

## BOARD OF DIRECTORS & CEO

**Non-Executive Chairman**  
Terry Stinson

**Non-Executive Director**  
Grant Mooney

**Non-Executive Director**  
Michael Fitzpatrick

**Non-Executive Director**  
Anthony Shields

**Chief Executive Officer**  
Jonathan Fievez

## CONTACT DETAILS

[www.carnegiece.com](http://www.carnegiece.com)

[enquiries@carnegiece.com](mailto:enquiries@carnegiece.com)

+61 8 6168 8400

21 North Mole Drive  
North Fremantle WA 6159

PO Box 39  
North Fremantle WA 6159

## QUARTER HIGHLIGHTS

- EuropeWave Phase 2 Project (contract value €600k / A\$890k) progressing on schedule, advancing CETO commercialisation
- EuropeWave Phase 2 testing commencing soon – power take-off (PTO) testing in Italy and wave tank testing in Spain
- EuropeWave participation validates CETO technical and commercial potential
- EuropeWave Phase 3, if selected, provides opportunity to deploy CETO at a world-renowned European site
- Collaboration with world-class partners continues – Hewlett Packard Enterprise (HPE) (recent two year extension to collaboration agreement), Blue Economy CRC, Huon, Tassal, Hutchinson and more
- Carnegie's Product Validation Roadmap provides an accelerated route to commercialisation
- Growing uptake and international government support for wave energy to advance global net zero targets

### Carnegie's CEO, Mr Jonathan Fiévez, commented on the Quarter:

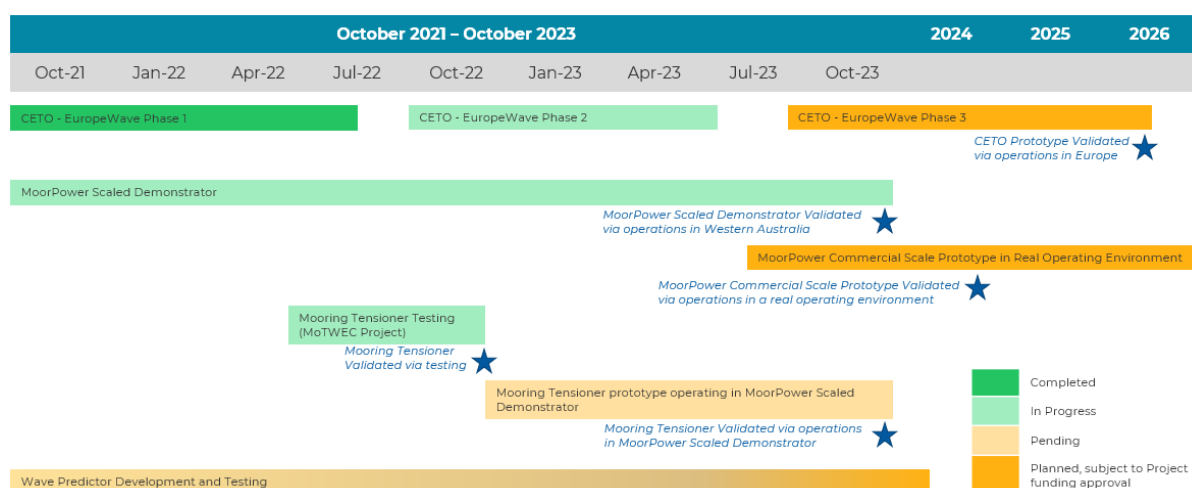
*"This marks the end of a pivotal year for Carnegie, with the team achieving step-change improvements in the performance of our CETO technology and validation of our commercial potential via selection in the EuropeWave programme and commencement of the MoorPower Scale Demonstrator Project. The team is working hard to deliver EuropeWave Phase 2 activities, with PTO and wave tank testing commencing soon in Spain. In parallel we are preparing for assembly and installation activities of the MoorPower Scaled Demonstrator during the upcoming quarter.*

*The Company looks forward to progressing our Product Validation Roadmap and commercial objectives in 2023. We have a world leading technology, enormous experience and the time is now to accelerate the uptake of this abundant renewable*

