



**FINAL REPORT (PLK00019) TO**



*NATIONAL ELECTRICITY MARKET FORECASTING*  
**Identification of Generation Development Scenarios**

**5<sup>th</sup> September 2005**



## EXECUTIVE SUMMARY

Powerlink requested ROAM Consulting to identify a number of plausible scenarios for generation development in the Queensland region of the National Electricity Market over the period 2005 through till 2015.

This project is an update of a previous study (Plk00001) by ROAM Consulting for Powerlink in September 2000. This project also builds on similar work completed for ElectraNet and TransGrid in the intervening period. As with the previous project, this study will be used as an input to Powerlink's network planning process, which will feed into its application to the Australian Energy Regulator (AER) for regulated revenue reset.

Based on a review conducted of public submissions made on Powerlink's previous application (and those of ElectraNet and TransGrid), which summarised the results of the ROAM Consulting study, some refinements have been made to the methodology. However the methodology remains substantially the same approach as was used previously.

ROAM Consulting has applied the refined methodology to achieve the following:

- ❖ To define a coherent set of 40 discrete scenarios, each a plausible case for the path that generation development could take in Queensland over the coming decade;
- ❖ To calculate the probability with which each of these scenarios will proceed, relative to the other 39 in the set; and
- ❖ To determine the probability with which each prospective generation development project will proceed (across any of these scenarios).

ROAM Consulting has identified that the situation facing the market in 2005 carries a much higher degree of uncertainty than was the case in 2000 due to the higher levels of load growth forecast and the lower level of generation projects currently in advanced stages of development.

Because of the larger degree of uncertainty facing the market with respect to generation developments (and given the methodology applied), ROAM Consulting does not believe it would serve any practical purpose to identify a larger number of scenarios than the 40 identified here.

The most likely scenario can be seen as a "business as usual" scenario. The calculated probabilities for all 40 scenarios range from a high of almost 20% for this "business as usual" case to least likely scenarios with probabilities lower than 1%.

Detailed information with respect to each scenario and each project has been incorporated in this report as Appendices A and B.



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## 1. BACKGROUND TO THE PROJECT

This study follows on from several other similar studies completed for Powerlink (and other TNSPs) since 2000.

### (A) Previous Studies Completed

#### ***PREVIOUS STUDIES FOR POWERLINK***

In September 2000, Powerlink engaged ROAM Consulting to provide an assessment of possible trends in generation asset development within the NEM as an input into their CAPEX planning process (and hence the Powerlink submission to the ACCC on regulated revenue). Powerlink was particularly interested in the potential impact of these developments on the Queensland electricity supply system.

A report, incorporating 72 discrete scenarios, was provided to Powerlink to fulfil these requirements.

Subsequently, in each of 2001, 2002 and 2003, ROAM Consulting performed smaller studies to update the previous work. These updates were used as an input to Powerlink's internal planning processes.

#### ***STUDIES FOR OTHER TNSPs***

ROAM Consulting also provided assistance to ElectraNet (in 2001) and TransGrid (in 2003 and 2004) as part of their similar submissions to the ACCC for Regulatory Reset.

#### ***THIS STUDY FOR POWERLINK***

In order to prepare for the next regulatory reset period with the AER, Powerlink requested in April 2005 that ROAM Consulting provide an updated view of how the future might unfold. Powerlink requested that:

- ❖ The methodology previously used in 2000 for the creation of the scenarios be reapplied in this case; and
- ❖ The number of scenarios to be developed be limited, if possible, to a maximum of 40 in order that Powerlink could individually analyse the network implications of each of the scenarios so developed. However, the number of scenarios should not be limited if the appropriate variation in generation development can not be captured.



## **(B) Commentary on Previous Studies**

### **POWERLINK APPLICATION 2001**

In assessing Powerlink's application in 2000, the ACCC appointed an independent consultant (PB Power) to review the merits of the application.

The Executive Summary of the report produced included the highlighted comments with respect to the scenario analysis work.

*PB Associates*

*Powerlink Queensland  
Review of Capital Expenditure Requirements*

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#### **EXECUTIVE SUMMARY**

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This report presents the results of a review of Powerlink's regulatory revenue cap application in respect of capital expenditure. PB Associates undertook the review for the Australian Competition and Consumer Commission.

The main conclusions and recommendations of the review are as follows:

- The processes used by Powerlink for developing the load growth forecasts is in accordance with industry best practice.
- Due to significant uncertainty in the future connection of new generation to the Powerlink network, the use of traditional planning methodologies for forecasting non-current augmentation capital expenditure requirements was considered inappropriate. The probabilistic planning process developed by Powerlink is a rigorous and detailed approach, which involved the modelling of 72 possible development scenarios. We consider the approach to be an appropriate methodology for forecasting augmentation capital expenditure requirements in the face of high levels of uncertainty.

Due to the number of scenarios that required study, some simplifications have been made, for example in flow modelling and project economic assessment. However, on the basis of the level of detail we have been able to examine during this review, we would not consider these simplifications to significantly change the capital expenditure forecast from that produced if more detailed analysis were performed.

- The analysis of the different development scenarios and their associated probabilities has shown that the main driver for the level of capital expenditure is load growth. The various generation development scenarios have a secondary impact on top of this.

Following from these comments, it is noted that:

- 1) Forty scenarios have been identified as appropriate. This will allow Powerlink to assess each one of them (hence requiring no simplifications, unlike the situation in the previous application to the ACCC); and
- 2) The number of load growth themes has been expanded to reflect the fact that this is the prime driver of generation development scenarios.

In addition to the review by the ACCC's independent consultants, all market participants were provided the opportunity to make comment on all aspects of Powerlink's submission.



Responding to this opportunity, many submissions were received by the ACCC.

No objections were raised in any of these submissions to the methodology developed by ROAM Consulting, and no suggestions for improvement were made specifically with reference to the scenario analysis methodology. Indeed, some participants (e.g. ElectraNet, Ergon and Stanwell) explicitly indicated support for this new probabilistic method, whilst others (including TransGrid) were more generally supportive without mentioning the scenario analysis directly.

### ***ELECTRANET APPLICATION 2002***

Similarly, the ACCC appointed an independent consultant (Meritec) to review the merits of the ElectraNet application in 2001.

The page included below is an excerpt from this report that indicates the Meritec's favourable view of the methodology adopted by ROAM Consulting.



Note the area highlighted in which Meritec provide their comments.

Once again, a public consultation process was completed – and once again, the probabilistic method developed by ROAM Consulting received general support (with the exception of a single submission from the Electricity Consumers Council of South Australia, which recommended that a deterministic method be used). In practical terms, however, this is not an option for a TNSP, which must make investment decisions in an uncertain environment.



### **TRANSGRID APPLICATION 2003**

Similarly, the ACCC appointed an independent consultant (GHD) to review the merits of the TransGrid application.

The page included below is an excerpt from this report that provides GHD's views of the applicability of the methodology adopted by ROAM Consulting.



The ROAM scenarios as presented in the report have been reviewed. It is difficult to understand and verify the details of the approach taken from the detail contained in the documentation. However, it appears that they have reasonably covered the range of load growths and the likely generation scenarios based on the most likely projects to be undertaken in the future. GHD cannot determine the accuracy of the probabilities without a detailed assessment of all planning assumptions and understanding of load flows. The probabilities add to unity and there are no overlaps that we can detect, so they can be used in the way that TransGrid, to arrive at a probability-weighted expenditure.

To test the future Capex a sample of projects were looked at in relation to:

- ▶ Planning Criteria
- ▶ Timing
- ▶ Options considered for augmentation
- ▶ Costing

The projects selected are summarised in Table 5-2.

ROAM Consulting has noted from the consultant's comments their difficulty in understanding the detail of the scenario analysis methodology – for this reason the two appendices (A and B) have been included in this report to incorporate a higher level of detail than was available in the 3 reports completed previously by ROAM Consulting.

### **(C) Key Differences**

It is important to note that there are a number of key differences between the situation that existed in the market in September 2000 and that which was in place in May 2005, when these scenarios were formulated.

These differences present challenges that must be addressed in the development of plausible scenarios for the future. These issues are listed below.

### ***MORE UNCERTAINTY***

The following two factors combine to create a situation whereby there are many more potential permutations of generation development scenarios than was the case in 2000:



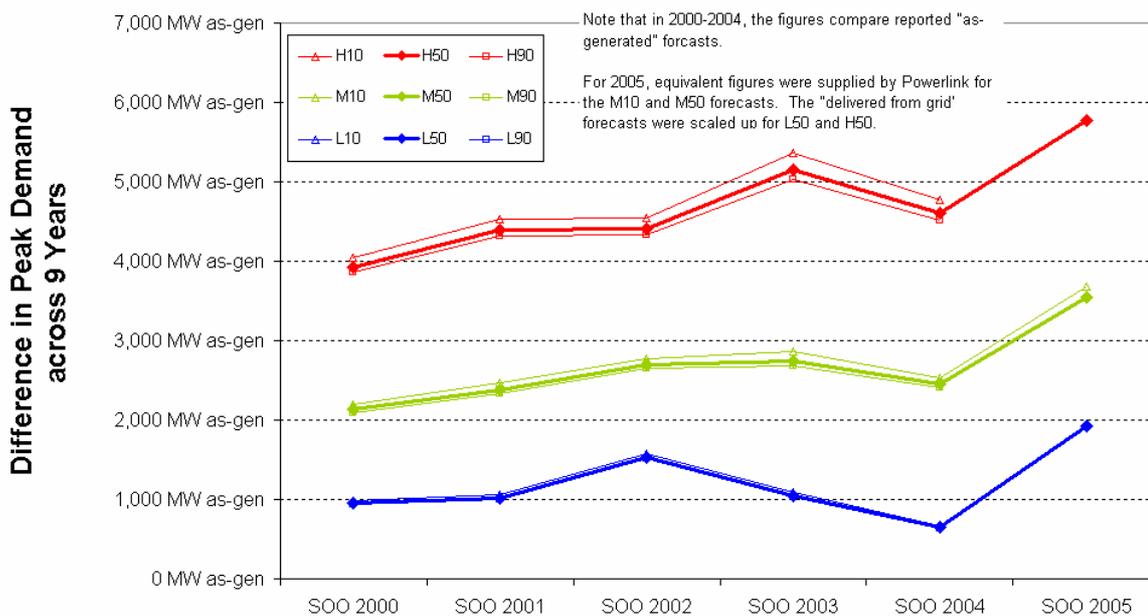
**HIGHER LOAD GROWTH**

The following chart illustrates that the load growth envisaged for the following decade is much higher than the equivalent forecasts available in 2000 at the commencement of the initial study for Powerlink.

Specifically:

- ❖ Under the HIGH load growth scenario, the envisaged growth in peak demand over the first 9 years is now almost 6,000MW, as opposed to 4,000MW in 2000 (a 50% increase);
- ❖ Under the MEDIUM load growth scenario, the peak demand growth forecast is now 3,500MW, as opposed to 2,100MW (a 66% increase); and
- ❖ Under the LOW load growth scenario, the envisaged peak demand growth is now 2,000MW as opposed to 1,000MW (a 100% increase).

**Forecast Increase in Peak Summer Demand**  
for Queensland from relevant NEMMCO SOO



The amount of new generation capacity required to fill this larger growth in demand is correspondingly higher, leading to many more possible permutations of generation development scenarios.

**FEWER COMMITTED NEW DEVELOPMENTS**

Especially for Queensland, the situation in 2005 is very different from the case of the situation in 2000.



In 2000, there were a number of generation developments for the state that were firmly committed, and under construction (Callide C, Millmerran and Swanbank E were all treated as “Definite” in the 2000 study – Tarong North was rated as “Very High” likelihood and hence was still somewhat uncertain at the time of the study).

These three developments totalled over 2,000MW of capacity – which was equivalent to the total amount of growth in peak demand forecast to occur over the decade from 2000→2010 under the “medium” load growth scenario.

As a result of this large amount of committed capacity, the number of opportunities for new generation development that was uncommitted in 2000 were limited (indeed, the Tarong North project has been the only previously uncertain new development to proceed to completion in the past 5 years, along with the conversion of Yabulu).

In 2005 by contrast, the Kogan Creek and Braemar OCGT projects are the only two major projects that could be considered as “Committed” for the purposes of this study. These projects represent only 1,200MW of capacity – which is lower than the amount that was Committed in 2000 (in absolute terms, and even more so in relative terms, when considering the increase in forecast load growth over the period 2005→2015).

### ***FEWER OPTIONS***

However the evolution of the market over the period 2000→2005 has meant that this added complexity is mitigated somewhat by two other factors:

#### **FEWER ACTIVE PROPONENTS**

At the commencement of the NEM, there were still many international generation companies who were actively pursuing business development opportunities in the NEM. Many of these companies were investigating prospects for generation development in Queensland.

By the time the first study had been completed for Powerlink, it was seen that these foreign companies were divesting of their projects to one of the local generation companies and taking a less active role in the market (or exiting entirely). This trend has continued to the present time where now there are a smaller number of parties actively seeking generation development opportunities in the state.

The main parties who are actively pursuing development opportunities in the state can be effectively grouped as follows:

- ❖ The GOC Generators (CS Energy, Enertrade, Stanwell Corporation and Tarong Energy);
- ❖ The GOC Retailers (Enertrade and Ergon), who are primarily interested in using generation capacity to mitigate their price risk;



- ❖ A small number of private Australian companies (e.g. Queensland Gas Corporation, Origin Energy, Transfield Services, Wambo Power Ventures); and
- ❖ A single foreign company (InterGen)<sup>1</sup>.

In conjunction with the smaller number of generation developers actively pursuing business development, there is also a corresponding reduction in the number of projects actively being considered at present.

In addition, it is more likely now that these developers will work in partnership on a single project to increase their chance of successful completion – which acts to further reduce the number of competing developments.

### **ESTABLISHED BEHAVIOURAL PATTERNS**

In addition, the past 5 years of market operations have represented an opportunity to witness in practice the implementation of each company's corporate culture and business strategy.

From this basis, it has become somewhat less challenging to predict the approach that each company will adopt with respect to business development.

This is especially necessary as business investment decisions are made with a combination of objective and subjective judgement on the part of the company management, and hence a company's past history provides some evidence of the manner of their subjective judgement.

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<sup>1</sup> It is noted that there are other international companies (e.g. CHNG, Marubeni, Tohoku, Mitsui and TEPCO) who have investments in existing generation assets. However these companies have generally taken a more passive ownership, and are not actively pursuing development opportunities.



## 2. THE SCENARIO ANALYSIS METHODOLOGY

### (A) Changes Required

Powerlink requested that ROAM Consulting utilise the same methodology as used in the initial study in 2000.

Based on the public comments made by various parties with respect to previous studies completed for Powerlink, ElectraNet and TransGrid, and an internal review conducted by ROAM Consulting, this methodology has been refined in a number of ways in order to deliver a better outcome to Powerlink.

### (B) The Adopted Approach

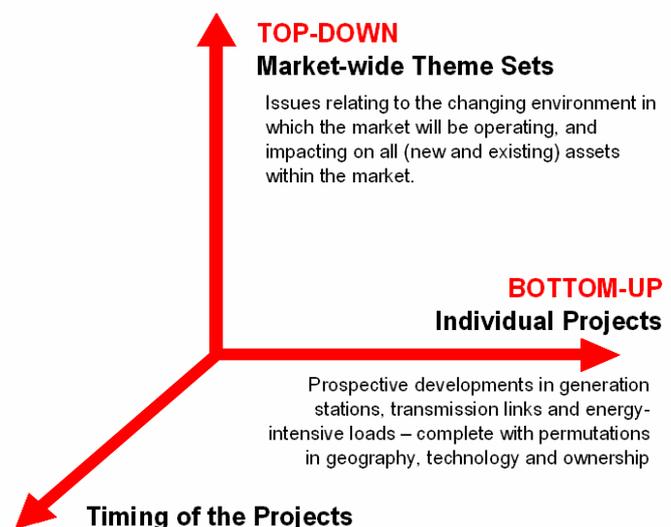
Given the nature of this study, detailed modeling of individual market development scenarios was not adopted, as this would not have delivered the information required within the timeframe required.

The following diagram is used to represent the conceptual framework within which a range of scenarios was constructed.

As noted, three key (interrelated) dimensions of possibilities are apparent with respect to the market.

Each permutation of possibility within each of the three dimensions could be represented as a discrete scenario.

Due to the large range of scenarios that could be conceived in this manner, some simplifications were made to facilitate the completion of the study.

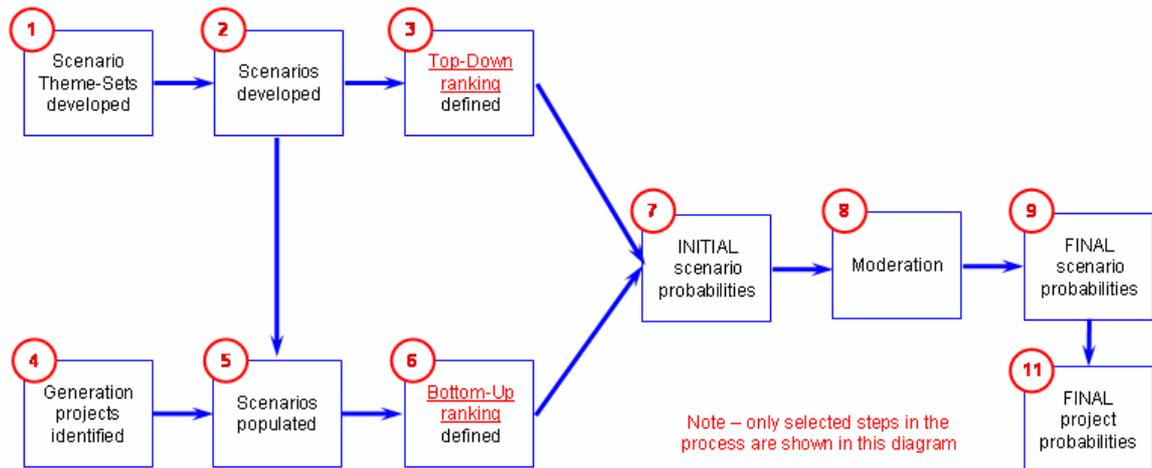


ROAM Consulting utilised the following approach to determine both:

- 1) The various probabilities with which the identified range of market development scenarios will proceed (relative to each other); and
- 2) The absolute probabilities (cumulative over each scenario) with which the various competing generation projects might proceed prior to 2010.



In summary, the approach adopted by ROAM Consulting was an iterative approach that dealt with the two main dimensions<sup>2</sup> in the matrix illustrated above. This is described below:



Specific comments are made with respect to each of the steps identified above:

### STEPS 1→5) SCENARIOS DEVELOPED

As outlined above, the manner in which generation developments will actually unfold over the coming decade is a matter of considerable uncertainty. Hence, there are a practically unlimited number of different plausible scenarios reflecting different permutations of generation development.

A broad range of scenario themes has been utilised in this assessment to highlight the diverse range of possible generation development scenarios. It is likely that the scenario that eventuates over the coming decade will be broadly based on one of the 40 scenarios identified in this study.

<sup>2</sup> To some extent, the timing of projects has been chosen on the basis of the following:

- 1) Publicly-available planning information for each project;
- 2) A professional judgement of the optimum timing for the projects (on the basis of the moderation variables outlined below).



### **STEP 6→9) SCENARIO PROBABILITIES**

For each of these 40 scenarios, ROAM Consulting has derived a probability with which it will proceed.

This probability has been determined through a combination of three sets of input variables:

- ❖ A (top-down) weighting factor determined as the combination of deemed likelihoods for the four top-down themes that combine to define the scenario;
- ❖ A (bottom-up) weighting factor determined as the combination of the deemed likelihoods for all the projects that have been defined in each scenario (whilst abiding by the constraints of the relevant themes); and
- ❖ The probabilities have been moderated with reference to the objective measures of capacity factor and reserve plant margin.

### **STEPS 10→11) PROJECT PROBABILITIES**

Based on the scenario probabilities finally derived, an individual probability has been calculated for each potential project identified as part of this study.

Each generation development project has been identified with respect to the zones commonly used by Powerlink to define the major generation and load centres within Queensland.

### **STEP 12) POSSIBLE DISPATCH ORDER PROVIDED**

A ranking has been included (in Appendix C) of the indicative short-run marginal cost for existing and potential new developments in the state – in order that Powerlink can model the likely dispatch of each plant for load flow studies.



### 3. THE SCENARIOS DEVELOPED

#### (A) Top-Down Approach

##### **STEP 1) THE SCENARIO THEME SETS IDENTIFIED**

Powerlink requested that ROAM Consulting try to limit the number of scenarios developed to a maximum of 40, provided the variability in generation outlooks can be appropriately captured.

ROAM Consulting has performed an extensive review of documentation from a multitude of sources (including some confidential materials provided by Powerlink). This has enabled ROAM Consulting to enhance its view of the key drivers that will impact on the way development in the Queensland Electricity Supply Industry (QESI) unfolds over the coming decade.

Following from this research, it has been identified that the four major variables that will impact on the nature of this development will be as follows:

##### **THEME-SET #1 – LOAD GROWTH**

The variable most significantly driving the continued development of new generation plant in QESI is the rate at which demand for electricity increases. This has been the case for many years, and this situation is unlikely to change in the future.

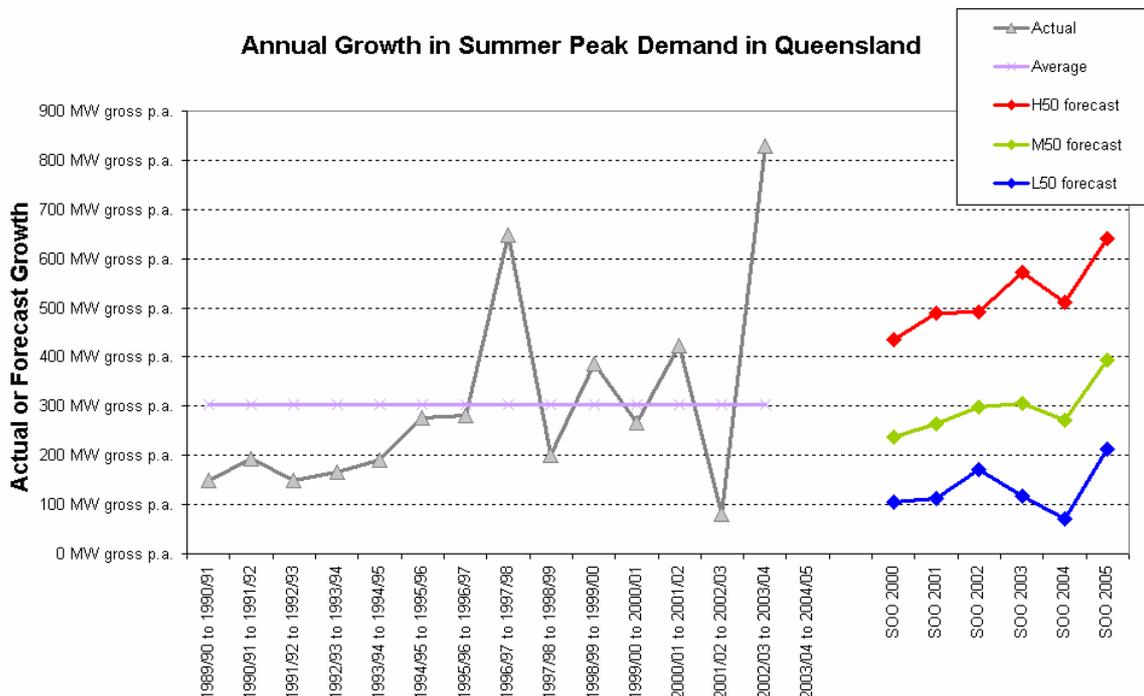
The rate of growth in demand will impact on the development of plant in a number of key ways:

- The rate of growth in annual demand for energy across the state (measured in GWh) will be a major contributing factor to the development of new plant. In particular, developers of new base-load plant pay particular attention to the *most likely* growth rate for annual average demand, as they need to ensure the energy generated at the plant will be consumed in the market under most, if not all, circumstances;
- The geographical variations apparent in the growth rates being experienced for energy demand, and forecast for the future, will have some impact on the siting of new generation developments;
- The rate of growth in peak demand for electricity (measured in MW) will also have a bearing on the type of plant developed, and the timing of these developments. In particular, developers of new peaking plant pay particular attention to the *extreme* growth rate



forecast for peak demand, as those developers (especially those who are retailers, or have direct links to retailers) are essentially looking at peaking plant as physical insurance against the potentially catastrophic price outcomes that would be generated if the growth in peak demand were to be this extreme.

In order to provide a reference point for the different themes identified for use in this study, ROAM Consulting has completed a brief review of historical levels of growth in peak demand in Queensland<sup>3</sup>, and has compared these trends with the latest forecasts<sup>4</sup> provided by Powerlink.



As can be seen in the above diagram, the peak-to-peak growth in load in Queensland has averaged just above 300MW over 14 of the past 15 years, though this growth has been trending upwards.

This would confirm that it is most likely that growth over the next decade will be closest to that provided by Powerlink for the M50 forecast. For this reason, the *medium load growth scenarios* (i.e. a combination of the LG2, LG3 and LG4 scenarios, which are outlined below) *have been collectively deemed to be 70% likely to proceed.*

<sup>3</sup> Note that data for 2004-05 had not been published by Powerlink in its 2005 Annual Planning Statement at the time of the completion of this study.

<sup>4</sup> These latest forecasts, provided in May 2005, were preliminary versions of the forecasts published in July 2005 by Powerlink as part of its Annual Planning Review.



Demand growth has been acknowledged as the primary driver of generation development and transmission network development. Given this situation, five discrete themes have been identified for further analysis in this study. These are summarised in the following table.

### Scenario Theme Set #1 – Load Growth across Queensland

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
LG1	L50	<p>Powerlink has supplied a forecast of the lower bound rate of growth in energy consumed within the region each year over the coming decade (2,000MW over 9 years, which has been extrapolated for one more year for the purposes of this study). This forecast is illustrated graphically in the above chart.</p> <p>It is recognised that this scenario could also represent a slightly higher rate of growth in new energy consumption, coupled with a higher rate of conservation exhibited by existing energy users. Furthermore, it is seen that a high growth in distributed generation would also have the effect of reducing the total demand apparent to the NEM.</p> <p>However, given the historical rate of growth in net energy consumption experienced in Queensland in the past decade, and the absence of any new factors that are seen as likely to drive a significant reduction in this growth rate in the next decade (in terms of reduced new demand, or increased conservation, or increased embedded generation), this scenario is deemed to have a relatively low likelihood of proceeding. <b>20% likely to proceed</b></p>
LG2	M50	<p>Powerlink has defined a medium growth scenario as a most likely case for the development of the demand-side of the market, and ROAM Consulting has treated this forecast in this way.</p> <p>In the same way, the 50% POE demand growth forecast should represent, on average over the decade, the most likely trend in the growth in peak demand. As illustrated in Section 1, Powerlink's forecast represents a 3,500MW growth in peak demand over 9 years.</p> <p>It is more likely that the demand growth in one or two years in the next decade will exceed the 50% forecast (e.g. in the case of high summer temperatures), but the overall trend is likely to be similar to M50. <b>35% likely to proceed</b></p>



Scenario Theme Set #1 – Load Growth across Queensland

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
LG3	M10	<p>One alternative development path that has a reasonable probability of occurring is for the following to eventuate:</p> <ul style="list-style-type: none"> <li>➤ The state could experience continued rapid penetration of new air-conditioning load into the domestic sector, particularly in the south-east of the state; and</li> <li>➤ Many homes with existing air-conditioning systems might upgrade to split-cycle air-conditioners (hence consuming more energy).</li> </ul> <p>Should this situation unfold, the annual energy consumption for the state would also be higher than in a “base case” M50. However:</p> <ul style="list-style-type: none"> <li>➤ The energy consumption would increase at a rate lower than the proportionate increase in peak demand; and</li> <li>➤ It is not foreseen that the corresponding difference in the energy forecast would mean the situation would approach Powerlink’s “high” forecast (6,000MW over 9 years).</li> </ul> <p>Hence for this analysis a medium energy growth rate (3,500MW over 9 years) has still been assumed as most reasonable.</p> <p>Given the difficulties the industry has experienced in recent years with the anticipation of the growth in peak demand, it is reasonably likely that such a situation could also be the case for the future. For this reason, this theme has been deemed reasonably likely to proceed.</p> <p>As a simplification, this situation has been modelled as ten consecutive years of 10% POE peak demand superimposed on the top of a medium energy growth forecast. Given the spreadsheet methods used in performing this analysis, this was determined as the best possible way of modelling this scenario<sup>5</sup>.</p> <p style="text-align: right;"><b>25% likely to proceed</b></p>

<sup>5</sup> Further analysis completed during the course of this study identified that the annual (year-on-year) growth in peak demand in the M10 and M50 cases is very similar (as illustrated in section 1). This is due to the method used by Powerlink to produce the 10% and 50% forecasts.

Thus, the intent of the LG3 (M10) theme in modeling more rapid and deeper penetration of air-conditioning load was not addressed as thoroughly as was intended when the scenarios were originally formulated.



