

Our Reference: BG0812d

14 April 1999

The Secretary
Review of Business Taxation
Department of the Treasury
Parkes Place
CANBERRA ACT 2600

SUBJECT: SUBMISSION BY THE NORTH WEST SHELF PROJECT

Dear Sir,

A joint submission to the Review of Business Taxation by the six Joint Venture Participants of the North West Shelf Gas Project is attached. The submission specifically addresses the impact of proposed changes to the company tax rate and accelerated depreciation on large, long life resource projects such as LNG projects. The individual Participants or their affiliates will address other issues raised by Discussion Paper 2 in separate submissions.

The main conclusion drawn by our submission is that while the move to a lower company tax rate is supported, the benefits for large capital intensive projects would in many cases be more than offset by the introduction of effective life depreciation. Therefore, the profitability of new long life projects would be reduced and some marginal projects may not proceed. The loss to Australia in terms of economic and government revenue benefits from such projects greatly exceed the cost of maintaining their current depreciation rates.

In any case, because of the long construction lead times and inability to commence depreciation deductions before plant is installed ready-for-use, most depreciation deductions resulting from new LNG projects would only commence beyond 2004. By that time the loss to revenue from accelerated write-off will be more than offset by the higher growth dividend resulting from a lower company tax rate. It is therefore, not necessary to apply effective life depreciation for large, long life projects in order to achieve revenue neutrality.

It is therefore recommended that the competitiveness of Australia's taxation system be improved by lowering the company tax rate to 30% whilst maintaining the current depreciation schedules (or introducing similar value measures) for long lead time, long life projects such as LNG.

The submission is intended for public release and we would be pleased to elaborate on any of the matters raised.

Yours sincerely
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**THE IMPACT OF PROPOSED TAXATION CHANGES ON
LARGE LONG-LIFE RESOURCE PROJECTS SUCH AS
LIQUEFIED NATURAL GAS**

SUBMISSION BY
THE NORTH WEST SHELF JOINT VENTURE PARTICIPANTS
TO THE REVIEW OF BUSINESS TAXATION
DISCUSSION PAPER 2

(For Public Release)

April 1999



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Executive Summary

This submission is lodged by Woodside Energy Ltd on behalf of the six Joint Venture Participants of the NW Shelf Gas Project. It deals with the impact of changes to company tax and depreciation schedules on the proposed expansion of the NW Shelf Gas Project. Comments in relation to broader issues raised in RBT Discussion Paper 2 - *A Platform for Consultation* are the subject of separate submissions from the individual Participant companies or their affiliates.

This submission details our reasons for supporting a 30% company tax rate and for opposing any lengthening of depreciation schedules unless equivalent value measures can be put in place for long life projects such as Liquefied Natural Gas (LNG). We illustrate how longer term revenue neutrality is achievable through the economic growth flowing from LNG projects and how these projects, and the economic benefits they bring, are dependent on Australia's fiscal regime being internationally competitive in relation to both tax rate and depreciation schedules (or equivalent value measures).

The "static" economic assumptions underlying the revenue tables contained within *A Platform for Consultation* do not fully capture the "dynamic" economic responses (ie. the "growth dividend") expected to flow from a lower company tax rate - the huge boost to investment, jobs, growth and tax collections. Our modelling shows that the total community benefits of long-life projects greatly exceeds the cost of maintaining accelerated depreciation and that removal of the concession, without replacement by an equivalent value measure, is likely to be counter-productive.

As stated in *A Platform for Consultation* the growth dividend has been conservatively estimated and is expected to increase substantially in the years beyond 2004 when depreciation deductions on LNG Expansion capital would commence. We therefore believe that it is not necessary to move to effective life depreciation to achieve revenue neutrality. If depreciation schedules for long-life projects such as LNG were removed without substituting an equivalent value measure, Government risks undoing the investment boost provided by a lower company tax rate by over-compensating for conservatively estimated revenue losses.

