

То	Company Announcements Office	Facsimile	1300 135 638
Company	ASX Limited	Date	31 October 2016
From	Helen Hardy	Pages	16
Subject	September 2016 Quarterly Production Report		

Please find attached a release on the above subject.

Regards

Helen Hardy Company Secretary

02 8345 5000



### ASX/Media Release

31 October 2016

# September quarter production and sales boosted by Australia Pacific LNG

Origin Energy Limited (Origin) today released its Quarterly Production Report for the quarter ended 30 September 2016.

Origin's production of 74.2 PJe represented a 55 per cent increase on the corresponding period in FY2016 and an 8 per cent increase on the prior quarter. This was primarily driven by increased LNG production at Australia Pacific LNG.

Revenue for the three months to 30 September 2016 was \$429.7 million<sup>1</sup>, a 91 per cent increase on the corresponding period in FY2016 and a 32 per cent increase on the prior quarter.

Origin CEO Integrated Gas, David Baldwin said, "Origin's strong growth in production and sales during the September quarter can be attributed to the sustained performance of Australia Pacific LNG.

"Australia Pacific LNG achieved a number of significant milestones in early October including production of the first cargo<sup>2</sup> from Train 2 and successful completion of the 120-day Train 1 operational lenders test, with all requirements met or exceeded. Completion of this test represents a major achievement in satisfying the project financing completion agreements for Train 1.

"During the quarter, a total of 19 cargoes were shipped from Australia Pacific LNG's facility on Curtis Island, predominantly to Sinopec and Kansai in accordance with their respective long term Sale and Purchase Agreements. A total of 53 cargoes have been shipped to date.

"Pleasingly, the 100 per cent Origin-owned Halladale and Speculant fields achieved first gas on 26 August 2016. The project is expected to boost production in the 2017 financial year and make a meaningful contribution to Australia's east coast gas supply," Mr Baldwin said.

Elsewhere, first gas was also achieved at Waitsia in the Perth Basin on 24 August 2016, and drilling operations continued in the Cooper and Beetaloo basins in line with Origin's joint venture and permit commitments.

On 12 October 2016, Origin notified the Northern Territory Department of Primary Industry and Resources to confirm the discovery of hydrocarbons at Amungee NW-1H.

NOTE: This report does not cover other areas of Origin's integrated business, including electricity generation, energy retailing or non-hydrocarbon development activity.

<sup>1</sup> Includes capitalised revenue related to Australia Pacific LNG ramp gas and LNG sales as well as gains / (losses) on forward sales and hedging.

<sup>&</sup>lt;sup>2</sup> Equivalent to production of 150,000 cubic metres of liquefied natural gas



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### **About Origin Energy**

Origin Energy (ASX: ORG) is the leading Australian integrated energy company with market leading positions in energy retailing (approximately 4.2 million customer accounts), power generation (approximately 6,000 MW of capacity owned and contracted) and natural gas production (1,093 PJ of 2P reserves and annual production of 82 PJe). Through Australia Pacific LNG, its incorporated joint venture with ConocoPhillips and Sinopec, Origin is developing Australia's biggest CSG to LNG project based on the country's largest 2P CSG reserves base.



# **Quarterly Production Report**

For period ending 30 September 2016

Comparative performance at a glance – Origin's total proportional interests											
Previous Quarter Comparison	September 2016	June 2016	Change %								
Production (PJe)	74.2	68.4	8								
Sales (PJe)	78.5	67.3	17								
Revenue (A\$m) <sup>1</sup>	429.7	326.2	32								
Prior Corresponding Quarter Comparison	September 2016	September 2015	Change %								
Production (PJe)	74.2	47.8	55								
Sales (PJe)	78.5	50.5	55								
Revenue (A\$m) <sup>1</sup>	429.7	224.5	91								

Note: Information presented in the table above and throughout this report relates only to hydrocarbon exploration and production activities undertaken by Origin Energy Limited ("Origin"), its subsidiaries and the incorporated joint ventures in which it has interests. The report does not cover other business activities of Origin such as electricity generation, or energy retailing.

