

## ASX ANNOUNCEMENT

28 April 2017

### Report to Shareholders for the Quarter Ended 31 March 2017

Dear Shareholder,

It has been an exciting quarter for Carnegie to further establish itself as Australia's leading developer and integrator of utility scale battery storage, solar energy and wave energy technologies. Strong growth has been made in our Australian solar and battery project business with an opportunity pipeline in excess of \$170 million with our strategic delivery partners. Positive advancements have also been made to establish wave energy projects with government funding opportunities both here in Australia and overseas. We were delighted to complete an oversubscribed \$18 million capital raise just after the close of the quarter in April.

#### ***Utility Scale Battery Energy Storage***

Carnegie submitted a response to the Government of South Australia's Expression of Interest process for the provision of a utility scale battery energy storage solution into the South Australia electricity network. Carnegie also confirmed it is a bidder in the Victorian Government's tender for 100MW of battery storage capacity.

#### ***Solar Power***

Carnegie announced its first Build Own Operate solar project, committing to develop a 10MW Solar Power Station in Northam, Western Australia. The station will consist of 34,000 solar panels constructed on 25 Hectares of strategically located land to deliver approximately 24,000 MWh of electricity per annum for at least the next 25 years. The system will also be utility scale battery storage ready and is expected to commence operation by the end of 2017.

#### ***Wave Energy***

The election of a new West Australian Government confirmed a \$19.5 million commitment for a wave farm in Albany, Western Australia. The Albany Wave Project will be the first commercial scale wave farm in Australia and will demonstrate the potential for West Australia and Australia to tap into a highly consistent renewable resource; delivering 24/7 clean power into the electrical grid. The Project, to be delivered in stages, will involve an initial 1MW unit followed by a 20MW wave farm resulting in over \$100m of local investment.

#### ***Financials***

During the quarter, we commenced a capital raise via a Share Purchase Plan and Share Placement, resulting in an oversubscribed \$18 million of funds raised just after the completion of the quarter. The funds will be used for the development of our Northam Solar Project as well as supporting our solar and microgrid project pipeline development and delivery. The Company currently has \$23m cash at bank and \$38m in undrawn Government funding.



**Dr Michael Ottaviano**  
**CEO & Managing Director**



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## 1. Utility Scale Battery Storage

### Battery Energy Storage Solutions for South Australia & Victoria

During the quarter, Carnegie submitted a response to the Government of South Australia's Expression of Interest process for the provision of a utility scale battery energy storage solution into the South Australia electricity network. Carnegie, through its 100% owned subsidiary Energy Made Clean, is currently the largest Australian designer and integrator of utility scale battery storage solutions and has delivered more than 25 utility scale battery systems across Australia. Carnegie is uniquely positioned to deliver an Australian led-solution into the South Australian electricity network.



**From Left to Right: Lendlease Services MD, Douglas Moss, Carnegie CEO Michael Ottaviano and the Premier of South Australia, Hon Jay Weatherill MP.**



**Model of Carnegie's utility scale battery energy storage solution for South Australia**

For this opportunity, Carnegie has teamed with Samsung SDI, a world leader in the manufacture and supply of utility scale lithium ion battery cells. The world's largest battery storage facility, a 120MWh plant commissioned earlier this year in California, used Samsung's batteries and was delivered in a 6 month timeframe. Samsung has delivered more than 1300MWh of utility battery storage globally. Lendlease Services will also be core to the delivery of this project, via its Engineering, Procurement and Construction (EPC) joint venture with Energy Made Clean. Carnegie's consortium also includes financial, project and energy retailing partners with preferred locations for a range of different energy storage blocks across the South Australian electricity network.

Carnegie is also currently responding to other opportunities including the Victorian Government's 100MW battery storage procurement process.

## 2. Solar Energy Projects

### **Build Own Operate 10MW Solar Power Station in Northam, Western Australia**

Carnegie's 10MW Solar Power Station in Northam, Western Australia, will consist of 34,000 solar panels constructed on 25 Hectares of land, delivering approximately 24,000 MWh of electricity per annum for at least the next 25 years. The system will also be able to accommodate utility scale battery storage in the future. This will be the first large scale solar project to be delivered as part of the joint venture between Carnegie's wholly owned subsidiary Energy Made Clean and leading property and infrastructure company Lendlease.

