

Cost Benefit Analysis – Reforms to Environmental Impact Assessments under the Environment Protection and Biodiversity Conservation Act 1999

Department of Sustainability,
Environment, Water, Population
and Communities

20 April 2011

Contents

Glossary	i
Executive Summary	i
1 Background to the problem	1
1.1 Structure of this report	1
1.2 Contextual background	1
1.3 Rationale for reform of EIAs	2
2 Objective of the reform	7
3 Options	11
3.1 Summary	11
3.2 Option 1: the base case (status quo)	11
3.3 Option 2: implement reforms	11
4 Qualitative impact analysis	12
4.1 Nature of impacts	12
4.2 Impacts on the Australian Government	13
4.3 Impacts on state and territory governments	14
4.4 Impacts on business and industry	14
4.5 Impacts on the economy and society	15
4.6 Summary of costs and benefits	15
5 Cost benefit analysis	16
5.1 Methodology	16
5.2 Projections of workload costs going forward	16
5.3 Option 2 – potential impacts on FTEs	20
5.4 Impact of delays – case studies	27
5.5 Benefits from reduced delays – Option 2	32
6 Conclusions	34
6.1 Summary of the CBA findings	34
6.2 Sensitivity analysis	36
References	37
Limitation of our work	38

Charts

Chart 1.1 : Increasing matters of NES.....	6
Chart 1.2 : Referrals received by DSEWPAC by full financial year, 2000-01 to 2010-11.....	6
Chart 2.1 : Distribution of project delays, January 2010 to February 2011.....	7
Chart 2.2 : Value of projects subject to approval decisions, 2009-10 to 2010-11.....	8
Chart 2.3 : Percent of total decisions not meeting timeframes, 2001-02 to 2009-10.....	9
Chart 5.1 : Actual & forecast determinations by CA status (base case).....	17
Chart 5.2 : Actual & forecast decisions under the EPBC Act (base case).....	18
Chart 5.3 : Decisions per FTE, without additional resourcing.....	19
Chart 5.4 : FTE savings compared to the base case, with the implementation of guidelines ...	22

Tables

Table 2.2 : Annual percentage change in proportion of decisions not meeting timeframes	10
Table 4.1 : Impact of reforms on numbers of referrals and CAs.....	12
Table 4.2 : Impact of reforms on delays.....	13
Table 4.3 : Summary of costs and benefits for Option 2 relative to Option 1.....	15
Table 5.1 : Referral and assessment decisions per FTE, without additional resourcing.....	18
Table 5.2 : Estimated additional FTEs to maintain 2010-11 workload per FTE.....	20
Table 5.3 : Referral and assessment decisions per FTE with additional resourcing.....	20
Table 5.4 : Savings compared to the base case, with the implementation of guidelines.....	22
Table 5.5 : Costs compared to the base case, with early engagement.....	25
Table 5.6 : Costs compared to the base case, with bilateral agreements.....	27
Table 5.7 : Estimated lost NPV due to delays, selected projects delayed during 2010-11.....	30
Table 5.8 : Impact on the economy of a \$1 million investment.....	32
Table 5.9 : Estimated total impact on the economy of case study investments.....	32
Table 5.10 : Summary of estimated impacts of delay on NPV, Tropicana case study.....	32
Table 5.11 : Estimated benefits from reduced delays under Option 2 relative to Option 1.....	33
Table 6.1 : Summary of costs & benefits, 1 st round, Option 2 relative to Option 1, \$m NPV.....	34
Table 6.2 : Costs and benefits, year by year summary, \$m and NPV.....	35
Table 6.3 : Net benefits, with second round effects included, \$m NPV.....	36
Table 6.4 : Findings from the sensitivity analysis.....	36

Glossary

APPEA	Australian Petroleum Production and Exploration Association
CA	controlled action
CBA	CBA
CHL	Commonwealth Heritage List
COAG	Coalition of Australian Governments
DSEWPAC	Department of Sustainability, Environment, Water, Population and Communities
EIA	Environmental Impact Assessment
EPBC	Environment Protection and Biodiversity Conservation
FTE	full time equivalent
NCA	not controlled action
NCA-PM	not controlled action – particular manner
NES	national environmental significance
NPV	net present value
OBPR	Office for Best Practice Regulation

Executive Summary

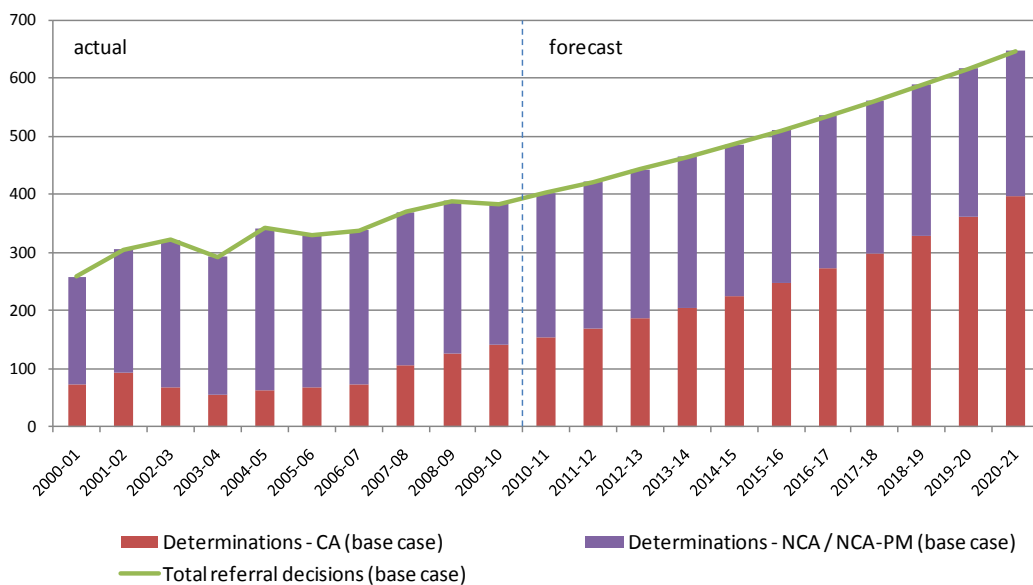
Deloitte Access Economics was commissioned by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC) to provide a cost benefit analysis (CBA) of the proposed reforms to Environment Impact Assessments (EIAs) under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The CBA considers two options for the system of referrals and assessments under the EPBC Act.

- **Option 1 (the base case)** would be a continuation of current processes.
- **Option 2 (implement reforms)** would involve the implementation of reforms, with the required Departmental resourcing to eliminate (to the extent possible) project delays.

Both options are defined so as to achieve a minimum set of environmental outcomes, in line with the objects of the EPBC Act.

The rationale for the reforms arises from the increasing numbers of referrals and determinations of controlled actions (CAs) under the EPBC Act. Over the period 2000-01 to 2009-10, referrals grew at 4.9% per annum and CAs grew at 9.9% per annum. Continuing these rates provides the forecasts illustrated in Chart i. The historical rates are likely to continue in the absence of reform, due to two factors. First, developments are becoming more likely to trigger to the EPBC Act, as increasingly, suitable locations not containing items of NES have already been developed. Second, the total number of listed matters of NES is increasing and a longer list makes it more likely that a development would trigger the Act.

Chart i: Actual and forecast determinations by CA status (base case), 2000-01 to 2020-21



Source: DSEWPAC data, Deloitte Access Economics analysis.

The impacts considered in the CBA are based on the perspectives of four stakeholder groups: Australian Government; state and territory governments; proponents (largely business/industry); and the economy/whole of society.

The reforms would still require additional resourcing for DSEWPAC. However, benefits from long-term productivity gains are expected to be realised as well as benefits from reduced delays to projects. The costs and benefits modelled are summarised in Table ii.

Table ii: Summary of costs and benefits for each reform option

Reform	Australian Government (DSEWPAC)	State/territory governments	Business /Industry	Economy /Society
	Additional Costs			
State/territory (S/T) bilateral agreements	FTEs to facilitate S/T increased scope (upfront), net of saved FTEs with shift to using S/T report (ongoing).	FTEs to increase scope of current reporting (ongoing).	None.	None.
Guidelines	FTEs to develop and monitor guidelines (ongoing).	FTEs to develop and monitor guidelines (ongoing).	FTEs to monitor compliance (ongoing).	None.
Early engagement	FTEs for early engagement (ongoing).	FTEs for early engagement (ongoing).	FTEs for early engagement (ongoing).	None.
	Additional Benefits			
State/territory bilateral agreements	Fewer FTEs for assessing referrals and CAs where bilateral agreements apply.	None.	Reduced compliance costs; reduced project delays, leading to earlier financial flows and better decision making.	Reduced project delays, leading to earlier employment and investment growth, with multiplier effects on the economy.
Guidelines	Fewer FTEs for referrals (ongoing).	Fewer FTEs for referrals (ongoing).	Fewer FTEs for referrals (ongoing).	As above.
Early engagement	As above.	As above.	As above.	As above.

Source: DSEWPAC, Deloitte Access Economics.

Findings

Table iii provides the net benefits estimated from the CBA in net present value (NPV) terms, including second round effects i.e. redistributions of tax and royalty revenue from proponents to governments.

- The Australian Government has net benefits of \$378 million (31% of total net benefits).
- The state and territory governments have net benefits of \$90 million (7% of the total).
- Proponents have net benefits of \$745 million (61% of the total).

Table iii: Net benefits, with second round effects included, \$m NPV

Net benefits, with tax reallocation	Australian Government (DSEWPAC)	State/territory governments	Proponents (primarily Business /Industry)	Total
Bilateral agreements	119.98	21.48	253.15	394.61
Guidelines	152.05	57.11	253.15	462.31
Early engagement	106.11	11.18	238.21	355.49
TOTAL	378.13	89.77	744.51	1,212.42
% total	30%	5%	65%	100%

Source: Deloitte Access Economics analysis.

Sensitivity analysis was conducted on a higher (11%) and lower (3%) discount rate in line with recommendations of the Office for Best Practice Regulation (OBPR). Sensitivity analysis was also conducted on a low scenario for gains from reduced delays.

- The low delay value scenario reduced the net benefits by 89%, retaining an overall net benefit, however, of \$127 million over the decade in NPV terms.
- With a discount rate of 3%, net benefits increase 28% to \$1.55 billion.
- With a discount rate of 11%, net benefits fall 20% to \$967 million.

The CBA indicates that reforms should proceed, with resourcing provided for their implementation.

Deloitte Access Economics

1 Background to the problem

Deloitte Access Economics was commissioned by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC) to provide a cost benefit analysis (CBA) of the proposed reforms to Environment Impact Assessments (EIAs) under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The analysis focuses on changes to the EPBC Act referral and assessment process and will support the Australian Government response to the Hawke Review. This report summarises the findings from the analysis and supports a case for additional resources to be allocated to DSEWPAC so that it is able to transition to new procedures that will reduce red tape and delays and increase revenue to government from major projects.

1.1 Structure of this report

The report is structured as follows.

- The remainder of this initial chapter provides a contextual background and, through statement of the problem, outlines the rationale for changes to the referral and assessment process.
- **Section 2** presents the objective of the reform, postulating that delays are costly for proponents and hence there is potential for net gains from investment in better DSEWPAC resourcing.
- **Section 3** sets out the options for the CBA.
- **Section 4** provides a qualitative analysis of expected changes and impacts.
- **Section 5** provides the CBA.
- **Section 6** provides a summary of the CBA conclusions, with sensitivity analysis.

1.2 Contextual background

Reforms addressed in this review stem from the 2009 Report of the Independent Review of the EPBC Act (the Hawke Review). The Hawke review (Hawke, 2009: 73) recommended:

“... that the Commonwealth work with the states and territories as appropriate to improve the efficiency of the Environmental Impact Assessment (EIA) regime under the Act.”

Hawke (2009:73) specifically recommended that the EIA regime would be improved through:

- greater use of strategic assessments;
- accreditation of state and territory processes where they meet appropriate standards;
- accreditation of environmental management systems for Commonwealth agencies where the systems meet appropriate standards;
- publication of criteria for systems and processes that would be appropriate for accreditation;

- creation of a Commonwealth monitoring, performance audit and oversight power to ensure that any process accredited achieves the desired outcomes;
- streamlining and simplification of assessment methods, including combining assessment by preliminary documentation and assessment of referral information and removal of assessment by Public Environment Report;
- establishing joint state or territory and Commonwealth assessment panels;
- use of joint assessment panels or public inquiry for projects where the proponent is either the state or territory or Australian Government; and
- greater use of public inquiries and joint assessment panels for major projects.