### **Highlights**

- First cargo<sup>2</sup> from APLNG Train 2 was produced on 8 October 2016
- APLNG also completed the 120-day operational lenders test for Train 1 in early October, with LNG production averaging well in excess of design nameplate capacity. This represents a major milestone in satisfying project financing completion agreements for Train 1
- 19 produced LNG cargoes were loaded and shipped from the APLNG facility during the quarter.
   Subsequent to the end of the quarter, a further seven cargoes were loaded and shipped
- Halladale/Speculant (100% Origin owned) in the Otway Basin achieved first gas on 26 August 2016
- Hydraulic fracture stimulation and extended production test operations in the Beetaloo Basin confirmed the existence of hydrocarbons
- Production increased by 8% compared with the June 2016 quarter, primarily a result of increased LNG production and increased production at Otway following Halladale and Speculant being brought into production
- Revenue increased by 32% compared with the June 2016 quarter, reflecting higher production, inventory movements and higher average commodity prices

### **Production and Sales**

### September Quarter 2016 compared with June Quarter 2016

Production of 74.2 PJe in the September 2016 quarter was 5.8 PJe or 8% higher than the June 2016 quarter. This is primarily attributable to higher production from APLNG (4.7 PJe) reflecting increased LNG production, and Otway (1.3 PJe) due to Halladale and Speculant being brought online in late August 2016.

Sales revenue increased 32% from the June 2016 quarter reflecting higher production, inventory movements and higher average gas and LNG prices

# September Quarter 2016 compared with September Quarter 2015

Production of 74.2 PJe in the September quarter 2016 was 26.4 PJe or 55% higher than the comparable quarter in 2015 and sales revenue was 91% higher primarily reflecting the commencement of LNG production at APLNG.

<sup>&</sup>lt;sup>1</sup> During construction of the APLNG export project, ramp gas and LNG revenue has been capitalised. Revenue related to APLNG Train 1 commenced being recognised in the income statement from 1 March 2016 (revenue related to APLNG Train 2 continues to be capitalised). Revenue disclosed includes APLNG related amounts that have been capitalised as well as gains/(losses) on forward sales and hedging. Further details are included in sections 1.2 and 1.3

included in sections 1.2 and 1.3. <sup>2</sup> Equivalent to production of 150,000 cubic metres of liquefied natural gas

# **PRODUCTION, SALES AND REVENUE**

# Production by product and area (including interest in APLNG)

Natural Gas and Ethane	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Natural Gas	PJ						
APLNG domestic <sup>3</sup>		25.9	25.3	2	26.9	25.9	26.9
SA Cooper & SWQ		2.8	2.9	(5)	2.9	2.8	2.9
Otway Basin (offshore)		6.4	5.3	22	6.9	6.4	6.9
Bass Basin		1.9	2.0	(3)	1.7	1.9	1.7
Perth Basin		1.0	0.8	20	1.1	1.0	1.1
Taranaki Basin (onshore)		0.2	0.1	21	0.2	0.2	0.2
Taranaki Basin (Kupe)		3.4	3.4	(0)	3.4	3.4	3.4
Ethane	PJ						
SA Cooper & SWQ		0.4	0.5	(4)	0.4	0.4	0.4
Total Production		41.9	40.3	4	43.5	41.9	43.5
Total Sales Volume		45.5	41.2	11	44.2	45.5	44.2
Total Commodity Revenue⁴	\$М	164.1	129.0	27	148.2	164.1	148.2
Average Gas Price - Total	\$/GJ	3.61	3.13	15	3.36	3.61	3.36
Average Gas Price – APLNG4		2.13	1.66	28	1.98	2.13	1.98
Average Gas Price – ex APLNG		5.75	5.48	5	5.42	5.75	5.42

Liquefied Natural Gas (LNG)	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
LNG	Kt		·		·		
Total Production		461.1	394.6	17	-	461.1	-
Total Sales Volume		496.8	369.6	34	-	496.8	-
Total Commodity Revenue⁴	\$M	186.5	136.3	37	-	186.5	-
Average LNG Price	\$/t	375	368	2	=	375	-
Average LNG Price	US\$/t	282	275	2	=	282	-
Average LNG Price	US\$/mmbtu	5.37	5.23	3	=	5.37	

Crude Oil	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Crude Oil	kbbls						
SA Cooper & SWQ		70.3	76.4	(8)	67.3	70.3	67.3
Taranaki Basin (onshore)		16.1	18.2	(12)	10.8	16.1	10.8
Total Production		86.4	94.6	(9)	78.1	86.4	78.1
Total Sales Volume		373.0	327.0	14	465.9	373.0	465.9
Total Commodity Revenue	\$M	24.4	17.7	38	33.6	24.4	33.6
Average Crude Price	\$/bbl	65	54	21	72	65	72

<sup>&</sup>lt;sup>3</sup> Refers to production to meet domestic supply requirements and excludes production directed towards the LNG facility on Curtis Island.
<sup>4</sup> Includes capitalised revenue related to APLNG ramp gas and LNG sales volumes.

