

Stock Data

Share Price:	4.50p
Market Cap.:	£176.5m
Shares in issue:	3,921.9m
52 week high/low:	11.40/2.25

Company Profile

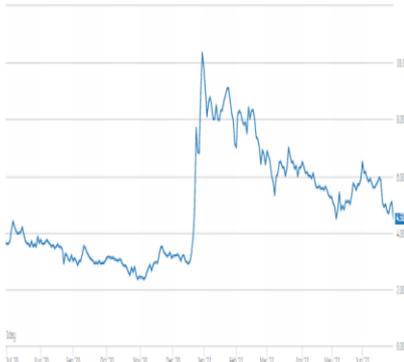
Sector:	Alternative Energy
Ticker:	PHE
Exchange:	AIM

Activities

Powerhouse Energy Group plc ('the Group', 'Powerhouse' or 'PHE') has developed a proprietary process technology - DMG® - which can utilise waste plastic, end-of-life-tyres, and other waste streams to efficiently and economically convert them into syngas.

www.powerhouseenergy.net/

1 year share price performance



Source: [LSE](https://www.lse.com)

Past performance is not an indication of future performance

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Powerhouse Energy Group plc

Powerhouse this morning published its 2020 AR&A. The accompanying detailed statements summarise an exceptionally busy year during which the Group signed commercial terms with a division of the major infrastructural investment enterprise, Peel Group, and secured planning permission for its first DMG application, while also strengthening its balance sheet and building out the skillset of its Board of Directors. Despite the lockdown, activity levels remained high in the opening month of 2021, and with Peel's financial closure of the Protos project anticipated soon, execution of this first application of the technology should commence before year end.

A further £10 million (gross) fund raise early in 2021 enabled Powerhouse to provide the Protos SPV with a substantial short-term loan to help expedite the project by securing long lead time equipment and accelerating design services, while it also continued its international roll-out through a further licensing agreement, this time covering Greece and Hungary. With Protos potentially set to be commissioned and operational by the end of H1 2022, and with Peel already having announced a second UK facility in Scotland, with distribution partner, Hydrogen Utopia International ('HUI'), also targeting completion of its own build on a similar timeframe, the Group now appears poised for substantial progress as its modular technology commences roll out into full commercial operations. Given that further global licensing agreements are expected to follow in short order, with most of the capital cost for deployment being borne by development partners and those licensed to use DMG technology, Powerhouse can therefore expect to secure rapid simultaneous growth across multiple markets without further recourse to shareholders.

DMG® secured its first revenues in 2020

Powerhouse secured its first revenue of £100,000 in 2020 for initial engineering work on its first commercial scale Distributed Modular Generation ('DMG®') plant by Protos Plastics to Hydrogen No. 1 Limited, the Special Purpose Vehicle (the 'SPV') owned by Peel NRE (formerly known as Peel Environmental). These funds were part of the careful cash management through the first half of 2020. Further payments for similar works might be anticipated in the remaining months of 2021, along with possibly contributions from HUI over the next 12 or so months following its reported identification of 10 prospective DMG locations in Poland, plus others in Greece and potentially also in Hungary.

Financial results for 2020 were complicated by a large non-cash item. The acquisition and hive up of Waste2Tricity resulted in goodwill arising of £57.15 million. The Group is required to assess the carrying value of goodwill on an annual basis and commissioned an independent third party to carry out a valuation. This resulted in an impairment charge for the year of £14.2 million to leave a carrying value of £42.96 million. This is supported by, and dependent upon, the roll out proposals for the DMG technology and underlying revenue streams which will arise therefrom. Total comprehensive losses for the period accordingly amounted to £15.84 million (2019: £1.510 million), equivalent to a loss per share of 0.57p (2019: loss 0.08p)

Powerhouse now well resourced to fund uptick in activity

Having ended 2020 with cash and cash equivalents of £3.46 million, the Board's decision to support the SPV with a £3.8 million cash loan designed to help expedite and

de-risk the project by ensuring no delays to its timetable resulting from long lead items etc. highlighted its need for additional funding. Recognising also the Board's wish to further strengthen its balance sheet in anticipation of operational activity stepping up a gear in 2021, a further £10 million (gross) was raised in January through an equity placing in which the Group's largest shareholder fully participated.

Against this, it should also be recalled that on 9 September 2020, Peel Holdings (IoM) Limited was granted warrants to acquire new shares equating to 10% of the current issued capital of Powerhouse, that will be triggered by announcement of the financial closing of the Protos project. In addition to existing resources, the exercise of the warrants would bring a further £10.2 million of cash into Powerhouse, placing it on a secure financial footing for its UK operations while also facilitating the deployment of its technology to international customers. Under the terms of its exclusivity option, Peel NRE will also be obliged to pay the further sum of £500,000 within six months of the financial close for exclusive rights to the DMG technology in the UK while assuming responsibility for leading the development and funding strategy for all future UK projects. In expectation of both the warrant exercise and option take-up in the relatively near term the Group, whose capital light model based exclusively on licencing rather than project commissioning, will be left with a strong balance sheet that TPI considers is unlikely to call on shareholders for additional funding in the foreseeable future.

