

## ASX Announcement

Friday, 31<sup>st</sup> July 2015



### Report to Shareholders for the Quarter Ended 30<sup>th</sup> June 2015

#### ACTIVITIES SUMMARY

During the quarter, Carnegie Wave Energy Limited (ASX: CWE) achieved a very significant milestone with its flagship project, the Perth Wave Energy Project, which has now exceeded 12,000 hours of continuous, cumulative operation. Prior to reaching this operational milestone, Carnegie successfully retrieved the first installed CETO 5 Unit.

Highlights from the quarter include:

- CETO 5 Unit successfully retrieved on first attempt and being readied for redeployment
- Perth Project reaches record breaking 12,000 hours operational milestone
- CETO 6 Garden Island offshore survey works progressing
- Winner of the Clean Energy Council's Innovation Award

#### 1. Perth Wave Energy Project

##### ***CETO 5 Unit #1 Successfully Retrieved***

The first of the CETO 5 Units installed as part of the Perth Project was successfully retrieved as planned on the first attempt after operating for over 4,000 hours since installation in November 2014. The inclusion of hydraulic "quick connect" technology in the overall unit design allowed for efficient disconnection of the unit from the seabed, followed by the de-ballasting of the Buoyant Actuator, floating up of the Pump offshore and then towing the complete Unit back to the Australian Maritime Complex (AMC) in Henderson, WA.



Unit breaking surface during retrieval (L), Unit on top of water, preparing to be towed back to shore (R)

The success of the retrieval has validated Carnegie's operating and maintenance philosophy, utilising "quick connect" componentry, which is heavily used in the offshore oil and gas industry. A similar approach will be utilised in the CETO 6 product generation.



**Retrieved CETO Unit being lifted out of the water for planned inspection at the AMC, Henderson, WA**

Preparations are underway at the AMC to redeploy Unit #1 post onshore inspection, strip down and analysis. Some of the works that were undertaken during the strip down phase were replacing seals, performing maintenance on hoses and upgrading instrumentation systems.



**CETO 5 Unit #1 post strip down and inspection works at AMC, Henderson, WA**

The redeployment of Unit #1 is on track to occur in the coming weeks subject to weather. Just ahead of this, Unit #2 will be retrieved and Unit installed in its place. This will allow Carnegie to test and demonstrate Unit interchangeability which is an important aspect of Carnegie's "hot swap" maintenance strategy whereby any Unit can be swapped for another while the plant continues to operate.

### ***Perth Project Operation and Performance***

During the quarter, Carnegie reached an operational milestone, with the Perth Project achieving 12,000 hours of cumulative, continuous operation of the CETO 5 array. This is the longest ever period of continuous operation for any grid connected in-ocean wave energy convertor. Since installation of the first CETO 5 unit in November, 2014, the array has seen a wide range of sea states, including waves of up to 5.7 metres in height.

This operational milestone is not only significant for Carnegie and the Perth Project, but for the wave energy industry as a whole, addressing the industry wide challenges around reliability and survivability. The Perth Project has been specifically designed to demonstrate survivability, maximise operational hours and confirm CETO 5 unit capacity. The operational results to date provide confidence that the performance of the CETO 5 system is meeting expectations. This includes both the offshore units and the balance of plant infrastructure, including the control system.

The consistent winter swells now being experienced and the associated electricity generation are allowing plant operators and the analysis team to run real time optimisation strategies to understand the exact plant settings that maximise power production for specific sea states.

These settings then become part of the system logic to be automatically selected when the same sea state is experienced in the future. This work is critical in informing the design and future operation of the CETO 6 product generation and forms a core part of Carnegie's advanced control system intellectual property. Post-winter, CWE will be able to confirm the capacity of CETO 5 and complete the CETO 6 conceptual design phase. Additionally, the winter swells are providing a further test of survivability and reliability for the CETO system.

