

## ASX Announcement

January 29, 2016



### Report to Shareholders for the Quarter Ended December 31, 2015

#### CEO SUMMARY

Dear Shareholder,

The past quarter has again seen your company, and the renewable energy industry globally, continue to make great progress.

There has been a rising awareness worldwide that investment in renewable energy is critical for addressing climate change, underscored in December when 195 participating countries (including Australia) signed the Paris Agreement at the United Nations Conference on Climate Change. This, combined with another year of record investment in renewables globally in 2015, has seen the market develop enormous momentum, with the largest increase in renewable capacity dominated by wind and solar.



During the quarter, Carnegie continued to operate the Perth Wave Energy Project (PWEP) and the desalination pilot plant on Garden Island. After achieving over 14,000 hours deployed over its 12 months of operation, collecting a wealth of key engineering and environmental data, and having met all requirements of our funding agreements, we have now completed the operational phase of this project. All CETO 5 units have now been safely retrieved and brought back to shore for inspection and decommissioning ahead of the CETO 6 project activities. We have submitted all grant milestone invoices to the Western Australian Government and once detailed documents have been provided to the Australian Renewable Energy Agency (ARENA) \$955,043 in milestone payments will be triggered. We have also received a \$12m Research and Development (R&D) rebate from the Australian Tax Office.

With our demonstrated ability to plan, resource, execute and decommission a commercial sale CETO project –in conjunction with global market momentum - there is no better time for us to capitalise on the success of PWEP to deliver our commercial product platform, CETO 6. During the quarter, we completed the CETO 6 concept design and received a \$200,000 milestone payment from ARENA. Offshore site geotechnical activities are scheduled to commence in the coming months.

CETO 6 is being designed to suit two markets; the utility scale market, and the island market. The utility market will develop initially in the United Kingdom and Europe in much the same way that the offshore wind market has developed. To this end, I have joined our UK CEO and am basing myself in the UK this year to provide additional impetus to this opportunity. We are actively applying for grant funding to kick start our project efforts there and would expect some success in this regard in 2016.

For the island market, we have identified the benefits of integrating consistent wave energy into a mix of renewable technologies such as solar and wind, as well as with battery storage,

desalination, existing diesel and control systems. So called microgrids, allow islands to transition from electricity and water supply reliant on imported, high cost and dirty fossil fuels to sustainable energy systems with a high contributions from renewable energy.

With the global microgrid market estimated at over US\$4b in 2013 and expected to grow to five times this by 2020, it is an area we intend to grow both the opportunity pipeline as well as our capability. We have already secured business in this space through our Mauritian Project. Even locally, Western Power has recently announced a \$26m network reconstruction in the wake of the devastating bushfires in WA – making it the biggest restoration job in the utility's history. In many circumstances, distributed microgrids will be a cheaper, more sustainable alternative to reinstalling poles and transmission lines.

With our CETO 6 project and Garden Island microgrid project development in WA, our Mauritian island project and our UK & European opportunities, there is much to look forward to in 2016. And, we commence the year in an extremely strong financial position with approximately \$21m in cash, \$14m in undrawn debt and \$14.8m in undrawn Government grants.

Highlights from the quarter include:

- Financial snapshot
  - AU \$21m cash at bank
  - AU \$14.8m undrawn Government grants
  - AU \$21m undrawn debt facility
- Perth Project (CETO 5)
  - 12 months of operation completed
  - CETO units retrieved for inspection and decommissioning
- CETO 6
  - Concept design milestone completed
- Project Pipeline
  - \$800k Australian Government funding won for Mauritian wave and microgrid project design.
  - Announced Garden Island Microgrid (GIMG) project, which will be the first such wave-integrated renewable microgrid project to be connected to an electricity network.
- Corporate
  - Completed a \$7.5m Capital Raise
  - Received a \$12m research and development (R&D) tax incentive cash rebate
  - Signed Australia's \$21m loan facility with the Commonwealth Bank
  - Winner of Banskia Foundation's Innovator of the Year Award, Pinnacle Award for Excellence in Green Business and The Australian's Innovation Challenge in the Minerals & Energy category.