**Scenario Theme Set #1 – Load Growth across Queensland**

Code	Theme Name	Comments	(& Likelihood of Proceeding)
LG4	M50++	<p>Another possible permutation on the most likely growth scenario for demand in Queensland is that there may be a major new industrial load introduced into Central Queensland within the next decade. If this were to occur, it is most likely that this plant would be located around Gladstone (though it is noted that Stanwell is actively trying to attract business to its Energy Park, as is CS Energy to its Callide Energy Park).</p> <p>There have been a number of different projects mooted for development in Gladstone over the past 5 years – with energy demands ranging from under 100MW to approximately 1,000MW. None of these projects has proceeded to Committed Status at this stage.</p> <p>It is not possible for ROAM Consulting to provide a definitive assessment of the likelihood of each of these potential developments proceeding, as this would require in-depth knowledge of each of the industries they would be serving. Rather, in the interests of highlighting to Powerlink the impact a substantial load increment would have on generation development patterns and hence network utilisation, the new development has been modelled as a 1,000MW flat load, first introduced in July 2009 at 500MW with the remainder following a year later.</p> <p>As such, this would represent a total growth in peak demand of approximately 4,500MW over 9 years (which is still substantially below a H50 case).</p> <p>It is noted that there are proposals for other sizeable industrial developments in the state that are (or have been) under consideration – such as an upgrade at the Sun Metals plant in North Queensland, or a new facility near Swanbank – but these facilities would be of a smaller absolute size and hence would not have the same impact in changing the nature of generation development across the state. Should they proceed they may, however, have significant localised impacts on the demands placed on the transmission system.</p> <p>The possibility of the Aldoga smelter (or any other development) proceeding is seen as relatively small– especially at this size (though still worth highlighting in this study).</p>	<b>10% likely to proceed</b>



### Scenario Theme Set #1 – Load Growth across Queensland

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
LG5	H50	<p>Powerlink has defined a high growth scenario as an upper bound on the plausible level of growth in energy.</p> <p>The 50% POE peak demand shape superimposed on the high energy growth rate would be the most likely way this situation would develop, on average, over the coming decade.</p> <p>As illustrated in section 1, this would represent 6,000MW of growth in peak demand over 9 years, or double the recent rate of growth.</p> <p>For load to develop in this way, Queensland would need to experience 10 years of sustained economic growth, driven in part by energy-intensive industries, and also increased domestic use of electricity (for air-conditioning, swimming pool, home entertainment and other use).</p> <p>This load growth profile is seen as an extreme case and it is highly unlikely that demand growth would be sustained at this level for the whole of the coming decade.</p> <p style="text-align: right;"><b>10% likely to proceed</b></p>

Note that these themes represent only 5 of a limitless number of possible situations that might arise in the market with respect to the growth in demand. However, these 5 possibilities have been selected for analysis because they are all plausible in their own right, and they provide a high degree of variability through which Powerlink can test the robustness of their network development plans.

### THEME-SET #2 – INTER-REGIONAL TRADE

The situations defined above with respect to demand within Queensland could be assumed to develop independently of the situation emerging in the southern regions. This simplifying assumption can be made because of the limitations that the finite size of interconnection capacity to NSW places on the possibilities of interstate trade (in either direction).

In particular, the current limitations on QNI capacity will have a significant bearing on commercial decisions made by potential developers of new generation projects in south-western Queensland.



In order to provide a different view of the potential impact that expanded interstate trading opportunities would have on development within the region, two situations were studied:

### Scenario Theme Set #2 – Inter-Regional Trade

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
IRT1	QNI	<p>Current inter-regional trading capacity is such that Queensland can export a maximum of 1180MW of power into NSW over Directlink and QNI, though it is recognised that depending on system conditions and generation scheduling the maximum secure power transfer may at times be significantly less than this amount.</p> <p>Similarly, the combined import capability is notionally 680MW, though the actual limit is rarely this high. Especially with respect to import capability (because of load growth in the Armidale area), this situation is likely to become more limited over the coming decade.</p> <p>For this reason, Powerlink is investigating the possibility of expanding the interconnection capacity of QNI to facilitate greater opportunities for trade. However, given the regulatory approvals process that must be undertaken for such a project to be committed, such a project is by no means certain of being implemented.</p> <p>Given the current situation, it is deemed more likely that the capacity for interstate trade to remain at the current level for the coming decade.</p> <p style="text-align: right;"><b>70% likely</b></p>
IRT2	QNI++	<p>Powerlink has advised that, if an augmentation project were to proceed, a 500MW upgrade of capability would be most likely. It has been assumed this upgrade would be operational by 2010-11.</p> <p>Given the current regulatory environment (as outlined above), this project is given a relatively low level of likelihood to proceed.</p> <p>However, given the strong political commitment to the removal of barriers to interstate trade, this project is provided a higher ranking relative to the major industrial load project (i.e. it is considered plausible that the Government may modify the regulatory hurdles the project needs to jump before being implemented).</p> <p style="text-align: right;"><b>30% likely</b></p>



Modelling of both inter-regional trade themes has been accomplished by incorporating consideration of both:

- How the transfer capability impacts on the total size of the Queensland regional market (in energy terms); and also
- How much capacity Queensland may be able to import from NSW a times of peak demand in QLD.

The methods by which these considerations have been made are further explained below.

**THEME-SET #3 – GAS SUPPLY OPTIONS**

Currently, the nature of gas supplies in Queensland are such (low volumes at relatively high prices) that they would only be used in generation plant in Queensland for peaking operation, were it not for the existence of the 13% Gas Scheme.

The fact that this situation is likely to continue for the next decade does have a large bearing on the type of new generation plant being considered. For this reason, two situations have been identified to highlight the variability in generation development options for the state.

**Scenario Theme Set #3 – Gas Supplies**

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
GAS1	NO PNG	<p>Given that the current demand for GECs is being met with supplies from the existing gas-fired stations, the demand for new plant utilising gas supplies will be very limited (assuming no other external changes). Information provided by Powerlink had implied that the Government will not be offering any additional incentives to the development of gas-fired plants in the state (or, conversely, explicit disincentives to the development of best-practice coal-fired plant in the state).</p> <p>Given that the growth in demand for gas is most likely to be met by state-based supplies of coal seam methane (CSM), which can be expanded incrementally to meet demand, under this situation it is not likely that there will be a major change in the pricing of gas in the state.</p> <p>Hence, the most likely situation for Queensland will be where gas continues to play a peaking role, except where required for new intermediate generation by virtue of an expanded requirement for GECs in line with growth in energy demand.</p>



**Scenario Theme Set #3 – Gas Supplies**

Code	Theme Name	Comments	(& Likelihood of Proceeding)
GAS2	PNG	<p>The PNG project faces substantial technical, political, regulatory and commercial challenges that must be surmounted before it would proceed. It is not likely that these gas supplies would be available before July 2010 if the decision is eventually made to proceed.</p> <p>At the time the scenarios were constructed, the PNG project had only approximately one half of its maximum required volume allocated under contract to a variety of clients. To proceed, it was seen that a large amount of the remainder of the energy (perhaps up to 100PJ p.a.) would need to be used in electricity generation.</p> <p>Because of the need to have foundation clients committed to taking the gas before the decision is taken to proceed, it is likely (in this case) that such undertakings would be in some form of take-or-pay arrangement, which would mean the CCGT plant so supplied would operate, to some degree, independently of the spot market price for electricity.</p> <p>As such, it is seen that this case does have a low probability of proceeding, if significantly reliant on generation developments in Queensland to underpin commercial viability. If it were to proceed, however, it would have a large bearing on the nature of new generation developed in the state. The probabilities ascribed to the project here therefore relate to the development of associated generation projects in Queensland.</p> <p>As with transmission development in the NEM, the PNG project has seen a reasonable amount of Government support, which will have some bearing on its chances of proceeding.</p> <p>Given that this project will have major significance for Queensland, but more modest significance for the rest of Australia, it is less likely that this project will receive concerted support at both Federal and State level. Hence, its likelihood is lower (in relative terms) than that of a QNI upgrade.</p>	80% likely
			20% likely



#### **THEME-SET #4 – GREENHOUSE OPTIONS**

This analysis was completed in a framework of increasing international awareness of the serious potential impacts on the growing emissions of greenhouse gases, such as CO<sub>2</sub>.

Though Australia had not ratified the Kyoto Protocol, commitments had been made to reduce the relative greenhouse-intensity of Australia's Electricity Supply Industry (per unit of electricity generated). These commitments were commonly seen in the form of "No Regrets" promises by generation companies to improve the efficiency of their plant to world's best practice for that particular type (and age) of plant.

Whilst these endeavours may deliver improvements which, in the context of other initiatives taken across all sectors of Australian life, may mean Australia does meet its Kyoto targets, it is almost certain that these measures will be insufficient to deliver the absolute reductions in greenhouse emissions (at increased levels of energy) that are likely to be required in the next round of targets.

Even though the next round of targets is likely to be referenced to a date significantly beyond the decade-long focus of this study period, these more stringent standards will have an impact on plant installed during the next decade due to the arrangements that will be put in place to deliver these changes.

The form of the arrangements might vary in any of a number of different ways (e.g. a carbon tax, cap and trade, etc...) – it is not within the scope of this study to analyse each of these options separately. Rather, it has been assumed that the intent of the policy will be such that it will incentivise (amongst other things) the development of new low (or zero) emissions technology, and the accelerated closure of existing (higher emissions) plant.

Whilst there are a large number of different situations that might evolve in Australia with respect to its approach to redressing climate change, in order to limit the number of scenarios provided to Powerlink, ROAM Consulting has limited to 2 the number of themes studied here.

Given this limitation, ROAM Consulting has identified two themes that will provide an indication of the broad range of possible outcomes that will need to be considered in the development of its network development plans.



**Scenario Theme Set #3 – Greenhouse Options**

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
GH1	NO TAX	<p>In the first theme, ROAM Consulting has assumed that the current Federal Government policy will be continued, whereby research and development into new low emission technology is supported, but no specific price/tax/limit incentives are provided to push the market to implement these technologies before they are otherwise commercially viable (or to favour gas-fired options as an interim step).</p> <p>In such a case, it is seen as unlikely that any of these new technologies will be commercially available within the next decade, and as such new generation plant will be newer versions of the supercritical coal-fired technology being implemented at Kogan Creek.</p> <p>Given Australia's current position in the Federal electoral cycle, it is most likely that this policy will persist, at least for the majority of the coming decade (given the time a new Government would need to take to implement a change to this environment, even assuming there is a change in Government).</p> <p style="text-align: right;"><b>80% likely</b></p>
		<p>As an alternative position, the various State Governments are actively studying the costs and impacts of the implementation of some form of more active regulation of the emissions intensity of new (and possibly existing) generation capacity.</p> <p>ROAM Consulting has provided advice to Queensland's Department of Energy as part of this process. Powerlink Queensland has been made aware of the nature of this advice by the DOE, and has requested that this knowledge be used in the development of these scenarios.</p> <p>A situation that might arise might be one whereby the Australian electricity supply industry is subjected to a significant carbon tax (at a level above \$25/tonne CO<sub>2</sub>) in which case all new coal-fired development would incorporate new generation technology to limit (and ultimately eliminate) greenhouse emissions. In the interim period, new development would be predominantly based on gas-fired CCGT technology.</p>
GH2	TAX	



## Scenario Theme Set #3 – Greenhouse Options

Code	Theme Name	Comments ( <i>&amp; Likelihood of Proceeding</i> )
		<p>Its commercial availability might be advanced somewhat due to the relatively higher spot prices at which energy would be traded as a result. However, it is still unlikely that such plant would make an appearance in Queensland until right at the end of the study period.</p> <p>A permutation on this situation might be the situation whereby the carbon tax was applied in such a way as to incentivise the closure of older coal-fired plant in the state (e.g. Collinsville and Gladstone, with the commitment already having been made to close Swanbank B).</p> <p>Given the cost implications this would have for energy users across the QESI – and across Australia in general – it is viewed that this scenario is of a low probability of proceeding.</p> <p style="text-align: right;"><b>20% likely</b></p>

**OTHER POTENTIAL SCENARIO THEME-SETS**

Many other possibilities for *Theme-Sets* could be envisaged.

With respect to certain possibilities, ROAM Consulting has focused specifically on the timeframe of the study (to 2015) – within this timeframe, some longer term changes that might be seen in the QESI will have a negligible impact. For instance, it is not considered likely that nuclear generation will be developed in Queensland before 2015 (if at all).

The themes developed above are those which have been determined as having a plausible chance of proceeding whilst providing for a reasonable diversity in generation development scenarios and being small enough in number to allow for individual analysis by Powerlink.

Because of the large degree of uncertainty facing the market with respect to generation development purposes (and given the methodology to be applied), ROAM Consulting does not believe it would serve any practical purpose to identify a larger number of scenarios than the 40 identified here.



## **STEP 2) SCENARIOS DEVELOPED**

The themes in each of the four theme sets described above were combined to create 40 individual scenarios – being the total number of permutations given the number of themes (i.e.  $40 = 5 \times 2 \times 2 \times 2$ ).

The naming of each scenario reflects the theme from each of the 4 sets that contributed to that scenario. Each scenario has been described individually in Appendix A.

## **STEP 3) TOP-DOWN RANKING OF SCENARIOS**

*Top-Down Scenario Weightings* were derived for each of the 40 scenarios as the simple product of the weightings applicable for each of the four Scenario Theme-Sets.

$$i.e. TDW = W_{LG} \times W_{RT} \times W_{GS} \times W_{GH}$$

## **(B) Bottom-Up Approach**

### **STEP 4) POSSIBLE GENERATION DEVELOPMENTS**

ROAM Consulting conducted a review of information available within the public domain with respect to the range of generation development projects being considered for implementation in the coming decade.

As an outcome from this review, a listing was compiled of the competing projects, incorporating announced projects that have been reported in some detail, a number of other generic projects for which less has been announced, and some repowering of existing facilities.

Each project has been defined individually in Appendix B.

### **STEP 5) POPULATE SCENARIOS**

For each scenario, a different plant commissioning/de-commissioning schedule was created in line with the 40 different permutations of the applicable themes.

To facilitate the large numbers of computations performed in this study, it has been assumed that projects will be fully available within the financial year in which they are deemed to proceed.

For the process of analysis of these scenarios, the scenarios were developed in an Excel spreadsheet developed specifically for this project. This spreadsheet is based on the spreadsheet developed for the initial study, but has been significantly upgraded to provide the greater degree of detail incorporated in the appendices in this report.



Adjustments were made to the timing of these investments in order to provide the highest level of legitimacy for each scenario – the initial indicator used in this process was simply a comparison of total capacity installed in each year with the expected growth rate.

### **STEP 6) BOTTOM-UP RANKING OF SCENARIOS**

The Top-Down Weightings for each scenario generally reflect the likelihood that that particular combinations of scenario themes will occur.

However, they do not address the uncertainty relating to which of the various prospective generation developments of each type will be developed under the particular theme.

For this purpose, *Bottom-Up Weightings* were derived as the simple product of the weightings applicable to each of the generation projects assumed to proceed within each given scenario.

$$BUW = W_{P1} + W_{P2} + \dots$$

## **(C) Combining Top-Down with Bottom-Up**

### **STEP 7) INITIAL SCENARIO PROBABILITY**

The *Initial Scenario Probability* for each of the scenarios is a product of both the *Top-Down* and the *Bottom-Up Weightings* (as outlined above).

### **STEP 8) MODERATORS**

The Initial Scenario Probability has been developed, for each scenario, with no reference to holistic market indicators. Hence, the values may not accurately reflect reality.

#### **MODERATOR #1 – RESERVE PLANT MARGIN**

Through reference to historical values, ROAM Consulting has identified the bounds of reserve plant margin in which an electricity system will tend to operate (in terms of surplus capacity installed over and above that required to meet actual peaks in demand).

ROAM Consulting has developed a moderation factor to reflect the general bounds that will apply to future market development scenarios – based on the assumption that the future trend in RPM is not likely to be too dissimilar to the range of RPM experienced historically in Queensland. A moderation factor was developed for each scenario, for each year that effectively penalised a scenario if its RPM fell outside of these acceptable bounds.

The RPM moderation factor for each scenario was calculated as the product of the factors determined for individual years:



$$i.e. MF_{RPM} = Ave(MF_{2005/06}, MF_{2006/07}, MF_{2007/08}, \dots)$$

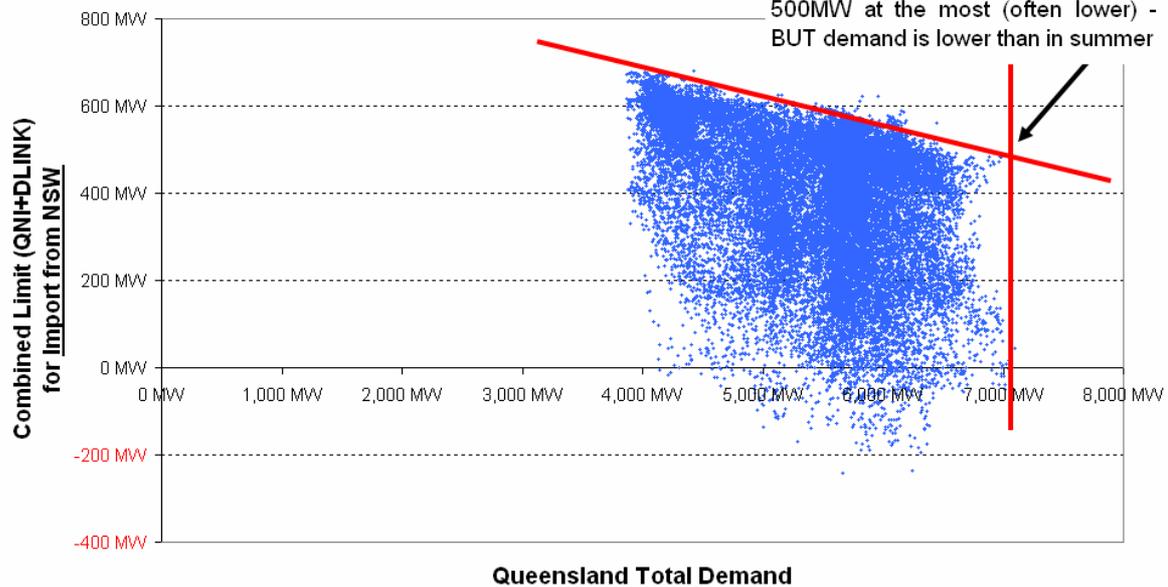
In determining the RPM, ROAM Consulting effectively treated Queensland as a self-contained region with the southern regions represented as an additional generator that was available to meet peak demand. Hence, ROAM Consulting was required to make some assumptions about the peak energy transfer capacity available over the interconnectors between Queensland and NSW.

With respect to RPM, it is important to note that it is import capacity into Queensland that is most of interest, as this import capability acts as a defacto generator available to supply Queensland's demand.

In order to determine an appropriate number for use as the import capability over QNI, a review was conducted of the combined import capability on QNI and Directlink for each dispatch interval in the 2004-05 financial year to date. The results of this assessment are shown here (individually for each quarter).

**Scatter Chart for Dispatch (5-Minute) NEMMCO Data**  
For the period *July-Aug-Sep 2004*

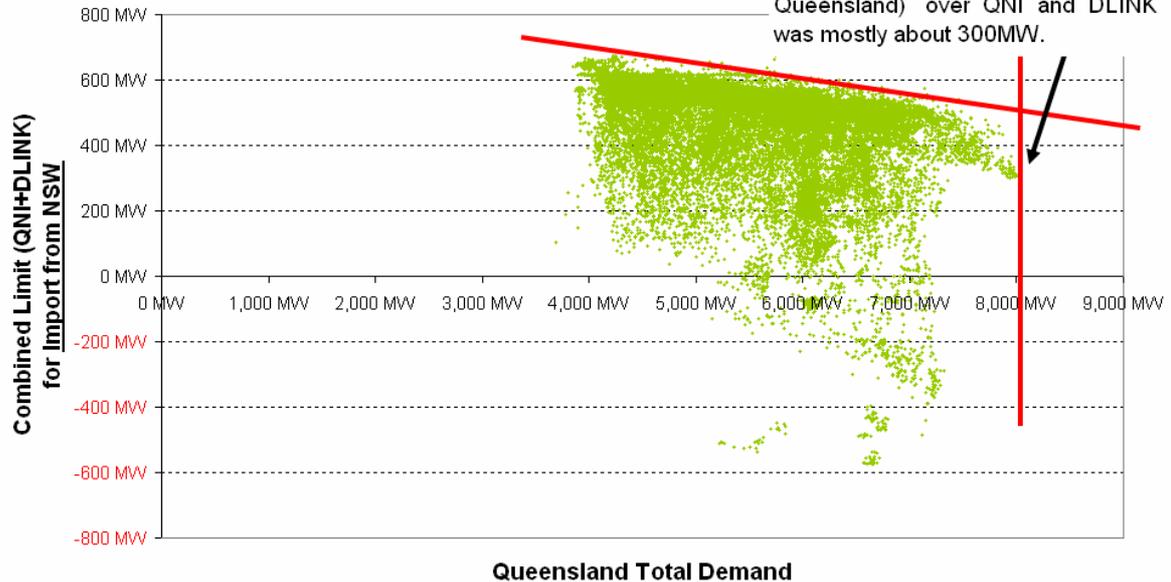
At times of maximum demand in Queensland, the combined capability over QNI and DLINK was about 500MW at the most (often lower) - BUT demand is lower than in summer





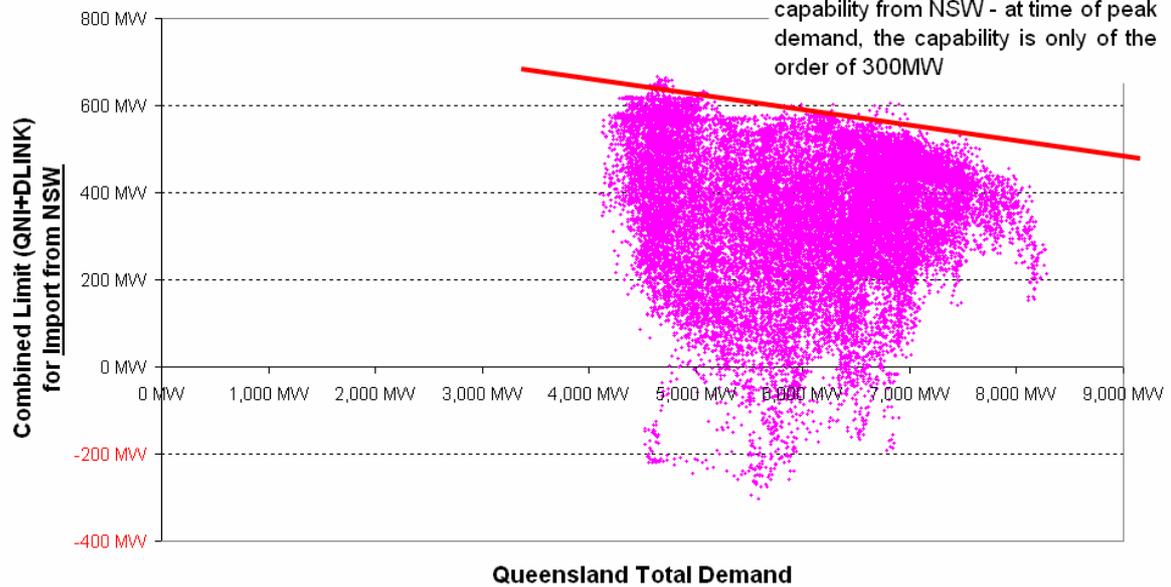
**Scatter Chart for Dispatch (5-Minute) NEMMCO Data**  
For the period *Oct-Nov-Dec 2004*

At times of maximum demand in Queensland in Oct-Dec 2004, the combined export capability (into Queensland) over QNI and DLINK was mostly about 300MW.



**Scatter Chart for Dispatch (5-Minute) NEMMCO Data**  
For the period *Jan-Feb-Mar 2005*

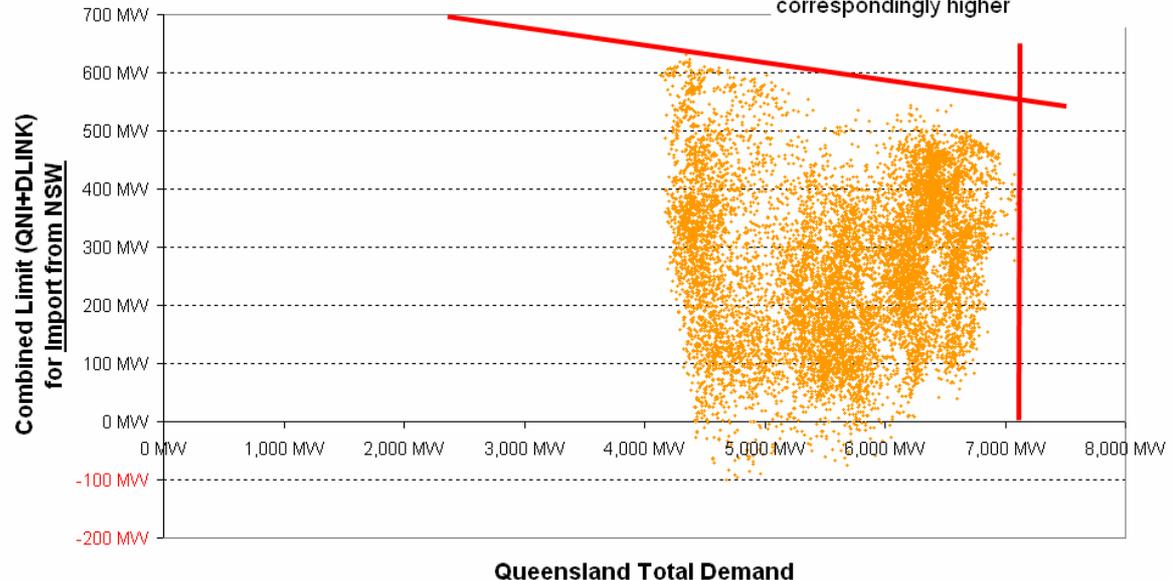
As demand increased in Queensland in the period Jan-Mar 2005, this chart illustrates a sharp reduction in import capability from NSW - at time of peak demand, the capability is only of the order of 300MW





### Scatter Chart for Dispatch (5-Minute) NEMMCO Data For the period April-May(part) 2005

Data was incomplete at the time of analysis. Peak demand is lower in this season, and import capacity correspondingly higher

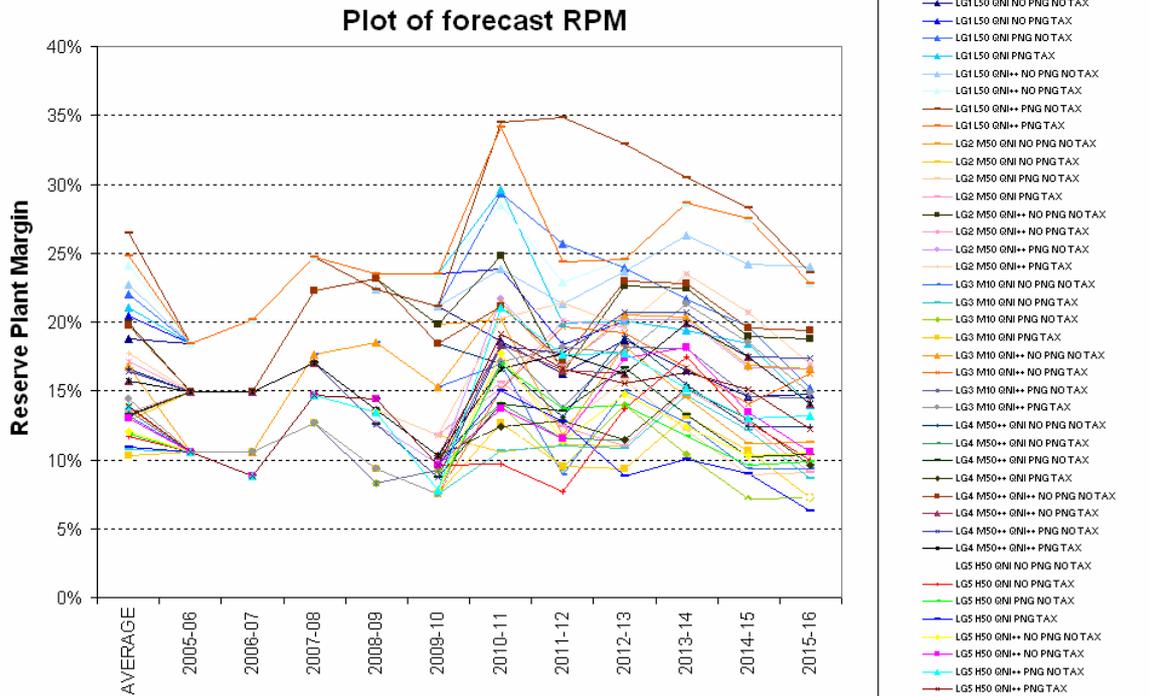


As can be seen, the capacity for Queensland to import power at the time of peak demand has most commonly been around 300MW.

In summary, then, the calculation of Reserve Plant Margin on an annual basis for each scenario has assumed that:

- ❖ Physical imports (into Queensland) over both interconnectors at time of peak summer demand has been assumed to remain at 300MW for each of the 10 years of the study (with the exception of the QNI++ scenarios, in which case a figure of 800MW has been assumed from 2010-11);
- ❖ This import has been treated as an additional generator in the calculation of regional RPM;
- ❖ It has been assumed that all new plant additions would be commissioned in the winter periods and hence would be fully available for the subsequent summers.

The RPM for the Queensland region was calculated under each of the scenarios developed in this study and is illustrated below.



Note that the reserve plant margins in all years of all studies have been maintained at a level in excess of 7.5%, or the equivalent figure for that year:

- ❖ In 2004-05, the 7.5% figure would be the RPM assuming only the 610MW reserve requirement<sup>6</sup> was available above a peak summer demand, which was in excess of 8,200MW;
- ❖ In subsequent years the 610MW reserve requirement would represent a RPM progressively lower than 7.5%, because of increasing peak demand levels.

### **MODERATOR #2 – CAPACITY FACTOR**

Through reference to historical values, ROAM Consulting has also identified the bounds of capacity factor in which an electricity system will tend to operate.

ROAM Consulting has developed a moderation factor to reflect the general bounds that will apply to future market development scenarios – based on the assumption that the future trend in capacity factor is not

<sup>6</sup> The 610MW reserve requirement is a measure that has been developed by NEMMCO in order to assist in short-term operations in the NEM. This is the minimum level of installed capacity above the forecast annual peak demand in Queensland below which NEMMCO would invoke its Reserve Trader provisions in order to increase generating capacity.

