

# Johnson Matthey and Plug Power agree long-term strategic partnership to accelerate the hydrogen economy

31<sup>st</sup> January 2023

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## Johnson Matthey Plc

### This announcement contains inside information

- Johnson Matthey (JM) and Plug Power (Plug) agree long-term strategic partnership
- Delivering on key strategic milestone for partnerships in Hydrogen Technologies
- The partnership brings together JM's innovative science in hydrogen technologies, and Plug's leadership in hydrogen and fuel cells and electrolyser solutions
- Significant step in JM's ambition to be a leading global supplier of the key performance defining components of fuel cells and electrolysers: JM will supply a substantial portion of Plug's demand for these advanced materials
- Partnership comprises a supply and joint development agreement to at least 2030 covering supply of existing products from 2023, and future generations of technology for both fuel cells and electrolysers
- Co-investment in new manufacturing capacity in the US of 5GW scaling to 10GW over time, expected to begin production in 2025. Capex is broadly included within £1 billion group capex guidance to 2024/25
- Expected to be the largest CCM (catalyst coated membrane) production facility in the world
- Partnership underpins targeted sales in Hydrogen Technologies of more than £200 million by the end of 2024/25, and an acceleration of growth thereafter

### **Liam Condon, Chief Executive, Johnson Matthey, commented:**

*"For the rapidly developing hydrogen economy, this is a game-changer. By bringing together one of the largest fuel cell and green hydrogen companies in the world with JM's technology and manufacturing capabilities, we're creating volume and scale for green hydrogen that hasn't existed until now. This partnership confirms JM's world class position in catalyst coated membranes, the key performance-defining components of electrolysers and fuel cells."*

### **Andy Marsh, CEO, Plug, commented:**

*"Plug is proud to expand our relationship with JM, a highly respected and skilled supply partner with a proven track record. This partnership will help us strengthen our supply chain and underpin our ability to deliver on the growing demand for our fuel cells and electrolysers. With a partner like JM, Plug is in a strong position to be the global leader of the green hydrogen economy."*

### **Strategic partnership to accelerate the hydrogen economy**

Johnson Matthey (JM), a global leader in sustainable technologies and Plug Power (Plug), a leading provider of turnkey hydrogen solutions for the global green hydrogen economy, today announce a long-term strategic partnership to accelerate the deployment of fuel cells and electrolyzers (green hydrogen). This partnership is progress towards JM's published milestone of winning at least two large scale strategic partnerships in Hydrogen Technologies by the end of 2022/23. It will also significantly contribute towards JM's 2030 target for 50 million tonnes of greenhouse gas emissions avoided per year.

As the world decarbonises, clean hydrogen demand is expected to grow more than one hundred fold in the ten years to 2030<sup>1</sup>, boosted by government incentives including the Inflation Reduction Act in the US and REPowerEU in Europe. This partnership – between two leading players in hydrogen – will support development of this significant and fast-growing market.

### **Key elements of the strategic partnership**

The strategic partnership will allow each company to leverage its specific areas of expertise, working together to accelerate growth. Key elements of the partnership:

- Collaborative relationship combining JM's innovative science in hydrogen technologies with Plug's knowledge gained from many years of real life market experience and field trials
- Supporting delivery of Plug's next generation electrolyser and fuel cell technology roadmaps, alongside its ambitious volume ramp-up
- JM to be a lead supplier of membrane electrode assembly (MEA) components to Plug including CCMs, catalysts and membranes. JM will supply a substantial portion of Plug's demand for these advanced materials
- Plug commits to procuring minimum quantities of advanced MEAs, CCMs and components from JM which underpins planned capacity expansion
  - Supply agreement from 2023 for MEA products from existing facilities in the UK, and future generations of CCMs from which Plug will make MEAs
  - Joint development agreement to facilitate fast track development of advanced components with significantly improved performance, durability and cost compared to today's technology to enable next generation Plug systems
- Partnership will support the rapid scale-up of key raw material value chains. JM to contribute expertise in sourcing, managing and recycling PGMs, with the objective to provide a closed loop solution
- JM and Plug will co-invest into a new US manufacturing facility with an initial capacity of 5GW scaling to 10GW over time. This will ensure a robust and reliable supply of CCMs to Plug's gigafactory in Rochester (US). As a critical extension beyond Plug's own gigafactory, the co-investment will enable the deployment of electrolyser solutions faster on a global scale

- Plug will be responsible for construction of the building and related site services, at a site to be determined
- JM will provide the equipment to fit out the building and will be the equipment operator. This investment is broadly included within the £1 billion group capex guidance for the period to 2024/25
- First phase of US manufacturing facility expected to begin production in 2025
- Expected to be the largest CCM production facility in the world

### **Johnson Matthey: a leader in high value fuel cell and electrolyser components**

JM has been a leader in hydrogen for many years, founded on its core competencies in PGM chemistry and catalysis. It has an established Hydrogen Technologies business, with long-standing customer relationships and manufacturing capacity of 2GW, with existing plans to expand to 5GW.

In Hydrogen Technologies, JM's ambition is to be the market leader in CCMs. CCMs are high value performance components at the centre of fuel cells, PEM (proton exchange membrane) and AEM (anion exchange membrane) electrolysers.

As JM's business develops and scales, technological development will be critical. Through the application of world class PGM chemistry and catalysis, next generation products will be developed – increasing power density and durability – whilst also reducing cost through efficient manufacture and more effective use of PGMs. In conjunction, JM is aiming to be a cost leader through the use of technology, industrial scale production and automation. As the leading secondary refiner of PGMs, JM will also provide recycling services for these scarce metals, with the objective to provide a closed loop solution.

Plug is one of the leading players in the hydrogen economy and this partnership is a step-change in the development of Hydrogen Technologies. It is a significant proof point of JM's ability to be a leading global supplier of CCMs. The partnership underpins targeted sales of more than £200 million from Hydrogen Technologies by the end of 2024/25, and an acceleration of growth thereafter.

### **Plug: a leading provider of turnkey hydrogen solutions for the global green hydrogen economy**

Plug is a leading provider of turnkey hydrogen solutions for the global green hydrogen economy. Plug is building an end-to-end green hydrogen ecosystem, from production, storage and delivery to energy generation, to help its key customers (including Amazon, Walmart, Carrefour and BMW) and JV partners (including Renault and SK) meet their business goals and decarbonise the economy. In this strategic partnership, Plug is working with key supply chain partners to deliver the scale and cost efficiencies required to meet the ambitious volume and cost objectives necessary to establish and grow the hydrogen economy. This will support Plug in delivering its targeted revenue of US\$5 billion and US\$20 billion by 2026 and 2030 respectively.

The person responsible for the release of this announcement is Nick Cooper, General Counsel and Company Secretary of Johnson Matthey Plc.

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#### Notes:

1. Source: JM estimates based on IEA Sustainable Development Scenario and Net Zero Energy Scenario.

Johnson Matthey Plc is listed on the London Stock Exchange (JMAT)

Registered in England & Wales number: 00033774

Legal Entity Identifier number: 2138001AVBSD1HSC6Z10