

# POWERHOUSE ENERGY GROUP PLC

COMPANY NUMBER: 03934451

**Annual Report and Financial Statements**For The Year Ended 31 December 2020

# **COMPANY INFORMATION**

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David Ryan (Chief Executive Officer)

James Greenstreet (Director) Myles Kitcher (Director) Allan Vlah (Director) Kirsten Gogan (Director) Mark Berry (Director)

Company secretary Rose Herbert

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# Forward-looking statements

This report includes forward-looking statements. Whilst these forward-looking statements are made in good faith, they are based upon the information available to Powerhouse Energy Group PLC at the date of this report and upon current expectations, projections, market conditions and assumptions about future events. These forward-looking statements are subject to risks, uncertainties and assumptions about the Company and should be treated with an appropriate degree of caution.

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#### **HIGHLIGHTS OF 2020**

# **HIGHLIGHTS OF 2020**

### **Commercial Activities**

- Commercial terms signed with Peel NRE under which Powerhouse will receive an annual license fee of £500,000 for each DMG® plant built in the UK;
- Peel NRE awarded an Option to enter into an exclusive agreement for the development of DMG® Technology in the UK and indicate plans for more than 70 sites UK wide;
- Acquisition of Waste2Tricity Limited completed;
- Heads of terms signed for first international application of DMG technology;
- Post year end award of revised Statement of Feasibility from DVN for the enhanced DMG design.

# **Project Progress**

- Planning permission for first DMG application on Protos site granted in March 2020;
- Completion of the front-end Engineering and Design;
- Completion of Value Improvement and enhanced export options for Protos to provide commercial flexibility for Peel NRE;
- Planning commenced for second site in Clydebank, Scotland.

### **Financial Performance**

- £5m fundraise and engagement of cornerstone financial and industrial investors;
- Peel Holdings (IOM) Ltd granted warrants to acquire new shares equating to 10% of the current issued capital of Powerhouse triggered by announcement of the Financial Closing of the Protos Project;
- Powerhouse secured first payments in year;
- Post year end fundraise of £10m to protect schedule for Protos and engage in Protos Special Purpose Vehicle.

# **Organisation and Growth**

- Reorganisation and strengthening of the Board;
- Recruitment of operational and technology development team;
- Establishment of new Board committee the Environmental Social Governance committee.

# **CHAIRMAN'S STATEMENT**

Dear Fellow Shareholder

I am pleased to report that 2020 was a year of substantial progress and extensive change for Powerhouse Energy Group plc ("Powerhouse"). During 2020 Powerhouse:

- Prepared to begin construction of our first commercial scale plant
- Completed the acquisition of Waste2Tricity Limited
- Signed an Exclusivity Option Agreement with Peel NRE for the rollout of DMG technology in the UK
- Transformed our financial position and broadened our shareholder base
- Refined and developed our DMG technology
- Entered our first overseas market
- Strengthened our Board and overhauled our corporate governance
- Expanded our management team
- Instigated the process of selecting a new Chief Executive Officer to succeed David Ryan

We have made further significant progress on many of these issues in the early months of 2021.

# Building our first commercial scale plant

Construction of our first commercial scale 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) at the Protos site in Cheshire owned by Peel NRE is Powerhouse's top priority. The successful commissioning and operation of this plant is the step which, when accomplished, opens up a worldwide market for our DMG technology.

Powerhouse is therefore working very closely with Peel NRE to achieve this outcome as quickly as possible. Even before financial close has been reached, Powerhouse has lent the SPV £3.8 million to ensure that its progress is not impeded by having to wait for items of equipment needed for the DMG plant to be supplied.

Action to ensure the structured delivery of this first plant is being facilitated by advice from Ian Crockford whose former assignments include responsibility for project delivery at the 2012 Olympic Delivery Authority. Ian started advising both Powerhouse and Peel NRE in April 2021.

Powerhouse's technical team has supported Peel NRE throughout 2020 and in the current year in preparing for the plant's construction. This support has been extended to the SPV following its establishment.

The technical team has been led until now by David Ryan in his capacity as Chief Executive. Following David's departure on 30 June 2021 it will be led by Paul Emmitt, our newly appointed Chief Technical Officer, who has been very closely involved in the development of our DMG technology for the last four years as Managing Director of the engineering consultancy Engsolve Limited.

# **Acquisition of Waste2Tricity Limited**

The acquisition of Waste2Tricity Limited ("Waste2Tricity") by Powerhouse was successfully completed following the overwhelming shareholder vote to approve this transaction at the General Meeting on 14 July 2020. Detailed information about the terms of this acquisition and about Waste2Tricity was given in the circular sent to all shareholders on 26 June 2020, a copy of which is on our website.

The activities and assets of Waste2Tricity have now been successfully integrated into Powerhouse. This integration has enabled greater efficiency in the work of Powerhouse to be achieved.

Since the year end Waste2Tricity has ceased trading and has been wound up.

### **Exclusivity Option Agreement with Peel NRE**

On 9 March 2020 Powerhouse announced the signing of a UK Exclusivity Option Agreement with Peel NRE. Under this Agreement Peel NRE can, on payment of £500,000 to Powerhouse, acquire the exclusive rights to develop our DMG technology in the UK. This Agreement was an important step in formalising and strengthening Powerhouse's partnership with Peel NRE. It enables Peel NRE to lead the engagement with potential licensees of our DMG technology and with end customers for UK based DMG plants such as local authorities and waste management companies.

Powerhouse believes that Peel NRE is the ideal partner to work with to deliver our ambitions for rapid nationwide rollout of DMG plants. Peel NRE has identified the market for more than 70 DMG plants across the UK, and has identified potential sites, a number of which are already in their ownership. For each DMG plant developed in the UK Powerhouse will receive an annual licence fee of £500,000.

Peel NRE's experience of working within communities and with other businesses will be valuable in identifying and acquiring further sites. Coupled with their record of successfully negotiating land use planning approvals for infrastructure projects, including energy from waste projects, this augurs very well for Powerhouse's growth prospects once it has been shown that DMG technology works at scale.

# A stronger financial position and a broader shareholder base

At the start of 2020, Powerhouse was still in the weak cash position which had severely constrained its progress for several years. A priority for the Company, following the acquisition of Waste2Tricity and my appointment to the Board in July 2020, was to rectify this.

In September 2020 Powerhouse raised £5 million before expenses by way of a placing and subscription of 200 million new shares at 2.5 pence per share, five times higher than the share price at the start of the year. Peel Holdings (IoM) Limited ("Peel (IoM)"), the parent company of Peel NRE, subscribed for 40 million of these new shares. Powerhouse's 31 December 2020 balance sheet shows the significant improvement in our financial position which this placing achieved.

In January 2021 another placing of just over 181 million new shares at 5.5 pence per share raised £10 million before expenses. This further substantially strengthened our financial position.

Powerhouse's largest shareholder, the White family, maintained their stake of approximately 26% of our equity by subscribing for new shares in both these placings.

In March 2021, three former Waste2Tricity shareholders were given permission to sell just over 141 million Powerhouse shares which they had received in July 2020 through the acquisition by Powerhouse of

Waste2Tricity. On 19 March 2021 Powerhouse announced that more than three quarters of these shares had been bought by 1798 Volantis Fund Ltd, a fund which is managed by Lombard Odier.

# Refining and developing our DMG technology

More detail of the progress which Powerhouse has made during 2020 in refining our DMG technology is described in the Chief Executive's Review of the Year.

In the current year Powerhouse expects to provide chargeable engineering services during the construction phase of Protos.

### Our first overseas market agreement

In November 2020 Powerhouse signed Heads of Terms with a view to granting Hydrogen Utopia International Limited ("HUI") an exclusive non-transferable licence for the application of our DMG technology in Poland. Since the year end HUI has made good progress in finding sites for DMG plants in the city of Konin and in building relationships with central and local government and with potential suppliers and influential partners.

Recently HUI has also identified opportunities for the deployment of our DMG technology in Greece and Hungary.

# An outstanding board and stronger governance

During 2020 the Powerhouse Board was enlarged and strengthened by the appointment of new non-executive Directors who have brought a wide range of experience and skills to benefit our Company. Details of all Directors, including those appointed since the start of 2020, are shown in the Directors' Report.

Powerhouse's longest serving director, Brent Fitzpatrick, stepped down from the Board in August. Since the year end my predecessor as Chairman, Dr Cameron Davies, retired on 31 March 2021. Our CEO, David Ryan announced last November that he wished to stand down as Chief Executive Officer on 30 June 2021.

Mark Berry has indicated his wish not to stand for re-appointment at the 2021 AGM. Following discussion with the Board James Greenstreet, whose retirement from the board was announced on 16 April 2021, has agreed to remain on the board until the AGM to be held in 2022.

On behalf of shareholders I should like to express our deep gratitude to these colleagues for their service to Powerhouse over many years. We wish them well in the future.

Rose Herbert was appointed Company Secretary following Brent Fitzpatrick's resignation. Rose has many years' experience working with AIM quoted companies on transactions and in a company secretarial capacity.

After becoming Chairman of Powerhouse in September 2020 I led an overhaul of our Corporate Governance procedures. Our Audit and Remuneration Committees now meet on a regular basis and a new Board Committee, the Environmental Social and Governance Committee, was established in December. The responsibilities and work are described in the Reports of these Committees set out in this Annual Report.

The Board is also taking steps to improve its accountability to our shareholders. In future any director who is over the age of 70 or has been on the board for eight years at the date of the Annual General Meeting will submit themselves for re-election annually, in addition to those Directors retiring by rotation in accordance with our Articles of Association.

# **Building our management team**

During 2020 Powerhouse became a fully-fledged operating business.

David Ryan, Chief Executive is supported by Chris Vanezis, the Company's Chief Financial Officer. Chris is responsible for financial control issues including the production of monthly management accounts and cash flow projections for the Board, the preparation of half yearly and annual accounts, liaison with the Company's auditors and for cash management.

Dr Andy Physick was appointed as the Process Engineering Team Lead in December 2020 with responsibility for preparing the operating organisation for licensing activities.

Paul Emmitt has recently been appointed as Chief Technical Officer. This is a new position which has been created in anticipation of David Ryan stepping down as Chief Executive Officer. Paul will fill it on a part time basis, working two days a week for Powerhouse while continuing as Managing Director of Engsolve Limited.

In recognition of the importance of project delivery to Powerhouse, the Company appointed specialist Project Executive, lan Crockford. Ian is to direct all aspects of the project establishment and delivery on a consultancy basis. Ian has been advising the Company since April 2021 on project delivery matters.

The Board has also recently selected a Business Development Executive who will join the team later this summer. His focus will be mainly on international business development while also providing support for Peel in rolling out DMG plants in the UK.

# Selecting our new Chief Executive Officer

Following the announcement last November of David Ryan's decision to stand down as Chief Executive Officer, the Board instigated the process of recruiting his successor. After considering several search firms the Board appointed Egon Zehnder in May 2021. Their wide experience and international reach was thought to be likely to help identify the best candidates.

The Board felt that it would be easier to attract top quality candidates to this post if the search process was carried out after greater clarity about the funding of the SPV had been achieved. Now that financial close for the SPV is expected soon Egon Zehnder has started work.

I expect to be able to announce the choice of Powerhouse's new CEO in due course.

# The future

This is a very exciting time in Powerhouse's development. A technology which can solve the environmental problem of unrecyclable plastic waste, meet the extremely urgent need for zero carbon energy and extend life expectancy for billions of urban dwellers by improving the air quality in their neighbourhoods has a truly global market.

The modular design of our DMG plant allows production to be scaled up rapidly once the operation of our first commercial scale plant provides proof of concept. Since most of the capital cost of deploying our technology will be borne by our development partners and by the companies which are licensed to use our DMG technology it will be possible for very rapid growth to take place simultaneously in different markets without having to have recourse to our shareholders for additional cash to fund this expansion.

The Board expects that 2021 will be another year of substantial progress towards our goal of bringing our DMG technology to full commercial operation in many parts of the world.

Tim Yeo

Executive Chairman 29 June 2021

# PROGRESS TO FIRST APPLICATION AT PROTOS

The first application of the Powerhouse DMG technology is to be built at the Protos Site, a Peel NRE energy park development on a 54 hectare site known as 'Protos' near Ellesmere Port, Cheshire, England. The site is the first development by Peel NRE under the Collaboration Agreement.

Powerhouse is providing technical assurance services to the project and will licence the DMG application and will provide operational services under Protos specific agreements.

The DMG application lies at the heart of the Protos Plastic Park, which will be Peel NRE's flagship energy and resource hub situated on Protos site. The facility will bring together large energy users with sources of low-carbon energy, and clusters together resource management technologies. The park will handle up to 300,000 tonnes per annum, with the non-recyclable content directed at Powerhouse DMG unit.

### **Protos Engineering Definition - FEED Stage**

In mid-2020 EnerMech were appointed to undertake a Front End Engineering Design ("FEED"), the scope of which provided the site process definition drawings together with specifications for the equipment and module procurement. Powerhouse was responsible for validation and direction of the design to ensure the Protos project meets the design criteria.

#### **Protos Value Improvement**

Peel NRE's negotiation of their hydrogen contracts indicated that in early years of Protos operation, some degree of flexibility in hydrogen operation was needed and Powerhouse revised the DMG to offer an option to export large packets of hydrogen via tanker and container. The additional hydrogen export requirement was subject to quantitative risk studies that were completed in the first quarter of 2021.

For waste supplies, Peel NRE secured the interest of multiple waste providers and they recognised the Protos site would be an opportunity for waste companies to prove this new process. As a result, the Protos design and specific aspects of the DMG application were modified to allow different non-recyclable feedstocks to be handled on the site concurrently.

These adaptations were considered necessary for this first DMG application as it would allow confirmation of feedstock for future plants. The design additions will not be the norm on the multiple site roll outs.

The above changes and further construction definition were included in a FEED Update report issued by Enermech.

# **Protos Schedule**

The original planning permission for the site was approved, on 3 March 2020 by Cheshire West and Chester planning committee.

Through 2020, the engineering development work on Protos has proceeded almost to schedule with minimal delay. However the second Covid-19 lockdown meant that project interaction to complete negotiations were more difficult. 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 is likely to result in a delay in the planned completion of construction and start of operation of the plant.

The plant is modular in nature, with managed fabrication activities undertaken off site. Commencement of civil construction is expected to commence before the end of 2021.

The successful commissioning of the Protos project remains the key milestone in the growth of Powerhouse and the Directors have made the delivery and operation of the plant their number one priority.

#### **Procurement**

The supply of modules and equipment for the Protos and Clydebank DMG will arise from the UK. All modules have been bid commercially and submissions from suppliers analysed against the Powerhouse specifications and specific requirements for application on the Peel Protos site.

The procurement phase for Protos has commenced with an initial order for the alloy material for the Thermal Conversion Chamber (TCC). This alloy material was selected after four years of engineering work and research by the Powerhouse team, the TCC manufacturers and external material consultants and heat transfer specialist consultants.

All other long lead equipment orders are being refined against the Protos contract conditions and will be placed by the Peel NRE project managers to ensure an optimum delivery programme. These items include the gas clean-up module, compression, power generation and the DMG control system.

#### **Contracting Arrangements**

The first DMG project will be delivered by a specialist integration contractors under the guidance of Powerhouse technical assurance and key component teams. Construction quality control systems defined by Powerhouse – the written scheme of examination - will be followed on all components and equipment.

The Contractors will be building into their delivery programmes the necessary safety precautions inherent in their Covid-19 safe operating practices to deliver Protos and these will be confirmed at contract award.

### **Protos Project Management**

Powerhouse and Peel NRE have undertaken contractor engagement over the past three years and familiarisation to select the right contractor for this execution and we are confident that the execution quality will be maintained. In recognition of the importance of project delivery both to the Peel NRE and Powerhouse, the companies jointly appointed Ian Crockford as Project Executive. Ian has a long track record in directing project delivery having successfully led the London 2012 Olympic Stadium and Aquatics Centre, together with the analogous development of the London Eye - another first of a kind application.

He will be supported by the Technology Development team consisting of the staff team and Engsolve, and the key consultants who have provided peer assist measures through the last four years of technology development. Powerhouse is leading the vendor technical assurance activities through the contract period.

# PEEL STRATEGIC DEVELOPMENT PROGRESS

The Company made significant progress in our commercial arrangements with Peel NRE, our development partner on Protos.

#### SECOND PROJECT - CLYDEBANK

In June 2021 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 FEED and contract bidding can be completed ready for sanction prior to completion of Protos.

# **Peel Collaboration Agreement and Commercial Terms Agreement**

During 2020 the Peel Collaboration Agreement ("CA") that had been signed in 2019 was strengthened by addition of the specific commercial terms for the Protos project and the ten subsequent projects as addressed in the CA. The terms required Powerhouse to complete the acquisition of Waste2Tricity, and based on this it confirmed an annual licence fee of £500,000 per DMG plant to be paid per annum after successful commissioning of each DMG process. The terms allowed for the project technical assurance and engineering fees for services delivered during the project and specific contracts have been signed for Protos delivery.

# Peel Exclusivity Agreement for DMG In Plastics to Hydrogen Applications

In support of the CA, an Option for exclusivity was signed with Peel NRE. Under the Exclusivity Agreement, Peel NRE will pay the sum of £500,000 to Powerhouse for exclusive rights to the DMG technology in the UK and will lead the development and the funding strategy for all future UK projects. The exclusivity must be enacted within six months of the financial close of Protos.

#### **Peel Investment in Powerhouse**

This alignment between the companies was consolidated in September 2020, when Peel Holdings (IoM) Limited invested £1 million as part of the financial raise to provide funds for Powerhouse operations through to commissioning of Protos. The investment agreement further granted Powerhouse access to Protos design materials and other intangible benefits.

In recognition of this commitment Powerhouse granted a Warrant to Peel Holdings (IoM) Limited providing a conditional right to subscribe for 371,510,069 new Powerhouse shares, representing just under 10 per cent of the Company's current issued share capital.

#### TECHNOLOGY DEVELOPMENT PROGRESS

The technology development has continued at pace through 2020 with design development by the engineering contractor and Powerhouse technical team's work, addressing risk issues and enhancing designs to offer options for UK and international project applications.

Furthermore, in 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 refueling 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.

### **Technology Endorsement**

In June 2021 DNV reported, confirming that the technology revisions implemented since 2018 have removed the majority of the technical uncertainties and defining their assessment programme for endorsement of the DMG process output at 40 tonnes per day of waste feedstock and 2 tonnes per day of hydrogen production. They revised their Statement of Feasibility to address the process enhancements and initiated the definition of their assessment programme for endorsement.

In addition to the formal DNV process, the technology has been reviewed by a series of engineering contractors for Protos and international projects. The FEED by Enermech has addressed all design features in detail and the FEED report was issued with no reservations against the design.

# **CORPORATE PROGRESS**

#### **Financial Performance**

The Company secured its first revenue in 2020 of £100,000 for initial engineering work on Protos. These funds were part of the careful cash management through the first half of 2020.

The acquisition and hive up of Waste2Tricity resulted in goodwill arising of  $\mathfrak{L}57.15$  million. The Company 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 has resulted in an impairment charge for the year of  $\mathfrak{L}14.2$  million to leave a carrying value of  $\mathfrak{L}42.96$  million. The carrying value is supported by, and dependent upon, the roll out proposals for the DMG technology and underlying revenue streams which will arise therefrom.

The Directors can confirm that the position does not materially influence the Company's ability to pay dividends in the medium term. In future the transition to a company with annuity revenue streams will command a completely different valuation and volatility profile.

In September 2020, the Company raised £5 million, before expenses, by way of a placing and subscription of 200 million new Ordinary Shares of 0.5p (Ordinary Shares) at 2.5p per share. The placing was oversubscribed and the majority of the equity was placed with a single institutional investor. This fundraise secured the financial position of the Company through to planned commissioning of the Protos site.

In January 2021 the Company raised £10 million before expenses, in order to support the early procurement of the materials and services for the Protos development and engage in the SPV. A total of 181,818,182 new Ordinary Shares were placed at a price of 5.5p per share.

The Company's strategy of attracting a cornerstone investor was confirmed when most of these shares were placed with an institutional investor.