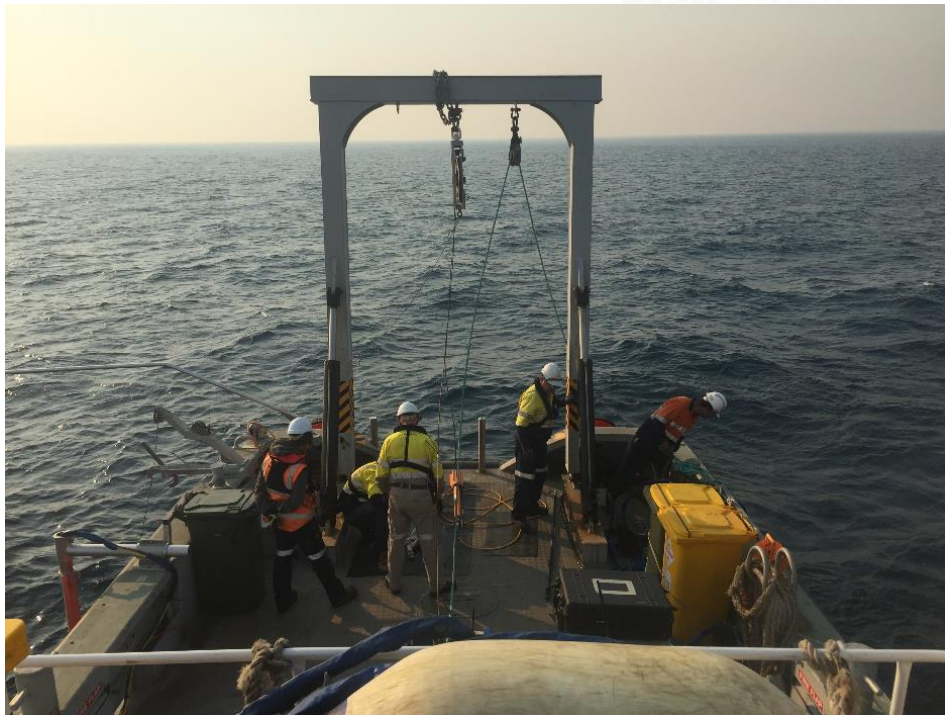




**Full 3 unit CETO 5 array operating off Garden Island, WA, prior to Unit #1's retrieval**

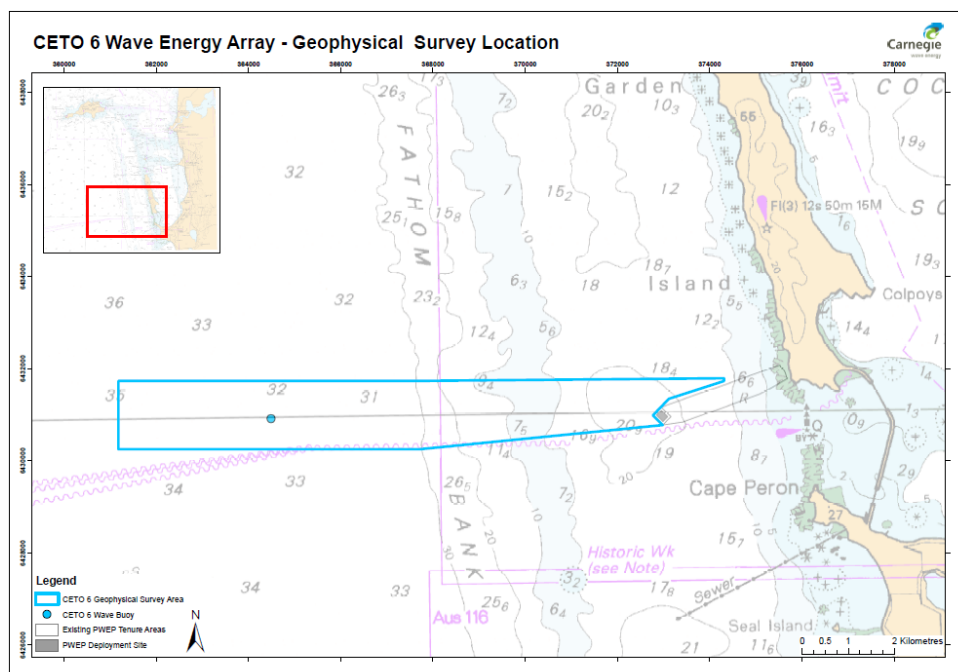
## **2. CETO 6 Garden Island Developments**

The offshore geophysical survey activities for CETO 6 commenced during the quarter, with the findings of the survey due in the coming weeks. The results of these activities influence elements of the CETO 6 Project design currently in progress, including foundation selection, cable route and overall installation methodology.