Carnegie has been developing the 100% privately funded project to date and will own and operate the solar power station for at least the next 25 years. Carnegie will continue to pursue the Build Own Operate business model through the investment and operation of the solar farm and will sell the power under contract through a power purchase agreement or on a merchant basis into the electricity market.

This project presents a fantastic opportunity for local investment and employment, particularly for the community of Northam. Carnegie aims to use local capability where possible, with 40 job opportunities expected through the construction phase. The land has also been secured from a local landholder and will provide them with an alternative revenue stream from the agricultural land. The energy will effectively power 3,800 households and displace 17,000 tonnes per year of greenhouse gas emissions, which is the equivalent of taking 3,500 cars off the road.

Carnegie's Chief Executive Officer, Dr Michael Ottaviano said: "This is the next step in the evolution of Carnegie Clean Energy. The Tier 1 capabilities of the EMC Lendlease joint venture, combined with the design, development and financing capabilities of Carnegie, provide us with a clear point of difference in the rapidly emerging utility solar market in Australia. Carnegie is planning on replicating this approach across Australia."

Construction for the Project is expected to start in mid-2017 with project commissioning expected by the end of 2017.



**Artists representation of the proposed Northam solar array**

### **Mt Barnett Station Solar Water Pumps**

Energy Made Clean, through its joint venture with Eastern Guruma Pty Ltd, signed an agreement for the supply and install of 10 solar water pumps at Mt Barnett Station in the Kimberley, Western Australia. The submersible solar water pumps will be predominantly used to provide drinking water to cattle on the station. Energy Made Clean will also provide a remote communication network system to monitor the pumps and eliminate man power required on the station to check the system status. This system has wide applicability for all outback stations in the region.

### **3. Wave Energy Developments**

#### **\$19.5 million commitment for Albany Wave Farm**

The election of a new West Australian Government confirmed a \$19.5 million commitment for a wave project in Albany, Western Australia. The Project will be the first commercial scale wave farm in Australia and will demonstrate the potential for WA and Australia to tap into a highly consistent renewable resource; delivering 24/7 clean power into the electrical grid. The Project, to be delivered in stages, will involve an initial 1MW stage followed by a 20MW wave farm resulting in over \$100m of local investment. Successful demonstration of the 20MW farm could in turn lead to a 100MW expansion. The project also involves the establishment of a Wave Energy Centre of Excellence to be based at Albany in Western Australia and to involve the University of WA's Ocean Institute along with Carnegie.

Carnegie's Managing Director, Dr Michael Ottaviano, commented: "We're delighted to be working with the newly elected Government of Western Australia to deliver on the potential of wave energy at Albany. Wave energy justifiably demands the sort of investment that other power technologies, whether fossil fuel or renewable, have benefited from and the Government's \$19.5 million commitment is a strong step towards this."



**From Left to Right: Carnegie CEO Michael Ottaviano, Minister for Commerce and Industrial Relations, the Hon Bill Johnston MLA, Premier of Western Australia, the Hon Mark McGowan MLA and Minister for Regional Development, the Hon Alannah MacTiernan MLC discussing the Albany Wave Project.**

#### **Carnegie research projects awarded Scotland Government funding**

In January 2017, the Scottish Government's dedicated Wave Energy Grant Funded Research Body, Wave Energy Scotland (WES), awarded funding to two wave energy research projects in which Carnegie is a partner.

The two wave energy research projects were successful in receiving a total of approximately £500,000 for the latest funding call by WES focused on innovative materials and manufacturing Processes.

Scotland's Minister for Business, Innovation and Energy, Paul Wheelhouse said: "Continued innovation is vital in emerging renewable technologies such as wave energy. This funding could result in longer lasting wave converters that are better able to harness the power of the sea and more efficiently turn it into renewable energy."

