

*The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014. Upon the publication of this announcement via a Regulatory Information Service ("RIS"), this inside information is now considered to be in the public domain.*

16 July 2018

## **AFC Energy PLC**

("AFC Energy", "AFC" or "the Company")

### **Interim Results for the Half Year Ended 30 April 2018**

AFC Energy (AIM: AFC), the industrial fuel cell power company, is pleased to announce its interim results for the six-month period ended 30 April 2018.

#### **Highlights**

##### ***Growing Commercial Traction with Partners in Advance of Fuel Cell Deployment***

- Southern Oil Pty Ltd, through its wholly owned subsidiary Northern Oil Pty Ltd, placed an order in July 2018 for the first AFC Energy hydrogen power generation unit in Australia, with brief period of engineering now commencing to finalise final project sizing, scope and commensurate contract terms;
- Advancement of the commercial fuel cell deployment programme at Dunsfold Park (UK) following receipt of planning approval for the construction of 1,800 residential homes; decision to proceed with the hydrogen initiative expected in 2018;
- Co-development activities commenced with a European water technology company for the remote powering of off grid drinking water generation solutions for up to several million litres of water per day;
- Successful integration and operation of AFC Energy fuel cell technology with hydrogen derived from a third-party ammonia cracker under the EU ALKAMMONIA programme;
- Successful conclusion of the EU POWER-UP programme in Stade, Germany, with AFC Energy receiving its latest funding entitlement in June 2018 from the EU's Fuel Cell and Hydrogen Joint Undertaking;
- Successful renegotiation and extension of the commercial hydrogen supply agreement with Air Products at Stade, Germany;
- Appointment of world leading consultancy, FTI Consulting, to independently review AFC Energy's competitive target Levelised Cost of Energy ("LCOE"), target market sizing and go-to-market strategy to materially grow the addressable market and scope for AFC Energy commercial deployment in the short term.

##### ***Finalisation of Engineering Basis of Design for Commercial Fuel Cell Stack***

- Confirmation of final basis of engineering for AFC Energy's fuel cell stack design and validation of system through successful trial testing in Q1 and Q2 2018;
- Completed redesign of fuel cell gas and liquid flow plates consistent with extensive computational fluid dynamics ("CFD") modelling conducted in the second half of 2017 – the new stack design now operates a single multi-dimensional plate far better positioned to optimise fuel cell operation, but also cheaper to manufacture and assemble;
- Following the successful validation of the engineering basis of design and the progress with De Nora we are now ready to engage with partners to progress the planning of mass manufacture of our fuel cell stacks and systems to meet growing demand.

### ***Continued Progress with De Nora in the Operability and Manufacture of Fuel Cell Electrodes***

- Continued material improvement in electrode longevity under the Joint Development Agreement with De Nora now evidencing electrode lives of at least two years;
- Full physical integration achieved of De Nora's manufactured electrode into AFC Energy fuel cell stack and whilst taking longer than expected, successful trials conducted that now support a greater understanding of the conditions for operability of the electrodes within the AFC Energy stack design;
- De Nora and AFC Energy working towards further cost reductions in electrode price where both parties can see a path to a target cost reduction vs today's projected cost;
- Progression with De Nora on mass market Electrode Manufacturing Agreement following successful trials over the past 18 months;
- Work to commence during the remainder of 2018 on the integration of De Nora technologies (outside of electrodes) with AFC Energy fuel cell technology package to create new market-led solutions with sizeable addressable markets.

**Adam Bond, AFC Energy's Chief Executive Officer**, said: "Whilst the final basis of design of the fuel cell stack has taken longer than we had hoped, I am encouraged by the results we are now seeing from integrating De Nora's manufactured electrodes with the Company's new and greatly improved proprietary fuel cell stack design. We can now leverage the rapidly increasing volume of successful operational data that we have recorded from our testing facilities at Dunsfold and Stade to drive new commercial development opportunities. I am most excited about the growing success in system integration we are seeing which will allow us to target new growth markets for the fuel cell which will see 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 has developed and successfully demonstrated an alkaline fuel cell system, which converts hydrogen into "clean" electricity. AFC Energy's key project POWER-UP demonstrated the world's largest operational alkaline fuel cell system at Air Products' industrial gas plant in Stade, Germany. The Company is now building upon an already established pipeline of commercial opportunities and driving the findings from the development phase of the technology into a technically optimised and commercially relevant fuel cell system. For further information, please visit our website: [www.afcenergy.com](http://www.afcenergy.com)

## **Chief Executive Officer's Report**

### **Overview**

The global trend away from fossil fuels towards clean, green distributed power generation continues to build momentum. The reduction seen over recent years in the cost of solar and wind, and the growing emergence of the energy storage sector have led to widespread structural changes in Government policy and industry responses to the displacement of the world's carbon past.

