

Powerhouse Energy Group

Cementing relationship with Peel Environmental

Over the last 18 months, Powerhouse has cemented its relationship with Peel Environmental, which is targeting the development of at least 30 distributed modular generation (DMG) plants across the UK. Each of these will potentially generate £0.5m in annual licence fees for Powerhouse. This roll-out is conditional on shareholders approving the proposed acquisition of former development partner Waste2Tricity (W2T) at the general meeting on 14 July.

Year end	Revenue (£m)	EBITDA (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)
12/16	0.0	(0.8)	(1.3)	(0.23)	0.00	N/A
12/17	0.0	(1.8)	(1.9)	(0.19)	0.00	N/A
12/18	0.0	(2.3)	(2.3)	(0.14)	0.00	N/A
12/19	0.0	(1.7)	(1.7)	(0.08)	0.00	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Acquisition of W2T clears path to commercialisation

Over the last 18 months, Powerhouse and its partners Peel Environmental and W2T have completed most of the steps required to start construction of the first commercial waste-to-energy plant deploying Powerhouse's DMG technology. In March 2020 Powerhouse and Peel signed an agreement defining the terms under which Peel would lead the engagement with all potential end-customers in the UK for DMG plants as well as on its own sites and the level of licence fees payable to Powerhouse. The agreement requires Powerhouse to acquire its former UK development partner W2T, which will be settled through the issue of 1.44bn new shares (c 40% of the enlarged share capital, or c £50m). Powerhouse recently published a circular in connection with the proposed acquisition that will be voted on by shareholders on 14 July.

Minimising cash consumption

Operating losses fell by £0.8m year-on-year during FY19 to £1.7m following a review intended to reduce monthly overhead by over 25% by focussing resources on the Protos development. Cash outflow totalled £0.7m, benefitting from the directors waiving salary payments from April 2019 onwards and settlement of certain payments for third party services in shares. The directors have agreed to continue to waive payments for services and believe that a continuation of this policy combined with revenues generated so far from the provision of engineering services and the £0.5m one-off exclusivity payment from Peel will enable it to meet all outstanding costs associated with the proposed acquisition of W2T as well as its planned expenditure and ongoing costs into Q420.

Valuation: Based on level of annual licence fees

Powerhouse believes that with Peel as the exclusive UK developer, a target of at least 30 DMG sites around the UK should be achievable; 30 operational sites would generate c £15.0m in annual licence fees. There is also potential to generate licence revenues from DMG installations outside the UK.

FY19 results and acquisition

Alternative energy

6 July 2020

Price **3.71p**

Market cap **£77m**

Net cash (£m) at end December 2019 0.1

Shares in issue (including shares to be issued assuming W2T acquisition is completed) 3,509.8m

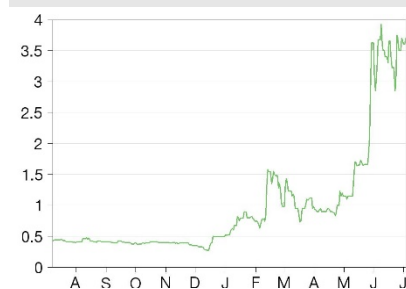
Free float (including shares issued for W2T acquisition) 60.1%

Code PHE

Primary exchange AIM

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs 23.3 311.1 791.6

Rel (local) 27.7 256.4 984.3

52-week high/low 3.93p 0.27p

Business description

Powerhouse Energy designs, delivers and licenses plastic regeneration processes for the generation of hydrogen and electrical energy. It also provides associated customer engineering and testing services, and operational support for applications in the UK and across the world.

Next events

EGM 14 July 2020

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Commercialisation of technology

Preparation of first commercial site

Over the last 18 months, together with Peel Environmental and W2T Powerhouse has completed most of the steps required to start construction of the first commercial scale waste-to-energy plant deploying Powerhouse's DMG technology. W2T leased a plot on Peel Environmental's 54-acre Protos energy hub site near Ellesmere Port in Cheshire. W2T also signed up a recycling company on the Protos development to supply unrecyclable plastic for use as feedstock and to purchase the electricity generated. In December 2019 Peel made a commitment to fund any further development at the site up to the point at which full third-party funding for the project was secured. This phase includes selecting contractors for the project engineering definition phase and engineering, procurement and construction phases and other site planning, feedstock and site infrastructure activities. In March 2020 the planning application for the site was approved. Protos is one of Peel's proposed 'plastic parks' where waste plastics are either recycled or regenerated into power and hydrogen. Peel sees DMG technology as a key enabler to ensure that plastic from these sites that cannot be recycled does not end up in landfill. Powerhouse is focused on ensuring this first commercial scale plant is commissioned and starts operation during FY21, as this will potentially catalyse roll-out across other sites in the UK and overseas.

