



31 July 2009

## Origin Energy 2009 Annual Reserves Report

### 1 Introduction

This Annual Reserves Report provides an update on the hydrocarbon reserves of Origin Energy Limited ("Origin") and its subsidiaries as at 30 June 2009. It provides comparisons with and reconciliations to reserves as reported at 30 June 2008.

A reference to APLNG is a reference to Australia Pacific LNG Pty Limited, an incorporated joint venture between Origin and ConocoPhillips.

Prior to the transaction with ConocoPhillips that was completed in late October 2008, Origin held interests in a number of CSG tenements across Queensland and conventional tenements in the Denison Trough. ConocoPhillips agreed to initially invest \$8 billion for a 50% share of the Australia Pacific joint venture with up to a further US\$2 billion to be invested progressively contingent on a final investment decision on each of up to four LNG trains being made. The dilution of Origin's interest in the reserves and resources in these tenements as a result of this transaction has a considerable impact on Origin's consolidated reserves position. For further details see Section 3 below.

Details regarding the construction of this report, including testament on the independent assessment of reserves and resources by Netherland, Sewell & Associates, Inc ("NSAI"), are provided at the back of this report.



## 2 Summary of 2P reserves position at 30 June 2009

The Proved and Probable ("2P") reserves attributable to Origin across all its areas of interest and inclusive of its effective interest in APLNG's CSG reserves total 4,484 PJe at 30 June 2009.

Table 1: Summary of Origin's 2P reserves by area

Origin 2P Reserves by Region				
Region	2P reserves 30-Jun-08	Net additions (revisions)	Production	2P reserves 30-Jun-09
Queensland CSG / Denison	4,793	(1,122)	(39)	3,633
Conventional Surat Basin	37	(9)	(2)	26
Cooper Basin	203	19	(25)	196
Other Onshore Australia	21	(2)	(5)	13
Offshore Basins Australia	485	(67)	(30)	388
New Zealand	231	(2)	(2)	227
<b>Total</b>	<b>5,770</b>	<b>(1,182)</b>	<b>(104)</b>	<b>4,484</b>

During the year 2P reserves across the interests now held by APLNG increased by 52% or 2,472 petajoules equivalent (PJe) net of production to 7,265 PJe at 30 June 2009. Origin has a 50% interest in the APLNG Joint Venture and therefore has an effective interest of 3,633 PJe in these reserves.

Origin's effective interest in 2P reserves across its conventional and CSG assets decreased over the year by 22% or 1,286 PJe. This included significant downward adjustments as follows:

- 1,122 PJe net decrease representing the combined impact of the dilution of interests in assets now held through APLNG (decrease of 2,388 PJe), partially offset by reserves growth of 26% or 1,266 PJe as detailed later in this report;
- 67 PJe decrease due to adoption of reserves revisions to the Thylacine field in the Otway Basin as previously advised by the Operator, Woodside Petroleum;
- 9 PJe decrease in the Surat Basin primarily reflecting a reduction in reserves in the Myall Creek field;
- minor reserves adjustments to fields in the onshore Perth Basin Western Australia and the onshore Taranaki Basin in New Zealand totalling 4 PJe; and
- Origin's net share of annual production of 104 PJe across its areas of interest.

These reductions were partially offset by Origin's share of reserves additions in the Cooper Basin of around 19 PJe (prior to production) being the net impact of adjustments to several fields across both the South Australian and Queensland sectors of this Basin.



### 3 Reserves and Resources held through APLNG

#### 3.1 Impact of the APLNG Transaction

In October 2008 Origin formed a joint venture with ConocoPhillips known as APLNG. As a result of this transaction Origin diluted its interest in its CSG assets and Denison Trough assets in Queensland by 50%. Origin maintains responsibility for the exploration and production activities in these areas on behalf of APLNG.

As indicated above the assets held by APLNG incorporate both CSG assets and interest in the conventional Denison Trough area.

CSG assets contribute the majority of the reserves and all the resources reported for Australia Pacific LNG. For instance of the 7,265 PJe of 2P reserves attributable to Australia Pacific LNG, CSG reserves contribute 7,217 PJe to the total while the Denison Trough conventional assets contribute 48 PJe.

The reserves data presented for APLNG's CSG interests represents an independent assessment by the internationally recognised petroleum consultant Netherland, Sewell & Associates, Inc ("NSAI") of the CSG tenements held by APLNG at 30 June 2009. NSAI has prepared this assessment of APLNG's CSG reserves based on technical, commercial and operational information provided by Origin on behalf of APLNG, together with its deep knowledge of CSG developments in Queensland.