A typical LNG project provides an illustration of the benefits flowing from long-life projects. For a \$6 billion LNG investment with start-up in 2004, Government revenues would be boosted by some \$10 billion in present value terms (at the Treasury discount rate of 7% nominal) over the project life by way of royalty payments and direct/indirect tax collection (at a 30% company tax rate). The project would also generate significant benefits for the Australian economy, including increased export income (of about \$1.5 billion a year), increased employment (average employment boost 2012-2022 is some 44,000 jobs) and increased personal incomes.

Additionally, research by the University of Western Australia¹ has demonstrated that projects such as these are important generators of business for suppliers of goods and services including providers of finance and business services and personal services such as entertainment, education and health. The resources and services industries are therefore closely interrelated and it is a mistake to suggest that adverse changes to the taxation treatment of one would not affect the other. *The benefits flowing to the community from resource sector projects are likely to exceed the cost of maintaining the existing depreciation schedules for long-life projects, or introduction of an equivalent value measure, in a 30% tax rate environment.*

A recent study undertaken by Aberdeen University² noted the negative impact of Australia's tax system on gas project economics. Capital for LNG projects is transferable internationally and will chase the best available economic return. In a world where gas supply greatly exceeds growth in demand, only those projects able to combine low cost resource extraction with competitive fiscal arrangements are likely to proceed. If prospective returns on investment are inadequate, Australian gas resources will remain in the ground.

The submission considers the impact of effective life depreciation on a marginal LNG project and concludes that the negative effect on project economics generated by a move from current

depreciation schedules to a 15 to 20 year effective life basis is far greater than the positive benefit resulting from a lower 30% company tax rate.

The introduction of a 30% company tax rate will assist Australian resource projects in competing for development capital. However, the prospect of developing these resources through investment in long-life projects will be significantly enhanced if internationally competitive depreciation schedules or equivalent value measures are also in place.

In relation to the "revenue-neutral" trade-off of depreciation schedule/company tax rate we note the following:

- The trade-off favours existing investments at the expense of new investment in long-life projects;
- The profitability of new long-life projects is eroded by the trade-off and some marginal projects may become uneconomic with effective life depreciation (even assuming a 30% tax rate);
- The loss of accelerated depreciation will disproportionately impact regional Australia and is not revenue-neutral on a State-by-State basis;
- As identified through the LNG Action Agenda³, fiscal impediments in Australia stand in the way of making our LNG industry internationally competitive. Achieving a tax outcome neutral with the current position will not improve that situation;
- It appears that no account has been taken of the implications to Australia's balance of trade if export-oriented projects generating billions of dollars per year of foreign exchange are discouraged.

In conclusion, we recommend that the competitiveness of Australia's taxation system be improved by lowering the company tax rate to 30% whilst maintaining the current depreciation schedules (or introducing similar value measures) for long-life projects such as LNG. The increased level of investment attracted by an internationally competitive fiscal environment for LNG encompassing a lower company tax rate and attractive depreciation schedules (or equivalent value measures) will generate superior community benefits to an outcome that trades off depreciation schedules against a lower company tax rate.

1. "The Economic Benefits from an Expanding Minerals and Energy Industry" which is part of the project, "Minerals, East Asia and the WA Economy" undertaken by Clements, Ahammad and Ye Qiang, Economic Research Centre, University of Western Australia, 1996.

2. Report to the former Dept of Primary Industry and Energy on gas projects in Australia under PRRT, by Aberdeen University Petroleum Economic Consultants, 1998.

3. The LNG Action Agenda was announced by the Prime Minister in December 1997 and aims to identify and remove impediments to growth of the Australian LNG industry.

1.0 Introduction

This submission argues the case for maintaining the current depreciation schedules (or introducing equivalent value measures) for resource sector projects whilst moving to a company tax rate of 30%. The increased level of resource sector investment attracted by maintaining current depreciation schedules in a low tax environment will generate superior community benefits to an outcome that trades off depreciation schedules against a lower company tax rate.