Switch to asset-light business model

Until the end of 2018 Powerhouse had intended to monetise its DMG IP by operating sites deploying DMG plants. This required raising substantial amounts of finance for individual projects and was potentially highly dilutive for shareholders. In November 2018 Powerhouse moved to an asset-light business model in which W2T and other third parties would develop the DMG plants. Under this model Powerhouse generates revenues from providing technical engineering and maintenance services for each project together with more substantial licence fees once construction and commissioning is complete.

Powerhouse's first revenue-generating contract was awarded in April 2019 and related to the Protos site. This contract covered tests on the feedstock that were used to assess generation efficiency and cleanliness of exhaust gases and the preparation of a Front-End Engineering Design. The total value of the contract was £400k, of which c £160k is attributable to Powerhouse. Powerhouse will be carrying out similar work for potential projects on other sites.

Initially long-term partner W2T was positioned as the lead developer for sites in the UK. In August 2019, Peel, W2T and Powerhouse signed a collaboration agreement to develop a minimum of 10 other UK sites in addition to the Protos site, with W2T acting as project developer and Peel providing the landbank, industrial real estate and infrastructure support and help in securing engagement with potential financial backers. Subsequently discussions with potential financial backers for individual projects have shown that they want to work with Peel as sole developer, supported by Powerhouse as technology provider. In March 2020 Powerhouse signed an exclusivity option agreement with Peel. If this option is exercised, Peel will pay Powerhouse £0.5m as a one-off fee for the exclusive rights to develop DMG in the UK, with an additional £0.5m annually per site payable when each plant that Peel develops becomes operational.

Roll-out out across UK and beyond

Once the option in the exclusivity agreement is exercised, Peel will become the lead developer of DMG waste-to-energy projects in the UK. This role will include all UK business development, freeing up Powerhouse resources and eliminating associated UK business development costs.

These UK projects will be situated both on Peel's own extensive land bank and on sites belonging to councils, waste management companies and companies in the plastics and consumer goods sectors. There is already a pipeline of two dozen screened sites in addition to the 11 on Peel land. Peel intends to establish investment special purpose vehicles to fund each project with an initial capital commitment of c £200m to meet the agreed pipeline of 11 initial projects.

Given the size of the addressable market globally, Powerhouse intends to negotiate similar exclusivity agreements with experienced, well-financed development partners outside the UK on a country-by-country basis. Historically W2T carried out any international business development activities on behalf of Powerhouse. This activity will now be carried out in-house. Powerhouse is likely to use the connections built up by W2T in both Thailand and in Japan with Toyota Tsusho and Itochu as routes to market in both regions, provided these prove commercially attractive.

Acquisition of W2T makes Peel exclusive developer in the UK

W2T was founded by Howard White in 2008 to identify technologies for producing low-cost hydrogen. It has been working with Powerhouse since 2014. In January 2017 the two parties signed a cooperation agreement that appointed W2T as Powerhouse's project development consultant in the UK for a fee of £20k/month payable in shares and a 50% cut of any future project profits, less the monthly fees paid up to that point. W2T brokered the Memorandum of Understanding between Powerhouse and Peel that was signed in February 2017 and set out the basis on which Powerhouse and Peel would work on the Protos site. In August 2019 the relationship between the three entities was formalised in the collaboration agreement referred to above that gave W2T the right to act as project developer for the Protos and at least 10 other sites in the UK. While it is standard practice for the project developer to receive a substantial percentage of the profits generated on a project, this collaboration agreement did not explicitly define what proportion that would be, nor did a side letter to W2T in September 2019 confirming that W2T would be entitled to a share of the profit generated from projects.

Since the exclusivity option agreement with Peel signed in March 2020 requires Powerhouse to assign Peel the UK development rights, Powerhouse is acquiring W2T to regain control of these rights. The exclusivity agreement with Peel is conditional on the acquisition completing. Acquiring W2T also means that Powerhouse will receive 100% of all project licence and project technology fees going forward rather than splitting them on a 60/40 basis. As noted when the acquisition was initially announced in December 2019, the consideration will be paid through the issue of 1.44bn new Powerhouse shares, taking the total in issue to 3.5bn. Taking into account the options and warrants in issue, this represents 40% of Powerhouse's fully diluted enlarged share capital and was equivalent to £53.3m at the mid-market closing price of 3.7p on 25 June 2020.