Best regards,



**Dr Michael Ottaviano**  
**CEO**

## **1. Perth Wave Energy Project**

### ***Completion of Operations and Grant Funding Update***

During the quarter, the Perth Project achieved its targeted 12 months of operation. Over the course of the operational year, Carnegie collected a wealth of performance, engineering and environmental data, from over 14,000 hours of deployment across all units and all four seasons. Having met all requirements of our funding agreements and project objectives, we have now safely retrieved all CETO 5 units back to shore for inspection and decommissioning ahead of the CETO 6 project activities. The data collected is being used in the CETO 6 project. Final data analysis is currently being completed and more detailed, verified results will be released in the coming months. The completion of Perth Project operations will allow Carnegie to allocate additional internal resources to the design and delivery of the CETO 6 Project.

Having reached 12 months of operation, Carnegie has now met its operational requirements for its grant funding and has now received payment of its entire grant from the Government of Western Australia's Low Emissions Energy Development (LEED) Fund. Once detailed documents have been provided to ARENA \$955,043 in milestone payments will also be triggered.

Early in this quarter, Carnegie also announced the production of the world's first wave powered desalinated water with its seawater reverse osmosis plant on Garden Island fully integrated and operational. The first bottle of wave-powered desalinated water produced was presented to the Western Australian Minister for Water, the Hon Mia Davies MLA, at the Australian Water Association's (AWA) Annual Western Australian Conference by Carnegie's Chief Operating Officer, Greg Allen. Mr Allen presented on wave energy integrated desalination at the Conference timed to coincide with National Water Week. In the period between CETO 5 and CETO 6 operation at Garden Island, the desalination plant can continue to run on grid power.



*The Hon Mia Davies being with the first bottle of wave powered bottle desalinated water.*

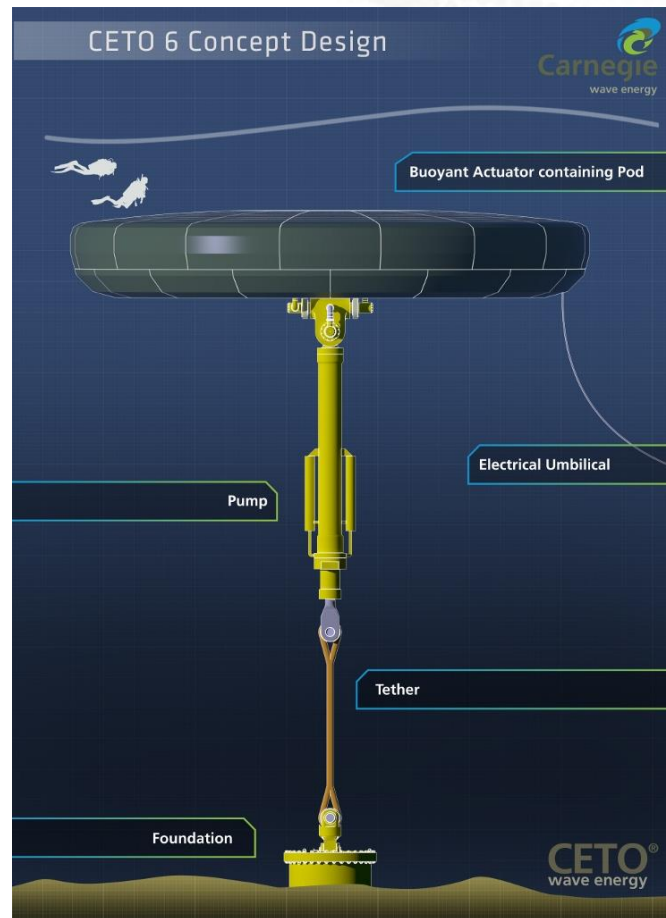
## **2. CETO 6 Garden Island Developments**