Condensate/Naphtha	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Condensate/Naphtha	kbbls		·	·			
APLNG		0.3	0.2	33	=	0.3	-
SA Cooper & SWQ		45.0	46.5	(3)	47.8	45.0	47.8
Otway Basin (offshore)		81.2	69.7	17	84.0	81.2	84.0
Bass Basin		63.3	64.7	(2)	59.1	63.3	59.1
Perth Basin		0.6	0.5	20	0.8	0.6	0.8
Taranaki Basin (Kupe)		172.8	176.8	(2)	203.8	172.8	203.8
Total Production		363.1	358.4	1	395.5	363.1	395.5
Total Sales Volume		325.7	413.7	(21)	335.0	325.7	335.0
Total Commodity Revenue	\$M	18.3	22.6	(19)	19.8	18.3	19.8
Average Condensate Price	\$/bbl	56	55	3	59	56	59

LPG	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
LPG	Kt						
SA Cooper & SWQ		6.1	5.7	6	6.7	6.1	6.7
Otway Basin (offshore)		10.0	9.5	6	10.0	10.0	10.0
Bass Basin		5.9	5.8	1	5.0	5.9	5.0
Taranaki Basin (onshore)		0.3	0.2	7	0.2	0.3	0.2
Taranaki Basin (Kupe)		9.3	9.5	(3)	13.8	9.3	13.8
Total Production		31.5	30.8	2	35.6	31.5	35.6
Total Sales Volume		31.3	31.9	(2)	37.3	31.3	37.3
Total Commodity Revenue	\$M	12.1	13.4	(10)	15.2	12.1	15.2
Average LPG Price	\$/t	387	420	(8)	408	387	408

# **Production by basin (including interest in APLNG)**

Production by Basin (All products, PJe)	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Production by Basin	PJe						
APLNG <sup>5</sup>		54.1	49.4	9	26.9	54.1	26.9
SA Cooper & SWQ		4.2	4.4	(5)	4.3	4.2	4.3
Otway Basin (offshore)		7.4	6.1	20	7.8	7.4	7.8
Bass Basin		2.5	2.6	(2)	2.3	2.5	2.3
Perth Basin		1.0	0.8	20	1.1	1.0	1.1
Taranaki Basin (onshore)		0.3	0.2	6	0.3	0.3	0.3
Taranaki Basin (Kupe)		4.8	4.8	(1)	5.1	4.8	5.1
Total Production Volume		74.2	68.4	8	47.8	74.2	47.8
Total Sales Volume		78.5	67.3	17	50.5	78.5	50.5
Total Commodity Revenue	\$M	405.4	318.9	27	216.8	405.4	216.8
Gain / (Loss) on forward sale <sup>6</sup> and oil puts <sup>7</sup>	\$M	24.3	7.3	233	7.6	24.3	7.6
Total Revenue	\$M	429.7	326.2	32	224.5	429.7	224.5
Average Commodity Price	\$/GJe	5.47	4.84	13	4.44	5.47	4.44

#### **Production, Sales Volumes and Revenue Summaries** 1.3

#### 1.3.1 Origin excluding interest in APLNG

Total All Products	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Production Volume	PJe	20.1	19.0	6	20.9	20.1	20.9
Sales Volume	PJe	24.1	21.6	12	24.0	24.1	24.0
Sales Revenue	\$M	161.9	140.7	15	164.5	161.9	164.5
Gain / (loss) – forward sale <sup>6</sup>	\$M	9.7	7.3	33	7.6	9.7	7.6
Total Revenue	\$M	171.6	148.0	16	172.1	171.6	172.1
Average Commodity Price	\$/GJe	7.12	6.85	4	7.16	7.12	7.16

Refers to domestic production as well as production directed towards the LNG facility on Curtis Island (including liquefaction gas).
 Refers to Origin's oil and condensate forward sale agreements. In FY2013 Origin entered into agreements to sell the majority of its future oil and condensate production over a 72 month period commencing 1 July 2015. The fixed price of US\$62.40/bbl represents the forward oil price at the time

of US\$89/bbl, discounted to reflect the receipt of the proceeds upfront. Upon entry into the agreements, Origin received A\$482 million.

