



### 31 January 2017

### **December 2016 Quarterly Report**

- Wave Energy Convertor (WEC) successfully completed final phase of pre-commercial ocean testing
- Configuration improvements made based on numerical modelling results, improving power generation capabilities and Detailed Design stage now in progress
- Retail exemption licence application granted by the WA Public Utilities Office enabling Protean to commence the sale of solar energy to commercial customers
- Proposals in progress to potential customers for solar energy contracts with the intention of establishing the Company's first revenue stream
- Protean entered agreement to acquire 50% stake in a Vanadium Redox Flow Battery Energy Storage System, a highly complementary acquisition that will potentially allow it to deliver energy to customers with an integrated storage solution

Protean Energy Ltd (**Protean** or the **Company**) is pleased to provide an operational update to accompany its Appendix 4C for the three-month period to 31 December 2016 released today.

### **Completion of Pre-Commercial Testing**

At the beginning of the quarter, the Wave Energy Convertor (**WEC**) underwent a number of modifications following valuable insights gained from analysis of the Phase 2 deployment. The configurations were made following analysis of the test results alongside the numerical "wave to wire" model that indicated a positive correlation. The positive correlation between the numerical model validated the model to be used as a key design tool for scaling, tuning and optimising the energy generation system in the WEC unit.

In November, the Company successfully completed the final phase of pre-commercial testing of its proprietary wave energy converter (WEC) and results indicated power generation capabilities of up to 5kW. Following the positive testing results, the Company is now progressing the next stage of detailed design, material selection and production design to be complete before progressing to a commercial trial, targeted in the first half of 2017 subject to approvals.

### **Evaluation of Testing Locations**

The Company is currently in the process of evaluating test sites for selection, to demonstrate its commercial wave farm. Locations include California, Galway Bay - Ireland, Orkney – Scotland, Singapore – South East Asia and Australia.

Each of the locations offer different benefits and the various countries offer different grant schemes and financial assistance for the commercial development of wave energy. A full evaluation is being carried out and the Company is targeting evaluation completion of each site in the March 2017 quarter.

### Retail Licence Exemption (RLE) application

During the quarter, the Company submitted an application for a retail licence exemption to the Western Australia (WA) Public Utilities Office (PUO) supporting the Company's focus to offer clean reliable energy. The application relates to the sale of electricity under solar power purchase agreements (**SPPAs**) and was approved in December. The licence will enable Protean to commence the sale of solar energy in the state and the Company has already submitted proposals to commercial customers to provide power under SPPAs with the intention of establishing a near term revenue stream for the business.



### Vanadium Redox Flow Battery Energy Storage System Acquisition

In December 2016, Protean announced it is to acquire a 50% stake in a Vanadium Redox Flow Battery Energy Storage System (**VRFB-ESS**) company KORID Energy, a subsidiary of KORID Inc, Protean's JV partner in Korea. The VRFB-ESS is a durable rechargeable flow battery designed with the ability to store energy more effectively and potentially for longer than existing battery solutions giving it the ability to eliminate concerns about the intermittency of renewable energy.

This represents a highly strategic acquisition for the Company. Not only does it diversify its intellectual property it provides a strong competitive advantage and enhances the customer offering.

Furthermore, the project is highly complementary to the Company's Daejon Project asset in Korea, consisting of vanadium, a key element in the manufacture of the VRFB-ESS and aligns with its strategy to offer hybrid energy solutions.

On 17 January 2017, the share issue for the acquisition received approval from shareholders. Pending completion of final due diligence and completion of negotiations of the final terms currently in progress Protean intends to assemble a 25kW battery for deployment to a trial site in Australia to form part of an overall solar solution providing reliable energy.

### Corporate

In December, the Company received a Research and Development Tax Incentive Refund of \$713,800, the full amount of its application, boosting its cash position.

The Company has taken positive action to reduce costs and conserve cash. These initiatives have included a reduction in office rent, payment of Director salaries being placed on hold, and a reduction in activity to focus on key operational targets being the wave energy design effort and the VRFB ESS acquisition as well as various other measures.

The Company closes the quarter with \$270,000 in cash at bank.

### Outlook

The completion of the pre-commercial ocean testing marks a milestone for the Company and Protean is now progressing the detailed design of the WEC following valuable learnings from the testing phases. The Company is now in the process of identifying suitable locations for such a trial, which it expects to be able to commence by the end of the June 2017 quarter subject to approvals.

