservatively, it is assumed that only 30% of these projected woodlot sales (including sales over the period 2001-2 to 2005-06) involve conversion of land previously used for agriculture. In the first year under consideration (2007-8), for example, the cost of lost agricultural output is $15.26m. However this cost accumulates over time as the area of converted land rises - in the later stages of the simulation, with 42,000 hectares converted from agriculture to plantation timber, lost value added is $33.6m per annum in 2006-07 prices, or approximately 5% of total Tasmanian value added in agriculture.

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[13] In the MMRF Green model on which the AC and ITS Global reports are based, the 'Agriculture' sector includes 'Fishing'.

[14] This figure is estimated from data provided in Australian Bureau of Statistics, Agricultural State Profile, Tasmania 2004-05 (cat. no. 7123.6.55.0011).

[15] Estimates of income lost from conversion of agricultural land are provided in Edwards, *Submission to RPDC*, (September, 2006), p.21-22. Her estimates appear to be based on an estimate of average Gross Operating Surplus per hectare, rather than value added per hectare (this report is based on the latter measure so as to cast the loss in terms of contribution to Gross State Product).

On these assumptions, the NPV of the direct cost of MIS-subsidised land conversion over the life of the project is $403m. If induced changes (contractions in downstream processing and supply industries) were included, the NPV of costs would be significantly larger than this.

As with the earlier subsidy calculation, it is straightforward to assess the effect of alternative assumptions:

- the NPV of direct costs varies proportionately with the assumed productivity of land subject to conversion. For example, if it is assumed that converted land is only half as productive as the Tasmanian average, (i.e. lost value added of $600 per hectare per annum, rather than the previous assumption of $800), the NPV of direct costs of land conversion falls to $302m.
- the NPV of direct costs varies (approximately) proportionately with the assumed proportion of woodlot plantings that are made on land previously used for agriculture. If instead of our base-case assumption of a 30% conversion rate, a conversion rate of 20% is used, the NPV falls to $269m.

Results from alternative scenarios are summarised in the Table below.

Table 6 Direct Costs of Conversion of Agricultural Land (NPV of lost agricultural value added, $M, 2006-07 prices)

	Conversion rate		
	20%	30%	50%
Value added			
$600 per hectare p.a.	$202	$302	$504
$800 per hectare p.a.	$269	**$403**	$672
$1000 per hectare p.a.	$335	$504	$840

Notes:
(i) In 2006-07 average value added per class 1-4 hectare in Tasmanian agriculture was approximately $1200
(ii) The base-case assumption is that woodlot planting is 10,000 hectares over the life of the project. The assumed 'conversion rate' refers to the proportion of this acreage previously used in agricultural production.

Effects of subsidies: Lost output from diversion of water

The proposed pulp mill and associated expansion of plantation planting will involve the diversion of large volumes of water from other uses. **As with the cost of land diversion, the costs of water diversion have not been considered in the AC and ITS Global reports**.

The most significant effect is that establishment of plantations in the headwaters of river systems significantly reduces runoff, and hence downstream river flows, which otherwise could have been used for irrigated agriculture. There is presently no charge for withdrawal of water by plantation timber and, given that DPIW estimates that 1ML of water adds $500 to the value of crops at the farm gate, downstream users presently constrained by lack of water allocation are subsidising upstream water use for plantation timber.

It has been estimated that by 2020 plantations established for the proposed pulp mill will use 630 GL per annum. Additionally, the pulp mill itself will draw up to 40 GL p.a. from the Trevallyn Dam. These projected flows can be compared to Tasmanian agricultural use of 300 GL p.a. in 2005[16]. Prices for these flows are, respectively, zero; $24-$28 per ML; and up to $200 per ML for the proposed Campbell Town agriculture irrigation scheme.

The wide disparity in prices (with zero or low prices for use in plantation/pulp production, and high prices for agricultural use), together with the large volume of water diverted for the pulp mill, suggests the cost to agricultural output could be very substantial. It is likely that these price disparities will increase as the price and availability of water rises in other parts of Australia such as the Murray-Darling basin. This has the implication that current forestry and water-pricing policy will close off options for higher-value uses of Tasmanian water in the future.

We do not attempt to estimate the water-diversion cost here as there is insufficient information on which to base an estimate for Tasmania as a whole. Such an estimate may be possible in specific catchments such as the Meander where

- plantation timber acreage is known,
- where the demand for irrigation water has been established, and
- where there are detailed analyses of water flows in the catchment.

These data have been collected as part of the evaluation of the Meander Dam project.

While we have not estimated the cost of water diversion, it is an imperative for efficient water allocation that users be charged an efficient economic price. Clearly the efficient price for water use for plantation timber is **not** zero. It is, instead, the value of water in its next most productive use – in many catchments, this is likely to be irrigation for agriculture. Unless resources are priced efficiently, and hence allocated to their most productive use, the costs to the Tasmanian economy are likely to be large, and increasing over time.