Given the lack of other readily available measures, it is also used in some cases in longer-term forward projections, though the measure was not initially developed for this purpose.



likely to be too dissimilar to the range of capacity factors experienced historically. A moderation factor was developed for each scenario, for each year that effectively penalised a scenario if its capacity factor fell outside of these acceptable bounds.

The CF moderation factor was calculated as the product of the factors determined for individual years:

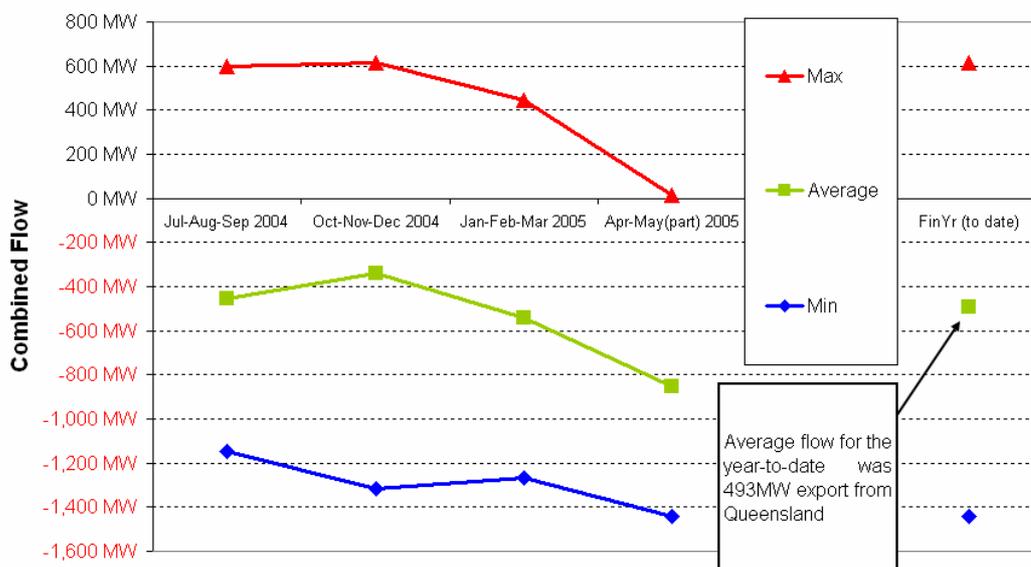
$$i.e. MF_{CF} = Ave (MF_{CF-01/02} , MF_{CF-02/03} , MF_{CF-03/04} \dots)$$

Across the scenarios created for this study, a wide range of plant configurations were envisaged. These plant configurations would have a marked impact on the average magnitude (and direction) of flow over the QNI link.

In determining the CF, ROAM Consulting was required to make some assumptions about the average energy transfer that would be experienced over the interconnectors between Queensland and NSW over the coming decade. With respect to CF, it is important to note that it is average export *out of Queensland* that is most of interest, as this energy acts as an additional load within the Queensland region.

Given the deterministic nature of this study, it was necessary to determine a single value that would represent a most likely case for exports from Queensland. To do this, a review was conducted of the combined flow over QNI and Directlink for each dispatch interval in the 2004-05 financial year to date. The results of this assessment are shown here.

**Chart Showing Historical Flow Patterns in Dispatch Data**  
*Combined Flow (QNI + DLINK "METEREDMWFLOW")*



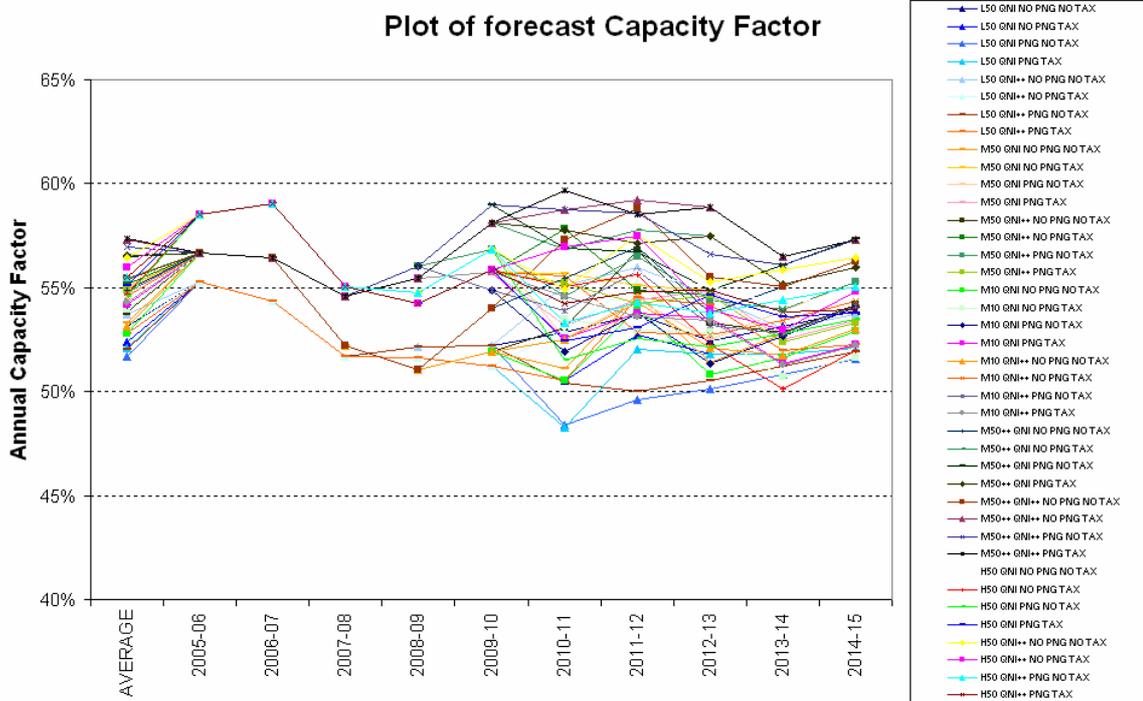


As can be seen, the average combined flow over QNI and Directlink over this period was a 500MW export into NSW.

In summary, then, the calculation of Capacity Factor on an annual basis for each scenario has assumed that:

- ❖ Exports from Queensland (over both interconnectors) will average 500MW annually;
- ❖ In the QNI++ scenarios (where a 500MW notional upgrade to QNI has been assumed from 2010-11) it has been assumed that this additional capacity will operate on a similar average utilisation, facilitating a further 250MW of average exports to NSW (750MW in total);
- ❖ This export has been treated as an additional load supplied by Queensland-based generators in the calculation of Queensland capacity factor;
- ❖ It has been assumed that all new plant additions would be available from 1 July in the year deemed for operation, and hence fully accountable for the capacity factor calculated in that year.

Given these assumptions, the following graph illustrates the capacity factors calculated for the Queensland region.





As for the RPM Moderator, the scenarios for which the average capacity factor was seen to be closest to the expected range were ranked highly, whereas those scenarios with capacity factors outside of the range were ranked less highly to reflect their unlikely nature.

#### **NOTE ABOUT SPOT MARKET PRICES**

Neither of these moderators explicitly takes into account the market prices that would result if the scenario were to proceed. Given the wide range of planting assumptions included in each scenario, there would be widely varying spot market outcomes resulting across the 40 scenarios.

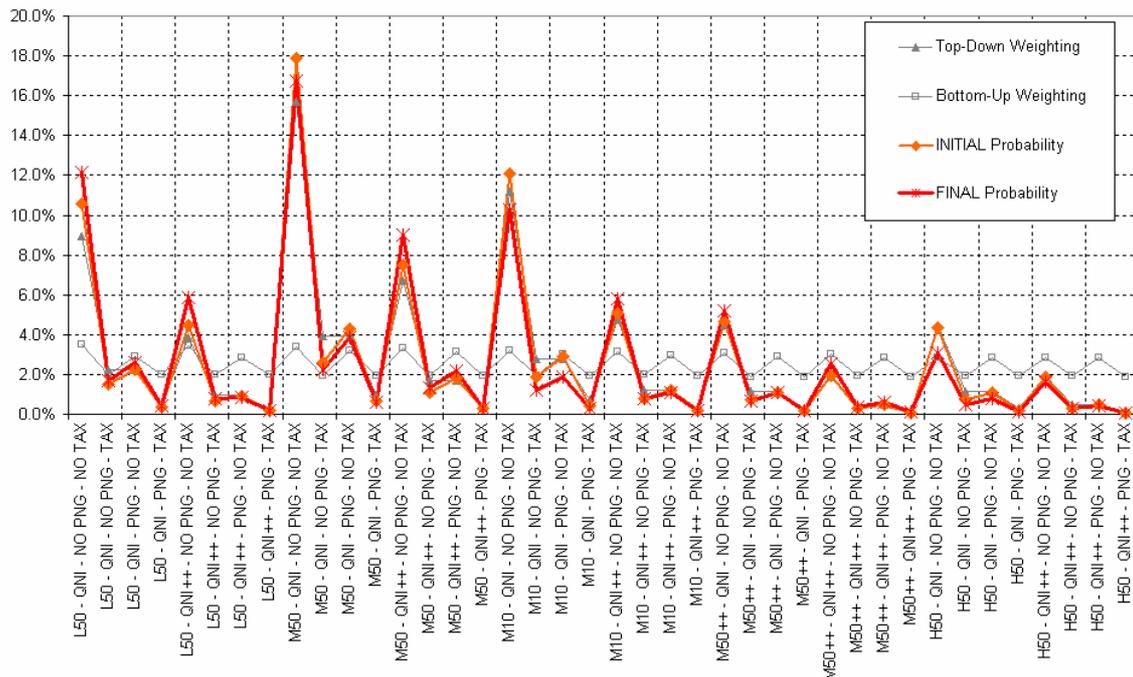
These price trends (if they were calculated) would themselves be an indication of the probability of each scenario proceeding. However, this was outside the scope of this study. Instead, pricing issues have been taken into account throughout the methodology in the use of professional judgement in a number of ways, including:

- ❖ In the earlier formulation of theme set weightings;
- ❖ In the planting of each individual scenario from the portfolio of available generation options.

This consideration could be further enhanced, should it be required by Powerlink, through the conduct of individual market simulation studies for each scenario.

#### **STEP 9) FINAL SCENARIO PROBABILITY**

Thus the *INITIAL Scenario Probability* is moderated to produce a *FINAL Scenario Probability*. Both measures are illustrated in the following chart.



With respect to this diagram, the following observations can be made:

- ❖ Regarding the outcomes:
  - The scenarios incorporating no carbon tax and no gas supplies from PNG are shown to be the most likely, as would be expected;
  - The scenarios involving medium load growth are seen to be the most likely, which is also to be expected;
  - There are, however, a number of other scenarios that have shown a probability in excess of 2% – these in particular will be worthy of detailed analysis by Powerlink;
- ❖ With reference to the methodology used:
  - The combination of the theme weightings is seen to have the greatest bearing on the final probability;
  - In contrast the Bottom-Up Weighting is seen to differentiate only between the TAX and NO TAX scenarios. This has occurred by virtue of:
    - The large amount of new capacity potentially required for Queensland in the next decade (because of closures at Gladstone and Collinsville), and
    - The fact that few of the potential projects are significantly more likely than others of being developed, relative to the total amount of capacity required;
  - Both moderating factors are shown to have only a relatively minor impact on the final probability calculated in most cases.



**STEP 10) VALIDITY CHECKS**

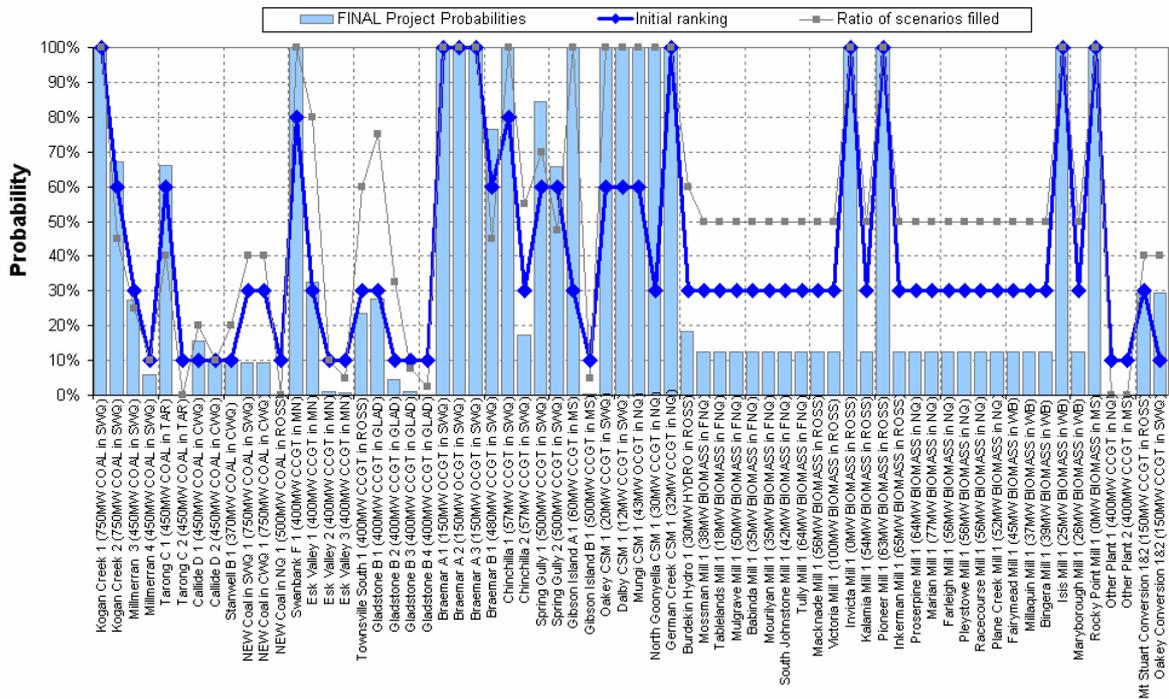
A number of checks were performed to ensure the consistent application of the methodology in the development of all 40 scenarios.

It is acknowledged that there are potentially many other possible generation development scenarios that might eventuate in the market – however the scenarios proposed in this assessment form the basis for a wide range of possibilities that, if considered by Powerlink, will encompass a much broader range of possible development scenarios.

**STEP 11) FINAL PROJECT PROBABILITY**

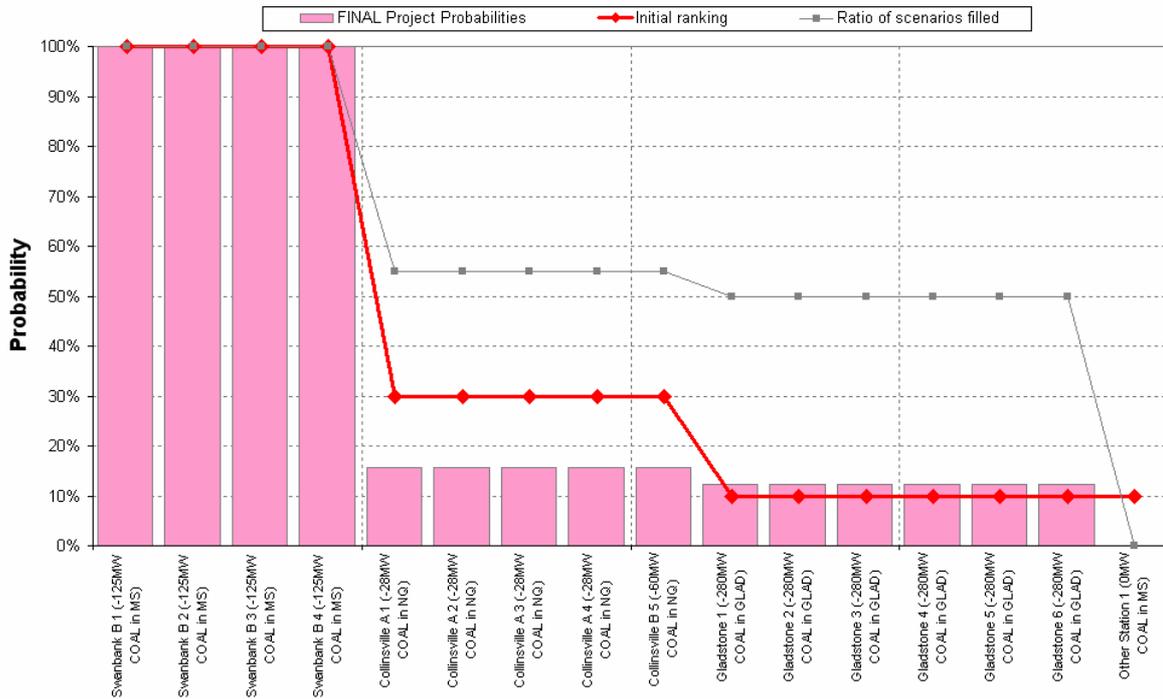
Using the calculated final scenario probabilities as the starting point, the probability of each individual generation project proceeding has been calculated.

The following chart provides a listing of all the new generation projects incorporated in the assessment (plus the possible conversions of Mt Stuart and Oakey), with the final project probability shown for each.



As can be seen, for some projects in particular, the final project probability has been calculated to be significantly different than that initially assumed for the projects as they were defined. This issue is further discussed below.

A similar chart has been included below for those stations which have been assessed as having a potential to be closed within the next decade (under some scenarios).



Note that each of these projects are described in Appendix B.

**STEP 12) GENERATOR DISPATCH ORDER**

ROAM Consulting has referenced the materials requested by Powerlink in the compilation of a table indicating the cost structure for all Queensland power stations, and hence the likely dispatch order.

This table has been provided in Appendix C



## 4. ANALYSIS OF THE RESULTS

The appendices contain a summary of the constitution of each scenario, and the scenarios in which each project has been planted – individual commentary has also been provided with respect to each scenario (Appendix A) and each potential project (Appendix B).

Specific mention is made here of the following key points.

### **(A) Analysis of Scenarios**

Forty different scenarios have been developed – these cover a wide range of development possibilities, as well as possible retirements of older plant.

The actual outcome may (and probably will) differ from all of the scenarios with respect to the final size, timing and constitution of the projects). However the range of scenarios provided in this assessment should provide a broad enough range of possibilities such that the scenario that actually evolves is not dissimilar from those proposed in this assessment.

The most likely scenario has been assessed as one that could be described as “*business as usual*” in that it reflects the manner in which the market has evolved over the past 5 years, with no significant changes – in terms of:

- ❖ Medium rate of growth in load (which best matches the recent average rate of load growth);
- ❖ No expansion to the capacity for interstate trade during the coming decade;
- ❖ No major new supplies of gas coming to fruition, such as from PNG; and
- ❖ No significant change from the “no regrets” greenhouse policies currently advocated by the Federal Government.

In general terms, the more a scenario diverges from the “*business as usual*” base case, the less likely the scenario will proceed.

### **(B) Analysis of New Generation Projects**

This study has revealed that the major projects most likely to proceed will be:

- ❖ Kogan Creek 1 (which is under development);
- ❖ Kogan Creek 2;
- ❖ Tarong C1;
- ❖ Swanbank F (which is discussed below);



- ❖ The Braemar OCGT, being constructed by Wambo Power Ventures;
- ❖ The Braemar CCGT, proposed by Wambo Power Ventures; and
- ❖ The proposed Spring Gully combined cycle projects being developed by Origin Energy at Roma, which are most likely to be connected to the existing transmission system at Braemar.

All other projects have been calculated as much lower than 60% probability of proceeding.

Specific note is made of the following projects:

### **PROJECT 10) NEW COAL PLANT IN SWQ**

Under some high load growth and TAX scenarios, it is seen that new gas plant will be insufficient to meet the total amount of new demand over the decade – however under the TAX scenario it has been assumed that no new coal plants using old technology could be built.

In these cases, it has been concluded that the price penalties associated with the TAX regime would be sufficient to incentivise new developers to implement new generation coal-fired technology which (whilst probably not incorporating full geosequestration within the next decade) will contribute to a lowering of the CO<sub>2</sub> burden of the industry. To denote these plants, they have been labeled as generic new plants.

However, for economies of scale, these plants may still be located on the site of existing power stations. Hence, for the generic new coal plant for south-west Queensland, this plant may be located as follows:

- ❖ This plant could be located at Kogan Creek (if developed by CS Energy), Millmerran (if developed by InterGen) or Tarong (if developed by Tarong Energy);
- ❖ Alternatively, this could be on the Aclands deposit (New Hope Coal) or the Wandoan (Tarong Energy) deposit, or other new deposits.

Siting decisions will also need to take into account the availability of water, and the coal quality as key determinants of the greenhouse intensity of the plant.

ROAM Consulting does not have sufficient information, at present, to be able to provide a most probable location for such a development.

### **PROJECT 11) NEW COAL PLANT IN CWQ**

Similarly, this plant could be located in the Callide complex, or on new deposits around Emerald, or in other areas.



### **PROJECT 12) NEW COAL PLANT IN NQ**

There are some active proponents for the Pentland project, which would be supplied by Xstrata Coal, and which could be developed by Tarong Energy, Stanwell Corporation, or others.

Ultimately, it is likely that to ensure the project maintained beneficial transmission loss factors, a large new industrial load in North Queensland would be required.

### **PROJECT 13) SWANBANK F**

CS Energy has openly discussed the possibility of developing another combined-cycle unit on the Swanbank site. The project could operate on either coal seam gas (in the NO PNG cases) or gas from PNG, should this eventuate.

In most scenarios, it has been assumed that this project would be developed to coincide with the closure of the Swanbank B station:

- ❖ Whilst this is the most likely situation, this is not guaranteed – for a variety of reasons (external and internal to CS Energy) project may be delayed for an indeterminate period following the closure of Swanbank B;
- ❖ In particular, it is noted that CS Energy has the potential to develop three different generation projects on brownfield sites (at Kogan Creek, Callide and Swanbank). It is expected that CS Energy would adopt a portfolio approach to any new development option – hence, if one of the other options were being pursued at that time, the development of Swanbank F might be delayed;
- ❖ Such a situation would have localised transmission network implications that would need to be addressed.

### **PROJECTS 14→16) ESK VALLEY CCGTs**

Tarong Energy has previously explored several possible sites for the development of combined cycle capacity – which might operate on coal seam gas or PNG gas. Sites at Gatton, in the Esk Valley and at Tarong have been investigated and it is likely that there are other sites under consideration as well (by Tarong Energy and others).

ROAM Consulting is not in a position where it can provide a definitive answer as to which site in the south-east corner is more likely to be the site of any new development.

Hence, the name “Esk Valley” has been used as a notional location for these new developments.



### **PROJECT 17) TOWNSVILLE SOUTH**

In performing this assessment, ROAM Consulting has included two potential gas-fired generation developments in the Townsville area:

- ❖ The Townsville South CCGT project being developed by Enertrade; and
- ❖ A conversion of the Mt Stuart OCGT.

It is acknowledged that there are other alternative Townsville-based developments that could be completed within the next decade, some of which were the subject of detailed studies 5 years previously in response to the Government's Townsville Gas Station initiative.

Rather than list each project for the Townsville area separately, the "Townsville South" plant has been treated as a notional plant with respect to this scenario analysis exercise. As such, some details with respect to this generic project (such as specific connection point) may differ from what is currently the focus of Enertrade's investigations.

### **PROJECTS 32→36) SMALL CSM PROJECTS**

Ergon Energy is actively pursuing a range of different CSM-fired projects in Queensland. Some of these have been listed in this analysis.

Because of the small size and nature of the projects, it is likely that the decision to proceed (or not) with these projects (and other small CSM projects like these) will be made independently of any of the four theme sets constituting the range of these scenarios. Given the fact that these projects will have negligible impact on the overall supply/demand balance in Queensland, it has been assumed for this analysis that they will proceed in all 40 scenarios.

However:

- ❖ These projects should not be seen, however, as definite – rather as unable to be differentiated through the broader scenarios defined in this study;
- ❖ Should they proceed (or not proceed), these projects may present localised network issues that would need to be addressed by Powerlink and Ergon Energy.



## **PROJECTS 38→62) SUGAR MILLS**

CSR, Bundaberg Sugar and other companies and cooperatives operate a number of sugar mills on the Queensland coast.

Of recent times, the Invicta and Rocky Point mills<sup>7</sup> have been upgraded, whilst the Pioneer and Isis mills are undergoing upgrades. As a result of these upgrades, these mills are able to produce a significant amount of electricity for export. With the use of on-site storage of bagasse (and other biomass materials, where available) it will be possible<sup>8</sup> for these plants to be operational at time of summer peak demand.

Given the potential for high spot prices in summer, it is believed that there will be sufficient incentive present for the mills to utilize this storage in order to be available for summer peaks in demand. However, it should be noted that this availability is not guaranteed.

For this study, it has been calculated that approximately 1,100MW of additional generation capacity could be produced at these plants, should they all be upgraded to the same extent that the four plants noted above have been upgraded (based on historical bagasse supply levels to each mill).

It has been assumed that these projects would proceed under the TAX scenarios, because of their greenhouse benefits. In these cases, it has been assumed that the plants would be upgraded over a number of years.

However it should be noted that:

- ❖ The implementation schedule that would actually occur under a TAX regime is almost certain to differ, in some way, from the schedule assumed in this study:
  - development of bagasse facilities has been arbitrarily ordered from North to South, whereas actual developments could be in any order
  - the timing of developments may differ significantly, including being lumped towards the end of the period of interest;
- ❖ Outside of the TAX regime, a small number of projects may still proceed depending of the rate of growth of the retail "green energy market";

<sup>7</sup> Note that these two mills have been included in the listing of projects (but with 0MW additional capacity) for completeness.

<sup>8</sup> The assumption has been made here of a "normal" rainfall year. Should insufficient rain fall during the year, harvests could be substantially lower and the availability of plant at time of summer peak threatened.



- ❖ The situation that does evolve will also depend on the way in which the sugar industry in Australia develops over the decade.
- ❖ Owing to the uncertainties as to storage of bagasse sufficient to ensure operation over the peak in the long summer season, which extends to the end of March, no more than 50% of installed bagasse generation should be counted on at time of peak. This will compensate for the combined effects of:
  - Possible drought during the growing season reducing bagasse stocks
  - Possible early wet season reducing usability of stored bagasse during the summer season
  - Allowance for forced and planned outages of sugar cogeneration facilities, which will be exacerbated by operation through the sugar harvesting period (July to November).

### **(C) Analysis of Generation Retirements**

It is seen that Swanbank B will retire as is currently planned by CS Energy, but that this will be the only significant retirement of plant except in the (unlikely) case whereby either:

- ❖ Greenhouse measures are introduced without grandfathering provisions such that older, less efficient plant such as Collinsville and Gladstone are forced to close (as modelled in the TAX cases); or
- ❖ Where PNG gas supplies are introduced in conjunction with a number of new CCGT projects on commercial arrangements that necessitate their operation in conjunction with a low rate of load growth, hence necessitating the closure of Collinsville.

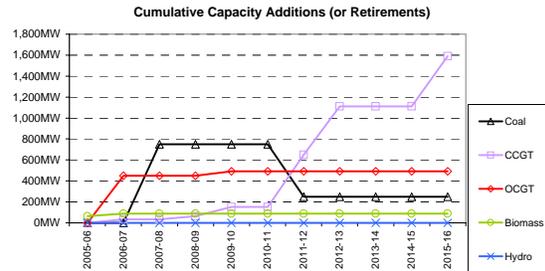
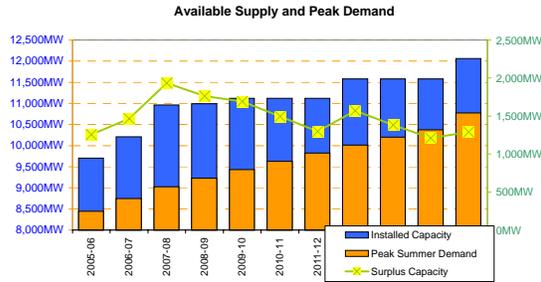


## **APPENDIX A) LISTING OF SCENARIOS**

These are listed separately.



<b>Scenario #</b> <b>1</b>	Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	



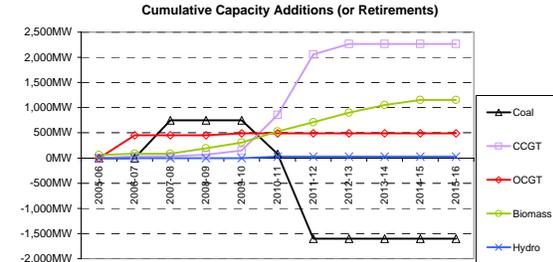
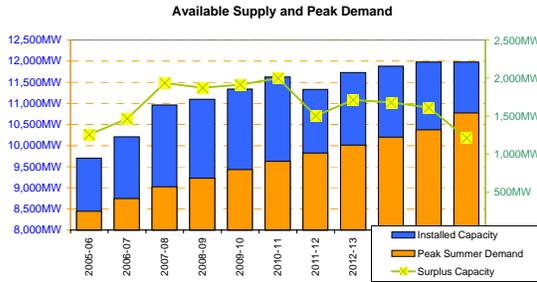
	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11			
2011-12	Spring Gully 1 (500MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Swanbank F 1 (400MW CCGT), Gibson Island A 1 (60MW CCGT).		It is likely that CS Energy would choose to use the retirement of Swanbank B to introduce the Swanbank F CCGT plant into the market. However, this parallel development <del>is</del> <i>by no means certain</i> for a number of different (internal and external) reasons, CS may choose to delay Swanbank F by a number of years. If a delay should occur, there may be localised network issues in the Brisbane area that would need to be addressed.
2013-14			
2014-15			
2015-16	Braemar B 1 (480MW CCGT).		In the low growth and "business as usual" cases, the rate of load growth would be so low that minimal additional generation development would be required.  In this case, it can be seen that the proposed Braemar CCGT plant would be more than 5 years delayed from stated company plans.