On 22 December 2015, Origin announced the purchase of oil puts providing Origin with the right to sell 15mmbbl of JCC at a strike price of A\$55/bbl for 75% of the volume and US\$40/bbl for 25% of the volume.

#### Origin's interest in APLNG 1.3.2

Total All Products	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Production APLNG 100%	PJe	144.3	131.8	9	71.7	144.3	71.7
Origin's 37.5% interest							
Production (all products)	PJe	54.1	49.4	9	26.9	54.1	26.9
Sales (all products)	PJe	54.4	45.7	19	26.5	54.4	26.5
Sales Revenue <sup>8</sup>	\$M	243.6	178.2	37	52.3	243.6	52.3
Gain/(loss) on oil puts (Origin only)9		14.6	-	=	=	14.6	-
Total Revenue		258.2	178.2	45	52.3	258.2	52.3
Average Commodity Price	\$/GJe	4.75	3.90	22	1.98	4.75	1.98

#### **Internal and External Purchase and Sales Summary** 1.4

#### Internal and External Sales (Origin excluding interest in APLNG) 1.4.1

Internal & External Sales Volumes	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Sales Volume	PJe						
Internal		9.1	7.4	24	7.3	9.1	7.3
External		15.0	14.3	5	16.7	15.0	16.7
Total		24.1	21.6	12	24.0	24.1	24.0

#### 1.4.2 **External Purchases**

Product Purchases included in above sales	Unit	This Quarter	Previous Quarter	% Change	Sept Quarter 2015	YTD 2016/17	YTD 2015/16
Origin (excluding interest in APLNG)	PJe	1.8	1.7	7	2.1	1.8	2.1
Origin's 37.5% interest in APLNG	PJe	1.2	2.0	(42)	0.1	1.2	0.1
Total	PJe	3.0	3.7	(20)	2.2	3.0	2.2

<sup>&</sup>lt;sup>8</sup> Includes capitalised revenue related to APLNG ramp gas and LNG sales volumes.
<sup>9</sup> On 22 December 2015, Origin announced the purchase of oil puts providing Origin with the right to sell 15mmbbl of JCC at a strike price of A\$55/bbl for 75% of the volume and US\$40/bbl for 25% of the volume.

# 2. DEVELOPMENT AND EXPLORATION OPERATIONS

# 2.1 Origin's interests held through Australia Pacific LNG (APLNG)

# 2.1.1 Operations Update

APLNG production (100%) was 144.3 PJe during the quarter, an increase of 9% compared to the June 2016 quarter (131.8 PJe), due to the ramp up of LNG production.

During the quarter, production from the operated fields was increased to meet LNG production requirements. Average production from the operated assets increased to 1,136 TJ/d in the September 2016 quarter from 1,047 TJ/d in the June 2016 quarter (APLNG share), reflecting higher rates of production from Condabri (48 TJ/d increase), Combabula/Reedy Creek (21 TJ/d increase), Talinga (17 TJ/d increase) and Spring Gully (9 TJ/d increase). Average production from the Orana field decreased across the quarter (5 TJ/d decrease), reflecting capability to turndown the field when required in response to market demand.

Average production from non-operated assets increased to 432 TJ/d in the September 2016 quarter from 401 TJ/d in the June 2016 quarter (APLNG share). Production from QGC operated fields increased to 326 TJ/d from 323 TJ/d reflecting higher production from Kenya due to commissioning of incremental wells, partially offset by shut down at the Ruby Jo processing plant in Kenya East in July 2016. Production from the GLNG operated Fairview field increased to 106 TJ/d from 78 TJ/d due to production ramp up following field turndown by the Operator during the June 2016 quarter.

The Train 1 LNG facility continues to perform well, with LNG production averaging well in excess of design nameplate capacity. During the quarter, a total of 19 produced LNG cargoes were loaded and shipped from the Australia Pacific LNG facility on Curtis Island, including to Sinopec and Kansai in accordance with their respective long term Sales and Purchase Agreements.