The Company's cash position has been enhanced by down payments for territorial exclusivity options, R&D tax credits and the exercise of share options and warrants in both 2020 and 2021.

#### **SPV Loan**

In May 2021 the Company provided a short term loan facility to the SPV of up to £3.8 million which is available for 6 months. Full details were announced on 12 May 2021.

#### Transaction - Acquisition of Waste2Tricity

On 14 July 2020 at an EGM the shareholders approved the acquisition of Waste2Tricity Limited ("Waste2Tricity"), which had been Powerhouse's project developer and marketing company in the UK. The transaction used Powerhouse shares to acquire the whole of the issued share capital of Waste2Tricity. Full details of the transaction were set out in the circular to shareholders dated 26 June 2020.

In March 2021 the Directors released three shareholders from the one year lock-in period on condition that their shares were sold to existing Powerhouse shareholders including the Company's cornerstone institutional investor, advancing the Board's strategy of strengthening the Company's long-term investor base.

Following completion of the acquisition, Waste2Tricity was wound down and dissolved on 1 June 2021.

# **Organisational Development**

## Personnel

Dr Andrew Physick was recruited in December 2020 to lead the internal process engineering team, readying the company for operational licensing. Dr Physick has a background in waste technology developments, having studied at the Universities of Bath and Swansea, with a series of published papers. He will lead a team of graduate engineers and scientists and his team will continue technology development whilst readying the operational licencing systems for Protos commissioning to provide the necessary technical guidance to smoothly bring Protos into full operation.

The recruitment has provided the Board with confidence that depth of suitably qualified engineering and management candidates exist to nurture the Company through its growth phase.

In recognition of the challenging work environment arising from Covid-19, the Company initiated a full staff support network to provide professional development to individuals.

# **Research Centre and Offices**

Powerhouse extended the office facilities in the fourth quarter to accommodate the extended technology development and operation support teams and the allow the Protos project team to have engineering offices close to site.

# **Management Systems**

Under the guidance of the new Board the Company has overhauled its governance provisions and initiated management systems to cover all operations. Ian Crockford has advised controls specific to the effective governance of Protos.

The Company technology and product development guidelines provide a gated structure against which the technology has been developed and will be used to direct the project delivery. The challenges of such a system ensure the team undertakes the important stage of self-review prior to initiating the third-party due diligence that any new technology meets as part of approval and delivery process.

The Company systems and IT structure have been consolidated. Investment in IT enhancements was necessary to accommodate the technology team and the migration of information for Protos and to meet Covid-19 operational restrictions. All Powerhouse designs now reside in ISO 27001 and ISO27017 compliant data centres.

# My Thanks to Shareholders

After four intense but enjoyable years taking the Powerhouse technology through development to the point of commerciality, I must take this opportunity to thank the shareholders for their fantastic commitment to Powerhouse and I will join them in looking ahead to a successful completion of the first DMG application at Protos.

**David Ryan** 

Chief Executive Officer 29 June 2021

# STRATEGIC REPORT

The strategic report section addresses the Directors' management of the Company and contains certain forward-looking statements. These statements are made by the Directors in good faith based on the information available to them up to the time of the report preparation and approval and such statements should be treated with caution as they address uncertainties.

# **Business Strategy**

Powerhouse designs, delivers and licenses DMG technology, a proprietary design for advanced thermal conversion which converts calorific waste streams into synthetic gas (syn-gas), a valuable intermediate product a that can be used for power generation and as a source of hydrogen for fuel cell vehicles.

The process converts non-recyclable waste plastic or end of life tyres to produce clean syngas into these 'end of waste' products:

- Hydrogen
- Electrical power and heat
- Natural gas replacement
- Chemical feedstocks.

Powerhouse will license the use of its technology to the companies which will operate plants using this technology. Powerhouse does not intend to develop or operate individual plants itself or to be a power producer. This business model minimises the capital needed by Powerhouse to expand its business rapidly and simultaneously across markets in the UK and overseas.

Powerhouse Energy will derive revenue principally from the annual licence fee payable by the plant operators in respect of each process application of the DMG technology. In addition it will generate revenues in the project development stage from the engineering services and technical assurance services for specific client feedstock analysis and laboratory services, from engineering during project development, and then from operational support services when plants are in operation.

#### **Development Partnership for UK - Peel NRE**

Powerhouse's strategy is to find partners for the development and operation of our technology in each region. In the UK in 2019 the Company had contracted with a major development partner in the form of Peel NRE, part of Peel Group, one of the leading infrastructure, transport and real estate investors in the UK, with collective investments owned and under management of more than £5 billion.

# **First Project**

The first commercial scale application of Powerhouse technology is under development at the Protos Energy Park, Ellesmere Port, Cheshire by our Collaboration Partners Peel NRE. Completing the construction of this first commercial scale plant is the Company's top strategic priority.

The successful commissioning of the Protos project is a key milestone in the growth of Powerhouse and the Directors have made the delivery and operation of the plant their number one priority and will initiate schedule recovery programme for Protos.

### **Board Strengthening**

The Board's strategy is to keep the composition of the Board and related corporate governance issues under constant review. The aim is to ensure that the Directors have the right mix of skills, experience and qualifications to carry out their duties in a way which ensures the Company's future success.

#### **Operations**

The Company's operations are based at Thornton Energy Park where the Operations teams manage the design development process for existing and future projects. The Protos project team is based here.

The Research and Development team carries out development testing on the Research Demonstrator rig and associated laboratory equipment, analysing feedstock materials for new customers and refining the chemical engineering models for process enhancement and new applications.

### Sales through Partnership

Powerhouse's international business development is being delivered through a network of partnerships in different markets in Europe and further afield, including Australia and Thailand. These partners identify the most attractive opportunities for the deployment of our technology. Powerhouse supports these partners, providing technical assistance and services, and where appropriate, design definition work. Specific local market requirements are met by these partners.

In the UK Powerhouse's partner is Peel NRE who own the site where the first plant is being built in Ellesmere Port, Cheshire. Under the UK Exclusivity Option Agreement Peel NRE, on payment of £500,000 to Powerhouse, can acquire the exclusive rights to develop Powerhouse's DMG technology in the UK.

#### **Hydrogen Market**

Powerhouse supports the development of hydrogen economies in the UK and elsewhere which will facilitate deployment of its new proprietary technology to enable production of low cost hydrogen. Powerhouse's DMG hydrogen technology is the first move in this strategy to facilitate the adoption of fuel cell heavy goods transportation, and in the longer term, flexing of the national grid gas specifications to enable DMG produced gasses as well as bio-gas to be added.

Powerhouse participates actively in policy discussions with government and is an active member of the UK Hydrogen and Fuel Cell Association. The Company has also joined Peel NRE in the North West Hydrogen Alliance.

# **Waste Plastic Market**

Powerhouse's DMG technology is an innovative method for handling end of life plastics. The Company's pipeline of projects is driven in part by the international interest in the product to handle this waste plastic.

# **Our Product**

DMG takes waste plastics that cannot be recycled and regenerates them into clean energy that can be separated into hydrogen for delivery either as clean fuel for fuel cell transport or as a feedstock in other applications in the chemicals and plastics industries.

Powerhouse maintains an active programme of product development to ensure that our technology remains competitive and relevant to meet the needs of our customers, development partners and potential licensees.

# **Technology Endorsement**

The international gas consultancy DNV have been contracted to assess and report the updated technology design against their standards and are planning to provide the technology endorsement in the third quarter of 2021.

# **Intellectual Property Management**

The Company follows a dual route of IP protection via a suite of patents and maintaining secrecy over the design documents, calculations, and chemical engineering models for the process. The most important IP remains the chemical engineering model of the process to create the clean gas – and Powerhouse maintain strict protocols to ensure this information is protected as secret, including limited access to process control on the system.

Through last year and into 2021 the technical development team of Powerhouse have assessed the DMG control system, technology of application and how the key programming, control and maintenance of the systems will be protected. The specification of the system has been bid by international control systems companies, this process has allowed definition of the system.

The system will be enacted tested and quality assured to the DNV, Recommended Practice -G108 defining cyber security systems. Of priority this enactment will be the IP focused risk assessment to determine the measures that algorithms and control functional blocks embedded in the systems will be protected. Once in operation, under the licence agreements the key system support activities on Protos and other projects will be undertaken by Powerhouse staff.

Following the patent protection, there is a family of patent work completed and filed nationally, and within Europe, within GCC and worldwide. The associated statements of invention and claims initiated and are under scrutiny and assessment work continues for completion prior to the first application of DMG. The family of patents will be augmented by the detailed design novel designs that the team are generating.

#### **Regulatory and Planning Approvals**

The Directors of Powerhouse believe that planning approvals, regulation and compliance for community based DMG applications should be straightforward. Priority is given to ensuring that emissions, noise, visual impact and vehicle movements are minimised. The Company will follow this approach in each market which it enters anywhere in the world.

Our international partners share the view of regulatory approvals. The Polish agency has identified that regulatory approval will be straightforward, applying the same EU emission limits that have been demonstrated in UK. It is understood this will also apply to Greece and Hungary. Later in 2021 the Australian projects are planning to seek state environmental approvals in their engineering work programme.

The Company's technology development also takes account of the emission footprint of our processes. Similarly our submissions to Government are based on a pragmatic holistic analysis of the environmental impact of our technology. An example of this was our view on Road Transport fuels in which we joined with Peel NRE in arguing passionately that our process, as an alternative regeneration for plastics is a far more environmentally attractive solution than incineration.

Longer term Powerhouse supports the development of a Contract for Difference type of scheme which offers support to all forms of low carbon hydrogen and leads to a more level playing field.

The Company's technology development team continues to seek reductions in the environmental footprint arising from the DMG technology. These options include addressing the retention of a portion of the carbon in

the residue with potential agricultural uses as well as alternatives to enhance hydrogen production. Specifically, the Protos application is being made ready for modular exhaust capture, for onward transmission to offshore storage and alternative routes are under technical evaluation.

#### **Hydrogen Production**

For hydrogen contracts the DMG cost of production of hydrogen is proving attractive for hydrogen customers and Peel NRE have explored pricing arrangements for both short term, long term offtake contracts as well as spot market sales. The development by the Company to offer pressurised packets of hydrogen was driven by the nascent nature of the hydrogen market. Market indications suggest that for the early years of deployment there may not be a single contracted offtaker, but multiple offtake contracts delivered to the users in larger volume packets to support a number of buses or lorries for up to a week.

The Company intends to refine the DMG process, specifically in improving hydrogen production and the Directors are confident that, once in operation a DMG application will be capable of 3 tonnes per day of hydrogen production. This output increase will be an early operational enhancement target that will be enacted once Protos has been successfully commissioned and handed over.

### **Future Product Developments**

In addition, the Directors recognise that the evolving hydrogen and associated energy transition market offers significant opportunities to develop technologies. The Research and Development team will be tasked with developing a catalogue of research products using our existing product development guidelines, ensuring investment is carried forward only on robust technical and commercial opportunities.

# **Customer's Value Proposition**

Powerhouse customers in the UK and for international applications will have differing internal drivers for the application of DMG.

In some instances the application may well be driven by community and municipality waste plastic or power need and, in which case ,conventional project investment returns are replaced by the lower requirements of utilities investment.

However, in developed economies Powerhouse will partner established investment houses and blue-chip companies requiring project returns that meet their investment criteria. The Powerhouse project teams will work with these organisations to ensure the application of DMG in their locale can meet their requirements. The customer support material on the Company's website guides developers through each of the potential revenue streams available for waste materials in lieu of landfill payments, power revenues and hydrogen export options and revenues.

# Sales

# UK

The Peel NRE plan is replicate the Protos development model, incorporating the "Plastic Parks" vision and the community based provision of hydrogen. Each park is intended to have a Powerhouse DMG unit to divert plastic from landfill and produce hydrogen and clean power.

#### **UK Project Pipeline**

Under the CA Business Planning, Peel NRE are maintaining a long term plan of more than 70 sites. These sites will be a mixture of Peel NRE developed sites, together with a pipeline of third party sites enacted by Peel NRE on tolling commercial terms or by capital sales on waste processing sites around the UK. Each application of DMG will carry the Powerhouse licence fee.

The development counterparties vary and current interest in the pipeline arises from waste management companies, councils, companies in the plastics and consumer goods production sectors and developers.

#### **International Sales Pipeline**

The international business development activities will focus on developing project, regional and territory-by-territory partnership agreements to roll out DMG technology. The interest in the Powerhouse DMG technology indicates that there will be many varied and different users of the DMG technology, paying license and engineering fees based on their project premise, plastic destruction, power generation and hydrogen.

These sales pipeline are currently embodied in project agreements, country agreements and memoranda of understanding.

Project agreements allow developers access to initial limited information to undertake project screening. Project agreements have been structured through Europe, North and South America, Asia, Australasia and Africa. The work in these phases includes supporting the review of feedstock alternatives, offtake and environmental constraints.

It is anticipated that the Australian development partner Oceania Clean Energy Solutions Pty Limited will take at least one of their projects through the Engineering and Environmental phase in the coming months. This will be the first international application and Powerhouse will be charged with validating procurement routes and identifying regional manufacturing routes for the key components including the Thermal Conversion Chamber, gas clean up and control systems.

The final route is through agreements with industrial partners under Exclusivity Agreements. The Company has reported significant interest in the technology from major industrial partners and these interests have been maintained throughout the Protos engineering development. Specific national agreements or development agreements with blue-chip companies is expected to be delivered once Protos is commissioned.

The Company has agreed Exclusivity Options with HUI for developments in Poland, Greece and Hungary. HUI has identified that regulatory approval in Poland is expected to be straightforward, applying the same EU emission limits that have been demonstrated in the UK and it is understood this will also apply to Greece and Hungary.

The application of the process internationally will be delivered by international contracting company partners delivering plants to customers on behalf of Powerhouse, with Powerhouse maintaining quality assurance through their nominated equipment suppliers. In readiness for international delivery these international companies are being engaged through the Protos first project development cycle.

# **Financial Strategy**

The Company chose to complete the Waste2Tricity acquisition prior to raising any funds in 2020. This strategy required careful budget management throughout the first half of 2020 and, even with the costs associated with

the extended acquisition process of Waste2Tricity, it meant that a fundraise could be delayed until the acquisition was completed.

As a result, when the Company approached financial institutions with the aim of attracting a single cornerstone investor, the strategy and commercial plans for the Company were clear. The Company was successful in securing a long term cornerstone investor who has chosen to engage in a subsequent financial raise aimed at supporting the Protos development.

# Goodwill

The acquisition and hive up of Waste2Tricity resulted in goodwill arising of £57.15 million. The Company 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 has resulted in an impairment charge for the year of £14.2 million to leave a carrying value of £42.96 million. The carrying value is supported by, and dependent upon, the roll out proposals for the DMG technology and underlying revenue streams which will arise therefrom.

# 2021 Key Performance Indicators

The Board of Powerhouse remains focused on the first application for DMG. The principal Key Performance Indicator for 2021 is to guide Protos development through the procurement and construction phase leading to proving the process in operation in 2022.

The Company will continue to reduce the environmental footprint of the process and reduce the current target emission level of hydrogen and will demonstrate the lifecycle performance of the process.

The Company puts safety to the fore in our activities and for 2021 our target will be to operate without harm and to ensure that our operating systems and process are developed with safety of all as the prime concern. Continued incident free activity is a key performance indicator for 2021.

#### CORPORATE SOCIAL RESPONSIBILITY

#### **Our Commitment**

The Company cares profoundly about the environment and is committed to addressing two of the world's current challenges in the eradication of unrecyclable plastic waste and the production of clean hydrogen energy to replace diesel in heavy goods vehicle use improving air quality around our communities.

The Company is committed to operating with an inclusive, transparent, and respectful culture and places particular emphasis on operating to the highest ethical and environmental standards and our applications target the best achievable energy efficiency.

The Directors take personal ownership of the policies and maintenance of the necessary high standards of business conduct throughout the organisation and for delivering these Corporate Social Responsibilities.

#### **Health and Safety**

Powerhouse cares profoundly about the health and safety of our employees, customers and the communities who could be affected by our activities and aims to protect them from any foreseeable hazard or danger arising from our activities or our products. To this end in 2020 and 2021 we have undertaken a series of safety related studies and reviews, including hazard and operability studies, quantified risk assessments and layer of protection analysis using external experts to review the product risk and the application on sites such as Protos. In all instances the findings of the safety risk assessments have demonstrated that the risk arising from the DMG technology is well within acceptable tolerable risk levels.

The Directors recognise that the key to successful health and safety management requires an effective policy, organisation and arrangements, which reflect the commitment of senior management. The Chief Executive Officer will implement the Company's health and safety policy and ensure that the company Health and Safety (HSE) management system and safety standards are all adequately maintained, monitored and improved where necessary.

The Company's research and development activities and activities at Protos were delivered HSE incident free in 2020.

#### **Environment Policies**

The Company's Environmental Policy recognises the importance of our technology from a global challenge perspective. The Company will regularly evaluate the environmental impact of its activities, products and services, taking all actions necessary to continually improve the Company's and its products' environmental performance.

### Staff

Powerhouse recruited further administration and operational staff during the year. This recruitment and staff management was undertaken in line with the Company Employment Policy which has committed to a working environment with equal opportunities for all, without discrimination and regardless of sex, sexual orientation, age, race, ethnicity, nationality, religion or disability.

Furthermore, the Company has committed to continuous development schemes and will support staff to attain the best for themselves and the Company through personal assessment, training and mentoring. The Company looks forward to bringing mentored staff through the ranks to executive positions in future years.

### Stakeholder Engagement

The board is mindful of the duties of Directors under S.172 of the Companies Act 2006. The Directors believe strongly in the importance of solid and exemplary corporate governance to help achieve our corporate goals. The Board takes its accountability to each of Powerhouse's stakeholder groups very seriously.

The Directors have committed to promoting a company culture that treats everyone fairly and with respect and this commitment extends to all principal stakeholders including shareholders, employees, consultants, suppliers, customers and the communities where it is active.

All Directors act in a way they consider, in good faith, to be most likely to promote the success of the Company for the benefit of its shareholders. In doing so, they each have regard to a range of matters when making decisions for the long-term success of the Company.

# **Local Community Engagement**

Powerhouse is committed to local community and to using local staff and local companies in each project application.

Powerhouse has engaged with the local forums and communities close to the Protos development. Unfortunately, face-to-face engagement through 2020 has not been possible. Local meetings will be planned as soon as meeting restrictions are lifted.

Powerhouse plans to engage the local community for the Clydebank development in support of the Peel NRE planning application.

#### The Product Emissions in Operation

The Company is committed to providing a solution to use non-recyclable plastics within its technology to produce hydrogen as a clean fuel to buses and trucks which minimises emissions and to comply with all relevant environmental legislation, regulations and other environmental requirements. The Company passionately believes that our gasification process is a far better alternative to incineration and our calculations premised on hydrogen regenerated from waste plastic as replacement for diesel off-sets significant carbon that would be released in heavy goods vehicles.

Powerhouse, using UK Department of Transport calculation methodology for Renewable Transport Fuel Obligation, currently considers that the proposed hydrogen from plastics facility could demonstrate up to 125% GHG savings vs. diesel, at -29 gCO2/tonne waste over the current technology options for non-recyclable waste plastic treatment. Further, using a like-for-like feedstock basis, the projected emissions from our first waste plastic to hydrogen facility would be 43% lower than emissions from hydrogen produced by ATR, 56% lower than aviation fuel manufacturing eligible under RTFO and 70% lower than the waste incineration current technology options.

The application of the Company's technology in waste to hydrogen plants produces residues in two forms, a char like solid residue and waters with hydrocarbon content. The Company is addressing the residue and plans to implement a test programme with a local agricultural college to test the char in agricultural settings. Similarly, once the Protos plant is in operation, the technical development team is looking to implement further cleaning processes to treat and use the emitted water to return into the process.

Under the Powerhouse Environmental Policy, Powerhouse has committed to improving the product emission performance, and Directors are confident that the technology performance in this area will be improved and we will report annually on this matter.

# **Educational Engagement**

Powerhouse has a commitment to student and technical apprenticeship sponsorship and involvement in mentoring and career events to promote interest and engagement of children for a future in engineering. Unfortunately, the Directors recognise that our engagement programme with local schools and charities has been materially affected by Covid-19 and the Company proposes to restart this programme as meeting restrictions are eased later in 2021.