### ***Concept Design Complete***

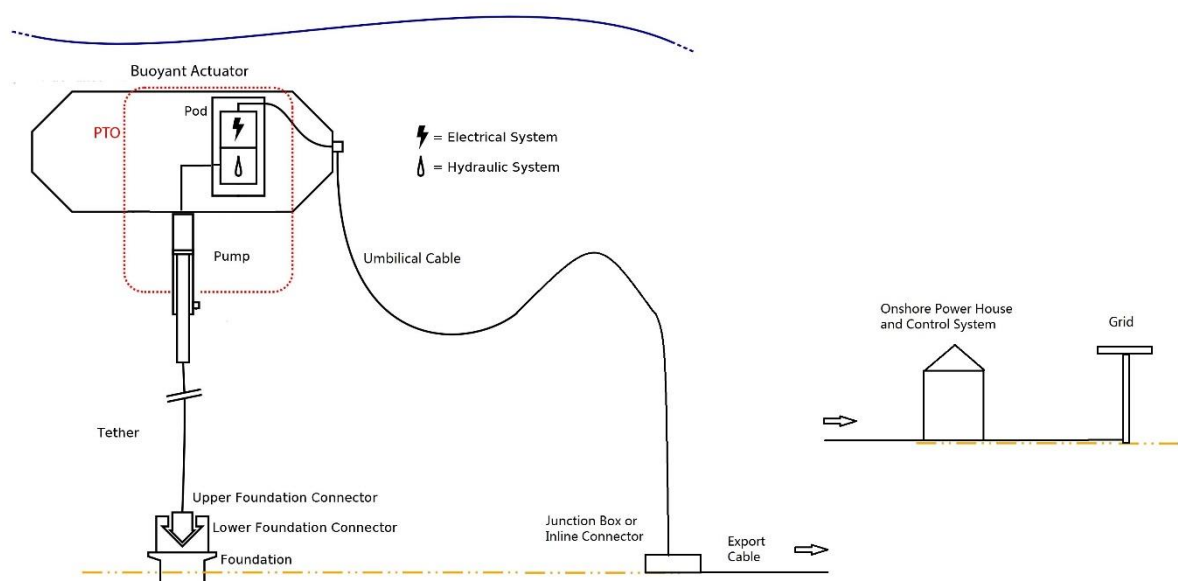
At the start of the quarter, Carnegie completed the CETO 6 concept design phase which incorporated lessons learnt from the Perth Wave Energy Project, recent wave tank testing in Scotland, design work with the CETO supply chain, offshore surveys, and Carnegie's in house design work.

This CETO 6 design delivers a number of advantages over previous CETO generations including an approximate four times increase in rated capacity to 1MW, the removal of heavy offshore lifts (and associated costly heavy lift vessels), simplified installation and maintenance and more advanced control systems offering higher energy yield. The system locates the power generation (power take off or PTO) inside a contained vessel (Pod) housed within the buoy. The concept design phase covered a wide range of disciplines and project work package areas including hydrodynamic modelling, wave tank testing, electrical typology, offshore site studies, grid connection, instrumentation and controls, power take off architecture, installation and maintenance philosophies and tether and mooring options.





**CETO 6 Conceptual Design.**



**CETO 6 Project Design Layout.**

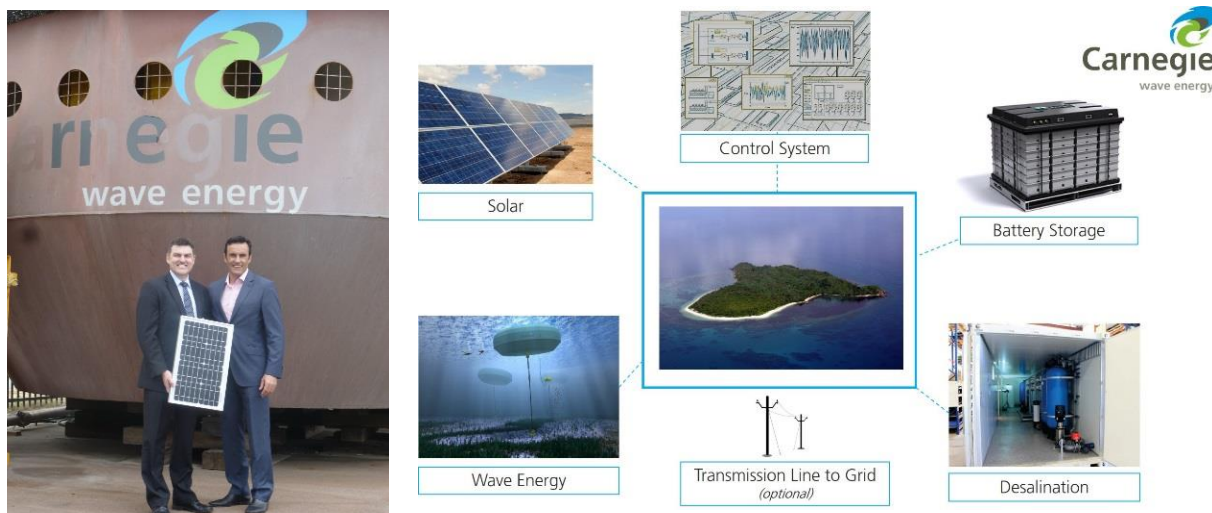
The offshore geophysical survey activities for the Project have also been completed, with a preferred project site having been identified some 10km offshore from Garden Island. The geophysical survey results, along with the concept design results, are feeding directly into the detailed design of the project. Offshore site geotechnical activities are scheduled to commence in the coming months.