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#2 /40	9.0%	10.6%	12.1%

**Other Notes:** This has been calculated to be the 2nd most likely scenario.  
Note that the ranking has increased considerably between the initial step (Combined Theme-Set Weighting) and the FINAL Scenario Probability (i.e. an increase of 3% - or almost 40% in relative terms). This is due in part because of the smaller number of developments required in this scenario to meet growth in demand, and hence the less uncertainty that exists with respect to which developments would proceed. This should be kept in mind when examining the results of this study.



Scenario # <b>2</b>	Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkeram Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	Swanbank F would replace Swanbank B - though CS Energy may choose to delay this development. NO PNG and TAX themes would mean that the new biomass developments would be almost sufficient to meet the growth in demand. Spring Gully, Gladstone and Esk Valley would be required to replace loss of production at Gladstone. All would be supplied CSM gas.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		The small Gibson Island development would be supplied CSM gas by QGC.
2013-14	Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

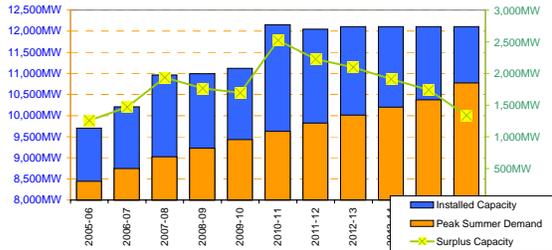
Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#15 /40	2.2%	1.5%	1.7%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available. In the L50 cases, however, it is seen that incremental supplies of CSM gas to new CCGT plant (on top of the new biomass-fired plant) should be able to better keep in touch with increases in demand (plus plant closures) with the net effect being a slower increase in spot market prices than would be the case if load grew more rapidly.		



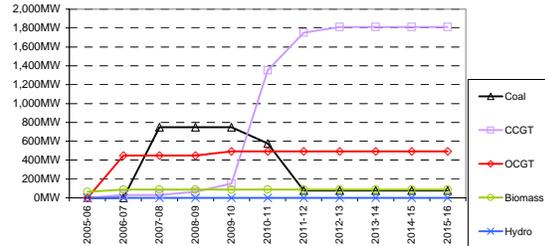
Scenario #  
**3**

Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

Available Supply and Peak Demand



Cumulative Capacity Additions (or Retirements)

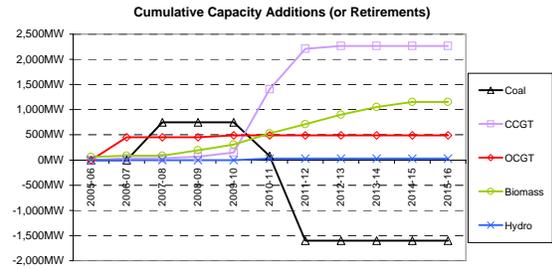
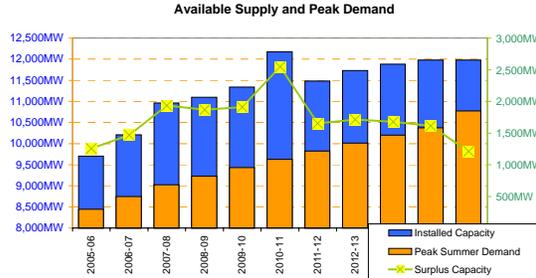


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT).	Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-60MW COAL).	4 new CCGT plants may begin operating with commencement of supplies from PNG - Swanbank F, notional "Esk Valley" plant and Townsville South would all begin operating in 2010-11. A CCGT plant in Gladstone (supplied by the pipeline) would also begin operating, but perhaps delayed by a year because of the low spot prices that would result.
2011-12	Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Gibson Island A 1 (60MW CCGT).		The Gibson Island plant might be deferred a number of years due to low spot prices.
2013-14			
2014-15			
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#10 /40	2.2%	2.2%	2.6%
Other Notes:			



<b>Scenario #</b> <b>4</b>	Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



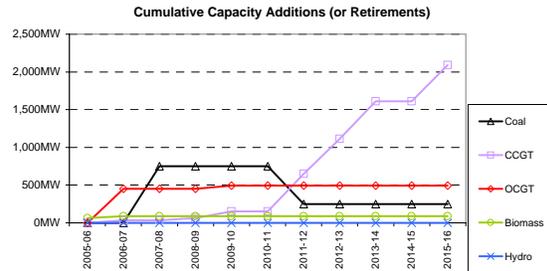
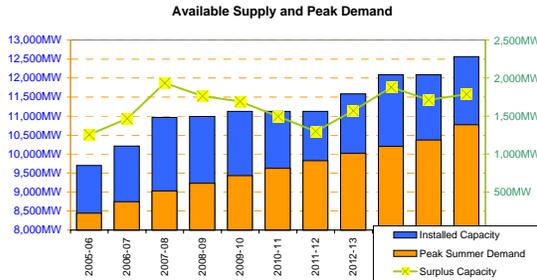
	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by 2 new CCGT plants built in the Gladstone area to support the industrial load.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS).		
2013-14	Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#30 /40	0.6%	0.4%	0.4%
Other Notes:	It is recognised that it is relatively unlikely that the PNG project will proceed AND stringent greenhouse measures be implemented within the timeframe of the study - for economic and other reasons. This fact is reflected in the final scenario probability calculated through this analysis.		



Scenario #  
**5**

Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

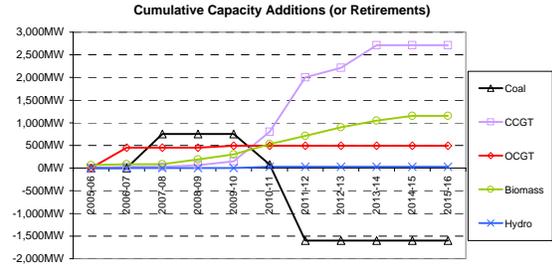
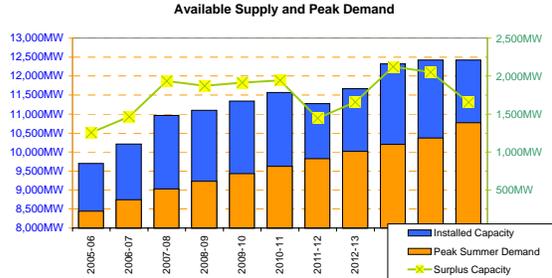


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11			
2011-12	Spring Gully 1 (500MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Swanbank F 1 (400MW CCGT), Gibson Island A 1 (60MW CCGT).		
2013-14	Spring Gully 2 (500MW CCGT).		Under the low load growth scenario, the incremental capacity addition at Spring Gully may be relatively more attractive than a new coal-fired development.
2014-15			
2015-16	Braemar B 1 (480MW CCGT).		Similarly, the proposed Braemar CCGT development would not be required until the end of the study period.

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#5 /40	3.8%	4.5%	5.8%
Other Notes:			



<b>6</b>	Scenario #	Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
		Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
		Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
		Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

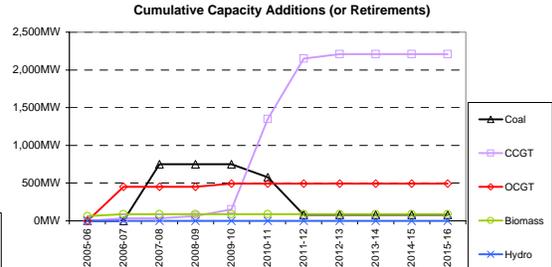
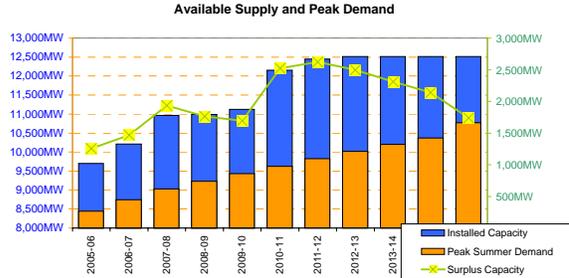


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (64MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-60MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned. Without supplies from PNG, it is seen that conversion of Mt Stuart to CCGT might be the approach taken to meet the small growth in demand applicable in the L50 case.
2011-12	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Kalamia Mill 1 (64MW BIOMASS), Inkeram Mill 1 (65MW BIOMASS), Prosperpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that Gladstone will close as well. In this case, the loss of production at Gladstone has been assumed to be partially compensated with production at a new CCGT facility in Gladstone, burning CSM gas. Because of the lead time needed to increase production of CSM gas, it has been assumed that only one project will be developed for Gladstone in that year.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	Spring Gully 2 (500MW CCGT), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#23 / 40	1.0%	0.6%	0.8%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available. In the L50 cases, however, it is seen that incremental supplies of CSM gas to new CCGT plant (on top of the new biomass-fired plant) should be able to better keep in touch with increases in demand (plus plant closures) with the net effect being a slower increase in spot market prices than would be the case if load grew more rapidly.		



Scenario # <b>7</b>	Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

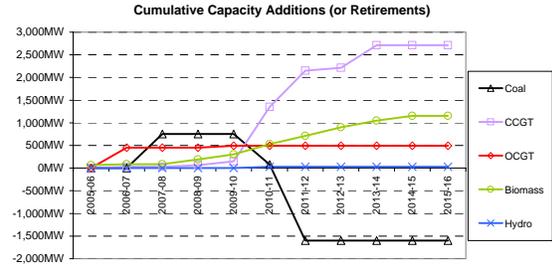
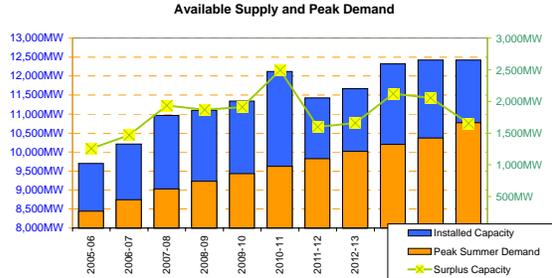


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT).	Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-60MW COAL).	It has been assumed in the L50-PNG cases that the introduction of a CCGT plant in Townsville on the back of a take-or-pay gas contract would reduce the requirement to have Collinsville operations. In these scenarios it has been assumed that Enertrade and Transfield might team for the development of this a CCGT plant as a replacement for Collinsville. Hence, the name "Townsville South" should be considered notional only.
2011-12	Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. Five CCGT plant in total are assumed to come online on the back of take-or-pay gas contracts, to consume approximately 100PJ p.a. of gas.
2012-13	Gibson Island A 1 (60MW CCGT).		
2013-14			
2014-15			
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#21 /40	1.0%	0.9%	0.9%
Other Notes:			



Scenario # <b>8</b>	Load Growth Theme:	<b>L50</b>	20% theme weighting	A low rate of load growth would, in general terms, favour incremental, smaller-sized generation developments (e.g. smaller CCGT over COAL).
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a 'take or pay' basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

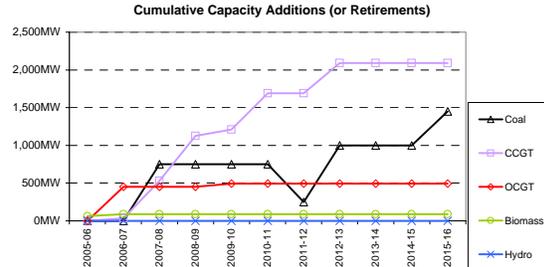
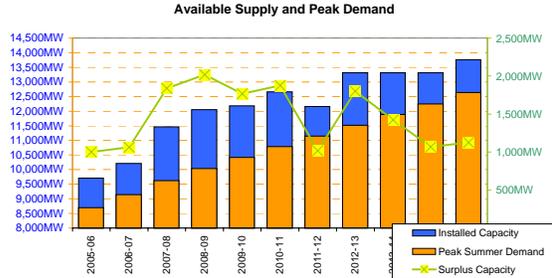


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by 2 new CCGT plants built in the Gladstone area to support the industrial load.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS).		
2013-14	Spring Gully 1 (500MW CCGT), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		With the development of so much new capacity (leading to low pool prices), it is seen that Origin will defer the Spring Gully plant for a number of years.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#35 /40	0.2%	0.2%	0.2%
Other Notes:			



Scenario # <b>9</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

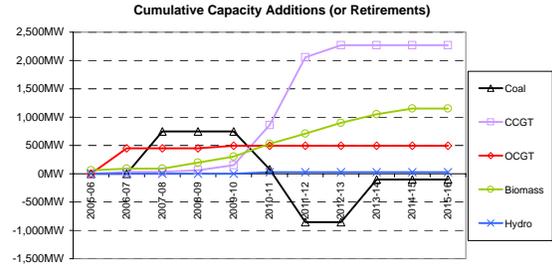
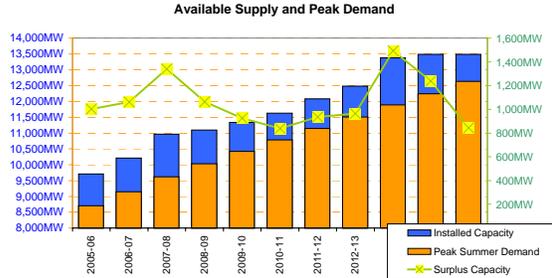


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		In the absence of new gas supplies from PNG and a carbon TAX, it is assumed that the first unit at Spring Gully would proceed as is currently proposed by Origin Energy, with the second unit in the subsequent year.
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Braemar B 1 (480MW CCGT).		In the absence of new gas supplies from PNG and a carbon TAX, it is assumed that the proposed Braemar CCGT power station would proceed mid-way through the study period. The timing of this project has been determined on the basis of the envisaged supply/demand balance, which is highlighted above.
2011-12		Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Swanbank F 1 (400MW CCGT).		In the 5 years following the introduction of Kogan Creek, growth in energy consumption will have been such that a new base-load coal-fired project will be required. A second unit has been nominated at Kogan Creek to meet this opportunity, though it should be noted that a number of other competing projects could achieve financial close first and hence preempt this opportunity.
2013-14			
2014-15			
2015-16	Tarong C 1 (450MW COAL).		Similarly, another coal-fired plant has been determined to be required another 3 years later. In this case, an extension at Tarong has been deemed as proceeding.

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#1 /40	15.7%	17.9%	16.7%
Other Notes:	This scenario (best described as "business as usual") is determined to be the most likely to proceed of the 40 that have been outlined. The high weightings given to the themes from each of the theme sets that have been combined to form this scenario is the major reason for the high probability calculated.  If it were to proceed, the development over the coming decade would not be dissimilar to the development seen over the period 1995-2005.		



Scenario # <b>10</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



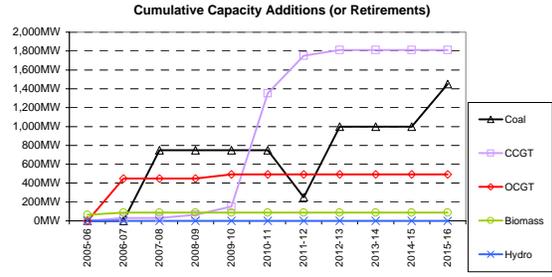
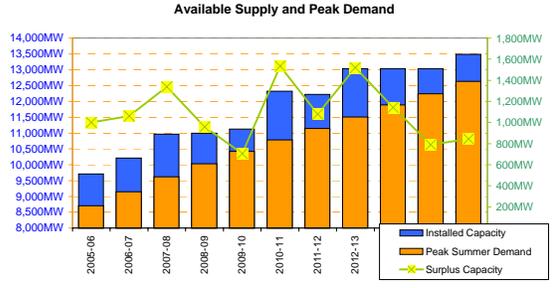
	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned. Likewise, it has been assumed the Collinsville plant will be forced to retire through the introduction of the carbon tax.
2011-12	NEW Coal in SWQ (750MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	Under the TAX scenarios, the Gladstone station has been assumed to close - some of this output would be replaced by a new CCGT plant installed in Gladstone, running on CSM gas. Growth in energy demand will be such that new coal development will be required (in the absence of PNG) - as such, it has been assumed that a new technology coal plant will be constructed in south-west Queensland on one of the available coal fields.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		With the M50 growth in demand and no PNG (and a carbon TAX) it has been assumed that the Oakey plant would be converted to CCGT.
2013-14	NEW Coal in CWQ (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#12 / 40	3.9%	2.6%	2.2%

**Other Notes:** It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases.  
Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.



Scenario # <b>11</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

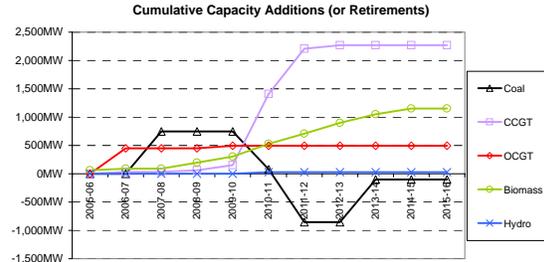
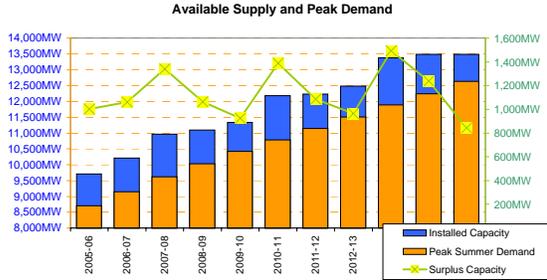


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT).		Four CCGT plants, spread across the state, are a possible outcome of the PNG gas case.
2011-12	Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Gibson Island A 1 (60MW CCGT).		It has been assumed that, once sufficient CCGT plant has been developed to consume 100PJ of PNG gas annually, development focus will then revert to coal in the PNG-NO TAX scenarios. In this case a second unit at Kogan Creek has been forecast, though this development could also occur at other existing power station sites, with the final commitment depending as much on competition strategy as underlying project economics.
2013-14			
2014-15			
2015-16	Tarong C 1 (450MW COAL).		A new unit at Tarong is forecast for the end of the study period.

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#8 /40	3.9%	4.3%	3.9%
Other Notes:			



Scenario # <b>12</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

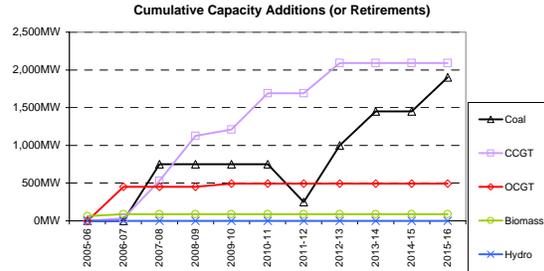
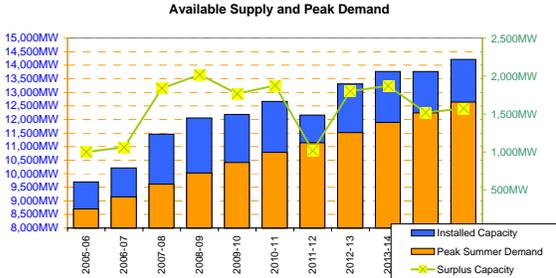


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkeran Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by 2 new CCGT plants built in the Gladstone area to support the industrial load. These new CCGTs would be 2 of 5 that would be supported by (and which would be supporting) PNG gas supplies.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS).		
2013-14	NEW Coal in CWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#27 /40	1.0%	0.6%	0.6%
Other Notes:			



Scenario # <b>13</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

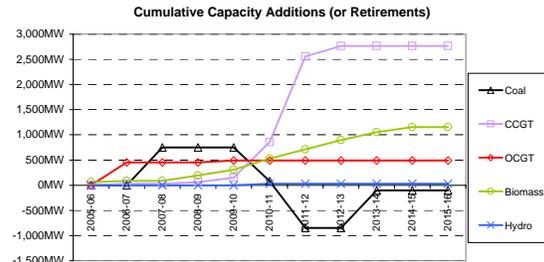
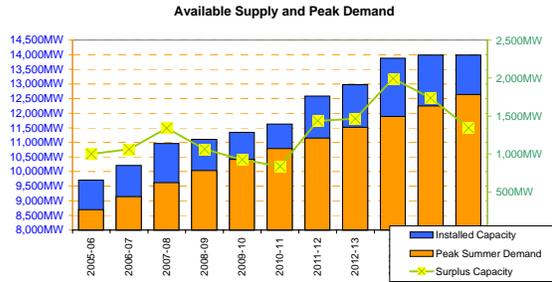


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS),		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS),		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT),		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT),		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT),		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Braemar B 1 (480MW CCGT),		In the absence of PNG supplies, the Spring Gully plant would proceed as proposed, followed by the proposed Braemar CCGT plant. Both stations would also be able to take advantage of expanded trading opportunities, when prices were sufficiently high.
2011-12		Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL),	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Swanbank F 1 (400MW CCGT),		Under this scenario, it is seen that there would be sufficient installed capacity in 2011-12, even with the closure of Swanbank B. Hence, the Swanbank F plant might be deferred for a year.
2013-14	Millmerran 3 (450MW COAL),		With the capability of increased exports over QNI, a greater opportunity would be apparent to the developers of new base-load plant, particularly that in South-West Queensland. Hence, a new Millmerran unit has been forecast to proceed in this case.
2014-15			
2015-16	Tarong C 1 (450MW COAL),		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#4 /40	6.7%	7.5%	9.0%
Other Notes:			



Scenario # <b>14</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



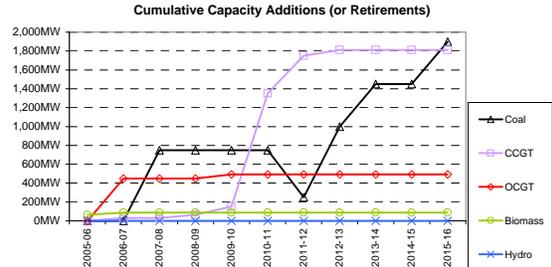
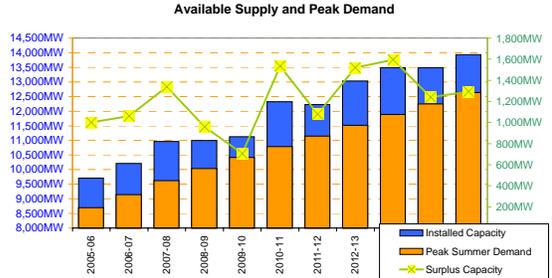
	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-280MW COAL), Collinsville A 2 (-280MW COAL), Collinsville A 3 (-280MW COAL), Collinsville A 4 (-280MW COAL), Collinsville B 5 (-280MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Spring Gully 2 (500MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	With the closure of Gladstone and without PNG supplies, it is assumed that only 1 new CCGT plant would be developed. In order to provide adequate capacity for Queensland, it is assumed that a new coal plant (employing what new technology is available at the time) would be constructed.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	NEW Coal in CWO 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#17 /40	1.7%	1.1%	1.3%

**Other Notes:** It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases.  
Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.



Scenario # <b>15</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

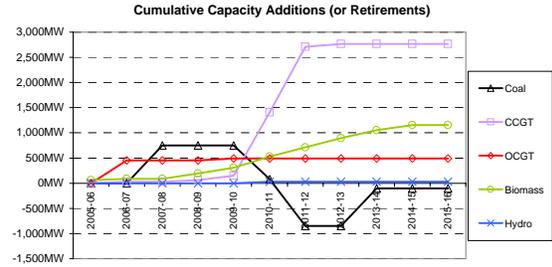
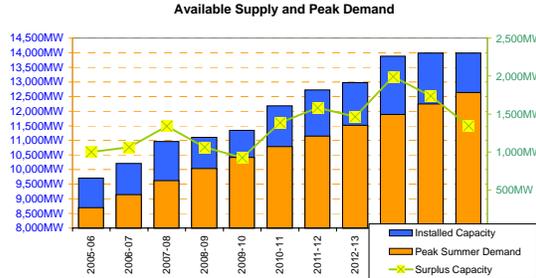


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT).		In the NO TAX regime, it has been assumed that 4 new CCGTs would be operational to burn PNG gas from 2010-11 and 2011-12.
2011-12	Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Gibson Island A 1 (60MW CCGT).		
2013-14	Millmerran 3 (450MW COAL).		
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#13 /40	1.7%	1.8%	2.2%
Other Notes:			



Scenario # <b>16</b>	Load Growth Theme:	<b>M50</b>	35% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

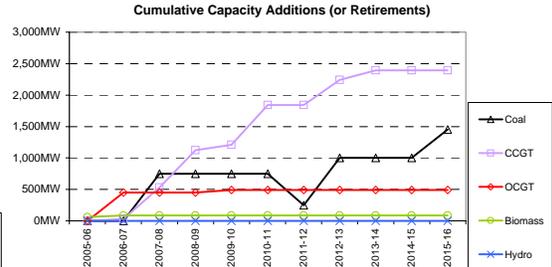
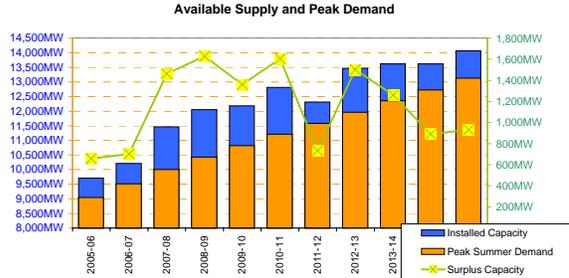


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Spring Gully 1 (500MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by 2 new CCGT plants built in the Gladstone area to support the industrial load.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS).		
2013-14	NEW Coal in CWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#32 /40	0.4%	0.3%	0.3%
Other Notes:			



Scenario # <b>17</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	



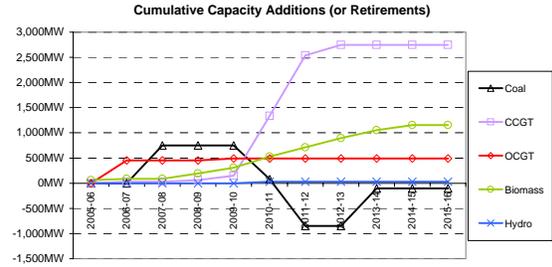
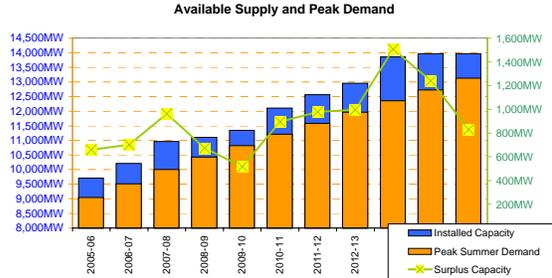
Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Braemar B 1 (480MW CCGT), Mt Stuart Conversion 1&2 (150MW CCGT).		It is assumed that the Braemar CCGT plant will be much more advanced in its development than in the higher-load scenarios. In the absence of supplies from PNG, the conversion of Mt Stuart to combined cycle is more likely to proceed as an option to deliver additional intermediate load capacity.
2011-12		Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Swanbank F 1 (400MW CCGT).		
2013-14	Oakey Conversion 1&2 (150MW CCGT).		Conversion of Oakey is also forecast to proceed to provide a small increment in capacity, and also to reduce the operating cost of the plant.
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#3 /40	11.2%	12.1%	10.3%

**Other Notes:** This scenario has been determined as the 3rd most likely of the set of 40 developed for this study. Whilst the scenario was formulated in order to model the potential impact of large penetration of large-size residential airconditioners throughout Queensland, the relatively small difference between the M50 and M10 load forecasts has meant that the differences have not been as pronounced as was envisaged at the commencement of the study. However, planting options have been selected, where possible, with this theme in mind.



Scenario # <b>18</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

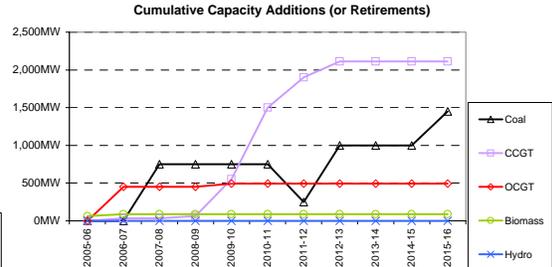
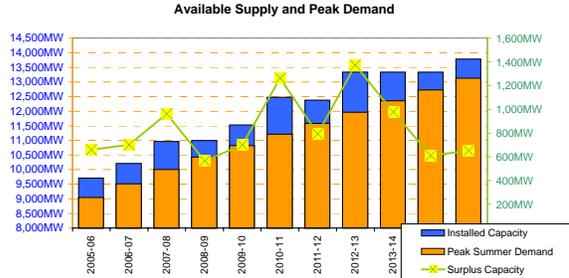


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS),		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS),		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL),		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS),		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS),		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT),	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-60MW COAL),	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS),	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL),	With the closure of Gladstone and without PNG supplies, it is assumed that only 1 new CCGT plant would be developed. In order to provide adequate capacity for Queensland, it is assumed that a new coal plant (employing what new technology is available at the time) would be constructed.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT),		
2013-14	NEW Coal in CWO 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS),		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS),		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#18 /40	2.8%	1.9%	1.2%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases. Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.		



