

# AGM Shareholder Questions and Answers

23 April 2020

Due to the impact of the COVID -19 virus and UK Government advice on the avoidance of non-essential travel and social distancing, AFC Energy is this year unfortunately unable to host its usual investor presentation and Q&A segments traditionally held in conjunction with the AGM.

Whilst it remains the Company's intention to host such an event once lockdown measures are lifted by the Government, shareholders have, in the interim, been invited to submit questions on pertinent points of interest, for which clarity from AFC Energy would be of value.

Written questions were received from a total of 10 submissions. Within these submissions, several themes were identified and as such, in preparing answers, we have tried to consolidate questions so that our answers and underlying business strategies can be communicated in a succinct and concise manner.

## Commercial Update

**Q: Is the Company able to provide an update on commercial discussions following the launch of the EV charger fuel cell system and subsequent roadshow events held earlier this year?**

A: AFC Energy was delighted with the response received from the market launch and roadshow events over recent months. The successful operation of the system to an audience of approximately 500 companies demonstrated the challenges found within the local grid infrastructure and its ability to address the ever-growing demand and the changing load profiles associated with electric vehicles.

The growing importance of EVs can be seen in no better way than the UK's Society of Motor Manufacturers and Traders March 2020 statistics released earlier this month ([www.SMMT.co.uk](http://www.SMMT.co.uk)) stating that the number of new vehicle registrations in March 2020 across the UK fell 44.1% in total, whereas battery electric vehicles rose three-fold, and plug-in hybrids rose 38%.



An insight we identified through engagement with the market at our EV launch event and roadshow, are the differing policy objectives, commercial models and demand assumptions reflected across those in attendance and the industry in general. Clearly, the traditional “plug into the grid” is seen as the simple solution which masks the larger issue being the capacity constraints across the grid and distribution networks and the associated incremental investment cost to be borne by operators. This is expected to grow with EV deployment, however, the business models to be adopted across Councils, service station owners, EV charge point operators, fleet owners and industrial customers all differ due to the different demand, cost and timing assumptions they employ for grid upgrades.

Since our roadshow we have, and continue to, engage with Local Councils who are grappling with deciding between which competing technology strategies and business model to follow for their EV charger system deployment, and are working alongside service station owners, retailers, EV charge point operators and fleet owners to define the model that will enable customers to best benefit from both existing and available grid capacity, but also which will also de-risk investment decisions for power demand growth through EV charging.

In a number of instances, we are working through Government regulations and guidance with prospective customers with regards health and safety and other site-specific requirements such as those found in service station forecourts.

The number of enquiries which we are seeing has led to the Company employing additional sales focussed staff to lead these discussions through to what we expect to be commercial deployments in due course.

We believe feedback from the market following our EV system launch and roadshow events further demonstrate market interest in our product. For most though, the AFC Energy fuel cell forms part of a larger energy portfolio strategy and as such, shareholders should be mindful of what would be a reasonable timeline between “enquiry” and “sale” as the solution provided by AFC Energy in this regard should not be seen as a commoditised consumable for which simple “buy” decisions can be made without taking into account other considerations. We are actively engaged in a number of commercial discussions and when we are in a position to announce them, we will.

Distinct from EV charging, it is also worth highlighting the growing interest received from construction and temporary power markets with regard the market’s transition away from diesel gensets. The pipeline of new opportunities in the construction market is driven to large extent by fiscal and regulatory changes such as the UK Government’s recent announcement in last month’s budget pertaining to the removal of subsidies on red diesel used at construction and temporary power sites, alongside the emission reduction targets for Non Road Mobile Machinery (NRMM) which come into force later this year. We are working alongside several large construction groups at present where these drivers are forcing their consideration of alternative off grid power generation solutions and we hope this might lead to agreements to trial our system in the field.

**Q: When will details of current Non-Disclosure Agreements be announced?**

A: AFC Energy have entered multiple NDAs in recent months following commercial enquiries into our EV charging and hydrogen generator systems. Commercial negotiations must remain confidential until they become contractually binding. Clearly, orders are likely to be regarded as price sensitive information and will be announced, as and when either it becomes a commercial commitment for both parties or the nature of the agreement requires announcement under the rules of the AIM exchange.

**Q: What is the status of deals pertaining to AlkaMem™?**

A: The Company continues to conduct testing and development works focussed predominantly on the AlkaMem membrane's application within AFC Energy's high-power density fuel cell stack. This work is coming along well with new patents and manufacturing processes being developed to enable not only the supply of membranes into the Company's fuel cell, but also for other third-party applications.

Whilst not specifically AlkaMem related, AFC Energy has also, particularly over this period of COVID-19 lockdown, made large strides forward in the fuel cell stack design integrating the membrane with the remainder of the stack componentry as system scale up continues to advance.