# PRINCIPAL RISKS AND UNCERTAINTIES

The Company is subject to various operational risks and the following issues are particularly relevant to the company's business activities:

#### **Business Risk**

#### **Technology Risk**

The Company continues to manage technology risks within the detailed Technology Management Programme. The risks are identified from our test and design activities, tests on potential waste materials and the residues arising. The strategy of selecting mainly proven components with extensive operating hours in similar service in other plants significantly reduces the risk profile for its DMG system. The Directors' objective is to reduce technology risk wherever practical, however the risk of the first application will remain until the Protos plant is commissioned.

Throughout 2020 and the current year, engineering design contractors and independent experts have refined the design, removing some of the risk issues completely and refining other matters. The design has been validated by commissioning experiences that Powerhouse and our specialist suppliers have experienced, and further challenged by the independent reviews that have been undertaken by the FEED contractor, specialist consultants addressing the chemical engineering, gas, and hydrogen activities.

The Research Demonstrator test programme has been structured to address any key risk arising and further monies have been spent to enhance the rig, in addition the Company is looking to a next stage rig that can be operated to augment the Protos facility.

Peel NRE, as Powerhouse's Collaboration partner, continues to review technology and the Company takes confidence from the progress in this review, with all issues arising to date already defined and being managed in the Technology Development Programme. Similarly the independent due diligence ongoing by the appointed contractor for the Polish agreement provides confidence in design.

The management of risk is to the fore in the construction completion testing and commissioning programme. Equipment will be tested to the greatest extent possible in the factory environment and then all components and the modules themselves will be fully proven against the Powerhouse written scheme of examination to demonstrate suitability for service before commissioning and undertaking module testing and process testing on a system-by-system basis.

The Protos final vendor selection to be made in mid 2021 will allow the final detailed design to be completed and the control system loop functionality to be defined. This design detail, the commissioning and testing programme and the outstanding risk management programme have been further assessed by DNV as the second stage of their Technology Validation process. This work is in progress and all design revisions have been incorporated into a revised statement of feasibility, leading to the planned issue of a Certificate of Endorsement. Their report produced further guidance to the Company on technical risks to be managed through the final stages of the design and commissioning process.

# **Protos Project Execution Risk**

### Quality

The Company recognises that the equipment and fabrication quality and timing of the execution of the first project must be of a standard to deliver the performance and availability inherent in the design of the DMG.

The DMG design has been completed to minimise construction risk by the use of skidded components with limited hook up demands. The selected Protos construction contracting strategy ensures one company as responsible for these hook ups, with the contractor providing all electrical and instrument systems.

To support international roll out the Company is engaging with major European contractors. The Company has undertaken a contractor familiarisation exercise to be able to align contractors with the other DMG processes as and when new orders arise.

# Protos Project Cost and Schedule Risk

The successful commissioning of the Protos project is a key milestone in the growth of Powerhouse. The Directors have made the delivery and operation of the plan their number one priority. They regularly undertake schedule risk analysis with Peel NRE and implement schedule risk protection where necessary.

Throughout 2020, the engineering development work on Protos proceeded almost to schedule with minimal delay. In January 2021, the Board initiated a fundraise to support project schedule. Notwithstanding this funding, the design progress to a final arrangement has been slower than anticipated. The delays are principally related to Covid-19 restrictions, The Directors will continue to monitor and support the project wherever practical.

# **Research and Development Activity Risk**

The Powerhouse research and development equipment has been subject to formal design and functional safety reviews with all activities being subject to risk assessments in accordance with the Company Health & Safety Management processes.

Powerhouse operates its research and development laboratory equipment and testing programme in accordance with the Company Health and Safety Management system. During 2020 the Company initiated external audit of the HSE systems in place. The review identified no significant issues and the worklist have subsequently been enacted.

The Research and Demonstrator rig has been enhanced during the year and where necessary formal design, functional safety review and hazard and operability studies have been undertaken.

#### Manufacturing Risk

Prior to any commitment on manufacturers or Contractors, the Directors will ensure that Peel NRE have undertaken the financial due-diligence and vendor assurance activities to ensure that the suppliers have the financial capability to meet their obligations.

### **Competition Risk**

The Company monitors competitive technologies and recognises that there are a number of larger scale waste gasification entities but, as far as the Board is aware, these do not offer the community located solution of Powerhouse's DMG technology, nor are they offering hydrogen.

There are also a number of active plastics to liquid companies, many using specific feedstocks, and the application of these processes is currently seen as complementary to the DMG process.

#### **Market Adoption Risk**

In the UK Peel NRE, as our collaboration partner, has been leading the commercial engagement for waste plastic and hydrogen, and contract negotiations with various waste suppliers confirmed as available to the plant.

The Company acknowledges that once Protos is operating successfully, rapid roll out of the process must be achieved. The design additions for Protos have now been adopted and future engineering processes should be straight forward applications.

#### **IP Protection Risk**

The Directors are aware of the risks of IP leakage and, through our IP attorneys, are maintaining and monitoring compliance of any potentially conflicting technologies as well as maintaining protection around the freedom to operate worldwide. The Company follows a dual route of IP protection via a suite of patents and maintaining secrecy over the design documents, calculations, and chemical engineering models for the process through systems management.

Once the control system is developed it will have algorithms and control functional blocks embedded to IEC 62443, specifically following the gas systems guidance of DNV, risk management application commissioning and operation as described in their Recommended Practice - G108 defining cyber security systems.

Finally, all contracts robustly define the IP and staff are trained to limit data made available to third parties.

### Staffing Risk

The recruitment process for the technical and support staff team has demonstrated that finding suitably qualified staff should not become a hurdle to progress for the Company. The Board is also aware that the value of the Company is inherently embedded in the staff and has made commitments to make Powerhouse an attractive workplace, both in terms of suitably attractive packages but also commitment to development through training and compliance and other staff benefits.

As part of the Covid-19 measures all employees were supported to ensure that their home working facilities were compliant and, as the Directors are also aware of the pressures on employees, health insurance measures including stress counselling helplines, have been introduced.

# **Financial Risk**

#### Cashflow risk

The Company's cash position at the start of 2020 meant that careful budget management was required. By the time of the fundraise in September 2020 and after the acquisition of Waste2Tricity, the commercial plans for the Company were clear and the Company was able to raise £5 million (before expenses) and attracted a major investment fund as the cornerstone institutional investor.

Post year-end, the Company's cash position has been enhanced by the receipt of deposits for territorial exclusivity options, R&D tax credits and the exercise of certain share options and warrants.

In addition, in January 2021, the Company raised £10 million before expenses.

Other financial risks are considered as follows:

# **Foreign Currency Risk**

The execution of the first project does not expose the Company to any significant foreign currency risk. The Company does not hold any cash in foreign currencies and there are not yet any planned international projects, therefore foreign currency value fluctuations are insignificant. In the future, as international contracts are signed, the Board will examine the currency risk exposure of each project and protect any revenues and expenses against currency volatility.

#### **Interest Rate Risk**

The Company does not have any corporate or project related debt outstanding, and deposit rates are currently negligible, so the Board considers that there is currently no significant risk of any exposure to interest rate variations.

# **Protos SPV Engagement Risk**

The negotiation of any SPV engagement is managed through an investment committee which is charged with addressing the investment risk management in the same manner that would be undertaken by any development investor. For the short-term loan facility made available to the SPV, the Company's protections included securities of the design, the procured assets and the share capital of the SPV.

# **Other Financial Risk**

The Company considers price risk, liquidity risk and credit risk to be negligible in relation to their performance and financial position at this early stage of its development.

As described for the Protos project procurement, prior to entering into any contract, partnership or collaboration arrangements for service providers to Powerhouse, the Board ensure that steps are taken to confirm the ability to deliver of any contractor or partner so as to avoid business disruption.

#### **External Risks**

The Company is subject to various risks originating from external events including political, economic, legal, business and financial conditions. The assessment of these risks, their evaluation and mitigation are essential parts of the Company's planning and internal control system.

The following risk factors, which are not exhaustive, are particularly relevant to our current business activities:

# COVID-19

Throughout 2020, the engineering development work on Protos proceeded almost to schedule with minimal delay. However, in recent months, progress has been slower than anticipated and delays in the coordination of the planning for the plot variations on Protos have resulted in an anticipated delay in the planned start-up of the project.

The testing and research activity programme was relatively unaffected throughout 2020. However, the five-month restriction on movements through 2020 have restricted the Protos feedstock testing necessary to finalise the waste feedstock materials handling systems. As described above, in addition to the technical evaluation, all suppliers and contractors to the Protos project are financially checked to establish their status prior to the entering into any new contract arrangements.

#### Political Risk - Trade Tariffs

The Company's current project activities are not considered to be at risk of trade tariffs. However, the Board will continue to monitor tariffs and may modify trading operations to ensure the delivery and licensing of DMG in international territories is not significantly affected.

# **Regulatory and Compliance Risk**

The Protos permit submission has been straightforward so far, and, with the speedy planning permission approval for the Ellesmere Port site, the Board does not anticipate undue delay in securing future regulatory permit approvals and planning in England and Wales. The first planning application in Scotland has been initiated and we are confident that this process will be equally straightforward.

The enhanced hydrogen handling design completed at the end of the year has been enacted without requiring more onerous permitting or legislative compliance consents.

The Company observes various changes in new governments' regulations within different geographies diligently and the specific international regulatory framing application work continues in countries where project agreements are in place, namely Australia, Poland, Hungary, and Greece.

# Statement of Directors' Duties to Stakeholders under s.172 Companies Act 2006

The board is mindful of the duties of Directors under S.172 of the Companies Act 2006. The Directors act in a way they consider, in good faith, to be most likely to promote the success of the Company for the benefit of its members. In doing so, they each have regard to a range of matters when making decisions for the long-term success of the Company.

# **Stakeholder Engagement**

The Directors promote a culture within Powerhouse of treating everyone fairly and with respect. This extends to all principal stakeholders including shareholders, employees, consultants, suppliers, customers and the communities where it is active. We aim to ensure that our management operate the business in a responsible and fair manner and to the highest standards of business conduct and good governance.

#### **Staff**

In 2020 Powerhouse strengthened its operational engineering and administration team. It is fully committed to promoting a working environment of equal opportunities for all without discrimination or harassment and regardless of part-time working, gender, sexual orientation, age, race, ethnicity, nationality, religion or disability. The Company will continue to report against this commitment in future annual reports.

# **Engagement with suppliers**

As a company that works closely with suppliers and partners, we strive to manage these relationships as closely as possible to ensure they meet our standards. The Company is committed to ensuring the highest standards and quality across our operations and require both our suppliers and partners to operate to the same high standards.

#### **Health Safety and Environment**

The health and wellbeing of its staff and associates is considered in the evolving working practices as the Company grows. Our commitment covers the ways in which work is carried out from offices, home, laboratories, R&D facilities and operational sites.

The Company's research and development activities were delivered HSE incident free through 2020. Continued incident free performance is a key performance indicator for 2021.

# **Environmental Policies**

In 2020, the Board established a new Environmental Social and Governance (ESG) Committee with an aim to integrate sustainability best practice into all decision-making and business activities as part of the Company's commitment to ensuring sustainable and ethical best practice in all its work.

# The Product Emissions in Operation

The Company is committed to developing technology for projects with emissions that are safe and which meet all environmental and regulatory requirements.

The application of the Company's technology in waste to hydrogen plants produces residues in two forms, solids and hydrocarbon paste. The solid residue is generally inert material and proven as such on Protos and will be sold for use in road fill. Typically, the output is around 3-4 tonnes per day from 35-40 tonnes, but varies with the type of customer feedstock. The gas clean up residue is a hydrocarbon rich paste that is generally taken by road tarmac type producers and, specifically for the first project may be directed to nearby Stanlow refinery and added to its processing capability.

# **Local Community Engagement**

The Company is committed to using local staff and local companies in each project application.

Powerhouse has engaged with the local forums and communities close to the Protos development. Unfortunately, face-to-face engagement through 2020 has not been possible. Local meetings will be planned as soon as meeting restrictions are lifted.

Powerhouse plans to engage the local community for the Clydebank development in support of the Peel NRE planning application.

# **Educational Engagement**

TX

Powerhouse has a commitment to student and technical apprenticeship sponsorship and involvement in mentoring and career events to promote interest and engagement of children for a future in engineering. Unfortunately, the Directors recognise that our engagement programme with local schools and charities has been materially affected by Covid-19 and the Company proposes to restart this programme as meeting restrictions are eased later in 2021.

Tim Yeo

Executive Chairman 29 June 2021

# **DIRECTORS' REPORT**

The Directors present their report together with the audited financial statements for the year ended 31 December 2020 for Powerhouse Energy Group Plc ("Powerhouse" or the "Company"). The financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union and will be laid before the shareholders of the Company at the Annual General Meeting.

# **Principal Activities**

Powerhouse is a company incorporated in England and Wales with company number 03934451. The Company is a public limited company which trades on the AIM market of the London Stock Exchange. The address of the registered office is 15 Victoria Mews, Mill Field Road, Cottingley Business Park, Bingley BD16 1PY.

Powerhouse designs, delivers and licenses plastic regeneration processes to generate hydrogen and electrical energy systems and provides associated customer engineering and testing services.

The Company has a Distributed Modular Generation ("DMG") product platform for the regeneration of plastic to power and hydrogen. The Company engineers, sells, licenses and supports operations of the DMG process for applications in UK and throughout the world.

### **Business Strategy**

The Company Business strategy is described in the Strategic Report.

# **Business Review**

The review of the year and the Directors' strategy are set out in the Strategic Report, the Chairman's Statement and the CEO's Annual Review.

#### **Key Performance Indicators**

For the year ended 31 December 2020, the Directors consider that performance is measured against the commercialisation and business development milestone activities reported in the Strategic Report.

#### **Review of Future Developments**

Future developments and the Company's corporate development strategies are reported in the Chairman's Statement and the Strategic Report.

### **Management of Capital**

The Company manages its capital according to budgets with the aim of ensuring it can continue as a going concern. Capital sources include debt and equity instruments.

Board members review cash balances available for ongoing spend on a weekly basis against budget and income forecasts in assessing needs forward and timing for any future equity raises.

# **Subsidiaries**

The Company's only UK subsidiaries are non-trading and not material. There are also long-term restrictions on the operations of the Company's subsidiaries in the US and Switzerland. With these restrictions in place, the Company is also unable to exert control over the subsidiaries. As such the Company has claimed exemptions

applicable to it under Companies Act section 405 (2) and 405 (3b) and IFRS 10 to not present any Consolidated financial statements for the year ended 31 December 2020.

#### Results and Dividends for the Year

The Company financial statements for the year ended 31 December 2020 are set out in this annual report The Company loss for the year after taxation amounted to £15,837,741 (2019: loss of £1,510,226). The net assets of the Company are £46,857,836 (2019: liabilities of £12,982) with the movement in the year set out in the Statement of Changes in Equity.

The Company has not paid a dividend during the year ended 31 December 2020 (2019: £nil) and the Directors do not recommend the payment of a dividend at 31 December 2020 (2019: £nil).

# **Research and Development**

Research and development related costs incurred during the year, relating to the DMG product, amounted to £407,071 (2019: £419,333). This excludes amounts expended on client projects that are expected to be recovered.

#### **Financial Risk**

Financial risk management and exposure are set out in the Strategic Report.

# **Events after the Reporting Period**

There have been no significant events since the balance sheet date other than those discussed in the Strategic Report and note 27 to the Company financial statements.

#### **Directors**

The Directors who held office during the period and up to the date of the Annual Report are as follows:

Tim Yeo (appointed 15 July 2020)

David Ryan

James Greenstreet

Myles Kitcher (appointed 18 March 2020)

Allan Vlah (appointed 27 July 2020)

Kirsten Gogan (appointed 30 September 2020)

Mark Berry (appointed 18 December 2020)

Dr Cameron Davies (resigned 31 March 2021)

Brent Fitzpatrick (resigned 10 August 2020)

# **Company Secretary**

Rose Herbert (appointed 22 October 2020).

A brief biography of the current Directors can be found below:

# **Executive Directors:**

# **Tim Yeo, Executive Chairman**

Tim is a former Member of Parliament where he served as Chair of the Energy and Climate Change Select Committee 2010/15, Chair of the Environmental Audit Select Committee 2005/10 and Member of the Shadow Cabinet 1998/2005 where his positions included Shadow Secretary of State for Trade and Industry. Before that he was Minister of State for the Environment in John Major's government.

Tim is non-executive chair of ElecLink Limited which operates a 1GW electricity interconnector between the UK and France, chair of the New Nuclear Watch Institute, and Honorary Ambassador of Foreign Investment Promotion for South Korea. His past Directorships include Getlink SE 2007/21 where he chaired the Corporate Social Responsibility and Ethics Committee, and past chairmanships include AFC Energy plc 2007/17 and Waste2Tricity Limited until its acquisition by Powerhouse.

# **David Ryan, Chief Executive Officer**

David Ryan has over 40 years in a professional engineering career solely within the energy industry. He brings a breadth of project experience and has run major energy projects, set up and developed a blue chip engineering company serving energy companies and the investment community and run the international organisation of a multinational conglomerate. His experience in managing finances and growth of a start-up business has been brought to bear on operational improvements.

#### **Non-Executive Directors:**

# James Greenstreet, Non-Executive Director

James Greenstreet has over 20 years of corporate and structured finance experience. Having started his career at Arthur Andersen, he joined BAE Systems in 1994 to work in the corporate finance team.

After leaving BAE, Mr Greenstreet held corporate finance positions at IBM and XL Capital, once more focusing on asset and lease finance. In 2001 he co-founded Orbis Capital a successful corporate and structured finance business. Over the past 10 years Mr Greenstreet has been instrumental in sourcing, structuring, packaging and managing transactions for a number of high-profile clients across a wide range of sectors.

# Myles Kitcher, Non-Executive Director

Myles Kitcher was appointed as a Non-Executive Director on 18 March 2020. Mr Kitcher is Managing Director of Powerhouse's development partner for Protos, Peel NRE and the leading force behind Protos, – Peel NRE's flagship destination for energy, innovation and industry where the first application of Powerhouse DMG technology is to be built. Myles is a Chartered Surveyor with extensive experience in both the public and private sectors managing the development process for a number of large waste infrastructure projects.

Prior to joining the Peel Group, Mr Kitcher worked for Lancashire County Council where he held senior positions within the planning and waste management functions of the authority.

#### Allan Vlah, Non-Executive Director

Allan Vlah has more than twenty years' experience in the investment industry and is a partner at River & Mercantile Infrastructure LLP ("RMI") where he is responsible for the group's Energy from Waste equity strategy.

Prior to joining RMI in 2021, Mr Vlah was a director at Aviva Investors where he led the group's infrastructure energy from waste strategy. He was previously a vice president at the Macquarie European Infrastructure Fund with a focus on transportation and renewable energy and a research analyst and portfolio manager covering energy and infrastructure trusts for TD Waterhouse Investment Advice.

# Kirsten Gogan, Non-Executive Director

Kirsty Gogan is an internationally sought-after advisor to governments, industry, academic networks and NGOs and is a recognised expert speaker on science communication, climate change, competitiveness and innovation. She has more than 15 years' experience as a senior advisor to Government on climate and energy policy, including 10 Downing Street, and the Office of the Deputy Prime Minister.

Ms Gogan is managing partner of LucidCatalyst, a highly specialised international consultancy offering thought leadership, strategy development and techno-economic expertise focused on multiplying and accelerating zero carbon technology options available for large-scale, affordable, market-based decarbonisation of the global economy over a wide range of future scenarios. Ms Gogan chairs the UK Government's Nuclear Innovation Research and Advisory Board (NIRAB) Cost Reduction Working Group. She is also Co-founder of Energy for Humanity (EFH), an environmental NGO focused on large scale deep decarbonisation and energy access.

# Mark Berry, Non-Executive Director

Mark Berry is a Partner at Norton Rose Fulbright LLP. Mark specialises in the project financing of energy, infrastructure and process engineering projects. He has particular expertise in the waste to energy (including materials recovery and fuel recovery from waste), transport and mining sectors. Mark's experience includes advising on a number of project financed waste and waste to energy schemes including PFI and merchant/commercial projects. He is also a Chartered Engineer and a member of the Chartered Institution of Building Services Engineers.