[16] Fact Sheet #7, www.tapvision.info.

APPENDIX C:

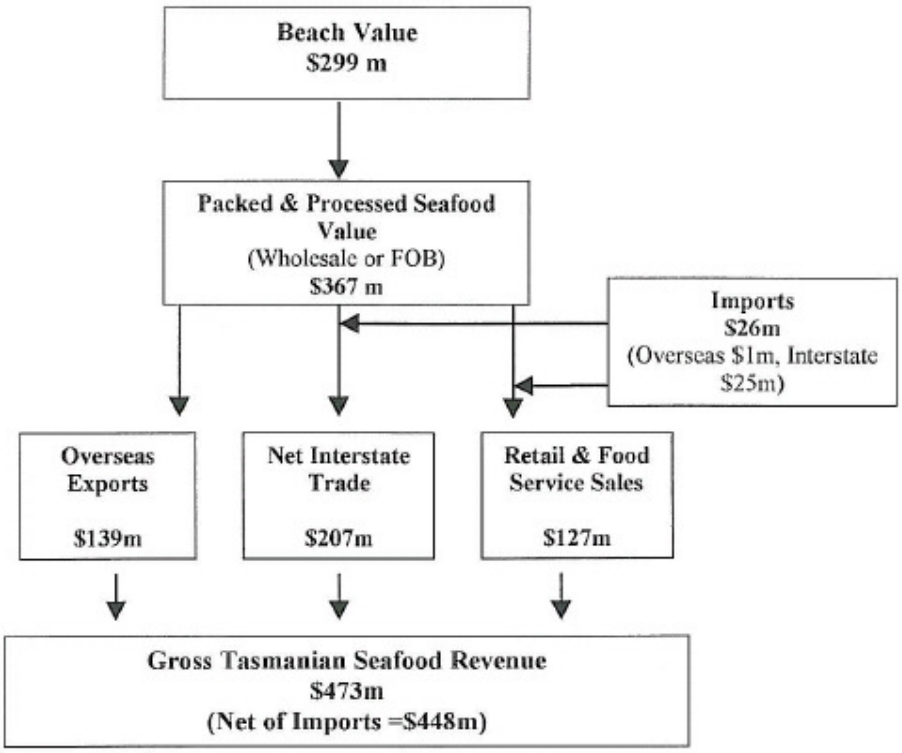
Tasmanian Seafood Industry ScoreCard – 2004 - 05

Last year I reported on the Seafood Industry – see 'Keeping Tabs on the value of our seafood industry' Fishing Today April/May 2006. This is part of an initiative to establish what is the real value of Tasmania's food, agriculture and fishing industries.

Using the ScoreCard method it is possible to look at the seafood industry value chain. As noted last year the ScoreCard is a desktop study and is particularly useful to fill gaps in our current industry statistics. In particular estimating the packaged and processed value of our seafoods and the value and quantity of interstate trade.

The year to year variations between 2003 – 04 and 2004 – 05 are relatively small. While the beach value of seafoods increased by $19 million, the net gross revenue only increased by $5 million, as explained later.

There were modest gains in overseas exports (+ $2 million) and net interstate trade (+ $6 million). An increase in Tasmania's population of some 3,100 people and a continued strength in tourism, underpinned combined retail and foodservice sales in Tasmania of $127 million.



APPENDIX D:

Absolute Contribution of Pulp Mill	Increase in Death and disease	Increased Deaths	Cost ($m)	Increase in Hospitalisations	Cost of Hospitalisations	Work Days Lost (asthma only)	Lost Productivity	Total
0.94 µ/m³	.37%	4	$10	380	$1.9m	1480	$.225m	$12.125m
1.89 µ/m³	0.756%	8	$20m	760	$3.8m	2960	$.45m	$24.25m
2.83 µ/m³	1.32%	12	$30m	1140	$5.7m	4440	$.675m	$36.375m

Calculations were based on the following research:

Deaths:
Launceston currently has 460 deaths per year resulting from Respiratory Diseases

There are approx 8 additional deaths per year as a result of poor air quality in the Tamar Valley Air Shed. This is due to the well established correlation between PM2.5 (ultra-fine particulates) and respiratory disease.

We refer to the RODC submission by the AMA highlighting the deficiencies in Gunns modeling, and calculations by Dr Andreas Ernst showing that the proposed mill is likely to lead to an increased PM 2.5 concentration of 1.89micrograms/m3, resulting in an 0.756% increase incidence of respiratory disease.

