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26 July 2018

AFC Energy PLC

("AFC Energy" or "the Company")

Interim Results for the Six-Month Period Ended 30 April 2019

AFC Energy (AIM: AFC), a leading hydrogen power company, is pleased to announce its interim results for the six-month period ended 30 April 2019.

Highlights

- Entry into the high growth Electric Vehicle ("EV") charging market with the successful demonstration of CH2ARGE™ prototype - the world's first electric vehicle charger based on hydrogen fuel-cell technology
- Signing of collaboration agreement with Rolec Services Limited ("Rolec"), Europe's largest EV charge point manufacturer, integrating AFC Energy's CH2ARGE™ system into Rolec's charge point customer facing infrastructure
- Finalisation of engineering and design for modular EV charger units for a national customer roadshow commencing with a demonstration hosted by Rolec before the end of 2019
- Appointment of a dedicated sales team in response to emerging opportunities in the EV charger and off grid power genset market
- Focused investment in new manufacturing partners and tooling in advance of system deployment including:
 - Appointment of Advanced Plastics Limited for mass manufacture of fuel cell flow plates
 - Investment in new mass production flow plate moulding tools (expected delivery in Oct. 2019)
 - Appointment of Innomech for new stack compression tooling (expected delivery in Sept. 2019)
 - Appointment of Multi Source Power Limited, a leading UK developer / supplier of on and off grid hybrid power systems
- Expanding product range through ongoing development of auxiliary products with reduced footprint and operating costs, including:
 - successful completion of an 18-month Ammonia to Power ("A2P") project and confirmed plans to conclude work on the engineering of an integrated, scalable ammonia fuelled clean power generator – interest from international OEMs
 - New high-power density alkaline fuel cell technology with the potential for use in applications where space, weight and density of power generation are important considerations
- Longest continued operation of electrode pairing delivered under the De Nora / AFC Energy Joint Development Agreement, now approaching targeted longevity targets (evidencing between 3-4 years longevity on extrapolated basis)
- Strengthening balance sheet to fund ongoing product development and launch of Go-to-Market strategy:

- Convertible loan note facility agreed with Thalion Global Group for £4 million (before expenses) – facility currently undrawn.
- Raised £0.813 million before expenses on 12 April 2019 at 3 pence per Ordinary Share to support the Company's Go-to-Market strategy.
- Raised £1.066 million before expenses on 24 June 2019 at 4.8 pence per Ordinary Share which is funding operating activities including investment in EV charger demonstration unit, roadshow of EV charging unit and engagement of dedicated commercial team.
- Continuing development of industrial scale projects complementing commercial product Go-to-Market strategy:
 - Concluded initial engineering in advance of finalising detailed terms for supply of a fuel cell system into Southern Oil's Gladstone Refinery.

Adam Bond, AFC Energy's Chief Executive Officer, said: The productisation of AFC Energy's fuel cell system is now well underway. Delivery of the first hydrogen fueled EV charger for deployment across the UK later this year, to be followed by modular stationary off grid power systems, highlights the corner AFC Energy has now turned in taking its hydrogen power units to market. This in no small way has been driven by the acceleration of Government policy towards decarbonization of the transportation sector in parallel with the push for reduced air pollution from the off-grid power market.

"The last six months has seen several important landmarks in our history, including the achievement of record electrode lives in collaboration with De Nora, further progression on the cost reduction of electrode manufacture, the bringing together of the supply chain for our systems' mass production and the introduction of AFC Energy's new high power density alkaline fuel cell system. I am particularly excited about the growing success in system integration we are seeing, including the potential for the steps forward in the use of ammonia as a lower cost fuel for point of use hydrogen generation, which will allow us to target new growth markets for the fuel cell, seeing AFC Energy as a leading exponent of the rapidly emerging hydrogen economy, both in the UK and internationally."

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About AFC Energy

AFC Energy plc is commercialising a scalable alkaline fuel cell system, to provide clean electricity for on and off grid applications. The technology, pioneered over the past twelve years in the UK, is in the process of being deployed in industrial gas plants for grid generation, as an alternative to diesel generators for localised power, in energy storage systems and as the power source for local electricity needs.

Chief Executive Officer's Report

Overview

"Delivering emissions-free solutions to today's energy challenges."

In June 2019, the International Energy Agency ("IEA"), in its report *"The Future of Hydrogen - Seizing Today's Opportunities"* to the G20 summit in Japan, highlighted in a bold and focussed manner:

"This is a critical year for hydrogen. It is enjoying unprecedented momentum around the world and could finally be set on a path to fulfil its longstanding potential as a clean energy solution."

This statement is true not just to the global hydrogen economy as a whole, but also to the importance of the next twelve months to AFC Energy as it now prepares to commence deployment of its hydrogen power generation technology both in the UK and internationally.

AFC Energy is an energy technology company that generates clean electrical power from hydrogen and specialises in portable, modular Hydrogen power generating systems which integrate auxiliary equipment to solve our customer's energy and emissions needs.

Developed in AFC Energy's UK laboratories, the hydrogen power system uses an innovative design to enable the system's highly efficient, robust and economic operation while being 100% clean of pollutant and green-house gasses. The hydrogen power systems can be used in numerous applications including EV charging stations, as a clean alternative to diesel generators and in energy storage and for large baseload industrial applications.

Our commercial strategy is now driven by identifying high growth market opportunities for clean power where we can show a sustainable competitive advantage at an affordable price, or as we summarised in the 2018 annual financial statements:

- **Right product** – reliable modularised proprietary fuel cell integrated with auxiliary equipment to provide tailored solutions
- **At the right price** – by delivering emissions-free solutions, not a commodity
- **For the right markets** – high growth markets where emissions, proximity, availability and power density consumer requirements cannot be provided by traditional or other renewable power providers

AFC Energy's focus during this half year has been on these three issues.