### 3. Microgrid & Island Project Activities

#### ***Garden Island Renewable Energy Microgrid Project***

During this quarter, Carnegie announced its innovative Garden Island Microgrid (GIMG) project, which will be a world first wave-integrated renewable microgrid project that supplies both electricity and desalination water. The GIMG Project will incorporate the CETO 6 Project currently in development and the existing reverse osmosis desalination plant developed as part of the Perth Project with the addition of 2MW peak of solar photovoltaic (PV) power generation and sufficient energy storage to allow safe, stable and reliable interaction with the electricity grid.

One of the key initial project activities was the signing of a Memorandum of Understanding (MoU) with Western Australian Government power utility Western Power to deliver this world first wave-integrated renewable energy microgrid project.



***Western Power CEO, Paul Italiano and Carnegie CEO, Dr Michael Ottaviano at the announcement of the GIMG Project MoU (left), wave-energy integrated microgrid schematic (right).***

Carnegie CEO, Dr Michael Ottaviano said: “Carnegie sees great potential in integrating its world leading CETO wave technology into islands as well as fringe of grid applications wherever there is a strong wave resource. Western Australia presents itself as an attractive option to locate wave power projects in coastal communities and avoid building and maintaining long transmission lines.

“Additionally, Carnegie’s island power projects will invariably involve integrating CETO with other renewable energy power sources, desalination plants, diesel generation and increasingly energy storage. This project will also be a great opportunity to demonstrate a real world, wave integrated microgrid system to our island customers”.

Western Power CEO, Paul Italiano added: “Western Power sees significant potential for long-term economic benefits in increasing the amount of decentralised energy generation located near the edges of the grid.

“We will provide engineering expertise to assess the technical challenges of enabling a two way flow of power between a large integrated network and a microgrid that has a mix of renewable sources of generation, including wave energy.”

Most recently, the Hon Terry Redman MLA, Minister for Regional Development, visited Carnegie and toured the retrieved CETO 5 Units. The Minister acknowledged the potential benefits of wave integrated microgrids in regional Western Australia during the tour.



*The Hon Terry Redman (second from right) pictured with Carnegie’s Chief Financial Officer, Aidan Flynn, Commercial Manager, Rebecca Cutter, Carnegie Director, Grant Mooney and Bruce Manning of the Great Southern Development Commission.*

### **Remote Islands**

Significant progress was made during the quarter with Carnegie’s remote island market pipeline through the award of a Mauritian wave and microgrid design project to Carnegie. Separately, Carnegie was also awarded \$800,000 of funding for this project from the Australian Government in partnership with the Mauritian Government.



The funding, controlled by the Mauritian Ministry of Finance and Economic Development has been awarded for the study and design of projects focused on high penetration renewable energy microgrids incorporating wave energy on Mauritius and the neighbouring island of Rodrigues. This is consistent with Mauritius' current focus on developing renewable energy technologies, the blue economy, and domestic water security. The total value of the design activities is \$990,000 of which the Mauritian Ministry of Finance and Economic Development will contribute \$800,000 (from the Australian Government) with the balance being contributed in-kind from Carnegie. This project will deliver a wave energy integrated microgrid design, wave energy resource assessment and renewable energy roadmap.

The Australian High Commission to Mauritius has been instrumental in facilitating this important relationship between the Government of Mauritius and Carnegie and complements recently announced Commonwealth initiatives such as the Climate Finance Access Hub to address climate change for Small Island Developing States and Least Developed States, most vulnerable to climate change. Australia's High Commissioner to Mauritius, Susan Coles, visited Carnegie's wave energy research facility at Fremantle in December and announced the funding for the project.