This will result in:

Deaths: An 0.756% increase in mortality will lead to 8 more deaths per year
Disease : Deaths are unfortunately the tip of the iceberg. For every death from respiratory diseases, there are a far greater number of hospitalisations for serious respiratory illnesses, and an even larger number of days lost to minor respiratory diseases. Studies, both in the US and Australia, indicate that for every death due to respiratory diseases, there are 95 and 110 hospital admissions. We have used the smaller of these figures. For example, see http://www.healthypeople.gov/Document/HTML/Volume2/24Respiratory.htm showing a ratio of 5000 deaths to 500,000 hospitalizations,[3] 134 million days[4] of restricted activity a year, and 1.6 billion spent on hospital visits

Ailments and lost productivity
Average asthma sufferer loses 6 days per year of work/school. We were unable to obtain a figure for lost time for other respiratory diseases, and have therefore excluded them from our calculations

Cost Calculation

Deaths from respiratory diseases were "costed" at $2.5 million by the Tas Govt Air Quality Strategy
Disease: Hospitalisation costs average $5000.
Lost Productivity: Studies indicate that Asthma sufferers lose an average of 6 days per year as a result of their asthma. Greater Launceston workforce 60,000 workers. 1 in 9 adults is an asthma sufferer (1 in 7 children) Therefore loss is 40,000 work days per year, calculated at $150/day based on average annual salary for Tasmania

Double Checking: We wished to double check our methodology by arriving at our figures using an alternative method.

It is estimated that respiratory diseases cost 900m per year in WA. WA population is 2,000,000. Assuming the same per capita costs, Greater Launceston population of $100,000 would lead to a health cost bill of $45 million. A 0.756% increase due to pulp mill pollution would cost $3.402 million. This gives good correlation to the figure arrived at through the primary methodology ($3.8million)

Logging truck Deaths

Logging Truck Accidents	Deaths	Cost of deaths	Increased Hospitalisations	Cost of Hospitalisation	Lost Assets/ P'ty	Total
	1	**$2.5m**	**5**	**$25,000**	**$150,000**	**$2.675m**
	2	**$5m**	**10**	**$50,000**	**$300,000**	**$5.35m**
	3	**$7.5**	**15**	**$75,000**	**$450,000**	**$8.025m**

This is similar to the previous calculation, with the addition of loss of assets in collisions. A ratio of 5 accidents to 1 fatality is extremely conservative

Totals over 24 year period

	Respiratory Diseases	Log Truck Accidents	TOTAL
Deaths	192	24	**216**
Cost (NPV)	$350.36m	$38.64m	**$398m**

Appendix E: Cost Escalation

Paper by Wells Economic Analysis

As is recognised in the ITS Global Review (p.65),

> 'There is ... a risk that significant labour shortages and wage pressures could emerge within the Tasmanian economy during the construction phase and that they could constrict the extent of the economic benefits that would otherwise have been realized by the State'.

This risk arises because the CA assessment is predicated on the assumption that, in the 'base case', the economy is in a normal full employment position. However this is clearly not the case – the Tasmanian economy, as in mainland states, is experiencing severe shortages of skilled labour. The rapid fall in the Tasmanian unemployment rate is well documented, and over the last four years, the TCCI Quarterly Survey of Business Expectations has shown that 'the availability of suitably qualified employees' is an increasingly severe constraint on business activities – it is now clearly the top-ranking concern among the businesses in the TCCI survey.

In the model used by CA and ITS Global, investment associated with the proposed pulp mill attracts labour, in the long run, in three ways - by attracting labour from other industries in Tasmania, by attracting labour from mainland states, and by inducing an increase in hours worked. In this literature the process of attracting labour from other industries in Tasmania and on the mainland is usually described as a 'crowding out' mechanism.

If, as at present, the labour market is tighter than assumed in the base case, crowding out will be commensurately more severe, and this is the source of the risk to which the ITS Global Review refers.

It is not difficult to identify significant Tasmanian projects which are well through the approval process and which will be adversely affected by this crowding out mechanism. To take one example, the proposed Musselroe eco-tourism development is estimated to directly generate 1040 FTE jobs during the three-year construction phase of the project, and provide ongoing direct employment for 160 staff[17]. The likelihood that this project, and others like it, will be crowded out by the proposed pulp mill, is much higher than estimated by AC and the ITS Global Review.

So the conclusion of the ITS Global Review (p.5) that the proposed pulp mill is not an 'either/or' project, is, in an important sense, misleading. By underestimating the crowding out effects, the ITS Global Review is underestimating the extent to which alternative (and largely unsubsidised) investment projects will be crowded out. To that extent it overestimates the benefits to the Tasmanian economy.

In our view, current labour market conditions mean that the risk to estimated benefits has been significantly underestimated. It is a serious deficiency of th ITS Global Review that there has no attempt to estimate the size of this risk.

[17] See Musselroe Development Application, 2006.