However, the falling cost and improved robustness across the hydrogen economy value chain, together with the growth in investment directed towards the full commercialisation of previously targeted research initiatives, is seeing the role of hydrogen as a fundamental opportunity to tackle the clean energy challenges. The probability that hydrogen can resolve intermittency and energy storage challenges of other renewable technologies should not be seen as a complete justification for the displacement of solar and wind, but it does mean that in a growing number of circumstances, hydrogen, and the conversion of hydrogen into clean power, can be seen as a viable and price competitive alternative for distributed power generation.

AFC Energy has spent several years in the research phase of technology development but only following the successful trials at Stade, the significant electrode advancements with De Nora and the major redesign of our fuel cell stack in the past twelve months are we now confident that we have a genuinely commercially relevant system we can offer to partners and project developers.

The commencement of active productisation and commercialisation is an exciting prospect for the months and years ahead. There are many possible market opportunities from this reinvigorated base and, to focus our attention, the AFC Energy management team, supported by the Board, has initiated a market review and go-to-market strategy with world leading consultancy, FTI Consulting. This review in 2018 endorses the direction of travel identified by the Company, but also identifies further potential sectors which currently incur high carbon energy costs and are potentially attractive to integrated fuel cell power systems, most of which will be for off-grid power supply.

Our immediate intention for the coming year is to establish a portfolio of commercial reference facilities serving different industries that will enable us to be more vigorous in marketing our technology platform to these new markets.

### **Hydrogen sources**

We recognise that a key element of a commercially successful fuel cell power system is an effective, reliable and low-cost source of hydrogen. Over the years, we have assessed conventional hydrogen sources ranging from that supplied by industrial gas companies and electrolyzers, through to vented hydrogen from chlor-alkali facilities and refineries. Our collaboration with Southern Oil Refinery, discussed further below, is one such example where surplus hydrogen at a refinery can be made to produce clean hydrogen for internal consumption. This is one of the key advantages of the alkaline fuel cell in that it can operate successfully at lower grade (and therefore less expensive) hydrogen. Moreover, the opportunities for fuel cell deployment are not always co-located with pre-existing hydrogen sources.

Throughout the last twelve months we have continued to explore the chlor-alkali market where significant volumes of hydrogen are produced, but a conflicting factor exists in the very low cost of power such plants are frequently able to negotiate because of the high volumes of base load power they require. The chlor-alkali industry remains an important potential market opportunity for AFC Energy, but we must always be mindful of the short term commercial challenges low power prices might have on market penetration.

For this reason AFC Energy has conducted a wide-ranging review of international on-site hydrogen generation technologies where it believes the cost of producing hydrogen is less, or capable of being less, than incumbent hydrogen prices.

In 2018, the Company successfully integrated, consistent with the objectives of the ALKAMMONIA programme co-funded by the EU, its fuel cell electricity generation platform with an ammonia cracker demonstrating the potential for a productised stand-alone generation system fuelled by ammonia with the results in many regards mirroring the performance of AFC Energy's fuel cell system operating on bottled hydrogen.

AFC Energy also achieved a world first this year where it successfully integrated and generated power from a prospective, innovative new hydrogen generation technology. As part of this integration, we transported one of our fuel cell systems to the United States for the week-long testing programme where, in parallel with commercial discussions, we were able to demonstrate the potential for clean, localised power generation.

I am also excited to confirm that further testing of this and another new hydrogen generation technology is expected at AFC Energy's Dunsfold facilities later this year. The testing programme incorporates both an assessment of technical integration capability, but importantly, the need for such technologies to provide an economic and competitive alternative to incumbent off grid power generation technologies.

Providing a single, innovative clean energy solution that incorporates the production of low cost hydrogen with the conversion of that hydrogen to power is a key differentiator for AFC Energy and is potentially one of the largest enablers of the Company's competitive penetration of a market that is currently dominated by diesel generators.