Over 2010-11, Access Economics developed a CBA report for DSEWPAC regarding strategic assessments made under the EPBC Act. Two options were assessed in the CBA – the ‘base case’ (a no change scenario) compared to a scenario of replacing project by project assessments with strategic assessments. Seven strategic assessments initiated by DSEWPAC were analysed to estimate the potential net benefit of strategic assessment relative to project by project assessment, in net present value (NPV) terms.

Strategic assessment was found to benefit the Australian Government by \$4.5 million over a 30-year evaluation period (although there were net costs in the first two years). Private sector proponents were strong beneficiaries, realising an estimated \$5.92 billion over all seven projects, which reflected the commercial benefits from reducing uncertainty, risk and delays. State and territory governments were found to experience net costs in all years and overall, although the NPV of the net cost over all seven projects across all jurisdictions was estimated at only \$0.57 million. **Across all entities for the seven projects, the NPV of strategic assessment compared to project-by-project approach, was estimated as \$5.93 billion.**

These findings were driven primarily by the deferral of benefits due to project assessment delays, while costs were not deferred.

1.3 Rationale for reform of EIAs

This CBA will address proposed reforms that aim to further improve the EIA regime. Specifically, the reforms will:

- improve the quality of state and territory assessments in order for these assessments to meet Australian Government statutory requirements, which will lead to better outcomes from bilateral agreements between the Commonwealth and the states and territories;
- lead to the development of guidelines for assessment; and
- lead to earlier engagement with proponents and scoping at earlier stages.

The reforms require an immediate increase in departmental resourcing, although it is expected that they will ease pressure on DSEWPAC resourcing in the longer term, as well as allowing DSEWPAC to meet statutory time frames. There are expected positive outcomes of reform for proponents as well. In particular it is expected that the proposed reforms will lead to a reduction in delays for project approvals and provide greater certainty that

projects will not be subject to legal challenges subsequently (in terms of complying with the EPBC Act).

1.3.1 Bilateral agreements

Many projects require approval on environmental grounds from both the Commonwealth Government and state/territory governments. These two governmental tiers take different environmental impacts into consideration. A key function of the bilateral agreement is to reduce duplication of environmental assessment between the Commonwealth and states/territories. Bilateral agreements allow the Commonwealth to ‘accredit’ particular state/territory assessment processes. In practice the assessments that come from states and territories do not meet the Australian Government statutory requirements, and substantial additional work is required from DSEWPAC. A secondary issue creating project delays is that states and territories do not have any statutory obligations with regard to timeframes for decisions making (unlike the Commonwealth).

The Hawke review noted that development of better EIA methods would generate efficiencies as well as provide the basis for greater use of approved bilateral agreements. The review therefore recommended an accreditation process for state/territory assessment processes. The aim would be to align the jurisdictional assessments with Commonwealth Government statutory requirements and to improve the quality of reporting.

1.3.2 Guideline development and earlier engagement

It is expected that earlier engagement with proponents and scoping at earlier stages will allow pertinent information to be readily available to assist with faster decision making. For example, if a referral or controlled action (CA) decision is required, earlier engagement would allow for better departmental planning, a better understanding of what is required of the proponents, identification of gaps, and reductions in process-driven project delays. Earlier engagement is dependent upon availability of DSEWPAC resources, which in turn depends upon the number of referrals that have accumulated.

There is considerable scope for additional and more effective guidelines to lead to benefits for both DSEWPAC and proponents. Guidelines may reduce the number of unnecessary referrals or reduce the complexity of processing referrals, or both. In particular, the Hawke Review noted that the development of additional and better guidelines would provide increased certainty and efficiency to the operation of the Act, and reduce the risk of capricious decision-making.

Importantly, the Hawke Review further noted that that the test of significant impact received considerable attention in public submissions to the review. Criticisms focused on the definition, operation, and consideration of the test of significance. The Hawke Review noted that it is important that these issues be addressed. The application of the significance test could be simplified and clarified through the use of guidelines.

The Hawke review referred to two generic ‘significant impact’ guidelines already produced. These are:

- significant impact guidelines – matters of national environmental significance (NES); and

- significant impact guidelines – actions on, or impacting upon, Commonwealth land and actions by Commonwealth agencies.

In addition to this there have also been produced, final or draft versions of a number of specific guidelines. These include industry specific guidelines for:

- offshore seismic operations;
- offshore aquaculture; and
- wind farm industry.

Specific guidelines have also been developed for nationally threatened species and ecological community including for:

- grey-headed flying fox;
- spectacled flying fox;
- tiger quoll; and
- spot-tailed quoll

Hawke (2009:160-162) concluded that:

“Rather than complex and inflexible guidelines; unambiguous, user friendly and simple information and referral guidelines should be readily accessible to allow an initial decision to be made by a proponent on whether an action has the potential to have a significant impact on a matter of national environmental significance.

In addition to clarifying when actions will have significant impacts on a threatened species or ecological community, guidelines should also be able to identify circumstances when actions will clearly not need to be referred. This would provide additional certainty for proponents, and likely reduce the number of referrals made simply for legal certainty thereby reducing the burden on administration of the Act. This in turn will allow scarce resources to be allocated to priority activities.”

In practice, DSEWPAC suggests that guideline development will provide specific guidance to proponents of what actions are allowable at what times. This is the first step in a movement towards self assessment. Proponents will be able to use the guidelines as a proxy for a determination. Proponents will ‘tick boxes’ that they have followed the guidelines and that their actions will not have a significant environmental impact (or otherwise). In addition, the guidelines will assist in reducing inappropriate referrals by proponents and ensure that when referrals are submitted the correct information is provided to DSEWPAC. Guidelines will reduce the scope for decision maker discretion which will increase the certainty of the outcome of future referrals by proponents. Guidelines will also reduce the time taken for DSEWPAC to come to a decision about referrals.

There is a possibility that self assessment will lead to legal uncertainty and potential challenges. As a result, proponents may continue to engage with DSEWPAC even after completing self assessment to gain certainty that they are not challenged legally.

Proponents would document how they have followed the guidelines, with the aim of reducing the potential for legal challenges.

1.3.3 Increasing referrals and increasing matters of NES

Since the commencement of the EPBC Act in 2000 there have been increasing matters of NES. At the same time, referrals have been increasing, with DSEWPAC handling the increasing complexity of those referrals. This has led to increased costs and staffing pressure, and awareness to stakeholders of departmental resourcing issues.

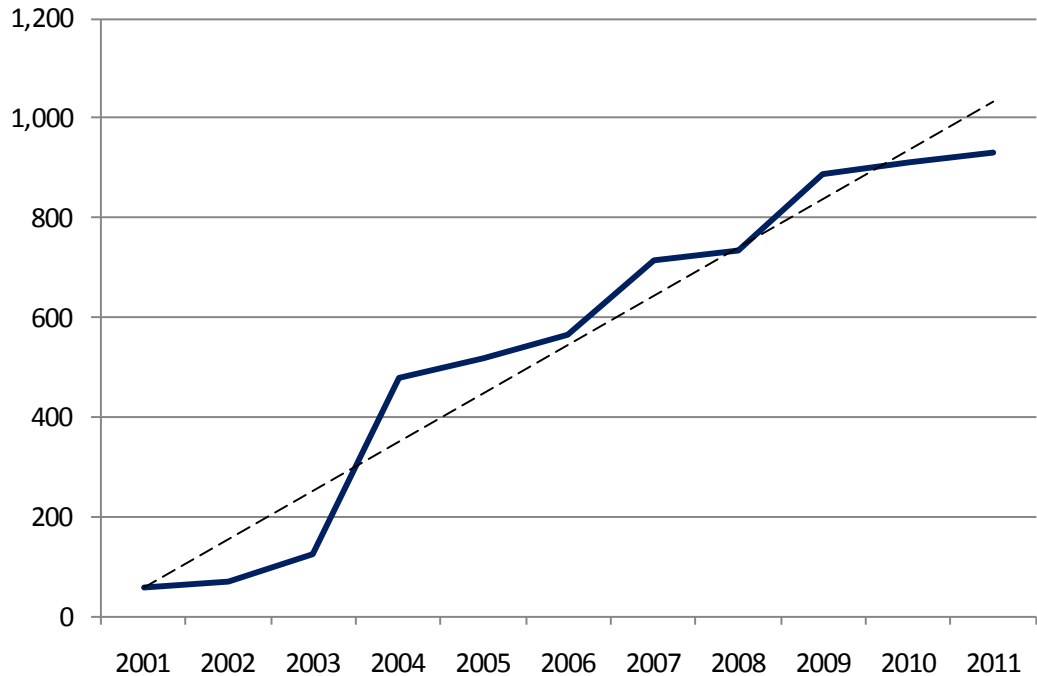
There have been 932¹ protected matters of NES added to the list since 2001. Chart 1.1 demonstrates the increase in matters of NES over time. The chart below takes into account those matters which have been added to the list during the year, net of those matters that have been removed. It also considers transfers from one category on the list to another e.g. transfers from Extinct to Critically Endangered. The chart also includes matters of heritage that have been added to the list, net of those matters that have been removed. The significant increase between 2003 and 2004 is a result of the inclusion of 338 Commonwealth Heritage listings². The heritage listing includes matters on both the National Heritage List – where the current total of listed matters is 91, as well as matters on Commonwealth Heritage List (CHL) – where the current total is 337.

On average, 355 referrals were made to DSEWPAC each year over the time considered in Chart 1.2. This chart demonstrates that there has been an upward trend in referrals since 2007-08. The highest number of referrals occurred in 2008-09, when 438 referrals were made to DSEWPAC. The chart also illustrates an increase in the workload of DSEWPAC over this time period. There is an upward trend in the number of referrals requiring a decision. This represents an increase in the complexity of the referrals and an increase in workload, as each referral takes greater departmental resources to deal with.

¹ Net of those removed from the list.

² The total doesn't count emergency listings. The number of CHL removals includes several removals for one place: often a place is transferred from the Commonwealth in stages, by stripping away layers over several years, these parts are removed from the CHL as they pass from Commonwealth control – eg Point Nepean removed in stages. There is discrepancy in the CHL figures. Several places added to the CHL in 2004 were subsequently found ineligible –legally considered as not listed (despite being included in the 'listed' figures for that year). Information provided by DSEWPAC.

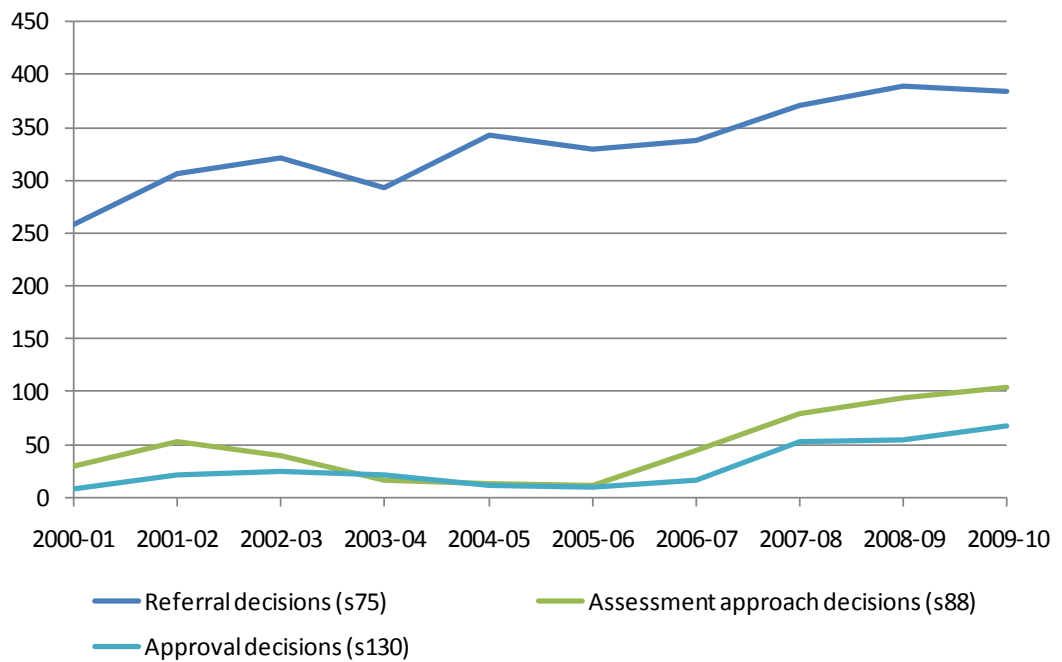
Chart 1.1: Increasing matters of NES



Note: 2011 is Year to Date.