A significant milestone was achieved in early October, when the 120-day Train 1 operational lenders test was successfully completed, with all requirements met or exceeded. This represents a major milestone in satisfying project financing completion agreements for Train 1.

On 8 October, another significant milestone was achieved when APLNG produced its first LNG cargo<sup>10</sup> from Train 2. APLNG has loaded and shipped a further seven cargoes subsequent to the end of the quarter and a total of 53 cargoes to date.

APLNG participated in the drilling of 53 development wells during the quarter (all operated). Drilling activity was lower than anticipated due to weather restricting land access.

There were no operated or non-operated exploration or appraisal wells drilled in the quarter.

There were 17 development wells commissioned in QGC non-operated fields in the quarter (15 in ATP620 and two in ATP648).

<sup>&</sup>lt;sup>10</sup> Equivalent to production of 150,000 cubic metres of liquefied natural gas

# **APLNG Operated Production Wells<sup>11</sup>**

					Development Wells 12		
		Max avg well deliverability <sup>13</sup>	Avg daily production (APLNG share)		Wells drilled	Wells commissioned	
Bowen	Spring Gully	1.1 TJ/d	196.9 TJ/d	This Quarter	12	30	
				YTD 2016/17	12	30	
				Total to Date	370 <sup>14</sup>	336 <sup>15</sup>	
	Talinga	2.1 TJ/d	129.4 TJ/d	This Quarter	24	-	
				YTD 2016/17	24	-	
				Total to Date	172	132	
	Orana	2.4 TJ/d	156.2 TJ/d	This Quarter	-	-	
Surat				YTD 2016/17	-	-	
				Total to Date	151	137	
	Condabri	1.0 TJ/d	326.0 TJ/d	This Quarter	17	21	
				YTD 2016/17	17	21	
				Total to Date	569	497	
	Combabula / Reedy Creek	1.3 TJ/d	321.2 TJ/d	This Quarter	-	52	
				YTD 2016/17	-	52	
				Total to Date	485	461	
		1129.6 TJ/d		This Quarter	53	103	
	TOTAL		1129.6 TJ/d <sup>16</sup>	YTD 2016/17	53	103	
				Total to Date	1,747	1,563	

<sup>11</sup> Excludes 25 conventional wells in the Denison Trough and 23 CSG wells in the Peat Project Area not targeted for any Phase 1 development 12 APLNG operated wells delivering gas to domestic customers and the CSG to LNG project 13 Maximum average observable rate sustained over a week, throughout the year, from wells that have been online for more than six months 14 Total to date has been reduced by one well reflecting correction of wells drilled in June 2016 quarter 15 Included in the Spring Gully wells commissioned total are 18 wells that are a combination of horizontal/vertical pairs and multi-laterals, represented as 38 wells. The maximum average well deliverability for these wells is expected to be significantly more than the production expected from an average well deliverability. These wells are not vertically ded in the maximium average well deliverability rate. from an average single vertical well in Spring Gully. These wells are not yet included in the maximium average well deliverability rate.

16 Excludes production from the Peat Project Area and Denison Trough which collectively accounted for average production of 6.6 TJ/d

# 2.1.2 APLNG Project Update

The Upstream project is 100% complete and the Downstream project was 99% complete at 30 September 2016.

During the quarter, commissioning of Train 2 progressed well with first fire of the last two of seven Gas Turbine Generators (GTGs) taking place in July, first gas introduced into Train 2 on 26 September 2016 and first cargo<sup>17</sup> produced on 8 October 2016. The remaining major construction milestones, including the strainer shutdown and the Bechtel performance test, are expected to be completed before the end of calendar year 2016.



Australia Pacific LNG facility on Curtis Island

<sup>&</sup>lt;sup>17</sup> Equivalent to production of 150,000 cubic metres of liquefied natural gas

# 2.2 Origin's interests excluding APLNG

### Cooper / Eromanga Basin (South Australia / Queensland)

Origin/Santos/Beach Joint Venture

Cooper Basin production of 4.2 PJe has decreased by 5% from the previous quarter.