1. Product development

Progression over the past twelve months in electrode longevity and performance, validation of our finalised flow plate design, confirmation of system operating conditions, and overall system efficiency and cost reduction, now means AFC Energy is able to focus more attention to product development aligned with our key addressable markets and supply chain implementation.

The first half of 2019 has focussed primarily on building our modularised core product for integration into AFC Energy's proprietary EV charging system, CH2ARGE™, as well as other off grid applications.

A major milestone was the conclusion of agreements with Advanced Plastics as our preferred mass manufacturing partner for system flow plates – an area where AFC Energy has significant intellectual property and know how. This signalled the completion of all design, testing and prototype validation work on procedures on the plates and commencement of the production phase. Tooling has now been ordered through a sizeable investment by AFC Energy and we expect plates for the EV charging demonstration unit to be delivered in Q4 2019.

The latest stack design will reduce costs and improve product longevity. To facilitate the assembly of the new stack we have placed a further order with Innomech for the new stack compression rig which we expect to have delivered on site in the Autumn, again to support system deployment as part of the EV charger roadshow.

Delivery of these manufacturing tools represents the long lead items in delivery of the EV charging system for Q4 2019. Once delivery of these one-off investments has occurred, our ability to replicate systems for deployment will be greatly enhanced to facilitate increasing responsiveness to customer demand.

Our partnership with De Nora continues to evolve and deliver improvements in electrode life and cost efficiency. Since the Annual General Meeting in April 2019, our electrodes developed under the De Nora Joint Development Agreement continue to operate, with economic lifetime now approaching the target four years. De Nora's financial investment into our electrode technology platform over the past three years has seen a continued fall in our levelised cost of electricity, enhancing the competitiveness of the AFC Energy fuel cell system, without compromising on efficiency or performance. With scale up manufacture now possible at De Nora's Frankfurt facilities, we are now well positioned to deliver electrodes for system deployment.

We thank our technology and manufacturing partners for their ongoing commitment and support and expect to have a modularised working fuel cell ready for our EV charging demonstration during Q4 this year.

Hydrogen Feedstock

A unique feature of the alkaline fuel cell is its ability to receive lower purity hydrogen when compared to other fuel cell technologies. Specifically, our fuel cell has now proved that it can use hydrogen from cracked ammonia, a competitive benefit of our technology. On site generation from a readily available commodity chemical makes ammonia an ideal feedstock for fuel cell power generation as it avoids the challenges and logistical costs of supplying hydrogen gas. As liquid ammonia has very good energy density it makes it ideal in terms of fuel storage and logistics when compared to hydrogen. As the AFC Energy Fuel Cell can tolerate the residual ammonia in the hydrogen stream this option of ammonia utilisation is open to AFC Energy as opposed to other fuel cells which are often limited to high purity grades of hydrogen.

Having now successfully developed and demonstrated an ammonia cracker auxiliary product fully integratable with our fuel cell, we have commenced dialogue with ammonia providers and suppliers of ammonia cracking technologies for seamless integration into our off-grid power generation offering. This integrated product enables on-site cost effective hydrogen generation which is a unique selling point in competing with traditional diesel generators as a clean alternative that will comply with various UK, European and international Emission Directives.

Power Electronics

As part of the EV product we are developing a power electronics management system that will enable rapid recharging of EVs. The challenge that every developed nation is facing in the transition to EVs is how to balance the energy supply from grid against demand for charging stations whilst ensuring no local emissions. The customer expectation from charging stations is the need to deliver immediate customer response, fast charging speed and continuous availability yet this needs to be met despite the constraints of the existing grid and access to charging points whether they be at home, destination or on route. Most fast and rapid solutions use battery technology and can discharge rapidly, however, limitations in battery technology and their speed of re-charge can limit utilisation and investor returns.

We are working with one of the UK's leading hybrid power solutions companies, Multi Power Systems Limited, to integrate our technology with power management modules specifically designed for AFC Energy, in order to provide rapid vehicle recharging which will ensure immediate customer response, continuous availability and improved utilisation without emissions or upgrading of the grid.

The power management component will be delivered as part of our EV charging system in Q4 2019.

The EV charger, through the bespoke characteristics of the power management module, will also enable supply of energy back into the grid or local network, opening up new opportunities in the balancing and stand-by markets.

High Power Density Alkaline Fuel Cell

We continue to invest research time in the design and development of a high-power density alkaline fuel cell which delivers multiple times increase in power density relative to the existing hydrogen fuel cell system, while maintaining all the advantages of our traditional alkaline fuel cell solution (i.e. low cost materials, hydrogen impurity tolerance and component durability).

In accordance with established science on solid membrane fuel cells, the AFC Energy system will have a substantially quicker response time, significantly greater power density with a reduced system weight and footprint, whilst maintaining high efficiency and accepting lower grade hydrogen compared to other membrane fuel cells in the market today.

Our new high-power density fuel cell technology will also be integrated into our products to create compact EV charging and stationary power solutions. It is anticipated that the new form-factor hydrogen power systems will be welcome in the EV charging markets to assist the UK and other governments with their needs to meet the exponential growth in electric vehicles within space constrained locations such as urban areas and retail environments.

Furthermore, we have reviewed alternative applications for the solid alkaline membrane technology used within the fuel cell, and earlier this year, we demonstrated for the first time in Japan the potential for this membrane to be exploited in existing alkaline electrolysis applications, amongst market leading products. The potential to utilise this membrane in an alkaline water electrolysis context could afford a further cost reduction potential for alkaline electrolysis, reducing the cost of hydrogen generated from renewable sources, which in turn, could open up a new market opportunity for us.

Market Competitiveness

The uptake of fuel cells has historically been constrained by the capital system costs and hydrogen running costs. Through our work on bringing alkaline fuel cells to market we have sought to deliver cost competitive solutions based on low component costs and increased lifecycle. The innovations in ammonia as a feedstock and improvements in energy density with the solid-state membrane seek to build on that cost reduction potential.