## **Commercial**

### ***Southern Oil Refinery***

A highlight of the period was the work and discussions conducted with Southern Oil Refinery Pty Ltd with regards to the prospect of deploying an AFC Energy fuel cell system into the company's Advanced Biorefinery near Gladstone in Queensland, Australia.

The relationship with Southern Oil commenced in October 2017 with the execution of a non-binding MoU and through the progression of technical and commercial discussions, AFC Energy received in July 2018 written confirmation of Southern Oil's decision to acquire an initial fuel cell system expected to be sized between 200kW and 400kW. At the moment, Southern Oil are constructing their latest advanced biorefinery which will consume hydrogen, however, with an expected surplus available, the final scaling of the fuel cell system will be a function of the hydrogen available from that surplus supply volume once it is determined. This innovative source of hydrogen is an example of the potential for alternative sources of low cost hydrogen we are continuing to research for use with our fuel cell systems

To progress this project, Southern Oil will pay AFC Energy a non-refundable deposit towards the cost of engineering and final design work to fully scope and cost the system as a prelude to execution of a final purchase order and confirming agreement on commercial terms. The purchase order that follows is expected to reflect a payment to AFC Energy covering the capital costs of the balance of plant, together with a lease fee with regards the fuel cell stacks and electrodes which AFC Energy will remove and recycle at the end of their economic life.

We are starting to see growing interest for AFC Energy's fuel cell technology in Australia and through existing networks and relationships have commenced dialogue across each state to scope possible fuel

cell system deployment opportunities. This is clearly a growing market for the Company and one we are expecting to benefit from a local reference plant to be located at Southern Oil's facilities in Queensland.

### ***Dunsfold Park***

At the end of March 2018, The Rutland Group, the managers of Dunsfold Park, home to AFC Energy's Head Office, finally received planning consent for the construction of 1,800 homes for the mixed use residential development at the Dunsfold Aerodrome site. The development proposes to utilise clean energy throughout the site, including receiving electricity from AFC Energy's fuel cells. An onsite anaerobic digestion plant will provide the source of the hydrogen for the fuel cells through the cracking of bio-methane that has been generated by the decomposition of food waste.

We expect to be make further announcements on Dunsfold Park in due course. Dunsfold proposes a number of variant schemes, which have emerged from that originally envisaged, each of which may provide a preferred avenue for deployment of our fuel cells into the scheme. AFC Energy has been privileged to host several visitors from the UK Government to discuss the project and looks forward to further collaborations with the Government on showcase projects in the UK demonstrating the prospects for hydrogen in our country.

### ***Diesel Displacement***

I touched on the integration opportunities for AFC Energy's fuel cell above. It is important to highlight that the world continues to aggressively target a reduction in diesel fuel across the transportation sector, together with reductions in the use of plastics through everyday life. There is therefore a need to focus on the reduction of diesel generation in the stationary power market, which is increasingly seen as a logical next step for governments and industry. The ability for AFC Energy to integrate its fuel cell with an on-site, on-demand provision of off grid green hydrogen, creates not only an opportunity for displacing the permanent, stationary diesel generation unit, but also to enter the enormous temporary diesel power sector. AFC Energy believe, based on its current work with De Nora and prospective licensors of on-site hydrogen generation technologies, that it can achieve an all-in cost of power (on a diesel displacement basis) of multiples less than the cost of diesel power in some remote locations. We hope to make further progress with this system, which incorporates the current AFC Energy fuel cell technology, in the coming months. This is an extremely exciting part of AFC Energy's core business going forward and one in which we can be extremely competitive. Importantly, the barriers to entry and initial capital outlay for such projects are also far lower than conventional larger scale chlor-alkali projects, making early access to sustainable revenues more likely.

### **Technical and Operations**

Following the announcement in January 2018 updating the market on AFC Energy's material improvement in fuel cell system and electrode performance, much work has continued on refining the stack and electrodes solely with a view towards defining the final AFC Energy commercial product.

Importantly, across all these work streams, we continue to base our final commercial product design on a 10kWe stack and cartridge package, which can be scaled up.