Source: <http://www.environment.gov.au/cgi-tmp/publiclistchanges.ced74d896d90c9e7393f.html> and DSEWPAC data, Deloitte Access Economics analysis.

Chart 1.2: Referrals received by DSEWPAC by full financial year, 2000-01 to 2010-11



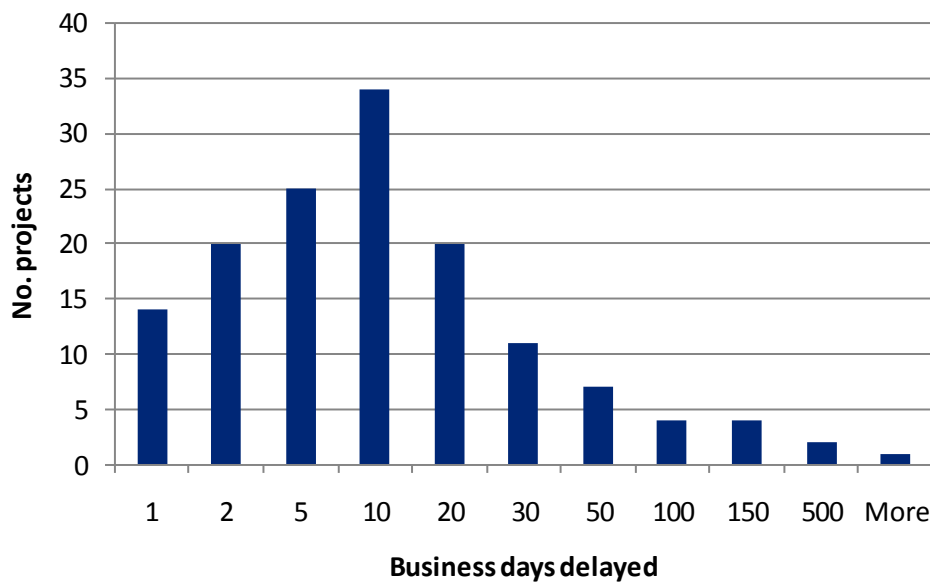
Source: DSEWPAC data, Deloitte Access Economics analysis.

2 Objective of the reform

The objective of the reform is to implement changes to EPBC Act referral and assessment procedures that further improve the EIA regime, thus reducing EIA processing delays which are costly for proponents and for government, providing greater certainty and averting potential legal challenges.

In 2010, a total of 142 projects were delayed due to late decisions by DSEWPAC. Chart 2.3 shows that these delays ranged from only a day (10%) to over a year (1%), with an average delay of around one month (22.7 business days).

Chart 2.3: Distribution of project delays, January 2010 to February 2011



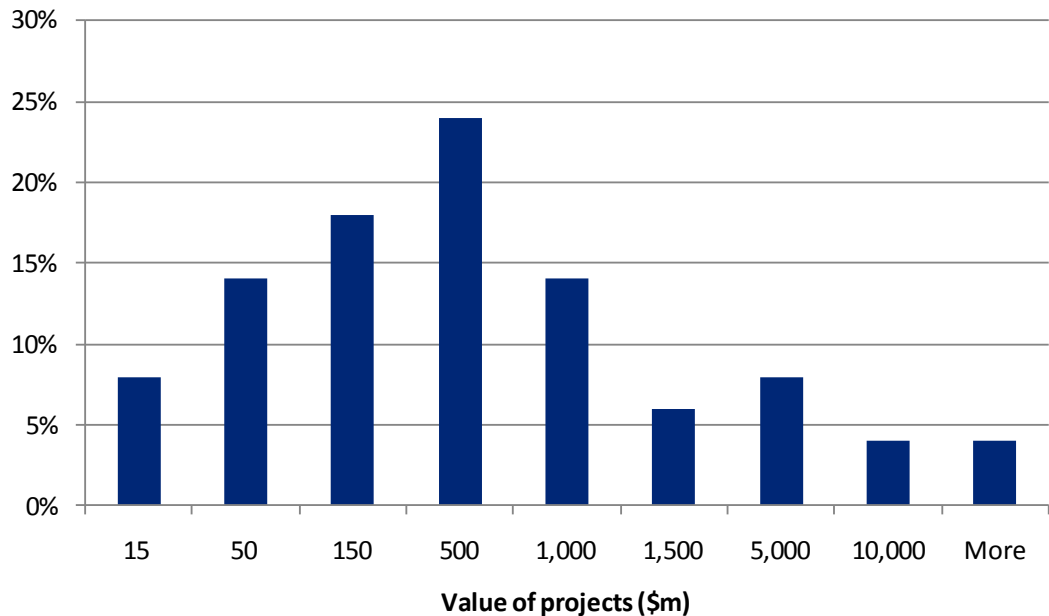
Note: excludes undelayed projects.

Source: DSEWPAC data, Deloitte Access Economics analysis

It is generally not small projects that are delayed. For the 50 projects subject to DSEWPAC approval decisions in 2009-10 and 2010-11 for which Deloitte Access Economics was able to find publicly available data, the average value was \$1.32 billion³. The distribution of the value of projects is provided in Chart 2.4.

³ There is a possible source of bias in that larger projects may be more likely to have their values available on the internet. Conversely, some large projects closely guard their commercial data, while smaller projects with regional or environmental significance attract media attention.

Chart 2.4: Value of projects subject to approval decisions, 2009-10 to 2010-11



Source: DSEWPAC, publicly available data, Deloitte Access Economics analysis

The cost of delays to projects of this magnitude is substantial. The Productivity Commission (2009)⁴ estimated that a one year delay in major investment projects would reduce the value of the project by an amount equivalent to between 10% and 20% of project costs. The Hawke Review cited figures from the Australian Petroleum Production and Exploration Association (APPEA) that a one year delay for a typical LNG project would cause losses equal to 11.4% of the project cost. As that figure is consistent with the Productivity Commission’s estimates, it was used in the strategic assessments CBA component of this report. For consistency, it is also used here.

For an average project, worth \$1.32 billion, a one year delay would cost \$150.1 million (11.4% of \$1.32 billion). When projects are delayed by decisions, the average delay is 22.7 business days. Assuming that the average year has 250 business days (after allowing for weekends and public holidays)⁵ then 22.7 business days is equivalent to 9.1% of a business year. Thus, the cost of the average delay is 1.03% (=9.1% * 11.4%). This implies that the average decision delay incurs an economic cost of \$13.6 million (= \$1.32 billion * 1.03%). Thus, the 142 delays in 2010 would have cost \$1.93 billion (= \$13.6 million * 142).

However, these figures should be treated with caution. Both the average project size and the average delay are significantly affected by a handful of large outliers. If we assume that large projects are equally as likely to be delayed as small ones, using average figures is statistically valid. But it is possible that the threat of large delays to large projects may

⁴ Productivity Commission (2009) *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector*, Research Report.

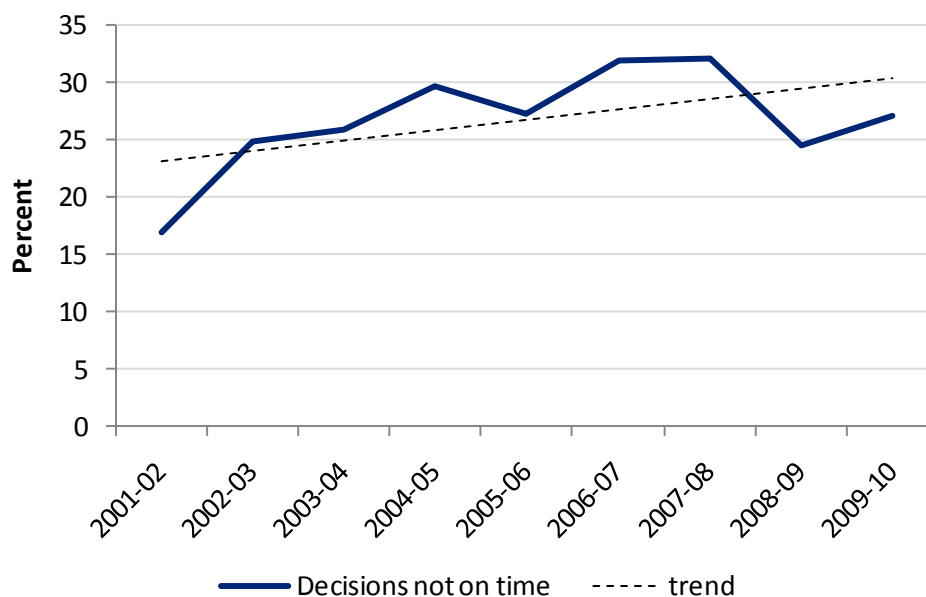
⁵ Some of the public holidays which fall on weekends may not be celebrated on a business day in lieu. This figure does not include compulsory Xmas / New Year shutdowns.

represent a political risk to the Government, such that additional resources are deployed to ensure smooth sailing in such cases.

Thus, in the interests of conservatism, it may be better to use median figures instead of averages. The median delay is only around one-third of the average delay, at seven days (or 2.8% of a working year). The median project value is only around one-fifth of the average project value, at \$277.5 million. Using medians, the delay cost falls to \$885,780⁶. By this measure, the 142 delayed projects in 2010 represented an economic cost of \$125.8 million – which is still not insubstantial.

The available data on the frequency of delays (if not their duration) indicates some concerning trends. The percent of decisions that did not meet timeframes almost doubled between 2001-02 and 2007-08 (Chart 2.5). While there was a temporary improvement over 2008-09, the upward trend has since continued.

Chart 2.5: Percent of total decisions not meeting timeframes, 2001-02 to 2009-10



Source: DSEWPAC data, Deloitte Access Economics analysis

Over the years from 2002-03 to 2009-10, on average the proportion of total decisions that did not meet timeframes increased by 7.7% per annum – albeit with substantial annual fluctuations (Table 2.1). Looking at sub-categories for whether a referral should become a CA, the proportion of ‘did not meet timeframes’ rose by an average of 8.4% per annum. For deciding which assessment approach to take, the average annual increase was 16.1% (albeit improving in recent years). Only project approvals grew at a rate which not substantially different from a steady state (2.7% per annum).

⁶ Equals 11.4% * 2.8% * \$277.5 million.

Table 2.1: Annual percentage change in proportion of decisions not meeting timeframes

Year	Total	Referral to CA decision	Assessment approach	Approval
2002-03	47%	64%	-26%	10%
2003-04	4%	1%	46%	-5%
2004-05	14%	12%	23%	91%
2005-06	-8%	-9%	97%	-24%
2006-07	17%	0%	42%	13%
2007-08	1%	2%	-33%	-12%
2008-09	-23%	-16%	-26%	-47%
2009-10	10%	13%	5%	-4%
Average	7.7%	8.4%	16.1%	2.7%

Source: DSEWPAC data, Deloitte Access Economics analysis

3 Options

3.1 Summary

The CBA considers two options for the system of referrals and assessments under the EPBC Act.

- **Option 1 (the base case)** would be a continuation of current processes.
- **Option 2 (implement reforms)** would involve the implementation of reforms, as set out in the preceding sections, with the required DSEWPAC resourcing to eliminate (to the extent possible) the time delays for assessing projects that trigger the EPBC Act.

Both options are defined so as to achieve an acceptable level of environmental outcomes, in line with the objectives of the EPBC Act. The environmental outcomes are thus assumed to be equivalent across the two options so, in line with the view of the Office of Best Practice Regulation (OBPR), we do not attempt to value them here.

A third option would be a scenario with no regulation, as applicable under the EPBC Act. However, this scenario would not achieve the benchmark environmental outcomes, and is therefore not considered.

The options are further discussed in Sections 3.2 and 3.3.

3.2 Option 1: the base case (status quo)

Maintaining use of existing processes for referral and assessment would result in exacerbation of the pressures outlined in Section 2. To the extent that workload would be increasingly unsustainable within current DSEWPAC resourcing as the number of matters of NES, referrals and assessments continue to rise, additional staff would need to be taken on to maintain ratios of workload per full time equivalent (FTE) at 2010-11 levels (at a cost to the Australian Government). Delays in project approvals would then continue as in 2010-11.