Survey vessel in proposed CETO 6 project site

In conjunction with Marine GeoSolutions and RPS Energy, the offshore survey is capturing essential information about the geological characteristics at the site, along with detailed bathymetry, using methods such as single and multi-beam echo sounding, and side scan sonar.



CETO 6 Geophysical Survey Location

### **3. Corporate Activities**

#### ***Appointment of Chairman***

During the quarter, Carnegie was delighted to announce the appointment of existing director Mr. Jeffrey Harding to the role of Chairman of the Board of Directors. Mr. Harding has been on the Carnegie Board of Directors since 2009 as a Non-Executive Director and has had extensive experience in the renewable energy industry including his role as CEO of Pacific Hydro. Carnegie's former Chairman, Mr. Grant Mooney has remained as a Non-Executive Director and will continue in his role of joint Company Secretary.

#### ***Milestone Payments***

During the quarter, Carnegie received a number of milestone payments from both the WA State and Australian Federal Governments for Project milestone completion.

Early in the quarter, Carnegie received \$1.3 million from the Australian Renewable Energy Agency (ARENA) for completion of the onshore power plant. Carnegie also received \$0.05 million from the WA State Government for the same milestone in the previous quarter, via the Low Emissions Energy Development (LEED) fund. These payments bring the total received for the onshore power generation system to \$1.75 million.

A further \$1.55 million was received from ARENA for the manufacture, completion and deployment of the three CETO 5 units as well as the successful commissioning of the Perth Project, as well as a subsequent milestone payment of \$0.18 million for practical completion of the Perth Project.

Carnegie also received \$0.27 million operational milestone payments from the WA State Government's LEED fund which represents the completion of their funding for the Perth Project. In addition, Carnegie also received its final desalination milestone payment from AusIndustry, meaning that to date, 95% of Perth Project milestone payments have now been received.

#### ***Higginsville Gold Royalty Payment***

Carnegie also received \$377,412 during the quarter from its historical mining royalty held in the Higginsville Gold Operations. This payment takes the total funds received from the mining royalty to \$3.1 million. The cash payments will be ongoing, dependent on future production and economic viability of future mining activities. This payment requires no expenditure or resources from Carnegie.

#### ***Convertible Note Rollover***

On the 18 November 2013 Carnegie announced the issue of 4,000 unlisted convertible notes with a face value of \$1,000 each, maturing on 17 November 2015. Carnegie has now extended the maturity date on the remaining 3,690 notes to 17 November 2017. No coupon will be paid on the notes beyond 17 November 2015 and all other terms of the notes remain unchanged.

## 4. Pipeline

### ***European and UK Activities Update***

Carnegie continued to develop its presence in both the European and UK renewable energy industry by presenting at a number of key industry conferences.

CWE UK's CEO, Tim Sawyer presented at the All Energy Conference in Glasgow, Scotland as well as the 2<sup>nd</sup> World Power Summit in Edinburgh.

Kieran O'Brien, Carnegie's Executive Director of Business Development delivered a presentation at the Thetis – Marine Renewable Energy (MRE) conference in Nantes, France, and was also part of a renewables panel discussion at The Economist's World Ocean Summit.

### ***South American Business Developments***

Further to the signing of a Collaboration Agreement with Fundación Chile, Carnegie has been involved in ongoing assessments of wave resources at various sites, the regulatory environment, site identification as well as project development, financing and construction.

Carnegie has also partnered with Fundación Chile in the Valparaíso Regional Government's Innovation Fund of Competitiveness (FIC), which focuses on the development of marine energy in the Valparaíso Region, which includes Easter and Robinson Crusoe Islands.

### ***Remote Islands***

A number of discussions are ongoing with island nations focused on the application and integration of CETO into their existing power networks. Carnegie would expect to formalise one or more of these discussions in the coming months.