#### **4. Microgrids & Hybrid Systems**

##### **Morra Worra Worra Solar and Battery Microgrids**

Energy Made Clean, through its joint venture with Eastern Guruma Pty Ltd, was selected as the preferred supplier for solar and battery microgrids to two Indigenous communities, Joy Springs and Yakanarra, in the Fitzroy Valley, serviced by Marra Worra Worra Aboriginal Corporation. The multi-million dollar contract is due to commence construction in the second half of this year.

Marra Worra Worra is an Aboriginal owned and run resource centre for over 35 Aboriginal Communities in the Fitzroy Valley.

Dickie Bedford, Marra Worra Worra's CEO commented: "Our primary aim is to provide support services to existing and emerging groups in the Fitzroy Valley and to assist them to develop strong and sustainable communities and organisations. There is an immediate need for the communities of the Fitzroy Valley to take steps to ensure their sustainability and survival. Our investment in solar will help

to reduce remote Indigenous communities' reliance on diesel power stations and provide long term independence."

## 5. Project Pipeline and Opportunities

Several major microgrid projects are now being delivered. One such project is the Garden Island Microgrid Project, which will integrate existing diesel generation and grid infrastructure with a 2MW battery storage and control systems, large scale 2MW solar PV farm and a wave energy project. Long lead items have now arrived for the solar and battery system and on site construction is expected to commence this quarter.

Also underway is the delivery of 2.6MWh battery energy storage system to connect to the already constructed 1.6MWh solar array for the CSIRO's Square Kilometre Array. The off-grid system, 645km northeast of Perth, Western Australia, is the world's most sophisticated antenna system to have the most sophisticated solar, battery storage and diesel power hybrid system in the world.

Through our joint venture agreements with leading property and infrastructure company Lendlease, Aboriginal Corporation Eastern Guruma Pty Ltd and New Zealand renewable energy developer Infratec, we currently have an opportunity pipeline valued at more than \$170million. The opportunities range from utility scale solar PV, to first in kind microgrid projects, multi-megawatt battery storage solutions and our unique fringe of grid stand-alone power systems. These projects span across Australian and overseas for clients in the utilities, tourism, defence, agriculture and resource sectors.

This pipeline is in addition to our Expressions of Interest to the Governments of South Australia and Victoria regarding the provision of utility scale battery energy storage solutions into the state electricity networks.

## 6. Corporate Activities

### \$18 million Capital Raise

In March 2017, Carnegie announced a capital raise via a share purchase plan. This was completed on 13 April and resulted in an oversubscribed capital raise totalling \$18 million. The money is to be used to fund our share of the 10MW Northam Solar Project as well as support Carnegie's solar and microgrid project pipeline development and delivery.

### Broome Facility Launched

On March 3, Energy Made Clean opened a new facility in Broome, Western Australia. The facility opened as part of the joint venture agreement between Energy Made Clean and Eastern Guruma Pty Ltd to create Energy Made Clean Kimberley (EMCK). EMCK's new office and workshop in Broome will provide a direct path of service to the region and will provide better opportunity to engage with the local community in the consultation process to establish energy needs as well as provide employment for local contractors to install and monitor energy systems.



**EMCK Broome facility**

### **John Davidson board appointment**

Energy Made Clean (EMC) Managing Director, John Davidson, was appointed to the Carnegie Board of Directors on 16 February. The appointment of Mr Davidson as Executive Director followed the acquisition of EMC by Carnegie in December 2016.

Mr Davidson brings to the Board more than 30 years' experience leading major strategic business initiatives and business transformation in a diverse range of industries, particularly the renewable energy and technology sectors.

### **Conferences and Presentations**

During the quarter, Carnegie presented at multiple conferences around the world, including RenewableUK Wave & Tidal Conference in London, Remote Area Power Supply Conference in Sydney and the World Renewable Energy Congress and WA Power & Gas Conference in Perth.

The Company hosted several presentations and tours at some of our Standalone Power Systems in Western Australia, including Uaroo Station, Mackerel Islands Resort and the Alkimos community battery energy storage system.

Carnegie's CEO, Michael Ottaviano, also presented to over 400 current and prospective shareholders in Sydney, Melbourne, Adelaide and Perth.