In addition, the Company is progressing its strategy to become a provider of affordable and reliable renewable energy. The retail licence exemption licence granted by the Western Australia (WA) Public Utilities Office (PUO) will enable the Company to commence the sale of solar energy in the state. The Company has already begun making progress towards establishing potential commercial customers and is progressing a number of proposals.

Finally, the acquisition of the VRFB project will provide the Company with a significant advantage and further opportunities in the renewable energy sector. According to a report by *Navigant Research*, the energy storage sector was worth US\$240 million globally in 2016 and is expected to increase to \$3.5bn in 2026, representing a 35.8% CAGR over the next ten years. The acquisition will firmly position Protean in this rapidly growing and important sector.

Mr. Stephen Rogers, Managing Director, Protean Energy commented: "I am pleased with the progress this quarter towards the commercialisation of the WEC. Successful completion of the pre-commercial ocean testing allows us to progress our strategy towards securing a pre-commercial trial."

"As a business, we are focused on developing an early revenue stream. The grant of our retail license exemption in WA is the first step towards this and we're now progressing a number of proposals for potential commercial customers. I look forward to communicating important updates on this strategy as we progress."

# PROTEAN ENERGY

#### -ENDS-

## ABOUT PROTEAN ENERGY LIMITED (ASX: POW)

Protean Energy Limited is a new energy company focused today on the commercialisation of its proprietary Protean™ Wave Energy Convertor (**WEC**) system. The Protean™ WEC is an innovative wave energy technology that is designed to convert all six degrees of wave motion into a usable form of energy. The Protean™ WEC has been developed to use compact architecture to produce power from a small, low cost, scalable design targeted at keeping the projected cost of energy down and has been designed to be cost competitive to manufacture, deploy and maintain.

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+Rule 4.7B

# **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

Protean Energy Limited	
ABN Quarter ended ("current quarter")	
81 119 267 39	31 December 2016

Cor	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) research and development	(516)	(730)
	(b) product manufacturing and operating costs	-	-
	(c) advertising and marketing	(21)	(40)
	(d) leased assets	-	-
	(e) staff costs	(217)	(414)
	(f) administration and corporate costs	(92)	(384)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	1	2
1.5	Interest and other costs of finance paid	-	(9)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	714	714
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(131)	(861)

2.	Cash flows from investing activities	
2.1	Payments to acquire:	
	(a) property, plant and equipment	-
	(b) businesses (see item 10)	-
	(c) investments	

<sup>+</sup> See chapter 19 for defined terms

1 September 2016

Page 1

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
	(d) intellectual property	-	-
	(e) other non-current assets	-	-
2.2	Proceeds from disposal of:		
	(a) property, plant and equipment	-	-
	(b) businesses (see item 10)	-	-
	(c) investments	-	-
	(d) intellectual property	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Investment in Joint Venture	(64)	(108)
2.6	Net cash from / (used in) investing activities	(64)	(108)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	-	
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	-	
3.5	Proceeds from borrowings	-	
3.6	Repayment of borrowings	-	
3.7	Transaction costs related to loans and borrowings	-	
3.8	Dividends paid	-	
3.9	Other (provide details if material)	-	
3.10	Net cash from / (used in) financing activities	-	

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of quarter/year to date	465	1,239
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(131)	(861)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(64)	(108)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of quarter	270	270

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	270	465
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	270	465

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	74
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

Payment of Director fees of \$74,438 during the quarter. This amount includes the payments made to resigning Director Mr Bruce Lane.

7.	Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1	Aggregate amount of payments to these parties included in item 1.2	13
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

Payments made to related parties during the quarter for Director and Director Consultancy fees:

Seymour Associates 4,000 JLC Corporation 9,000

1 September 2016

<sup>+</sup> See chapter 19 for defined terms

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1	Loan facilities	-	-
8.2	Credit standby arrangements	-	-
8.3	Other (please specify)	-	-
8.4	Include below a description of each facility	,	

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.

9.	Estimated cash outflows for next quarter	\$A'000
9.1	Research and development	200
9.2	Product manufacturing and operating costs	-
9.3	Advertising and marketing	25
9.4	Leased assets	-
9.5	Staff costs	175
9.6	Administration and corporate costs	100
9.7	Other (provide details if material)	-
9.8	Total estimated cash outflows	500

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	-	-

1 September 2016 Page 4

<sup>+</sup> See chapter 19 for defined terms

### **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:		Date: 31 January 2017
	(Director/Company secretary)	-

Print name: Matthew Foy

### **Notes**

- 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.
- 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.

1 September 2016 Page 5

<sup>+</sup> See chapter 19 for defined terms