The total benefits flowing to the Australian community from resource sector projects includes the indirect benefits relating to employment growth, stimulation of service industries, additional tax and royalty payments and generation of substantial export income. The results of a case study, based on a typical large scale LNG project, are presented in Section 2 of this submission. We believe that the enormous indirect benefits flowing to the community in the case study example are representative of the benefits derived from most resource sector projects of similar scale.

Section 3 of this submission gives details of international competitiveness for the LNG industry and shows that Australia's depreciation schedules in relation to LNG projects capital are already uncompetitive with those applying in our region. The case is made that in spite of Australia having substantial mineral and petroleum resources, resource sector projects and their benefits may well be lost to Australia if the projects cannot offer attractive after-tax rates of return to international investment capital.

Section 4 of this submission shows how a marginal resource sector project is adversely affected by a move to effective life depreciation, even with the benefit of a lower company tax rate.

Some \$190 billion of resource sector mining and processing projects are proposed in the period 2001 - 2011 according to information supplied by Access Economics. Section 5 of this submission examines the impact of depreciation rate changes on a suite of hypothetical resource sector projects and shows how changes to depreciation rates may impact on the viability of those projects. A strong case is made for maintaining accelerated depreciation even with the benefit of a lower company tax rate. An indicative calculation shows how the cost to Treasury of maintaining current depreciation schedules (or introducing equivalent value measures) for all resource sector projects in a low tax environment is likely to be more than covered by the additional revenues flowing from marginal resource sector projects otherwise rendered uneconomic by a depreciation / tax rate trade-off.

Section 6 of this submission examines the State-by-State economic impact of trading off a lower company tax rate against loss of accelerated depreciation. It shows that even if the Australia-wide impact is revenue-neutral, there are large variations in impact between the States. Western Australia is particularly badly hit in both the short and medium term. The adverse impact on regional Australia and the resources sector can be reversed by maintaining current depreciation schedules, or introducing equivalent value measures, in a low tax environment.

2.0 Case Study: NW Shelf Expansion Project - Australian Economic and Fiscal Impacts

This section draws on results contained in a report by Access Economics produced in October 1997. The assumptions in the report reflect the then current conditions of market demand and energy prices, which have now changed considerably. None-the-less, the analysis still validly reflects the community benefits of a large-scale resource sector project, albeit that the profitability to the proponents is considerably lower than implicit in the case study. Community benefits will be delayed to the extent that the project timetable slips beyond that envisaged in the report.

Base assumptions:

Construction of a two LNG train export facility on the Burrup Peninsula in north-west Australia with some \$6.5 billion of capital (1998 prices) being expended over the period from present to 2007. Capital is supplied largely (some 75%) by foreign investors and (for the purposes of conservatively modelling the community benefits) is assumed to be 100% debt financed. Additional revenues associated with 7 million tonnes pa. LNG exports are some \$2 billion pa.

Key economic results:

- Peak construction year employment impact: **+ 10,000 jobs**
- Additional export earnings to 2022: **+ \$26 billion** (1998 prices)
- Direct payments of royalty and company tax to 2022: **+ \$6.7 billion** (1998 prices)
- Direct and indirect government revenue increase discounted at the Treasury discount rate of 7% nominal (ie. some 4% real assuming 3% pa. inflation): **+ \$9.8 billion***
- Average employment increase in mature phase 2012 - 2022: **+ 44,000 jobs**

The report also makes the following points:

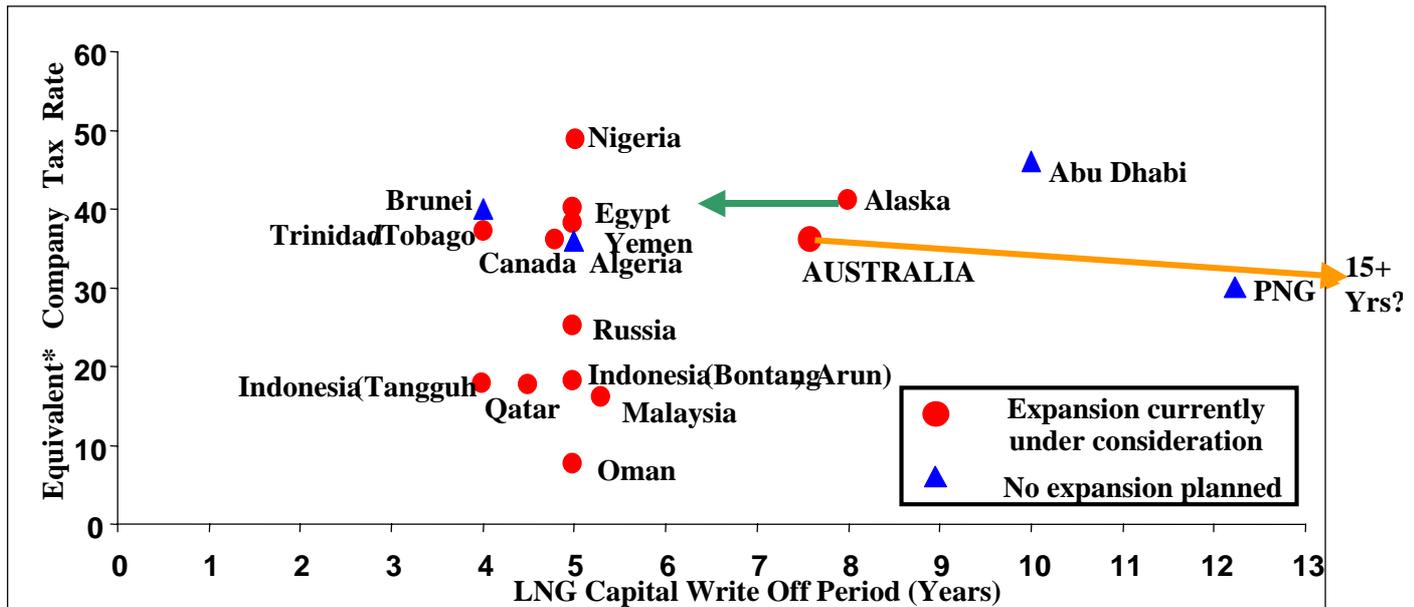
- The project's investment raises aggregate demand, output and employment in the construction phase;
- As exports rise and borrowings are repaid, the project's economic impact grows. Australian incomes rise, private consumption rises as does employment and business investment. Benefits are likely to continue well beyond the assumed end date of the study;
- The project generates large positive net present values in private consumption and government revenue growth compared to the base case of the project not proceeding;
- **The expected social returns from the project exceed the private returns.**

* Woodside extrapolation to 2022 based on Access Economics spot calculations to 2013.

3.0 LNG Competitiveness

A key measure of project viability is the after-tax rate of return expected by project owners. This is strongly influenced by both the company tax rate and by the rules governing depreciation of capital. Depreciation rules are especially important for capital intensive long-life projects such as LNG, where construction schedules of 3 - 4 years mean that depreciation deductions cannot commence until several years after expenditure (depreciation not permitted until start-up).

The chart below compares company tax rates and depreciation write-off periods applying to LNG projects currently operating or planned for development. It shows the competitive position of Australia against overseas LNG projects.



Sources: *Review of Petroleum Fiscal Regimes, Petroconsultants (UK) Ltd., 1997*
Suggestions for New Terms for the Alaskan North Slope LNG Project, Dr P H van Meurs.
World LNG Trade, WA Department of Resources Development, April 1998,
Petroleum Economist, April 1998; Shell International Gas

The chart shows that most competitors to Australian LNG (Malaysia, Indonesia, Qatar, Oman) enjoy low effective company tax rates and are allowed to depreciate capital over a 4 - 5 year period. In each competitor country, accelerated depreciation is recognised as an important concession to improve the viability of long-life capital intensive projects such as LNG. While Alaska is in the process of renegotiating applicable depreciation schedules for LNG (from 8 year to 5 year write-off), Australia is in danger of degrading its competitive position by lengthening depreciation schedules for LNG.