The work we have concluded over this period was summarised and demonstrated to those in attendance at the AFC Energy Annual General Meeting in April 2018, however, the emphasis of all such work was to conclude a final design basis for a commercial product that was (1) fit for mass scale manufacturing; (2) cheaper and more affordable against prior iterations, and (3) was robust and operable against the metrics set for commercial project deployment. To this end, our focus was principally on:

- concluding and implementing the results of a detailed review of mechanical simulation analysis across the entire fuel cell stack to ensure stress resolution at both plate and stack level;
- successfully closing out of the fluid simulation at plate and stack level and incorporating changes into commercial plate and stack design;
- prior to issuing final plate design to tooling manufacturers to allow for expensive injection moulding tooling to be developed, much work has been done creating the 'equivalent' plates by 'gluing' of component parts to simulate the final injection moulded plate;
- current collection within the stack was reviewed with a view to revising existing collection assembly and to improve efficiency taken during final design review of stack components;
- with the above refinement process concluded providing the basis of a final commercial product basis, AFC Energy commenced the patent work process to protect all requisite IP associated with the plates and with the gross electrode assembly design and operation.

Work conducted under the AFC Energy / Industrie De Nora Joint Development Agreement (JDA) has also been making progress in the finalisation of the electrode basis for initial commercial use. This activity focus has principally focussed around:

- scale-up activities and risk removal directly related to the mass manufacture process of our electrodes – including cathode and anode development and;
- progressing testing for long term operation and durability through advanced degradation testing – to simulate long term use.

Over the past six months, De Nora has been preparing themselves for mass electrode manufacture through a detailed analysis of electrode scale up processes and risks that will, following such review, allow for their timely response for mass electrode manufacture for AFC Energy. Ultimately, the purpose behind this work conducted under the JDA is to position both parties such that the details of a mass manufacturing agreement can be finalised during the course of 2018. This is ongoing as we speak and it is expected to close this out in the near future.

## **ALKAMMONIA**

As noted above, during the course of 2018, we were able to successfully integrate our new fuel cell Balance of Plant (BoP) and stack design with an ammonia cracker to generate clean power from cracked ammonia. Making use of hydrogen derived from a high energy density alternative, ammonia in this case, demonstrates the potential for an autonomous, small-scale, power generation platform suitable to a vast array of potential markets, such as diesel generator displacement opportunities identified by AFC Energy.

The testing to date and throughout 2018, ranging across various scales and operating conditions, has demonstrated that trace amounts of ammonia in the hydrogen fuel stream have no adverse effects that could be detected on the Company's alkaline fuel cell technology, while providing valuable operating data to progress an alternative product range suitable for off-grid applications.

The stack, BoP and cracker were integrated with the Company's infrastructure in March 2018 with the system HAZOP (Hazard and Operability) review and the Company's risk assessment criteria all fulfilled, in compliance with our stringent Health and Safety policy, in April 2018. System commissioning was then successfully completed, paving the way for the subsequent extended testing period of our alkaline fuel cell technology with ammonia derived hydrogen.

We would note that, in line with the ALKAMMONIA success criteria, stack characteristics such as weight, durability, efficiency and reduced leakage losses have all been improved, while the BoP has a simplified design, reduced 'footprint' and decreased system cost overall. These accomplishments facilitate AFC Energy's ability to overcome the intrinsic entrance barriers for the identified target markets and are in line with our vision for achieving fuel cell integrated system applications utilising clean hydrogen.

## **Financial Review**

During the six months to 30 April 2018, an operating loss of £2.8 million (30 April 2016: £2.7 million) was recorded.

In the period, the Company recognised minimal grant income under the European Framework Programme 7 for the POWER-UP and ALKAMMONIA projects (30 April 2017: £0.2 million) as the POWER-UP project completed in June 2017 whilst the final stages of the work on the ALKAMMONIA project were delayed until April 2018 due to the late delivery of the ammonia cracker. Direct labour and material costs associated with the projects were recognised in cost of sales. Administrative expenses remained largely static, reflecting tight control of costs.

The net cash outflow in the six-months to 30 April 2018 was £2.7 million (30 April 2017: £5.5 million net inflow which included a total of £8.1 million from the fundraise) as a result of the Company's careful control of operating and capital costs.

The cash balance at 30 April 2018 was £4.0 million (30 April 2017: £8.4 million).

In June 2018, AFC Energy received its latest funding from the EU POWER-UP project.