The acquisition needs to be approved by shareholders at the general meeting on 14 July 2020. A total of 88.7% of W2T shares are held by the family of Howard White and associated parties who are being treated as a concert party. Since the concert party will hold 39.9% of Powerhouse's shares following the acquisition, Powerhouse's shareholders will also vote on the approval of a waiver of Rule 9 of the Takeover Code, which would otherwise oblige the concert party to make an offer for the rest of Powerhouse's shares. The 87.5% of shares issued to W2T shareholders are subject to restrictions preventing their sale for 12 months following completion of the transaction and requiring compliance with an orderly market agreement for 12 months after that. The members of the White family have also signed a relationship agreement requiring them to use their voting rights (26.1% of the enlarged share capital) for the benefit of shareholders as a whole and preventing them from attempting to influence the company at an operating level.

For the year ended April 2019 W2T generated an adjusted operating loss of £0.3m. At the end of April 2020, W2T's net liabilities (unaudited) totalled £0.7m. These net liabilities have arisen because the balance sheet treats the monthly payments from Powerhouse under the January 2017

cooperation agreement as deferred income (estimated at £0.8m) because they would ultimately have been deducted from W2T's split of any future project profits. This liability will be cancelled if the acquisition goes ahead. There will be no corresponding change to Powerhouse's balance sheet. Assuming that the acquisition is approved, W2T's non-executive chairman Tim Yeo will become a non-executive director of Powerhouse. W2T's deputy chairman Howard White and managing director John Hall will join Powerhouse as consultants, with their focus on supporting the Protos project and international business development.

Management focus on commercialisation

As part of the transition towards commercial operation, the former CEO and MD of Thyssenkrupp Industrial Solutions' Oil & Gas business unit for the UK, David Ryan, became CEO in February 2019. He had been in charge of Powerhouse's programme development since February 2017 on secondment from W2T. In March 2020 Myles Kitcher, who is also executive director, Natural Resources & Energy of Peel L&P became a non-executive director of Powerhouse in March 2020, highlighting the strengthening relationship with Peel. Tim Yeo, who has worked as Shadow Secretary of State for Trade and Industry, will become a non-executive director on completion of the W2T acquisition.

Financials

Losses narrow during FY19

There were no revenues recorded during FY19 because the first fees derived from the provision of engineering services for the Protos site were dependent on achieving milestones that were not reached until H120. Administrative costs fell by £0.8m year-on-year during FY19 to £1.7m following a review intended to reduce monthly overhead by over 25% by focussing resources on the first commercial site. R&D expenses (25% of total costs), decreased by £254k reflecting higher levels of pure R&D activity in FY18, which is when the demonstration DMG unit was completed. During FY19 engineering costs related to refining the generic design for specific sites and feedstocks. Staff costs (22% of total), which were primarily directors' fees, were stable. Operating losses reduced by 32% to £1.7m.

The company started FY19 with £0.8m cash. Management decided not to raise finance until the Peel situation had been finalised, so cash fell to £0.1m at the year end. Cash consumption benefited from a positive movement in working capital of £0.3m, the directors waiving salary payments from April 2019 and settlement of £0.7m payment for third-party services in shares. There is no debt.

Continuing to minimise cash consumption in FY20

The notes to the FY19 accounts state that the directors have reviewed cash-flow forecasts for 12 months following the date of the accounts and that the current cash reserves and funding plans (which exclude any potential financing activities) are considered sufficient to enable the company to meet its liabilities as they fall due. This analysis, which ignores the potential one-off exclusivity payment from Peel, any fee waivers or future revenues from engineering contracts, takes into account a letter of support from one of the shareholders stating his intention to make up to £700k available until at least the end of June 2021.

We have not prepared a financial model but note that if directors and certain contractors continue to waive their fees, cash expenses excluding those associated with the proposed acquisition of W2T will remain close to FY19 level (£0.7–0.8m). Set against this, the directors expect cash inflows from R&D tax credits (£196k received H120), the exercise of warrants (£290k), Peel's one-off exclusivity

fee (£500k, which will probably be paid immediately prior to Peel closing the financing for the special purpose vehicles) and revenues generated from the provision of engineering services (£100k so far with another £60k from contracts in hand related to Protos project work) giving a total inflow of at least £1.1m.