3.3 Option 2: implement reforms

This scenario would reduce the incidence of delays due to current inadequate Departmental resourcing by investing in additional staff to implement reforms, which in turn would result in improved referral and assessment processes under the EPBC Act. This is expected to result in higher DSEWPAC worker productivity, but the main goal is for the higher level of resourcing to reduce the delays experienced by proponents. The impacts on stakeholder groups of these reforms are considered in Section 4 and quantified in Section 5.

4 Qualitative impact analysis

4.1 Nature of impacts

The impacts considered are based on the perspectives of four stakeholder groups:

1. Australian Government;
2. state and territory governments;
3. business/industry; and
4. the economy/whole of society.

The qualitative analysis in this section focuses on the:

- **costs** associated with:
 - the additional DSEWPAC resourcing required to address the increasing workload of current referral and assessment processes, under both options; and
 - the additional resourcing required to implement reforms (Option 2); and the
- **benefits** associated with:
 - the lower additional DSEWPAC resourcing required long term under Option 2 relative to Option 1 due to productivity gains from streamlined processes; and
 - a faster regulatory approval system that brings forward project income streams and reduces project delays realised through Option 2.

4.1.1 Impact of reforms on numbers of referrals and CAs

The expected impact of reforms on numbers of referrals and CAs is summarised in Table 4.2. Better information through the development of guidelines (where appropriate), and earlier engagement with proponents may help to reduce unnecessary referrals. In 2009-10, 36% of referrals led to CAs, 28% to NCA-PMs and 36% to NCA decisions. While NCA decisions do give proponents greater legal certainty, the process leading to that outcome may represent an inefficient use of departmental resources.

Table 4.2: Impact of reforms on numbers of referrals and CAs

Reform	Impact on no. of referrals	Impact on no. of CAs	Impact on decision processes for referrals & CAs under the EPBC Act
State/ territory bilateral agreements	None.	None.	Process faster and simpler. Reduced duplication in efforts, proponents go through one process. Only one public consultation process.
Earlier engagement	Reduction.	None.	Process more streamlined, less prone to delays for information gathering.
Guidelines	Reduction.	None.	Process more streamlined, less prone to delays for information gathering.

Source: DSEWPAC, Deloitte Access Economics analysis

4.1.2 Impact of reforms on delays

Delays can come from several areas and are being addressed in the reforms as outlined in Table 4.3.

Table 4.3: Impact of reforms on delays

Cause of delay	Being addressed
Inadequate DSEWPAC resourcing to fulfil statutory requirements within specified timeframe (recorded in DSEWPAC delay statistics).	Better state/territory processes, guidelines.
Time taken by the proponent to gather the correct information and write EIS (not recorded in delay statistics).	Guidelines, early engagement with proponents.
Time taken by the state/territory government to make assessment decisions (not recorded in delay statistics).	Better state/territory processes.
Legal challenges following an assessment decision (not recorded in delay statistics). Challenges involve considerable legal expenses for the proponent and Australian Government. No challenge has yet been successful. Legal challenges generally delay the project by at least one year.	Guidelines.

Source: DSEWPAC, Deloitte Access Economics analysis

4.1.3 Stakeholder consultations

OBPR agreed that stakeholder consultation would be limited for this CBA. As such, Deloitte Access Economics held discussions with Woodside Energy Ltd, the Dampier Port Authority, Ports Australia, and APPEA Ltd. While those interviewed were generally supportive of the Hawke Review’s proposed reforms, they were not able to quantify expected benefits.

4.2 Impacts on the Australian Government

Implementing the reforms would impact on the Australian Government as both a cost and benefit. Initially, the reforms would require additional departmental resourcing, in particular for additional FTE staff members – a cost. This would include FTEs to develop new sets of guidelines and enhanced bilateral assessment processes with the states and territories, and for early engagement with proponents. However, it is expected that these investments would lead to resources saved later in the process, due to avoiding some unnecessary referrals, simplifying some assessments and being able to better leverage state/territory reports under bilateral agreements for Australian Government assessments under the EPBC Act.⁷

In terms of the projects themselves, reducing delays and improving certainty over approvals would reduce the risk of damaging project cash flows and bring forward project start dates; with a subsequent impact on taxes payable to the Australian Government. In turn, the project would create employment growth and investment, with multiplier effects

⁷ Information gained through consultation with DSEWPAC.

on the economy (discussed further in Section 4.5). These impacts would be significant in the case of large, high-value projects – for example in the mining industry.

4.3 Impacts on state and territory governments

State and territory agencies may require additional resourcing, in terms of FTEs, to improve and expand the reports made under bilateral agreements. The aim would be for the Australian Government to be able to use the reports generated by the relevant state or territory, with local connections to the area and project proponents, to meet its own statutory requirements under the EPBC Act. Thus, it may be surmised that any additional state/territory resources required would lead to reductions at the Australian Government level. There may be an additional benefit from greater efficiency when all investigations are undertaken at one level of government.

State and territory governments may experience costs in the development of guidelines and earlier engagement processes, but would also enjoy the benefits that these processes would lead to in reduced resource costs processing referrals.

In relation to mining and other resource-based projects, state/territory governments would benefit from royalty payments being brought forward if project delays are reduced. As for the Australian Government, states/territories would also enjoy the impacts on local economies earlier, including employment and investment growth and associated multiplier effects, as described above. There may be associated revenue gains and bring forwards – e.g. payroll tax.

4.4 Impacts on business and industry

The primary benefits to business/industry would come from greater certainty in project approvals and reduced delays, to the extent that these are created by inadequate departmental resourcing, information gathering, and state/territory assessment processes. These include delays that are and are not captured in statutory reporting by DSEWPAC.

In terms of the EPBC Act assessment process, earlier engagement with DSEWPAC would give proponents of projects access to better information. Guidelines and a shift toward self-assessment may further reduce administrative costs, to the extent that unnecessary referrals are avoided⁸. Improving the bilateral approval processes across levels of government may also reduce compliance costs for businesses. Each of these measures would contribute to time saving across the entire regulatory process, including delays that are and are not measured under statutory timeframes (e.g. while the proponent gathers information).

The previous CBA highlighted the potential benefits for business and industry from eliminating delays in the assessment process. For example, APPEA estimated that a one-year project delay would cost the proponent 11.4% of the total value of the project.⁹

⁸ DSEWPAC experience with the introduction of seismic guidelines in 2008 has not resulted in a reduction in referrals, as proponents prefer the legal certainty of a NCA or NCA-PM determination from DSEWPAC. However, determinations have been made simpler. See further discussion in Section 5.3.1.

⁹ Access Economics' strategic assessment CBA report, p. 15.

4.5 Impacts on the economy and society

Overall, the economy (and the whole of society) would benefit from a more efficient and streamlined assessment process under the EPBC Act, which achieves the Australian Government’s environmental objectives. In particular, allowing large-scale projects to go ahead without delay would bring forward employment and investment growth opportunities, with the associated indirect impacts on the economy (multiplier effects).

4.6 Summary of costs and benefits

The costs and benefits discussed in this section are summarised in Table 4.4.

Table 4.4: Summary of costs and benefits for Option 2 relative to Option 1

Reform	Australian Government (DSEWPAC)	State/territory governments	Proponents (primarily Business /Industry)	Rest of economy/society
	Additional Costs			
State/territory bilateral agreements	FTEs to facilitate S/T increased scope (upfront), net of saved FTEs with shift to using S/T report (ongoing).	FTEs to increase scope of current reporting (ongoing).	None.	None.
Guidelines	FTEs to develop and monitor guidelines (ongoing).	FTEs to develop and monitor guidelines (ongoing).	FTEs to familiarise and monitor compliance (small).	None.
Early engagement	FTEs for early engagement (ongoing).	FTEs for early engagement (ongoing).	FTEs for early engagement (ongoing).	None.
	Additional Benefits			
State/territory bilateral agreements	Fewer FTEs for assessing referrals and CAs where bilateral agreements apply.	None.	Reduced compliance costs; reduced project delays, leading to earlier financial flows and better decision making.	Reduced project delays, leading to earlier employment and investment growth, with multiplier effects on the economy.
Guidelines	Fewer FTEs for referrals (ongoing).	Fewer FTEs for referrals (ongoing).	Fewer FTEs for referrals (small). Reduced delays, as above	Reduced delays, as above.
Early engagement	Fewer FTEs for referrals (ongoing).	Fewer FTEs for referrals (ongoing).	Reduced delays, as above.	Reduced delays, as above.

Source: DSEWPAC, Deloitte Access Economics analysis

5 Cost benefit analysis

5.1 Methodology

5.1.1 Aims and approach

This section aims to demonstrate the economic impacts of implementing the proposed reforms (Option 2), by estimating their NPV relative to the costs of *not* implementing reforms (Option 1).

The steps in the analysis are as follows:

1. Section 5.2.1 projects the numbers of referrals and CAs going forward while Section 5.2.2 estimates costs of meeting the additional workload;
2. Section 5.3 estimates the impacts on workload of introducing guidelines and self-assessment, early engagement and the improved outcomes from bilateral agreements;
3. Section 5.4 estimates the impact of delays using a case study approach – including impacts on project cash flows, the value of lost taxation revenue to the Australian, state and territory governments and the impacts on the economy.
4. Section 5.5 applies the principles from the case study analysis to estimate the benefits from reduced delays for the CBA.

The analysis uses parameters that comply with the Council of Australian Governments (COAG) Best Practice Regulation guidelines (October 2007). The analysis is based on NPVs over a ten year period (2011-12 to 2021-22). The discount rate is thus 7% per annum (real), with sensitivity analysis at 3% and 11%.

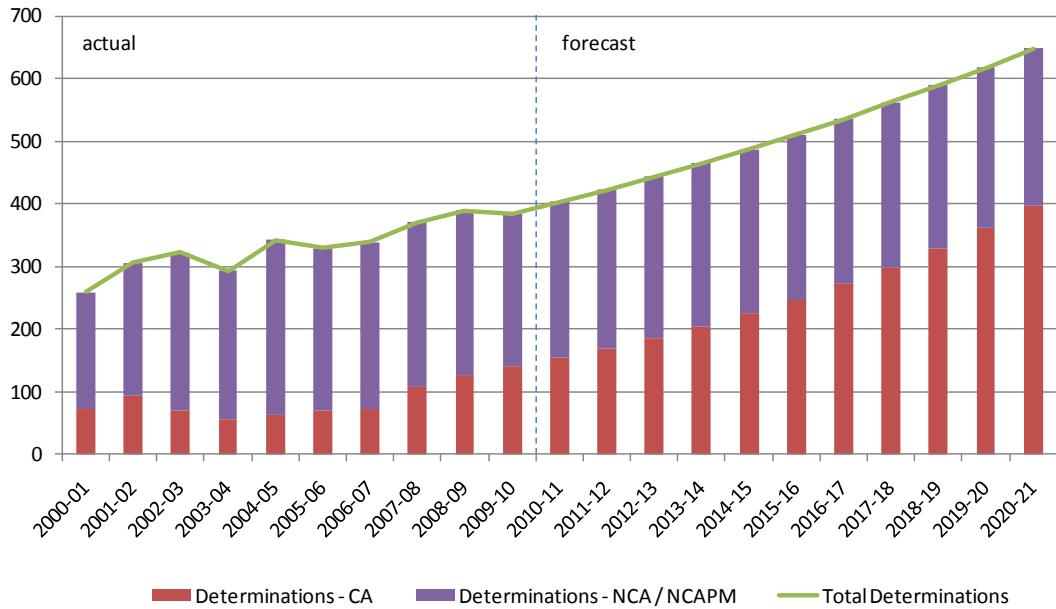
5.2 Projections of workload costs going forward

5.2.1 Projections of referrals and CAs under the base case

Chart 5.6 shows actual and forecast numbers of referrals and CAs in the base case scenario. Forecasts are based on continuing average annual growth rates, over the period 2000-01 to 2009-10, of 4.9% per annum for referral decisions. The projections show CAs growing at 9.9% per annum, in line with average annual growth rates over the last ten years, and therefore making up an increasing proportion of total referral decisions.

Two factors have contributed to increasing numbers of referrals and CAs. Firstly, DSEWPAC has indicated that developments are becoming more likely to trigger the EPBC Act as, increasingly, suitable locations not containing items of NES have already been developed. Secondly, the total number of listed matters of NES is increasing. A longer list makes it more likely that a development would trigger the EPBC Act. DSEWPAC expects these trends to continue.