<p><b>Who is Carnegie?</b></p>	<p>Carnegie develops ocean energy technologies to make the world more sustainable. The company provides commercially competitive technologies to enable the capture of wave energy to make electricity. Waves are an untapped energy source that is consistent, predictable, globally distributed and can be converted into clean, renewable electricity. The scale of the opportunity is significant, Ocean Energy Europe (OEE) forecasts significant growth for wave energy with a €653b market potential by 2050.</p>
--------------------------------	--

## PRODUCTS

Carnegie successfully secured multiple funded programs over the past year. These projects facilitated the launch of the Product Validation Roadmap (figure below), which defines the activities to be progressed over the next 18+ months to validate Carnegie's products and their commercial readiness. The Roadmap will be the format used to provide regular updates to shareholders on progress against key milestones. The Roadmap builds on achievements of the previous Digital Development Pathway and is also fuelled by Carnegie's strategic partnerships.



## CETO

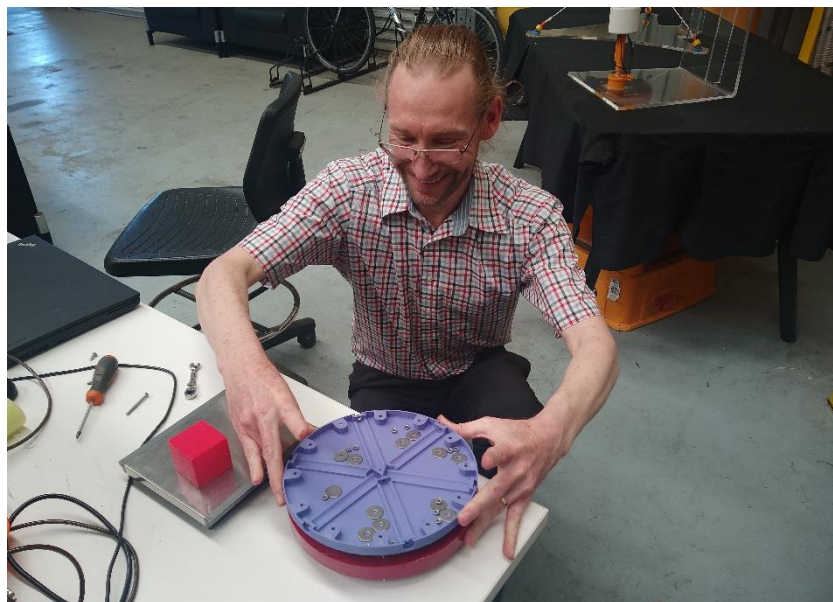
CETO is Carnegie's core technology, a submerged buoy that sits a few metres below the ocean converting ocean waves into zero-emission electricity. Wave energy is following a similar trajectory to offshore wind and solar PV before early commercialisation, and Carnegie is working to reduce the cost of wave energy generation to facilitate its uptake and accelerate scale and customers globally.

CETO Wave Energy Ireland's (CWEI) development and validation progress is encouraging and made through participation in the EuropeWave Pre-Commercial Procurement (PCP) programme, a €22.5m EU-funded programme to advance wave energy technologies for commercial uptake, running as a phased programme from 2021 to 2025.

Following the completion of Phase 1, valued at €291k (A\$463k), CETO Wave Energy Ireland was selected as 1 of 5 contractors to continue onto Phase 2, worth €600k (A\$890k), and running from September 2022 to June 2023. Phase 2 activities include Front End Engineering Design (FEED), power take-off (PTO) component testing, wave tank testing and related certification and commercialisation activities.



During the quarter, the CETO Wave Energy Ireland team commenced assembly of scaled CETO models, power take-offs and control equipment and preliminary dry testing in preparation for the upcoming Phase 2 wave tank testing campaign. The tank testing will commence in March at the Cantabria Coastal and Ocean Basin (CCOB) in Spain.



*Engineer assembling and testing CETO prototype in advance of Phase 2 wave tank testing campaign in Spain*

Through the recent 2-year collaboration agreement extension with HPE, the Reinforcement Learning based CETO controller will be tested during the Phase 2 tank testing campaign, to support validation of this innovative controller. Reinforcement learning is an area of artificial intelligence (AI) in which a

machine learning model is built with the ability to self-learn. This advanced controller has significant potential to improve the efficiency of the device and provide additional stability. Phase 2 testing will also validate the survivability of CETO in extreme conditions by testing novel survivability mechanisms.