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

## **Outlook**

The technology and commercial progression achieved by AFC Energy sets a solid platform for the remainder of this calendar year. In brief, through the course of 2018, we expect to:

- finalise the scope and scale of AFC Energy's fuel cell technology package to Southern Oil in Australia;
- confirm a decision on the final scope and scale of the Company's fuel cell deployment programme at Dunsfold Park;
- release details of one or more hydrogen technology licenses with third party technology companies with the prospect of one or more projects to demonstrate the integrated technology platform;
- execute a mass manufacturing agreement with De Nora ready for commercial deployment;
- make strides towards a four year operability of the electrodes with De Nora;
- continued progression towards further commercial fuel cell deployment opportunities and partners in support of this ambition across key target markets.

AFC Energy remains 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 fuel cell technologies.

I look forward to providing further updates to the market throughout the course of 2018.

**Adam Bond**

**Chief Executive Officer**

**16 July 2018**



## STATEMENT OF COMPREHENSIVE INCOME

For the period ended 30 April 2018

		<b>Six-months ended</b> <b>30 April 2018</b>	Six-months ended 30 April 2017	Year ended 31 October 2017
		£	£	£
	Note	<b>Unaudited</b>	Unaudited	Audited
EU Grant income		387	201,762	230,610
Cost of sales		<b>(14,647)</b>	(312,261)	(397,113)
<b>Gross loss</b>		<b>(14,260)</b>	(110,499)	(166,503)
Other income		157	36,558	51,947
Administrative expenses		<b>(2,736,133)</b>	(2,611,693)	(5,395,552)
<b>Operating loss</b>		<b>(2,750,236)</b>	(2,685,634)	(5,510,108)
Finance cost	3	<b>2,766</b>	(969)	(853)
<b>Loss before tax</b>		<b>(2,747,470)</b>	(2,686,603)	(5,510,961)
Taxation	4	<b>199,998</b>	250,002	585,902
<b>Loss for the financial period and total comprehensive loss attributable to owners of the Company</b>		<b>(2,547,472)</b>	(2,436,601)	(4,925,059)
Basic loss per share	5	<b>(0.65)p</b>	(0.73)p	(1.36)p
Diluted loss per share	5	<b>(0.65)p</b>	(0.73)p	(1.36)p

All amounts relate to continuing operations.

## STATEMENT OF FINANCIAL POSITION

As at 30 April 2018

	Note	30 April 2018 £ Unaudited	30 April 2017 £ Unaudited	31 October 2017 £ Audited
<b>Assets</b>				
<b>Non-current assets</b>				
Intangible assets	6	404,823	358,548	382,202
Property and equipment	7	297,869	65,910	315,244
Investment		-	-	-
		<b>702,692</b>	<b>424,458</b>	<b>697,446</b>
<b>Current assets</b>				
Inventory	8	165,866	164,255	162,993
Other receivables	9	1,824,587	2,011,928	1,608,466
Cash and cash equivalents	10	3,994,955	8,419,671	6,676,775
Restricted cash	10	263,227	105,752	109,582
		<b>6,248,635</b>	<b>10,701,606</b>	<b>8,557,816</b>
<b>Total assets</b>		<b>6,951,327</b>	<b>11,126,064</b>	<b>9,255,262</b>
<b>Capital and reserves attributable to owners of the Company</b>				
Share capital	11	391,298	390,948	391,298
Share premium	11	45,494,404	45,454,067	45,494,404
Other reserve		3,379,499	3,242,858	3,084,204
Retained deficit		(43,107,028)	(38,499,998)	(40,559,556)
<b>Total equity attributable to Shareholders</b>		<b>6,158,173</b>	<b>10,587,875</b>	<b>8,410,350</b>
<b>Current liabilities</b>				
Trade and other payables	12	485,798	538,189	536,166
		<b>485,798</b>	<b>538,189</b>	<b>536,166</b>
<b>Non-current liabilities</b>				
Trade and other payables	12	6,184	-	7,574
Provisions	13	301,172	-	301,172
		<b>307,356</b>	<b>-</b>	<b>308,746</b>
<b>Total equity and liabilities</b>		<b>6,951,327</b>	<b>11,126,064</b>	<b>9,255,262</b>

## STATEMENT OF CHANGES IN EQUITY

For the period ended 30 April 2018

	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
<b>Balance at 30 April 2018</b>	<b>391,298</b>	<b>45,494,404</b>	<b>3,379,499</b>	<b>(43,107,028)</b>	<b>6,158,173</b>