The market studies we have performed have confirmed that we need to focus on “energy as a service” rather than a commodity which underpins our mission “delivering emissions free solutions to today’s energy challenges”. In practice, our product can be competitive in markets where the price of electricity can vary vastly such as:

- Industrial applications where hydrogen is vented and where we can competitively price our electricity against the grid (for example, industrial applications such as chlor alkali), or
- The grid either does not have the reach or the infrastructure to deliver the electricity in the power rating required, this market traditionally being served by diesel generators where a premium to the grid can be charged (EV charging for example).

Key to maximising our revenue streams will be to develop a portfolio of integrated auxiliary products and preferred suppliers with adaptable business models so that we can offer a tailored solution built around modularised components priced to our customer needs. An example of this is the Ammonia cracker which will deliver competitively priced hydrogen at point of use enabling fuel cells to be a direct competitor to diesel generators. We are currently engaged with global OEMs who are investigating the use of Ammonia as a future feedstock to off grid power generators.

In this regard, we are reviewing commercial partnerships between government, utilities and private operators reflecting that our product delivers zero emissions electricity which can be used to support the grid, potentially avoid large transmission and distribution costs and provide localised stationary power while delivering solutions to consumers for EV charging.

We believe that by helping our customers solve their energy and emissions challenges either by leveraging vented hydrogen or by providing added value solutions to all stakeholders we can develop win-win solutions for the Government, grid, operators of our systems and our shareholders by “delivering emissions solutions to today’s energy challenges”.

Application Focus

The change that has come about during this last year is that we now have two core applications for AFC Energy’s hydrogen power system:

1. Premium priced electricity typically where the grid does not reach or cannot supply the power demand required and which has traditionally been served by diesel generators; and

2. Low-cost, high-volume electricity production primarily from vented hydrogen in large industrial applications.

Both are global opportunities and our focus will be on countries and regions where regulation, whether it be fiscal support or emissions legislation, helps and encourages fuel cell adoption.

To engage further with the EV charging and temporary power market we have engaged a commercial team with extensive knowledge of the UK and global diesel generator markets. The team also has experience in bringing new disruptive technology to market. A primary function of the commercial team will be to support and manage our relationship with Rolec, build on its established participation in the EV charging market and engage with its established portfolio of customers.

We are also looking to replicate the commercial initiative in other target countries through the appointment of distributors with proven customer credentials in the diesel generator market and the financial and technical strength to bring our product to market in a cost effective and timely manner.

Commercial pipeline

EV Charging

Since the demonstration of our prototype EV charging solution we have been approached by a number of consumer facing companies including motor manufacturers, grid operators, charging companies, parking companies and others all looking to improve their customer service levels by improving availability and EV charge speed without increasing emissions or major investment to upgrade existing grid connections.

The commercial interest received over the past six months from industry has led to our engineering of new products whose features we expect to resonate with prospective customers. Several of these features will be exemplified in the EV charger to be released for our UK roadshow in Q4 2019 and have been developed in collaboration with partners, including Multi Source Power with regards the bespoke design of battery management systems for integration with our hydrogen power system.

We have engaged a commercial team to manage these relations and following our customer site demonstrations we expect to name an operator partner who will host our flagship commercial reference site in the new year.

The addressable market for EV charging and the potential to avoid large investments into the existing UK and global power grids provides a strong driver to deployment of the AFC Energy EV charging solution and, in collaboration with our new sales team, we are refining the business model for deployment with industry and prospective customers.

Clean Off Grid Power Supply

The provision of off grid power, whether permanent or temporary, has long been associated with stationary diesel power gensets as used by plant hire companies, developers, constructors and industry in general. With the need for clean power however, alternatives to this technology are currently being re-assessed. This re-assessment is resulting in the potential for alternative technologies to diesel gensets such as fuel cells. AFC Energy's integrated hydrogen power system, together with auxiliary ammonia feed stock presents one such opportunity for short term displacement of CO2 emitting stationary generators.

Having empirically demonstrated this potential, at a high level of efficiency, we are now looking at the engineering and business case for system deployment, most likely supported by regional distributors. This process of diligence and business model development is ongoing, and we are now engaging with international OEMs who are seeing opportunity in this growth model for diesel displacement.

Southern Oil Refinery

Southern Oil remain committed to upgrading their Gladstone facility and are fully supported by the Queensland Government whose Premier and Minister of Trade, Anastacia Palaszczuk, was recently hosted by Southern Oil and said that "Gladstone is set to be the renewable energy powerhouse of Australia with hydrogen emerging as our next

LNG". We have concluded our engineering studies and are ready to build and deploy when the final technical specifications and sizing is available.

Dunsfold Park

After a long planning consent procedure final permission has been given to develop the airfield and the anaerobic digestion plant will be able to provide green hydrogen. The development still intends to use clean energy throughout the site and our proximity enables us to partner in this initiative as and when called upon.

Financial Review

During the six months to 30 April 2019, an operating loss of £2.1 million (30 April 2018: £2.8 million) was recorded reflecting close control of overheads.

The net cash outflow in the six-months to 30 April 2019 was £0.7 million after raising £0.8 million from the issue of shares before expenses and collecting £0.6 million for the R&D tax credits due at the year-end (30 April 2018: £2.7 million).

The cash balance at 30 April 2019 was £1.9 million (30 April 2018: £4.0 million) with a further £4.0 million before expenses available to be drawn down from the convertible bond facility. After the interim reporting date, a further £1.1 million has been raised to fund the Go-to-Market strategy. In conclusion, through strict expense and cash flow control, funds raised and available facilities the balance sheet has been strengthened during the course of the last six months.

The Board of AFC Energy does not intend to declare a dividend in respect of this period.