### ***Australian Research Council Grant Awarded***

In conjunction with the University of Western Australia, Carnegie was awarded a grant from the Australian Research Council towards a \$460,000 project to investigate more technically and cost efficient anchoring systems for CETO. This project will help to deliver cheaper wave energy projects to industry, as subsea foundations are a significant portion of the CETO cost equation.

### ***Shortlisting for World Sustainability Award***

During the quarter, Carnegie was selected for the Global Sustainia 100 shortlist, part of an annual international award that honours outstanding achievement in sustainability performance.

### ***Winner of Clean Energy Council's Innovation Award***

Carnegie was selected as the winner amongst a competitive field at the Australian Clean Energy Council's Awards night, in the "Innovation" category for its ground breaking work in the wave energy industry with the world's only currently operating grid connected wave energy project – the Perth Project.





**Carnegie's Commercial Manager, Rebecca Cutter, receiving the CEC Innovation Award on behalf of Carnegie from Kane Thornton, Chief Executive of the Clean Energy Council**

#### **About Carnegie**

[Carnegie Wave Energy Limited](#) is an Australian, ASX-listed (ASX:CWE) wave energy technology developer. Carnegie is the 100% 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.

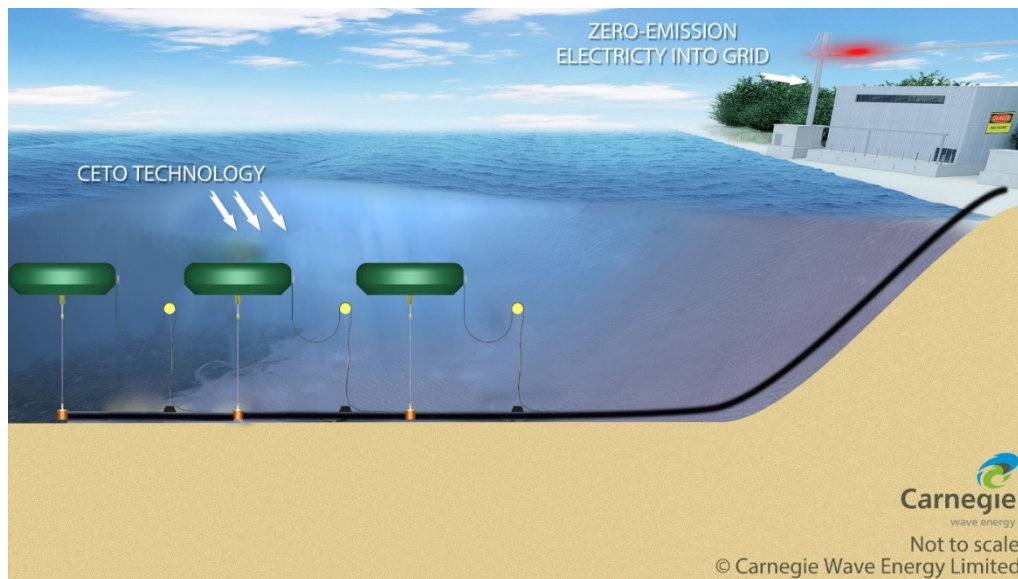
#### **Perth Wave Energy Project ('PWE') Fact File**

- PWE is the world's only operating commercial-scale CETO grid and desalinated water connected wave energy project.
- The Perth Wave Energy Project is supported by \$13.1m funding from the Australian Renewable Energy Agency.
- PWE is 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 is supported by a \$1.27m AusIndustry grant from the Clean Technology Innovation Program.
- Providing 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 1MW (1000kW) power capacity, some four times of the current CETO 5 generation being used in the Perth Project. It will also have 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, \$20m loan facility from the Australian Clean Energy Finance Corporation. The clean, renewable energy generated by the Project will be sold to the Australian Dept of Defence at Australia's largest naval base, HMAS Stirling, on Garden Island in Western Australia.



**CETO 6 Project Power Schematic**

### **About ARENA**

ARENA was established by the Australian Government to make renewable energy technologies more affordable and increase the amount of renewable energy used 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 is currently supporting more than 200 projects and is actively seeking new projects to support.