The Company hosted the Australian Institute of Company Directors for a tour of our facility and panel discussion on 'The Future of Energy' with an impressive line-up of panellists, including: Jason Waters, CEO Synergy; Thomas Scott-Morey, CEO Collgar Wind Farm; Sean McGoldrick, Executive Manager Asset Management Western Power; Kirsten Rose, Principal Low Emission Technology BHP Billiton; and Michael Ottaviano, CEO Carnegie Clean Energy.

We also welcomed a long list of VIPs to our office, including Dr. A. M. Gondane, High Commissioner of India in Australia, Dr Helena Studdert, Australia's Consul-General in Bali, Indonesia and the Hon Josh Frydenberg MP, Australian Minister for the Environment and Energy, the Honourable Josh Frydenberg. Minister Frydenberg was visited Energy Made Clean's Belmont battery integration and testing facility and was provided a briefing on Carnegie's battery, solar and wave energy development activities.



**From left to right: Energy Made Clean CEO, John Davidson, Minister for the Environment and Energy, the Hon Josh Frydenberg MP, and Carnegie Clean Energy CEO, Michael Ottaviano, inside a battery energy storage system.**

#### **About Carnegie Clean Energy Limited**

[Carnegie Clean Energy Limited](#) is an ASX-listed (ASX: CCE) solar energy, battery storage and wave energy, project developer with over 10,000 Australian shareholders. Carnegie is the 100% owner and developer of the CETO Wave Energy Technology intellectual property and is also 100% owner of leading Australian battery/solar microgrid Engineering Procurement and Construction (EPC) company Energy Made Clean (EMC). EMC specialises in the delivery of mixed renewable energy microgrid projects to islands and remote and fringe of grid communities. Carnegie is the only company in the world to offer a combination of wave, solar, wind, battery storage and desalination via microgrids which are ideally suited to islands, off grid communities and fringe of grid locations. Within Australia, Carnegie delivers its solar energy and battery storage projects via a joint venture between Energy Made Clean and multinational property and infrastructure company Lendlease (ASX: LLC).

#### **About Energy Made Clean**

Energy Made Clean is a leading solar and battery microgrid developer providing off-grid power and utility scale solutions. Recently named one of Australia's most innovative companies by the Australian Financial Review, EMC specialises in the delivery of mixed renewable energy microgrid projects, ideally suited to island, remote and fringe of grid communities. EMC offers an end to end renewable energy solution, dedicated to in-house research and development, custom design, construction, operation, maintenance and monitoring.

#### **About the Energy Made Clean/ Lendlease Joint Venture Agreement**

In December 2016, Energy Made Clean signed a 50/50 Joint Venture Agreement with Lendlease's Services business. By leveraging Lendlease's national footprint across Australia, this JVA is providing opportunities for EMC to increase its capacity to bid for and deliver a broader range of solar, BESS and microgrid opportunities within Australia, including increased access to the National Energy Market (NEM). Lendlease's Services business employs approximately 3,000 people and has a presence in every Australian state and territory.

#### **About the Energy Made Clean / Easter Guruma Pty Ltd Joint Venture Agreement**

EMC and aboriginal corporation Eastern Guruma Pty Ltd entered into a joint venture agreement to create Energy Made Clean Kimberley (EMCK). EMCK provides innovative energy solutions, including renewable energy technologies and stand-alone power systems, which will deliver reliable, cost effective and low maintenance services to people living and working in remote areas.

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**For more information:**

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## Appendix 4C

### Quarterly report for entities subject to Listing Rule 4.7B

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

**Name of entity**

CARNEGIE CLEAN ENERGY LIMITED

**ABN**

69 009 237 736

**Quarter ended ("current quarter")**

31 March 2017

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	1,551	2,699
1.2 Payments for		
(a) research and development	(1,013)	(5,756)
(b) product manufacturing and operating costs	(2,581)	(5,039)
(c) advertising and marketing	(67)	(120)
(d) leased assets	(67)	(84)
(e) staff costs	(1,906)	(3,311)
(f) administration and corporate costs	(1,577)	(2,710)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	13	113
1.5 Interest and other costs of finance paid	(195)	(387)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	4,212
1.8 Other – Royalty Income	179	678
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(5,663)</b>	<b>(9,705)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	(183)	(2,390)
(b) businesses (see item 10)	(19)	(1,619)
(c) investments	-	-