The power take-off testing will also take place in Italy in early 2023 with support from CWEI's EuropeWave partner. VGA is providing support and access to new test rigs developed through the European funded IMPACT project and Hutchinson is undertaking some detailed belt testing and providing a belt for the full PTO test campaign.

After the completion of Phase 2, EuropeWave will select and award 3 of participants to deliver Phase 3 of the Programme. Selection for this phase will again be based on rigid (or Strick?), technical and commercial criteria. If selected, this final Phase would see the deployment of CETO at the open-water facilities of the Biscay Marine Energy Platform (BiMEP) in the Basque Country or the European Marine Energy Centre (EMEC) in Scotland. This is an exciting step in CETO's product validation roadmap and fully aligns with the Company's objectives to pave the way for a commercial CETO roll-out and attract future project partners.

Technology developers retain ownership of intellectual property rights (IPRs) generated during the EuropeWave Programme, and so the Company will be able to use the IP to exploit the full market potential of the CETO technology following the EuropeWave Programme.

### **MoorPower**

Significant advancements, (or progress) also made on the \$3.4m MoorPower Scaled Demonstrator Project, in collaboration with the Blue Economy Cooperative Research Centre (Blue Economy CRC). Carnegie's CETO-derived MoorPower technology is designed to deliver sustainable energy supply for vessels moored offshore, such as barges in the aquaculture sector, through wave energy, reducing reliance on diesel.

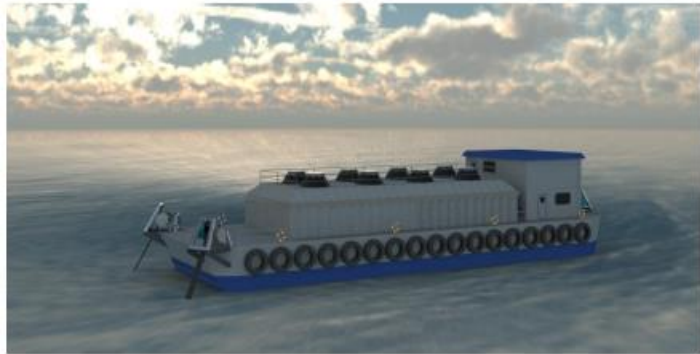
During the quarter, the Company acquired a barge to be utilised for the MoorPower Scaled Demonstrator. The barge is currently undergoing works to prepare it for installation of the MoorPower system.



*MoorPower Scaled Demonstrator Barge acquired and undergoing preparatory works at Carnegie's Research Facility*



During the next quarter, procurement, assembly and manufacture will continue in preparation for onshore testing and on-the-water deployment expected around March 2023 at Carnegie's headquarters and research facility in North Fremantle, Western Australia. Aquaculture industry partners Huon Aquaculture and Tassal Group are supporting the project and could become the first adopters of the MoorPower™ commercial product.



#### Scaled Demonstrator Partners



#### Complimentary Products

The Blue Economy CRC supported Mooring Tensioner for Wave Energy Converters (MoTWEC) Project is developing a Mooring Tensioner that delivers passive tension for CETO and MoorPower products. Fatigue testing of the Mooring Tensioner prototype is ongoing and will feed into followed by the design and integration of a prototype into the power take-off of MoorPower and EuropeWave CETO prototypes.

#### CORPORATE

Carnegie hosted an Investor Webinar for the Capital Markets community on Wednesday, 2 November 2022, to provide an update on the Company's strategy and recent progress. The webinar was well received, and a recording of the event can be accessed at the following link <https://www.youtube.com/watch?v=Ead1p6PUbYU>

Carnegie also held its Annual General Meeting (AGM) on Tuesday, 22 November 2022, and all resolutions were passed. At the AGM the Company's CEO, Jonathan Fiévez provided an updated presentation, and shareholders received a demonstration of the CETO and MoorPower products deployed through virtual reality.