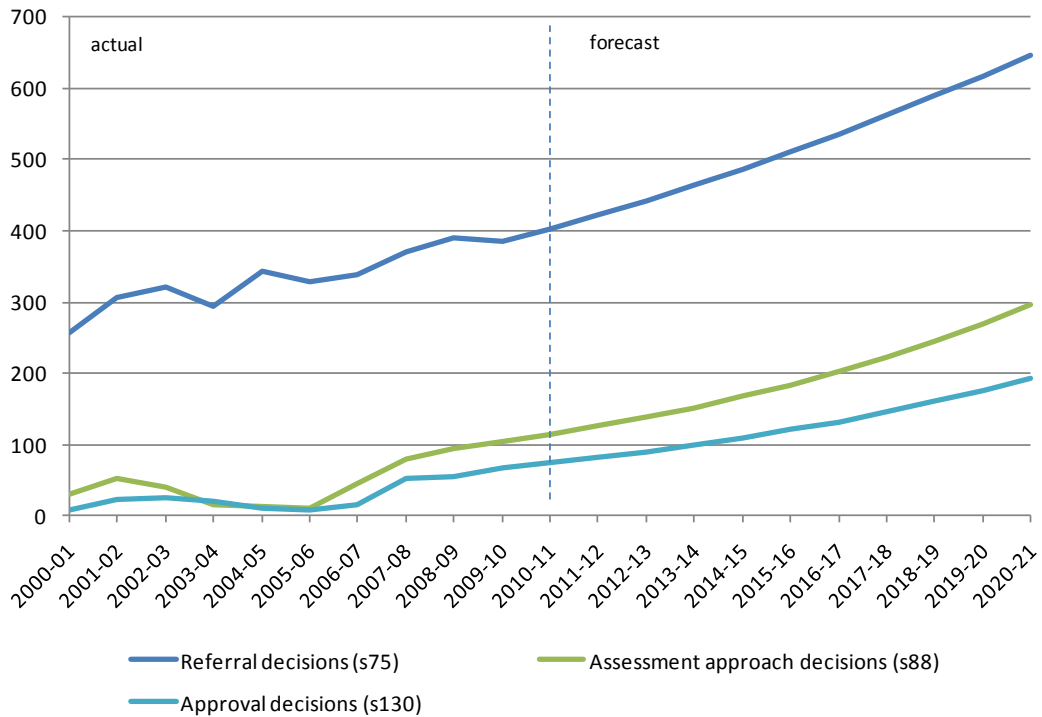
Chart 5.6: Actual & forecast determinations by CA status (base case)



Source: DSEWPAC data, Deloitte Access Economics analysis.

Chart 5.7 shows actual and forecast numbers of decisions made by DSEWPAC. Referral decisions are much more frequent, as these include cases that are determined to be NCA or NCA-PM and do not go on to be assessed as a CA. At each stage of the process (between the referral and assessment approach decisions, and between the assessment approach and approval decisions), a proponent may withdraw the project proposal. As such, fewer approval decisions than assessment approach decisions are made. There may also be discrepancies due to reconsiderations at each stage of the process. The forecasts are based on average growth rates of 9.9% per annum for assessment approach and approval decisions, in line with the growth rate of CAs, outlined above. As above, referral decisions are forecast to increase by 4.9% per annum.

Chart 5.7: Actual & forecast decisions under the EPBC Act (base case)



Source: DSEWPAC data, Deloitte Access Economics analysis.

5.2.2 Costs of meeting the additional workload

Without an increase in resourcing, current issues with delays in decision making would be exacerbated by the continuing growth in referrals and CAs, shown in Chart 5.6 and Chart 5.7. The growing workload per FTE is shown in Chart 5.8. By 2020-21, it is estimated that workload per FTE would be approximately double the amount in 2010-11. This would be expected to lead to an unsustainable situation of increasing delays in the referral and assessment decision processes.

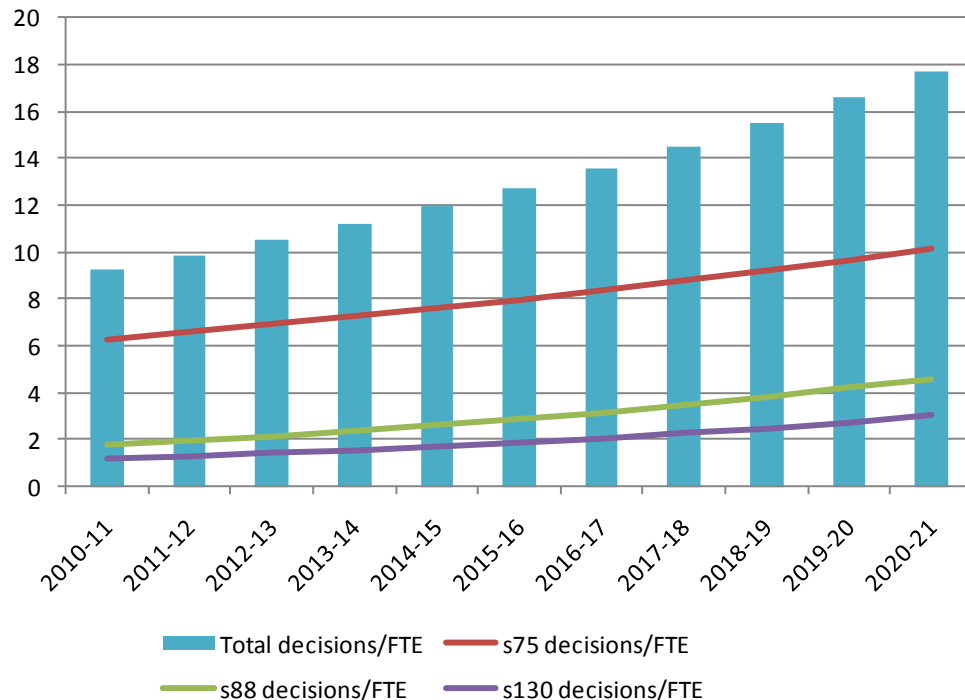
In 2009-10, on average, each FTE processed 8.6 decisions (referral, assessment approach and approval). Assuming no increase in FTEs, the projected increases in referrals and CAs would more than double workload per FTE by 2020-21. This would be unsustainable and result in significant project delays. Estimated workload per worker, based on 2010-11 resourcing, is shown in Table 5.5.

Table 5.5: Referral and assessment decisions per FTE, without additional resourcing

	2009-10	2014-15	2020-21
FTEs	64	64	64
Referral (s75) decisions/FTE	5.91	7.61	10.12
Assessment approach (s88) decisions/FTE	1.63	2.61	4.61
Approval (s130) decisions/FTE	1.06	1.71	3.02

Source: DSEWPAC data, Deloitte Access Economics analysis.

Chart 5.8: Decisions per FTE, without additional resourcing



Source: DSEWPAC data, Deloitte Access Economics analysis.

In order to manage the workload, additional resourcing would be required in DSEWPAC. Maintaining numbers of referrals, assessment approach and approval decisions at approximately their 2009-10 levels would require additional FTEs every year as numbers of decisions increase. Table 5.6 gives the estimated additional FTEs per annum, cumulative additional FTEs and the associated payroll cost to DSEWPAC. Over the ten year period, an estimated 78 additional FTEs would be required, more than double the current FTE complement (to total 142). DSEWPAC indicated that for every four additional FTEs, one additional FTE is required for administration, support and so on. Thus, a 25% loading has been included, totalling 96 additional FTEs.

Additional payroll costs are also given in Table 5.6, based on an average cost per FTE of \$100,000 per annum in 2010-11¹⁰. By 2020-21, the payroll bill would be \$9.6 million per annum higher than in 2010-11, not accounting for real wage increases over that time period (noting the analysis is in real constant dollar terms). This would represent a direct cost to the Australian Government.

Table 5.6 shows the impact of these FTE increases on the number of decisions per FTE. Compared to Table 5.5, the additional resourcing would maintain DSEWPAC’s workload per FTE at a sustainable level and keep delays at 2010-11 levels. However, as noted, by 2020-21, this would come at an additional annual payroll cost of \$9.6 million; and that amount would continue to grow as long as workload trends continue. It also does not address the

¹⁰ Information gained through consultation with DSEWPAC.

factors contributing to around 27% of projects being delayed through the Australian Government approval process in 2010-11.

Table 5.6: Estimated additional FTEs to maintain 2010-11 workload per FTE

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
FTEs (total)	64	70	76	83	90	97	105	114	123	132	142
Additional FTEs for assessments	-	6	6	7	7	7	8	9	9	9	10
Additional FTEs for support (25%)	-	1	1	2	2	2	2	2	2	2	2
Total additional FTEs (cumulative)	-	7	14	23	32	41	51	62	73	84	96
Additional DSEWPAC payroll cost, cumulative since 2010-11 (\$m p.a.)	-	0.7	1.4	2.3	3.2	4.1	5.1	6.2	7.3	8.4	9.6

Source: DSEWPAC data, Deloitte Access Economics analysis.

Note: Additional payroll costs based on \$100,000 per annum per FTE, as indicated by DSEWPAC.

Table 5.7: Referral and assessment decisions per FTE with additional resourcing

	2009-10	2014-15	2020-21
FTEs	64	90	142
Referral (s75) decisions/FTE	5.91	5.41	4.56
Assessment approach (s88) decisions/FTE	1.63	1.86	2.08
Approval (s130) decisions/FTE	1.06	1.21	1.36

Source: DSEWPAC data, Deloitte Access Economics analysis.

5.3 Option 2 – potential impacts on FTEs

5.3.1 Impact of introducing guidelines and self-assessment

The discussion here focuses on the potential impact of introducing guidelines to cover certain types of activities and the encouragement of self-assessment, backed by greater legal certainty around its use. Guidelines would save staff time in assessing actions that would be determined NCA or NCA-PM, as the essential purpose of guidelines is to indicate to proponents whether or not their project would trigger the EPBC Act as a CA. NCA decisions do not trigger the EPBC Act at all, and the NCA-PM decisions do not, provided they are carried out in a particular manner.

Currently, approximately 36% of referral decisions are determined to be NCA and approximately 28% NCA-PM. A comprehensive set of guidelines around these activities could prevent proponents from referring projects to DSEWPAC, particularly if they are supported by environmental stakeholder groups. This may reduce the likelihood of legal challenge, and thus give the proponent greater certainty in proceeding with the project. To be conservative, the following analysis is based on an assumption that only half of the NCA or NCA-PM decisions would be appropriately addressed with guidelines. In 2010-11, that would be approximately 125 decisions.

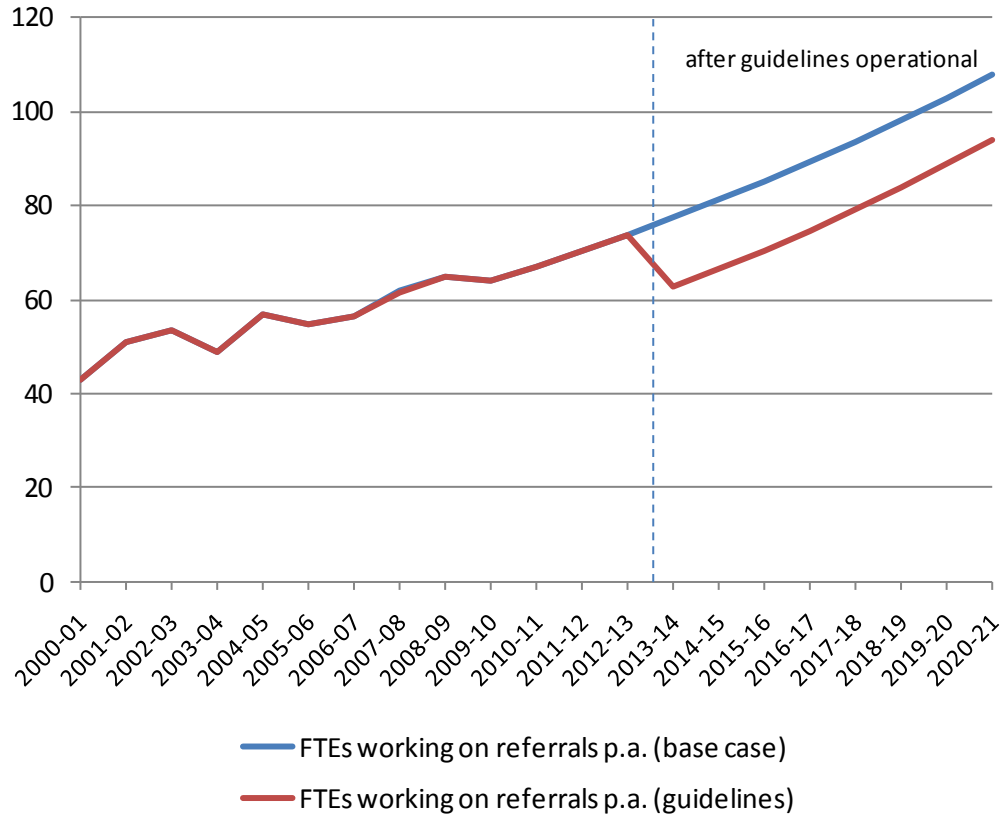
Estimated costs of developing guidelines are based on DSEWPAC's experience in developing the seismic guidelines¹¹ (completed in 2008). This took approximately 18 months and cost \$350,000. The seismic guidelines apply to approximately 35 referrals per year. Applying that cost on a pro-rata basis to 125 decisions would equate to \$1.25 million over 18 months, or a per annum cost of \$0.83 million. This cost is expected to be ongoing, to develop and monitor guidelines.