Several enquiries have been received, predominantly from Europe, to purchase at first stage, modest amounts of membrane for validation activities across non-core applications, focussing at this stage on alkaline water electrolysis and electro-dialysis. NDAs and Material Transfer Agreements are in negotiation on several of these prospective customers. De Nora, who are working on large scale alkaline water electrolysis stacks as part of their solution package to the Green Hydrogen industry, also maintain a strong interest in the membrane based on the testing completed by them to date.

**Q: What is the status of AFC Energy's relationship with Southern Oil?**

A: At this time, there has been no change in the relationship AFC Energy has with Southern Oil. We remain in waiting mode, having completed the engineering study, for Southern Oil to confirm their ongoing funding and delivery of their project in Gladstone, Australia.

**Q: What needs to be done to produce a diesel replacement power system using AFC Energy's fuel cell system? Is this dependent on completing the solid electrolyte fuel cell systems?**

A: AFC Energy's H-Power EV charging system launched in December 2019, in many regards mirrors the platform to be used to support industry's transition away from off grid, remote diesel generation.



To this end, we have already commenced discussions with construction and off grid power distributors seeking to explore use of AFC Energy's H-Power system as a tool to decarbonise the off-grid power market. Many of these companies have already explored alternative fuel cell systems and, as highlighted by AFC Energy earlier, struggle with the high cost of fuel and its movement from the site of generation to the point of consumption. AFC Energy's use of ammonia in this context is a unique selling point and one which forms an important part of our go to market strategy.

Deployment into the diesel displacement market is not dependent upon completion of work on the solid electrolyte fuel cell system.

### **COVID – 19 Response**

#### **Q: What has been the impact of COVID-19 on AFC Energy's business and its ongoing development works, both commercially and technically?**

A: First and foremost, the safety of AFC Energy's staff and partners is of paramount importance to the way our business navigates its way through the latest COVID-19 pandemic.

Like most UK businesses, the Company has adopted a policy of working from home throughout the current "lock down" period. To date, this model has worked extremely effectively.

A brief overview of actions taken and activities ongoing during the period of Lock Down include:

- AFC Energy has no employees on furlough under the UK Government's furlough programme – arrangements have now been made for all staff to effectively work remotely.
- Laboratory work, including with regards to the development of Alkamem, continues uninterrupted as a discreet group of staff, in full compliance with safe working social distancing guidelines, continue to visit the office to ensure continuity of development testing and validation. To balance health and safety considerations we have limited number of staff present at any time to two persons.
- Product development design and value engineering continues unhindered.
- Commercial activity has maintained momentum using video conferencing tools. Interest in our product remains unchanged although there is, like most businesses, uncertainty on the full impact of COVID-19 in cementing financial commitments from customers and delivery timelines which could be delayed until after an exit strategy from lockdown is clarified.



- Board meetings continue to be held monthly, albeit by video conference, to monitor our business situation and ensure ongoing compliance with Government policy as regards COVID-19 response and the impact on the AFC Energy business.
- Necessary software and hardware have been made available to all staff and directors so that desk top engineering and research work can continue without interruption remotely.
- As confirmed in the Annual Accounts released in February 2020, we had sufficient funds from cash in bank and the Thalion financing facility to meet our financial resources to meet our financial commitments during the following twelve months. We have further reinforced that position raising a further £ 1.4 million from our major institutional shareholder as an additional mitigant against unforeseen events arising from the current COVID-19 lockdown.
- All discretionary expenditure has been suspended pending reversal of lock down initiatives in the UK.

At present, we have not seen any drop in staff productivity and do not consider it necessary to review staff salaries nor furlough staff. Indeed, we have granted options to staff in recognition of the work they done to deliver the demonstration unit and maintain their motivation going forward during these difficult circumstances. This position will continue to be monitored constantly by the Board and we will act when appropriate.

### **Technology Update**

**Q: Can AFC Energy provide an update on technology progression with particular interest in electrode longevity, the relationship with De Nora and cost reduction?**

A: We reported on 27 August 2019 that we had run on our test benches an electrode pairing which at the time had run continuously for well over a year with an electrode degradation curve predicting a life in excess of four years. Ongoing testing increases our confidence in achieving the predicted life of the electrodes.

Our current commercial strategy focuses on off grid applications where electricity costs are at a premium and can be multiple times higher than that available from the grid, with further material price uplifts available depending on the complexities of the installation and location. In these markets the cost of providing the fuel at point of use is, by far, the most important operating cost of the system and the electrode longevity is less important in terms of our price competitiveness.