Outlook

We believe the outlook for the coming months is very exciting with:

- several new products being developed which will enable us to offer a broader range of customer solutions,
- further development of the high power density fuel cell which will not only improve the power density and reduce the footprint of our existing fuel cell but can also become a game changer in how hydrogen is produced through alkaline electrolysis,
- fully funded demonstration programme for the EV charging solution including building a re-locatable demonstration unit, agreement to stage several roadshow events to EV charging operators and engagement of a commercial team with experience both in diesel generator markets and introducing new disruptive technology; and
- improved and expanded website with greater emphasis on customers, products and solutions.

We believe that we have a balanced commercial strategy which can support both:

- the delivery of integrated modularised solutions such as EV charging challenging the monopoly diesel generators have had where the grid cannot reach or provide the power density required; and
- the large industrial tailored projects whose gestation period from first approach to delivery can take years.

We remain fully committed to alkaline fuel cells for our target applications and markets which we continue to believe can provide significant operating and cost benefits once commercially deployed, compared to other technologies.

I believe that we are "delivering emissions free solutions to today's energy challenges" built upon sustainable win-win outcomes for all stakeholders whether they be the Government, grid operators, end users or our shareholders and I look forward to providing further updates to the market throughout the course of 2019.

Adam Bond

Chief Executive Officer

1x July 2019

STATEMENT OF COMPREHENSIVE INCOME

For the period ended 30 April 2019

		Six-months ended	Six-months ended	Year ended
		30 April 2019	30 April 2018	31 October 2018
		£	£	£
	Note	Unaudited	Unaudited	Audited
EU Grant income		-	387	387
Cost of sales		(1,301)	(14,647)	(23,988)
Gross loss		(1,301)	(14,260)	(28,601)
Other income		-	157	21,516
Administrative expenses		(2,132,382)	(2,736,133)	(4,953,042)
Operating loss		(2,133,683)	(2,750,236)	(4,960,127)
Finance cost	3	(1,107)	2,766	672
Loss before tax		(2,134,790)	(2,747,470)	(4,959,455)
Taxation	4	213,500	199,998	634,438
Loss for the financial period and total comprehensive loss attributable to owners of the Company		(1,921,290)	(2,547,472)	(4,325,017)
Basic loss per share	5	(0.49)p	(0.65)p	(1.10)p
Diluted loss per share	5	(0.49)p	(0.65)p	(1.10)p

All amounts relate to continuing operations.

STATEMENT OF FINANCIAL POSITION

As at 30 April 2019

		30 April 2019	30 April 2018	31 October 2018
		£	£	£
	Note	Unaudited	Unaudited	Audited
Assets				
Non-current assets				
Intangible assets	6	455,862	404,823	442,686
Property and equipment	7	229,882	297,869	292,996
		685,744	702,692	735,682
Current assets				
Inventory	8	163,720	165,866	163,720
Other receivables	9	1,358,534	1,824,587	1,544,588
Cash and cash equivalents	10	1,892,249	3,994,955	2,552,068
Restricted cash	10	259,094	263,227	265,774
		3,673,597	6,248,635	4,526,151
Total assets		4,359,341	6,951,327	5,261,833
Capital and reserves attributable to owners of the Company				
Share capital	11	425,773	391,298	391,698
Share premium	11	46,413,339	45,494,404	45,506,524
Other reserve		2,923,022	3,379,499	2,908,021
Retained deficit		(46,408,419)	(43,107,028)	(44,487,129)
Total equity attributable to Shareholders		3,353,715	6,158,173	4,319,114
Current liabilities				
Trade and other payables	12	704,454	485,798	641,547
			485,798	641,547
Non-current liabilities				
Trade and other payables	12	-	6,184	-
Provisions	13	301,172	301,172	301,172
		1,005,626	307,356	301,172
Total equity and liabilities		4,359,341	6,951,327	5,261,833

STATEMENT OF CHANGES IN EQUITY

For the period ended 30 April 2019

	Share Capital £ Unaudited	Share Premium £ Unaudited	Other Reserve £ Unaudited	Retained Deficit £ Unaudited	Total Equity £ Unaudited
Balance at 1 November 2018	391,698	45,506,524	2,908,021	(44,487,129)	4,319,114
Comprehensive loss for the period	-	-	-	(1,921,290)	(1,921,290)
Issue of equity shares	34,075	906,815	-	-	940,890
Equity-settled share-based payments	-	-	15,001	-	15,001
Transactions with owners	34,075	906,815	15,001	-	955,891
Balance at 30 April 2019	425,773	46,413,339	2,923,022	(46,408,419)	3,353,715

	Share Capital £ Unaudited	Share Premium £ Unaudited	Other Reserve £ Unaudited	Retained Deficit £ Unaudited	Total Equity £ Unaudited
Balance at 1 November 2017	391,298	45,494,404	3,084,204	(40,559,556)	8,410,350
Comprehensive loss for the period	-	-	-	(2,547,472)	(2,547,472)
Issue of equity shares	-	-	-	-	-
Equity-settled share-based payments	-	-	295,295	-	295,295
Transactions with owners	-	-	295,295	-	295,295
Balance at 30 April 2018	391,298	45,494,404	3,379,499	(43,107,028)	6,158,173

	Share Capital £ Audited	Share Premium £ Audited	Other Reserve £ Audited	Retained Deficit £ Audited	Total Equity £ Audited
Balance at 1 November 2017	391,298	45,494,404	3,084,204	(40,559,556)	8,410,350
Comprehensive loss for the period	-	-	-	(4,325,017)	(4,325,017)
Issue of equity shares	400	12,120	-	-	12,520
Equity-settled share-based payments	-	-	(176,183)	397,444	221,261
Transactions with owners	400	12,120	(176,183)	397,444	233,781
Balance at 31 October 2018	391,698	45,506,524	2,908,021	(44,487,129)	4,319,114

Share capital is the amount subscribed for shares at nominal value.

Share premium represents the excess of the amount subscribed for share capital over the nominal value of these shares net of share issue expenses.