***Australia's High Commissioner to Mauritius, Her Excellency Ms Susan Coles and Carnegie Chief Operating Officer, Greg Allen.***



During the quarter, Carnegie's Chief Operating Officer, Greg Allen, presented at the 23<sup>rd</sup> annual Global Eco Asia-Pacific Tourism Conference on Rottnest Island, Western Australia. The Global Eco Asia-Pacific Tourism Conference is the longest running ecotourism conference in the world and brings the world's leading speakers on ecotourism, sustainability and responsible tourism.

#### **4. European and UK Activities Update**

During the quarter Carnegie continued to build its presence in the European and UK renewable energy industries. Tim Sawyer, the CEO of Carnegie's 100 per cent owned subsidiary CWE UK, presented at the Ocean Energy Europe Conference (OEE) in Dublin, Ireland. More recently, Carnegie's CEO, Dr Michael Ottaviano, has also temporarily relocated to the UK to provide additional impetus to Carnegie's commercialisation efforts there. The UK and Europe offer a unique combination of dedicated and pre-developed wave power sites, support infrastructure and offshore supply chain and grant and tariff support. Carnegie is actively building on its existing presence through its site at the Wave Hub facility in Cornwall and its Edinburgh based subsidiary, CWE UK Limited, by applying for grant funding for CETO project activities.

#### **5. Corporate Activities**

##### ***\$21 million Commonwealth Bank wave energy facility***

In November, Carnegie announced that it had signed a new \$21 million loan facility agreement with the Commonwealth Bank which replaces the previous \$20 million loan facility with the Clean Energy Finance Corporation (CEFC).

Commonwealth Bank of Australia (CBA) is providing a five-year \$20 million loan facility as part of the financing required for the next stage of CETO technology development and commercialisation, the CETO 6 Project. This will lead to the development of an export ready wave technology for global application. Additionally, Commonwealth Bank is also providing a further loan facility of a minimum of \$1 million that will provide part of the financing for the GIMG project.

This is the Commonwealth Bank's first wave energy financing arrangement and builds on its commitments to assist in the transition to a low carbon economy by supporting businesses and technologies that reduce dependence on fossil fuels and mitigate the effects of climate change.

##### ***\$12 million Research and Development Tax Refund***

During the quarter, Carnegie received a \$12 million Research and Development Tax Incentive cash rebate from the Australian Tax Office based on Carnegie's eligible R&D expenditure during the year ended 30 June 2015. The R&D tax incentive provides a tax rebate to support Australian companies to undertake Australian research and development.

### ***Oversubscribed \$7.5 million Capital Raise Completed***

In November, Carnegie completed an oversubscribed \$7.5 million capital raise to be used for the commercialisation of CETO technology, specifically for the CETO 6 Project and Microgrid Project development.

Carnegie announced that it had opened a \$5 million Share Purchase Plan (SPP) with the capacity to accept oversubscriptions in November. In accordance with the offer documents and in response to the subscription demand, Carnegie's Board of Directors decided to accept oversubscriptions of \$1.5 million to enable a wider base of the existing shareholders to participate in the SPP and a further \$1 million of commitments through a private placement. This private placement was undertaken with a select group of investors under section 708 of the Corporations Act 2001, the vast majority of whom are existing Carnegie shareholders, on the same terms as the SPP.

### ***Milestone Payments***

Carnegie has received \$66,537 from ARENA for successful completion of two operational progress milestones for the Perth Project. Once detailed documents have also been provided to ARENA \$955,043 in milestone payments will be triggered and this will complete Carnegie's obligations under its funding agreement.

During the quarter, Carnegie also submitted a \$200,000 milestone payment claim to ARENA for the completion of the CETO 6 concept design which was approved by ARENA during the quarter. The payment was received in January. This is the second milestone completed for the CETO 6 Project at Garden Island.

### ***Awards***

During the quarter, Carnegie was delighted to be recognised with multiple awards for its innovative work. In November, Carnegie was awarded with both the Pinnacle Award for Excellence in Green Business and the Banksia Foundation's Innovator of the Year Award. In addition, Carnegie also won the Australian's Innovation Challenge in the Minerals & Energy Category.