Origin has undertaken its own assessment of reserves associated with the Denison Trough on behalf of APLNG. The assessment has been subject to internal peer review but not to independent certification. Reserves attributable to the Denison Trough are noted at the base of appropriate tables in this report.



### 3.2 CSG and Denison Trough - Asset Perspective

The table below records reserves, production and net reserve movements relating to CSG and Denison Trough interests in Queensland held by Origin at 30 June 2008 and held by APLNG at 30 June 2009. It does not include the impact of dilution of Origin's interest following the APLNG transaction.

Table 2: CSG and Denison Trough - Asset Perspective

Reserves attributable to Areas held by APLNG - 100% level (PJe)				
	Reserves at 30-Jun-08	Other Additions (Revisions)	Production	Reserves* at 30-Jun-09
2P Reserves	4,793	2,531	(60)	7,265
3P Reserves	10,222	2,465	(60)	12,627

\* The 2P and 3P reserves estimates at 30 June 2009 in the table above include 48 PJe and 82 PJe respectively for conventional reserves in the Denison Trough. The balance represents coal seam gas reserves.

During the year, from an asset perspective, 2P reserves in the equity interests now held by APLNG have increased by 52% or 2,472 PJe net of production to 7,265 PJe. 3P reserves increased by 2,405 PJe net of production to 12,627 PJe.

### 3.3 CSG and Denison Trough - Origin Perspective

The table below records reserves relating to CSG and Denison Trough interests in Queensland held by Origin at 30 June 2008 and held by APLNG at 30 June 2009. It includes the impact of the dilution of Origin's interest and the production and net reserves movements attributable to Origin's effective interest in these assets across the year.

Table 3: CSG and Denison Trough - Origin Perspective

Reserves attributable to Origin Energy (PJe)					
	Reserves at 30-Jun-08	Transaction related adjustments	Other Additions (Revisions)	Production	Reserves* at 30-Jun-09
2P Reserves	4,793	(2,388)	1,266	(39)	3,633
3P Reserves	10,222	(5,102)	1,232	(39)	6,313

\* The 2P and 3P reserves estimates at 30 June 2009 in the table above include 24 PJe and 41 PJe respectively for conventional reserves in the Denison Trough. The balance represents coal seam gas reserves.

From the perspective of Origin's effective interest, 2P reserves in the assets now owned by APLNG have decreased by 24% or 1,160 PJe net of production to 3,633 PJe. 3P reserves decreased by 38% or 3,909 PJe to 6,313 PJe.



### 3.4 Contingent CSG Resources

NSAI has also reviewed the Contingent Resource position of APLNG. As expected, total Contingent Resource has reduced as some Contingent Resource has been converted to reserves.

At 30 June 2008 NSAI provided estimates of the 2C or best estimate Contingent Resource in Origin's acreage. This year NSAI has further refined its estimate into 3C and 2C categories. The 3C Contingent Resource category represents a high side estimate of the contingent resource and is inclusive of the 2C estimate. The difference between the 3C and 2C estimates represent low permeability resources that are regarded as relatively high risk.

As a consequence of this assessment and movement between categories the total CSG 3C Contingent Resource reported by NSAI for APLNG at 30 June 2009 is 13,073 PJ, of which 7,919 PJ is in the 2C category. This compares with a 2C estimate at 30 June 2008 of 15,869 PJ.

Origin's effective interest in this Contingent Resource assessment at 30 June 2009 is 6,536 PJ of 3C Contingent Resource, of which 3,959 PJ is in the 2C Contingent Resource category.

### 3.5 Prospective CSG Resources

In addition to its Contingent Resource position, APLNG holds significant exploration acreage where the level of exploration does not allow a Contingent Resource to be estimated, but where nonetheless coal exists with the potential to contain recoverable gas. The majority of this acreage is located in the remote Galilee Basin in central Queensland. NSAI has estimated that within APLNG's existing tenements a further 17,947 PJ of Prospective Resource may potentially be recoverable from undiscovered accumulations in these areas by application of future development projects. Such Prospective Resources will require further exploration and appraisal activity to establish the quantum of resource present, and may, or may not, prove to be commercial. The quantum of this assessment has not changed from last year.

Origin's effective interest in these prospective resources is 8,973 PJ.