Other reserve represents the charge to equity in respect of equity-settled share-based payments.

Retained deficit represents the cumulative loss of the Company attributable to equity shareholders.

CASH FLOW STATEMENT

For the period ended 30 April 2019

	Six-months ended 30 April 2019	Six-months ended 30 April 2018	Year ended 31 October 2018
	£	£	£
	Unaudited	Unaudited	Audited
Cash flows from operating activities			
Loss before tax for the period	(2,134,790)	(2,747,470)	(4,959,455)
Adjustments for:			
Amortisation of intangible assets	17,329	15,113	31,117
Depreciation of property and equipment	48,067	40,611	87,536
Depreciation of decommissioning asset	15,682	15,682	31,365
Loss/(Profit) on disposal of tangible assets	-	-	-
Equity-settled share-based payment expenses	15,001	295,295	221,262
Payment of shares in lieu of cash	-	-	-
Interest received	(2,813)	(4,708)	(8,952)
R&D tax credits receivable	-	199,998	-
Cash flows from operating activities before changes in working capital and provisions	(2,041,524)	(2,185,479)	(4,597,127)
R&D tax credits received	599,459	-	-
(Increase)/(Decrease) in restricted cash	6,680	(153,645)	(156,193)
((Increase) in inventory	-	(2,873)	(726)
(Increase)/Decrease in other receivables	(199,905)	(216,121)	698,315
Decrease in trade and other payables	62,907	(51,758)	97,806
Cash absorbed by operating activities	(1,572,383)	(2,609,876)	(3,957,925)
Cash flows from investing activities			
Purchase of plant and equipment	(634)	(38,918)	(96,653)
Additions to intangible assets	(30,505)	(37,734)	(91,601)
Interest received	2,813	4,708	8,952
Net cash absorbed by investing activities	(28,326)	(71,944)	(179,302)
Cash flows from financing activities			
Proceeds from the issue of share capital	1,022,640	-	12,520
Costs of issue of share capital	(81,750)	-	-
Net cash from financing activities	940,890	-	12,520
Net (decrease)/increase in cash and cash equivalents	(659,819)	(2,681,820)	(4,124,707)
Cash and cash equivalents at start of period	2,552,068	6,676,775	6,676,775
Cash and cash equivalents at end of period	1,892,249	3,994,955	2,552,068

NOTES FORMING PART OF THE FINANCIAL STATEMENTS

1. SIGNIFICANT ACCOUNTING POLICIES

Details of the significant accounting policies are set out below.

a. Basis of preparation

The interim results for the six-months ended 30 April 2019 are unaudited. They have been prepared in accordance with IAS 34 'Interim Financial Reporting' as adopted by the EU. The interim results have been drawn up using the accounting policies and presentation consistent with those disclosed and applied in the annual report and accounts for the year ended 31 October 2018. The comparative information contained in the report does not constitute the accounts within the meaning of section 240 of the Companies Act 1985 and section 435 of the Companies Act 2006.

The financial statements have been prepared on a going concern basis notwithstanding the trading losses being carried forward and the expectation that the trading losses will continue for the near future as the Company transitions from research and development to commercial operations. The Company currently consumes cash resources and will continue to do so until sales revenues are sufficiently high to generate net cash inflows. Management have engaged external consultants to evaluate the price competitiveness of their technology compared to existing solutions and identify the resources required and the routes to market to commercialise their fuel cells. Based upon these recommendations' management have prepared and reviewed five-year financial projections aligned with ongoing technological, operational and commercial strategies. During the initial period of commercialisation there will be negative cash flows dependent upon the speed at which revenue grows. Therefore, the Company continues to be dependent upon securing additional funding, either through the injection of capital from share issues, the sale of licenses to commercially exploit the intellectual property in defined markets, appointment of well-funded channel partners to finance commissioning, project finance for build and operate plants, and trade finance. During the current year day to day financing requirements have been met through the cash reserves brought forward from the previous period.

At 30 April 2019 unrestricted cash resources were £ 1.9 million and a £ 4 million convertible loan facility with an institutional investor. A further £ 1.1 million was raised by an issue of 22,214,584 shares on 24 June. In addition, the Directors anticipate receiving commitments for further funding from new and existing shareholders. The Directors have reasonable expectation that sufficient funding exists to meet payment obligations as and when they fall due although there can be no certainty that shareholders approve sufficient non pre-emptive share allotment authority to the Directors nor that certain stock market conditions are maintained. The directors have made due and careful enquiries considering all uncertainties including receiving

1. shareholder approval to allot shares to satisfy the conversion obligations of the convertible loan, and
2. lender approval to draw down the convertible loan if the share price falls below 2 pence

The directors have considered the above two uncertainties related to the unconditional draw down of the convertible loan facility and note that they are events outside of the control of the Company. These events indicate a material uncertainty which may cast significant doubt about the Company's ability to continue as a going concern. The directors' expect that taking into account current cash resources and financial forecasts including measures that can be taken to continue to reduce expenditure and the funds raised from the convertible loan facility, the Company has adequate resources to continue in operational existence for the foreseeable future (being a period of at least twelve months from the date of this report). Thus, the Directors believe that it is reasonable to continue to adopt the going concern basis in preparing the annual report and financial statements. The financial statements do not include any adjustments that would result from the basis of preparation being inappropriate. The accounting policies set out below have, unless otherwise stated, been applied consistently in these financial statements. Consequently, the Directors believe that it is appropriate to prepare the interim results on a going concern basis.

b. Grants

The Company participates in two projects, ALKAMMONIA and POWER-UP, which receive funding from the European Union ("EU"). These grants are based on periodic claims for qualifying expenditure incurred by all the entities participating in each project consortium. The Company acts as coordinator for the projects and submits claims and receives funding on behalf of the other participants in each project consortium. Grant funds of other participants are paid over to them as soon as they are received and only the grant funding relating specifically to the Company's activities is reflected in the statement of comprehensive income. The qualifying expenditure is shown in the statement of comprehensive income as cost of sales. Grants, including grants from the EU, are recognised in the statement of comprehensive income in the same period as the expenditure to which the grant relates.