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
(d) intellectual property	-	-
(e) other non-current assets	-	-
<b>2.2 Proceeds from disposal of:</b>		
(a) property, plant and equipment	-	-
(b) businesses (see item 10)	-	-
(c) investments	-	-
(d) intellectual property	-	-
(e) other non-current assets	-	-
<b>2.3 Cash flows from loans to other entities</b>	-	-
<b>2.4 Dividends received (see note 3)</b>	-	-
<b>2.5 Other - Cash acquired with business purchase</b>	-	2,200
<b>2.6 Net cash from / (used in) investing activities</b>	<b>(202)</b>	<b>(1,809)</b>

<b>3. Cash flows from financing activities</b>		
3.1 Proceeds from issues of shares	750	750
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	-	(85)
3.5 Proceeds from borrowings	5,000	5,498
3.6 Repayment of borrowings	(23)	(41)
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
<b>3.10 Net cash from / (used in) financing activities</b>	<b>5,728</b>	<b>6,122</b>

<b>4. Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1 Cash and cash equivalents at beginning of quarter/year to date	7,355	12,610
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(5,663)	(9,705)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(202)	(1,809)
4.4 Net cash from / (used in) financing activities (item 3.10 above)	5,728	6,122

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of quarter</b>	<b>7,218</b>	<b>7,218</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1	Bank balances	6,415	6,559
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other – <i>Guarantee facilities</i>	803	796
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>7,218</b>	<b>7,355</b>

**6. Payments to directors of the entity and their associates**

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

<b>Current quarter \$A'000</b>
319
-

Payments to Directors are consulting fees, salary and superannuation.

**7. Payments to related entities of the entity and their associates**

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

<b>Current quarter \$A'000</b>
-
-

8. <b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	10,406	8,606
8.2 Credit standby arrangements	-	-
8.3 Other – Government grant funding	29,597	1,319
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

The loan facilities include 3,606 convertible notes at an issue price of \$1,000 each. The notes can convert to equity at any time at 3.8 cents per share and pay an 8.0% p.a. coupon. Furthermore, 500 convertible notes at an issue price of \$10,000 each were issued in Q3. These notes can convert to equity at any time at 8.0 cents per share and pay an 8.0% p.a. coupon.

The loan facilities also include \$1.8 million in unsecured convertible notes from the Australian Renewable Energy Agency - Emerging Renewables Program. These notes have not been drawn down yet. The notes can convert to equity at 5.3 cents per share and do not pay an interest coupon.

Government funding consists of \$29.6 million across two grants from the Australian Renewable Energy Agency - Emerging Renewables Program and one grant in the UK for the WaveHub project. This excludes the \$19.5 million recently committed by the WA government for the Albany Wave Project.

9. <b>Estimated cash outflows for next quarter</b>	\$A'000
9.1 Research and development	982
9.2 Product manufacturing and operating costs	2,797
9.3 Advertising and marketing	-
9.4 Leased assets	-
9.5 Staff costs	2,499
9.6 Administration and corporate costs	809
9.7 Other (provide details if material) Investment in Carnegie owned Solar projects	4,509
<b>9.8 Total estimated cash outflows***</b>	<b>11,596</b>

**Notes**

\*\*\* The estimated cash outflows are required to exclude all cash receipts from sales and capital raised subsequent to the quarter end. This means the \$18 million of cash raised through the issue of shares completed after the quarter is not included in the above.

10. Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above)	Acquisitions	Disposals
10.1 Name of entity	-	-
10.2 Place of incorporation or registration	-	-
10.3 Consideration for acquisition or disposal	-	-
10.4 Total net assets	-	-
10.5 Nature of business	-	-

### Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here:



(Company secretary)

Date: 28 April 2017

Print name: Aidan Flynn

### 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 that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.