Beyond the increased electrode life, the steps we have taken to improve fuel efficiency to make our product more competitive have been:

- Avoided use of materially higher cost scientific grade (“five nines”) hydrogen – a significant advantage compared to PEM fuel cells.
- Use of ammonia as fuel stock – energy density three to four times that of hydrogen reducing logistic and storage costs.
- Scale up to HydroX-Cell L160 (L) – provides annual consumption of fuel to support discounted bulk buying opportunities.

Since the time of our system launch and roadshow, we have continued to work on issues going direct to fuel efficiency and value engineering. Through our commercial activities we are sounding the off-grid market and we believe that this market seeks a solution with better emissions credentials than the diesel generator but not as expensive as a PEM fuel cell which is where we are positioned.

Our commercial relationship with De Nora remains ever strong and as AFC Energy’s largest industrial partner, our collaboration under the Joint Development Agreement was extended in 2019 to enable delivery of further electrode enhancements which have been identified by both scientific teams over the course of the last 12 months. Regular meetings, calls and video conferences are held across the De Nora network and whilst physical meetings at this time are precluded, the quality of engagement between our two companies has not fallen and we continue to see benefits from our collaboration on a regular basis. De Nora continue to work with AFC Energy on our electrode pairings on an exclusive basis in the field of alkaline fuel cell technology.

As noted earlier, the Company also continues to make progress in the area of its Solid Membrane based fuel cell technology. This system, which we communicated to the market in December 2019, is expected to be available for commercial scale during 2022. We have progressed not only the development activity on the AlkaMem membrane used within this fuel cell stack, but have also appointed new members of staff to work alongside the membrane development focussing on system design, balance of plant configuration, membrane humidification and water management. These activities are continuing to plan during the COVID-19 lockdown and for the moment, alongside the stack development work, we are also working towards manufacturing processes and procedures, themselves containing high levels of intellectual property and know how, which will enable us to produce membrane quantities for system deployment from 2022.

**Q: Can AFC Energy provide an update on its HydroxCell (L) product development and whether COVID-19 has had an impact on the timetable for delivery of the 160kW system?**

**A:** The 20kW unit and subsequent demonstrations has proven the basic underlying design concepts of AFC Energy's fuel cell system. However, scaling up offers certain cost competitiveness advantages both in respect to the Balance of Plant and fuel costs. The development plan for the HydroX-Cell 160 (L) has two design components

- Scale up – how do we place eight times more power in four times the space of the demonstration unit.
- Value engineering – incorporate the design improvements identified in the build and operation of the 20kW unit.

Our plan as announced in December 2019 was to deliver a 160kW nameplate system by mid-2020. However, since that time the world and our markets have changed substantially. Our belief is that in difficult economic times, one of the first areas for companies to conserve cash is to defer capital expenditure. Consequently, to conserve our cash position over the coming weeks and months whilst uncertainty over COVID-19 remains, we will work to focus our attention on system engineering and design work, which is predominantly desktop, and not commence manufacture of the 160kW unit without an order being placed whilst the business environment remains uncertain. We therefore continue to use the period of lockdown to invest more time in value engineering to make our product more cost competitive.

Consequently, from a design standpoint there are no time delays in relation to our June 2020 launch date but physical delivery we would expect to be four to six months after the lock down is lifted depending upon the ability of our supply chain to ramp up their production. To minimise this period, we have already placed specific orders on certain key components with long lead times.

**Q: What integrated solutions are AFC Energy considering and have you entered into product development cost sharing agreements as alluded to at the last AGM?**

**A:** AFC Energy's focus is on clean power generation through its hydrogen fuel cell platform. However, as part of our interest in presenting the market with "turnkey" solution, it is important to consider both upstream and downstream integrated solutions on behalf of our customers. Our primary integration opportunities therefore reside around:

- Fuel supply chain issues where we look to integrate ammonia supply and cracker solutions into our product offering.
- Our technology, especially the solid membrane, can be reversed to be used in other electro-chemical applications such as the generation of green hydrogen through alkaline water electrolysis.
- Several of our fuel cell systems are being considered in applications where baseload power is not essential or required. In these cases, energy storage applications such as batteries are further examples of technologies where we are actively working with partners on integrated solutions which bolster the value proposition to our end users.



## Corporate Matters

**Q: What is AFC Energy's view on the alignment of its Board with that of its shareholders through their investment in the Company's share capital?**

A: All but one of the Company's Board of Directors have a direct interest in the success of AFC Energy through either direct holding in AFC Energy stock or through the award of Share Options as part of executive remuneration packages. In the case of the Company's Chairman and Chief Executive, both hold stock which were either funded directly out of their own financial resources or taken at the time in lieu of salary.

The remuneration structure for all senior appointments has been in line with our peer group and has a fixed and long-term incentive portion. The latter, alongside existing equity participation of the Board, aligns senior management with shareholders.