The negative impact of Australia's current tax system was demonstrated in a study undertaken by Aberdeen University Petroleum Economic Consultants. The AUPEC study concluded that the Australian company tax system introduces a significant element of regressiveness, which leads to gas projects becoming less profitable due to the depreciation provisions. Indeed, under a range of representative scenarios the net present value of company tax collections exceeded the entire pre-tax NPV of the project. In effect, company tax can extract the entire economic rent from a gas project. This unsatisfactory outcome would be maintained under a lower company tax rate / effective life depreciation schedule regime unless additional value measures were put in place to achieve international fiscal competitiveness for gas projects.

* Tax rate averaged over project life to account for tax holidays of up to 12.5 years offered in some jurisdictions and over upstream and downstream operations.

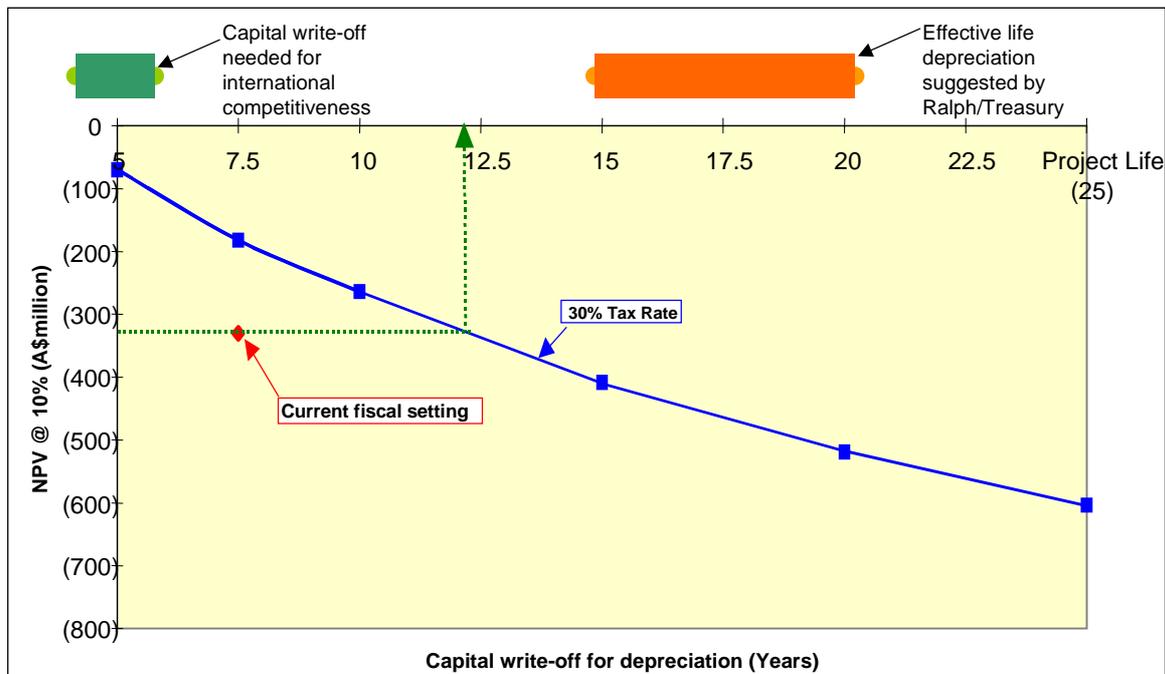
4.0 Impact of effective life depreciation on a marginal LNG project

Our analysis shows that marginal LNG projects are adversely impacted by a move from current depreciation schedules to a 15 - 20 year effective life for depreciation and that a company tax rate of 30% does not fully compensate for the reduction in NPV resulting from effective life depreciation.

The fiscal impediments to expansion of Australia's LNG industry under the current fiscal regime have already been flagged as part of the LNG Action Agenda process. A change to the tax system that achieves no better than NPV neutrality with existing fiscal terms does nothing to improve Australia's competitive position with regard to LNG. Marginal LNG projects require internationally competitive company tax rates and depreciation schedules (or equivalent value measures) to stand a chance of meeting the investment hurdle rates required by investors.