#### **Directors' Service Contracts**

Details of the Directors' service contracts and their respective notice terms are detailed in the Remuneration Committee report.

#### **Directors' Interests**

The interests of the Directors at 1 June 2021, being the latest practicable date before the publication of the Annual Report, in the ordinary shares of the Company, together with their interests at 31 December 2020 were as follows:

	Number of ordinary shares	
	1 June 2021	31 December 2020
Tim Yeo	71,871,959	71,871,959
David Ryan	36,567,923	36,567,923
Dr Cameron Davies*	N/A	1,200,000
James Greenstreet	1,840,000	1,000,000
Myles Kitcher	-	-
Allan Vlah	-	-
Kirsten Gogan	-	-
Mark Berry	356,071	-

<sup>\*</sup>Dr Davies resigned from the Board on 31 March 2021.

### **Significant Shareholders**

As at 1 June 2021, being the latest practicable date before the publication of the Annual Report, the Company is aware of the following significant interests in its ordinary, voting share capital:

Holder	Amount	Percentage
White Family* consisting of: -	1,015,045,935	25.88%
* Josh White	377,746,610	9.63%
* Ben White	247,775,210	6.32%
* Serena White-Reyes	211,459,086	5.39%
* Howard White	178,065,029	4.54%
Vidacos Nominees Limited A/C CLRLUX	367,581,743	9.37%
Hargreaves Lansdown (Nominees) Limited A/C 15942	273,154,818	6.96%
Hargreaves Lansdown (Nominees) Limited A/C HLNOM	193,997,894	4.95%
Hargreaves Lansdown (Nominees) Limited A/C VRA	180,331,706	4.60%
Interactive Investor Services Nominees A/C SMKTISAS	158,039,110	4.03%
Interactive Investor Services Nominees A/C SMKTNOMS	140,045,201	3.57%
Vidacos Nominees Limited A/C IGUKCLT	139,511,050	3.56%

# **Corporate Governance**

The Company complies with the AIM Rules for Companies, including AIM Rule 26, concerning the disclosure of information. It also complies with the provisions of the Quoted Companies Alliance Corporate Governance Code ("QCA Code"). More details are provided in the Corporate Governance Report in this document.

# **Payment to Suppliers**

The Company does not have a standard or code which deals specifically with the payment of suppliers. Total creditor days for the Company for the year ended 31 December 2020 were 22 days (2019: 31 days).

# **Risk Management and Principal Risks**

The principal risks to the Company, including financial risks and exposures and descriptions of how they are managed is explained in detail in the Strategic Report and in Note 23 to the financial statements.

# **Going Concern Basis**

The financial statements have been prepared on a going concern basis and is explained in Note 1.3 to the financial statements.

#### **Political Donations**

The Company has not made any political donations in the year ended 31 December 2020 (2019: nil).

# **Auditors**

Jeffreys Henry LLP were re-appointed as auditors at the Company's 2020 AGM. A resolution is to be proposed at the 2021 AGM for the re-appointment of Jeffreys Henry LLP as auditors to the Company, at a rate of remuneration to be determined by the Audit Committee.

#### **DIRECTORS' REPORT**

Each of the persons being a Director at the date of approval of this report confirms that:

- So far as the Director is aware there is no relevant audit information of which the Company's auditor is unaware; and
- The Director has taken all the steps that he ought to have taken as a Director in order to make himself aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

This confirmation is given, and should be interpreted, in accordance with the provisions of s.418 of the Companies Act 2006.

Approved by the Board of Directors and signed on behalf of the Board on 29 June 2021.

**David Ryan** 

Director

## CORPORATE GOVERNANCE REPORT

#### Introduction

The Directors attach great importance to maintaining high standards of corporate governance to help achieve the Company's goals. To that end they have adopted the principles set out in the Quoted Companies Alliance Corporate Governance Code for Small and Mid-Size Quoted Companies (the 'QCA Code') 2018. The QCA Code, which is constructed around 10 broad principles, sets out a standard of minimum best practice for small and mid-size quoted companies, including AIM companies. Companies are required to disclose how the implementation of the QCA Code has been applied or, to the extent not done so, to explain any areas of departure from its requirements.

We have considered how we apply each principle to the extent that the Board judges these to be appropriate for our circumstances, and below we provide an explanation of the approach taken in relation to each. Our compliance with the QCA Code is based on the Company's current practices and the improvements in its governance made since the last Annual General Meeting.

The QCA Code makes clear it is the prime responsibility of the Chairman to ensure the Company applies the QCA Code for the benefit of all the Company's stakeholders. The Chairman and the Board accept their responsibility for setting the Company's corporate culture, its values and for the behaviour of all its employees.

This report sets out our approach to the QCA Code and governance. Our compliance with the 10 principles is also available to view on the Company's website: www.powerhouseenergy.co.uk

We have identified two principal areas where we are not in full compliance:

The first relates to the position of Executive Chairman, where the best practice under the Code is for the Chairman to be non-executive. See Principle 5 for further details.

The second is that Powerhouse allows non-executive Directors to participate in the Company's share options schemes. See Principle 5 for further details.

The QCA Code allows cross reference to disclosures made on the website rather than repeating them all in this Report. The principal disclosures such as the Remuneration Committee and Directors' Report will continue to be included in the Annual Report. However, for a full assessment of the Company, shareholders are encouraged to review the Company's website for regulatory disclosures and for up to date information on activities.

## **QCA Principles**

## Principle 1 - Establish a strategy and business model which promote long-term value for shareholders

Powerhouse has a clear business model and growth strategy. Our objective is to be a leading sustainable technology provider and to enable the rapid deployment of modular distributed hydrogen production, distributed electricity generation and the provision of heat. This will be done by the use of non-recyclable and end-of-life waste material, including plastic. Powerhouse's proprietary process technology is one of the world's first proven, distributed, modular, hydrogen from waste (HfW) processes.

Details of the Company's strategy and business model are set out in the Strategic Report. This describes progress to date, our commercial partnerships, our DMG development programme and our plans for the future. Key challenges facing the Company and how they will be addressed are set out in the Strategic Report in the

section headed Principal Risks and Uncertainties.

#### Principle 2 - Seek to understand and meet shareholder needs and expectations

Powerhouse is committed to open communication with all of its shareholders. The Company believes it is important to explain business development and financial results to its shareholders and to ensure that suitable arrangements allow the issues and concerns of shareholders to be heard and understood.

The Chairman is primarily responsible for shareholder liaison. Since the last Annual General Meeting the Company has welcomed new institutional investors to its shareholder base which is otherwise largely comprised of retail shareholders, as well as its largest shareholder, the White family. The Chairman and Chief Executive Officer make presentations to shareholder events from time to time where investors have the opportunity to discuss the Company's progress and performance. Trading updates and press releases are issued as appropriate.

Hard copies of the Annual Report and Accounts are issued to all shareholders who have requested them and these, together with the interim results are also published on the Company's website at www.powerhouseenergy.net. The Company makes full use of its website to provide information to shareholders, other stakeholders, potential customers, and other interested parties.

Shareholders are given the opportunity to raise questions at the Annual General Meeting ("AGM") and the Directors are normally available both before and after the meeting for further discussion with shareholders. As a matter of policy, the level of proxy votes (for, against and votes withheld) lodged on each resolution is declared at the meeting. In the event there were a significant number of votes against a resolution, the Directors would seek to communicate with the shareholder(s) concerned to discuss their issues. In order to comply with best practice the Company will follow the Government's social distancing guidelines relating to Covid-19 for the 2021 AGM.

The Board receives regular share register analysis reports to monitor the Company's shareholder base and help identify the types of investors on the register.

# Principle 3 - Take into account wider stakeholder and social responsibilities and their implications for long-term success

The Company regards its shareholders, employees, neighbours, customers, contractors, consultants and advisors, business partners and suppliers as forming part of the wider stakeholder group. The Company recognises the contribution of each of these stakeholder groups and seeks to build meaningful and mutually beneficial relationships with them all.

As the needs and growth of the business evolves, management identifies key relationships and aims to ensure they are managed appropriately.

The Company's internal stakeholders are its employees and its consultants. The Company is fully committed to promoting a working environment of equal opportunities for all without discrimination or harassment and regardless of part-time working, gender, sexual orientation, age, race, ethnicity, nationality, religion or disability. The Company will report against this commitment in future annual reports.

The Company proactively seeks feedback to enable the management to make improvements and changes to products and processes. All stakeholders have access to contact information for communication with the Company. Feedback is respectfully acknowledged by the Company and appropriately dealt with.

The Board believes that investment in the wider stakeholder network assists the achievement of its long-term goals and helps create an environment of trust which will promote the long term success of the Company.

There are further details of the Company's approach to corporate social responsibility in the Strategic Report of this Annual Report and Financial Statements.

# Principle 4 - Embed effective risk management, considering both opportunities and threats, throughout theorganisation

Risk assessment and evaluation is an essential part of the Company's planning and an important aspect of the Company's internal control system.

The Board has established a comprehensive risk register relating to significant aspects of the Company's business. The Board regularly considers the risk register and the mitigation and removal measures on a risk-by-risk basis focusing on those deemed most critical.

To address the technology challenges the Company has instigated a detailed and comprehensive engineering and technology risk management programme that has continued since the design phase. This programme is termed the Technology Risk Management Programme. The Programme is derived from its own test and design activities and informed by the DNV Technical Assurance process. The Technology Risk Management Programme will be reviewed by the Powerhouse Board, and individual risks addressed through studies allowing the register to be continuously updated.

#### Standards and policies

The Board is committed to maintaining appropriate standards for all the Group's business activities and ensuring that these standards are set out in written policies. Key examples of such standards and policies include:

Policy for Authorities and Approvals
Share Dealing Code
Social Media Policy
Terms of Reference for the Board Committees
Business Ethics Policy
Environmental Policy
Health and Safety Policy
Employment Policy

#### Approval process

All contracts are required to be reviewed and signed by a Director of the Company.

For further details of the Company's approach to risk and its management, please refer to the Principal Risks and Uncertainties section of the Strategic Report in this Annual Report and Financial Statements.

#### Principle 5 - Maintain the board as a well-functioning, balanced team led by the chair

The Board, chaired by Tim Yeo, comprises two executive and five non-executive Directors and it oversees and implements the Company's corporate governance programme.

David Ryan, the Chief Executive Officer, is stepping down from his full-time role with the Company on 30 June 2021. Thereafter he will continue to work for Powerhouse as a consultant to help ensure the successful

completion and commission of the first DMG plant at Protos. The Board is in the process of recruiting Mr Ryan's successor. Until a new CEO is in place Tim Yeo, previously Non-Executive Chairman, has taken on responsibility for public relations, investor relations and some international business development work and so has been designated Executive Chairman. The Board accepts that best practice under the Code of the for the Chairman to be non-executive and Tim Yeo will resume his non-executive status when the new CEO is in place.

The executive Directors are Tim Yeo and David Ryan. The non-executive Directors are James Greenstreet, Myles Kitcher, Allan Vlah, Kirsty Gogan and Mark Berry.

As chairman, Tim Yeo is responsible for the Company's approach to corporate governance and the application of the principles of the QCA Code. Myles Kitcher, James Greenstreet, Allan Vlah, Kirsty Gogan and Mark Berry are the Company's independent Directors and, as such, are independent of management and any business or other relationships which would interfere with the exercise of their independent judgement.

James Greenstreet, Allan Vlah and Mark Berry do not meet the strict criteria for independence set out in the QCA Code, due to either their length of service, ownership of ordinary shares and/or their participation in the Company's share option arrangements, as part of their remuneration arrangements.

Mr Greenstreet has been a non-executive Director since 2011. However, there has been no concurrent tenure with management which could hinder his ability to be independent

The Board considers that the ownership of shares and participation in the Company's share option scheme by certain non-executive Directors encourages the alignment of their interests with those of the Company's shareholders and not material enough to compromise their independence, character and judgement. Therefore, the Company considers Mr Greenstreet, Mr Vlah and Mr Berry to be independent for the purposes of the QCA Code.

Each Board member commits sufficient time to fulfill their duties and obligations to the Board and the Company. They attend board meetings, join ad hoc board calls and are available for consultation when needed. The contractual arrangements between the Directors and the Company specify the minimum time commitments which are considered sufficient for the proper discharge of their duties. When exceptional circumstances arise all Board members understand the need to commit additional time.

Board packs include information on business developments, progress and risks faced as well as financial performance and are circulated ahead of board meetings. Key issues are highlighted and explained, providing board members with sufficient information to enable full discussion in the board meeting. From time to time, members of the Company's senior management present to the Board to update them on issues and developments.

The Board is supported by its Audit Committee, its Remuneration Committee and its Environmental, Social and Governance (ESG) Committee which was established in December 2020.

#### **Board and committee meetings**

Attendances of Directors at Board and committee meetings convened in 2020, and which they were eligible to attend, are set out below:

Director	Board Meetings	Remuneration	Audit Committee	ESG Committee
	Attended	Committee	Attended	Attended
		Attended		
Number of meetings in year	10	2	1	1
Tim Yeo*	5/5	1/1	N/A	1/1
Dr Cameron Davies	10/10	1/1	N/A	N/A
David Ryan	10/10	N/A	N/A	1/1
Brent Fitzpatrick*	5/5	1/1	N/A	N/A
James Greenstreet	8/10	0/1	1/1	N/A
Myles Kitcher*	8/10	1/1	0/1	N/A
Allan Vlah*	5/5	N/A	1/1	N/A
Kirsty Gogan*	3/3	1/1	N/A	1/1
Mark Berry*	1/1	N/A	N/A	1/1

#### \*Notes:

Myles Kitcher joined the Board on 18 March 2020.

Tim Yeo joined the Board on 15 July 2020.

Allan Vlah joined the Board on 27 July 2020.

Brent Fitzpatrick resigned from the Board on 10 August 2020.

Kirsty Gogan joined the Board on 30 September 2020.

Mark Berry joined the Board on 18 December 2020.

#### Appointment and tenure

The Board makes decisions regarding the appointment and removal of Directors. There is a formal, rigorous and transparent procedure for appointments, some of which have been delegated to the Remuneration Committee which, when needed, also acts as Nomination Committee, to make recommendations to the Board about the appointment of Directors and senior executives. Appointments are made on merit, taking account of the balance of skills, experience and knowledge required.

As part of its commitment to improve accountability to shareholders, the Board has decided that, in future, any director who is over the age of 70 or has been on the board for eight years at the date of the Annual General Meeting will submit themselves for re-election annually, in addition to those Directors retiring by rotation in accordance with our Articles of Association.

# Principle 6 – Ensure that between them the Directors have the necessary up-to-date experience, skills and capabilities.

The Board comprises two executive Directors and five non-executive Directors, five of whom are independent. Details of the Directors are set out in the Directors' Report of this Annual Report and Financial Statements.

The Chairman believes that the Board should always have a suitable mix of skills and competencies covering all essential disciplines bringing a balanced perspective that is beneficial both operationally and strategically.

The nature of the Company's business requires the Directors to keep their skillset up to date. Periodic advice on regulatory matters is given by the Company's professional advisers. Directors joining the Board and new employees are offered full familiarisation briefings with the Company's technology, the development programme and the current status of technology risk. During the period of Covid-19 restrictions, the opportunity for Directors to visit the R&D facilities has been limited but normally familiarisation includes visits to the Company's facilities.

The Board is supported by senior management and by its key partners and professional advisers. The advice provided to the Board is often commercially sensitive. It is used by the Board to inform their decisions but typically will not be disclosed.

The Company Secretary supports the Board and reports directly to the Chairman on governance matters.

The Board is supported and advised by a Chief Financial Officer, a chartered accountant with extensive experience, who works closely with the Board and is managing financial procedures and controls.

## Principle 7 - Evaluate board performance based on clear and relevant objectives, seeking continuous improvement

#### **Board performance effectiveness process**

The assessment of the Board's performance has to date been largely focused on its contribution to the achievement of the Company's financial and strategic goals. As the Company moves towards full commercial operation the Board intends to consider how to make the evaluation of its own performance more formal and rigorous.

Each Board member is subject to a review by the Remuneration Committee based on their professional contribution as well as their contribution to the performance of the Company.

The terms and conditions of the arrangements, including remuneration are set by the Remuneration Committee.

#### **Board appointments**

The Remuneration Committee, which acts as Nomination Committee as needed, meets when necessary to consider the appointment of new Directors. Board members all have appropriate notice periods so that if a board member indicates his or her intention to step down, there is sufficient time to appoint a replacement, whether internal or external.

Board appointments are made after consultation with advisers in all cases. The Nomad undertakes due diligence on all new potential board candidates.

Each director is required to offer themselves for re-election at least once every three years as per the Company's articles of association. In addition, any director who is over the age of 70 or has been on the board for eight years at the date of the Annual General Meeting will submit themselves for re-election annually, in addition to those Directors retiring by rotation in accordance with our Articles of Association.

## Succession planning

Succession planning is undertaken by the Executive Chairman in consultation with the Board.

#### Principle 8 - Promote a corporate culture that is based on ethical values and behaviours

Consistent with Principle 3 above, the Company operates an inclusive, transparent and respectful culture.

The Board places particular emphasis on operating to the highest ethical and environmental standards. HS&E is a specific agenda item at every board meeting. In December 2020, the Board established a new Environmental Social and Governance (ESG) Committee with the aim of placing sustainability at the heart of all decision-making and business activities. The Company's objectives include observing the highest level of health and safety standards, developing our staff to their highest potential and being a good corporate citizen in all the countries

where we operate. A health and safety management system has been developed for operation in 2021 with policies for healthy and safety, environment and quality in place.

Management has also engaged with independent environmental and safety engineering specialists to review the Company's product and demonstrate that it will have minimal environmental and safety impact on the communities in which the Company operates. The Board has also undertaken a product environmental lifecycle analysis, the results of which will be published in due course.

The Company's employment policies follow best practice, based on equal opportunities for all employees, irrespective of ethnic origin, religion, political opinion, gender, marital status, disability, age or sexual orientation.

# Principle 9 – Maintain governance structures and processes that are fit for purpose and support good decision- making by the board.

The Board is confident that its processes and culture are appropriate for the Company's current size and complexity. It will review its practices as the Company evolves and grows as part of its commitment to improve accountability to stakeholders.

The Chief Executive Officer has overall responsibility for managing the day to day operations of the Company. The Executive Chairman has assumed responsibility for investor relations, PR and business development. The Board as a whole is responsible for implementing the Company's strategy. Management systems and procedures have been implemented in 2020 in parallel with project execution and licencing readiness activities.

The Company has established an Audit Committee, a Remuneration Committee and an Environmental Social and Governance Committee with formally delegated duties and responsibilities.

#### **Audit Committee**

The duties of the Audit Committee include reviewing, in draft, form the Company's annual and half-yearly report and accounts and providing advice to the Board. Members of the Audit Committee are also responsible for reviewing and supervising the financial reporting process and internal control systems of Powerhouse. The Audit Committee is comprised of three Non-Executive Directors.

#### **Remuneration Committee**

The Remuneration Committee is responsible for determining the policy for Directors' remuneration and setting remuneration for the Company's chair, executive Directors and senior management including share option schemes and any bonus arrangements. The Remuneration Committee also acts as a Nomination Committee as needed. No director plays any role in determining his or her own remuneration.

#### **Environmental Social and Governance (ESG) Committee**

The ESG Committee was established in December 2020 with the aim of integrating sustainability best practice into all decision making and business activities as part of the Company's commitment to ensuring sustainable and ethical best practice in all its work. Powerhouse is pioneering clean fuel technology and the ESG Committee supports the Board in developing the technology that could help accelerate the UK's clean energy transition. The Committee ensures that Powerhouse promotes achievement of the UN Sustainable Development Goals throughout its business.

Furthermore the ESG Committee monitors the Company's recruitment policies and its progress towards employing a fully diverse work force and engagements with stakeholders.

The appropriateness of the Company's governance structures will be reviewed annually in light of further

developments of accepted best practice and the development of the Company.