Large Scale Generation Certificates (LGCs) generated through operation of the Garden Island Microgrid were sold in December at close to the recent peak market price, achieving \$194k in revenue from the sale.

#### EVENTS

Carnegie presented at several events during the Quarter, including at the International Conference on Ocean Energy (ICOE) in the Basque Country, Spain, in October. ICOE is the largest international conference on ocean energy, focused on the industrial development of renewable energy.

Carnegie's CEO and two European staff members attended the conference to present and connect with leaders in the ocean energy sector. The team was fortunate that two of Carnegie's Directors were

already in Europe, so they were also able to attend the conference and join the CEO for additional meetings with partners around Europe and the UK.



Carnegie's CEO Jonathan Fiévez presented CETO during the EuropeWave Project Panel (left) and presented MoorPower to a European audience (right) at ICONEE 2022

The Company also exhibited at the World Renewable Energy Congress (WREC) in Perth alongside the Blue Economy CRC to present the MoorPower Project. A tour of Carnegie's Headquarters and Research Facility in North Fremantle was conducted for selected WREC participants.



Carnegie, BMT and the Blue Economy CRC team at World Renewable Energy Congress exhibition (left) and WREC Participants touring Carnegie's research facility (right)

In October, Carnegie's Chief Technology Officer, Alexandre Pichard, also presented at the Edge: Engineering Ocean Solutions forum in Perth. Leading marine industry innovators came together at the event to discuss engineering solutions to ocean challenges and facilitate collaboration across Western Australia's blue economy.

## FINANCIAL NOTES

The Company continues to manage shareholder funds providing a solid financial position to support and complete the projects currently underway.

At the end of the Quarter, Carnegie had approximately \$3.8m in cash reserves. The Company remains debt free and in a solid position financially.

Note 6 to Appendix 4C:

Payments to related parties of the entity and their associates were made during the Quarter. In total, approximately \$67k was paid to Directors and associates for salaries, superannuation and contracted services.

This announcement has been authorised by the Chairman and Company Secretary.

### **For more information**

Carnegie Clean Energy Limited

+61 8 6168 8400

[enquiries@carnegiece.com](mailto:enquiries@carnegiece.com)

[www.carnegiece.com](http://www.carnegiece.com)

### **ABOUT CARNEGIE & CETO WAVE ENERGY IRELAND**

Carnegie Clean Energy (ASX: CCE) is a technology developer focused on delivering ocean energy technologies to make the world more sustainable. CETO Wave Energy Ireland is a wholly owned subsidiary of Carnegie Clean Energy. Carnegie is the owner and developer of the CETO® and MoorPower® technologies, which capture energy from ocean waves and convert it into electricity. Using the latest advances in artificial intelligence and electric machines, Carnegie can optimally control our technologies and generate electricity in the most efficient way possible. The Wave Predictor technology developed by Carnegie uses a proprietary machine learning algorithm to improve the performance of our wave technologies and has additional applications beyond the wave energy industry. The company has a long history in ocean energy with a track record of world leading developments.

<https://www.carnegiece.com/>

### **ABOUT EUROPEWAVE PRE-COMMERCIAL PROCUREMENT PROGRAMME**



EuropeWave PCP is an innovative R&D programme for wave energy technology, which runs from 2022 to 2026. It will combine over €22.5m of national, regional and EU funding to drive a competitive Pre-Commercial Procurement (PCP) programme for wave energy.

Originally pioneered by the Wave Energy Scotland programme, the PCP model provides a structured approach, fostering greater openness, collaboration and sharing of risk between the public sector and technology developers. The programme will focus on the design, development, and demonstration of

cost-effective wave energy converter (WEC) systems for electrical power production that can survive in the harsh ocean environment.

Match-funded by the EU's Horizon 2020 programme, it is a collaboration between Wave Energy Scotland (WES), the Basque Energy Agency (EVE) and Ocean Energy Europe (OEE). This collaboration is closely aligned with the decarbonisation, industrial and competitiveness objectives of the European Green Deal, and is part of a range of actions being taken to meet the European Commission's targets of 100MW of ocean energy by 2025 and at least 1GW by 2030.