The chart below shows that the breakeven depreciation life is some 12 years for a marginal greenfield LNG project¹. The chart also shows how the project return can be improved by a move to internationally competitive fiscal terms including a 4 - 5 year write-off period for LNG capital (or equivalent value measures).

Marginal Greenfield LNG Project



- Data represents a hypothetical marginal LNG project
- To equalise NPV a 12 year depreciation life is required with a 30% tax rate
- To increase the likelihood of achieving a profitable project, an internationally competitive capital write-off period of ~5 years is required

1. Data depicting "low return LNG project" supplied by APPEA

5.0 Viability of marginal projects - Australian impact

According to Access Economics¹ some \$190 billion of mining and resource-processing investment is forecast for the period 2001 - 2011. Some of this pool of investment will represent marginal projects, which may not proceed if overall taxation conditions deteriorate from those currently available. Our analysis shows that for a range of discount rates, long-life marginal projects are likely to be worse off with effective life depreciation, even with a lower company tax rate of 30%. These projects, although offering marginal returns to investors, will provide substantial community benefits if they proceed.

To estimate the effects of some marginal projects not going ahead if accelerated depreciation is eliminated (ie. without substitution of equivalent value measures), a hypothetical suite of long-life projects was postulated, based on a typical long-life capital-intensive project such as LNG. The following assumptions were made:

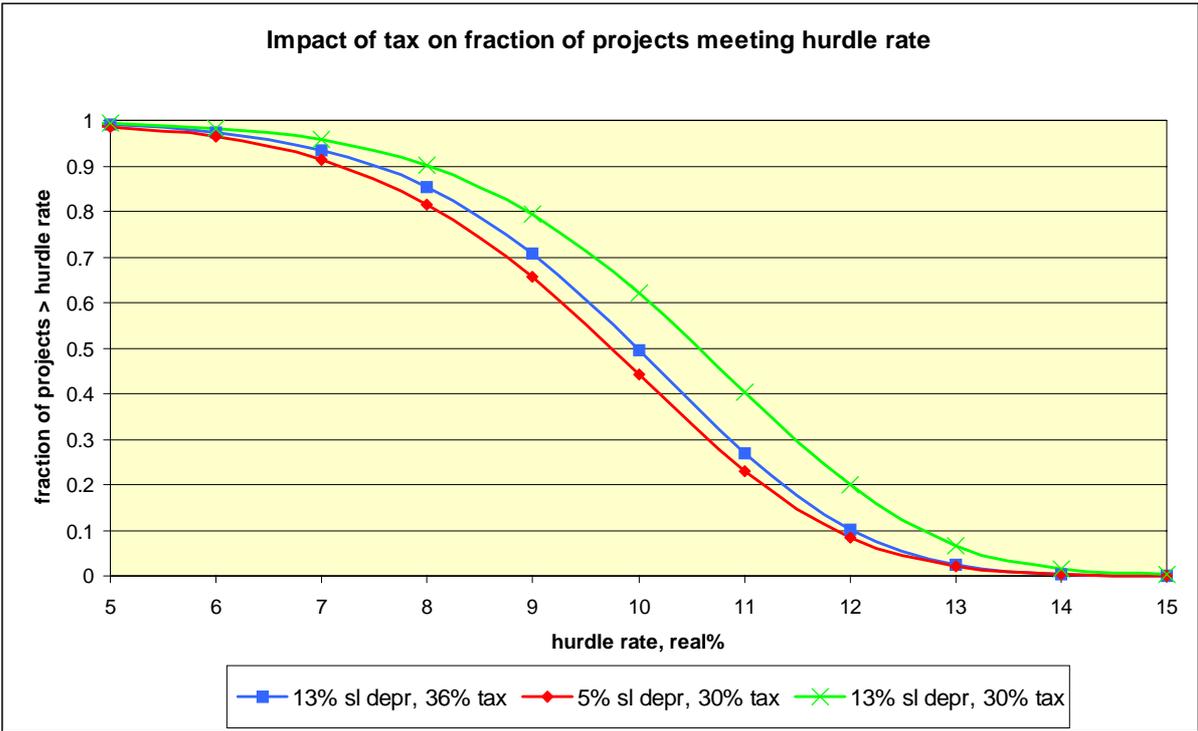
- Project profitability was adjusted by postulating a random (normally distributed) variation to revenue about a mean IRR = 10% real, after tax. This resulted in a portfolio of investments with a range in IRR outcomes of 5% - 14%;
- Current tax treatment of 7.6 year depreciation life and 36% tax rate vs. effective life of 20 years and 30% tax rate;
- Sensitivity to 30% tax rate whilst maintaining existing depreciation schedules.