In terms of productivity gains, the seismic guidelines were released at a time when DSEWPAC experienced a 50% increase in the numbers of related referrals received per annum, and was able to cope with that increase without additional resourcing. That is, **staff assessing referrals were approximately 50% more productive as a result of having the guidelines.** The savings thus derive from reduced complexity of processing 125 referrals, rather than from reduction in the number of referrals per se.

Assuming that a similar result could be achieved from the introduction of other sets of guidelines, the same workload (for NCA and NCA-PM decisions) could be covered by two thirds of the FTEs. Fewer additional FTEs would therefore be required to cope with the projected additional workload than under the base case. Calculations of the estimated impact are shown in Chart 5.9 and Table 5.8. As under the base case, a 25% loading on additional FTEs has been included to cover administration, support staff and so on. The analysis is done on the basis that guidelines would take two years to develop (beginning in mid-2011) and therefore benefits would only begin to accrue in 2013-14.

¹¹ DSEWPAC 2008, 'Interaction between offshore seismic exploration and whales', *EPBC Act Policy Statement 2.1*, accessed 1 April 2011 at <http://www.environment.gov.au/epbc/publications/seismic.html>.

Chart 5.9: FTE savings compared to the base case, with the implementation of guidelines



Source: DSEWPAC data, Deloitte Access Economics analysis.

Table 5.8: Savings compared to the base case, with the implementation of guidelines

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
FTEs working on referrals p.a. (base case)	67.11	70.37	73.79	77.39	81.15	85.10	89.24	93.58	98.14	102.91
FTEs working on referrals p.a. (with guidelines)	67.11	70.37	73.79	62.96	66.60	70.47	74.60	79.00	83.68	88.68
Reduction in additional FTEs p.a. due to guidelines	0.00	0.00	0.00	14.43	14.55	14.63	14.64	14.59	14.45	14.23
Saving in additional payroll costs, relative to base case (\$M p.a.)*	0.00	0.00	1.44	1.46	1.46	1.46	1.46	1.45	1.42	1.39
Including 25% loading (\$M p.a.)	0.00	0.00	1.80	1.82	1.83	1.83	1.82	1.81	1.78	1.74
Cumulative saving relative to base case (\$M p.a.)	0.00	0.00	1.80	3.62	5.45	7.28	9.11	10.91	12.69	14.43

Source: DSEWPAC data, Deloitte Access Economics analysis.

*Note: payroll costs based on \$100,000 p.a. per FTE, as indicated by DSEWPAC.

Under these assumptions, payroll savings compared to the base case, as shown in Table 5.8 would be \$14.43 million per annum by 2020-21.

In summary, a \$0.83 million annual cost developing and monitoring guidelines would be expected to generate benefits beginning in 2013-14 at \$1.80 million per annum, increasing to \$14.43 million per annum by 2020-21 (relative to the base case). **The NPV of the net benefit of implementing guidelines in terms of Departmental resourcing alone is thus calculated at \$33.38 million (over ten years).**

The savings for state and territory governments is likely to be similar to the savings for DSEWPAC, since each referral has a similar amount of processing time required in the relevant jurisdiction (as derived from consultations with the jurisdictions in Access Economics' CBA of strategic assessments). State and territory governments would also have to be involved (to a lesser extent individually but in total to around the same extent as the Commonwealth) in drafting and monitoring guidelines. So **the savings benefits across the jurisdictions are estimated to total \$33.38 million in NPV terms also.**

Finally, there may be savings for the proponents in not submitting proposals that would formerly have resulted in NCA decisions, due to now having the guidelines, or reduced complexity in proposals submitted. On the other hand, proponents would have to spend some time first familiarising themselves with the guidelines. Stakeholders consulted were not able to quantify the net effect, so any potential net gain has been conservatively excluded from this analysis. It was considered unlikely there would be a net loss for proponents. The main benefits are in reduced delays, which are considered in Section 5.4.

In total the estimated **NPV of the net benefit from workload changes from guidelines under Option 2 would be \$66.76 million, shared equally between DSEWPAC and the state/territory governments.**

5.3.2 Impact of early engagement

There would be benefits to project proponents, Australian, state and territory governments and the economy from reducing delays in the assessment process. An illustrative transport infrastructure case study of the impact of early engagement minimising project delays is summarised in Box 5.1.

Box 5.1

In the 2009-10 Budget, the Australian Government announced an \$8.5 billion investment in nationally significant transport infrastructure. Given the size and scale of projects being funded, it was likely that a number will trigger the EPBC Act. SEWPAC wanted to ensure that these projects were not subject to any unnecessary delays and therefore proactively sought to engage with proponents early.

The Department of Infrastructure provided a list of the top 15 priority projects and contact details for proponents. Both the Environment Minister and the Infrastructure Minister wrote to their counter-parts in jurisdictions to advise that SEWPAC would be assigning a dedicated case officer for each project and that this officer would be making direct contact with the proponent within weeks.

Each project proponent was written to and a time established for the first pre-referral discussion via telephone. The pre-referral discussions focussed on understanding the project scope and obtaining sufficient detail for the department to undertake a desk top assessment of protected matters within the project footprint. In most cases a follow-up discussion provided guidance on the referral process and assessment options in the event the project required further assessment.

Within 12 months, 12 of the 15 projects had completed EPBC Act consideration. 2 remain under assessment. Both are being assessed under the bilateral agreement with the relevant jurisdiction and the timing of the final decision is dependent on the state completing its assessment. The one outstanding project is still determining its final route alignment, which has taken into account EPBC Act protected species. It is possible that this final route alignment will not require EPBC Act assessment if it successfully avoids EPBC matters.

The conclusion from this case study is that in one of the 15 projects a referral may be averted, and that delays greater than a year were reduced to 2 of the 14 proceeding cases. The conclusion on delays is useful in Section 5.4. In terms of reductions in referrals, a 6.7% (1/15) reduction in referral workload is modelled in the CBA. As with the guidelines, this is modelled with a start-up delay, to allow time for the early engagement processes to become established. The tasks in the case study suggest a cost of one project officer for one month per project upfront (in total not elapsed time), and this cost was ascribed to all CA projects and 6.7% of NCA and NCA-PM referrals (assuming 9 referrals per FTE due to the efficiency achieved through guidelines, rather than the 6 per FTE currently).

Under these assumptions, the costs and benefits for the Australian Government under Option 2 compared to the base case are shown in Table 5.9. Overall there is a net cost of \$1.41 million in 2011-12 increasing to \$2.83 million by 2020-21. **In NPV terms this represents a net cost of \$12.56 million for DSEWPAC.**

Table 5.9: Costs compared to the base case, with early engagement

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
FTEs for early engagement	14.10	15.51	17.05	18.74	20.61	22.66	24.91	27.39	30.11	33.11
Cost of FTEs (\$M)	1.41	1.55	1.70	1.87	2.06	2.27	2.49	2.74	3.01	3.31
Savings on referral FTEs	-	3.28	3.44	3.61	3.78	3.97	4.16	4.36	4.57	4.80
Savings on referral FTEs (\$M)	-	0.33	0.34	0.36	0.38	0.40	0.42	0.44	0.46	0.48
Net cost relative to base case (\$M p.a.)	1.41	1.22	1.36	1.51	1.68	1.87	2.08	2.30	2.55	2.83

Source: DSEWPAC data, Deloitte Access Economics analysis.

*Note: payroll costs based on \$100,000 p.a. per FTE, as indicated by DSEWPAC.

The situation for state and territory governments is again likely to be similar to that of DSEWPAC, due to the approximate equivalence of resourcing for referrals and early engagement necessary for jurisdictions involved in the engagement and referral processing. **So the net cost across the jurisdictions is estimated to total \$12.56 million in NPV terms also.**

Finally, there is also a cost for the proponent for early engagement. Since stakeholders consulted were not able to estimate approximate FTE costs, and since there are no offsetting FTE savings for proponents and the costs are unlikely to be small, they have been modelled as also equivalent to the Australian Government costs. In other words, proponents are likely to have to engage to the same resourcing level as their Government counterparts. It has been the experience of DSEWPAC that proponents that engage in pre-referral discussions prior to submitting a referral often achieve on time decisions that meet proponent expectations. This is because any issues that require clarification before a decision can be made are resolved without the need to “stop the clock” to formally request information from the proponent. Although the proponent has invested time in advance of submitting a referral, they have a higher degree of certainty about the department’s information expectations and can tailor their effort accordingly. **The cost to (primarily business sector) proponents is estimated as \$14.94 million,** since there are no offsetting FTE savings.

In total the estimated **NPV of the net cost from workload changes from early engagement under Option 2 would be \$40.05 million, shared approximately equally between DSEWPAC, the state/territory governments, and proponents (not including any benefits from reduced delays).**

5.3.3 Impact of improved outcomes from bilateral agreements

Bilateral agreements are currently used to assess projects that require approval on environmental grounds at both state/territory and Australian Government levels. The proposal to accredit state/territory processes so that they meet Australian Government statutory requirements is expected to save time and resourcing costs at Australian Government level, as well as reduce delays in CA assessments under bilateral agreements. However, it would increase resourcing costs at state/territory level.

Assuming that resourcing costs for a given investigation are roughly similar at both levels, shifting the workload from DSEWPAC to state/territory Departments will not result in any direct financial savings across both levels of government. There may be savings if some investigations are made more efficient by being done completely at one level of government (i.e. to a greater degree than currently under bilateral agreements). There is no data to support this, however, so this ‘specialisation’ benefit has not been quantified.

DSEWPAC data indicate that 245 CAs moved from assessment to approval between August 2007¹² and March 2011 and of these, 45 were assessed under bilateral agreements. Of the bilateral CAs, 60% (27) needed to have the timeframe extended to undertake further assessment due to inadequacies in the state/territory report. By comparison, only 39, or 19.5% of the CAs assessed outside a bilateral agreement required the timeframe extended. It may be assumed that upgrading state/territory processes would bring the frequency of delays for CAs assessed under bilateral agreements in line with other CAs – i.e. a reduction to less than one third of the previous rate. Over August 2007 to March 2011, this would have resulted in 18 additional CAs being assessed within the timeframe required.

The conclusion from the experience so far with bilateral assessments is that around 18.4% (45/245) of CAs could involve bilateral assessments. DSEWPAC could allocate 2 FTE for a year to assist jurisdictions in upgrading their reporting, with 8 FTE allocated to states and territories for this start-up process (i.e. 1 FTE each allocated to the transition to upgraded reporting). For the jurisdictions, an ongoing increase in FTE is modelled of around 20% increase in workload for the CAs assessed under bilateral agreements. DSEWPAC is estimated to make equivalent savings from not having to redress report inadequacies. As with the guidelines and early engagement, the benefits are modelled with a start-up delay, to allow time for the improved bilateral engagement processes to become established. The costs and benefits under these assumptions are shown in Table 5.10.

¹² Oldest data available - no extensions were made before August 2007.