***Carnegie Chief Financial Officer, Aidan Flynn, accepting the Banksia Foundation award (left) and Carnegie staff (right) at the Pinnacle Awards.***

### **About Carnegie**

[Carnegie Wave Energy Limited](#) is an Australian, ASX-listed (ASX:CWE) wave energy technology developer. Carnegie is the 100 per cent owner and developer of the CETO Wave Energy Technology intellectual property. Carnegie is focussed on commercial opportunities in key target markets including UK, Europe and remote islands.

### **About CETO**

The CETO system is different from other wave energy devices as it operates under water where it is safer from large storms and invisible from the shore. CETO technology characteristics include:

- Converts ocean wave energy into zero-emission electricity and desalinated water.
- Environmentally friendly, has minimal visual impact and attracts marine life.
- Fully-submerged in deep water, away from breaking waves and beachgoers.

### **Perth Wave Energy Project ('PWE') Fact File**

- In 2015 PWE was the world's only operating commercial-scale CETO grid and desalinated water connected wave energy project.
- PWE was supported by \$13.1m funding from the Australian Renewable Energy Agency.
- PWE was supported by \$7.3 million from the Government of Western Australia's Low Emissions Energy Development (LEED) Fund. This is part of a larger \$10 million LEED grant, awarded to Carnegie by the Western Australian Government, to support the development of the CETO technology from concept through to completion of PWE.
- The Desalination Pilot was supported by a \$1.27m AusIndustry grant from the Clean Technology Innovation Program.
- Provided clean, renewable energy and potable desalinated water to Australia's largest naval base, HMAS Stirling, on Garden Island in Western Australia.

### **CETO 6 Project Fact File**

The CETO 6 unit has a targeted 1MW (1000kW) power capacity, some four times of the current CETO 5 generation being used in the Perth Project. It will have a superior efficiency, lower capital and maintenance costs than any CETO product generation developed to date. The CETO 6 Project is supported by \$11m in Australian Government grant funding through the Australian Renewable Energy Agency's Emerging Renewables Program and a five year \$20 million loan facility from the Commonwealth Bank. The clean, renewable energy generated by the Project will be sold to the Australian Department of Defence at Australia's largest naval base, HMAS Stirling, on Garden Island in Western Australia.

### **About ARENA**

ARENA was established by the Australian Government to make renewable energy technologies more affordable and increase the supply of renewable energy in Australia. ARENA invests in renewable energy projects, supports research and development activities, boosts job creation and industry development, and increases knowledge about renewable energy. ARENA has a portfolio of more than 240 supported projects and is actively seeking new projects to fund in 2016.

### **For more information:**

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# Appendix 4C

## Quarterly report for entities admitted on the basis of commitments

Introduced 31/3/2000. Amended 30/9/2001, 24/10/2005.

Name of entity

CARNEGIE WAVE ENERGY LIMITED

ABN

69 009 237 736

Quarter ended ("current quarter")

31 December 2015

### Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter \$A'000	Year to date (6 months) \$A'000
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) staff costs*	(535)	(1,230)
	(b) advertising and marketing	(30)	(48)
	(c) research and development	(2,587)	(4,762)
	(d) leased assets	(9)	(18)
	(e) other – corporate overheads & working capital	(606)	(935)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	89	108
1.5	Interest and other costs of finance paid	(4)	(8)
1.6	Income taxes refunded	14,050	14,050
1.7	Other -		
	(a) ERP, LEED and AusIndustry Grant Funding Receipts	47	67
	(b) Royalty Income	229	606
<b>Net operating cash flows</b>		<b>10,644</b>	<b>7,830</b>

### Notes

- a. The staff costs (a) exclude payroll related to research and development activities, those payroll costs are included in research and development (c).