	Share Capital £ Unaudited	Share Premium £ Unaudited	Other Reserve £ Unaudited	Retained Deficit £ Unaudited	Total Equity £ Unaudited
Balance at 1 November 2016	310,014	37,843,613	3,234,492	(36,486,151)	4,901,968
Comprehensive loss for the period	-	-	-	(2,436,601)	(2,436,601)
Issue of equity shares	80,934	7,610,454	-	-	7,691,388
Equity-settled share-based payments	-	-	8,366	422,754	431,120
Transactions with owners	80,934	7,610,454	8,366	422,754	8,122,508
Balance at 30 April 2017	390,948	45,454,067	3,242,858	(38,499,998)	10,587,875

	Share Capital £ Audited	Share Premium £ Audited	Other Reserve £ Audited	Retained Deficit £ Audited	Total Equity £ Audited
Balance at 1 November 2016	310,014	37,843,613	3,234,492	(36,486,151)	4,901,968
Comprehensive loss for the period	-	-	-	(4,925,059)	(4,925,059)
Issue of equity shares	81,284	7,650,791	-	-	7,732,075
Equity-settled share-based payments	-	-	(150,288)	851,654	701,366
Transactions with owners	81,284	7,650,791	(150,288)	851,654	8,433,441
Balance at 31 October 2017	391,298	45,494,404	3,084,204	(40,559,556)	8,410,350

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 2018

	Six-months ended 30 April 2018	Six-months ended 30 April 2017	Year ended 31 October 2017
	£	£	£
	Unaudited	Unaudited	Audited
<b>Cash flows from operating activities</b>			
Loss before tax for the period	(2,747,470)	(2,686,603)	(5,510,961)
Adjustments for:			
Depreciation and amortisation	71,406	42,847	227,298
Loss/(Profit) on disposal of tangible assets	-	-	2,214
Equity-settled share-based payment expenses	295,295	431,120	701,366
Payment of shares in lieu of cash	-	46,250	75,983
Interest received	(4,708)	(807)	(2,578)
R&D tax credits receivable	199,998	250,002	(173,830)
<b>Cash flows from operating activities before changes in working capital and provisions</b>	<b>(2,185,479)</b>	<b>(1,917,191)</b>	<b>(4,680,508)</b>
R&D tax credits received	-	-	759,731
(Increase)/(Decrease) in restricted cash	(153,645)	6,325	2,495
(Increase) in inventory	(2,873)	(13,323)	(12,061)
(Increase)/Decrease in other receivables	(216,121)	584,035	987,497
Decrease in trade and other payables	(51,758)	(763,518)	(757,967)
<b>Cash absorbed by operating activities</b>	<b>(2,609,876)</b>	<b>(2,103,672)</b>	<b>(3,700,813)</b>
<b>Cash flows from investing activities</b>			
Purchase of plant and equipment	(38,918)	(2,344)	(120,111)
Additions to intangible assets	(37,734)	(31,120)	(72,064)
Proceeds of disposal of tangible assets	-	-	231
Interest received	4,708	807	2,578
<b>Net cash absorbed by investing activities</b>	<b>(71,944)</b>	<b>(32,657)</b>	<b>(189,366)</b>
<b>Cash flows from financing activities</b>			
Proceeds from the issue of share capital	-	8,068,426	8,079,381
Costs of issue of share capital	-	(423,288)	(423,289)
Derivative financial asset	-	-	-
<b>Net cash from financing activities</b>	<b>-</b>	<b>7,645,138</b>	<b>7,656,092</b>
Net (decrease)/increase in cash and cash equivalents	(2,681,820)	5,508,809	3,765,913
Cash and cash equivalents at start of period	6,676,775	2,910,862	2,910,862
<b>Cash and cash equivalents at end of period</b>	<b>3,994,955</b>	<b>8,419,671</b>	<b>6,676,775</b>

## 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 2018 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 2017. 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 Directors have prepared a cash flow forecast (the "Forecast") for the period ending 31 July 2019. During this period the Company will focus on product and commercial development and the Forecast indicates that it will not have sufficient cash resources to meet its obligations as they fall due for a period of at least 12 months from the date of publication of these interim results.

A future fundraising will be necessary to enable the Company to meet the costs of commercial deployment in order to deliver its growth potential. The Directors are confident in the ability of the Company to raise additional funds through the market or at the project level as deemed appropriate at the time.

Consequently, the Directors believe that it is appropriate to prepare the interim results on a going concern basis.