Table 5.10: Costs compared to the base case, with bilateral agreements

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Upfront FTEs for BA, DSEWPAC	2.00	-	-	-	-	-	-	-	-	-
Cost of FTEs (\$M), DSEWPAC	0.20	-	-	-	-	-	-	-	-	-
Upfront + ongoing FTEs for BA, jurisdictions	8.00	1.71	1.88	2.07	2.27	2.50	2.75	3.02	3.32	3.65
Cost of FTEs (\$M)	0.80	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.33	0.36
Savings on DSEWPAC FTEs	-	1.71	1.88	2.07	2.27	2.50	2.75	3.02	3.32	3.65
Savings on DSEWPAC FTEs (\$M)	-	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.33	0.36
Net benefit to Australian Govt (\$M)	(0.20)	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.33	0.36
Net cost to jurisdictional govts (\$M)	0.80	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.33	0.36

Source: DSEWPAC data, Deloitte Access Economics analysis.

*Note: payroll costs based on \$100,000 p.a. per FTE, as indicated by DSEWPAC.

Although there is a net cost in the first year to DWESPAC estimated as \$0.2 million, the **net benefits for the Australian Government under Option 2 compared to the base case from enhanced bilateral assessment processes are estimated as \$1.50 million** in NPV terms.

For the state and territory governments, the net costs are estimated as \$2.25 million.

Across the government sector, the NPV of the net cost is \$0.93 million.

There would be benefits to project proponents, Australian, state and territory governments and the economy from reducing delays in the assessment process, as highlighted in the Tropicana case study in the next section. However, there are not expected to be any workload costs or benefits for proponents.

While early engagement reduced delays to 2 in 14 CA projects, the experience with bilateral agreements from 2007 to 2011 outlined above suggests that delays could be reduced to one third of previous delay rates. The impact of delays, and the scope to reduce them, is analysed in the next sections.

5.4 Impact of delays – case studies

Preliminary data in 2010-11 indicate that the assessment process under the EPBC Act is currently delaying projects as follows:

- Referral decisions – 28% delayed, average delay 8 days (235 decisions total).
- Assessment approach – 35% delayed, average delay 42 days (94 decisions total).
- Approval decisions – 22% delayed, average delay 69 days (64 decisions total).

Overall, the average length of delay faced (i.e. including those not delayed) was as follows:

- Referral decisions – 2 business days.
- Assessment approach – 15 business days.
- Approval decisions – 15 business days.

On that basis, a project that is determined to be a CA (and undergoes the three stages of assessment) in 2010-11 faces an average delay of 32 business days, or more than six weeks. That does not include time spent by the proponent gathering information while the statutory clock is stopped, or time spent during environmental approval processes in state/territory or local governments.

5.4.1 Impacts on project cash flows

These delays have an impact on project cash flows, as measured by NPV. Two sources of modelling this impact were identified in Deloitte Access Economics' report on Strategic Assessments (2011). In 2009, the Productivity Commission¹³ modelled the impact of delays caused by regulation and uncertainty in the regulatory environment, using case studies from the oil and gas sector. The Productivity Commission estimated that, "**Expediting the regulatory approval process for a major project by one year could increase the NPV of returns by 10–20% simply by bringing forward income streams.**" (p. xxv) APPEA (2010) achieved a similar result. For a project with an NPV of \$2.7 billion, the APPEA estimated that a one year delay would cost approximately 11.4% of NPV.^{14 15}

The Productivity Commission's 2009 Research Report, Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, summarised the impact of project delays:

"The cost of delays over time to the sector, and to the economy as a whole, obviously will depend on the number of projects delayed unnecessarily and the additional costs incurred. But given the size of individual projects and the pervasiveness of regulatory delays, costs are potentially significant. Indeed, given APPEA's estimate that around \$80 billion could be invested in new gas projects in the Pilbara and the Kimberley alone in the next decade, and that \$200 billion worth of projects are either in production, under construction or being planned in Australia's north-west or central Queensland (APPEA 2008),

¹³ Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, accessed 3 April 2011 at http://www.pc.gov.au/_data/assets/pdf_file/0011/87923/upstream-petroleum.pdf.

¹⁴ DSEWPAC referenced this to by APPEA's *Upstream Oil & Gas Industry Strategy – Platform for Prosperity*, for a 'typical' LNG project based on key parameters (p34), and APPEA was confirming this citation at the time of the previous CBA report. http://www.appea.com.au/images/stories/Policy_-_Industry_Strategy/Strategic_Leaders_Report.pdf . The APPEA also noted that the oil and gas exploration industry is particularly sensitive to the costs of delays, due to the structure of financing for projects in that industry. See the APPEA's submission to the Hawke Review, retrieved 31 March 2011 from: http://www.appea.com.au/images/stories/pdfs_docs_xls/PolicyIndustryIssues/policysubmissions/independent_review_of_the_environment_protection_and_biodiversity_act_1999.pdf

¹⁵ The Deloitte Access Economics report consulted some project proponents as to the validity of this assumption. The outcome was that 11.4% may be appropriate for oil/gas projects, but too high for some other projects. One proponent considered that a 1% loss of NPV would be appropriate. Thus a sensitivity analysis of results based on a 1% reduction in NPV was included.

the cost of delaying production and revenues could total several billions of dollars each year.” (p. 219)

Examples of projects are useful in demonstrating the impact of delays on project cash flows. A high value project such as the \$16 billion Santos development of a natural gas liquefaction plant (energy generation) is estimated to draw annual cash flows of \$6 billion once operational (four years following approval). Delaying that project by one year would result in a reduction in NPV of those revenue flows of \$289 million. Some examples of projects that have been delayed through the regulatory process are provided in Table 5.11.

The project shown under ‘mining’, the Tropicana Gold Project to develop an open cut mine, will be used as a case study. The project involves an investment of \$740 million over three years. Assuming that it achieves the industry benchmark rate of return on investment of 37.28%¹⁶ over 10 years¹⁷, this would indicate average annual net cash flows of approximately \$409 million (in 2010-11 terms). The NPV of the project would then be \$1.275 billion (based on a 10% discount rate, in line with that used by the Productivity Commission report). The impact of a one year delay, based on a reduction in NPV of 11.4%, would be a loss of \$145 million to the proponent. The 34 business day delay indicated in Table 5.11, would be equivalent to \$20 million in lost NPV¹⁸.

Uncertainty with regard to the legal status of projects, either during or following the approval process, may also have an impact on project cash flows and a proponent’s profitability. For example, stock exchange movements are frequently recorded in response to uncertainties over large-scale project approvals.¹⁹

¹⁶ Profit ratio for mining calculated from ABS 2008, *Mining operations 2006-07*.

¹⁷ <http://www.tropicanaajv.com.au/IRM/Company/ShowPage.aspx?CPID=886&EID=34073790&PageName=Tropicana%20Project%20Overview>.

¹⁸ Based on a 250 business day year – i.e. $34/250 * 11.4\% = 1.55\%$.

¹⁹ See for example, The Bull 2011, *Santos in WA Gas Discovery Near Gorgon*, accessed 6 April 2011 at <http://www.thebull.com.au/articles/a/18775-santos-in-wa-gas-discovery-near-gorgon.html>.

Table 5.11: Estimated lost NPV due to delays, selected projects delayed during 2010-11

Project category	Project name (case study)	Date approved	DSEWPAC Reference	Type & outcome of determination	Business days delayed before approval	Capital investment (\$M)
Energy generation (non-renewable)	Arrow Energy Dalby Gas Expansion Project (exploration & development)	4/2010	2010/5343	Referral decision (NCA-PM)	20	Not available
Transport	Gladstone Port Dredging and Disposal	10/2010	2009/4904	Approval decision (approved)	31	1,300 over 4 years
Mining	Tropicana Gold Project-Develop open cut gold mine, and associated infrastructure	12/2010	2008/4270	Approval decision (approved)	34	740 over 3 years
Tourism & Recreation	Development, former Melbourne GPO	10/2010	2009/4964	Approval decision (approved)	34	Not available
Commercial development	Development and Construction of Rocky Springs Master-planned Community	7/2010	2007/3574	Approval decision (approved)	165	2,000 over 35 years
Residential	Bermerside residential development and resort	2/2011	2006/2998	Approval decision (approved)	147	Not available

Sources: DSEWPAC.

http://www.townsvillebulletin.com.au/article/2007/06/05/3455_news.html

http://www.rockysprings.com.au/llweb/rockysprings/main.nsf/pdf_20090923_eis.pdf

http://advancewestern Downs.com/_literature_69136/Surat_Gas_Project

[http://www.tropicanajv.com.au/IRM/Company/ShowPage.aspx?CPID=886&EID=34073790&PageName=Tropicana na%20Project%20Overview](http://www.tropicanajv.com.au/IRM/Company/ShowPage.aspx?CPID=886&EID=34073790&PageName=Tropicana%20Project%20Overview)

<http://www.supplychainreview.com.au/news/articleid/72547.aspx> (all accessed 6 April 2011)

5.4.2 Impacts on Australian Government taxation revenue

The Australian Government taxes would apply to project proponents, and would be charged on profits, once projects become operational. All project proponents would be subject to corporation tax, at a flat rate of 30% on profits. Those projects relating to petroleum resources would also be subject to Petroleum Resource Rent Tax, which is levied at a rate of 40% of a project's taxable profit²⁰.

The impact of delays to the \$740 million Tropicana gold mine development outlined in the previous section on corporation tax payable to the Australian Government is as follows. The project's NPV was estimated at \$1.755 billion, which is approximately equivalent to the NPV of profits. The NPV of corporation tax payable to the Australian Government over 10 years would therefore be \$382 million. If 11.4% of this were lost due to a one year delay,

²⁰ [http://www.ret.gov.au/resources/enhancing/taxation/prrt/Pages/PetroleumResourceRentTax\(PRRT\).aspx](http://www.ret.gov.au/resources/enhancing/taxation/prrt/Pages/PetroleumResourceRentTax(PRRT).aspx), accessed 6 April 2011.

that would cost the Australian Government \$44 million (NPV). **The 20 business day delay would therefore cost \$6 million (NPV) in lost corporation tax receipts.**

Project delays would also forestall income taxes payable to the Australian Government as a result of employment creation during construction and operations. These impacts are not quantifiable, due to a lack of data on individual projects and the associated employment opportunities. It may also be argued that the construction sector is at close to full employment currently, and thus any additional workers would otherwise be employed elsewhere in that sector. As such, there is no modelled net gain to income tax revenue.

5.4.3 Impacts on state and territory Government royalty revenue

In 2009-10, mining investment in Australia totalled \$295.87 billion, and \$6.78 billion was paid in royalties to state and territory governments. That is, for every \$1 million invested, around \$23,000 was paid in royalties. Mining royalties differ between the states and depending on the mineral, but in general are charged at less than 10% of the value of minerals extracted.

The Tropicana case study mine is expected to produce an average of between 330,000-410,000 ounces per annum over its life (estimated to be 10 years, based on known resources). Based on a gold price of \$1,405 per ounce²¹ in April 2011, this would equate to extracting gold resources of approximately \$520 million per annum. Gold royalties in Western Australia are charged at 2.5% of the value of extracted gold²² – in this case, that would be approximately \$13 million per annum. The NPV of royalty taxes for the WA Government over the ten year life of the mine would be \$60 million. Delaying that revenue stream by one year would result in an NPV of \$51 million, or \$9 million less. **Apportioning that loss on a pro-rata basis, the lost NPV from a 20 business day delay would be \$1.2 million.**

5.4.4 Impacts on the economy

Potential impacts on the economy where projects may be delayed include the delay of employment and investment growth opportunities, and the flow on effects of these. The impact on the Australian economy of a \$1 million investment in the sectors of the majority of referrals and CAs is summarised in Table 5.12. Some of the case studies where project values were available have been analysed for their potential impact on the economy, with the results summarised in Table 5.13. The Tropicana case study considered in detail previously would make an estimated \$392 million contribution to gross output.

The difference between the investment amount and the contribution to gross output represents the indirect effect– i.e. the additional income to businesses supplying the project, their suppliers, and so on. Based on the project's NPV of \$1.755 million, the NPV of the indirect impact would be \$752 million. **A 34 day delay, therefore, would result in \$12 million lost NPV.**

²¹ Based on a gold price of 1,456.60 USD/ounce and a USD/AUD exchange rate of 0.9646 on 6 April 2011 – Source: www.bloomberg.com.

²² <http://www.abc.net.au/rural/content/2010/s2848533.htm>.