c. Other Income

Other income represents sales by the Company of waste materials.

d. Development Costs

Development expenditure does not meet the strict criteria for capitalisation under IAS 38 and has been recognised as an expense. Expenditure on and relating to the Company's alkaline fuel cell system installed at Stade in Germany under the EU funded POWER-UP project has been considered to be development expenditure to date, as the module is the first of its kind that has been produced.

e. Foreign Currency

The financial statements of the Company are presented in the currency of the primary economic environment in which it operates (the functional currency), which is pounds sterling. In accordance with IAS 21, transactions entered into by the Company in a currency other than the functional currency are recorded at the rates ruling when the transactions occur. At each balance sheet date, monetary items denominated in foreign currencies are retranslated at the rates prevailing at the balance sheet date.

f. Inventory

Inventory is recorded at the lower of cost and net realisable value. Cost comprises purchase cost plus production overheads.

g. Other Receivables

Other receivables arise principally through the provision by the Company of activities associated with grant-funded projects. They also include other types of contractual monetary assets. These assets are initially recognised at fair value and are subsequently measured at amortised cost less any provision for impairment.

h. Loans and Other Receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, loans and receivables are carried at amortised cost using the effective interest method less any allowance for impairment. Gains and losses are recognised in profit or loss when the loans and receivables are derecognised or impaired, as well as through the amortisation process.

The Company's loans and receivables include cash and cash equivalents. These include cash in hand, and deposits held at call with banks.

i. Property and Equipment

Property and equipment are stated at cost less any subsequent accumulated depreciation and impairment losses.

Where parts of an item of property and equipment have different useful lives, they are accounted for as separate items of property and equipment.

Depreciation is charged to the statement of comprehensive income within cost of sales and administrative expenses on a straight-line basis over the estimated useful lives of each part of an item of property, plant and equipment. The estimated useful lives are as follows:

- Leasehold improvements 1 to 3 years
- Fixtures, fittings and equipment 1 to 3 years
- Vehicles 3 to 4 years
- Decommissioning asset life of the lease

Expenses incurred in respect of the maintenance and repair of property and equipment are charged against income when incurred. Refurbishment and improvement expenditure, where the benefit is expected to be long lasting, is capitalised as part of the appropriate asset.

The useful economic lives of property, plant and equipment and the carrying value of tangible fixed assets are assessed annually and any impairment is charged to the statement of comprehensive income.

j. Intangible Assets

Expenditure on research activities is recognised in the statement of comprehensive income as an expense as incurred. Expenditure in establishing a patent is capitalised and written off over its useful life.

Other intangible assets that are acquired by the Company are stated at cost less accumulated amortisation and impairment losses.

Amortisation of intangible assets is charged using the straight-line method to administrative expenses over the following period:

- Patents 20 years

Useful lives are based on the management's estimates of the period that the assets will generate revenue, which are periodically reviewed for continued appropriateness and any impairment is charged to the statement of comprehensive income.

I. Cash and Cash Equivalents

Cash and cash equivalents comprise cash balances and call deposits with major banking institutions realisable within three months. Restricted cash is €300,000 (30 April 2017: €300,000) held in escrow to support a bank guarantee in favour of Air Products GmbH relating to contractual obligations by the Company in relation to the Stade site in Germany.

m. Other Financial Liabilities

The Company classifies its financial liabilities as:

Trade and Other Payables:

These are initially recognised at invoiced value. These arise principally from the receipt of goods and services. There is no material difference between the invoiced value and the value calculated on an amortised cost basis or fair value.

Deferred Income:

This is the carrying value of income received from a customer in advance which has not been fully recognised in the statement of comprehensive income pending delivery to the customer. The carrying value is fair value.

n. Leases

Finance Leases:

Finance leases, which transfer to the Company substantially all the risks and benefits incidental to ownership of the leased item, are capitalised at the inception of the lease at the fair value of the leased property. Capitalised leased assets are depreciated over the estimated useful life of the asset. Lease payments are apportioned between the finance charges and reduction of the lease liability to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are reflected in the statement of comprehensive income.

Operating Leases:

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases are charged to the statement of comprehensive income on a straight-line basis over the period of the lease.

o. Financial Assets

All the Company's financial assets are loans and receivables and investments. Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are included in current assets at fair value and comprise other receivables and cash and cash equivalents. Investments are accounted for at cost less impairment.

p. Financial Instruments

Financial assets and liabilities are recognised on the balance sheet when the Company becomes a party to the contractual provisions of the instrument.

- Cash and cash equivalents comprise cash held at bank and short-term deposits
- Receivables are recognised initially at fair value and subsequently held at amortised cost less an allowance for any uncollectable amounts when the full amount is no longer considered receivable
- Trade payables are not interest bearing and are stated at their nominal value
- Equity instruments issued by the Company are recorded at the proceeds received except where those proceeds appear to be less than the fair value of the equity instruments issued, in which case the equity instruments are recorded at fair value. The difference between the proceeds received and the fair value is reflected in the share-based payments reserve.

q. Share-Based Payment Transactions

The fair value of options and warrants granted is recognised as an employee expense with a corresponding increase in Other Reserve. The fair value of the expense is estimated at grant date using the Black-Scholes option valuation model considering the terms and conditions upon which they were granted and a Log normal Monte Carlo stochastic model for market conditions. The expense accrues from the grant date until the options and warrants have unconditionally vested. Where vesting is dependent upon market or non-market performance criteria the vesting period is estimated at the grant date and, in the case of non-market performance criteria, is revised annually. When an option or warrant is exercised the balance is transferred to share capital with excess value going to the premium account whereas those that lapse are transferred to retained earnings. Where options or warrants are amended by the introduction of new schemes and the absorption of earlier schemes by agreement between the Company and the beneficiary the net difference in valuation is charged to earnings in the appropriate period.

r. Provisions

Provisions are recognised when the Company has a present obligation as a result of a past event and it is probable that the Company will be required to settle the obligation. Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the balance sheet date and are discounted to present value where the effect is material.

s. Taxation

Tax on the profit or loss for the period comprises current and deferred tax. Tax is recognised in the statement of comprehensive income except to the extent that it relates to items recognised directly in equity, in which case it is recognised in equity.