The 3 Phases of the Europe Wave PCP:

	Start date	End Date	Number of Contracts		Contract Maximum Value	
			Minimum	Anticipated	ex. VAT	inc. VAT
Phase 1 Concept Development	03 Jan 2022	29 July 2022	5	7	€ 291,667	€ 350,000
Phase 2 FEED and Modelling	26 Sept 2022	30 June 2023	4	5	€ 608,333	€ 730,000
Phase 3 Open- water deployment]	11 Sept 2023	29 May 2026	3	3	€ 3,750,000	€ 4,500,000
				Totals	€ 4,650,000	€ 5,580,000



This is part of the EuropeWave project that has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 883751.

<https://www.europewave.eu/>



## Appendix 4C

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

**Name of entity**

CARNEGIE CLEAN ENERGY LIMITED

**ABN**

69 009 237 736

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

31 December 2022

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (6 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	526	961
1.2 Payments for		
(a) research and development		
(b) product manufacturing and operating costs	(30)	(342)
(c) advertising and marketing		
(d) leased assets	(15)	(39)
(e) staff costs	(484)	(957)
(f) administration and corporate costs	(207)	(464)
1.3 Dividends received (see note 3)		
1.4 Interest received	10	20
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Government grants and tax incentives		
1.8 Other		
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(201)</b>	<b>(821)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities		
(b) businesses		
(c) property, plant and equipment		
(d) investments		
(e) intellectual property	(4)	(9)
(f) other non-current assets	(75)	(265)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from disposal of:		
	(a) entities		
	(b) businesses		
	(c) property, plant and equipment		
	(d) investments		
	(e) intellectual property		
	(f) other non-current assets		
2.3	Cash flows from loans to other entities		
2.4	Dividends received (see note 3)		
2.5	Other		
2.6	<b>Net cash from / (used in) investing activities</b>	<b>(79)</b>	<b>(274)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		
3.2	Proceeds from issue of convertible debt securities		
3.3	Proceeds from exercise of options	810	810
3.4	Transaction costs related to issues of equity securities or convertible debt securities		
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	<b>Net cash from / (used in) financing activities</b>	<b>810</b>	<b>810</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	<b>3,280</b>	<b>4,095</b>
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(201)	(821)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(79)	(274)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	810	810
4.5	Effect of movement in exchange rates on cash held	13	13
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>3,823</b>	<b>3,823</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	1,323	1,095
5.2	Call deposits	2,500	780
5.3	Bank overdrafts	-	2,500
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>3,823</b>	<b>-</b>

<b>6.</b>	<b>Payments to related parties of the entity and their associates</b>	<b>Current quarter \$A'000</b>
6.1	Aggregate amount of payments to related parties and their associates included in item 1	(67)
6.2	Aggregate amount of payments to related parties and their associates included in item 2	
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

<b>7.</b>	<b>Financing facilities</b> <i>Note: the term "facility" includes all forms of financing arrangements available to the entity.</i> <i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	<b>Total financing facilities</b>	-	-
7.5	<b>Unused financing facilities available at quarter end</b> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>		
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

<b>8.</b>	<b>Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1	Net cash from / (used in) operating activities (item 1.9)	(201)
8.2	Cash and cash equivalents at quarter end (item 4.6)	3,823
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	3,823
8.5	<b>Estimated quarters of funding available (item 8.4 divided by item 8.1)</b>  <i>Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.</i>	<div style="border: 1px solid black; padding: 5px; margin-top: 5px;">19 quarters</div>
8.6	If item 8.5 is less than 2 quarters, please provide answers to the following questions:	
8.6.1	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
	<div style="border: 1px solid black; padding: 5px; height: 30px; margin-top: 5px;">Answer:</div>	
8.6.2	Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
	<div style="border: 1px solid black; padding: 5px; height: 30px; margin-top: 5px;">Answer:</div>	
8.6.3	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?	
	<div style="border: 1px solid black; padding: 5px; height: 30px; margin-top: 5px;">Answer:</div>	
<i>Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.</i>		



## 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.

Date: 30 January 2023

Authorised by: By Board of Directors  
(Name of body or officer authorising release – see note 4)

## Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow 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 cash flow 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.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.