A total of eight wells were drilled in the quarter, consisting of three exploration/appraisal wells and five development wells. All exploration/appraisal wells have been cased and suspended for future production. Of the five development wells, two wells have been cased and suspended as future producers, a further two have been top set with casing only and the fifth is currently running production casing.

Origin/Senex/Planet Gas Joint Venture

The hydraulic fracture stimulation of the Ethereal-1 exploration well in PEL 637 was completed during the quarter and extended production testing undertaken.

### **Otway Basin (Victoria / Tasmania)**

Otway Basin production of 7.4 PJe (Origin share) has increased by 20% from the previous quarter due to Halladale and Speculant first gas being achieved on 26 August 2016, partly offset by a planned shutdown during the quarter.

### **Bass Basin (Tasmania)**

Bass Basin production of 2.5 PJe has decreased by 2% from the previous quarter due to natural field decline.

The tie-in and commissioning of the compression and condensate modules on the Yolla platform continued during the quarter and are expected to come online late in the 2017 financial year.

### Perth Basin (Western Australia)

Perth Basin production of 1.0 PJe has increased by 20% from the previous quarter due to Waitsia gas project first gas being achieved on 24 August 2016.

### **Beetaloo Basin (Northern Territory)**

Drilling operations continued during the quarter with the successful casing of the Amungee NW-1H well drilled in EP98 in 2015. Hydraulic fracture stimulation and extended production test operations were also undertaken at the Amungee NW-1H well which confirmed the existence of hydrocarbons, with production testing underway.

The third vertical well in the program, Beetaloo W-1, was spudded in EP117 on 22 July, in line with permit obligations, and reached total depth of 3,143m on 6 September 2016.

## Taranaki Basin (New Zealand)

## Kupe (offshore Taranaki)

Kupe production of 4.8 PJe (Origin share) was in-line with the previous quarter.

# Rimu/Kauri/Manutahi (onshore Taranaki)

The Rimu and Kauri facilities production of 0.3 PJe was in-line with the previous quarter.

# 3. ACQUISITIONS/DIVESTMENTS

## **DIVESTMENTS**

### **Surat Basin**

Origin has now completed all of the nine Sale and Purchase Agreements (SPA) relating to the sale of the Surat Basin assets.

# Rimu/Kauri/Manutahi (onshore Taranaki)

The Sale and Purchase Agreement with Westside Corporation is expected to complete in the coming weeks.

# 4. DRILLING ACTIVITY

# 4.1 Exploration/Appraisal

The table below summarises the exploration and appraisal drilling in which Origin had an interest during the Quarter:

Exploration/Appraisal Wells	Basin / Area	Target	Origin Effective Interest %	Well Status
Coolah 4	Cooper Basin	Gas	16.74%	C&S
Big Lake 134	Cooper Basin	Gas	13.19%	C&S
Cocinero 2	Cooper Basin	Oil	25.00%	C&S
Beetaloo W-1	Beetaloo Basin	Gas	35.00%	C&S

<sup>\*</sup> Denotes Origin operatorship

# 4.2 Development

The table below summarises development drilling in which Origin had an interest during the quarter. Origin participated in 53 CSG development wells across the Bowen and Surat Basins and five conventional gas development wells in the Cooper Basin during the quarter.