# Principle 10 – Communicate how the company is governed and is performing by maintaining a dialogue with shareholders and other relevant stakeholders

The Company maintains a regular dialogue with stakeholders including shareholders to enable interested parties to make informed decisions about the Company and its performance. Regular communication enables the Board to receive shareholders' views by various means as set out in Principle 2 above.

The Company regularly releases appropriate price sensitive information regarding its activities and progress to the market. The Chairman, Chief Executive Officer and other management team members regularly participate in industry forums and investor conferences to keep stakeholders apprised of company developments.

The Board discloses the result of general meetings by way of announcement and discloses the proxy voting numbers to those attending the meetings. In order to improve transparency, the Board has committed to announcing proxy voting results in future and disclosing them on the Company's website. In the event that a significant portion of voters have voted against a resolution, an explanation of what actions it intends to take to understand the reasons behind the vote will be included.

**Tim Yeo** 

Chairman
On behalf of the Board

TX

29 June 2021

#### REMUNERATION COMMITTEE REPORT

## REMUNERATION COMMITTEE REPORT

I am pleased to present the Committee's report for the year ended 31 December 2020. The following pages provide an insight into how the Committee discharged its responsibilities during the year and the key topics that it considered in doing so. The composition and terms of reference for the Remuneration Committee were updated in the final quarter of 2020 to reflect the Company's renewed commitment to corporate governance and enhanced practices.

#### Composition

The membership of the Remuneration Committee was renewed in 2020 and comprises Kirsty Gogan and Tim Yeo and is chaired by Myles Kitcher.

The Remuneration Committee is responsible for determining the policy for Directors' remuneration and setting remuneration for the Company's chair, executive Directors and senior management including share option schemes and any bonus arrangements. The Remuneration Committee also acts as a Nomination Committee as needed.

## **Remuneration Policy**

The Remuneration Committee is aware that the remuneration package should be sufficiently competitive to attract, retain and motivate individuals capable of achieving the Group's objectives and thereby enhancing shareholder value without paying more than is necessary, having regard to views of shareholders and other stakeholders. In determining remuneration policy, the Remuneration Committee takes into account all other factors which it deems necessary including relevant legal and regulatory requirements. No director or senior manager is involved in any decisions as to their own remuneration outcome.

#### **Service Contracts**

Tim Yeo, James John Pryn Greenstreet, Allan Vlah, Kirsty Gogan and Mark Berry have service contracts which can be terminated by providing three months' written notice. Myles Kitcher has a service contract which can be terminated without provision of notice. David Ryan has a service contract which can be terminated by providing six months' written notice.

Prior to their resignations, William Cameron Davies and Brent Fitzpatrick held service contracts which could be terminated by providing three months' written notice. Mr Fitzpatrick resigned from the Company on 10 August 2020 and Mr Davies resigned from the Company on 31 March 2021.

Tim Yeo's remuneration includes amounts paid to Rivermill Partners Limited, a company wholly owned by Tim Yeo and Mrs Diane Yeo, for executive corporate management services provided during the year. These services are contracted for on an annual basis and can be terminated by providing one month's written notice.

#### **Basic Salary and Benefits**

The remuneration of the Directors of the Company paid for the year or since date of appointment, if later, to 31 December 2020 is set out below:

#### REMUNERATION COMMITTEE REPORT

	2020	2020	2020	2020	2020	2019
	£	£	£	£	£	£
	Salary/Fee	Pension	Share	Other	Total	Total
			based	benefits		
			payments			
Tim Stephen Kenneth Yeo	27,004	-	-	-	27,004	N/A
David John Ryan	178,000	17,000	1,856	-	196,856	159,247
William Cameron Davies	50,000	-	4,421	-	54,421	62,378
Nigel Brent Fitzpatrick	25,807	-	1,061	-	26,868	37,426
James John Pryn Greenstreet	30,000	-	1,061	-	31,061	37,426
Myles Howard Kitcher	-	-	-	-	-	N/A
Allan Thomas Vlah	13,306	-	-	-	13,306	N/A
Kirsten Gogan	7,500	-	-	-	7,500	N/A
Mark Berry	1,129	-	-	-	1,129	N/A
Robert Keith Allaun	N/A	N/A	N/A	N/A	N/A	70,000
Total	332,746	17,000	8,399	-	358,145	366,477

#### Notes:

Mr Kitcher joined the Board on 18 March 2020.

Mr Yeo joined the Board on 15 July 2020.

Allan Vlah joined the Board on 27 July 2020.

Mr Fitzpatrick resigned from the Board on 10 August 2020.

Kirsty Gogan joined the Board on 30 September 2020.

Mark Berry joined the Board on 18 December 2020.

Share options held by the Directors are detailed in note 24 in the Notes to the Accounts. Total remuneration includes share based payments arising from the issue of options amounting to £8,399 (2019: £40,229) and details are set out in note 24 in the Notes to the Accounts. There have been no awards of shares to Directors under long term incentive plans.

#### **Bonus Schemes**

There was no bonus scheme in place for 2020. However, a new bonus scheme is being considered as the Company enters a revenue generating and growth period.

No bonuses are payable in respect of the year ended 31 December 2020 (2019: nil).

#### **Share Options**

No share options were issued to Directors during the year. However, in 2021, non-executive Directors were granted options under the Company's Non-Employee Share Option Plan in lieu of part or all of the fees to which which they were entitled.

David Ryan was the highest paid Director in the year. There were no shares received or receivable by him in respect of qualifying services under long term incentive schemes.

For details of the total number of options outstanding at 31 December 2020 please refer to Note 24 of the Notes to the Accounts.

## REMUNERATION COMMITTEE REPORT

## **Remuneration Committee Meetings and Attendance**

Please see the table in the Corporate Governance Report in this document for attendance by the members of the Remuneration Committee.

On behalf of the Directors of Powerhouse Energy Group plc

Myles Kitcher

Chairman of Remuneration Committee 29 June 2021

#### **AUDIT COMMITTEE REPORT**

## REPORT OF THE AUDIT COMMITTEE

I am pleased to present the Committee's report for the year ended 31 December 2020. The following pages provide an insight into how the Committee discharged its responsibilities during the year and the key topics that it considered in doing so. The composition and terms of reference for the Audit Committee were updated in the final quarter of 2020 to reflect the Company's renewed commitment to corporate governance and enhanced practices.

#### Composition

The Audit Committee is comprised of three non-executive Directors, currently Allan Vlah, James Greenstreet and Myles Kitcher, with Allan Vlah acting as Chairman. The Chairman is considered by the Board to have recent and relevant financial experience and the other members have competence relevant to the Company's sector of operation.

Other members of the Board, the Chief Financial Officer and other members of senior management may also be invited to attend the meetings as guests.

#### **Role and Responsibilities**

The Audit Committee determines and examines any matters relating to the financial affairs of the Group including the terms of engagement of the Group's auditors and, in consultation with the auditors, the scope of the audit. In 2021 and onwards, the Audit Committee intends to meet at least twice in each financial year.

The Audit Committee is responsible for monitoring the integrity of the Company's financial statements, reviewing significant financial reporting issues, reviewing the effectiveness of the Group's internal control and risk management systems. In addition, it considers the financial performance, position and prospects of the Group and the Company and ensures they are properly monitored and reported on. It oversees the relationship with the Auditor (including advising on their appointment, agreeing the scope of the audit and reviewing the audit findings).

The Board and the Audit Committee do not consider it appropriate for the current size of the Group to establish an internal audit function. However, this will be kept under review.

#### Principal activities during the year

The Committee held one meeting during the year under review and considered the following:

- An overview of the planned work by the external auditors on the 2020 audit including the scope and regulatory requirements of the audit and the fees; and
- The Committee's Terms of Reference.

The Committee is planning the following activities during 2021:

- Review and approve the FY20 and FY21 external Auditor's plan, including the proposed materiality threshold, the scope of the audit, the significant audit risks and fees;
- Review the Company's procedures, systems and controls for the prevention of bribery or fraud;
- Review the adequacy and security of the Company's arrangements for its employees to raise concerns, in confidence, about possible wrongdoing in financial reporting or other matters. The Committee shall ensure that these arrangements allow proportionate and independent investigation of such matters and appropriate follow up action;

#### **AUDIT COMMITTEE REPORT**

- Review the Committee's internal audit role, in the absence of an external provider of an internal audit service;
- Risk review and challenge the Risk Register, and consider the risk appetite of the business.

#### **External Auditor**

Jeffreys Henry has been the external Auditor of the Group since 2018. The continued appointment of Jeffreys Henry is to be reviewed by the Committee each year, taking into account the relevant legislation, guidance and best practice appropriate for a Company of Powerhouse's size, nature and stage of development.

The Committee will consider a number of areas when reviewing the external Auditor appointment, namely its performance in discharging the audit, the scope of the audit and terms of engagement, its independence and objectivity, and its reappointment and remuneration.

The breakdown of fees between audit and non-audit services paid to Jeffreys Henry during the financial year is set out in Note 4 to the Group's Consolidated Financial Statements. The non-audit fees relate to taxation advisory and compliance services and general consultancy relating to Waste2Tricity Limited.

#### **Attendance at Audit Committee Meetings**

Please see the table in the Corporate Governance Report in this document for attendance by the members of the Audit Committee.

#### **Allan Vlah**

Chairman of the Audit Committee 29 June 2021

# REPORT OF THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE COMMITTEE

I am pleased to present the Committee's first report for the year ended 31 December 2020. The Committee was established in December 2020 with the aim of integrating sustainability best practice into all decision making and business activities as part of the Company's commitment to ensuring sustainable and ethical best practice in all decision-making and business activities.

#### Composition

The ESG Committee is comprised of three non-executive Directors, currently Kirsty Gogan, Allan Vlah and Mark Berry, with Kirsty Gogan acting as Chair. Two executive Directors, Tim Yeo and David Ryan, are also part of the Committee. The Chair is considered by the Board to have recent and relevant experience with more than 15 years' experience as a senior advisor to Government on climate and energy policy.

Tim Yeo brings his experience as Chair of the Getlink SE Corporate Social Responsibility and Ethics Committee, and Mark Berry is a member of the Norton Rose Fulbright Sustainability Committee.

Other members of the Board and other members of senior management may also be invited to attend the meetings as guests.

#### **Role and Responsibilities**

The overall mission of the ESG Committee is to support the Board in ensuring that Powerhouse attaches the highest priority to environmental, social and governance issues and managing the associated ESG risks.

As a sustainable hydrogen company, Powerhouse is pioneering clean fuel technology and the ESG Committee supports the Board in developing the technology that could help accelerate the UK's clean energy transition along with helping to clean up unrecyclable plastic and improving air quality. The Committee ensures that Powerhouse promotes achievement of the UN Sustainable Development Goals throughout its business.

The ESG Committee will monitor Powerhouse's performance in relation to its stated aims of providing a solution to the global problem of plastic waste and producing a sustainable low carbon alternative to fossil fuels whose adoption will accelerate the world's progress to net zero emissions. Where appropriate it will make recommendations to the Board to ensure these aims are achieved.

Powerhouse technology aims to be used at a local level providing a closed loop solution within the community for non-recyclable plastic waste, cleaning up our oceans and helping to accelerate the clean energy transition to reach the target of net zero emissions by 2030. Importantly the ESG Committee will scrutinise particularly closely the greenhouse gas emissions caused by Powerhouse's own activities as well as those of its suppliers and customers with the aim of achieving continuous improvement in performance.

As a business which is helping accelerate the clean energy transition, the welfare of the environment and the impact of climate change are key issues for the business. Powerhouse technology aims to work at a local level, therefore engaging with communities will be a vital part of this Committee's work.

The ESG Committee will monitor Powerhouse's recruitment policies and its progress towards employing a fully diverse work force at all levels, including consultants.

#### **ESG COMMITTEE REPORT**

The ESG Committee will keep all aspects of Powerhouse's governance under continuous review and make recommendations to the Board for improvements where necessary.

In 2021 and onwards, the ESG Committee intends to meet at least twice in each financial year.

#### Principal activities during the year

The Committee held one meeting, its first since the Committee was established in December 2020, during the year under review and considered the following:

- The Committee's Terms of Reference.
- An overview of the potential activities under consideration including scrutinising greenhouse gas
  emissions, engaging with agencies who could undertake an ongoing assessment of the environmental
  impact of Powerhouse's processes and the Company's approach to recruitment bearing in mind the
  aims of the ESG Committee.

#### **Attendance at ESG Committee Meetings**

Please see the table in the Corporate Governance Report in this document for attendance by the members of the ESG Committee.

#### **Kirsty Gogan**

Chair of the ESG Committee 29 June 2021

#### STATEMENT OF DIRECTORS' RESPONSIBILITIES

## STATEMENT OF DIRECTORS' RESPONSIBILITIES

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors have elected to prepare the financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union (EU). Under company law the Directors must not approve the accounts unless they are satisfied that they give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period. In preparing these financial statements, International Accounting Standard 1 requires that Directors:

- properly select and apply accounting policies;
- present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information;
- prepare the Financial Statements on the going concern basis unless it is inappropriate to presume that the company will continue in business;
- provide additional disclosures when compliance with the specific requirements in IFRS Standards is
  insufficient to enable users to understand the impact of particular transactions, other events and
  conditions on the entity's financial position and financial performance.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities. The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

## **Responsibility Statement**

We confirm that to the best of our knowledge that:

- the financial statements, prepared in accordance with International Financial Reporting Standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company;
- the strategic report includes a fair review of the development and performance of the business and the
  position of the Company together with a description of the principal risks and uncertainties that it faces;
  and
- the annual report and financial statements, taken as a whole, are fair, balanced and understandable and provide the information necessary for shareholders to assess the Company's performance, business model and strategy.

**Tim Yeo** Chairman

On behalf of the Board

29 June 2021

# INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF POWERHOUSE ENERGY GROUP PLC

## **Opinion**

We have audited the financial statements of Powerhouse Energy Group Plc (the 'Company') for the year ended 31 December 2020 which comprise the statement of comprehensive income, the statement of financial position, the statement of cash flows, the statement of changes in equity and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in the preparation of the financial statements is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union.

In our opinion, the financial statements:

- give a true and fair view of the state of the company's affairs as at 31 December 2020 and of its loss for the year then ended;
- have been properly prepared in accordance with IFRSs as adopted by the European Union; and,
- the financial statement have been prepared in accordance with the requirements of the Companies Act 2006.

## **Basis for opinion**

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Conclusions relating to going concern

In auditing the financial statements, we have concluded that the director's use of the going concern basis of accounting in the preparation of the financial statements is appropriate. Our evaluation of the directors assessment of the entity's ability to continue to adopt the going concern basis of accounting included, as part of our risk assessment, review of the nature of the business of the company, its business model and related risks including where relevant the impact of the COVID-19 pandemic and Brexit, the requirements of the applicable financial reporting framework and the system of internal control. We evaluated the directors' assessment of the Company's ability to continue as a going concern, including challenging the underlying data and key assumptions used to make the assessment, and evaluated the directors' plans for future actions in relation to their going concern assessment.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Company's ability to continue as a going concern for a period of at least twelve months from the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

## Our approach to the audit

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) we identified, including those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risk identified by our audit.

#### Carrying value of intangible assets

A key balance on the statement of financial position is intangible fixed assets of £43,519,582 (2019: £16,514) at 31 December 2020 as detailed in Note 9.

During the year the Company acquired and hived up Waste2Tricity Limited. This transaction was a share for share exchange and qualified for merger relief as described further in Note 1.1. The treatment of the merger reserve resulted in a large goodwill and intangible asset increase as is described in Note 9 and of the assets acquired as is mentioned in Note 11.

At the year end the Company obtained a third party opinion of the Goodwill value that was accounted for as a result of the hive up of the Waste2Tricity Limited acquisition. The report of the third party valuer concluded that an impairment of  $\mathfrak{L}14,192,699$  was necessary leaving a residual value for goodwill at 31 December 2020 of  $\mathfrak{L}42,960,000$ .

This goodwill impairment has been accounted for in the statement of comprehensive income for the year.

As part of the goodwill review exercised performed by the third party valuer, consideration was made for intangible assets acquired on acquisition, the only intangible that was deemed acquired through the acquisition of Waste2Tricity Limited were exclusivity rights of £500,000.

#### Our audit procedures:

We reviewed and reperformed the calculations for the hive up of Waste2Tricity Limited and the resulting goodwill and merger relief reserve. We confirmed the inputs used in the calculations.

We were involved with the Company in providing the third party valuer the scope of the work to be performed for the goodwill valuation and identification of intangible assets at the year end. We attended meetings with the valuer at various stages of the report writing and reviewed and checked the workings and the inputs used in their model. We checked the assumptions used and corroborated the information to our understanding of the business and information that was provided by the management of the Company.

We discussed the model and its assumptions internally to determine whether the valuation model and assumptions used were appropriate.

Overall we were satisfied that the Company remained independent of the valuation process. The valuers' model was based on a discounted cash flow and their assumptions are reflected in Note 9. Valuations based on this methodology were both compliant with IFRS and the International Private Equity and Venture Capital Valuation (IPEV) guidelines. The assumptions and workings in the goodwill model are UK specific and not dependent on any other potential source of activity or income outside the UK. The valuation report acknowledged that the development of revenues from international (non UK) sources were not sufficiently developed to be included within his valuation model at the year end, but may have an impact following delivery of the first project at Protos. We corroborated the discount rates to check if they We also checked the income were applicable. streams and the number of expected projects based on a probability matrix which we challenged and the outcome of which is very much dependent on the roll out of UK sites over the next 5 years.

#### Correct calculation of share-based payments

The share-based payment charge recognised in profit or loss for the year is £40,634 (2019: 693,142).

All share-based payments are equity-settled and are made up of share issues, share option issues and share warrant issues.

These share based payments have been reviewed for the purpose of calculating an appropriate share based payment charge. The fair value of services was used to value share-based payments where the fair value of services may be directly calculated. Where the fair value of services may not be directly calculated, the Black-Scholes model was used.

The vesting period of share options and warrants are fixed.

#### Our audit procedures:

We have understood and assessed the methodology utilised to estimate the Company's share-based payment charge calculations and checked that the calculation of the provision was mathematically accurate.

## Exemption from preparing consolidated financial statements

The Company has claimed exemptions applicable to it under Companies Act section 405 (2) and 405 (3b) and IFRS 10 to not present any Consolidated financial statements for the year ended 31 December 2020. This is on the basis that the Company's only UK subsidiary is non-trading and not material and there being long-term restrictions on the operations of the Company's subsidiaries in the US and Switzerland.

## Our audit procedures:

We have reviewed and discussed with the Directors applicable legislation and accounting standard and assessed that based on the Directors' explanation, the Company satisfies the conditions under Companies Act section 405 (2) and 405 (3b) and IFRS 10 to not present any Consolidated financial statements for the year.

We also verified via third party sources that these conditions were in effect during and as at the year end.

## Our application of materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined a materiality of £470,000 (2019: £12,000) for the review of the goodwill and its impairment. In respect of other balances, we considered that a level of £80,000 (2019: £12,000) was more appropriate for our review. A benchmark of 1% of gross assets of the company was used to calculate the materiality when reviewing goodwill and its impairment whilst a benchmark of 5% of net losses (excluding goodwill impairment) was used for other areas (2019: 2.5% of gross assets for all areas). We believe that gross assets and net losses are primary measures used by the shareholders in assessing the performance of the company, and are generally accepted auditing benchmarks.

We agreed with management that we would report to them misstatements identified during our audit above £4,000 (2019: £650) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

## An overview of the scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we looked at where the Directors made subjective judgments, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits we also addressed the risk of management override of internal controls, including evaluating whether there was evidence of bias by the Directors that represented a risk of material misstatement due to fraud.

## How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the Company, the accounting processes and controls, and the industry in which they operate.

We performed an audit of the financial information of Powerhouse Energy Group PLC. Our engagement team performed all audit procedures.

#### Other information

The other information comprises the information included in the annual report other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

#### Opinions on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the Directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the Directors' report have been prepared in accordance with applicable legal requirements.

## Matters on which we are required to report by exception

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the Directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the company, or returns adequate for our audit
  have not been received from branches not visited by us; or
- the company financial statements are not in agreement with the accounting records and returns; or

- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

## **Responsibilities of directors**

As explained more fully in the Directors' responsibilities statement set out on page 53, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

## Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud.