**Appendix 4C**  
**Quarterly report for entities**  
**admitted on the basis of commitments**

	Current quarter \$A'000	Year to date (6 months) \$A'000
1.8 Net operating cash flows (carried forward)	10,644	7,830
<b>Cash flows related to investing activities</b>		
1.9 Payment for acquisition of:	-	-
(a) businesses (item 5)	-	-
(b) equity investments	-	-
(c) intellectual property	-	-
(d) physical non-current assets	(10)	(9)
(e) other non-current assets	-	-
1.10 Proceeds from disposal of:		
(a) businesses (item 5)	-	-
(b) equity investments	-	-
(c) intellectual property	-	-
(d) physical non-current assets	-	-
(e) other non-current assets	-	-
1.11 Loans to other entities	-	-
1.12 Loans repaid by other entities	-	-
1.13 Other (provide details if material)	-	-
	<b>(10)</b>	<b>(9)</b>
<b>Net investing cash flows</b>		
<b>1.14 Total operating and investing cash flows</b>	<b>10,634</b>	<b>7,821</b>
<b>Cash flows related to financing activities</b>		
1.15 Proceeds from issues of shares, options, etc.	7,519	7,519
1.16 Proceeds from sale of forfeited shares	-	-
1.17 Proceeds from borrowings	-	-
1.18 Repayment of borrowings	-	-
1.19 Dividends paid	-	-
1.20 Other – Proceeds from issue of convertible notes	-	-
	<b>7,519</b>	<b>7,519</b>
<b>Net financing cash flows</b>		
<b>Net increase (decrease) in cash held</b>	<b>18,153</b>	<b>15,340</b>
1.21 Cash at beginning of quarter/year to date	2,516	5,329
1.22 Exchange rate adjustments to item 1.20	-	-
1.23 <b>Cash at end of quarter</b>	<b>20,669</b>	<b>20,669</b>

**Notes**

b. The cash at the end of the quarter excludes the following cash receipts:

- A royalty income payment of \$270,630 for the quarter ended 31 December 2015 which was received on 15 January 2016.

+ See chapter 19 for defined terms.

**Payments to directors of the entity and associates of the directors**

**Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.24	Aggregate amount of payments to the parties included in item 1.2	440
1.25	Aggregate amount of loans to the parties included in item 1.11	-
1.26	Explanation necessary for an understanding of the transactions	
	Payments to Directors are consulting fees, salary and superannuation.	

**Non-cash financing and investing activities**

- 2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

Nil

- 2.2 Details of outlays made by other entities to establish or increase their share in businesses in which the reporting entity has an interest

Nil

**Financing facilities available**

*Add notes as necessary for an understanding of the position. (See AASB 1026 paragraph 12.2).*

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities – Convertible Notes & Senior Debt Facility	24,690	3,690
3.2 Credit standby arrangements	-	-
3.3 Government grant funding facilities	38,118	23,354

- c. The loan facilities includes a \$21 million senior debt loan facility with the Commonwealth Bank of Australia which has not yet been drawn upon.

+ See chapter 19 for defined terms.

**Appendix 4C**  
**Quarterly report for entities**  
**admitted on the basis of commitments**

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Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.		Current quarter \$A'000	Previous quarter \$A'000
4.1	Cash on hand and at bank	8,075	1,912
4.2	Deposits at call	8,500	-
4.3	Bank overdraft	-	-
4.4	Other (provide details) – <i>Guarantee facilities</i>	4,094	604
<b>Total: cash at end of quarter (item 1.23)</b>		<b>20,669</b>	<b>2,516</b>

**Acquisitions and disposals of business entities**

	Acquisitions (Item 1.9(a))	Disposals (Item 1.10(a))
5.1 Name of entity	-	-
5.2 Place of incorporation or registration	-	-
5.3 Consideration for acquisition or disposal	-	-
5.4 Total net assets	-	-
5.5 Nature of business	-	-

**Compliance statement**

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act (except to the extent that information is not required because of note 2) or other standards acceptable to ASX.)
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here:



Print name: AIDAN FLYNN Company Secretary

Date: 29 January 2016

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+ See chapter 19 for defined terms.

## Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
2. The definitions in, and provisions of, *AASB 1026: Statement of Cash Flows* apply to this report except for the paragraphs of the Standard set out below.
  - 6.2 - reconciliation of cash flows arising from operating activities to operating profit or loss
  - 9.2 - itemised disclosure relating to acquisitions
  - 9.4 - itemised disclosure relating to disposals
  - 12.1(a) - policy for classification of cash items
  - 12.3 - disclosure of restrictions on use of cash
  - 13.1 - comparative information
3. Accounting Standards. ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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+ See chapter 19 for defined terms.