### **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")

30 June 2015

### Consolidated statement of cash flows

| Cash flows related to operating activities                | Current quarter<br>\$A'000 | Year to date<br>(12 months)<br>\$A'000 |
|---|----------------------------|--|
| 1.1 Receipts from customers                               | -                          | -                                      |
| 1.2 Payments for (a) staff costs*                         | (746)                      | (2,091)                                |
| (b) advertising and marketing                             | (15)                       | (73)                                   |
| (c) research and development                              | (3,731)                    | (15,771)                               |
| (d) leased assets   | (9)                        | (34)                                   |
| (e) other – corporate overheads & working capital         | (396)                      | (1,922)                                |
| 1.3 Dividends received                                    | -                          | -                                      |
| 1.4 Interest and other items of a similar nature received | 33                         | 232                                    |
| 1.5 Interest and other costs of finance paid              | (3)                        | (14)                                   |
| 1.6 Income taxes refunded                                 | -                          | 3,963                                  |
| 1.7 Other -   |                            |  |
| (a) ERP, LEED and AusIndustry Grant Funding Receipts      | 3,295                      | 4,326                                  |
| (b) Royalty Income  | 403                        | 1,342                                  |
| <b>Net operating cash flows</b>                           | <b>(1,169)</b>             | <b>(10,042)</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<br>\$A'000 | Year to date<br>(12 months)<br>\$A'000 |
|---|----------------------------|--|
| 1.8 Net operating cash flows (carried forward)        | (1,169)                    | (10,042)                               |
| <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                       | (24)                       | (78)                                   |
| (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>(24)</b>                | <b>(78)</b>                            |
| <b>Net investing cash flows</b>                       |                            |  |
| <b>1.14 Total operating and investing cash flows</b>  | <b>(1,193)</b>             | <b>(10,120)</b>                        |
| <b>Cash flows related to financing activities</b>     |                            |  |
| 1.15 Proceeds from issues of shares, options, etc.    | (2)                        | 595                                    |
| 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>(2)</b>                 | <b>595</b>                             |
| <b>Net financing cash flows</b>                       |                            |  |
| <b>Net increase (decrease) in cash held</b>           | <b>(1,195)</b>             | <b>(9,525)</b>                         |
| 1.21 Cash at beginning of quarter/year to date        | 6,524                      | 14,854                                 |
| 1.22 Exchange rate adjustments to item 1.20           | -                          | -                                      |
| 1.23 <b>Cash at end of quarter</b>                    | <b>5,329</b>               | <b>5,329</b>                           |

**Notes**

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

- A royalty income payment of \$377,412 for the quarter ended 30 June 2015 which was received on 28 July 2015.
- The tax refund for the year ended 30 June 2015 which is expected to be approximately \$10 million.

+ 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<br>\$A'000 |
|---|----------------------------|
| 1.24 Aggregate amount of payments to the parties included in item 1.2 | 313                        |
| 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<br>\$A'000 | Amount used<br>\$A'000 |
|--|-----------------------------|------------------------|
| 3.1 Loan facilities – Convertible Notes & Senior Debt Facility | 23,690                      | 3,690                  |
| 3.2 Credit standby arrangements                                | -                           | -                      |
| 3.3 Australian Government grant funding facilities             | 35,318                      | 23,288                 |

c. The loan facilities includes a \$20 million senior debt loan facility with the Australian Clean Energy Finance Corporation which reached financial close on the 25 January 2015 and which has not yet been drawn upon. The Facility expires on 18 March 2019.

+ 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<br>\$A'000 | Previous quarter<br>\$A'000 |
|---|---|----------------------------|-----------------------------|
| 4.1   | Cash on hand and at bank                              | 2,725                      | 1,848                       |
| 4.2   | Deposits at call                                      | 2,000                      | 4,072                       |
| 4.3   | Bank overdraft  | -                          | -                           |
| 4.4   | Other (provide details) – <i>Guarantee facilities</i> | 604                        | 604                         |
| <b>Total: cash at end of quarter</b> (item 1.23)  |   | <b>5,329</b>               | <b>6,524</b>                |

**Acquisitions and disposals of business entities**

|   | Acquisitions<br>(Item 1.9(a)) | Disposals<br>(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: 31 July 2015

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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.