Scenario # <b>19</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

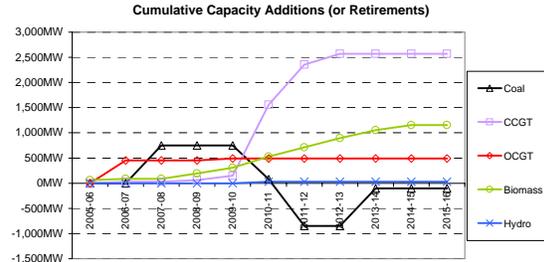
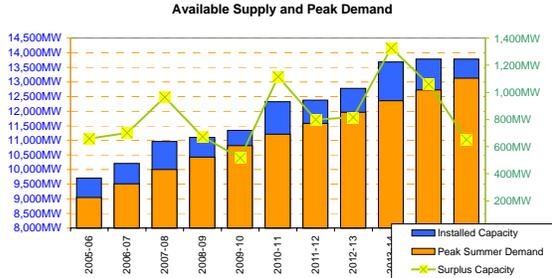


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Townsville South 1 (400MW CCGT), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Mt Stuart Conversion 1&2 (150MW CCGT).		In this scenario it has been forecast that two projects would occur in the Townsville area - the construction of a new CCGT, notionally at "Townsville South", and the conversion of Mt Stuart. Two projects are more likely to proceed with a focus on supplying increased airconditioning load.
2011-12	Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2012-13	Kogan Creek 2 (750MW COAL), Gibson Island A 1 (60MW CCGT), Oakey Conversion 1&2 (150MW CCGT).		
2013-14			
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#14 /40	2.8%	2.9%	1.9%
Other Notes:			



Scenario # <b>20</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

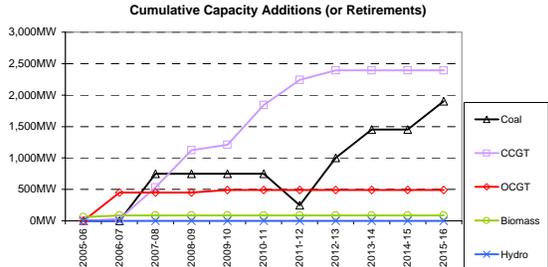
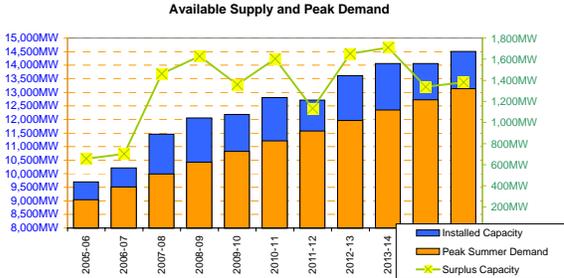


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by 2 new CCGT plants built in the Gladstone area to support the industrial load.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	NEW Coal in CWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#33 /40	0.7%	0.5%	0.3%
Other Notes:			



Scenario # <b>21</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

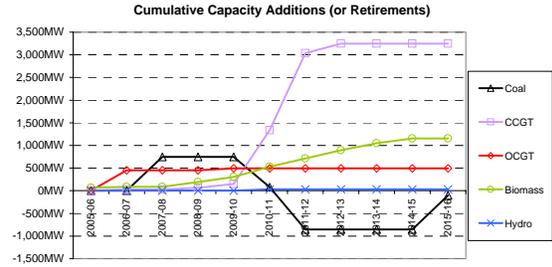
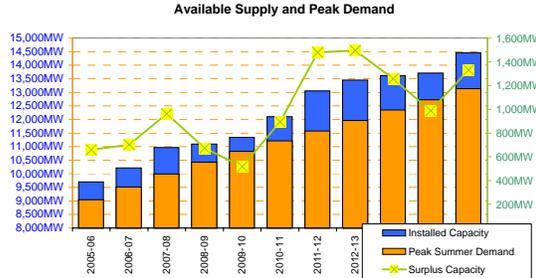


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS),		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS),		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT),		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT),		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT),		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Braemar B 1 (480MW CCGT), Mt Stuart Conversion 1&2 (150MW CCGT),		
2011-12	Swanbank F 1 (400MW CCGT),	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL),	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Oakey Conversion 1&2 (150MW CCGT),		
2013-14	Millmerran 3 (450MW COAL),		
2014-15			
2015-16	Tarong C 1 (450MW COAL),		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#6 /40	4.8%	5.1%	5.8%
Other Notes:			



Scenario # <b>22</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

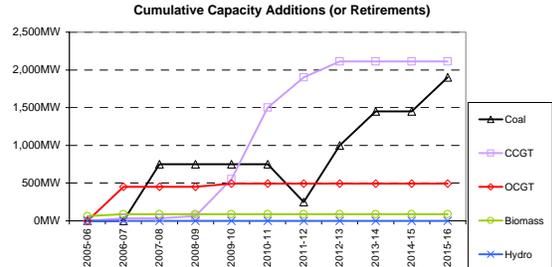
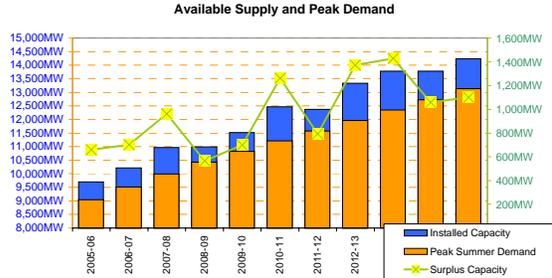


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS),		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS),		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL),		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS),		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS),		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW OCGT),	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-60MW COAL),	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Spring Gully 2 (500MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkeram Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS),	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL),	With the closure of Gladstone and without PNG supplies, it is assumed that only 1 new CCGT plant would be developed. In order to provide adequate capacity for Queensland, it is assumed that a new coal plant (employing what new technology is available at the time) would be constructed.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT),		
2013-14	Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS),		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS),		
2015-16	NEW Coal in CWQ 1 (750MW COAL),		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#22 /40	1.2%	0.8%	0.8%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases. Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.		



Scenario # <b>23</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

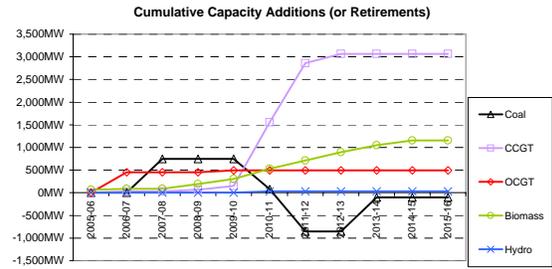
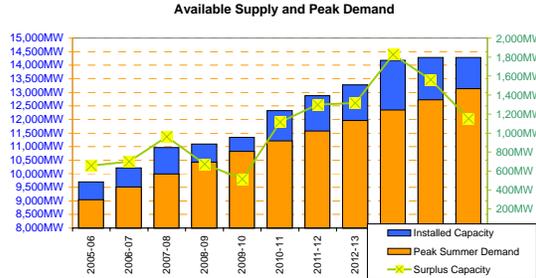


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Townsville South 1 (400MW CCGT), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Mt Stuart Conversion 1&2 (150MW CCGT).		
2011-12	Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Gibson Island A 1 (60MW CCGT), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	Millmerran 3 (450MW COAL).		
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#20 /40	1.2%	1.2%	1.1%
Other Notes:			



Scenario # <b>24</b>	Load Growth Theme:	<b>M10</b>	25% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

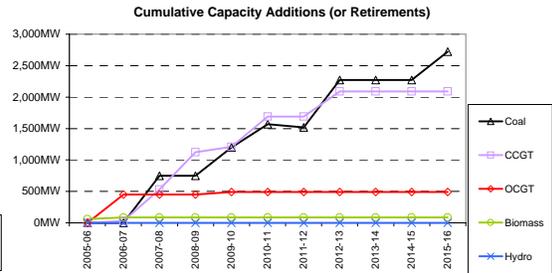
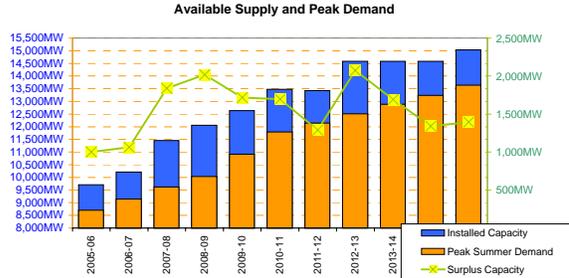


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Spring Gully 1 (500MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by 2 new CCGT plants built in the Gladstone area to support the industrial load.  A new coal plant would also be required to meet growth in demand.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	NEW Coal in CWO 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#36 /40	0.3%	0.2%	0.2%
Other Notes:			



Scenario # <b>25</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

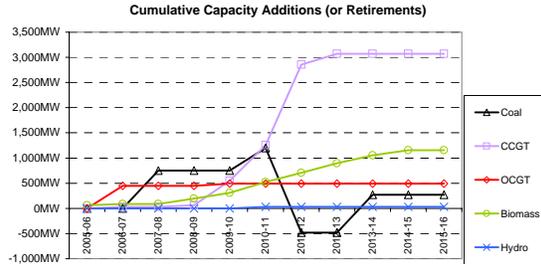
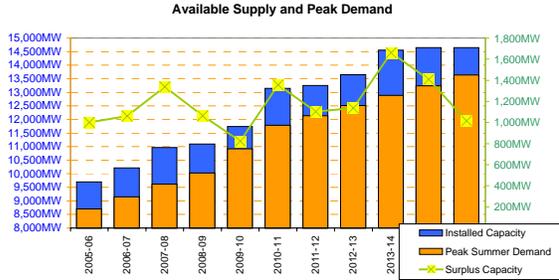


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Callide D 1 (450MW COAL), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Stanwell B 1 (370MW COAL), Braemar B 1 (480MW CCGT).		It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland).
2011-12	Callide D 2 (450MW COAL).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Swanbank F 1 (400MW CCGT).		
2013-14			
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#7 /40	4.5%	4.6%	5.2%
Other Notes:			



Scenario # <b>26</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



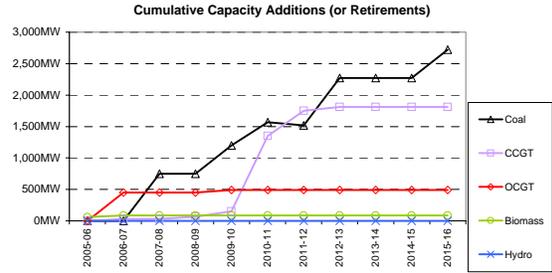
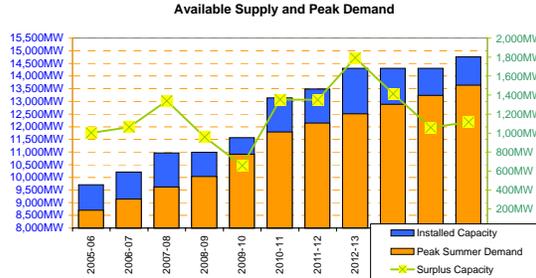
Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Gladstone B 1 (400MW CCGT), Chinchilla 1 (57MW CCGT), Mungli CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungli and North Goonyella projects in all 40 scenarios.
2010-11	Stanwell B 1 (370MW COAL), NEW Coal in CWO 1 (750MW COAL), Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland). It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Gladstone B 3 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	NEW Coal in SWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would be required in south-west Queensland. This would most likely be developed on existing utilised coal deposits (Kogan Creek and Millmerran or perhaps Tarong), through a new developer may choose to open a new deposit (e.g. Acland), though this is considered less likely.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#25 / 40	1.1%	0.7%	0.7%

**Other Notes:** It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases.  
Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.



Scenario # <b>27</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

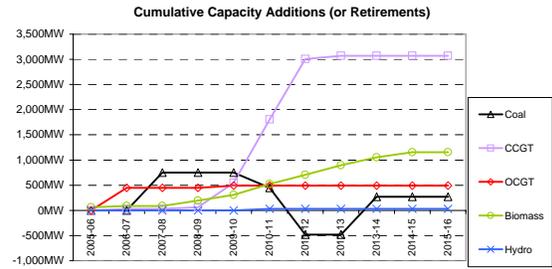
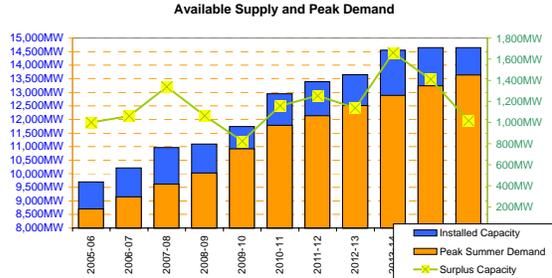


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Callide D 1 (450MW COAL), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Stanwell B 1 (370MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT).		It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland).
2011-12	Callide D 2 (450MW COAL), Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Gibson Island A 1 (60MW CCGT).		
2013-14			
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#19 /40	1.1%	1.1%	1.1%
Other Notes:			



Scenario # <b>28</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

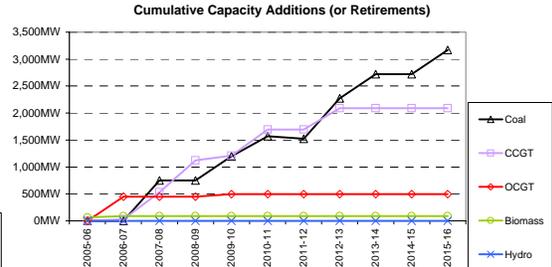
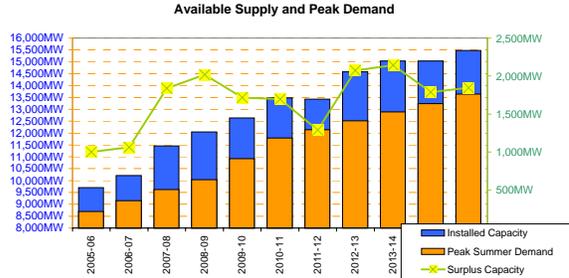


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Gladstone B 1 (400MW CCGT), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenario
2010-11	Stanwell B 1 (370MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland). It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in CWO 1 (750MW COAL), Gladstone B 2 (400MW CCGT), Gladstone B 3 (400MW CCGT), Gladstone B 4 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by new CCGT plant built in the Gladstone area to support the industrial load.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS).		
2013-14	NEW Coal in SWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#37 /40	0.3%	0.2%	0.2%
Other Notes:			



Scenario # <b>29</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

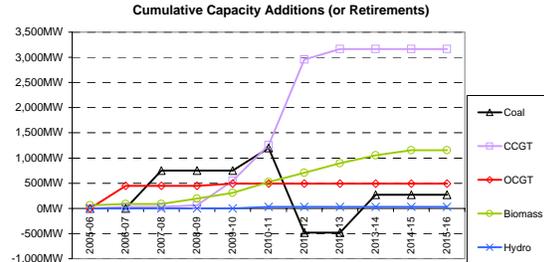
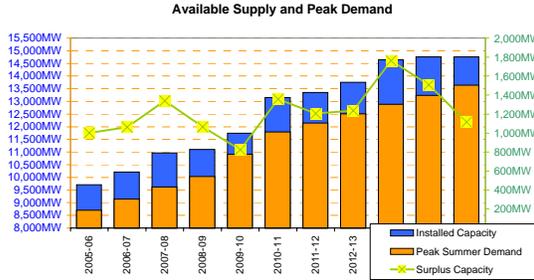


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Callide D 1 (450MW COAL), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Stanwell B 1 (370MW COAL), Braemar B 1 (480MW CCGT).		It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland).
2011-12	Callide D 2 (450MW COAL).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Swanbank F 1 (400MW CCGT).		
2013-14	Millmerran 3 (450MW COAL).		
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#11 /40	1.9%	1.9%	2.6%
Other Notes:			



Scenario # <b>30</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

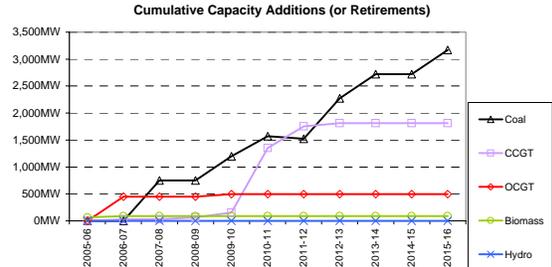
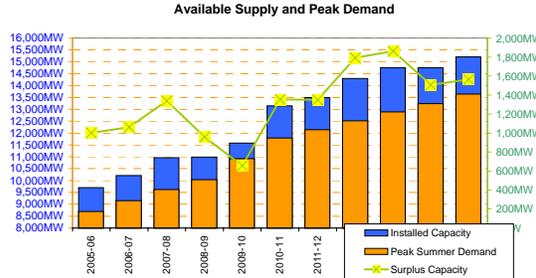


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Gladstone B 1 (400MW CCGT), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenario
2010-11	Stanwell B 1 (370MW COAL), NEW Coal in CWO 1 (750MW COAL), Chinchilla 2 (57MW CCGT), Spring Gully 1 (500MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland). It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Spring Gully 2 (500MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	NEW Coal in SWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#31 / 40	0.5%	0.3%	0.4%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases. Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.		



Scenario # <b>31</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

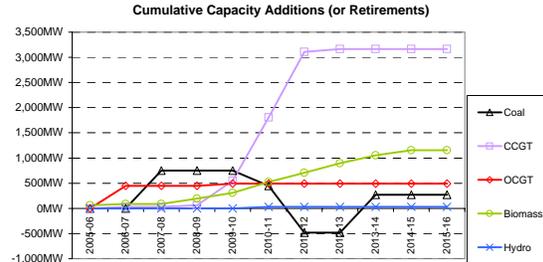
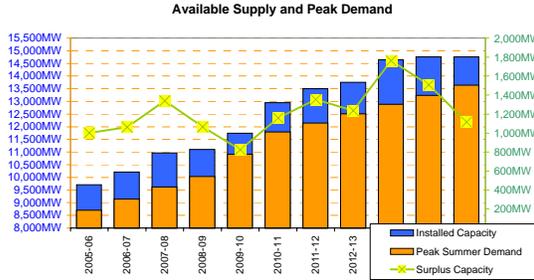


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Callide D 1 (450MW COAL), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Stanwell B 1 (370MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT).		It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland).
2011-12	Callide D 2 (450MW COAL), Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Gibson Island A 1 (60MW CCGT).		
2013-14	Millmerran 3 (450MW COAL).		
2014-15			
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#26 /40	0.5%	0.5%	0.6%
Other Notes:			



Scenario # <b>32</b>	Load Growth Theme:	<b>M50++</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

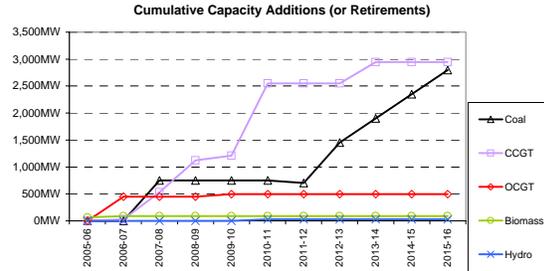
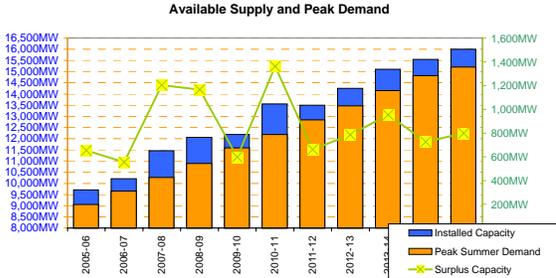


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL).		
2008-09	Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablelands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Gladstone B 1 (400MW CCGT), Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Stanwell B 1 (370MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed that the Stanwell coke plant will proceed for all M50++ (contributing to the economic boom in Central Queensland). It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in CWQ 1 (750MW COAL), Gladstone B 2 (400MW CCGT), Gladstone B 3 (400MW CCGT), Spring Gully 1 (500MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by new CCGT plant built in the Gladstone area to support the industrial load. To support the industrial load, a new coal plant would also be required in CW Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2012-13	Gibson Island A 1 (60MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstowe Mill 1 (56MW BIOMASS).		
2013-14	NEW Coal in SWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#39 /40	0.1%	0.1%	0.1%
Other Notes:			



Scenario # <b>33</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

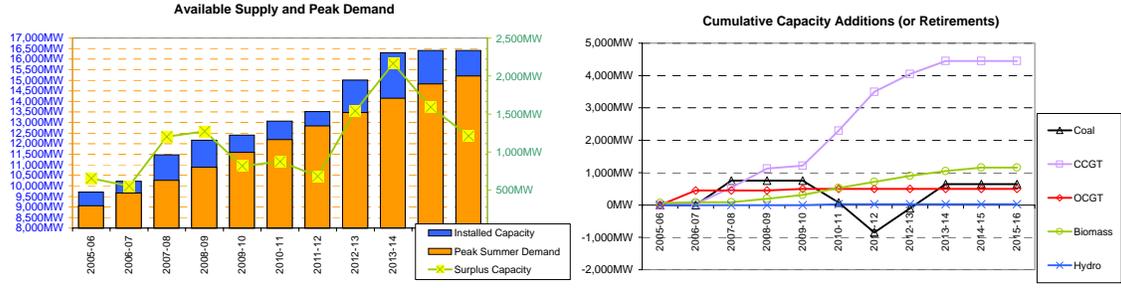


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO).		
2011-12	Millmerran 3 (450MW COAL).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL).		
2013-14	Millmerran 4 (450MW COAL), Esk Valley 1 (400MW CCGT).		
2014-15	Callide D 1 (450MW COAL).		Under the H50 case, the growth in load would be so great, year-on-year, that major developments are required each year from the middle of the study period. The sequence shown here is just one of the ways in which this may unfold.
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#9 /40	4.5%	4.3%	3.1%
Other Notes:			



Scenario # <b>34</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



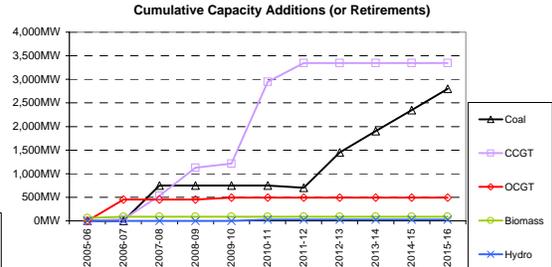
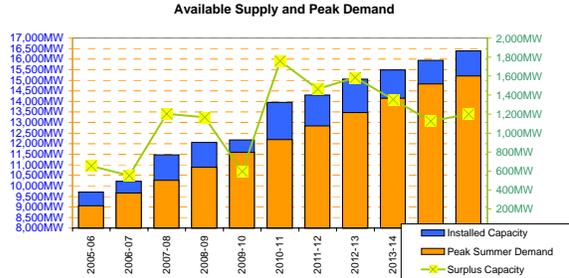
New Projects	Retirements	Comments
<b>2005-06</b> Pioneer Mill 1 (63MW BIOMASS),		The Pioneer Sugar Mill project is currently being commissioned.
<b>2006-07</b> Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS),		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
<b>2007-08</b> Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT),		
<b>2008-09</b> Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Messman Mill 1 (38MW BIOMASS), Tablends Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS),		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
<b>2009-10</b> Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS),		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
<b>2010-11</b> Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT),	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL),	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
<b>2011-12</b> NEW Coal in SWQ 1 (750MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS),	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL),	With the closure of Gladstone and without PNG supplies, it is assumed that only 1 new CCGT plant would be developed. In order to provide adequate capacity for Queensland, it is assumed that a new coal plant (employing what new technology is available at the time) would be constructed.
<b>2012-13</b> Kogan Creek 2 (750MW COAL), Esk Valley 2 (400MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT),		
<b>2013-14</b> NEW Coal in CWQ 1 (750MW COAL), Esk Valley 3 (400MW CCGT), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairyhead Mill 1 (45MW BIOMASS),		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
<b>2014-15</b> Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS),		
<b>2015-16</b>		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#28 / 40	1.1%	0.7%	0.5%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases. Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.		





Scenario # <b>35</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

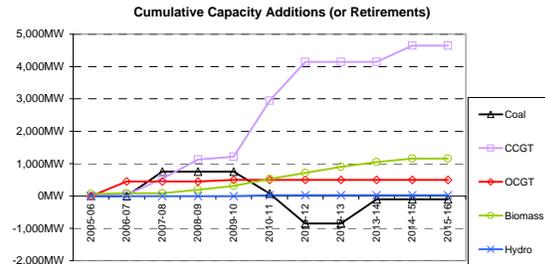
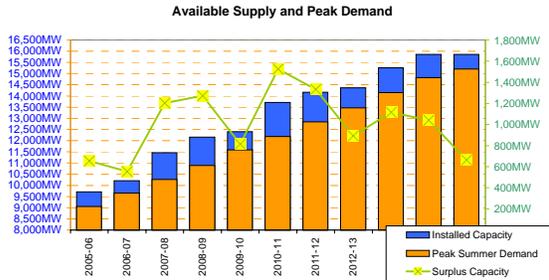


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO).		
2011-12	Millmerran 3 (450MW COAL), Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL).		
2013-14	Millmerran 4 (450MW COAL).		
2014-15	Callide D 1 (450MW COAL).		Under the H50 case, the growth in load would be so great, year-on-year, that major developments are required each year from the middle of the study period. The sequence shown here is just one of the ways in which this may unfold.
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#24 / 40	1.1%	1.1%	0.8%
Other Notes:			



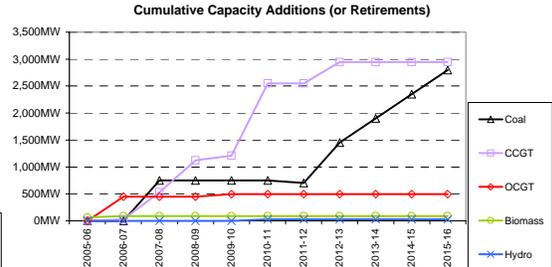
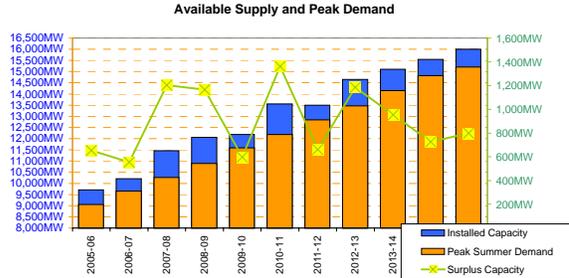
Scenario # <b>36</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI</b>	70% theme weighting	
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablenslands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Esk Valley 2 (400MW CCGT), Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, Gladstone will close - this capacity will be partially replaced by new CCGT plant. Under the PNG case, it is possible that multiple CCGT plants could be operational in Gladstone together. Under the H50-TAX case, new technology coal would also be required. The first of these is likely to be in SWQ to take advantage of low fuel and transmission costs, though water may be an issue.
2012-13	Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS).		
2013-14	NEW Coal in CWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Gibson Island B 1 (500MW CCGT), Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		Under the TAX scenario, and with supplies of gas from PNG having some impact in expanding the market for gas and hence reducing prices, a large combined cycle plant might be developed within Brisbane (at Gibson Island or somewhere similar).
2015-16			
<b>Ranking</b>	<b>Combined Theme-Set Ranking</b>	<b>INITIAL Scenario Probability</b>	<b>FINAL Scenario Probability (after moderation)</b>
<b>#38 /40</b>	0.3%	<b>0.2%</b>	<b>0.1%</b>
<b>Other Notes:</b>			



Scenario # <b>37</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

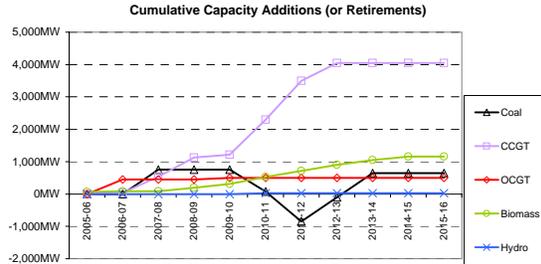
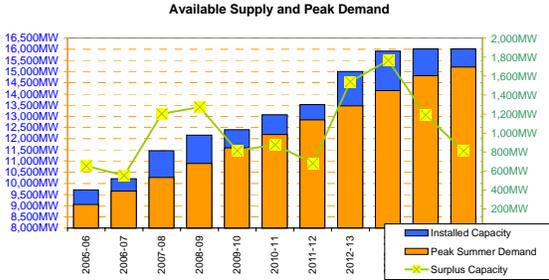


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO).		Even with no supplies of gas from PNG, a number of CCGT plants will need to be developed under the H50 case to supply the rapid increase in demand - these plants are likely to be in Townsville (e.g. Townsville South) and with good access to the south-east corner (e.g. Esk Valley and Braemar).
2011-12	Millmerran 3 (450MW COAL).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL), Swanbank F 1 (400MW CCGT).		
2013-14	Millmerran 4 (450MW COAL).		
2014-15	Callide D 1 (450MW COAL).		Under the H50 case, the growth in load would be so great, year-on-year, that major developments are required each year from the middle of the study period. The sequence shown here is just one of the ways in which this may unfold.
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#16 /40	1.9%	1.9%	1.6%
Other Notes:			



Scenario # <b>38</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>NO PNG</b>	80% theme weighting	
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.

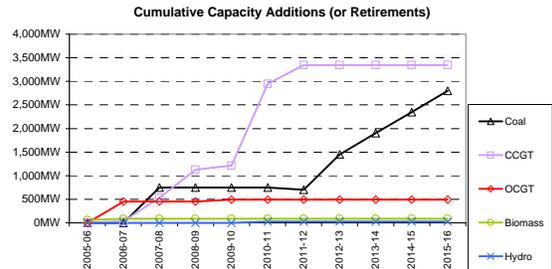
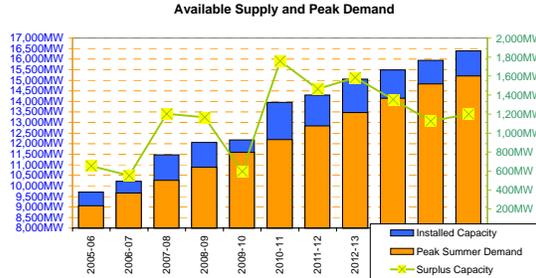


	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Mossman Mill 1 (38MW BIOMASS), Tablends Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS), Mt Stuart Conversion 1&2 (150MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned. The TAX case will also lead to the closure of Collinsville.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Gladstone B 1 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	With the closure of Gladstone and without PNG supplies, it is assumed that only 1 new CCGT plant would be developed. In order to provide adequate capacity for Queensland, it is assumed that a new coal plant (employing what new technology is available at the time) would be constructed.
2012-13	Kogan Creek 2 (750MW COAL), Esk Valley 2 (400MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Pleystowe Mill 1 (56MW BIOMASS), Oakey Conversion 1&2 (150MW CCGT).		
2013-14	NEW Coal in CWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#34 /40	0.5%	0.3%	0.3%
Other Notes:	It is recognised that the wholesale market prices for electricity produced under the "TAX" scenarios would be considerably higher than in the "NO TAX" scenarios. This will be especially the case when no large new sources of greenhouse-friendly fuel (e.g. PNG) are available, and also for the high load growth cases. Economic drivers in the market will continue to ensure that these scenarios will only have a low likelihood of proceeding. This is reflected in the final project probability.		