Further investments in AFC Energy stock by Directors and Management is a personal investment decision based upon individual circumstances considering restrictions imposed at the time by the AIM rules or MAR.

**Q: How can the Company be clearer in its Public Relations activities and what role does TUVA play in delivering on the Company's communications strategy?**

A: The AFC Energy web site and our annual report, together with RNS releases, at the appropriate times, are our principal form of communication channels with investors and have all been enhanced in recent months. We endeavour to continue those enhancements.

At the same time, strategically we have elected to increase our communication and marketing to key stakeholder groups, specifically Government agencies, trade associations plus customers which often goes unseen by our shareholders. This marketing strategy has delivered several new enquiries which we are working to deliver a commercial sale.

We must however balance the timing and content between the interests of the different stakeholder groups. Activities which have taken place include multiple advertising and in-depth articles in trade magazines, roadshows and presentations to trade associations in recent months.

We have also received editorial coverage on our EV charging and off-grid power products from a number of national and international publications including the Wall Street Journal, The Telegraph, The I Newspaper, New Statesman and Motoring Research – as well across a wide range of automotive, clean tech and energy trade media.

Use of social media has also picked up as a medium for reaching shareholders and interested market participants.



The Company has asked Tuva, our current PR consultancy firm, to consider new and innovative opportunities for engagement with the Private Client Broker and Wealth Management community as part of their mandate for 2020.

**Q: Can AFC Energy shed light on the transaction in which it disposed of its interest in Waste2tricity in 2019, particularly in light of the recent announcements pertaining to Waste2tricity's relationship with Powerhouse Energy?**

A: Whilst AFC Energy has in the past had commercial relations with both Powerhouse Energy and Waste2tricity, those relationships no longer exist. Since 2015, when AFC Energy's appointed director resigned from the Board, the Company has not been privy to any information other than that in the public domain. The severance of commercial relations was completed last year (2019) with both the sale of our investment in Waste2tricity and the termination of the licence agreements.

This year in accordance with IFRS 9 we were required to reconsider the opening fair value of our investment and as stated in our annual financial statements:

"The Directors have adopted IFRS 9 with effect from 1 November 2019 and have estimated the fair value using hierarchy level 3. The estimated fair value of the investment in Waste2Tricity remains de minimis as reported last year, due to the uncertainty at the time of disposal of future cash flows and the lack of marketability of the shares."

**Q: What are AFC Energy's financial forecasts for the next 3 years?**

A: It is neither the Company's nor the industry's considered "best practice" to provide forward looking statements as to financial forecasts. AFC Energy has engaged with Brokers who, based on information provided, look to develop their own independent views as to future company prospects and financial projections, but these are the view of our brokers and not those expressly of the Company.

Unfortunately, under MAR regulations, such information is not able to be circulated to the wider retail market neither by the Broker nor the Company. This includes an inability to disclose views of house brokers on Company websites.

For this reason, we are unable to provide forward financial projections at this time.

**Q: Can AFC Energy please explain the rationale for its recent fundraise of £1.4m?**

A: AFC Energy has managed its cash position in recent years during difficult equity markets and in 2019, entered a financing facility with Thalion Global Group with a draw down facility of £4m which at this time, remains unused.



The Thalion Global Group facility was created at a time when the AFC Energy share price was at a substantially lower price than it is today and so to avoid any unnecessary dilutionary effect on shareholders, the facility was entered into to avoid a more sizeable raise at the time.

Twelve months later, as the markets began to close to new investments, liquidity in the capital markets were under stress due to the emerging COVID-19 epidemic, many companies sought to immediately shore up their balance sheet to protect shareholders interests in the event of a prolonged lock down and uncertainties over the capital market's ability to respond in a timely manner to the needs of companies during this time.

The Board took the decision to improve its liquidity in the interests of all shareholders with a small raise with limited dilutionary effect on shareholders but which would give us the confidence to proceed in a "business as usual" sense and mitigate the risk COVID-19 was bringing to so many businesses across the UK.

We were most pleased that our primary institutional shareholder agreed to stand behind us at this uncertain time. The decision to proceed in this manner has been supported by the majority of shareholders and by those institutions we are engaging with who have expressed interest in making future investments into AFC Energy.

**Q: Why have you not convened a virtual meeting which would have permitted shareholders to participate**

When we announced the revised format for the AGM, we committed to hold an investor presentation day as soon as possible once the Government had changed its advice on social gatherings, if this looked to be delayed then we would investigate using electronic communication tools. We took this position because we believe and understood that many of our shareholders believe that these events are best managed face to face. At that stage we, like many parties, were hoping for this crisis to be short lived. We are in the process of reconsidering our plans in the light of current information and we are finalising our plans.