Current tax is the expected tax payable or recoverable on the taxable income for the period, using tax rates enacted or substantively enacted at the balance sheet date together with any adjustment to tax payable in respect of previous periods.

Deferred tax assets are not recognised due to the uncertainty of the timing of their recovery.

t. R&D Tax Credits

The Company's research and development activities allow it to claim R&D tax credits from HMRC in respect of qualifying expenditure; these credits are reflected in the statement of comprehensive income in administrative expenses or in the taxation line depending on the nature of the credit.

u. Pension Contributions

The Company operates a defined contribution pension scheme which is open to all employees and makes monthly employer contributions to the scheme in respect of employees who join the scheme. These employer contributions are currently capped at 3% of the employee's salary and are reflected in the statement of comprehensive income in the period for which they are made.

v. Convertible unsecured loan facility

The equity and liability portion of the convertible unsecured loan facility is accounted for at the time of drawdown of the loan and is calculated using the residual approach whereby the equity portion is equal to the difference between the total amount received from the proceeds of the loan and the present value of future cash flows from the bonds. The equity portion will be credited to share premium account.

If the conversion option is exercised both the equity and liability portion accounted will be de-recognised and equity share capital and share premium will be accounted for.

2. SEGMENTAL ANALYSIS

Operating segments are determined by the chief operating decision maker based on information used to allocate the Company's resources. The information as presented to internal management is consistent with the statement of comprehensive income. It has been determined that there is one operating segment, the development of fuel cells. In the period to 30 April 2019, the Company operated mainly in the United Kingdom and in Germany. All non-current assets are in the United Kingdom.

3. FINANCE COST

	Six-months ended 30 April 2019 £ Unaudited	Six-months ended 30 April 2018 £ Unaudited	Year ended 31 October 2018 £ Audited
Interest on finance lease	(284)	(1,942)	(2,548)
Bank charges	(3,636)	-	(5,732)
Bank interest receivable	2,813	4,708	8,952
Total finance cost	(1,107)	2,766	672

4. TAXATION

	Six-months ended 30 April 2019 £ Unaudited	Six-months ended 30 April 2018 £ Unaudited	Year ended 31 October 2018 £ Audited
Recognised in the statement of comprehensive income:			
R&D tax credit - current period	213,500	199,998	493,316
R&D tax credit - prior year	-	-	141,122
Total tax credit	213,500	199,998	634,438

5. LOSS PER SHARE

The calculation of the basic loss per share is based upon the net loss after tax attributable to ordinary Shareholders and a weighted average number of shares in issue for the period.

	Six-months ended 30 April 2019 Unaudited	Six-months ended 30 April 2018 Unaudited	Year ended 31 October 2018 Audited
Basic loss per share (pence)	(0.49)p	(0.65)p	(1.10)p
Diluted loss per share (pence)	(0.49)p	(0.65)p	(1.10)p
Loss attributable to equity Shareholders	£(1,921,290)	£(2,547,472)	£4,325,017

	Number		
Weighted average number of shares in issue	395,246,363	391,298,205	391,464,872

Diluted earnings per share:

There are share options and warrants outstanding as at 30 April 2018 which, if exercised, would increase the number of shares in issue. However, the diluted loss per share is the same as the basic loss per share, as the loss for the period has an anti-dilutive effect.

6. INTANGIBLE ASSETS

	Patents £ Unaudited
<i>Cost:</i>	
At 1 November 2017	588,512
Additions	37,734
At 30 April 2018	626,246
Additions	53,867
At 31 October 2018	680,113
Additions	30,505
At 30 April 2019	710,618
<i>Amortisation:</i>	
At 1 November 2017	206,310
Charge for the period	15,113
At 30 April 2018	221,423
Charge for the period	16,004
At 31 October 2018	237,427
Charge for the period	17,329
At 30 April 2019	254,756
<i>Net Book Value:</i>	
At 30 April 2018	404,823
At 31 October 2018	442,686
At 30 April 2019	455,862

7. PROPERTY AND EQUIPMENT

	Leasehold improvements £ Unaudited	Decommissioning asset £ Unaudited	Fixtures, fittings and equipment £ Unaudited	Motor vehicles £ Unaudited	Total £ Unaudited
<i>Cost:</i>					
At 1 November 2016	337,462	301,172	1,201,089	17,994	1,857,717
Additions	-	-	38,918	-	38,918
At 30 April 2018	337,462	301,172	1,240,007	17,994	1,896,635
Additions	-	-	57,735	-	57,735
At 31 October 2018	337,462	301,172	1,297,742	17,994	1,954,370
Additions	-	-	635	-	635
Disposals	-	-	(3,800)	-	(3,800)
At 30 April 2019	337,462	301,172	1,294,577	17,994	1,951,205
<i>Depreciation:</i>					
At 1 November 2017	337,462	139,121	1,050,396	15,494	1,542,473
Charge for the period	-	15,682	38,111	2,500	56,293
At 30 April 2018	337,462	154,803	1,088,507	17,994	1,598,766
Charge for the period	-	15,683	46,925	-	62,608
At 31 October 2018	337,462	170,486	1,135,432	17,994	1,661,374
Charge for the period	-	15,682	48,067	-	63,749
Eliminated on disposal	-	-	(3,800)	-	(3,800)
At 30 April 2019	337,462	186,168	1,179,699	17,994	1,721,323
<i>Net Book Value:</i>					
At 30 April 2018	-	146,369	151,500	-	297,869
At 31 October 2018	-	130,686	162,310	-	292,996
At 30 April 2019	-	115,004	114,878	-	229,882