Scenario # <b>39</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>NO TAX</b>	80% theme weighting	

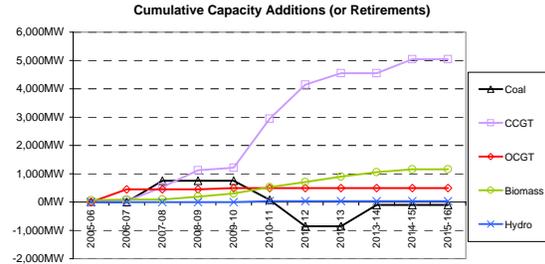
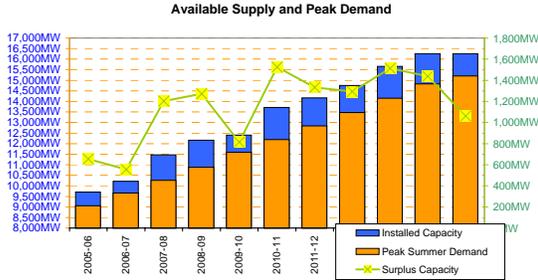


Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO).		Assisted by gas supplies from PNG (and because of the H50 load growth rate) the Swanbank F plant is likely to proceed earlier than forecast in other scenarios - in this case, even before the closure of Swanbank B.
2011-12	Millmerran 3 (450MW COAL), Gladstone B 1 (400MW CCGT).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy.
2012-13	Kogan Creek 2 (750MW COAL).		
2013-14	Millmerran 4 (450MW COAL).		
2014-15	Callide D 1 (450MW COAL).		Under the H50 case, the growth in load would be so great, year-on-year, that major developments are required each year from the middle of the study period. The sequence shown here is just one of the ways in which this may unfold.
2015-16	Tarong C 1 (450MW COAL).		

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#29 / 40	0.5%	0.5%	0.5%
Other Notes:			



Scenario # <b>40</b>	Load Growth Theme:	<b>H50</b>	10% theme weighting	
	Inter-regional Trade Theme:	<b>QNI++</b>	30% theme weighting	If QNI were expanded, it is likely that two things would occur: 1) There would be another 500MW of generation capacity developed; 2) Developments would be even more likely to be in the South-West
	Gas Supply Theme:	<b>PNG</b>	20% theme weighting	It has been assumed that, if PNG proceeds, up to 100PJ p.a. of gas will be supplied to CCGT plant on a "take or pay" basis - as a result of the project needing to sell sufficient quantities to commit the development.
	Greenhouse Theme:	<b>TAX</b>	20% theme weighting	It has been assumed that the tax regime would be designed to deliver the closure of older coal-fired stations (including Gladstone) and the introduction of up to 1000MW of biomass production.



Year	New Projects	Retirements	Comments
2005-06	Pioneer Mill 1 (63MW BIOMASS).		The Pioneer Sugar Mill project is currently being commissioned.
2006-07	Braemar A 1 (150MW OCGT), Braemar A 2 (150MW OCGT), Braemar A 3 (150MW OCGT), German Creek CSM 1 (32MW CCGT), Isis Mill 1 (25MW BIOMASS).		The Braemar OCGT plant is considered committed in this study. The small CSM project at German Creek is seen as of a size whereby other considerations (not those in the 4 scenario themes) will dictate whether this proceeds or not.
2007-08	Kogan Creek 1 (750MW COAL), Spring Gully 1 (500MW CCGT).		
2008-09	Spring Gully 2 (500MW CCGT), Gibson Island A 1 (60MW CCGT), Oakey CSM 1 (20MW CCGT), Dalby CSM 1 (12MW CCGT), Messman Mill 1 (38MW BIOMASS), Tabellands Mill 1 (18MW BIOMASS), Mulgrave Mill 1 (50MW BIOMASS).		Similarly, the small Oakey and Dalby CSM projects are seen to be of a size that other factors will play a much greater role in determining whether the projects proceed or not. As these projects will not have a significant impact on the supply/demand balance for the Queensland region (whether they proceed or not) and on the basis that whether or not they proceed will be independent of each of the Theme-Sets modelled in this analysis, the projects have been included in each of the scenarios.
2009-10	Chinchilla 1 (57MW CCGT), Mungi CSM 1 (43MW OCGT), North Goonyella CSM 1 (30MW CCGT), Babinda Mill 1 (35MW BIOMASS), Mourilyan Mill 1 (35MW BIOMASS), South Johnstone Mill 1 (42MW BIOMASS).		similar logic has been used for the inclusion of Mungi and North Goonyella projects in all 40 scenarios.
2010-11	Swanbank F 1 (400MW CCGT), Esk Valley 1 (400MW CCGT), Townsville South 1 (400MW CCGT), Braemar B 1 (480MW CCGT), Chinchilla 2 (57MW CCGT), Burdekin Hydro 1 (30MW HYDRO), Tully Mill 1 (64MW BIOMASS), Macknade Mill 1 (56MW BIOMASS), Victoria Mill 1 (100MW BIOMASS).	Swanbank B 1 (-125MW COAL), Swanbank B 2 (-125MW COAL), Swanbank B 3 (-125MW COAL), Swanbank B 4 (-125MW COAL), Collinsville A 1 (-28MW COAL), Collinsville A 2 (-28MW COAL), Collinsville A 3 (-28MW COAL), Collinsville A 4 (-28MW COAL), Collinsville B 5 (-28MW COAL).	It has been assumed in all scenarios that Swanbank B will retire during the study period, as is the current stated policy of CS Energy. In the TAX cases, it has been assumed that the retirement will occur a year earlier than currently planned. Assisted by gas supplies from PNG (and because of the H50 load growth rate) the Swanbank F plant is likely to proceed earlier than forecast in other scenarios.
2011-12	NEW Coal in SWQ 1 (750MW COAL), Esk Valley 2 (400MW CCGT), Gladstone B 1 (400MW CCGT), Gladstone B 2 (400MW CCGT), Kalamia Mill 1 (54MW BIOMASS), Inkerman Mill 1 (65MW BIOMASS), Proserpine Mill 1 (64MW BIOMASS).	Gladstone 1 (-280MW COAL), Gladstone 2 (-280MW COAL), Gladstone 3 (-280MW COAL), Gladstone 4 (-280MW COAL), Gladstone 5 (-280MW COAL), Gladstone 6 (-280MW COAL).	In the TAX cases, it has been assumed that the Gladstone station will close - because of gas supplies from PNG, this capacity will be partially replaced by new CCGT plant built in the Gladstone area to support the industrial load.
2012-13	Esk Valley 3 (400MW CCGT), Marian Mill 1 (77MW BIOMASS), Farleigh Mill 1 (56MW BIOMASS), Playstone Mill 1 (56MW BIOMASS).		
2013-14	NEW Coal in CWQ 1 (750MW COAL), Racecourse Mill 1 (56MW BIOMASS), Plane Creek Mill 1 (52MW BIOMASS), Fairymead Mill 1 (45MW BIOMASS).		A new coal plant would also be required in central-west Queensland. This would be most likely to be developed at Callide, but could also be developed at a number of other locations.
2014-15	Gibson Island B 1 (500MW CCGT), Millaquin Mill 1 (37MW BIOMASS), Bingera Mill 1 (39MW BIOMASS), Maryborough Mill 1 (26MW BIOMASS).		Under the TAX scenario, and with supplies of gas from PNG having some impact in expanding the market for gas and hence reducing prices, a large combined cycle plant might be developed within Brisbane (at Gibson Island or somewhere similar).
2015-16			

Ranking	Combined Theme-Set Ranking	INITIAL Scenario Probability	FINAL Scenario Probability (after moderation)
#40 /40	0.1%	0.1%	0.1%
Other Notes:			



## **APPENDIX B) LISTING OF NEW PROJECTS**

These are listed separately.



Potential Project # (This is a potential New Plant)

**1** Kogan Creek 1 (750 COAL) located in the South-Western Queensland node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100.% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX				YES									12.14%	
Scenario 2	L50	QNI	NO PNG	TAX				YES									1.67%	
Scenario 3	L50	QNI	PNG	NO TAX				YES									2.6%	
Scenario 4	L50	QNI	PNG	TAX				YES									0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX				YES									5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX				YES									0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX				YES									0.87%	
Scenario 8	L50	QNI++	PNG	TAX				YES									0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX				YES									16.74%	
Scenario 10	M50	QNI	NO PNG	TAX				YES									2.24%	
Scenario 11	M50	QNI	PNG	NO TAX				YES									3.88%	
Scenario 12	M50	QNI	PNG	TAX				YES									0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX				YES									9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX				YES									1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX				YES									2.15%	
Scenario 16	M50	QNI++	PNG	TAX				YES									0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX				YES									10.27%	
Scenario 18	M10	QNI	NO PNG	TAX				YES									1.18%	
Scenario 19	M10	QNI	PNG	NO TAX				YES									1.88%	
Scenario 20	M10	QNI	PNG	TAX				YES									0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX				YES									5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX				YES									0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX				YES									1.1%	
Scenario 24	M10	QNI++	PNG	TAX				YES									0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX				YES									5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX				YES									0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX				YES									1.11%	
Scenario 28	M50++	QNI	PNG	TAX				YES									0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX				YES									2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX				YES									0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX				YES									0.61%	
Scenario 32	M50++	QNI++	PNG	TAX				YES									0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX				YES									3.07%	
Scenario 34	H50	QNI	NO PNG	TAX				YES									0.51%	
Scenario 35	H50	QNI	PNG	NO TAX				YES									0.77%	
Scenario 36	H50	QNI	PNG	TAX				YES									0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX				YES									1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX				YES									0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX				YES									0.45%	
Scenario 40	H50	QNI++	PNG	TAX				YES									0.08%	
<b>Probability of Proceeding in this Year:</b>						0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>						0%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

Other Comments: Under development



Potential Project # (This is a potential New Plant)

**2** Kogan Creek 2 (750 COAL) located in the South-Western Queensland node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **67.02% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX									YES				16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX									YES				3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX									YES				9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX									YES				2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX									YES				10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX									YES				1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX									YES				5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX									YES				1.1%	
Scenario 24	M10	QNI++	PNG	TAX													0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX									YES				5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX									YES				1.11%	
Scenario 28	M50++	QNI	PNG	TAX													0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX									YES				2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX									YES				0.61%	
Scenario 32	M50++	QNI++	PNG	TAX													0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX									YES				3.07%	
Scenario 34	H50	QNI	NO PNG	TAX									YES				0.51%	
Scenario 35	H50	QNI	PNG	NO TAX									YES				0.77%	
Scenario 36	H50	QNI	PNG	TAX													0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX									YES				1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX									YES				0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX									YES				0.45%	
Scenario 40	H50	QNI++	PNG	TAX													0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>67%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>									
<b>Cumulative Probability</b>					<b>0%</b>	<b>67%</b>	<b>67%</b>	<b>67%</b>	<b>67%</b>									

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	6	75%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	9	45%
QNI++	20	9	45%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	9	40%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	16	80%
TAX	20	2	10%

**Other Comments:** Announced by CS Energy as an opportunity under consideration. It has been implied by CS Energy that this would probably of similar size to the single unit plant now being built - and it has been assumed that it would be built with existing technology (including dry cooling).

As can be seen in the summary table above, this plant would be more likely if:

- 1) Load growth is higher;
- 2) There is no supplies of gas from PNG; and
- 3) There is no carbon tax implemented (it has been assumed that, in the case of the carbon tax, the incentive would be on the use of newer technology (and wet cooling) to achieve a better heat rate and hence greenhouse savings - these are modelled as the 3 "greenfields" projects, which would need to be constructed close to water supplies).





Potential Project # (This is a potential New Plant)

**4** Millmerran 4 (450 COAL) located in the **South-Western Queensland** node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **5.93% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX													0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX													0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX													0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX										YES			3.07%	
Scenario 34	H50	QNI	NO PNG	TAX													0.51%	
Scenario 35	H50	QNI	PNG	NO TAX										YES			0.77%	
Scenario 36	H50	QNI	PNG	TAX													0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX										YES			1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX										YES			0.45%	
Scenario 40	H50	QNI++	PNG	TAX													0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>6%</b>	<b>0%</b>	<b>0%</b>									
<b>Cumulative Probability</b>						<b>0%</b>	<b>6%</b>	<b>6%</b>	<b>6%</b>									

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	2	10%
QNI++	20	2	10%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	2	10%
PNG	20	2	10%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	4	20%
TAX	20	0	0%

**Other Comments:** One possible development would be for the duplication of the 2-unit Millmerran plant using similar technology and design. Millmerran 4 could possibly be the second of two new units. As shown above, this would have a significantly lower probability of development than the 3rd unit, as it would most likely only be required in extreme load growth case.



Potential Project # (This is a potential New Plant)

**5** Tarong C 1 (450 COAL) located in the Tarong node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **66.24% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX												YES	16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX												YES	3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX												YES	9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX												YES	2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX												YES	10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX												YES	1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX												YES	5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX												YES	1.1%	
Scenario 24	M10	QNI++	PNG	TAX													0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX												YES	5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX												YES	1.11%	
Scenario 28	M50++	QNI	PNG	TAX													0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX												YES	2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX												YES	0.61%	
Scenario 32	M50++	QNI++	PNG	TAX													0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX												YES	3.07%	
Scenario 34	H50	QNI	NO PNG	TAX													0.51%	
Scenario 35	H50	QNI	PNG	NO TAX												YES	0.77%	
Scenario 36	H50	QNI	PNG	TAX													0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX												YES	1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX												YES	0.45%	
Scenario 40	H50	QNI++	PNG	TAX													0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>66%</b>												
<b>Cumulative Probability</b>					<b>0%</b>	<b>66%</b>												

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	8	40%
QNI++	20	8	40%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	8	40%
PNG	20	8	40%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	16	80%
TAX	20	0	0%

**Other Comments:** In this study it has been assessed that the Tarong C1 development would only proceed after the development of Kogan 2 and Millmerran 3. Whilst this may be the most economically rational market outcome (due to the lower costs of the other developments), it is not necessarily the way the market will evolve. The past 10 years have demonstrated well how other non-economic factors also have a large impact on the nature and timing of asset developments.



Potential Project # (This is a potential New Plant)

**6** Tarong C 2 (450 COAL) located in the Tarong node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **0% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:** In this analysis, it has not been seen as necessary for the Tarong C2 plant to proceed. However, it should be noted that Tarong Energy might still opt to proceed with 2-unit expansion.



Potential Project # (This is a potential New Plant)

**7** Callide D 1 (450 COAL) located in the Central-Western Queensland node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **15.4% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX													0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX					YES								5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX					YES								0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX					YES								1.11%	
Scenario 28	M50++	QNI	PNG	TAX					YES								0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX					YES								2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX					YES								0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX					YES								0.61%	
Scenario 32	M50++	QNI++	PNG	TAX					YES								0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX											YES		3.07%	
Scenario 34	H50	QNI	NO PNG	TAX											YES		0.51%	
Scenario 35	H50	QNI	PNG	NO TAX											YES		0.77%	
Scenario 36	H50	QNI	PNG	TAX											YES		0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX											YES		1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX											YES		0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX											YES		0.45%	
Scenario 40	H50	QNI++	PNG	TAX											YES		0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>9%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>6%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	<b>15%</b>	<b>15%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	4	20%
QNI++	20	4	20%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	4	20%
PNG	20	4	20%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	8	40%
TAX	20	0	0%

**Other Comments:**

An expansion at the Callide site is seen as most likely if:

- 1) Load growth is higher across the state, or focused on the Central Queensland area; and
- 2) There is no carbon tax implemented (as this would favour newer technology plant).

This project is seen as impartial to expansion of QNI and to the success or otherwise of PNG.





Potential Project # (This is a potential New Plant)

**9** Stanwell B 1 (370 COAL) located in the Central-Western Queensland node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **10.81% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX													0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX							YES						5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX							YES						1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX							YES						2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX							YES						0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX													0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX													0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX													0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>11%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>11%</b>	<b>11%</b>	<b>11%</b>	<b>11%</b>	<b>11%</b>	<b>11%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	8	100%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	4	20%
QNI++	20	4	20%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	4	20%
PNG	20	4	20%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	4	20%
TAX	20	4	20%

Other Comments: With Stanwell Corporation, Macarthur Coal are examining the possibility of developing a coke plant in the Stanwell Energy Park. A by-product of this process (if it is developed) would be a power station generating approximately 370MW.

Key points about this project with reference to this scenario analysis:  
 1) As this project (to a greater degree than others) is dependent on considerations in other commodity markets, and other technology issues, it faces more obstacles to be overcome if it is to proceed. As a result, the project is only given a LOW likelihood of proceeding.  
 2) It has been assumed to proceed, however, in all M50++ cases as part of the greater development of the central Queensland area that is assumed to proceed under these scenarios.  
 3) It has also been assumed to proceed in certain other TAX scenarios as it has been assumed that the project would have greenhouse advantages over other plants because of the source of the fuel for the station.





Potential Project # (This is a potential New Plant)

**11** NEW Coal in CWQ 1 (750 COAL) located in the Central-Western Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **9.23% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX										YES			2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX										YES			0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX										YES			1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX										YES			0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX										YES			1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX										YES			0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX												YES	0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX										YES			0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX						YES							0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX								YES					0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX								YES					0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX										YES			0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX										YES			0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX										YES			0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX										YES			0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>	<b>7%</b>	<b>0%</b>	<b>1%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>8%</b>	<b>8%</b>	<b>9%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	8	40%
QNI++	20	8	40%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	8	40%
PNG	20	8	40%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	16	80%

**Other Comments:** These projects have been assumed to utilise newer technology than has been deployed on any station in Australia, hence offering greenhouse benefits in the TAX (and NO-PNG) scenarios. The location of the project is uncertain at this stage, but would need to be located close to available supplies of water for better efficiencies. The co-location on an existing power station site would also cost advantages over a greenfield site.



Potential Project # (This is a potential New Plant)

**12** NEW Coal in NQ 1 (500 COAL) located in the Ross node

Initially this project was rated a Low likelihood of proceeding, which was deemed to correspond to a 10% probability of proceeding

At the completion of the scenario analysis project, the FINAL Project Probability for this project was calculated (across all the scenarios that were developed) to be 0% probability of proceeding

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
<b>Cumulative Probability</b>						0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:**

These projects have been assumed to utilise newer technology than has been deployed on any station in Australia, hence offering greenhouse benefits in the TAX (and NO-PNG) scenarios.

The location of the project is uncertain at this stage, but would need to be located close to available supplies of water for better efficiencies. The co-location on an existing power station site would also offer cost advantages over a greenfields site.

For North Queensland, Pentlands is a potential location that is promoted by some (the Ross node), though an alternative might be in the Collinsville area (the NQ node). In creating these 40 scenarios, it has been deemed that this project will not proceed - though it is acknowledged that it may proceed under other circumstances.



Potential Project # (This is a potential New Plant)

**13** Swanbank F 1 (400 CCGT) located in the **Moreton North** node

Initially this project was rated a **Very High** likelihood of proceeding, which was deemed to correspond to a **80% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX									YES				12.14%	
Scenario 2	L50	QNI	NO PNG	TAX								YES					1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX									YES				5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX								YES					0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX									YES				16.74%	
Scenario 10	M50	QNI	NO PNG	TAX								YES					2.24%	
Scenario 11	M50	QNI	PNG	NO TAX							YES						3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX									YES				9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX								YES					1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX							YES						2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX									YES				10.27%	
Scenario 18	M10	QNI	NO PNG	TAX								YES					1.18%	
Scenario 19	M10	QNI	PNG	NO TAX							YES						1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX								YES					5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX								YES					0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX							YES						1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX									YES				5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX								YES					0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX							YES						1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX									YES				2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX								YES					0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX							YES						0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX							YES						3.07%	
Scenario 34	H50	QNI	NO PNG	TAX								YES					0.51%	
Scenario 35	H50	QNI	PNG	NO TAX							YES						0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX									YES				1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX								YES					0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX							YES						0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>21%</b>	<b>16%</b>	<b>63%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>21%</b>	<b>37%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** Commentary about Swanbank F has been included in the main body of the report.



Potential Project # (This is a potential New Plant)

**14** Esk Valley 1 (400 CCGT) located in the **Moreton North** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **32.44% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX								YES					1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX								YES					0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX								YES					2.24%	
Scenario 11	M50	QNI	PNG	NO TAX							YES						3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX								YES					1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX							YES						2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX								YES					1.18%	
Scenario 19	M10	QNI	PNG	NO TAX							YES						1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX								YES					0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX							YES						1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX								YES					0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX							YES						1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX								YES					0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX							YES						0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX										YES			3.07%	
Scenario 34	H50	QNI	NO PNG	TAX								YES					0.51%	
Scenario 35	H50	QNI	PNG	NO TAX							YES						0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX							YES						1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX								YES					0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX							YES						0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>20%</b>	<b>10%</b>	<b>0%</b>	<b>3%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>20%</b>	<b>29%</b>	<b>29%</b>	<b>32%</b>	<b>32%</b>	<b>32%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	6	75%
M50	8	6	75%
M10	8	6	75%
M50++	8	6	75%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	16	80%
QNI++	20	16	80%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	12	60%
PNG	20	20	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	12	60%
TAX	20	20	100%

**Other Comments:** Despite being included in most scenarios, by number (with its chances supported by either PNG or TAX regimes), the project still only has a moderate chance of succeeding.







Potential Project # (This is a potential New Plant)

**17** Townsville South 1 (400 CCGT) located in the Ross node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **23.36% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX							YES						3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX							YES						2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX						YES							1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX						YES							1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX							YES						1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX							YES						0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX							YES						3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX							YES						0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX							YES						1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX							YES						0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						0%	0%	0%	0%	3%	20%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>						0%	0%	0%	0%	3%	23%	23%	23%	23%	23%	23%		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	12	60%
QNI++	20	12	60%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	4	20%
PNG	20	20	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	12	60%
TAX	20	12	60%

**Other Comments:** As outlined in the report, Townsville South is treated as a notional CCGT development in Townsville, with Enertrade's proposed location being one of several possible locations.



Potential Project # (This is a potential New Plant)

**18** Gladstone B 1 (400 CCGT) located in the Gladstone node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **27.73% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

Scenario	Year	QNI	NO PNG	NO TAX	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX												12.14%		
Scenario 2	L50	QNI	NO PNG	TAX							YES					1.67%		
Scenario 3	L50	QNI	PNG	NO TAX							YES					2.6%		
Scenario 4	L50	QNI	PNG	TAX							YES					0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX												5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX							YES					0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX							YES					0.87%		
Scenario 8	L50	QNI++	PNG	TAX							YES					0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX												16.74%		
Scenario 10	M50	QNI	NO PNG	TAX							YES					2.24%		
Scenario 11	M50	QNI	PNG	NO TAX							YES					3.88%		
Scenario 12	M50	QNI	PNG	TAX							YES					0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX												9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX							YES					1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX							YES					2.15%		
Scenario 16	M50	QNI++	PNG	TAX							YES					0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX												10.27%		
Scenario 18	M10	QNI	NO PNG	TAX							YES					1.18%		
Scenario 19	M10	QNI	PNG	NO TAX							YES					1.88%		
Scenario 20	M10	QNI	PNG	TAX							YES					0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX												5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX							YES					0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX							YES					1.1%		
Scenario 24	M10	QNI++	PNG	TAX							YES					0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX												5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX				YES								0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX							YES					1.11%		
Scenario 28	M50++	QNI	PNG	TAX				YES								0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX												2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX				YES								0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX							YES					0.61%		
Scenario 32	M50++	QNI++	PNG	TAX				YES								0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX												3.07%		
Scenario 34	H50	QNI	NO PNG	TAX							YES					0.51%		
Scenario 35	H50	QNI	PNG	NO TAX							YES					0.77%		
Scenario 36	H50	QNI	PNG	TAX							YES					0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX												1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX							YES					0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX							YES					0.45%		
Scenario 40	H50	QNI++	PNG	TAX							YES					0.08%		
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>0%</b>	<b>26%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>			
<b>Cumulative Probability</b>					<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	<b>28%</b>	<b>28%</b>	<b>28%</b>	<b>28%</b>	<b>28%</b>			

Scenario	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	6	75%
M50	8	6	75%
M10	8	6	75%
M50++	8	6	75%
H50	8	6	75%

Scenario	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	15	75%
QNI++	20	15	75%

Scenario	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	20	100%

Scenario	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	10	50%
TAX	20	20	100%

**Other Comments:** It is seen that this project would proceed in most cases that are not "business as usual" - i.e. any scenarios incorporating PNG and/or TAX.







Potential Project # (This is a potential New Plant)

**21** Gladstone B 4 (400 CCGT) located in the Gladstone node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **0.17% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX								YES					0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	1	13%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	1	5%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	1	5%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	1	5%

Other Comments:



Potential Project # (This is a potential New Plant)

**22** Braemar A 1 (150 OCGT) located in the South-Western Queensland node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX		YES										12.14%	
Scenario 2	L50	QNI	NO PNG	TAX		YES										1.67%	
Scenario 3	L50	QNI	PNG	NO TAX		YES										2.6%	
Scenario 4	L50	QNI	PNG	TAX		YES										0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX		YES										5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX		YES										0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX		YES										0.87%	
Scenario 8	L50	QNI++	PNG	TAX		YES										0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX		YES										16.74%	
Scenario 10	M50	QNI	NO PNG	TAX		YES										2.24%	
Scenario 11	M50	QNI	PNG	NO TAX		YES										3.88%	
Scenario 12	M50	QNI	PNG	TAX		YES										0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX		YES										9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX		YES										1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX		YES										2.15%	
Scenario 16	M50	QNI++	PNG	TAX		YES										0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX		YES										10.27%	
Scenario 18	M10	QNI	NO PNG	TAX		YES										1.18%	
Scenario 19	M10	QNI	PNG	NO TAX		YES										1.88%	
Scenario 20	M10	QNI	PNG	TAX		YES										0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX		YES										5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX		YES										0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX		YES										1.1%	
Scenario 24	M10	QNI++	PNG	TAX		YES										0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX		YES										5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX		YES										0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX		YES										1.11%	
Scenario 28	M50++	QNI	PNG	TAX		YES										0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX		YES										2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX		YES										0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX		YES										0.61%	
Scenario 32	M50++	QNI++	PNG	TAX		YES										0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX		YES										3.07%	
Scenario 34	H50	QNI	NO PNG	TAX		YES										0.51%	
Scenario 35	H50	QNI	PNG	NO TAX		YES										0.77%	
Scenario 36	H50	QNI	PNG	TAX		YES										0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX		YES										1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX		YES										0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX		YES										0.45%	
Scenario 40	H50	QNI++	PNG	TAX		YES										0.08%	
<b>Probability of Proceeding in this Year:</b>					0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>					0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** Under construction



Potential Project # (This is a potential New Plant)

**23** Braemar A 2 (150 OCGT) located in the South-Western Queensland node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX		YES										12.14%		
Scenario 2	L50	QNI	NO PNG	TAX		YES										1.67%		
Scenario 3	L50	QNI	PNG	NO TAX		YES										2.6%		
Scenario 4	L50	QNI	PNG	TAX		YES										0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX		YES										5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX		YES										0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX		YES										0.87%		
Scenario 8	L50	QNI++	PNG	TAX		YES										0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX		YES										16.74%		
Scenario 10	M50	QNI	NO PNG	TAX		YES										2.24%		
Scenario 11	M50	QNI	PNG	NO TAX		YES										3.88%		
Scenario 12	M50	QNI	PNG	TAX		YES										0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX		YES										9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX		YES										1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX		YES										2.15%		
Scenario 16	M50	QNI++	PNG	TAX		YES										0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX		YES										10.27%		
Scenario 18	M10	QNI	NO PNG	TAX		YES										1.18%		
Scenario 19	M10	QNI	PNG	NO TAX		YES										1.88%		
Scenario 20	M10	QNI	PNG	TAX		YES										0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX		YES										5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX		YES										0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX		YES										1.1%		
Scenario 24	M10	QNI++	PNG	TAX		YES										0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX		YES										5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX		YES										0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX		YES										1.11%		
Scenario 28	M50++	QNI	PNG	TAX		YES										0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX		YES										2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX		YES										0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX		YES										0.61%		
Scenario 32	M50++	QNI++	PNG	TAX		YES										0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX		YES										3.07%		
Scenario 34	H50	QNI	NO PNG	TAX		YES										0.51%		
Scenario 35	H50	QNI	PNG	NO TAX		YES										0.77%		
Scenario 36	H50	QNI	PNG	TAX		YES										0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX		YES										1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX		YES										0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX		YES										0.45%		
Scenario 40	H50	QNI++	PNG	TAX		YES										0.08%		
<b>Probability of Proceeding in this Year:</b>					0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
<b>Cumulative Probability</b>					0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** Under construction



Potential Project # (This is a potential New Plant)

**24** Braemar A 3 (150 OCGT) located in the South-Western Queensland node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX		YES										12.14%		
Scenario 2	L50	QNI	NO PNG	TAX		YES										1.67%		
Scenario 3	L50	QNI	PNG	NO TAX		YES										2.6%		
Scenario 4	L50	QNI	PNG	TAX		YES										0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX		YES										5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX		YES										0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX		YES										0.87%		
Scenario 8	L50	QNI++	PNG	TAX		YES										0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX		YES										16.74%		
Scenario 10	M50	QNI	NO PNG	TAX		YES										2.24%		
Scenario 11	M50	QNI	PNG	NO TAX		YES										3.88%		
Scenario 12	M50	QNI	PNG	TAX		YES										0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX		YES										9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX		YES										1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX		YES										2.15%		
Scenario 16	M50	QNI++	PNG	TAX		YES										0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX		YES										10.27%		
Scenario 18	M10	QNI	NO PNG	TAX		YES										1.18%		
Scenario 19	M10	QNI	PNG	NO TAX		YES										1.88%		
Scenario 20	M10	QNI	PNG	TAX		YES										0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX		YES										5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX		YES										0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX		YES										1.1%		
Scenario 24	M10	QNI++	PNG	TAX		YES										0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX		YES										5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX		YES										0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX		YES										1.11%		
Scenario 28	M50++	QNI	PNG	TAX		YES										0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX		YES										2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX		YES										0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX		YES										0.61%		
Scenario 32	M50++	QNI++	PNG	TAX		YES										0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX		YES										3.07%		
Scenario 34	H50	QNI	NO PNG	TAX		YES										0.51%		
Scenario 35	H50	QNI	PNG	NO TAX		YES										0.77%		
Scenario 36	H50	QNI	PNG	TAX		YES										0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX		YES										1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX		YES										0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX		YES										0.45%		
Scenario 40	H50	QNI++	PNG	TAX		YES										0.08%		
<b>Probability of Proceeding in this Year:</b>					0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
<b>Cumulative Probability</b>					0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** Under construction



Potential Project # (This is a potential New Plant)

**25** Braemar B 1 (480 CCGT) located in the South-Western Queensland node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **76.46% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX												YES	12.14%		
Scenario 2	L50	QNI	NO PNG	TAX														1.67%	
Scenario 3	L50	QNI	PNG	NO TAX														2.6%	
Scenario 4	L50	QNI	PNG	TAX														0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													YES	5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX														0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX														0.87%	
Scenario 8	L50	QNI++	PNG	TAX														0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX							YES							16.74%	
Scenario 10	M50	QNI	NO PNG	TAX														2.24%	
Scenario 11	M50	QNI	PNG	NO TAX														3.88%	
Scenario 12	M50	QNI	PNG	TAX														0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX							YES							9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX														1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX														2.15%	
Scenario 16	M50	QNI++	PNG	TAX														0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX							YES							10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES							1.18%	
Scenario 19	M10	QNI	PNG	NO TAX														1.88%	
Scenario 20	M10	QNI	PNG	TAX														0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX							YES							5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES							0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX														1.1%	
Scenario 24	M10	QNI++	PNG	TAX														0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX							YES							5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX														0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX														1.11%	
Scenario 28	M50++	QNI	PNG	TAX														0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX							YES							2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX														0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX														0.61%	
Scenario 32	M50++	QNI++	PNG	TAX														0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX							YES							3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES							0.51%	
Scenario 35	H50	QNI	PNG	NO TAX							YES							0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES							0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX							YES							1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES							0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX							YES							0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES							0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>58%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>18%</b>			
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>76%</b>			

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	2	25%
M50	8	2	25%
M10	8	4	50%
M50++	8	2	25%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	9	45%
QNI++	20	9	45%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	14	70%
PNG	20	4	20%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	12	60%
TAX	20	6	30%

**Other Comments:** As shown in this study, the Braemar CCGT would be favoured if PNG were not to proceed, and if load growth were to be extreme.