#### **b. Revenue**

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the Company and the revenue can be reliably measured. Revenue is measured at the fair value of the consideration received, excluding discounts, rebates, and other sales taxes or duty. Revenue arising from the provision of services is recognised when and to the extent that the Company obtains the right to consideration in exchange for the performance of its contractual obligations.

#### **c. 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.

#### **d. Other Income**

Other income represents sales by the Company of waste materials.

#### **e. 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.

#### **f. 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.

#### **g. Inventory**

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

#### **h. 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.

#### **i. 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.

#### **j. 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.

#### **k. 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.

#### **l. 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: €125,000) 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 so as 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 of 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 Company awards share options and warrants to certain Directors and employees to acquire shares of the Company. The fair value of options and warrants granted is recognised as an employee expense with a corresponding increase in equity. The fair value is measured at grant date and spread over the period during which the Directors and employees become unconditionally entitled to the options or warrants. The fair value of the options and warrants granted is measured using the Black-Scholes option valuation model, taking into account the terms and conditions upon which the options and warrants were granted. The amount recognised as an expense is adjusted to reflect the actual number of share options and warrants that vest only where vesting is dependent upon the satisfaction of service and non-market vesting conditions or where the vesting periods themselves are amended by the introduction of new schemes and the absorption of earlier schemes by agreement between the Company and the relevant Directors and employees. Where options or warrants granted are cancelled, all future charges arising in respect of the grant are charged to the statement of comprehensive income on the date of cancellation.

#### **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.

## 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 2018, the Company operated mainly in the United Kingdom and in Germany. All non-current assets are located in the United Kingdom.

## 3. FINANCE COST

	Six-months ended 30 April 2018 £ Unaudited	Six-months ended 30 April 2017 £ Unaudited	Year ended 31 October 2017 £ Audited
Interest on finance lease	(1,942)	(1,775)	(3,541)
Bank charges	-	-	110
Bank interest receivable	4,708	806	2,578
<b>Total finance cost</b>	<b>2,766</b>	<b>(969)</b>	<b>(853)</b>

## 4. TAXATION

	Six-months ended 30 April 2018 £ Unaudited	Six-months ended 30 April 2017 £ Unaudited	Year ended 31 October 2017 £ Audited
Recognised in the statement of comprehensive income:			
R&D tax credit - current period	199,998	250,002	499,389
R&D tax credit - prior year	-	-	86,513
<b>Total tax credit</b>	<b>199,998</b>	<b>250,002</b>	<b>585,902</b>



## 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.

	<b>Six-months ended 30 April 2018 Unaudited</b>	Six-months ended 30 April 2017 Unaudited	Year ended 31 October 2017 Audited
Basic loss per share (pence)	<b>(0.65)p</b>	(0.73)p	(1.36)p
Diluted loss per share (pence)	<b>(0.65)p</b>	(0.73)p	(1.36)p
Loss attributable to equity Shareholders	<b>£(2,547,472)</b>	£(2,436,601)	£(4,925,059)
	<b>Number</b>	Number	Number
Weighted average number of shares in issue	<b>391,298,205</b>	<b>333,454,674</b>	362,584,646

### *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 2016	516,448
Additions	31,120
At 30 April 2017	547,568
Additions	40,944
At 31 October 2017	588,512
Additions	<b>37,734</b>
<b>At 30 April 2018</b>	<b>626,246</b>
<i>Amortisation:</i>	
At 1 November 2016	171,991
Charge for the period	17,029
At 30 April 2017	189,020
Charge for the period	10,186
Impairment	7,104
At 31 October 2017	206,310
Charge for the period	<b>15,113</b>
<b>At 30 April 2018</b>	<b>221,423</b>
<i>Net Book Value:</i>	
At 30 April 2017	<b>358,548</b>
At 31 October 2017	382,202
<b>At 30 April 2018</b>	<b>404,823</b>