Our approach to identifying and assessing the risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, was as follows:

- the senior statutory auditor ensured the engagement team collectively had the appropriate competence, capabilities and skills to identify or recognise non-compliance with applicable laws and regulations;
- We focused on specific laws and regulations which we considered may have a direct material effect on the financial statements or the operations of the company;
- we assessed the extent of compliance with the laws and regulations identified above through making enquiries of management and inspecting legal correspondence; and
- identified laws and regulations were communicated within the audit team regularly and the team remained alert to instances of non-compliance throughout the audit.

We assessed the susceptibility of the company's financial statements to material misstatement, including obtaining an understanding of how fraud might occur, by:

- making enquiries of management as to where they considered there was susceptibility to fraud, their knowledge of actual, suspected and alleged fraud;
- considering the internal controls in place to mitigate risks of fraud and non-compliance with laws and regulations.

To address the risk of fraud through management bias and override of controls, we:

- performed analytical procedures to identify any unusual or unexpected relationships;
- tested journal entries to identify unusual transactions;
- assessed whether judgements and assumptions made in determining the accounting estimates set out in Note 1.2 of the Company financial statements were indicative of potential bias; and,
- investigated the rationale behind significant or unusual transactions.

In response to the risk of irregularities and non-compliance with laws and regulations, we designed procedures which included, but were not limited to:

- agreeing financial statement disclosures to underlying supporting documentation;
- reading the minutes of meetings of those charged with governance;
- enquiring of management as to actual and potential litigation and claims; and,
- reviewing correspondence from local authorities and the company's legal advisor.

There are inherent limitations in our audit procedures described above. The more removed that laws and regulations are from financial transactions, the less likely it is that we would become aware of non-compliance. Auditing standards also limit the audit procedures required to identify non-compliance with laws and regulations to enquiry of the directors and other management and the inspection of regulatory and legal correspondence, if any.

Material misstatements that arise due to fraud can be harder to detect than those that arise from error as they may involve deliberate concealment or collusion.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

#### Other matters which we are required to address

We were reappointed as auditors by the company at the Annual General Meeting on 30 September 2020 to audit the financial statements for the period ending 31 December 2020. Our total uninterrupted period of engagement is 4 years, covering the periods ending 31 December 2017 to 31 December 2020.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the company and we remain independent of the company in conducting our audit.

In addition to the audit, the firm provides tax compliance services to Powerhouse Energy Group Plc.

Our audit opinion is consistent with the additional report to the audit committee.

## Use of this report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.



Mark Tenzer (Senior Statutory Auditor)
For and on behalf of Jeffreys Henry LLP

**Chartered Accountants Statutory Auditor** 

Finsgate 5-7 Cranwood Street London EC1V 9EE 29 June 2021

## STATEMENT OF COMPREHENSIVE INCOME For The Year Ended 31 December 2020

	Note	31 December 2020 £	31 December 2019 £
Revenue	2	100,000	-
Cost of sales		(99,868)	-
Gross Profit	-	132	-
Administrative expenses Acquisition costs Goodwill impairment	4 5	(1,477,415) (303,224) (14,192,699)	(1,705,184) - -
Operating loss	<del>-</del>	(15,973.206)	(1,705,184)
Net finance costs	6	(3,032)	(750)
Loss before taxation	-	(15,976,238)	(1,705,934)
Income tax credit	7	138,497	195,708
Total comprehensive loss		(15,837,741)	(1,510,226)
Loss per share (pence)	8	(0.57)	(0.08)
Diluted loss per share (pence)	8	(0.57)	not applicable

All activities are in respect of continuing operations and there are no other items of comprehensive income.

The notes numbered 1 to 28 are an integral part of the financial information.

# **STATEMENT OF FINANCIAL POSITION**As At 31 December 2020

	Note	2020 £	2019 £
ASSETS		L	L
Non-current assets			
Intangible fixed assets	9	43,519,582	16,514
Tangible fixed assets	10	53,020	229
Investments in subsidiary undertakings	11	2	1
Investments in associated undertakings	11	49	-
Total non-current assets		43,572,653	16,744
Current Assets			
Contract costs	12	14,550	114,418
Trade and other receivables	13	200,310	46,244
Corporation tax recoverable	7	138,497	195,708
Cash and cash equivalents	14	3,464,475	103,580
Total current assets		3,817,832	459,950
Total assets		47,390,485	476,694
LIABILITIES			
Current liabilities			
Creditors: amounts falling due within one year	15	(509,194)	(489,676)
Total current liabilities		(509,194)	(489,676)
Total assets less current liabilities		46,881,291	(12,982)
Creditors: amounts falling due after more than one year	16	(23,455)	<u>-</u>
Net assets/(liabilities)		46,857,836	(12,982)
EQUITY			
Share capital	19	21,689,288	12,922,727
Share premium	20	52,594,934	48,778,651
Merger relief reserve	20	36,117,711	-
Accumulated deficit	21	(63,544,097)	(61,714,360)
Total surplus/(deficit)		46,857,836	(12,982)
		·	

The financial statements of Powerhouse Energy Group Plc, Company number 03934451, were approved by the Board of Directors and authorised for issue on 29 June 2021 and signed on its behalf by:

David Ryan Director

The notes numbered 1 to 28 are an integral part of the financial information.

## **STATEMENT OF CASHFLOWS**

## For The Year Ended 31 December 2020

	Note	2020 £	2019 £
Cash flows from operating activities Operating Loss		(15,973,206)	(1,705,184)
Adjustments for: Share based payments Amortisation		40,634 2,170	693,142
Depreciation Goodwill impairment		2,311 14,192,699	1,450 -
Changes in working capital: Decrease/(Increase) in contract costs Decrease/(Increase) in trade and other receivables Increase/(Decrease) in trade and other payables Tax credits received		99,868 (143,504) (171,998) 195,708	(114,418) 17,752 242,614 144,796
Net cash used in operations		(1,755,318)	(719,848)
Cash flows from investing activities			
Purchase and hive up of subsidiary Purchase of intangible fixed assets Purchase of tangible fixed assets	11 9 10	1,934 (45,238) (5,852)	(16,514) -
Net cash flows from investing activities		(49,156)	(16,514)
Cash flows from financing activities Proceeds from issue of shares Payments of principal under leases Net finance costs	18.3 6	5,170,314 (1,913) (3,032)	- - (750)
Net cash flows from financing activities		5,165,369	(750)
Net increase/(decrease) in cash and cash equivalents		3,360,895	(737,112)
Cash and cash equivalents at beginning of year		103,580	840,692
Cash and cash equivalents at end of year		3,464,475	103,580

The notes numbered 1 to 28 are an integral part of the financial information.

## STATEMENT OF CHANGES IN EQUITY

## For The Year Ended 31 December 2020

•	Ordinary share capital £	Deferred shares £	Share premium £	Merger relief reserve £	Accumulated deficit	Total £
Balance at 1 January 2019	9,282,158	3,113,785	48,773,510	-	(60,365,351)	804,102
Transactions with equity parties:						
- Share issue in lieu of services	526,784	-	5,141	-	-	531,925
Share based payments	-	-	-	-	161,217	161,217
Total comprehensive loss	-	-	-	-	(1,510,226)	(1,510,226)
Balance at 31 December 2019	9,808,942	3,113,785	48,778,651	-	(61,714,360)	(12,982)
Transactions with equity parties:						
- Share issues in lieu of services	261,141	-	9,757	-	-	270,898
- Share issues on exercise warrants	318,219	-	38,963	-	-	357,182
- Share issues to acquire W2T	7,187,201	-	-	50,310,410	-	57,497,611
- Share issues in year	1,000,000	-	4,000,000	-	-	5,000,000
Share based payments	-	-	-	-	(184,695)	(184,695)
Share issue costs	-	-	(232,437)	-	-	(232,437)
Reserve transfer - goodwill impairment	-	-	-	(14,192,699)	14,192,699	-
Total comprehensive loss	_		_		(15,837,741)	(15,837,741)
Balance at 31 December 2020	18,575,503	3,113,785	52,594,934	36,117,711	(63,544,097)	46,857,836

The following describes the nature and purpose of each reserve within equity:

**Deferred shares:** Represents the combined total of all deferred shares (0.5p, 4p and 4.5p)

**Share premium:** Amount subscribed for share capital in excess of nominal value

Merger relief reserve: Amount subscribed for share capital in excess of nominal value where merger relief applies (Note 1.1)

**Accumulated deficit:** Accumulated deficit represents the cumulative losses of the company and all other net gains and losses and transactions with shareholders not recognised elsewhere

The notes 1 to 28 are an integral part of the financial information.

## **NOTES TO THE ACCOUNTS**

#### For The Year Ended 31 December 2020

#### 1. ACCOUNTING POLICIES

Powerhouse Energy Group PLC is a Company incorporated in England and Wales. The Company is a public limited company quoted on the AIM market of the London Stock Exchange. The address of the registered office is 15 Victoria Mews, Mill Field Road, Cottingley Business Park, Bingley BD16 1PY. The principal activity of the Company is to continue the development of the newly developed PHE G3-UHt Waste-to-Energy System in order to achieve its full commercial roll-out. The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the financial information.

#### 1.1. Basis of preparation

This financial information is for the year ended 31 December 2020 and has been prepared in accordance with International Financial Reporting Standards ("IFRS") adopted for use by the European Union and the Companies Act 2006. These accounting policies and methods of computation are consistent with the prior year, unless otherwise stated.

The Company's only UK subsidiaries are non-trading and not material. There are also long-term restrictions on the operations of the Company's subsidiaries in the US and Switzerland. With these restrictions in place, the Company is also unable to exert control over the subsidiaries. As such the Company has claimed exemptions applicable to it under Companies Act section 405 (2) and 405 (3b) and IFRS 10 to not present any Consolidated financial statements for the year ended 31 December 2020. Investments in subsidiaries that are not consolidated are carried at cost less any provision for impairment.

The acquisition of Waste2Tricity Limited during the year was transacted by way of a share for share exchange and qualifies for merger relief, meaning that no share premium is recorded on the issue of the consideration shares. The excess of the fair value of consideration shares over their nominal value has been recorded in a merger relief reserve.

Associates are entities which the Company has significant influence but not control or joint control as defined under IAS 28. This is generally the case where the Company holds between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method of accounting after initially being recognised at cost less any fair value adjustment.

Under the equity method of accounting, investments are initially recognised at cost and adjusted thereafter to recognise the Company's share of the post-acquisition profits or losses of the investee in the Income statement. Dividends received or receivable from associates and joint ventures are recognised as a reduction in the carrying value of the investment.

When the Company's share of losses in an equity-accounted investment exceeds or equals its interest in the equity, the Company does not recognise further losses, unless it has incurred obligations or made payments on behalf of the other entity. Unrealised gains on transactions between the Company and its associates and joint ventures are eliminated to the extent of the Company's interest in these entities. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment in the asset transferred.

Accounting policies of the equity accounted investees are changed where necessary to ensure consistency with the policies adopted by the Company. The carrying value of equity accounted investments is tested for impairment in accordance with the policy described in Note 1.18 (i).

The Company has one associate, W2T International (Thailand) Limited, acquired as part of the acquisition of Waste2Tricity Limited. The entity is in the process of being closed down and as such the investment has been held at cost (£49) until closure has been confirmed.

#### 1.2. Judgements and estimates

The preparation of financial statements in conformity with IFRS requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts in the financial statements.

Areas involving a higher degree of judgements or complexity, or areas where assumptions or estimates are significant to the financial statements such as the exercise to assess the fair value of goodwill, share based payments (share options and warrants) and going concern are disclosed within the relevant notes.

#### 1.3. Going concern

The financial statements have been prepared on a going concern basis. The Company has a total comprehensive loss of £15.84m, which excluding the impairment of goodwill arising on the Waste2Tricity Limited acquisition would amount to £1.65m (2019: £1.51m) and net operating cash outflows of £1.76m (2019: 0.72m). However, the Directors believe the going concern basis to be appropriate for the following reasons.

As at the balance sheet date, the Company has available cash of £3.46m (2019: £0.1m) and since the end of the financial year has raised a further £10m in proceeds before issue costs via a fund raise. These funds are considered by the Directors to be sufficient to enable the Company to continue in operational existence for the foreseeable future by meeting its liabilities as they fall due for payment.

The Directors views are based upon working capital projections which take into account the intended uses of the funds in hand over the next 12 months.

In the event that the Protos project did not proceed then the Company would need to consider alternative ways to commercialise the DMG technology, including the potential introduction of third party developers. However, the Directors do not see that this would impact the going concern basis on which these accounts are drawn up.

The Directors have assessed the effects on the business arising from Covid-19 and from Brexit in respect of potential tariff charges and do not consider these to impact the going concern basis on which these accounts are drawn up.

#### 1.4. Foreign currency translation

The financial information is presented in sterling which is the Company's functional currency.

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are revalued to the exchange rate at date of settlement or at reporting dates (as appropriate). Exchange gains and losses resulting from such revaluations are recognised in the Statement of Comprehensive Income.

Foreign exchange gains and losses are presented in the Statement of Comprehensive Income within administrative expenses.

#### 1.5. Revenue

The Company provides engineering services for the application of the DMG Technology, the intellectual property which the Company owns. Revenue from providing services is recognised in the accounting period in which services are rendered. For fixed-price contracts, revenue is recognised based on the actual service provided to the end of the reporting period as a proportion of the total services to be provided to the extent to which the customer receives the benefits. This is determined based on the actual labour hours spent relative to the total expected labour hours.

Where contracts include multiple performance obligations as specified by the work scope, the transaction price will be allocated to each performance obligation based on estimated expected cost plus margin.

Estimates of revenues, costs or extent of progress toward completion of services are revised if circumstances change. Any resulting increases or decreases in estimated revenues or costs are reflected in profit or loss in the period in which the circumstances that give rise to the revision become known by management.

In case of fixed-price contracts, the customer pays the fixed amount based on a payment schedule. If the services rendered by the Company exceed the payment, a contract asset is recognised. If the payments exceed the services rendered, a contract liability is recognised.

If a contract includes an hourly fee, revenue is recognised in the amount to which the Company has a right to invoice.

#### 1.6. Leases

For any new contracts entered into, the Company considers whether a contract is, or contains, a lease. A lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset for a period of time in exchange for consideration'. To apply this definition the Company assesses whether the contract meets three key evaluations which are whether:

the contract contains an identified asset which is either explicitly defined in the contract or implicitly specified by being identified at the time the asset is made available to the Company;

the Company has the right to obtain substantially all of the economic benefits from use of the asset throughout the period of use, considering its rights within the defined scope of the contract;

the Company has the right to direct the use of the identified asset throughout the period of use.

Where the above evaluations are met, at lease commencement date, the Company recognizes a right of use asset and a lease liability on the balance sheet. The right of use asset is measured at cost, which is made up of the measurement of the initial lease liability, any direct initial costs incurred by the Company, an estimate of any costs to dismantle and remove the asset at the end of the lease, and any lease payments made in advance of the lease commencement date.

The Company depreciates the right is use assets on a straight line basis from the lease commencement date to the earlier of the end of the useful life of the right of use asset or the end of the lease term. The Company assesses the right of use asset for impairment when such indicators exist.

At the commencement date the Company measured the lease liability at the present value of the lease payments unpaid at that date, discounted using the interest rate implicit in the lease if that rate is readily available or the Company's incremental borrowing rate. For the assessment of the new lease entered into in 2020 the Company applied a rate of 7.5%.

Subsequent to initial measurement the liability will be reduced for payments and increased for interest. It is remeasured to reflect any reassessment or modification or is there are any changes to the repayment schedule.

On adoption of IFRS 16 in the year ended 31 December 2019, the Company applied transition relief exempting short term and low value leases as a practical expedient. The Company accounted for its one short term lease held at the time by recognising an expense for rentals payable on a straight line basis over the lease term.

#### 1.7. Finance expenses

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

#### 1.8. Income tax expense

The tax expense for the period comprises current and deferred tax.

UK corporation tax is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is recognised in respect of all temporary differences that have originated but not reversed at the balance sheet date where transactions or events that result in an obligation to pay more tax in the future or a right to pay less tax in the future have occurred at the balance sheet date. Temporary differences are differences

between the Company's taxable profits and its results as stated in the financial statements that arise from the inclusion of gains and losses in tax assessments in periods different from those in which they are recognised in the financial statements.

A net deferred tax asset is regarded as recoverable and therefore recognised only to the extent that, on the basis of all available evidence, it can be regarded as more likely than not that there will be suitable taxable profits from which the future reversal of the underlying temporary differences can be deducted.

Deferred tax is measured at the average tax rates that are expected to apply in the periods in which the temporary differences are expected to reverse, based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date. Deferred tax is measured on a non-discounted basis.

#### 1.9. Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation. Cost represents the cost of acquisition or construction, including the direct cost of financing the acquisition or construction until the asset comes into use.

Depreciation on property, plant and equipment is provided to allocate the cost less the residual value by equal instalments over their estimated useful economic lives of 3 years, once the asset is complete.

The expected useful lives and residual values of property, plant and equipment are reviewed on an annual basis and, if necessary, changes in useful life or residual value are accounted for prospectively.

#### 1.10. Intangible assets

Goodwill represents the future economic benefits arising from a business combination that are not individually identified and separately recognised. Goodwill is carried at cost less accumulated impairment losses. Refer to note 1.18 for impairment testing procedures. Goodwill impairment losses are not reversible as explained in note 1.18 (ii).

Exclusivity rights acquired in a business combination that qualify for separate recognition are recognised as intangible assets at their fair value and subsequently assessed for impairment loss.

Costs associated with patent applications are capitalised in the year of spend and amortised over their estimated useful lives of 20 years on a straight line basis commencing from the date of patent application. Any cost associated with the upkeep of a patent is amortised over the remaining useful life of that patent.

An internally generated intangible asset arising from development is only recognised where all of the following have been demonstrated: (i) the technical feasibility of completing the asset; (ii) the intention to complete the asset and the ability to use or sell it; (iii) the availability of resources to complete the asset; and (iv) the ability to reliably measure the cost attributable to the asset during its development.

In all other instances research and development expenditure is recognised as an expense as incurred. Development costs previously recognised as an expense are not recognised as an asset in a subsequent period.

#### 1.11. Other non-current assets

Other non-current assets represent investments in subsidiaries. The investments are carried at cost less accumulated impairment. Cost was determined using the fair value of shares issued to acquire the investment.

#### Financial assets

The Company classifies financial assets as loans and receivables within current assets, except for maturities greater than 12 months after the balance sheet date. These are classified as noncurrent assets. Assets are initially recognised at fair value plus transaction costs. Loans and receivables are subsequently carried at amortised cost using the effective interest rate method.

#### 1.12. Contract costs

The Company recognises costs incurred in fulfilling contracts with customers that are directly associated with the contract as an asset if those costs are expected to be recoverable. Contract costs are amortised on a basis consistent with the transfer of goods and services to which the asset relates.

#### 1.13. Trade and other receivables

Trade receivables are initially recognised at fair value. Subsequently they are carried at amortised cost less any provision for impairment.

#### 1.14. Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits and are recognised and subsequently carried at fair value. For the purpose of presentation in the statement of cashflows, cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, other short term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities in the balance sheet.

#### 1.15. Trade and other payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade and other payables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method.

#### 1.16. Financial liabilities

Loans are financial obligations arising from funding received and used to support the operational costs of the Company. These are initially recognised at fair value. Loans are subsequently carried at amortised cost using the effective interest method.

## 1.17. Adoption of new and revised standards

(i) New and amended standards adopted by the Company

New and amended standards for the current period and effective from 1 January 2020 have been applied by the Company, including:

Definition of Material (Amendments to IAS 1 and IAS 8)
Definition of a Business (Amendments to IFRS 3)
Interest Rate Benchmark Reform (Amendments to IFRS 9, IAS 39 and IFRS 7)
Revised Conceptual Framework for Financial Reporting

There are no transition adjustments relating to the adoption of these standards.