#### 4 Origin Effective Interest 2P Reserves by Area

The following table provides further details regarding Origin's effective interest 2P reserves by area as at 30 June 2009 and provides a reconciliation of this reserves position to the reserves reported at 30 June 2008.

Table 4: Origin Effective Interest 2P Reserves by Area

Origin 2P Reserves by Region (PJe)	2P Reserves 30-Jun-08	Additions (revisions) and Prod corrections	Production	2P reserves 30-Jun-09
<b>Queensland</b>				
Coal Seam Gas / Denison	4,793	(1,122)	(39)	3,633
Conventional Surat Basin	37	(9)	(2)	26
<b>Cooper Basin</b>				
SA Cooper Basin	150	11	(13)	148
SWQ Cooper Basin	52	8	(12)	49
<b>Other onshore Australia</b>				
Western Australia	21	(2)	(5)	13
Otway Basin - Onshore	0	(0)	(0)	-
<b>Offshore Basins</b>				
Otway Basin - Offshore	306	(67)	(20)	220
Bass Basin	179	-	(10)	169
<b>New Zealand</b>				
Offshore Taranaki (Kupe)	194	-	-	194
Onshore Taranaki	36	(2)	(2)	32
<b>Total</b>	<b>5,770</b>	<b>(1,182)</b>	<b>(104)</b>	<b>4,484</b>

Origin's effective interest in 2P reserves across its conventional and CSG assets decreased over the year by 22% or 1,286 PJe. This included significant downward adjustments as follows:

- 1,122 PJe net decrease representing the combined impact of the dilution of interests in assets now held through APLNG (decrease of 2,388 PJe), partially offset by reserves growth of 26% or 1,266 PJe as detailed later in this report;
- 67 PJe decrease due to adoption of reserves revisions to the Thylacine field in the Otway Basin as previously advised by the Operator, Woodside Petroleum;
- 9 PJe decrease in the Surat Basin primarily reflecting a reduction in reserves in the Myall Creek field;
- minor reserves adjustments to fields in the onshore Perth Basin Western Australia and the onshore Taranaki Basin in New Zealand totalling 4 PJe; and
- Origin's effective net share of annual production of 104 PJe across its areas of interest.

These reductions were partially offset by Origin's share of reserves additions in the Cooper Basin of around 19 PJe (prior to production) being the net impact of adjustments to several fields across both the South Australian and Queensland sectors of the Basin.



## 5 Origin Effective Interest 2P Reserves by area and by product

The following table provides a breakdown of Origin's 2P reserves as at 30 June 2009 by area and by major product.

Table 5: Origin Effective Interest 2P Reserves by area and by product

Origin 2P Reserves by Product 30/06/2009	Gas (PJ)	LPG (kT)	Condensate (kbbbls)	Oil (kbbbls)	TOTAL (PJe)
<b>Queensland</b>					
Coal Seam Gas / Denison	3,632	-	29	-	3,633
Conventional Surat Basin	22	36	218	188	26
<b>Cooper Basin</b>					
SA Cooper Basin	111	253	1,747	2,544	148
SWQ Cooper Basin	40	61	512	589	49
<b>Other onshore Australia</b>					
Western Australia	8	-	20	916	13
Otway Basin - Onshore	-	-	-	-	-
<b>Offshore Basins</b>					
Otway Basin - Offshore	187	357	2,689	-	220
Bass Basin	122	378	4,655	349	169
<b>New Zealand</b>					
Offshore Taranaki (Kupe)	127	531	7,352	-	194
Onshore Taranaki	18	34	91	2,105	32
<b>Total</b>	<b>4,267</b>	<b>1,650</b>	<b>17,312</b>	<b>6,691</b>	<b>4,484</b>

## 6 Comment on known fields or accumulations excluded from this report

The reserves position above does not take into account interests in conventional discoveries such as Trefoil in the Bass Basin, Halladale and Blackwatch in the offshore Otway Basin or Petrel in the Bonaparte Basin. Further technical evaluation of these discoveries is continuing and will need to be concluded before reserves can be booked in these areas.

In addition, in April 2008 Origin entered into an agreement to acquire a 100% interest in ATP 788P in Queensland from the Pangaea group. The agreement remains subject to certain conditions precedent including a number of approvals from relevant Government departments. As such no reserves from this exploration permit have been included in this report.