Potential Project # (This is a potential New Plant)

**27** Chinchilla 2 (57 CCGT) located in the **South-Western Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **17.24% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX							YES						3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX							YES						0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX							YES						1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX							YES						0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>17%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	2	25%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	12	60%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	11	55%
PNG	20	11	55%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	4	20%
TAX	20	16	80%

Other Comments:



Potential Project # (This is a potential New Plant)

**28** Spring Gully 1 (500 CCGT) located in the **South-Western Queensland** node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **84.34% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX								YES					12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX								YES					5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX										YES			0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX			YES										16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX			YES										9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX								YES					0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX			YES										10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX			YES										5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX								YES					0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX			YES										5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX													0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX			YES										2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX								YES					0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX			YES										3.07%	
Scenario 34	H50	QNI	NO PNG	TAX			YES										0.51%	
Scenario 35	H50	QNI	PNG	NO TAX			YES										0.77%	
Scenario 36	H50	QNI	PNG	TAX			YES										0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX			YES										1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX			YES										0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX			YES										0.45%	
Scenario 40	H50	QNI++	PNG	TAX			YES										0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>56%</b>	<b>0%</b>	<b>0%</b>	<b>9%</b>	<b>19%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>56%</b>	<b>56%</b>	<b>56%</b>	<b>66%</b>	<b>84%</b>	<b>84%</b>	<b>84%</b>	<b>84%</b>	<b>84%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	5	63%
M50	8	5	63%
M10	8	5	63%
M50++	8	5	63%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	12	60%
QNI++	20	16	80%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	8	40%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	12	60%
TAX	20	16	80%

**Other Comments:** It is seen that Origin Energy will adopt a pragmatic approach to this development, and will only proceed if less expensive options are not available. Hence, the timing of the plant may also vary significantly.







Potential Project # (This is a potential New Plant)

**31** Gibson Island B 1 (500 CCGT) located in the **Moreton South** node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **0.2% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX													1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX													2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX													1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX													0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX													0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX													0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX													0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX													0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX											YES		0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX											YES		0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>												
<b>Cumulative Probability</b>						<b>0%</b>												

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	2	25%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	1	5%
QNI++	20	1	5%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	2	10%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	2	10%

**Other Comments:** This large project was initially proposed by Sth Energy in the late 1990's (the Australian business of which has since been acquired by Marubeni). No development plans for a project of this size are known to be underway. However, as shown in this scenario analysis, such a project might proceed in the case of a high rate of growth in load in the (particularly if a carbon-constrained environment were to be introduced). The low probability implied above does not incorporate the possibility that a station notionally labelled as "Esk Valley CCGT" might be developed on the site by Tarong Energy or others (perhaps in collaboration with Marubeni and/or Queensland Gas Corporation).



Potential Project # (This is a potential New Plant)

**32** Oakey CSM 1 (20 CCGT) located in the South-Western Queensland node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX				YES								12.14%	
Scenario 2	L50	QNI	NO PNG	TAX				YES								1.67%	
Scenario 3	L50	QNI	PNG	NO TAX				YES								2.6%	
Scenario 4	L50	QNI	PNG	TAX				YES								0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX				YES								5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX				YES								0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX				YES								0.87%	
Scenario 8	L50	QNI++	PNG	TAX				YES								0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX				YES								16.74%	
Scenario 10	M50	QNI	NO PNG	TAX				YES								2.24%	
Scenario 11	M50	QNI	PNG	NO TAX				YES								3.88%	
Scenario 12	M50	QNI	PNG	TAX				YES								0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX				YES								9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX				YES								1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX				YES								2.15%	
Scenario 16	M50	QNI++	PNG	TAX				YES								0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX				YES								10.27%	
Scenario 18	M10	QNI	NO PNG	TAX				YES								1.18%	
Scenario 19	M10	QNI	PNG	NO TAX				YES								1.88%	
Scenario 20	M10	QNI	PNG	TAX				YES								0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX				YES								5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX				YES								0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX				YES								1.1%	
Scenario 24	M10	QNI++	PNG	TAX				YES								0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX				YES								5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX				YES								0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX				YES								1.11%	
Scenario 28	M50++	QNI	PNG	TAX				YES								0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX				YES								2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX				YES								0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX				YES								0.61%	
Scenario 32	M50++	QNI++	PNG	TAX				YES								0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX				YES								3.07%	
Scenario 34	H50	QNI	NO PNG	TAX				YES								0.51%	
Scenario 35	H50	QNI	PNG	NO TAX				YES								0.77%	
Scenario 36	H50	QNI	PNG	TAX				YES								0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX				YES								1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX				YES								0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX				YES								0.45%	
Scenario 40	H50	QNI++	PNG	TAX				YES								0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>								
<b>Cumulative Probability</b>					<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>									

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** These small CSM projects will ultimately proceed based on criteria that are largely independent of those addressed in the four theme sets used in the scenario (e.g. availability of GEC revenue, and technical issues). Their small size also means that they will not have a significant impact on the supply and demand balance in Queensland - whether or not they are developed.  
Hence, for the purposes of the scenario analysis project, these projects have been assumed to proceed as is currently planned.



Potential Project # (This is a potential New Plant)

**33** Dalby CSM 1 (12 CCGT) located in the South-Western Queensland node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX				YES								12.14%	
Scenario 2	L50	QNI	NO PNG	TAX				YES								1.67%	
Scenario 3	L50	QNI	PNG	NO TAX				YES								2.6%	
Scenario 4	L50	QNI	PNG	TAX				YES								0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX				YES								5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX				YES								0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX				YES								0.87%	
Scenario 8	L50	QNI++	PNG	TAX				YES								0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX				YES								16.74%	
Scenario 10	M50	QNI	NO PNG	TAX				YES								2.24%	
Scenario 11	M50	QNI	PNG	NO TAX				YES								3.88%	
Scenario 12	M50	QNI	PNG	TAX				YES								0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX				YES								9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX				YES								1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX				YES								2.15%	
Scenario 16	M50	QNI++	PNG	TAX				YES								0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX				YES								10.27%	
Scenario 18	M10	QNI	NO PNG	TAX				YES								1.18%	
Scenario 19	M10	QNI	PNG	NO TAX				YES								1.88%	
Scenario 20	M10	QNI	PNG	TAX				YES								0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX				YES								5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX				YES								0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX				YES								1.1%	
Scenario 24	M10	QNI++	PNG	TAX				YES								0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX				YES								5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX				YES								0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX				YES								1.11%	
Scenario 28	M50++	QNI	PNG	TAX				YES								0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX				YES								2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX				YES								0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX				YES								0.61%	
Scenario 32	M50++	QNI++	PNG	TAX				YES								0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX				YES								3.07%	
Scenario 34	H50	QNI	NO PNG	TAX				YES								0.51%	
Scenario 35	H50	QNI	PNG	NO TAX				YES								0.77%	
Scenario 36	H50	QNI	PNG	TAX				YES								0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX				YES								1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX				YES								0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX				YES								0.45%	
Scenario 40	H50	QNI++	PNG	TAX				YES								0.08%	
<b>Probability of Proceeding in this Year:</b>					0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>					0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	100%		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** These small CSM projects will ultimately proceed based on criteria that are largely independent of those addressed in the four theme sets used in the scenario (e.g. availability of GEC revenue, and technical issues). Their small size also means that they will not have a significant impact on the supply and demand balance in Queensland - whether or not they are developed.

Hence, for the purposes of the scenario analysis project, these projects have been assumed to proceed as is currently planned.



Potential Project # (This is a potential New Plant)

**34** Mungi CSM 1 (43 OCGT) located in the **North Queensland** node

Initially this project was rated a **High** likelihood of proceeding, which was deemed to correspond to a **60% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX					YES							12.14%	
Scenario 2	L50	QNI	NO PNG	TAX					YES							1.67%	
Scenario 3	L50	QNI	PNG	NO TAX					YES							2.6%	
Scenario 4	L50	QNI	PNG	TAX					YES							0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX					YES							5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX					YES							0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX					YES							0.87%	
Scenario 8	L50	QNI++	PNG	TAX					YES							0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX					YES							16.74%	
Scenario 10	M50	QNI	NO PNG	TAX					YES							2.24%	
Scenario 11	M50	QNI	PNG	NO TAX					YES							3.88%	
Scenario 12	M50	QNI	PNG	TAX					YES							0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX					YES							9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX					YES							1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX					YES							2.15%	
Scenario 16	M50	QNI++	PNG	TAX					YES							0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX					YES							10.27%	
Scenario 18	M10	QNI	NO PNG	TAX					YES							1.18%	
Scenario 19	M10	QNI	PNG	NO TAX					YES							1.88%	
Scenario 20	M10	QNI	PNG	TAX					YES							0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX					YES							5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX					YES							0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX					YES							1.1%	
Scenario 24	M10	QNI++	PNG	TAX					YES							0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX					YES							5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX					YES							0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX					YES							1.11%	
Scenario 28	M50++	QNI	PNG	TAX					YES							0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX					YES							2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX					YES							0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX					YES							0.61%	
Scenario 32	M50++	QNI++	PNG	TAX					YES							0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX					YES							3.07%	
Scenario 34	H50	QNI	NO PNG	TAX					YES							0.51%	
Scenario 35	H50	QNI	PNG	NO TAX					YES							0.77%	
Scenario 36	H50	QNI	PNG	TAX					YES							0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX					YES							1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX					YES							0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX					YES							0.45%	
Scenario 40	H50	QNI++	PNG	TAX					YES							0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>					<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>								

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** These small CSM projects will ultimately proceed based on criteria that are largely independent of those addressed in the four theme sets used in the scenario (e.g. availability of GEC revenue, and technical issues). Their small size also means that they will not have a significant impact on the supply and demand balance in Queensland - whether or not they are developed.  
Hence, for the purposes of the scenario analysis project, these projects have been assumed to proceed as is currently planned.



Potential Project # (This is a potential New Plant)

**35** North Goonyella CSM 1 (30 CCGT) located in the North Queensland node

Initially this project was rated a Moderate likelihood of proceeding, which was deemed to correspond to a 30% probability of proceeding

At the completion of the scenario analysis project, the FINAL Project Probability for this project was calculated (across all the scenarios that were developed) to be 100% probability of proceeding

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX					YES							12.14%	
Scenario 2	L50	QNI	NO PNG	TAX					YES							1.67%	
Scenario 3	L50	QNI	PNG	NO TAX					YES							2.6%	
Scenario 4	L50	QNI	PNG	TAX					YES							0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX					YES							5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX					YES							0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX					YES							0.87%	
Scenario 8	L50	QNI++	PNG	TAX					YES							0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX					YES							16.74%	
Scenario 10	M50	QNI	NO PNG	TAX					YES							2.24%	
Scenario 11	M50	QNI	PNG	NO TAX					YES							3.88%	
Scenario 12	M50	QNI	PNG	TAX					YES							0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX					YES							9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX					YES							1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX					YES							2.15%	
Scenario 16	M50	QNI++	PNG	TAX					YES							0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX					YES							10.27%	
Scenario 18	M10	QNI	NO PNG	TAX					YES							1.18%	
Scenario 19	M10	QNI	PNG	NO TAX					YES							1.88%	
Scenario 20	M10	QNI	PNG	TAX					YES							0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX					YES							5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX					YES							0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX					YES							1.1%	
Scenario 24	M10	QNI++	PNG	TAX					YES							0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX					YES							5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX					YES							0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX					YES							1.11%	
Scenario 28	M50++	QNI	PNG	TAX					YES							0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX					YES							2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX					YES							0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX					YES							0.61%	
Scenario 32	M50++	QNI++	PNG	TAX					YES							0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX					YES							3.07%	
Scenario 34	H50	QNI	NO PNG	TAX					YES							0.51%	
Scenario 35	H50	QNI	PNG	NO TAX					YES							0.77%	
Scenario 36	H50	QNI	PNG	TAX					YES							0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX					YES							1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX					YES							0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX					YES							0.45%	
Scenario 40	H50	QNI++	PNG	TAX					YES							0.08%	
<b>Probability of Proceeding in this Year:</b>					0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>					0%	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** These small CSM projects will ultimately proceed based on criteria that are largely independent of those addressed in the four theme sets used in the scenario (e.g. availability of GEC revenue, and technical issues). Their small size also means that they will not have a significant impact on the supply and demand balance in Queensland - whether or not they are developed.  
Hence, for the purposes of the scenario analysis project, these projects have been assumed to proceed as is currently planned.



Potential Project # (This is a potential New Plant)

**36** German Creek CSM 1 (32 CCGT) located in the North Queensland node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX		YES										12.14%		
Scenario 2	L50	QNI	NO PNG	TAX		YES										1.67%		
Scenario 3	L50	QNI	PNG	NO TAX		YES										2.6%		
Scenario 4	L50	QNI	PNG	TAX		YES										0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX		YES										5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX		YES										0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX		YES										0.87%		
Scenario 8	L50	QNI++	PNG	TAX		YES										0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX		YES										16.74%		
Scenario 10	M50	QNI	NO PNG	TAX		YES										2.24%		
Scenario 11	M50	QNI	PNG	NO TAX		YES										3.88%		
Scenario 12	M50	QNI	PNG	TAX		YES										0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX		YES										9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX		YES										1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX		YES										2.15%		
Scenario 16	M50	QNI++	PNG	TAX		YES										0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX		YES										10.27%		
Scenario 18	M10	QNI	NO PNG	TAX		YES										1.18%		
Scenario 19	M10	QNI	PNG	NO TAX		YES										1.88%		
Scenario 20	M10	QNI	PNG	TAX		YES										0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX		YES										5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX		YES										0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX		YES										1.1%		
Scenario 24	M10	QNI++	PNG	TAX		YES										0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX		YES										5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX		YES										0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX		YES										1.11%		
Scenario 28	M50++	QNI	PNG	TAX		YES										0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX		YES										2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX		YES										0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX		YES										0.61%		
Scenario 32	M50++	QNI++	PNG	TAX		YES										0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX		YES										3.07%		
Scenario 34	H50	QNI	NO PNG	TAX		YES										0.51%		
Scenario 35	H50	QNI	PNG	NO TAX		YES										0.77%		
Scenario 36	H50	QNI	PNG	TAX		YES										0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX		YES										1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX		YES										0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX		YES										0.45%		
Scenario 40	H50	QNI++	PNG	TAX		YES										0.08%		
<b>Probability of Proceeding in this Year:</b>					0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
<b>Cumulative Probability</b>					0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** These small CSM projects will ultimately proceed based on criteria that are largely independent of those addressed in the four theme sets used in the scenario (e.g. availability of GEC revenue, and technical issues). Their small size also means that they will not have a significant impact on the supply and demand balance in Queensland - whether or not they are developed.  
Hence, for the purposes of the scenario analysis project, these projects have been assumed to proceed as is currently planned.



Potential Project # (This is a potential New Plant)

**37** Burdekin Hydro 1 (30 HYDRO) located in the **Ross** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **18.23% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX							YES						3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX							YES						0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX							YES						1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX							YES						0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>18%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>18%</b>	<b>18%</b>	<b>18%</b>	<b>18%</b>	<b>18%</b>	<b>18%</b>		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	12	60%
QNI++	20	12	60%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	12	60%
PNG	20	12	60%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	4	20%
TAX	20	20	100%

**Other Comments:** Earlier in 2005, Stanwell and SunWater announced that this project was not viable, but that it would be reassessed circumstances changed.  
This scenario analysis study has highlighted the possibility that the project could proceed under a carbon-constrained future, and in some other cases of high load growth (depending on the amount of capacity being developed).



Potential Project # (This is a potential New Plant)

**38** Mossman Mill 1 (38 BIOMASS) located in the Far North Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX				YES									1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX				YES									0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX				YES									0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX				YES									0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX				YES									2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX				YES									0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX				YES									1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX				YES									0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX				YES									1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX				YES									0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX				YES									0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX				YES									0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX				YES									0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX				YES									0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX				YES									0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX				YES									0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX				YES									0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX				YES									0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX				YES									0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX				YES									0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>								
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>									

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**39** Tablelands Mill 1 (18 BIOMASS) located in the Far North Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX				YES									1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX				YES									0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX				YES									0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX				YES									0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX				YES									2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX				YES									0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX				YES									1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX				YES									0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX				YES									1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX				YES									0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX				YES									0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX				YES									0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX				YES									0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX				YES									0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX				YES									0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX				YES									0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX				YES									0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX				YES									0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX				YES									0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX				YES									0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>								
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>									

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.





Potential Project # (This is a potential New Plant)

**41** Babinda Mill 1 (35 BIOMASS) located in the Far North Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX						YES							1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX						YES							0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX						YES							0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX						YES							0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX						YES							2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX						YES							0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX						YES							1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX						YES							0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX						YES							1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX						YES							0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX						YES							0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX						YES							0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX						YES							0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX						YES							0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX						YES							0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX						YES							0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX						YES							0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX						YES							0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX						YES							0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX						YES							0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>								

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**42** Mourliyan Mill 1 (35 BIOMASS) located in the Far North Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX						YES							1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX						YES							0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX						YES							0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX						YES							0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX						YES							2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX						YES							0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX						YES							1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX						YES							0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX						YES							1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX						YES							0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX						YES							0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX						YES							0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX						YES							0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX						YES							0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX						YES							0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX						YES							0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX						YES							0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX						YES							0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX						YES							0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX						YES							0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>								

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with reference to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**43** South Johnstone Mill 1 (42 BIOMASS) located in the Far North Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX						YES							1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX						YES							0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX						YES							0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX						YES							0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX						YES							2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX						YES							0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX						YES							1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX						YES							0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX						YES							1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX						YES							0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX						YES							0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX						YES							0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX						YES							0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX						YES							0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX						YES							0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX						YES							0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX						YES							0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX						YES							0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX						YES							0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX						YES							0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>								

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**44** Tully Mill 1 (64 BIOMASS) located in the Far North Queensland node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**45** Macknade Mill 1 (56 BIOMASS) located in the **Ross** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**46** Victoria Mill 1 (100 BIOMASS) located in the **Ross** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**47** Invicta Mill 1 (0 BIOMASS) located in the **Ross** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:** The plant was upgraded in the late 1990's.  
For the purposes of this scenario analysis study, it has been assumed that no further upgrades would be performed.





Potential Project # (This is a potential New Plant)

**49** Pioneer Mill 1 (63 BIOMASS) located in the **Ross** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX	YES											12.14%		
Scenario 2	L50	QNI	NO PNG	TAX	YES											1.67%		
Scenario 3	L50	QNI	PNG	NO TAX	YES											2.6%		
Scenario 4	L50	QNI	PNG	TAX	YES											0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX	YES											5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX	YES											0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX	YES											0.87%		
Scenario 8	L50	QNI++	PNG	TAX	YES											0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX	YES											16.74%		
Scenario 10	M50	QNI	NO PNG	TAX	YES											2.24%		
Scenario 11	M50	QNI	PNG	NO TAX	YES											3.88%		
Scenario 12	M50	QNI	PNG	TAX	YES											0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX	YES											9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX	YES											1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX	YES											2.15%		
Scenario 16	M50	QNI++	PNG	TAX	YES											0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX	YES											10.27%		
Scenario 18	M10	QNI	NO PNG	TAX	YES											1.18%		
Scenario 19	M10	QNI	PNG	NO TAX	YES											1.88%		
Scenario 20	M10	QNI	PNG	TAX	YES											0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX	YES											5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX	YES											0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX	YES											1.1%		
Scenario 24	M10	QNI++	PNG	TAX	YES											0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX	YES											5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX	YES											0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX	YES											1.11%		
Scenario 28	M50++	QNI	PNG	TAX	YES											0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX	YES											2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX	YES											0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX	YES											0.61%		
Scenario 32	M50++	QNI++	PNG	TAX	YES											0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX	YES											3.07%		
Scenario 34	H50	QNI	NO PNG	TAX	YES											0.51%		
Scenario 35	H50	QNI	PNG	NO TAX	YES											0.77%		
Scenario 36	H50	QNI	PNG	TAX	YES											0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX	YES											1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX	YES											0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX	YES											0.45%		
Scenario 40	H50	QNI++	PNG	TAX	YES											0.08%		
<b>Probability of Proceeding in this Year:</b>					<b>100%</b>	<b>0%</b>												
<b>Cumulative Probability</b>					<b>100%</b>													

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** Already developed by CSR







Potential Project # (This is a potential New Plant)

**52** Marian Mill 1 (77 BIOMASS) located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX									YES				1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX									YES				0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX									YES				0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX									YES				0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX									YES				2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX									YES				0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX									YES				1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX									YES				0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX									YES				1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX									YES				0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX									YES				0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX									YES				0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX									YES				0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX									YES				0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX									YES				0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX									YES				0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX									YES				0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX									YES				0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX									YES				0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX									YES				0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>									
<b>Cumulative Probability</b>					<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>									

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with reference to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.





Potential Project # (This is a potential New Plant)

**54** **Pleystowe Mill 1 (56 BIOMASS)** located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX									YES				1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX									YES				0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX									YES				0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX									YES				0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX									YES				2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX									YES				0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX									YES				1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX									YES				0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX									YES				1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX									YES				0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX									YES				0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX									YES				0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX									YES				0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX									YES				0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX									YES				0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX									YES				0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX									YES				0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX									YES				0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX									YES				0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX									YES				0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>									
<b>Cumulative Probability</b>					<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>									

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**55** Racecourse Mill 1 (56) located in the North Queensland node  
BIOMASS

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX										YES			1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX										YES			0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX										YES			0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX										YES			0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX										YES			2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX										YES			0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX										YES			1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX										YES			0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX										YES			1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX										YES			0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX										YES			0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX										YES			0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX										YES			0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX										YES			0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX										YES			0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX										YES			0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX										YES			0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX										YES			0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX										YES			0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX										YES			0.08%	
<b>Probability of Proceeding in this Year:</b>						0%	0%	0%	0%	0%	0%	0%	0%	12%	0%	0%		
<b>Cumulative Probability</b>						0%	0%	0%	0%	0%	0%	0%	0%	12%	12%	12%		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**56** Plane Creek Mill 1 (52 located in the North Queensland node BIOMASS)

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX										YES			1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX										YES			0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX										YES			0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX										YES			0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX										YES			2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX										YES			0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX										YES			1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX										YES			0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX										YES			1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX										YES			0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX										YES			0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX										YES			0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX										YES			0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX										YES			0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX										YES			0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX										YES			0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX										YES			0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX										YES			0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX										YES			0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX										YES			0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>									
<b>Cumulative Probability</b>						<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>									

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**57** Fairymead Mill 1 (45 BIOMASS) located in the **Wide bay** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX										YES			1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX										YES			0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX										YES			0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX										YES			0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX										YES			2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX										YES			0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX										YES			1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX										YES			0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX										YES			1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX										YES			0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX										YES			0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX										YES			0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX										YES			0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX										YES			0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX										YES			0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX										YES			0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX										YES			0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX										YES			0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX										YES			0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX										YES			0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>										
<b>Cumulative Probability</b>					<b>0%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>										

Scenario	Number of scenarios with this theme	Number of scenarios in which project proceeded	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

Scenario	Number of scenarios with this theme	Number of scenarios in which project proceeded	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

Scenario	Number of scenarios with this theme	Number of scenarios in which project proceeded	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

Scenario	Number of scenarios with this theme	Number of scenarios in which project proceeded	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**58** Millaquin Mill 1 (37 BIOMASS) located in the **Wide bay** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX											YES		1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX											YES		0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX											YES		0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX											YES		0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX											YES		2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX											YES		0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX											YES		1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX											YES		0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX											YES		1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX											YES		0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX											YES		0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX											YES		0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX											YES		0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX											YES		0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX											YES		0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX											YES		0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX											YES		0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX											YES		0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX											YES		0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX											YES		0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>12%</b>	<b>0%</b>											
<b>Cumulative Probability</b>					<b>0%</b>	<b>12%</b>	<b>12%</b>											

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**59** **Bingera Mill 1 (39 BIOMASS)** located in the **Wide bay** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX											YES		1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX											YES		0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX											YES		0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX											YES		0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX											YES		2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX											YES		0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX											YES		1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX											YES		0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX											YES		1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX											YES		0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX											YES		0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX											YES		0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX											YES		0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX											YES		0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX											YES		0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX											YES		0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX											YES		0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX											YES		0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX											YES		0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX											YES		0.08%	
<b>Probability of Proceeding in this Year:</b>					<b>0%</b>	<b>12%</b>	<b>0%</b>											
<b>Cumulative Probability</b>					<b>0%</b>	<b>12%</b>	<b>12%</b>											

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with reference to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**60** Isis Mill 1 (25 BIOMASS) located in the **Wide bay** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

					2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX		YES										12.14%	
Scenario 2	L50	QNI	NO PNG	TAX		YES										1.67%	
Scenario 3	L50	QNI	PNG	NO TAX		YES										2.6%	
Scenario 4	L50	QNI	PNG	TAX		YES										0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX		YES										5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX		YES										0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX		YES										0.87%	
Scenario 8	L50	QNI++	PNG	TAX		YES										0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX		YES										16.74%	
Scenario 10	M50	QNI	NO PNG	TAX		YES										2.24%	
Scenario 11	M50	QNI	PNG	NO TAX		YES										3.88%	
Scenario 12	M50	QNI	PNG	TAX		YES										0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX		YES										9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX		YES										1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX		YES										2.15%	
Scenario 16	M50	QNI++	PNG	TAX		YES										0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX		YES										10.27%	
Scenario 18	M10	QNI	NO PNG	TAX		YES										1.18%	
Scenario 19	M10	QNI	PNG	NO TAX		YES										1.88%	
Scenario 20	M10	QNI	PNG	TAX		YES										0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX		YES										5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX		YES										0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX		YES										1.1%	
Scenario 24	M10	QNI++	PNG	TAX		YES										0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX		YES										5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX		YES										0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX		YES										1.11%	
Scenario 28	M50++	QNI	PNG	TAX		YES										0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX		YES										2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX		YES										0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX		YES										0.61%	
Scenario 32	M50++	QNI++	PNG	TAX		YES										0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX		YES										3.07%	
Scenario 34	H50	QNI	NO PNG	TAX		YES										0.51%	
Scenario 35	H50	QNI	PNG	NO TAX		YES										0.77%	
Scenario 36	H50	QNI	PNG	TAX		YES										0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX		YES										1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX		YES										0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX		YES										0.45%	
Scenario 40	H50	QNI++	PNG	TAX		YES										0.08%	
<b>Probability of Proceeding in this Year:</b>					0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>					0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** Already committed and under construction by Ergon



Potential Project # (This is a potential New Plant)

**61** Maryborough Mill 1 (26 located in the Wide bay node BIOMASS)

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **12.3% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX											YES		1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX											YES		0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX											YES		0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX											YES		0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX											YES		2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX											YES		0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX											YES		1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX											YES		0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX											YES		1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX											YES		0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX											YES		0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX											YES		0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX											YES		0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX											YES		0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX											YES		0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX											YES		0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX											YES		0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX											YES		0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX											YES		0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX											YES		0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>12%</b>	<b>0%</b>											
<b>Cumulative Probability</b>						<b>0%</b>	<b>12%</b>	<b>12%</b>											

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	4	50%
M50	8	4	50%
M10	8	4	50%
M50++	8	4	50%
H50	8	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	10	50%
QNI++	20	10	50%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	10	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	20	100%

**Other Comments:**

For the purpose of the scenario analysis study, the potential size of these new projects has been assumed on the basis of the comparable sizing of the committed projects (Pioneer, Isis and Rocky Point) with references to the annual production of bagasse at each site (annual average over the period 1991 to 2001). Hence, the sizing of the plant should be a reasonably accurate guide to the amount of capacity that could be developed, even though each mill owner might adopt a different approach.