#### (ii) Standards issued but not yet effective

Certain new accounting standards and interpretations have been published that are not mandatory for 31 December 2020 reporting periods and have not been adopted early by the Company. These standards are not expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

#### 1.18. Impairment

#### (i) Impairment review

At each balance sheet date, the carrying amounts of assets are reviewed to determine whether there is any indication that those assets have suffered an impairment loss. An impairment loss is recognised whenever the carrying amount of an asset or its cash generating unit exceeds its recoverable amount. Impairment losses recognised in respect of cash generating units are allocated first to reduce the carrying amount of any goodwill allocated to cash generating units and then to reduce the carrying amount of the other assets in the unit on a prorata basis. A cash generating unit is the group of assets identified on acquisition that generate cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The recoverable amount of assets or cash generating units is the greater of their fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate largely independent cash inflows, the recoverable amount is determined for the cash generating unit to which the asset belongs.

#### (ii) Reversals of impairments

An impairment loss in respect of goodwill is not reversed. In respect of other assets, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount.

An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

#### 1.19. Share based payments

Share based payments are made to employees and third parties and all are equity settled.

#### (i) Third party provision of services

#### a) Via issue of shares

Contractors receive remuneration in the form of share-based payments, whereby services are provided and settled by the issue of shares. The cost of equity settled transactions is determined at the fair value of the services provided, based upon invoiced amounts or formal agreements in place with suppliers.

#### b) Via issues of share warrants

The Company also issues share warrants to third parties in relation to services provided by suppliers. The cost of equity settled transactions is determined at the fair value of the services provided, based upon invoiced amounts or formal agreements in place with suppliers. Where no fair value of services can be directly obtained, the fair value at the grant date is determined using the Black and Scholes valuation model. At each reporting date the Company revises its estimates of the number of options that are likely to be exercised with any adjustment recognised in the income statement.

#### (ii) Directors and employees

#### c) Via issues of share options

The Company has issued share options to Directors and employees through approved and unapproved option plans. The fair value of options issued is determined at the date of grant and is recognised as an expense in the Income Statement. The fair value at the grant date is determined using the Black and Scholes valuation model. At each reporting date the Company revises its estimates of the number of options that are likely to be exercised with any adjustment recognised in the income statement.

Where share-based payments give rise to the issue of new share capital, the proceeds received by the Company are credited to share capital and share premium when the share entitlements are exercised.

## 1.20. Employee benefits

Liabilities for wages and salaries, including non-monetary benefits, annual leave and accumulating sick leave that are expected to be settled wholly within 12 months after the end of the period in which the employees render the related service are recognised in respect of employees' services up to the end of the reporting period and are measured at the amounts expected to be paid when the liabilities are settled. The liabilities are included within creditors in the balance sheet.

For defined contribution pension plans, the company pays contributions to publicly or private administered pension insurance plans on a mandatory, contractual or voluntary basis. The Company has no further payment obligations once the contributions have been paid. The contributions are recognised as employee benefit expense when they are due. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

The Company does not contribute to any defined benefit pension plans.

#### 1.21. Segmental reporting

An operating segment is a component of the Company:

- that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the Company);
- whose operating results are reviewed regularly by the Company's chief decision maker to make decisions about resources to be allocated to the segment and assess its performance; and

• for which discrete financial information is available.

The Company considers it has one business segment, being a UK based development company intending to license its technology to projects in the UK and internationally.

#### 2. Revenue

	2020 £	2019 £
Revenue	100,000	<u> </u>
	100,000	-

During the year, the Company billed for engineering work carried out on projects. All of the revenue generated has arisen in the UK.

#### 3. Staff costs

	2020 £	2019 £
Directors' fees	332,746	313,500
Wages and salaries	11,473	-
Social security costs	35,659	40,365
Pensions	17,000	12,750
	396,878	366,615
The number of average monthly employees (including Directors) are as follows:		
	2020	2019
Management	6	4
Operations		<u> </u>
Total	6	4

The total number of employees as at 31 December 2020 (including Directors) was 11 (2019: 4) comprising 8 in management and 3 in operations (2019: 4 in management). All Directors are classed as management.

## 4. Administrative expenses

Included in administrative expenses are:	2020 £	2019 £
Lease charges	14,250	17,480
Research and development costs	407,071	419,333
Amortisation	2,170	-
Depreciation	259	1,450
Depreciation – right of use asset	2,052	-
Share based payments	40,634	693,142
Auditor's remuneration for audit services:		
Fees payable to the Company's auditor for the audit of the Company's		
annual financial statements	20,000	20,000
Fees payable to the Company's auditor and their associates for other		
services:	1,000	1,000
Non-audit fees paid to auditors	,	,
Taxation advisory and compliance services	13,850	19.571
Other services	5,000	-

There are no other fees paid to the Company's auditor other than those disclosed above.

## 5. Goodwill impairment

	2020 £	2019 £
Goodwill impairment	14,192,699	
	14,192,699	-

Goodwill of  $\mathfrak{L}57,152,699$  was recognised on the acquisition and hive up of Waste2Tricity Limited as detailed in note 11. The impairment of goodwill arose as a result of an independent fair value assessment commissioned by the Directors on the carrying value at the balance sheet date and as explained in note 9.

#### 6. Net finance costs

	2020 £	2019 £
Bank and other interest payable Interest receivable	3,115 	945 (195)
	3,032	750

#### 7. Income tax and deferred tax

As the Company incurred a loss, no current tax is payable (2019: £nil). In addition, as there is no certainty about future profits from which accumulated tax losses could be utilised, accordingly no deferred tax asset has been recognised. The Company has submitted a claim for research and development tax credits relating to the 2020 tax year and amounting to £138,497 (2019: £195,708) which has been recognised in the accounts. Accumulated tax losses amount to an estimated £12.9 million (2019: £11 million) and reflect tax losses submitted in tax returns and arising during the period less any relief taken for research and development credits. The tax credit rate is lower (2019: lower) than the standard rate of tax. Differences are explained below.

	2020 £	2019 £
Current tax Loss before taxation	15,976,238	1,705,934
Tax credit at standard UK corporation tax rate of 19% (2019: 19%) Effects of:	3,035,485	324,128
Goodwill impairment not deductible for tax purposes Expenses not deductible for tax purposes Research and development tax credits claimed Deferred tax asset not recognised	(2,696,613) (63,003) 138,497 (275,869)	(7,644) 195,708 (316,484)
Income tax credit	138,497	195,708
8. Loss per share	2020	2019
Total comprehensive loss (£)	(15,837,741)	(1,510,226)
Weighted average number of shares	2,782,088,358	1,900,547,410
Loss per share in pence Diluted loss per share in pence	(0.57) (0.57)	(0.08) not applicable

For the year ended 31 December 2020, 6,900,000 of the options in issue were excluded from the diluted loss per share calculation due to being anti-dilutive.

For the year ended 31 December 2019, the share options and warrants in issue were not considered to have any dilutive effect in accordance with IAS 33.

Shares issued since the year end are disclosed in note 27.

# 9. Intangible fixed assets

Goodwill	Exclusivity rights	Patent costs	Total
£	£	£	£
-	-	- 16 51 /	- 16,514
<u> </u>			16,514
		10,011	10,011
-	-	-	-
-	-	16,514	16,514
_	_	16.514	16,514
57,152,699	500,000	-	57,652,699
-	-	45,238	45,238
57,152,699	500,000	61,752	57,714,451
-	-	0.170	0.170
-	-	2,170	2,170
	-	-	14,192,699
14,192,699	-	2,170	14,194,869
42,960,000	500,000	59,582	43,519,582
	£ 57,152,699 - 57,152,699 - 14,192,699 14,192,699	rights £ £	rights £ £ £ £ £ £

As detailed in note 11, goodwill arose on the acquisition and hive up of Waste2Tricity Limited. It is considered attributable to the Company's DMG technology, which is intended to be licensed on a project by project basis to generate income to the Company over the lifetime of each project.

The recoverable amount of goodwill at the balance sheet date was assessed via independent third party valuation. The valuer took note of the ICAEW Corporate Finance Faculty Best Practice Guideline April 2008 and applied a discounted cashflow approach, supported by the International Private Equity and Venture Capital Guidelines of December 2018.

The key assumptions made by the valuer were:

the expected roll out of the technology over 5 years following the delivery of the Protos project based on probability adjusted scenarios;

that the roll out will not be significantly impacted by competing technologies;

that the Company and roll out developer have the capability to scale up where necessary to deliver the assumed roll out pipeline;

the expected operating life of projects from which the Company will earn licence revenues;

the expected licence fees arising per project based upon agreements with Peel NRE;

the expected cost of services to support annual licence fee income estimated by the Company based upon current draft project agreements;

applying a discount rate to cashflow of 10% assessed by review of market survey reports of discount rates for projects within similar and competing sectors which was considered to provide a reasonable estimate of a weighted average cost of capital for a company benefiting from the assumed roll out.

Changes to the above assumptions would impact the valuation assessment.

The Directors believe that the key sensitivity in the valuation is the probability adjusted roll out scenario assumed by the valuer. The valuer attributed higher probability to the initial project pipeline of 11 projects established with Peel NRE with allowances for increased roll out. The valuer did not consider an international pipeline to be sufficiently developed to justify inclusion in the valuation assessment. The rollout assumptions of the valuer averages out at 16 projects arising over the assessment period. Based upon the valuer's roll out assessments, an incremental project would impact the valuation by c £2.4m.

The Directors have not accounted for the possibility of any onerous obligations arising within the service contracts from which licence fees will be earnt as there is no reason to expect that these will arise at this stage in the business life cycle.

Exclusivity rights arose on the acquisition and hive up of Waste2Tricity Limited. They are subject to an Option Agreement between the Company and Peel NRE. No impairment is considered to have arisen.

# 10. Tangible fixed assets

	Right of use asset Land and buildings	Property, plant and equipment	Total
•	£	£	£
Cost	-	0.000	0.000
At 1 January and 31 December 2019		6,868	6,868
Accumulated depreciation			
At 1 January 2019	-	5,189	5,189
Charge for the year		1,450	1,450
At 31 December 2019		6,639	6,639
Carrying amount			
At 31 December 2019	-	229	229
Cost			
At 1 January 2020	-	6,868	6,868
Additions	49,250	5,852	55,102
At 31 December 2020	49,250	12,720	61,970
Accumulated depreciation			
At 1 January 2020	-	6,639	6,639
Charge for the year	2,052	259	2,311
At 31 December 2020	2,052	6,898	8,950
Carrying amount			
At 31 December 2020	47,198	5,822	53,020

#### 11. Investments

	2020 £	2020 £	2019 £	2019 £
	Subsidiaries	Associates	Subsidiaries	Associates
Cost at 1 January Additions	48,947,155 57,407,611	- 49	48,947,155	-
Goodwill recognised on hive up Distributions	57,497,611 (57,152,699) (344,911)	- -	- - -	- -
Cost at 31 December	48,947,156	49	48,947,155	-
Provision at 1 January Additions Disposals	(48,947,154) -	-	(48,947,154) -	-
Accumulated impairment	(48,947,154)	-	(48,947,154)	
Carrying Value at 31 December	2	49	1	-

Investments relate to costs of investments in subsidiary undertakings, namely in Waste2Tricity Limited, Powerhouse Energy, Inc, Pyromex AG and Powerhouse Energy UK Limited. Waste2Tricity Limited is incorporated in the UK and the Company owns 100 per cent of the common stock and voting rights of the subsidiary. Powerhouse Energy, Inc is incorporated in California in the United States of America and the Company holds 100 per cent of the common stock and voting rights of the subsidiary. Pyromex AG is based in Zug, Switzerland and the Company holds 100 per cent of the shares and voting rights of the subsidiary. Powerhouse Energy UK Limited is a wholly owned UK based dormant company.

The registered address of Waste2Tricity Limited is Finsgate, 5-7 Cranwood Street, London EC1V 9EE.

The registered address of Powerhouse Energy Inc is 145 N Sierra Madre Blvd Pasadena, CA 91107, USA.

The registered address of Pyromex AG is Chollerstrasse 3, CH-6300, Zug, Switzerland.

The registered address of Powerhouse Energy UK Limited is 15 Victoria Mews, Mill Field Road, Cottingley Business Park, Bingley BD16 1PY.

On 15 July 2020, the Company acquired 100 per cent of the share capital of Waste2Tricity Limited after the approval by shareholders at a General Meeting held on 14 July 2020 and the Company issued 1,437,440,277 ordinary shares of 0.5p ("Consideration Shares") to complete the transaction. The fair value of the consideration was assessed using the AIM market value of the Consideration Shares on the date of the transaction completion. The Company has worked closely with Waste2Tricity Limited in the development of applications for the Powerhouse technology and the acquisition brought rights to markets and developments back in-house which facilitated the award to Peel NRE of an Option to enter into an exclusive agreement for the development of DMG Technology in the UK. As detailed in the acquisition circular issued to shareholders on 26 June 2020 in relation to the acquisition, the Company expressed the intention to wind up Waste2Tricity Limited. Subsequent to the completion of the acquisition, the business of Waste2tricity was then hived up into the Company and proceedings to wind up Waste2Tricity Limited were commenced. As a result, Waste2Tricity Limited has not been consolidated in these accounts.

The following amounts of assets and liabilities were recognized at the acquisition date and hived up into the Company:

	Carrying value	Adjustment	Fair value
	£	£	£
Investment in associate	49	-	49
Exclusivity rights	-	500,000	500,000
VAT recoverable	10,562	-	10,562
Cash	1,934	-	1,934
Creditors	(167,633)	-	(167,633)
Cost at acquisition	(155,088)	500,000	344,912
Consideration (shares issued)			57,497,611
Goodwill arising			57,152,699

The completion of the transaction was considered a key step to the delivery of a first project utilising the Company's DMG technology from which licensing revenues will arise, and the precursor to a wider roll out of similar projects both in the UK and internationally. Peel NRE have identified the opportunity for in excess of 70 facilities based upon waste arisings in the UK alone. The Company considers it has one business segment, being the licensing of its technology to projects in the UK and internationally, and as such the goodwill is allocated to this segment. It is not expected to be deductible for tax purposes.

The Company incurred advisory costs associated with the acquisition which have been expensed in the year.

There is no profit or loss attributable to Waste2Tricity Limited since the acquisition due to its hive up into the Company. If Waste2Tricity Limited had been included in Consolidated accounts prepared by the Company, its full year result would have reflected a profit of £446,000.

The investment in associated undertakings relates to Waste2Tricity International (Thailand) Limited, the shares of which were transferred to the Company after the acquisition of Waste2Tricity Limited was completed. The investment in the associate is held at cost and is not considered material to the Company. The entity is in the process of being closed.

# 12. Contract costs

	2020 £	2019 £
Contract costs	14,550	114,418
	14,550	114,418

Contract costs assets relate to costs arising on engineering contracts where the company has not yet completed performance obligations which are typically met by the submission of reports, the transfer of data or on longer contracts via the completion of milestones in accordance with the relevant contract.

Revenue is expected to be recognised and be settled in full in relation to the contact costs assets during the next 12 months.

2019

2020

#### 13. Trade and other receivables

	£	£
Other receivables	158,126	23,410
Prepayments and accrued income	42,184	22,834
	200,310	46,244

	2020	2019
	£	2013
Cash balances	3,464,475	103,580
	3,464,475	103,580
5. Trade and other payables: amounts falling due within one year	0000	0010
	2020 £	2019 £
Trade payables	121,152	98,660
Lease liability Other creditors and accruals	23,881 334,609	- 391,016
Other taxes	29,552	-
	509,194	489,676
	2020 £	2019 £
	~	L
Lease liability	23,455	- -
Lease liability		-
Lease liability  7. Financial assets and financial liabilities	23,455	-
	23,455 23,455 2020	2019
7. Financial assets and financial liabilities  Financial assets  Financial assets at amortised cost:	23,455 23,455	-
7. Financial assets and financial liabilities Financial assets	23,455 23,455 2020	2019
7. Financial assets and financial liabilities Financial assets Financial assets at amortised cost: - Other financial assets at amortised cost	23,455 23,455 2020 £	2019 £ 103,580
7. Financial assets and financial liabilities Financial assets Financial assets at amortised cost: - Other financial assets at amortised cost	23,455 23,455 2020 £ 3,464,475	2019 £ 103,580
7. Financial assets and financial liabilities  Financial assets  Financial assets at amortised cost:  - Other financial assets at amortised cost  - Cash and cash equivalents  Financial liabilities  Liabilities at amortised cost	23,455 23,455 2020 £ 3,464,475 3,464,475 2020 £	2019 £ 103,580 103,580 2019 £
7. Financial assets and financial liabilities  Financial assets  Financial assets at amortised cost:  - Other financial assets at amortised cost  - Cash and cash equivalents  Financial liabilities  Liabilities at amortised cost  - Trade payables  - Other creditors	23,455 23,455  2020 £ 3,464,475 3,464,475 2020 £ 121,152 334,609	2019 £ 103,580 103,580
7. Financial assets and financial liabilities  Financial assets  Financial assets at amortised cost:  - Other financial assets at amortised cost  - Cash and cash equivalents  Financial liabilities  Liabilities at amortised cost  - Trade payables	23,455 23,455  2020 £ 3,464,475 3,464,475 2020 £ 121,152	2019 £ 103,580 103,580 2019 £ 98,660

# 18. Leases

The Company has leased offices at the location of its research facility with the lease reflected in the accounts as a right of use asset and a lease liability. Payments are fixed and at the balance sheet date the lease has a further 2 years left to run. Information about leases for which the Company is a lessee is presented below:

# 18.1 Amounts recognised in the balance sheet

Right of use assets relate to leased properties that do not meet the definition of investment property and are presented within tangible fixed assets per Note 10.

	2020 £	2019 £
Right of use assets		
Balance at 1 January Additions to right of use assets	- 49,250	-
Depreciation charge for the year	(2,052)	<u> </u>
Balance at 31 December	47,198	-
•		
Futura minimum rantala navabla ara aa fallawa	2020 £	2019 £
Future minimum rentals payable are as follows: Amounts payable:	L	L
Within one year	26,520	-
Later than one year and not later than five years  Total gross payments	24,310 50,830	
Impact of finance expenses	(3,494)	-
Carrying value of liability	47,336	-
•		
18.2 Amounts recognised in income statement		
	2020 £	2019 £
	L	L
Depreciation charge	2,052	-
Interest on lease liabilities Expenses relating to short term leases	296 14,250	- 17,480
	16,598	17,480
•	,	
18.3 Amounts recognised in statement of cashflows		
-	2020	2019
	£	£
Interest on lease liabilities	296	-
Repayment of lease principal	1,913	-
Expenses relating to short term leases	14,250	17,480
Total cash outflow for leases	16,459	17,480
18.4 Future minimum rentals payable under non-cancellable short term lease	es are as follows:	
and the same and t	2020	2019
Amounts payable:	£	£
Within one year	-	1,429
		· 
<u>-</u>	-	1,429

# 19. Share capital

# (i) Number of shares

	0.5 p Ordinary shares	0.5 p Deferred shares	4.5 p Deferred shares	4.0 p Deferred shares
Shares at 1 January 2019	1,856,431,621	388,496,747	17,373,523	9,737,353
Issue of shares	105,356,804	-	-	-
Shares at 31 December 2019	1,961,788,425	388,496,747	17,373,523	9,737,353
Issue of shares	1,753,312,268	-	-	-
Shares at 31 December 2020	3,715,100,693	388,496,747	17,373,523	9,737,353

#### (ii) Value in £

	0.5 p Ordinary 0. shares	5 p Deferred 4.5 shares	5 p Deferred 4. shares	0 p Deferred shares	Share Capital
	£	£	£	£	£
At 1 January 2019	9,282,158	1,942,483	781,808	389,494	12,395,943
Issue of shares	526,784	-	-		526,784
At 31 December 2019	9,808,942	1,942,483	781,808	389,494	12,922,727
Issue of shares	8,766,561	-	-	-	8,766,561
At 31 December 2020	18,575,503	1,942,483	781,808	389,494	21,689,288

All ordinary shares of the Company rank pari-passu in all respects.

The deferred shares do not carry any voting rights or any entitlement to attend general meetings of the Company. They carry only a right to participate in any return of capital once an amount of  $\mathfrak{L}100$  has been paid in respect of each ordinary share.