## 7 Remarks Relating to the Construction of this Report

This Annual Reserves Report provides an update on the hydrocarbon reserves of Origin Energy Limited ("Origin") and its subsidiaries as at 30 June 2009. It provides comparisons with and reconciliations to reserves as reported at 30 June 2008.

### 7.1 Definitions of Reserves and Resources

The Reserves Statement has been prepared to be consistent with the Petroleum Resources Management System 2007 published by Society of Petroleum Engineers (SPE). This document may be found at the SPE website

<http://www.spe.org/spe-app/spe/industry/reserves/prms.htm>

### 7.2 Economic test for reserves

The assessment of reserves requires a commercial test to establish that reserves can be economically recovered. Operating cost and capital cost estimates are combined with fiscal regimes and product pricing to confirm the economic viability of reserves.

In the case of oil, condensate and LPG forward estimates of prices are used in line with the forward curves available through various international benchmarking agencies, appropriately adjusted for local market conditions. Conventional gas reserves are assessed against existing contractual arrangements or local market conditions as appropriate. In the case of CSG reserves a forward price scenario based on monetisation of the reserves through domestic markets has been used, including power generation opportunities, direct sales to end users and utilisation of Origin's wholesale and retail channels to market. The CSG evaluation does not include any sales directly to LNG developments or other export market channels.

### 7.3 Independent assessment by NSAI

The data presented for CSG represents an independent assessment by the internationally recognised petroleum consultant Netherland, Sewell & Associates, Inc ("NSAI") at 30 June 2009 of the CSG tenements held by APLNG. NSAI has prepared this assessment of APLNG's CSG reserves based on technical, commercial and operational information provided by Origin on behalf of APLNG, together with its deep knowledge of CSG developments in Queensland.

NSAI has also reviewed the Contingent Resource position of APLNG as it relates to CSG only. In 2008 NSAI provided estimates of the 2C or best estimate Contingent Resource in Origin's acreage. This year NSAI has further refined its estimate into 3C and 2C categories. The 3C Contingent Resource category represents a high side estimate of the contingent resource and is inclusive of the 2C estimate. The difference between the 3C and 2C estimates represent low permeability resources that are regarded as relatively high risk.



#### **7.4 Reversionary Rights**

Origin's interests in exploration and production tenements (held directly or indirectly) may change from time to time and some of APLNG's CSG tenements are subject to commercial arrangements under which, after the recovery of acquisition, royalty, development and operating costs, plus an uplift on development and operating costs, a portion of some of the interests may revert to previous holders of the tenements. Origin has assessed the potential impact of reversionary rights associated with such interests based on the economic tests for reserves outlined in this report and based on that assessment does not consider that reversion will impact the reserves quoted within this report.

#### **7.5 Information regarding the preparation of this Reserves Report**

The statements in this Report relating to reserves and resources have been compiled by Andrew Mayers, a full-time employee of Origin. Andrew Mayers is qualified in accordance with ASX listing rule 5.11 and has consented to the form and context in which these statements appear.

The statements in this Report relating to CSG reserves and resources at 30 June 2009 are based on information in the Netherland, Sewell & Associates, Inc. (NSAI) report dated July 27, 2009, compiled by Mr. John G. Hattner, a full-time employee of NSAI. Mr. John G. Hattner has consented to the statements based on this information, and to the form and context in which these statements appear.

#### **7.6 Rounding**

Information on reserves is quoted in this report rounded to the nearest whole number. Some totals in tables in this report may not add due to rounding. Items that round to zero are represented by the number 0, while items that are actually zero are represented with a dash "-".



## 7.7 Abbreviations

barrels	an international measure of oil production. 1 barrel = 159 litres
Bscf	billion standard cubic feet
CSG	coal seam gas
GJ	gigajoule = $10^9$ joules
joule	A measure of energy
Kbbls	kilo barrels = 1,000 barrels
Ktonnes	kilo tonnes = 1,000 tonnes
mmboe	million barrels of oil equivalent
PJ	petajoule = $10^{15}$ joules
PJe	petajoule equivalent, a measure used to express the volume of different petroleum products on the basis of the energy contained in the product

## 7.8 Conversion Factors

The following factors have been used in converting standard petroleum product measures to the energy measure of petajoules, with the results expressed as petajoules equivalent (PJe).

Crude oil	0.00583 PJ/kbbls : 5.83 PJ / mmboe
Condensate	0.00541 PJ/kbbls
LPG	0.0493 PJ/ktonnes
CSG	1.045 PJ/Bscf