Results, shown below, indicate that, at a hurdle rate of 10% real, a significant fraction (some 5% or \$10 billion) of the portfolio of long-life investments may well become uneconomic if a 20 year effective life and 30% tax rate replaces current tax treatment. Conversely, a significant fraction (some 10% or \$20 billion) of currently sub-economic projects could become economic if the existing accelerated depreciation regime was maintained in a low tax environment. The chart also shows that similar results are likely to apply over a range of commercially relevant hurdle rates.

As detailed in Section 2, the economy-wide benefits of a major investment long-life project going ahead greatly exceed the cost of maintaining accelerated depreciation for that project (\$6.5 billion project, \$400m NPV cost of accelerated depreciation, \$9800 million NPV increase in government revenue). Applying these values to the portfolio of projects means that the "revenue-neutral" trade-off of tax rate with effective life depreciation puts some \$14 billion NPV of Government revenue at risk. Conversely, by maintaining existing depreciation rates in a low tax environment for the entire portfolio of projects at a cost of some \$12 billion NPV, additional government revenue NPV of some \$30 billion could be expected.

The balance of trade implications of long-life major-investment projects such as LNG also needs careful consideration. With Australia's current account deficit heading towards record highs it is important to consider the implications of discouraging such export oriented investment by removing accelerated depreciation. Other things being equal, an unsustainably high current account deficit reduces national wealth by lowering the exchange rate, putting upward pressure on interest rates thereby dampening economic growth. These threats to economic welfare can be reduced by appropriate policy settings which encourage export industry, namely a lower company tax rate whilst maintaining accelerated depreciation (or introducing equivalent value measures).

1. Access Economics, private communication 12/3/1999, representing forecast investment by industry 2001/02 to 2010/11 in "Mining" and "Resource processing", nominal dollars.



6.0 State-by-State economic impact of losing accelerated depreciation

A quick-look study undertaken by Access Economics¹ shows that the costs of losing accelerated depreciation fall disproportionately on WA, Qld and Vic whereas the benefits of a lower company tax rate are more evenly spread amongst the States. While a revenue-neutral outcome may be achieved across Australia, the outcome for states such as WA is far from neutral. Maintaining accelerated depreciation (or introducing equivalent value measures) in a low tax environment could alleviate the adverse impact on WA and on regional Australia.

The table below shows the outcome for WA and for Australia if accelerated depreciation is removed in exchange for a 30% company tax rate.

Table: Annual impacts and net present value calculation (\$million)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	NPV
SA	12	193	152	73	68	48	28	21	31	46	87	130	539
ACT	3	57	57	45	50	51	52	56	64	71	79	87	354
NSW	42	658	407	26	-49	-176	-299	-340	-298	-217	-24	172	292
NT	3	43	35	20	19	16	13	13	17	22	31	40	153
TAS	1	22	9	-9	-14	-21	-28	-33	-36	-36	-28	-20	-77
VIC	30	464	256	-45	-115	-224	-329	-378	-368	-322	-177	-29	-341
QLD	17	260	133	-45	-91	-159	-225	-256	-250	-223	-137	-49	-352
WA	12	192	81	-66	-109	-171	-233	-266	-267	-247	-178	-107	-545
AUST	120	1890	1130	0	-240	-635	-1020	-1183	-1106	-906	-348	223	22

Note - Year refers to year ending June of the year given.

1. "State Impacts of Proposed Changes to Company Taxation", Access Economics, March 1999