Basin / Area	Origin Effective	Well Status	Basin / Area	Origin Effective	Well Status
Development Wells	Interest %		Development Wells	Interest %	
Cooper Basin - SA			Talinga 177	37.50%*	Development
Target - Gas			Talinga 188	37.50%*	Development
Tirrawarra 90	13.19%	C&S	Talinga 189	37.50%*	Development
Big Lake 135	13.19%	C&S	Talinga 197	37.50%*	Development
Big Lake 136	13.19%	Ongoing	Talinga 198	37.50%*	Development
Big Lake 137	13.19%	Ongoing	Talinga 199	37.50%*	Development
Big Lake 138	13.19%	Ongoing	Talinga 200	37.50%*	Development
Bowen		299	Talinga 201	37.50%*	Development
Target - CSG			Talinga 214	37.50%*	Development
Durham Ranch 195	35.44%*	Development	Talinga 215	37.50%*	Development
Durham Ranch 197	35.44%*	Development	Talinga 233	37.50%*	Development
Durham Ranch 201	35.44%*	Development	Talinga 234	37.50%*	Development
Durham Ranch 204	35.44%*	Development	Talinga 235	37.50%*	Development
Durham Ranch 207	35.44%*	Development	Talinga 236	37.50%*	Development
Durham Ranch 208	35.44%*	Development	Talinga 237	37.50%*	Development
Durham Ranch 209	35.44%*	Development	Talinga 238	37.50%*	Development
Durham Ranch 210	35.44%*	Development	Talinga 240	37.50%*	Development
Durham Ranch 211	35.44%*	Development	Talinga 250	37.50%*	Development
Durham Ranch 214	35.44%*	Development	Talinga 251	37.50%*	Development
Durham Ranch 216	35.44%*	Development	Talinga 252	37.50%*	Development
Durham Ranch 321	35.44%*	Development	Talinga 269	37.50%*	Development
			Talinga 311	37.50%*	Development
Surat			Talinga 327	37.50%*	Development
Target - CSG					
Condabri South 100	37.50%*	Development	Notes:		
Condabri South 101	37.50%*	Development	* Denotes Origin operatorship	_	
Condabri South 144	37.50%*	Development	Denotes Origin operatorship	J	
Condabri South 149	37.50%*	Development			
Condabri South 150	37.50%*	Development			
Condabri South 151	37.50%*	Development			
Condabri South 152	37.50%*	Development			
Condabri South 160	37.50%*	Development			
Condabri South 172	37.50%*	Development			
Condabri South 173	37.50%*	Development			
Condabri South 276	37.50%*	Development			
Condabri South 67	37.50%*	Development			
Condabri South 68	37.50%*	Development			
Condabri South 78	37.50%*	Development			
Condabri South 79	37.50%*	Development			
Condabri South 89	37.50%*	Development			
Condabri South 90	37.50%*	Development			
Talinga 169	37.50%*	Development			

# 5. EXPLORATION, EVALUATION AND CAPITAL EXPENDITURE

The table below includes total expenditure incurred on exploration and evaluation activities and capital expenditure on development and production activities. They include expenditure committed under farmin agreements and capitalised interest and exclude expenditure on acquisitions. Expenditure in the current financial year is preliminary and is subject to audit review.

	This Quarter	Previous Quarter	Sept Qtr 2015	YTD 2016/17	YTD 2015/16
A\$m					
Exploration/Evaluation	10	24	29	10	29
Development/PP&E	37	72	109	37	109
Total excluding APLNG	47	96	138	47	138
Origin's Contribution to APLNG	143	74	541	143	541

## 6.1 Conversion Factors

Crude oil0.00583PJ/kbblsCondensate0.00541PJ/kbblsLPG0.0493PJ/ktonnesEthane0.0517PJ/ktonnesLNG0.0554PJ/ktonnes

# 6.2 Abbreviations

**APLNG** Australia Pacific LNG – an incorporated Joint Venture between Origin,

ConocoPhillips and Sinopec

**barrels** an international measure of oil production. 1 barrel = 159 litres

**Bopd** barrels of oil per day

**BTEX** benzene, toluene, ethylbenzene, xylene

bwpdbarrels of water per dayC&Ccased and completedC&Scased and suspended

CSG coal seam gas
CTU coiled tubing unit
DA designated authority

**DERM** Department of Environmental and Resource Management

**DST** Drill Stem Test

**EA** environmental authority

**FEED** front end engineering & design

FID final investment decision
GJ gigajoule = 10<sup>9</sup> joules
GWM Ground Water Monitoring
joule a measure of energy
Kbbls Kilo barrels = 1,000 barrels
kT Kilo tonnes = 1,000 tonnes

LNG liquefied natural gas
LPG liquid petroleum gas

MDRT measured depth from rotary tablemmscfd million standard cubic feet per day

mtpamillion tonnes per annumP&Aplugged and abandonedP&Splugged and suspendedPCApotential commercial areaPSCproduction sharing contract

**PSDM** post stack depth migration (seismic processing)

**PJ** petajoule = 10<sup>15</sup> 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

**Pigging** pipeline examination and maintenance

QGC Queensland Gas Company
Spudding to commence drilling a well
SWQ South West Queensland

TD total depth

TJ terajoule = 10<sup>12</sup> joules TJ/d terajoules per day

TVDSS Total Vertical Depth Subsea

Water Inj water injection well