On 1 April 2019 the Company issued 23,023,750, 4,306,802 and 1,808,333 ordinary shares of 0.5p each at prices of 0.5p, 0.5015p and 0.6p each respectively in settlement of services provided.

On 15 July 2019 the Company issued 35,215,000 and 3,266,667 ordinary shares of 0.5p each at prices of 0.5p and 0.6p each respectively in settlement of services provided.

On 21 November 2019 the Company issued 37,736,252 ordinary shares of 0.5p each at a price of 0.5p each in settlement of services provided.

On 29 January 2020, the Company issued 52,228,139 ordinary shares of 0.5p each in the Company ("Ordinary Shares") to various service providers for the settlement of fees. Of these new Ordinary Shares, 47,732,518 were issued at 0.5p and 4,495,621 were issued at 0.717p in accordance with terms agreed.

On 29 January 2020, the Company issued 5,500,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £27,500.

On 28 February 2020, the Company issued 25,440,350 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £127,202.

On 19 March 2020, the Company issued 3,750,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £18,750.

On 7 April 2020, the Company issued 7,800,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £39,000.

On 16 April 2020, the Company issued 2,500,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £12,500.

On 22 April 2020, the Company issued 5,500,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £27,500.

On 27 May 2020, the Company issued 4,100,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £20,500.

On 9 June 2020, the Company issued 2,003,502 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £10,017.

On 23 June 2020, the Company issued 1,750,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £8,750.

On 10 July 2020, the Company issued 5,300,000 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £26,500.

On 26 June 2020, the Directors of the Company issued a circular to shareholders detailing the proposed acquisition of the whole of the share capital of Waste2Tricity Limited on a share for share basis. The acquisition was approved by shareholders at a General Meeting held on 14 July 2020 and the Company issued 1,437,440,277 ordinary shares of 0.5p on 15 July 2020 to complete the transaction.

On 15 September 2020, the Company issued 200,000,000 ordinary shares of 0.5p each in the Company at a price of 2.5p each, totalling £5,000,000 before issue costs.

#### 20. Other reserves

	Merger relief reserve £	Share premium account £
As at 1 January 2019 Issue of shares	- 	48,773,510 5,141
At 31 December 2019	-	48,778,651
Issue of shares Share issue costs Reserve transfer – goodwill impairment	50,310,410 - (14,192,699)	4,048,720 (232,437)
At 31 December 2020	36,117,711	52,594,934

#### 21. Accumulated deficit

Addinated denote	2020 £	2019 £
As at 1 January Loss for the year Share based payments Reserve transfer – goodwill impairment	(61,714,360) (15,837,741) (184,695) 	(60,365,351) (1,510,226) 161,217
At 31 December	(63,544,097)	(61,714,360)

# 22. Share based payments

The expense recognized for share based payments during the year is shown in the following table:

	2020	2019
	£	£
Share based payment charge recognised in Income Statement		
Expense arising from equity-settled share-based payment transactions:		
- Share options for Directors and employees	8,399	40,229
- Warrants for third party services	-	-
- Shares issued for third party services	32,235	652,913
Total share based payment charge in Income Statement	40,634	693,142
Share based payment charge recognised in Share Premium Account		
- Warrants for third party services	84,532	-
Total share based payment charge in Share Premium Account	84,532	-
Total share based payment charges recognised	125,166	693,142
Other share based payment movement		
Exercise of warrants for third party services	(38,963)	-
Shares issued for third party services	(270,898)	(531,925)
· •	(184,695)	161,217
Total share based payment		· 

There were no liabilities recognised in relation to share based payment transactions.

# 22.1 Share options for Directors and employees

The Company has put in place various options schemes for Directors and employees as follows:

On 8 December 2014, the Company granted 11,000,000 options over ordinary shares to the Board. The options may be exercised between the grant date and the tenth anniversary of the grant date and will lapse if not exercised during that period.

On 7 March 2016, the Company granted 15,000,000 options over ordinary shares to the Board. The options may be exercised between the grant date and the fifth anniversary of the grant date and will lapse if not exercised during that period.

On 6 March 2018, the Company granted 32,100,000 options over ordinary shares to employees, including a Board member, under the Powerhouse Energy Group PLC 2018 EMI Option Scheme. The options vest to the employees over a period of 24 months and are exercisable between the relevant vesting dates and the tenth anniversary of the grant date and will lapse if not exercised during that period. These options had all been exercised or forfeited by 31 December 2019.

On 6 March 2018, the Company granted 60,000,000 options over ordinary shares to Board members under the Powerhouse Energy Group PLC 2018 non-employee Share Option Plan. The options vest to the Board members

over a period of 24 months and are exercisable between the relevant vesting dates and the tenth anniversary of the grant date and will lapse if not exercised during that period.

The movement of share options in the year are as follows:

	2020	2020	2019	2019
	Number	WAEP(pence)	Number	WAEP (pence)
Outstanding at 1 January	75,000,000	0.77	99,333,333	0.83
Granted during the year	-	-	-	-
Forfeited during the year	=	-	(24,333,333)	1.03
Exercised during the year	-	=	-	-
Outstanding at 31 December	75,000,000	0.77	75,000,000	0.77
Exercisable at 31 December	75,000,000	0.77	67,083,333	0.79

The weighted average remaining contractual life for the share options outstanding as at 31 December 2020 was 6.1 years (2019: 7.1 years)

No share options were granted during the year or in 2019.

The range of exercise prices for options outstanding at the year end was 0.6p to 2.5p (2019: 0.6p to 2.5p).

The number of options outstanding at 31 December 2020 and the movements in the year are as follows:

Date of grant	Granted	Share price on grant	Exercised	Forfeited	At 31 Dec 2020	Exercise price	Exercise period
8 Dec 2014	6,000,000	1.875p	-	-	6,000,000	2.5p	9 Dec 2014 until 8 Dec 2024
7 Mar 2016	9,000,000	0.55p	-	-	9,000,000	0.75p	8 Mar 2016 until 7 Mar 2021
6 Mar 2018	60,000,000	0.57p	-	-	60,000,000	0.6p	7 Mar 2018 until 6 Mar 2028
Total	75,000,000	_	-		75,000,000		

No share options expired in the year. Of the 9,000,000 options granted on 7 March 2016 which were outstanding on 31 December 2020, 7,600,000 have been exercised since the year end and 1,400,000 have expired.

The estimated fair value of the options issued was calculated by applying the Black-Scholes option pricing model. The assumptions used in the calculation were as follows:

	8 December 2014	7 March 2016	6 March 2018
Options in issue 31 December 2020	6,000,000	9,000,000	60,000,000
Exercise price	2.5p	0.55p	0.6p
Expected volatility	127.56%	127.56%	70.00%**
Contractual life	10 years	5 years	10 years
Risk free rate	2%	2%	1.49%
Estimated fair value of each option	1.79p	0.45p	0.32p*

<sup>\*</sup> the calculation applies a 25% discount for small companies

#### 22.2 Warrants for third party services

The Company has issued warrants in respect of services provided by consultants as part of their service arrangements. It has also issued warrants to participating shareholders in respect of certain fund raises. No share

<sup>\*\*</sup> expected future volatility of 70% based on historic volatility and the volatilities of similar sized companies.

based payment charge is recognised for warrants issued to participating shareholders as they are outside of the scope of IFRS 2.

Details of warrants which have been issued during the year are as follows:

On 15 September 2020, the Company granted 5,395,260 warrants to the Company's broker as part of its service arrangement in relation to the fund raise arising on that date. The options may be exercised between the grant date and the third anniversary of the grant date and will lapse of not exercised during that period. At the date of grant the share price was 3.3p and the warrants have an exercise price of 2.5p per share.

Warrants in respect of services provided:

The movement of warrants issued for share based payments in the year are as follows:

	2020	2020	2019	2019
	Number	WAEP (pence)	Number	WAEP (pence)
Outstanding at 1 January	17,740,350	0.5	17,740,350	0.5
Granted during the year	5,395,260	2.5	-	-
Forfeited during the year	-	-	-	-
Exercised during the year	(17,740,350)	0.5	-	
Outstanding at 31 December	5,395,260	2.5	17,740,350	0.5
Exercisable at 31 December	5,395,260	2.5	17,740,350	0.5

The weighted average remaining contractual life for the share warrants outstanding as at 31 December 2020 was 2.7 years (2019: 0.7 years)

The weighted average fair value of share warrants granted in the year was 1.57p (2019: n/a).

The exercise price for warrants outstanding at the year end was 2.5p (2019: 0.5p).

The number of warrants, which have been included for share based payment purposes, outstanding at 31 December 2020 and the movements in the year are as follows:

Date of grant	Granted	Share price on grant	Exercised	Forfeited	At 31 Dec 2020	Exercise price	Exercise period
4 July 2017	5,000,000	0.85p	(5,000,000)	-	-	0.5p	5 July 2017 until 4 July 2020
13 July 2018	4,940,350	0.44p	(4,940,350)	-	-	0.5p	14 July 2018 until 13 July 2020
10 Dec 2018	7,800,000	0.57p	(7,800,000)	-	-	0.5p	11 Dec 2018 until 10 Dec 2020
15 Sep 2020	5,395,260	3.3p	-	-	5,395,260	2.5p	16 Sep 2020 until 15 Sep 2023
Total	23,135,610		(17,740,350)	-	5,395,260		

The Company is required to assess the fair value of instruments issued in respect of services received, with such value charged to the Income Statement. The estimated fair value of the warrants issued during the year was calculated by applying the Black-Scholes option pricing model. The assumptions used in the calculation were as follows:

Warrants issued for services	15 Sep 2020
In issue 31 December 2020 Exercise price	5,395,260 2.5p
Expected volatility*	92.10%

Contractual life 3 years
Risk free rate 0.07%
Estimated fair value of each option 1.57p

# Warrants issued to participating shareholders

Warrants issued to participating shareholders are outside the scope of IFRS 2 and no share based payment charges have been recognised on them. On initial recognition the warrants' cost was deducted from equity as it represents the cost of shares issued to investors. As the agreements had a fixed-for-fixed requirement, they are also recognised as equity at the same time. As such, there is £nil net impact on equity and has not been included in the statement of changes in equity.

The number of warrants issued to participating shareholders, which have not been included for share based payment purposes, outstanding at 31 December 2020 and the movements in the year are as follows:

Date of grant	Granted	Share price on grant	Exercised	Forfeited	At 31 Dec 2020	Exercise price	Exercise period
13 July 2018	49,403,502	0.44p	(45,903,502)	(3,500,000)	-	0.5p	14 July 2018 until 13 July 2020
15 Sep 2020	371,510,069	3.3p	-	-	371,510,069	2.75p	16 Sep 2020 until 15 Sep 2022
Total	420,913,571		(45,903,502)	(3,500,000)	371,510,069		

The estimated fair value of the warrants issued was calculated by applying the Black-Scholes option pricing model. The assumptions used in the calculation were as follows:

Warrants issued to participating shareholders	15 Sep 2020
In issue 31 December 2020 Exercise price Expected volatility* Contractual life Risk free rate Estimated fair value of each option	371,510,069 2.75p 106.20% 2 years 0.04% 1.46p

<sup>\*</sup> expected future volatility based on historic volatility and the volatilities of similar sized companies

# All warrants

The number of all warrants outstanding at 31 December 2020 and the movements in the year are as follows:

Date of grant	Granted	Share price on grant	Exercised	Forfeited	At 31 Dec 2020	Exercise price	Exercise period
4 July 2017	5,000,000	0.85p	(5,000,000)	-	-	0.5p	5 July 2017 until 4 July 2020
13 July 2018	4,940,350	0.44p	(4,940,350)	-	-	0.5p	14 July 2018 until 13 July 2020
13 July 2018	49,403,502	0.44p	(45,903,502)	(3,500,000)	-	0.5p	14 July 2018 until 13 July 2020

<sup>\*</sup> expected future volatility based on historic volatility and the volatilities of similar sized companies

Total	443,983,181		(63,643,852)	(3,500,000)	376,839,329		
15 Sep 2020	371,510,069	3.3p	-	-	371,510,069	2.75p	16 Sep 2020 until 15 Sep 2022
15 Sep 2020	5,329,260	3.3p	-	-	5,329,260	2.5p	16 Sep 2020 until 15 Sep 2023
10 Dec 2018	7,800,000	0.57p	(7,800,000)	-	-	0.5p	11 Dec 2018 until 10 Dec 2020

# 22.3 Share issue third party services

The Company issued shares to settle services to some of its service providers. The fair value of the share based payments charge were based on invoiced amounts or amounts agreed to be paid under a formal agreement of the Company.

#### 23. Material risks

The Company is subject to various risks relating to political, economic, legal, social, industry, business and financial conditions. Risk assessment and evaluation is an essential part of the Company's planning and an important aspect of the Company's internal control system. The Company's approach to these risks is detailed in the Strategic Report.

#### 24. Directors' remuneration and share interests

The Directors who held office at 31 December 2020 had the following interests, including any interests of a connected party in the ordinary shares of the Company:

	Number of ordinary shares of 0.5p each	Percentage of voting rights
Tim Yeo	71,871,959	1.93
William Cameron Davies	1,200,000	<0.1
David Ryan	36,567,923	0.98
James John Pryn Greenstreet	1,000,000	<0.1

The remuneration of the Directors of the Company paid or payable for the year or since date of appointment, if later, to 31 December 2020 is:

	2020	2020	2020	2020	2020	2019
	£	£	£	£	£	£
	Salary/Fee	Pension	Share	Other	Total	Total
			based payments	Benefits		
Tim Yeo	27,004	-	-	-	27,004	-
David Ryan	178,000	17,000	1,856	-	196,856	159,247
William Cameron Davies	50,000	_	4,421	-	54,421	62,378
Robert Keith Allaun	-	-	_	-	-	70,000
Nigel Brent Fitzpatrick	25,807	-	1,061	-	26,868	37,426
James John Pryn Greenstreet	30,000	-	1,061	-	31,061	37,426
Allan Vlah	13,306	-	-	-	13,306	-
Kirsten Gogan	7,500	-	-	-	7,500	-
Mark Berry	1,129	-	-	-	1,129	
Total	332,746	17,000	8,399	-	358,145	366,477

Total remuneration includes share based payments arising from the issue of options amounting to £8,399 (2019:  $\pm$ 40,229). There have been no awards of shares to Directors under long term incentive plans during the year.

The Directors' social security costs for the year amounted to £34,282 (2019: £40,365) resulting in a total remuneration expense of £392,427 (2019: £406,842).

Tim Yeo, William Cameron Davies, James John Pryn Greenstreet, Allan Vlah, Kirsten Gogan and Mark Berry have service contracts which can be terminated by providing three months' written notice. David Ryan has a service contract which can be terminated by providing six months' written notice. Prior to his resignation, Nigel Brent Fitzpatrick held a service contract which could be terminated by providing three months' written notice.

Rivermill Partners Limited, a company wholly owned by Tim Yeo and his associates, provided executive corporate management services during the year the value of which is included in the above remuneration. These services are contracted for on an annual basis as required.

David Ryan's service contract commenced on 1 February 2019 with payments applying from 1 April 2019. His services to 31 March 2019 were provided via Nayr Consultants Limited, an engineering consultancy. Details of amounts paid to Nayr Consultants Limited are provided in Note 25 Related Parties. This does not include any amount for services as a Director of the Company.

Share options held by the Directors who served during the year are as follows:

	Options at 1/1/20	Forfeited	Exercised	Options at 31/12/20	Exercise price	Earliest and latest date of exercise
Options granted 8 Dec 2014						
Nigel Brent Fitzpatrick	3,000,000	-	-	3,000,000	2.5p	9/12/14 - 8/12/24
James John Pryn Greenstreet	3,000,000	-	-	3,000,000	2.5p	9/12/14 – 8/12/24
	Options at	Forfeited	Exercised	Options at	Exercise	Earliest and latest
Options granted 7 March 2016	1/1/20			31/12/20	price	date of exercise
. •	E 000 000			E 000 000	0.755	8/3/16 – 7/3/21
Nigel Brent Fitzpatrick	5,000,000	-	-	5,000,000	0.75p	
James John Pryn Greenstreet	4,000,000	-	-	4,000,000	0.75p	8/3/16 – 7/3/21
	Options at 1/1/20	Forfeited	Exercised	Options at 31/12/20	Exercise price	Earliest and latest date of exercise
Options granted 6 March 2018					-	
William Cameron Davies	15,000,000	-	-	15,000,000	0.6p	1/10/18 - 6/3/28
Nigel Brent Fitzpatrick	12,000,000	_	-	12,000,000	0.6p	7/3/18 – 6/3/28
James John Pryn Greenstreet	12,000,000	_	_	12,000,000	0.6p	7/3/18 – 6/3/28
David Ryan	21.000,000	_	_	21.000.000	0.6p	7/3/18 – 6/3/28
David i tydi i	21,000,000			21,000,000	0.00	175/10 0/0/20

#### **Highest Paid Director**

David Ryan was the highest paid Director in the year. There were no shares received or receivable by him in respect of qualifying services under long term incentive schemes.

### 25. Related parties

Rivermill Partners Limited, a corporate management services company, wholly owned by Tim Yeo and his associates, provided executive corporate management services during the year amounting to £7,800 (2019: £Nil). Amounts outstanding at the year end for services provided and included in creditors and accruals amounted to £7,800 (2019: £Nil).

Nayr Consultants Limited, an engineering consultancy services company, wholly owned by David Ryan and his associates, provided engineering services to the Company during the year amounting to £Nil (2019: £56,000). Amounts outstanding at year end for services provided and included in creditors and accruals amounted to £Nil (2019: £Nil).

Engsolve Limited, an engineering solutions company, is a related party due to a Director's family member being part of its key management personnel. Engsolve provided engineering services to the Company during the year amounting to £249,555 (2019: £239,137). Amounts outstanding at year end for services provided and included in these accounts amounted to £43,841 (2019: £26,449).

# 26. Segmental reporting

The Company comprises a single operating segment being a development company operating solely within the United Kingdom with the intention of licensing its technology within the UK and internationally. As such the statement of comprehensive income and the statement of financial position may be used as a report on the segment. The Company has reported its first revenues in these accounts which relates to engineering work on a project expected to be the first to utilise the Company's developed technology.

#### 27. Events after the reporting period

On 21 January 2021, the Company issued 181,818,182 ordinary shares of 0.5p each ("Ordinary shares") in the Company at a price of 5.5p each amounting to £10,000,000 before issue costs. The Company also granted 9,090,910 warrants to subscribe for Ordinary Shares at the issue price of 5.5p to its broker.

On 26 January 2021, the Company issued 4,895,260 ordinary shares of 0.5p each in the Company further to the exercise of warrants for proceeds amounting to £122,382.

On 9 February 2021, the Company issued 6,000,000 ordinary shares of 0.5p each in the Company further to the exercise of options for proceeds amounting to £36,000.

On 24 February 2021, the Company issued 1,600,000 ordinary shares of 0.5p each in the Company further to the exercise of options for proceeds amounting to £12,000.

On 4 March 2021, the Company issued 6,000,000 ordinary shares of 0.5p each in the Company further to the exercise of options for proceeds amounting to £45,000.

On 17 March 2021, the Company issued 500,000 ordinary shares of 0.5p each in the Company further to the exercise of options for proceeds amounting to £3,000.

On 17 April 2021, the Company issued 6,000,000 ordinary shares of 0.5p each in the Company further to the exercise of options for proceeds amounting to £36,000.

On 23 April 2021, the Company granted 1,773,239 share options in ordinary shares of 0.5p each in the Company to two Directors of the Company in lieu of part or all of their fees to which they are entitled. The options have an exercise price of 6.3p each and lapse 3 years from the date of grant.

On 12 May 2021, the Company announced that it had agreed to provide a loan facility for up to £3.8 million to Protos Plastics to Hydrogen No 1 Limited, the Peel NRE special purpose vehicle and owner of the development of the Protos plant, the first proposed commercial application of the Company's DMG technology. The loan is provided to secure long lead time items and project design services necessary for the Protos plant development and construction. The loan facility is available for 6 months and will accrue interest daily set at the Bank of England base rate plus 2%.

On 1 June 2021, Waste2Tricity Limited was dissolved.

# 28. Ultimate controlling party

There is no controlling party of the Company.