Strengthening the Management Team

2020 saw Powerhouse build-out its management team in anticipation of a ramp-up in activity during the current year. Paul Emmitt was recently been appointed as Chief Technical Officer. This new position was created in anticipation of David Ryan confirming his stepping down as Chief Executive Officer yesterday. During the last four years Paul has worked closely with Powerhouse in developing the design of the DMG plant and is now working on a part time basis while continuing as Managing Director of Engsolve Limited. Working alongside Dr Andy Physick who was appointed as the Process Engineering Team Lead in December 2020, he is expected to focus on raising DMG's profile and securing additional international licensing agreements. Working in conjunction with a recently selected a Business Development Executive who will join the team later this summer and a new CEO that international search firm, Egon Zehnder, is presently engaged to identify, the technology's global base of licensors is expected to expand significantly in coming months.

Recognising the importance of project delivery to Powerhouse, it also appointed specialist Project Executive, Ian Crockford, to direct all aspects of the project establishment and delivery on a consultancy basis. Having significant past experience, including heading up development of the London 2012 Olympic Stadium and Aquatics Centre, Ian has been advising Powerhouse since April 2021 on project delivery matters.

Protos – Civil construction expected to commence before the end of 2021

The DMG application lies at the heart of the Protos Plastic Park ('the Park'), which will be Peel NRE's flagship energy and resource hub situated on its Protos site. The facility will bring together large energy users with sources of low-carbon energy, clustering together resource management technologies. The Park will handle up to 300,000 tonnes per annum, with the non-recyclable content being directed toward the Powerhouse DMG unit. During 2020, design developments and process enhancements were driven by Peel NRE commercial framework and their need for flexibility in feedstock and production regimes. These enhancements included options for hydrogen export through pipeline, local refuelling station and the addition of high-pressure compression and export facilities enabling the plant to provide packets of hydrogen up to 750kg to be shipped to offtakers.

Not surprisingly, COVID-19 resulted in some slippage of the project timetable. The lockdown meant that off-site project interaction to complete negotiations became more complicated. As a result of design variations arising from the value improvement exercise for the site a Section 73 revision for the planning will now be submitted by Peel NRE.

This in turn created delays to the planned completion of construction and start of operation of the plant. Given that the plant is modular in nature, however, with managed fabrication activities undertaken off site, construction is still expected to commence before the end of 2021. Given that successful commissioning of the Protos project remains the key milestone in the growth of Powerhouse, the Board has made the delivery, commissioning and operation of the plant their number one priority. TPI now considers this to be possible by the end of H1 2022.

A second UK project in Clydebank, Scotland

Earlier this month, Peel NRE and Powerhouse announced the next DMG development would be in Clydebank, Glasgow. The pre-planning application work has been completed and an application for planning permission is expected to be submitted within three months. Subject to the necessary permissions the Front-End Engineering Design ('FEED') and contract bidding can be completed ready for sanction prior to completion of Protos. This appears to be a clear reflection of Peel's confidence in the opportunities presented by DMG and, given its identification of a total of 77 sites considered suitable for installation of the technology (a number of which are already under its direct ownership), just the beginning of a long-term UK roll-out. For each DMG plant developed in the UK, Powerhouse will receive an annual licence fee of £500,000.

Overseas market agreements

Powerhouse signed its first Heads of Terms ('HoT') granting HUI an exclusive non-transferable licence for the application of DMG technology in Poland back in November 2020. Since then, it has identified as many as 10 prospective locations for DMG plant in and around the city of Konin, an area of high carbon production where the EC offers grants for local establishment green and renewables technologies. HUI is now building relationships with central and local government, along with potential suppliers and influential partners, to propose these sites for development. Recently HUI has also identified similar opportunities for deployment of DMG technology in Greece and Hungary.

A statement and report from DNV, the international gas process design and certification consultancy, released yesterday confirmed completion of stage one of the validation of the enhanced design to produce two tonnes/day of hydrogen. This was based on the recently completed update of the FEED for Protos. While this will be used by Peel, their consultants and contractors to support finalisation of contracts for the Protos execution, the material will also support project development work in Australia, Poland and other European countries.

Potential for positive returns in less than two years

The fund raising completed earlier this year, along with inflow from Peel following anticipated financial closure of the Protos project has substantially lowered the site's residual commissioning risk. Indeed, Powerhouse now appears to be on a secure financial footing which should reassure shareholders it will not be calling for additional resources in the foreseeable future. Having already put a loan in place to help expedite the project, the Group has access to all foreseeable working capital/corporate needs in support of both Peel's post-COVID UK roll-out while also facilitating its planned overseas marketing and licensing drive. The adoption of a low cost, licence fee based business model leads TPI to believe that Powerhouse could potentially achieve cashflow breakeven or better, based simply on the commissioning of just three Protos-sized projects (each targeting production of, say, 3.8MWe on site and exporting 3.4MWe electricity when in power-only operation and up to 2 tonnes of hydrogen/day when in combined operation). Considering the lengthy existing project pipeline already under consideration by Peel, together with further fees from expected feedstock testing and site-specific engineering work, TPI considers that full integration of Waste2Tricity Limited following its acquisition at the end of June 2020 might enable the capital-light Group to start generating returns for shareholders within the next two years, based on its expectation of having three fully operational sites plus a further four under construction by then. During this period, Powerhouse is also expected to have progressed its planned international licensing project in place with selected, well-financed partners based on exclusivity terms similarly to those it has already negotiated for the UK. On this basis, TPI considers Powerhouse could possibly generate its first meaningful profits before end-2023.

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