The timing of the plants (where firm development plans have not been announced) has been staggered as a more likely case, though the timing of each project may vary within this range.



Potential Project # (This is a potential New Plant)

**62** Rocky Point Mill 1 (0 BIOMASS) located in the **Moreton South** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:** Already implemented



Potential Project # (This is a potential New Plant)

**63** Other Plant 1 (400 CCGT) located in the **North Queensland** node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **0% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:** Dummy projects included in the scenario analysis spreadsheet for its proper working



Potential Project # (This is a potential New Plant)

**64** Other Plant 2 (400 CCGT) located in the **Moreton South** node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **0% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:** Dummy projects included in the scenario analysis spreadsheet for its proper working



Potential Project # (This is a potential Plant Conversions)

**65** Mt Stuart Conversion 1&2 (150 CCGT) located in the Ross node

Initially this project was rated a Moderate likelihood of proceeding, which was deemed to correspond to a 30% probability of proceeding

At the completion of the scenario analysis project, the FINAL Project Probability for this project was calculated (across all the scenarios that were developed) to be 29.38% probability of proceeding

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX													2.6%	
Scenario 4	L50	QNI	PNG	TAX													0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%	
Scenario 8	L50	QNI++	PNG	TAX													0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX													0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX													0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX							YES						10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX							YES						1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX							YES						5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX							YES						1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX													0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX													0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX													0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX													0.08%	
<b>Probability of Proceeding in this Year:</b>						0%	0%	0%	0%	0%	29%	0%	0%	0%	0%	0%		
<b>Cumulative Probability</b>						0%	0%	0%	0%	0%	29%	29%	29%	29%	29%	29%		

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
L50	8	2	25%
M50	8	2	25%
M10	8	8	100%
M50++	8	2	25%
H50	8	2	25%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	8	40%
QNI++	20	8	40%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO PNG	20	12	60%
PNG	20	4	20%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	4	20%
TAX	20	12	60%

**Other Comments:**

In the scenario analysis, it has been assumed that the Mt Stuart conversion would occur in some scenarios (particularly the M10 scenarios) in preference to the larger Townsville South development which even though it would deliver a more efficient plant as a result, would require greater capital investment up-front, and so would require a higher capacity factor to generate a similar return.

This assumption presupposes that it is in the interests of both Origin and Enertrade to complete the upgrade.

The development would also be biased towards a scenario without major new gas supplies from PNG but with a carbon-constrained future (in which case the conversion of Mt Stuart would suit the incremental expansion of CSM supplies from Central Queensland, in a similar way to how Yabulu was converted).





Potential Project # (This is a potential Plant Retirements)

**67** Swanbank B 1 (-125 COAL) located in the **Moreton South** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX								YES					12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX								YES					2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX								YES					5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX								YES					0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX								YES					16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX								YES					3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX								YES					9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX								YES					2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX								YES					10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX								YES					1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX								YES					5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX								YES					1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX								YES					5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX								YES					1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX								YES					2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX								YES					0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX								YES					3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX								YES					0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX								YES					1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX								YES					0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>88%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** It has been assumed that the Swanbank B plant would be closed as currently planned (in 2011-12), with closure being effected a year earlier in the cases in which the carbon tax is assumed to commence from 2010-11.



Potential Project # (This is a potential Plant Retirements)

**68** Swanbank B 2 (-125 COAL) located in the **Moreton South** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX								YES					12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX								YES					2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX								YES					5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX								YES					0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX								YES					16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX								YES					3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX								YES					9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX								YES					2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX								YES					10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX								YES					1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX								YES					5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX								YES					1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX								YES					5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX								YES					1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX								YES					2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX								YES					0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX								YES					3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX								YES					0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX								YES					1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX								YES					0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>88%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** It has been assumed that the Swanbank B plant would be closed as currently planned (in 2011-12), with closure being effected a year earlier in the cases in which the carbon tax is assumed to commence from 2010-11.



Potential Project # (This is a potential Plant Retirements)

**69** Swanbank B 3 (-125 COAL) located in the **Moreton South** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX								YES					12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX								YES					2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX								YES					5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX								YES					0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX								YES					16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX								YES					3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX								YES					9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX								YES					2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX								YES					10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX								YES					1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX								YES					5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX								YES					1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX								YES					5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX								YES					1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX								YES					2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX								YES					0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX								YES					3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX								YES					0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX								YES					1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX								YES					0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>88%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** It has been assumed that the Swanbank B plant would be closed as currently planned (in 2011-12), with closure being effected a year earlier in the cases in which the carbon tax is assumed to commence from 2010-11.



Potential Project # (This is a potential Plant Retirements)

**70** Swanbank B 4 (-125 COAL) located in the **Moreton South** node

Initially this project was rated a **Definite** likelihood of proceeding, which was deemed to correspond to a **100% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **100% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX								YES					12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX								YES					2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX								YES					5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX								YES					0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX								YES					16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX								YES					3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX								YES					9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX								YES					2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX								YES					10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX								YES					1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX								YES					5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX								YES					1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX								YES					5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX								YES					1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX								YES					2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX								YES					0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX								YES					3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX								YES					0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX								YES					1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX								YES					0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>88%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	8	100%
M50	8	8	100%
M10	8	8	100%
M50++	8	8	100%
H50	8	8	100%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	20	100%
QNI++	20	20	100%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	20	100%
PNG	20	20	100%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	20	100%
TAX	20	20	100%

**Other Comments:** It has been assumed that the Swanbank B plant would be closed as currently planned (in 2011-12), with closure being effected a year earlier in the cases in which the carbon tax is assumed to commence from 2010-11.



Potential Project # (This is a potential Plant Retirements)

**71** Collinsville A 1 (-28 COAL) located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **15.78% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	6	6	75%
M50	6	4	50%
M10	6	4	50%
M50++	6	4	50%
H50	6	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	11	55%
QNI++	20	11	55%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	12	60%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	2	10%
TAX	20	20	100%

**Other Comments:** The Collinsville project is assumed to close in the carbon-constrained cases. In addition, the plant is assumed to be forced to close in the case of a combined low growth in load and the introduction of PNG gas (in which case the 4-5 new CCGTs burning gas would eliminate any market opportunity for Collinsville to participate in the market).



Potential Project # (This is a potential Plant Retirements)

**72** Collinsville A 2 (-28 COAL) located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **15.78% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>		

Load Growth Theme-Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	6	6	75%
M50	4	4	50%
M10	4	4	50%
M50++	4	4	50%
H50	4	4	50%

Inter-regional Trade Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	11	55%
QNI++	20	11	55%

Gas-supply Theme Set			
	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	12	60%

Greenhouse Theme Set			
	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	2	10%
TAX	20	20	100%

**Other Comments:** The Collinsville project is assumed to close in the carbon-constrained cases.  
In addition, the plant is assumed to be forced to close in the case of a combined low growth in load and the introduction of PNG gas (in which case the 4-5 new CCGTs burning gas would eliminate any market opportunity for Collinsville to participate in the market).



Potential Project # (This is a potential Plant Retirements)

**73** Collinsville A 3 (-28 COAL) located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **15.78% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	Economic closure
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	Economic closure
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	6	6	75%
M50	6	4	50%
M10	6	4	50%
M50++	6	4	50%
H50	6	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	11	55%
QNI++	20	11	55%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	12	60%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	2	10%
TAX	20	20	100%

**Other Comments:** The Collinsville project is assumed to close in the carbon-constrained cases.  
In addition, the plant is assumed to be forced to close in the case of a combined low growth in load and the introduction of PNG gas (in which case the 4-5 new CCGTs burning gas would eliminate any market opportunity for Collinsville to participate in the market).



Potential Project # (This is a potential Plant Retirements)

**74** Collinsville A 4 (-28 COAL) located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **15.78% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	6	6	75%
M50	6	4	50%
M10	6	4	50%
M50++	6	4	50%
H50	6	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	11	55%
QNI++	20	11	55%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	12	60%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	2	10%
TAX	20	20	100%

**Other Comments:** The Collinsville project is assumed to close in the carbon-constrained cases.  
In addition, the plant is assumed to be forced to close in the case of a combined low growth in load and the introduction of PNG gas (in which case the 4-5 new CCGTs burning gas would eliminate any market opportunity for Collinsville to participate in the market).



Potential Project # (This is a potential Plant Retirements)

**75** Collinsville B 5 (-60 COAL) located in the **North Queensland** node

Initially this project was rated a **Moderate** likelihood of proceeding, which was deemed to correspond to a **30% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **15.78% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%	
Scenario 2	L50	QNI	NO PNG	TAX							YES						1.67%	
Scenario 3	L50	QNI	PNG	NO TAX							YES						2.6%	
Scenario 4	L50	QNI	PNG	TAX							YES						0.42%	
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%	
Scenario 6	L50	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 7	L50	QNI++	PNG	NO TAX							YES						0.87%	
Scenario 8	L50	QNI++	PNG	TAX							YES						0.19%	
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%	
Scenario 10	M50	QNI	NO PNG	TAX							YES						2.24%	
Scenario 11	M50	QNI	PNG	NO TAX													3.88%	
Scenario 12	M50	QNI	PNG	TAX							YES						0.58%	
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%	
Scenario 14	M50	QNI++	NO PNG	TAX							YES						1.31%	
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%	
Scenario 16	M50	QNI++	PNG	TAX							YES						0.32%	
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%	
Scenario 18	M10	QNI	NO PNG	TAX							YES						1.18%	
Scenario 19	M10	QNI	PNG	NO TAX													1.88%	
Scenario 20	M10	QNI	PNG	TAX							YES						0.28%	
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%	
Scenario 22	M10	QNI++	NO PNG	TAX							YES						0.8%	
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%	
Scenario 24	M10	QNI++	PNG	TAX							YES						0.19%	
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%	
Scenario 26	M50++	QNI	NO PNG	TAX							YES						0.69%	
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%	
Scenario 28	M50++	QNI	PNG	TAX							YES						0.17%	
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%	
Scenario 30	M50++	QNI++	NO PNG	TAX							YES						0.39%	
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%	
Scenario 32	M50++	QNI++	PNG	TAX							YES						0.1%	
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%	
Scenario 34	H50	QNI	NO PNG	TAX							YES						0.51%	
Scenario 35	H50	QNI	PNG	NO TAX													0.77%	
Scenario 36	H50	QNI	PNG	TAX							YES						0.12%	
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%	
Scenario 38	H50	QNI++	NO PNG	TAX							YES						0.28%	
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%	
Scenario 40	H50	QNI++	PNG	TAX							YES						0.08%	
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>		
<b>Cumulative Probability</b>						<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>		

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	6	6	75%
M50	6	4	50%
M10	6	4	50%
M50++	6	4	50%
H50	6	4	50%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	11	55%
QNI++	20	11	55%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	10	50%
PNG	20	12	60%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	2	10%
TAX	20	20	100%

**Other Comments:** The Collinsville project is assumed to close in the carbon-constrained cases.  
In addition, the plant is assumed to be forced to close in the case of a combined low growth in load and the introduction of PNG gas (in which case the 4-5 new CCGTs burning gas would eliminate any market opportunity for Collinsville to participate in the market).















Potential Project # (This is a potential Plant Retirements)

**82** Other Station 1 (0 COAL) located in the **Moreton South** node

Initially this project was rated a **Low** likelihood of proceeding, which was deemed to correspond to a **10% probability of proceeding**

At the completion of the scenario analysis project, the **FINAL Project Probability** for this project was calculated (across all the scenarios that were developed) to be **0% probability of proceeding**

The following table illustrates the year in which (for each scenario) the plant is assumed to be fully operational:

						2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Final Scenario Probability	Scenario-specific comments	
Scenario 1	L50	QNI	NO PNG	NO TAX													12.14%		
Scenario 2	L50	QNI	NO PNG	TAX													1.67%		
Scenario 3	L50	QNI	PNG	NO TAX													2.6%		
Scenario 4	L50	QNI	PNG	TAX													0.42%		
Scenario 5	L50	QNI++	NO PNG	NO TAX													5.84%		
Scenario 6	L50	QNI++	NO PNG	TAX													0.8%		
Scenario 7	L50	QNI++	PNG	NO TAX													0.87%		
Scenario 8	L50	QNI++	PNG	TAX													0.19%		
Scenario 9	M50	QNI	NO PNG	NO TAX													16.74%		
Scenario 10	M50	QNI	NO PNG	TAX													2.24%		
Scenario 11	M50	QNI	PNG	NO TAX													3.88%		
Scenario 12	M50	QNI	PNG	TAX													0.58%		
Scenario 13	M50	QNI++	NO PNG	NO TAX													9.02%		
Scenario 14	M50	QNI++	NO PNG	TAX													1.31%		
Scenario 15	M50	QNI++	PNG	NO TAX													2.15%		
Scenario 16	M50	QNI++	PNG	TAX													0.32%		
Scenario 17	M10	QNI	NO PNG	NO TAX													10.27%		
Scenario 18	M10	QNI	NO PNG	TAX													1.18%		
Scenario 19	M10	QNI	PNG	NO TAX													1.88%		
Scenario 20	M10	QNI	PNG	TAX													0.28%		
Scenario 21	M10	QNI++	NO PNG	NO TAX													5.81%		
Scenario 22	M10	QNI++	NO PNG	TAX													0.8%		
Scenario 23	M10	QNI++	PNG	NO TAX													1.1%		
Scenario 24	M10	QNI++	PNG	TAX													0.19%		
Scenario 25	M50++	QNI	NO PNG	NO TAX													5.19%		
Scenario 26	M50++	QNI	NO PNG	TAX													0.69%		
Scenario 27	M50++	QNI	PNG	NO TAX													1.11%		
Scenario 28	M50++	QNI	PNG	TAX													0.17%		
Scenario 29	M50++	QNI++	NO PNG	NO TAX													2.56%		
Scenario 30	M50++	QNI++	NO PNG	TAX													0.39%		
Scenario 31	M50++	QNI++	PNG	NO TAX													0.61%		
Scenario 32	M50++	QNI++	PNG	TAX													0.1%		
Scenario 33	H50	QNI	NO PNG	NO TAX													3.07%		
Scenario 34	H50	QNI	NO PNG	TAX													0.51%		
Scenario 35	H50	QNI	PNG	NO TAX													0.77%		
Scenario 36	H50	QNI	PNG	TAX													0.12%		
Scenario 37	H50	QNI++	NO PNG	NO TAX													1.63%		
Scenario 38	H50	QNI++	NO PNG	TAX													0.28%		
Scenario 39	H50	QNI++	PNG	NO TAX													0.45%		
Scenario 40	H50	QNI++	PNG	TAX													0.08%		
<b>Probability of Proceeding in this Year:</b>						<b>0%</b>													
<b>Cumulative Probability</b>						<b>0%</b>													

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
L50	8	0	0%
M50	8	0	0%
M10	8	0	0%
M50++	8	0	0%
H50	8	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
QNI	20	0	0%
QNI++	20	0	0%

	Number of scenarios with this theme	Number of scenarios project proceed	Percentage of relevant scenarios
NO PNG	20	0	0%
PNG	20	0	0%

	Number of scenarios with this theme	Number of scenarios in which project proceed	Percentage of relevant scenarios
NO TAX	20	0	0%
TAX	20	0	0%

**Other Comments:** Dummy unit included for the functionality of the scenario spreadsheet.



## APPENDIX C) LIKELY DISPATCH ORDER

At the request of Powerlink, the following table has been included to give general indication of the likely dispatch ordering of the range of Queensland plant considered in this study.

As requested by Powerlink, ROAM Consulting has referenced the following reports in the compilation of this table:

ACIL Tasman. February 2005. *“Report on NEM Generator Costs (part 2)”*.  
[http://www.nemmco.com.au/transmission\\_distribution/410-0054.htm](http://www.nemmco.com.au/transmission_distribution/410-0054.htm)

ROAM Consulting. April 2005. *“Energy Policy Modelling – Modelling of Policy Proposals”* for the Queensland Department of Energy (not publicly available).

Ordering is shown in relation to the existing Queensland facilities.

### Indicative Ordering of Bid Prices for Queensland Stations (sent-out, at the station)

Station	NO TAX \$/ MWh	TAX \$/ MWh	Comments
Stanwell B1	\$5.90	\$27.50	Should the Stanwell Coke plant proceed, it is assumed that the fuel (a by-product of the coke plant) would be available at low cost – hence the plant would run base load.
Kogan Creek	\$6.57	\$28.17	Both Kogan 1 and Kogan 2 have been assumed to operate at similar prices.
Millmerran	\$8.39	\$29.71	Millmerran units 1→4 have been assumed to operate at similar prices.
Tarong North	\$10.22	\$30.73	It has been assumed that the existing Tarong B and the potential Tarong C plant (being similar in design) would operate with similar cost structure.
Tarong C			
New Coal in SWQ	\$10.36	\$15.75	Prices would depend heavily on location, and hence fuel cost
Callide C	\$11.03	\$31.54	It has been assumed that the existing Callide C and the potential Callide D plant (being similar in design) would operate with similar cost structure.
Callide D			
Tarong	\$11.52	\$34.89	
Callide B	\$11.97	\$35.55	
New Coal in CWQ	\$13.00	\$18.39	Prices would depend heavily on location, and hence fuel cost
New Coal in NQ	\$13.00	\$18.39	Prices would depend heavily on location, and hence fuel cost
Stanwell	\$13.76	\$36.01	



**Indicative Ordering of Bid Prices for Queensland Stations  
(sent-out, at the station)**

Station	NO TAX \$/ MWh	TAX \$/ MWh	Comments
Swanbank B	\$15.39	\$37.50	
Gladstone	\$15.72	\$39.27	
Collinsville	\$18.84	\$45.66	
Chinchilla	\$23.90	\$33.15	These two projects will avoid significant gas transport charges, and will be supplied CSM internally – hence these prices are indications only.
Spring Gully	\$23.90	\$33.15	
Swanbank E	\$27.14	\$36.39	It has been assumed that the existing Swanbank E and the potential Swanbank F plant (being similar in design) would operate with similar cost structure.
Swanbank F			
Other CCGTs			Other prospective CCGTs (e.g. Braemar, Esk Valley, Gladstone and Gibson Island) would share similar cost structures, with the major difference being gas transport pricing. Due to newer technology and hence improved heat rate, their costs are likely to be slightly lower than the converted units.
Oakey CCGT	\$27.20	\$36.45	Prices will depend on plant configuration
Yabulu CCGT	\$29.52	\$38.77	
Mt Stuart CCGT	\$30.80	\$40.05	Prices will depend on plant configuration
Barcaldine CCGT	\$52.53	\$63.00	
Roma OCGT	\$52.64	\$71.65	
Braemar OCGT	\$53.00	\$68.42	
Oakey OCGT	\$59.63	\$79.23	OCGT Oil/Gas Fired
Mt Stuart OCGT	\$234.00	\$253.60	OCGT Oil Fired
Mackay OCGT	\$266.14	\$288.54	OCGT Oil Fired

The following sections have been included to provide some discussion of the table above.

### **A) Variation for Each Scenario**

For each facility, two estimates of cost have been provided in the table above – one for the “NO TAX” scenarios and the other for the “TAX” scenarios, with the tax being of the order of \$25/tonne CO<sub>2</sub>.

It should be noted, however, that the other assumptions made in the various scenarios would also impact on the relative pricing of various generation options. For instance, the bid price of a new combined cycle plant operating on coal seam gas is likely to be significantly higher than if it were to be a foundation customer on



the PNG pipeline, where it has been assumed that up to 100PJ of gas would be required to be consumed in power generation for the purposes of advancing the project to committed status.

## **B) Loss Factors**

The assumed bid prices included above have been provided without reference to the Queensland Regional Reference Node (RRN) – i.e. loss factors have not been taken into account.

This has been done in order that Powerlink can be able to take into account how the bid price at the RRN will change on a year-to-year basis as a result of changes to annual marginal loss factors. These changes will themselves result from the changes to the operation of this plant, and to any augmentation of the network, developed by Powerlink over the decade.

## **C) Trading Strategy Assumed**

To develop the likely dispatch ordering, ROAM Consulting has referenced each generator's Short-Run Marginal Cost (SRMC).

Such a strategy has been assumed to provide the general indication required by Powerlink. To this extent, the ordering will prove sufficiently accurate as this has proven to be the approach adopted by most generation companies for the majority of dispatch intervals.

However, it should be noted that the generation companies would take other considerations into account in the formulation of their trading strategies. Such considerations will include:

- 1) In general, generation companies tend to bid their available volume in more than one tranche to more accurately reflect commercial and physical constraints and opportunities;
- 2) Generation companies will adjust their bids with reference to their likely mode of operation (i.e. mid-merit and peaking plant may be more likely to bid above their short-run marginal cost of operation in order to ensure a reasonable return);
- 3) Bids will reflect the general supply/demand dynamics in the market (i.e. in times of short supply, bids will be higher);
- 4) Bids will also be adjusted to reflect other physical and/or commercial considerations:
  - a) Plants such as Swanbank E that operate under take-or-pay fuel supply arrangements will adjust their bids to ensure the requisite amount of fuel is burnt (in the case of Swanbank E the GEC market also has an impact);



- b) Plant contracted, or otherwise expected, to physically supply power will adjust their bids to ensure this operation;
- c) Fuel-constrained plant (such as the Northern hydros and renewables plant) will normally be bid to ensure operation at peak periods to the extent that fuel supplies are available.

#### **D) Costs Assumed**

Similarly, there are several unknowns with respect to cost positions that were not considered in the formulation of the above table. These include the following:

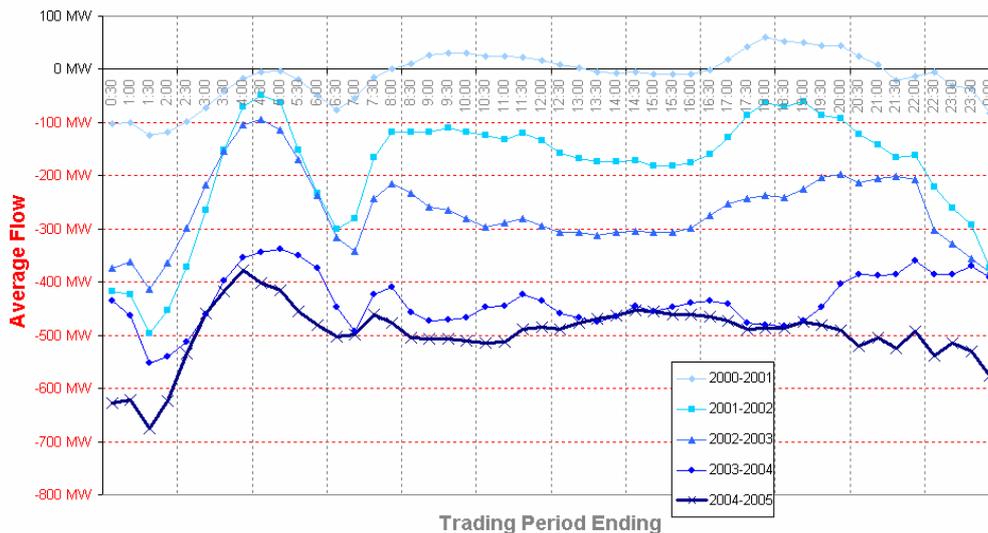
- 1) Liquid and gas fuelled open cycle GT's at Mt Stuart and Oakey are highly sensitive to fuel price. It is not possible to differentiate between their likely bid prices in future years, as it will depend on the type of fuel and its availability and price in their respective locations;
- 2) Similarly, the likely dispatch ordering of the repowered units (i.e. for Oakey or Mt Stuart, if they were repowered) are not possible to include with any certainty due to uncertainty over the possible price of fuel supplies, and the new heat value of the repowered plant;
- 3) The costs of the "other CCGT" projects included in the study will depend, amongst other things, on the plant configuration, its location and its likely fuel supply price.
  - a) On the basis of previous assessment, it is seen as likely that such projects will be located (if they proceed) in either the South-East of the state, or in the North.
  - b) Such locations would offer considerable cost advantages (in terms of beneficial MLFs)



## E) Treatment of QNI Flows

The following chart illustrates manner in which QNI has operated since the interconnector was commissioned in 2001.

Average QNI Flow by Time of Day



As can be seen, the trend over the period 2001 to 2005 has been for increased exports over QNI, with an average flow in 2004-05 being of the order of 500MW (as was outlined in the main body of this study).

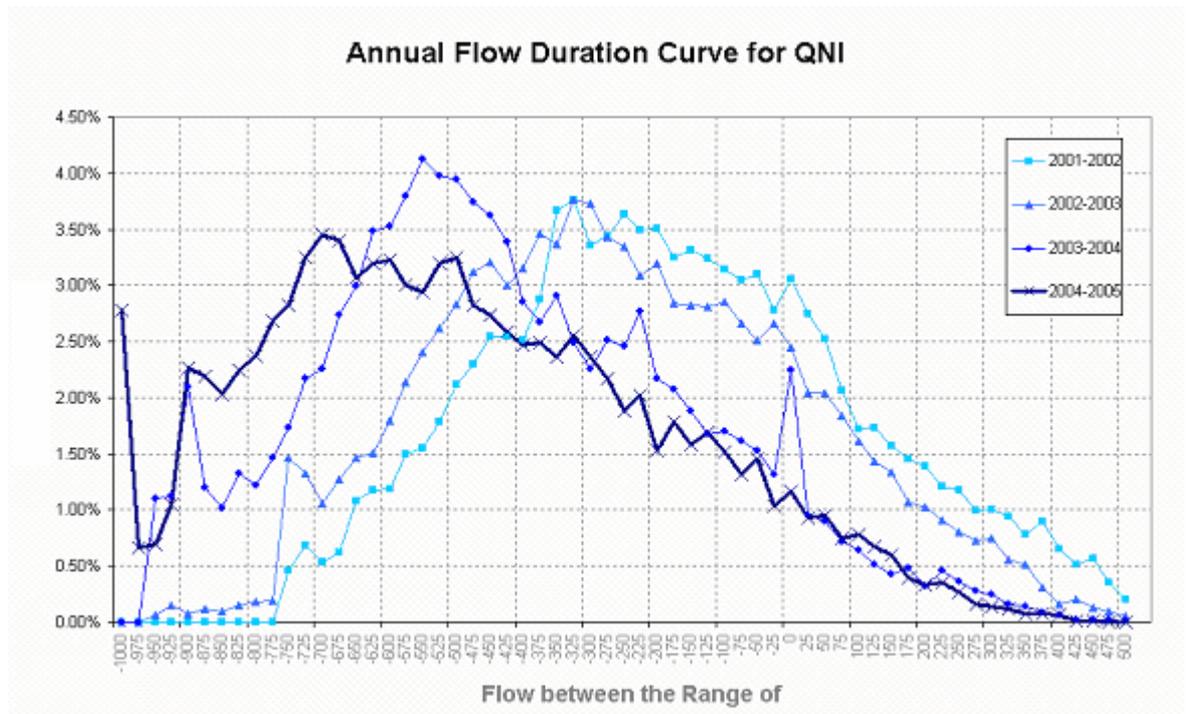
Exports to NSW have been driven mainly because of the large surplus of generation capacity currently experienced within Queensland relative to the rest of the NEM, which operates with a lower relative reserve plant margin.

The flows have also resulted because of the lower relative marginal cost of the new coal-fired generation capacity installed at Callide C, Millmerran and Tarong North. If it is assumed that new generation capacity (such as Kogan Creek) is developed over the coming decade, it is reasonable to assume that flows over QNI will continue in the same manner as they currently do.

For this reason, the modelling performed in this assignment has assumed a 500MW average export from Queensland over QNI for the remainder of the study.

Hence, for the purposes of Powerlink's modelling of the QNI interconnector *on average* the flow over QNI will continue to be towards the south over the coming decade.

However, as shown in the chart below QNI still does provide access to power generated in NSW on occasions where supplies are not sufficient (or not competitively priced) in Queensland relative to that available in NSW. It is noted, though, that this is occurring for a small (and decreasing) amount of time (i.e. less than 8% of the time in 2004-05).



This situation is likely to be similar for the next decade.

On such instances as these, generation capacity in NSW could be seen as being dispatched in competition with Queensland plant.

In order to model the operation of QNI (and Directlink) accurately, it would be necessary to model each individual dispatch interval sequentially, such as through a forecasting engine such as 2-4-C.

ROAM Consulting recognises that it is not possible for Powerlink to proceed to this level of detail in this assignment and thus has requested simplifying assumptions that could be made to still deliver a reasonable accuracy. However, it is not possible for ROAM Consulting to provide a definitive answer with respect to how QNI will be flowing at time of peak demand in Queensland, as this flow will be dependent on a number of independent variables including:

- ❖ South of the border:
  - How much generation capacity is installed in NSW and further south (ROAM Consulting would need to perform an analysis as detailed as this in order to assess the many different options for new generation plant that are being proposed);
  - How much of this capacity is physically available at times of peak demand in Queensland; and
  - At what price this capacity is offered to the market.



- ❖ Similarly, north of the border flow on QNI will be influenced by Queensland's base of installed capacity, along with the availability and price of this (existing and new) capacity.

In this case, it is suggested that Powerlink separately look at 3 different cases for each load flow study (being the extremes and mid-point of flow on QNI) in order to gain an insight into the degree to which network flows are impacted by the variability of QNI flows.