8. INVENTORY

	30 April 2019 £ Unaudited	30 April 2018 £ Unaudited	31 October 2018 £ Audited
Inventory	163,720	165,866	163,720
	163,720	165,866	163,720

9. OTHER RECEIVABLES

	30 April 2019 £ Unaudited	30 April 2018 £ Unaudited	31 October 2018 £ Audited
<i>Current:</i>			
R&D tax credits receivable	747,868	699,387	1,133,827
EU grants receivable	106,642	724,815	106,642
Other receivables	504,024	394,449	304,120
	1,358,534	1,818,651	1,544,589
<i>Non-current:</i>			
Other receivables	-	5,936	-
	-	5,936	-
	1,358,535	1,824,587	1,544,589

There is no significant difference between the fair value of the receivables and the values stated above.

10. CASH AND CASH EQUIVALENTS

	30 April 2019	30 April 2018	31 October 2018
	£	£	£
	Unaudited	Unaudited	Audited
Cash at bank	862,423	454,636	1,091,206
Bank deposits	1,029,826	3,540,319	1,460,862
	1,892,249	3,994,955	2,552,068

Cash at bank and bank deposits consist of cash. There is no material foreign exchange movement in respect of cash and cash equivalents. Restricted cash, not included in cash and cash equivalents, is €300,000 (30 April 2018: €300,000) held in escrow to support a bank guarantee in favour of Air Products GmbH relating to contractual obligations by the Company in relation to the Stade site in Germany.

11. ISSUED SHARE CAPITAL

	Ordinary shares Number	Share Capital £	Share premium £	Total £
	Unaudited	Unaudited	Unaudited	Unaudited
At 1 November 2017 and 30 April 2018	391,298,205	391,298	45,494,404	45,885,702
Issue of shares on 24 May 2018	400,000	400	12,120	12,520
At 31 October 2018	391,698,205	391,698	45,506,524	45,898,222
Issue of shares on 28 January 2019	300,000	300	9,090	9,390
Issue of shares on 11 April 2019	6,666,667	6,667	193,333	200,000
Issue of shares on 12 April 2019	27,108,334	27,108	704,392	731,500
At 30 April 2019	425,773,206	425,773	46,413,339	46,839,112

All issued shares are fully paid.

On 11 April 2019, a £4 million convertible unsecured loan facility was signed for a period of 36 months from the signing date with a further six-month period, post the expiry date of the facility, to repay any outstanding amounts. The facility can be drawn down in £25,000 principal increments at the Company's discretion provided that,

1. the total amount drawn down in any one 60-day period does not exceed £500,000,
2. the total amount repayable does not exceed £4 million,
3. the volume weighted average price of the three previous trading days is greater than 2 pence, and
4. the headroom to allot non pre-emptive shares is 125% of the number of shares that would be required to convert at the time of the drawdown.

The draw down will be 90% of the principal amount and outside these parameters draw down will be by mutual consent. The principal amount is convertible at the lender's discretion at the lower of market price at draw down and the volume weighted average price of the three previous trading days at the time of conversion. Early redemption can be made at the request of the Company at 105% of the principal amount. In the case of a change in control or default then the draw down amounts are redeemed at 105% and 120% of the principal amount respectively. An acceptance fee of £200,000 was settled by issue of shares and a further fee of 5% is payable on draw downs. To date no draw down has been made from the facility

On 12 April 2019 the Company issued 27,108,334 shares and raised £ 0.8 million before costs of issue.

12. TRADE AND OTHER PAYABLES

	30 April 2019	30 April 2018	31 October 2018
	£	£	£
	Unaudited	Unaudited	Audited
<i>Current liabilities:</i>			
Trade payables	384,999	293,227	235,589
Deferred income	28,187	-	28,187
Finance lease liability	6,649	3,931	7,574
Other payables	193,700	114,130	229,837
Accruals	90,919	74,510	140,360
	704,454	485,798	641,547
<i>Non-current liabilities:</i>			
Finance lease liability	-	6,184	-
	-	6,184	-

13. PROVISIONS

	30 April 2019	30 April 2018	31 October 2018
	£	£	£
	Unaudited	Unaudited	Audited
Decommissioning provision	301,172	301,172	301,172
	301,172	301,172	301,172

The Company has set up a decommissioning provision associated with a commitment to remove the plant and equipment installed at the Stade site in Germany at a future date and for dilapidations associated with the leasehold premises at Dunsfold in the UK.

14. POST-BALANCE SHEET EVENTS

On 24 June the Company issued 22,214,584 shares at 4.8 pence per share and raised £ 1.066 million before expenses.

At the same time warrants were granted to external commercial representatives over a total of 3,000,000 Ordinary Shares.

The warrants are exercisable at a price of 4.8 pence per Ordinary Share, being the same as the Issue Price and will be exercisable within two years following the date of grant. The vesting of the warrants will be subject to the achievement of certain commercial targets.

Following the issue of these warrants, there are a total of 7,243,800 options and warrants in issue, representing 2.8per cent of the fully diluted share capital of the Company.

15. PUBLICATION OF NON-STATUTORY ACCOUNTS

The financial information contained in this interim statement does not constitute accounts as defined by the Companies Act 2006. The financial information for the preceding period is based on the statutory accounts for the year ended 31 October 2018. Those accounts, upon which the auditors issued an unqualified opinion, have been delivered to the Registrar of Companies.

Copies of the interim statement may be obtained from the Company Secretary, AFC Energy PLC, Unit 71.4 Dunsfold Park, Cranleigh, Surrey GU6 8TB, and can be accessed from the Company's website at www.afcenergy.com.