CIPHER NEUTRON INC.

Cipher Neutron, headquartered in Toronto, Canada, has emerged as the world's second firm to successfully commercialize the exceptionally efficient Anion Exchange Membrane Electrolysis Technology (AEM). Notably, it stands as the inaugural company outside of Europe and the first in North America to achieve this milestone.

Specializing in research and development, Cipher Neutron operates within the burgeoning sector of Green Hydrogen Production, leveraging its established range of globally distributed products. The technology pioneered by Cipher Neutron, known as "AEM," represents a cutting-edge solution on a global scale, facilitating the cost-effective generation of high-pressure and high-volume Green Hydrogen. AEM has swiftly emerged as the premier choice for existing Green Hydrogen production methods.

LATEST AEM ELECTROLYSIS VERSUS EXISTING PEM ELECTROLYSIS

Conventional PEM electrolyzers, currently the primary source of Green Hydrogen, rely on costly and scarce Platinum Group Metals (PGMs) like Platinum, Iridium, and Ruthenium. The utilization of these PGMs in PEM electrolyzers poses significant concerns regarding supply chain stability, sustainability of Green Hydrogen initiatives, heightened costs, and adherence to ESG standards.

Moreover, the extraction of these PGMs entails substantial environmental repercussions. Notably, each 1-Megawatt PEM electrolyzer necessitates up to 2 kilograms of PGMs, resulting in over 100 tonnes of CO2e emissions during the mining and refining process. Furthermore, these PEM electrolyzers typically have a lifespan of merely 5 to 7 years.

Cipher Neutron's advanced AEM Technology stands out by eliminating the need for PGMs, rendering our AEM Technology the most sustainable, cost-effective, and environmentally friendly electrolyzer technology available.

Furthermore, Cipher Neutron has achieved an efficiency rate of 81.73%, surpassing the industry average of 77.00%. This translates to reduced operating expenditures for users of Megawatt-scale hydrogen projects. Additionally, our AEM membranes boast extended lifespans, and we offer up to 30% price reductions compared to PEM electrolyzers, resulting in lower capital expenditures for users of Megawatt-scale hydrogen projects.

USE OF HARMFUL PFAS CHEMICALS IN EXISTING TECHNOLOGIES

A crucial element of PEM electrolyzer technology is the membrane, which often contains PFAS chemicals. However, the manufacture and usage of PFAS chemicals are facing stricter regulations. In 2021, the European Commission prohibited certain PFAS chemicals in various applications, including fire-fighting foams, aiming to restrict their use to critical societal purposes. Additionally, the European Union is considering a potential ban on all PFAS uses by 2025. Similarly, countries like the USA and Canada have introduced recent proposals to limit PFAS utilization.

EXPONENTIALLY GROWING GREEN HYDROGEN DEMAND

The Green Hydrogen market is experiencing rapid growth, and Cipher Neutron is at the forefront of this expansion within the Green Hydrogen Economy. Despite its potential, Green Hydrogen currently comprises less than 5% of global hydrogen production and is primarily generated using Alkaline, PEM, and AEM Electrolyzers.

Presently, the world meets its hydrogen demands through a process known as steam methane reforming, which emits 10 tonnes of carbon for every tonne of hydrogen produced. This method is a significant concern for environmentalists, ESG advocates, and governments aiming to combat global warming and pollution. Existing hydrogen production contributes over 900,000,000 tonnes of CO2 emissions annually, accounting for more than 2.25% of total global CO2 emissions. Consequently, transitioning to low-emission Green Hydrogen production has become a global imperative.

The consensus solution involves replacing current high-carbon hydrogen production with low-carbon Green Hydrogen alternatives. In the previous year, global hydrogen sales exceeded USD 150 billion, with 95% originating from polluting hydrogen sources. Projections indicate that by 2050, global hydrogen demand will soar to USD 2 trillion, with 70%—or USD 1.4 trillion—attributed to Green Hydrogen.

Cipher Neutron anticipates the demand for AEM Green Hydrogen Electrolyzers to potentially reach hundreds of millions of units in the near future, solely to meet the needs of existing known Green Hydrogen projects.

MANAGEMENT OF CIPHER NEUTRON

Cipher Neutron comprises a diverse global team, consisting of scientists, engineers, R&D professionals, technicians, university professors, PhD holders, and investment banking experts.

Our directors and senior management bring to the table over a decade of individual experience in the Green Hydrogen Economy, backed by hands-on involvement in the industry. Collectively, our team boasts a wealth of over 100 person-years of practical

hydrogen expertise.

With a cohesive management team that has collaborated for over five years, and many members having worked together for more than a decade, Cipher Neutron fosters a culture of unity and shared vision.

Recognizing the imperative of staying ahead of industry trends, we prioritize continuous innovation. Substantial resources are devoted to advanced R&D efforts aimed at developing proprietary hydrogen solutions, maintaining our leadership position in AEM Technology, and pioneering our upcoming Reversible Fuel Cell Technology.

GLOBAL COLLABORATIONS OF CIPHER NEUTRON

In addition to our internal expertise, Cipher Neutron has established partnerships with leading universities in Canada and worldwide, particularly those renowned for achieving disruptive milestones akin to our own. These collaborations extend to industry operators such as mining companies and EPC engineering firms involved in multi-Megawatt international projects.

Furthermore, Cipher Neutron has formed a strategic partnership with dynaCERT Inc., a company listed on the Toronto Stock Exchange with over 20 years of experience in electrolyzer production and development. Leveraging this collaboration, Cipher Neutron gains access to dynaCERT's advanced R&D facilities in Toronto, Canada, as well as its semi-automated assembly line. This partnership enables Cipher Neutron to commence the delivery of commercial quantities of our advanced AEM Electrolysers starting in Q4 2023.