## 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	-	1,163,905	17,994	1,519,361
Additions	-	-	2,344	-	2,344
At 30 April 2017	337,462	-	1,166,249	17,994	1,521,705
Additions	-	301,172	117,767	-	418,939
Disposals	-	-	(82,927)	-	(82,927)
At 31 October 2017	337,462	301,172	1,201,089	17,994	1,857,717
Additions	-	-	<b>38,918</b>	-	<b>38,918</b>
<b>At 30 April 2018</b>	<b>337,462</b>	<b>301,172</b>	<b>1,240,007</b>	<b>17,994</b>	<b>1,896,635</b>
<i>Depreciation:</i>					
At 1 November 2016	337,462	-	1,083,019	9,496	1,429,977
Charge for the period	-	-	22,463	3,355	25,818
At 30 April 2017	337,462	-	1,105,482	12,851	1,455,795
Charge for the period	-	139,121	25,397	2,643	167,161
Disposals	-	-	(80,483)	-	(80,483)
At 31 October 2017	337,462	139,121	1,050,396	15,494	1,542,473
Charge for the period	-	<b>15,682</b>	<b>38,111</b>	<b>2,500</b>	<b>56,293</b>
<b>At 30 April 2018</b>	<b>337,462</b>	<b>154,803</b>	<b>1,088,507</b>	<b>17,994</b>	<b>1,598,766</b>
<i>Net Book Value:</i>					
At 30 April 2017	-	-	60,767	5,143	65,910
At 31 October 2017	-	162,051	150,693	2,500	315,244
<b>At 30 April 2018</b>	<b>-</b>	<b>146,369</b>	<b>151,500</b>	<b>-</b>	<b>297,869</b>

## 8. INVENTORY

	30 April 2018 £ Unaudited	30 April 2017 £ Unaudited	31 October 2017 £ Audited
Inventory	<b>165,866</b>	164,255	162,993
	<b>165,866</b>	164,255	162,993

## 9. OTHER RECEIVABLES

	30 April 2018 £ Unaudited	30 April 2017 £ Unaudited	31 October 2017 £ Audited
<i>Current:</i>			
R&D tax credits receivable	<b>699,387</b>	923,221	499,389
EU grants receivable	<b>724,815</b>	599,050	724,815
Other receivables	<b>394,449</b>	489,657	375,782
	<b>1,818,651</b>	2,011,928	1,599,986
<i>Non-current:</i>			
Other receivables	<b>5,936</b>	-	8,480
	<b>5,936</b>	-	8,480
	<b>1,824,587</b>	2,011,928	1,608,466

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

## 10. CASH AND CASH EQUIVALENTS

	30 April 2018	30 April 2017	31 October 2017
	£	£	£
	Unaudited	Unaudited	Audited
Cash at bank	454,636	1,195,182	984,588
Bank deposits	3,540,319	7,224,489	5,692,187
	<b>3,994,955</b>	8,419,671	6,676,775

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 2017: €125,000) 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 2016	310,013,943	310,014	37,843,613	38,153,627
Issue of shares on 25 January 2017	250,000	250	46,000	46,250
Issue of shares on 9 March 2017	80,684,262	80,684	7,564,454	7,645,138
At 30 April 2017	390,948,205	390,948	45,454,067	45,845,015
Issue of shares on 22 August 2017	350,000	350	40,337	40,687
<b>At 31 October 2017 and 30 April 2018</b>	<b>391,298,205</b>	<b>391,298</b>	<b>45,494,404</b>	<b>45,885,702</b>

All issued shares are fully paid.

## 12. TRADE AND OTHER PAYABLES

	30 April 2018	30 April 2017	31 October 2017
	£	£	£
	Unaudited	Unaudited	Audited
<i>Current liabilities:</i>			
Trade payables	293,227	210,057	200,643
Deferred income	-	60,973	-
Finance lease liability	3,931	16,246	10,844
Other payables	114,130	180,376	173,996
Accruals	74,510	70,537	150,683
	<b>485,798</b>	538,189	536,166
<i>Non-current liabilities:</i>			
Finance lease liability	6,184	-	7,574
	<b>6,184</b>	-	7,574

## 13. PROVISIONS

	30 April 2018	30 April 2017	31 October 2017
	£	£	£
	Unaudited	Unaudited	Audited
Decommissioning provision	301,172	-	301,172
	<b>301,172</b>	-	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. RELATED PARTY TRANSACTIONS

During the six-months to 30 April 2018:

£153,827 was invoiced by iProcess Engineering & Consulting Ltd (a company registered in England & Wales) for consultancy services in respect of the services of Jim Gibson as a Director of AFC Energy plc (2017: £49,917). Mr. Gibson is also a Director and Shareholder of iProcess Engineering & Consulting Ltd. At 30 April 2018, the sum owing to iProcess Engineering & Consulting Ltd was £29,438 (2017: £16,650).

**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 2017. 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](http://www.afcenergy.com).