Table 5.12: Impact on the economy of a \$1 million investment

	Gross output	Value added	Labour income	Employment
Mining	1.59	1.44	1.69	1.69
Construction	2.47	3.92	6.02	4.45
Transport	2.47	3.92	6.02	4.45
Energy generation	2.47	3.92	6.02	4.45
Tourism	2.47	3.92	6.02	4.45
Water management	2.47	3.92	6.02	4.45
Commercial development	2.47	3.92	6.02	4.45

Source: ABS Input-Output tables 2004-05.

Notes: Employment is measured as persons employed per extra \$m of output; other parameters are ratio of total to direct effect. Economic impacts based on input-output tables tend to overstate the economic impact of projects, as supply-side constraints are not taken into account. However, they are useful here as an indication of the potential impact.

Table 5.13: Estimated total impact on the economy of case study investments

	Capital Investment (\$m p.a.)	Gross output (\$m p.a.)	Value added (\$m p.a.)	Labour income (\$m p.a.)	Employment (\$m p.a.)
Tropicana (mining)	247	392	355	417	417
Gladstone Port (Transport – water)	325	803	1,274	1,957	1,446
Rocky Springs (Commercial development)	57	141	224	344	254

Source: ABS Input-Output tables 2004-05, Deloitte Access Economics analysis

Notes: As for Table 5.12.

5.4.5 Summary of case study impacts of project delays

The impacts of the 34 business day delay on the Tropicana gold mine project used as a case study are summarised in Table 5.14, totalling \$38.6 million.

Table 5.14: Summary of estimated impacts of delay on NPV, Tropicana case study

	Proponent (\$m)	Australian Govt (\$m)	WA Govt (\$m)	Economy (\$m)	Total (\$m)
Tropicana (mining)	19.8	5.5	1.2	11.7	38.6

Source: Deloitte Access Economics.

5.5 Benefits from reduced delays – Option 2

The benefits from reduced delays are based on the DSWEPA data from Section 5.4 which showed that 22% of approvals were delayed. Moreover, Section 5.3 found that early

engagement reduced delays down to 2 in 14 CA projects, while reforming the process for bilateral agreements from 2007 to 2011 reduced delays to one third of previous levels. Applying these reduction rates to the relevant projects (i.e. 18.4% being bilateral) provides a weighted average rate of 13% of approvals delayed under Option 2.

These delay rates were applied to the projected CAs from 2012-13 on – with the start-up of benefits again lagged to reflect implementation time for the reforms. Taking the difference revealed 16.4 fewer delays in the first year increasing to 35 fewer delays by 2020-21 (Table 5.15). The savings from this reduction in delays was calculated in the same manner as in Section 2 – using the average business days delayed and the average project value.

- The average days delayed was estimated as a mean of 22.7 days and a median of 7 in Section 2, based on 2010 data, while the data from Section 5.4 suggested 32 business days delayed. In the modelling 22.7 was used (as the middle estimate) with sensitivity analysis on the low estimate.
- The average project value in Section 2 was estimated between a mean of \$1.32 billion and a median of \$278 million, so a simple average of these figures was modelled - \$799 million, which is in line with some of the case studies.

Using 250 business days per annum and 11.4% of the value lost in a year, the value gained for a delay averted was thus estimated as $22.7/250 * 799 * 11.4\% = \8.2 million. In the low case the value lost would be only \$0.9 million ($7/250 * 278 * 11.4\%$), while in the high case it would be \$19.3 million ($32/250 * 1320 * 11.4\%$).

The estimated benefit from reduced delays under Option 2 relative to Option 1 was thus estimated as \$135.1 million in 2012-13 increasing to \$288.4 million in 2020-21 (Table 5.15). **In NPV terms, this represents a total gain to society of \$1.19 billion.**

Table 5.15: Estimated benefits from reduced delays under Option 2 relative to Option 1

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
CAs delayed in base case	40.9	45.0	49.5	54.4	59.8	65.8	72.3	79.5	87.4
CAs delayed in Option 2	24.6	27.0	29.7	32.6	35.9	39.5	43.4	47.7	52.4
Difference (fewer delays under Option 2)	16.4	18.0	19.8	21.8	23.9	26.3	28.9	31.8	35.0
Savings from reduced delays	135.1	148.5	163.3	179.5	197.4	217.0	238.6	262.3	288.4
Low scenario	14.5	15.9	17.5	19.3	21.2	23.3	25.6	28.2	31.0

Source: DSEWPAC data, Deloitte Access Economics analysis

The gain is shared across proponents (as after-tax, after-royalty profit), the Australian Government (as 30% corporation tax) and to state and territory governments as royalties and state taxes (estimated as 6% of the total from the case studies in the previous section).

6 Conclusions

6.1 Summary of the CBA findings

A summary of all the costs and benefits in NPV terms from the CBA in the previous section is provided in the same format as in Table 4.4 in Section 4.6. The benefits to proponents in the first round of effects (i.e. before tax and royalty allocations) were split equally between the bilateral agreements, guidelines and early engagement. The benefits from multiplier effects to the rest of the economy were not able to be estimated with confidence, as multipliers vary greatly depending on the industry of the project, and a robust breakdown by industry of projects likely to have delays reduced was not available.

Based on first round effects, in NPV terms over the decade:

- the Australian Government has net savings of \$22.14 million, as the savings from guidelines more than offset the net workload costs from early engagement;
- the state and territory governments have net savings of \$18.57 million, with net benefits only from the guidelines;
- proponents have net benefits of \$1.172 billion, with costs only for early engagement;
- **overall, the net benefit is \$1.212 billion of Option 2 compared to Option 1.**

Table 6.16: Summary of costs & benefits, 1st round, Option 2 relative to Option 1, \$m NPV

Reform	Australian Government (DSEWPAC)	State/territory governments	Proponents (primarily Business /Industry)	Rest of economy/society	Total
Additional Costs					
Bilateral agreements	0.19	2.25	0	None.	2.44
Guidelines	5.85	5.85	Not able to be estimated (small).	None.	11.71
Early engagement	14.94	14.94	14.94	None.	44.82
Total Costs	20.98	23.04	14.94	-	58.96
Additional Benefits					
Bilateral agreements	1.50	0	395.55	Not able to be estimated	397.05
Guidelines	39.23	39.23	395.55		474.02
Early engagement	2.38	2.38	395.55		400.31
Total Benefits	43.12	41.62	1,186.64	-	1,271.37
Net Benefits					
Bilateral agreements	1.31	(2.25)	395.55	-	394.61
Guidelines	33.38	33.38	395.55	-	462.31
Early engagement	(12.56)	(12.56)	380.61	-	355.49
	22.14	18.57	1,171.70	-	1,212.42

Source: DSEWPAC, Deloitte Access Economics.

A year by year summary is provided of the main items for the CBA, in Table 6.17.

Table 6.17: Costs and benefits, year by year summary, \$m and NPV

	NPV	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Applies to:
Cost of workload increase, referrals growth*	30.08	0.70	1.40	2.30	3.20	4.10	5.10	6.20	7.30	8.40	9.60	AG
Savings, guidelines	39.23	-	-	1.80	3.62	5.45	7.28	9.11	10.91	12.69	14.43	AG, S/T
Cost, guidelines	5.85	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	AG, S/T
<i>Net savings, guidelines</i>	<i>33.38</i>	<i>(0.83)</i>	<i>(0.83)</i>	<i>0.97</i>	<i>2.79</i>	<i>4.62</i>	<i>6.45</i>	<i>8.27</i>	<i>10.08</i>	<i>11.86</i>	<i>13.59</i>	AG, S/T
Cost, early engagement	14.94	1.41	1.55	1.70	1.87	2.06	2.27	2.49	2.74	3.01	3.31	AG, S/T, P
Savings, early engagement	2.38	-	0.33	0.34	0.36	0.38	0.40	0.42	0.44	0.46	0.48	AG, S/T
<i>Net cost, early engagement</i>	<i>12.56</i>	<i>1.41</i>	<i>1.22</i>	<i>1.36</i>	<i>1.51</i>	<i>1.68</i>	<i>1.87</i>	<i>2.08</i>	<i>2.30</i>	<i>2.55</i>	<i>2.83</i>	AG, S/T
Cost to jurisdictions, bilateral agreements	2.25	0.80	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.33	0.36	S/T
Net savings to DSEWPAC, bilateral agreements	1.31	(0.20)	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.33	0.36	AG
<i>Net cost, bilateral agreements</i>	<i>0.93</i>	<i>1.00</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	As above
Savings, reduced delays	1,186.64	-	135.08	148.52	163.29	179.53	197.38	217.02	238.60	262.33	288.42	P
Savings, reduced delays, low scenario #	127.41	-	14.50	15.95	17.53	19.28	21.19	23.30	25.62	28.17	30.97	P

Source: Deloitte Access Economics analysis.

* Applies to both Options – included so that resourcing increases for DSEWPAC can be identified, required under either Option to prevent further increases in project delays. Nets out in the CBA.

Included for information.

Table 6.18 provides the net benefits including second round effects i.e. redistributions of tax and royalty revenue from proponents to governments. With second round effects:

- the Australian Government has net benefits of \$378 million (31% of total net benefits);
- the state and territory governments have net benefits of \$90 million (7% of the total); and
- proponents have net benefits of \$745 million (61% of the total).

Table 6.18: Net benefits, with second round effects included, \$m NPV

Net benefits, with tax reallocation	Australian Government (DSEWPAC)	State/territory governments	Proponents (primarily Business /Industry)	Total
Bilateral agreements	119.98	21.48	253.15	394.61
Guidelines	152.05	57.11	253.15	462.31
Early engagement	106.11	11.18	238.21	355.49
TOTAL	378.13	89.77	744.51	1,212.42
% total	31%	7%	61%	100%

Source: Deloitte Access Economics analysis

6.2 Sensitivity analysis

Sensitivity analysis was conducted on a higher (11%) and lower (3%) discount rate in line with OBPR recommendations. Sensitivity analysis was also conducted on the low scenario for gains from reduced delays. Findings from the sensitivity analysis are presented in Table 6.19.

- The low delay value scenario reduced the net benefits by 89.5%, retaining an overall net benefit, however, of \$127 million over the decade in NPV terms.
- With a discount rate of 3%, net benefits increase 28% to \$1.55 billion.
- With a discount rate of 11%, net benefits fall 20% to \$967 million.

Table 6.19: Findings from the sensitivity analysis

	Net benefit (\$m NPV)	Difference relative to base case (%)
Base case	1,212	0
Low delay value scenario	127	-89.5%
3% discount rate	1,548	27.7%
11% discount rate	967	-20.3%

Source: Deloitte Access Economics analysis

The CBA indicates that reforms should proceed, with resourcing provided for their implementation.

References

- ABS (2010) Australian National Accounts: Input-Output Tables - Electronic Publication 2006-07, Cat. No. 5209.0.55.001
- DSEWPAC 2008, 'Interaction between offshore seismic exploration and whales', *EPBC Act Policy Statement 2.1*, accessed 1 April 2011 at <http://www.environment.gov.au/epbc/publications/seismic.html>.
- Hawke A (2009) The Australian Environment Act: Report of the Independent review of the Environment Protection and Biodiversity Conservation Act 1999, Report to the Minister for the Environment, Heritage and the Arts, accessed 15 June 2010 at <http://www.environment.gov.au/epbc/review/index.html>
- Productivity Commission (2009) *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector*, Research Report, accessed 18 June 2010 at http://www.pc.gov.au/__data/assets/pdf_file/0011/87923/upstream-petroleum.pdf

Limitation of our work

General use restriction

This report is prepared solely for the internal use of the Department of Sustainability, Environment, Water, Population and Communities. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. You should not refer to or use our name or the advice for any other purpose.

Contact us

Deloitte Access Economics
ACN: 49 633 116

Level 1
9 Sydney Avenue
Barton ACT 2600
PO Box 6334
Kingston ACT 2604 Australia

Tel: +61 2 6175 2000
Fax: +61 2 6175 2001

www.deloitte.com/au/economics

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and deep local expertise to help clients succeed wherever they operate. Deloitte's approximately 170,000 professionals are committed to becoming the standard of excellence

About Deloitte Australia

In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms, Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 5,000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit Deloitte's web site at www.deloitte.com.au.

Deloitte Access Economics is Australia's pre-eminent economics advisory practice and a member of Deloitte's global economics group. The Directors and staff of Access Economics joined Deloitte in early 2011. Liability limited by a scheme approved under Professional Standards Legislation. Member of Deloitte Touche Tohmatsu Limited

© 2011 Access Economics Pty Ltd