Assuming that the W2T acquisition goes ahead, we believe it is likely the directors will seek additional funding to ensure they have sufficient reserves until the first DMG plant at Protos is operational, which would trigger the start of licence payments. The directors have stated they will consider raising funds by issuing new equity capital or other source. The FY19 report states that the company intends to expand its operational teams to support the Protos project development and other subsequent projects, but only as 'demonstrably necessary' for the growth of the business. The report also comments the cost of addressing any modifications to the DMG engineering design that arise during the EPC phase of the Protos development has already been built into the company business plan. If we assume the Protos site commences operation by the end of FY21, this information from the report suggests that the potential cash shortfall up to the point when the first annual licence fee becomes payable is likely to be around £2–3m.

Little impact from coronavirus pandemic

Most of the work planned for H120 has been desk engineering, which has not been affected by the coronavirus pandemic. Although the R&D laboratories were temporarily closed, the activities undertaken at this site such as feedstock testing will be carried out in Q320.

Valuation

Powerhouse believes that with Peel as the exclusive UK developer, which is dependent on the W2T acquisition going ahead, a target of at least 30 DMG sites around the UK should be achievable. Under the terms of the agreement with Peel, 30 operational sites would generate £15.0m in annual licence fees. We have not modelled what level of costs would be required to support this level of activity, although we note the transition to an asset-light model suggests a relatively modest cost base. This analysis excludes any potential DMG installations outside the UK. We note there remains significant execution risk because although the full-scale design has been validated by an external body, no one has built a commercial scale DMG plant. In addition, Peel has not yet completed the financing for the first plant on the Protos site.

Exhibit 1: Financial summary

Year end 31 Dec	£'000	2016	2017	2018	2019
PROFIT & LOSS					
Revenue		0	0	0	0
Cost of Sales		0	0	0	0
Gross Profit		0	0	0	0
EBITDA		(784)	(1,799)	(2,292)	(1,666)
Operating Profit (pre amort. of acq intangibles & SBP)		(784)	(1,800)	(2,293)	(1,665)
Amortisation of acquired intangibles		0	0	0	0
Share-based payments		(68)	(5)	(202)	(40)
Exceptionals		0	0	0	0
Operating Profit		(852)	(1,805)	(2,495)	(1,705)
Net Interest		(482)	(70)	(0)	(1)
Profit Before Tax (norm)		(1,266)	(1,870)	(2,293)	(1,666)
Profit Before Tax (FRS 3)		(1,334)	(1,875)	(2,495)	(1,706)
Tax		0	0	145	196
Profit After Tax (norm)		(1,266)	(1,870)	(2,148)	(1,470)
Profit After Tax (FRS 3)		(1,334)	(1,875)	(2,351)	(1,510)
Average Number of Shares Outstanding (m)		551.4	975.1	1,541.7	1,900.5
EPS - normalised (p)		(0.23)	(0.19)	(0.14)	(0.08)
EPS - normalised fully diluted (p)		(0.23)	(0.19)	(0.14)	(0.08)
EPS - FRS 3 (p)		(0.24)	(0.19)	(0.15)	(0.08)
Dividend per share (p)		0.00	0.00	0.00	0.00
Gross Margin (%)		N/A	N/A	N/A	N/A
EBITDA Margin (%)		N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)		N/A	N/A	N/A	N/A
BALANCE SHEET					
Fixed Assets		2	3	2	17
Intangible Assets		0	0	0	17
Tangible Assets		2	3	2	0
Current Assets		154	839	1,049	460
Stocks		0	0	0	0
Debtors		6	88	209	356
Cash		148	750	841	104
Current Liabilities		(3,383)	(1,643)	(247)	(490)
Creditors including tax, social security and provisions		(51)	(241)	(247)	(490)
Short term borrowings		(3,332)	(1,402)	0	0
Long Term Liabilities		0	0	0	0
Long term borrowings		0	0	0	0
Other long term liabilities		0	0	0	0
Net Assets		(3,227)	(802)	804	(13)
CASH FLOW					
Operating Cash Flow		(637)	(1,501)	(1,909)	(720)
Net Interest		(482)	(70)	0	0
Tax		0	0	0	0
Capital expenditure		(2)	(1)	(0)	(17)
Capitalised product development		0	0	0	0
Acquisitions/disposals		0	0	0	0
Equity financing		701	4,294	3,402	0
Dividends		0	0	0	0
Net Cash Flow		(421)	2,722	1,493	(736)
Opening net debt/(cash)		2,763	3,184	652	(841)
Finance leases		0	0	0	0
Other		0	190	0	1
Closing net debt/(cash)		3,184	652	(841)	(104)

Source: Company data

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