

# **dynaCERT and Cipher Neutron to Unveil New Electrolyser Technology at the Canadian Hydrogen Convention**

written by Raj Shah | April 13, 2023

April 13, 2023 ([Source](#)) – *dynaCERT Inc.* (TSX: DYA) (OTCQX: DYFSF) (FRA: DMJ) (“*dynaCERT*” or the “Company”) and Cipher Neutron Inc. (“Cipher Neutron”) are pleased to announce that they will be exhibiting at the Canadian Hydrogen Convention to be held in Edmonton, Alberta (Canada) from April 25 to April 27, 2023 at the Edmonton Convention Centre.

## **First Unveiling of New Proprietary Advancements:**

At the Canadian Hydrogen Convention, Cipher Neutron will be unveiling to the public its first 5 kilowatt AEM Hydrogen Electrolyser stack which is capable of producing 1000 liters per hour of highly compressed and highly pure Green Hydrogen.

## **The Canadian Hydrogen Convention:**

The Canadian Hydrogen Convention is the largest event in Canada showcasing hydrogen as a key enabler to reach net-zero emissions by 2050. The Canadian Hydrogen Convention indicates that it will position Canada as a global hydrogen superpower. This event is expected to bring the Canadian supply chain together to discuss innovations and solutions for low-carbon hydrogen production, energy infrastructure, storage and the path forward as Canada works towards net zero emissions by 2050.

## **Importance of Green Hydrogen Electrolysers:**

Collectively, *dynaCERT* and Cipher Neutron have been designing and producing Green Hydrogen Electrolysers for over twenty (20) years in Canada.

In addition, in the past few years, Cipher Neutron and *dynaCERT* have, collectively, through their ground-breaking innovative Research & Development efforts, developed Green AEM Electrolysers designed to offer Canadian companies, as well as international companies, a solution to generate high volume high capacity Green Hydrogen in pressurized form to be applied to big-scale Hydrogen projects, by producers of Green ammonia in the fertilizer industry, oil & gas industries, mining, smelting and chemical industries.

### **Cost Effective Solutions:**

Our AEM Electrolysers are designed to feature lower capital costs, lower operating costs and no use of expensive and GHG-producing Platinum-group metals which could conceivably experience the risks of supply-chain and pricing issues. Our AEM Electrolysers have achieved a staggering eighty-two percent (82%) efficiency, which means that they produce more Green Hydrogen using the same amount of power as competing electrolysers while at a lower AEM Electrolyser cost.

Gurjant Randhawa, President & CEO of Cipher Neutron, stated, "Cipher Neutron is a world-wide organization including business, finance, engineering, university and scientific professionals who are all dedicated and focused on large-scale Green Hydrogen projects internationally and across many industries, including global transportation, fertilizers, mining, oil and gas, smelters and chemical companies. Having achieved a very efficient 5 kilowatt AEM Green Hydrogen Electrolyser, we are now focused on developing larger and more efficient 50 kilowatt and 250 kilowatt electrolysers, innovative flow fields, membrane ink

coatings and other advancements necessary to the economic viability of low capital cost and low operating costs of Green Hydrogen production. In addition, we have invented a reverse fuel cell which can operate as energy storage and deliver results, especially in smaller scale applications, such as emergency power and remote location power, which is constantly needed throughout a world in crisis. We also feature a non-gaseous form of hydrogen storage using our patent pending graphene technology. Our distinctive leadership in new Green Hydrogen technologies is being recognized increasingly every day, globally, by numerous participants in the Green Hydrogen economy.”

Jean-Pierre Colin, Executive Vice President & Director of *dynaCERT*, stated, “Scientific and engineering research and development are the necessary first stages to provide practical achievements that are enabling an exemplary world that is increasingly powered by Green Hydrogen. Cooperating together, as citizens of our global village, we mutually embrace the opportunity where zero-emission energy is not just the norm, but where energy costs are lower for everyone. At *dynaCERT* and Cipher Neutron, we are collaborating towards a much better future, where polluting grey hydrogen consumption can be reduced. Green Hydrogen is a realistic fundamental part of the solution to the vast collective global energy challenges. Canada, as well as many other nations throughout the entire globe, is also very blessed with plenty of potential Green electric power, a paradigm which encourages us to communally propose that our lofty strategic goals can certainly be reached during our own lifetime and create the solid springboard for many future Green generations. To further our objectives, we are also actively engaging with third parties focused on Green Hydrogen. We recognize that skilled teamwork is one key to furthering industry leadership and that judiciously sharing

knowledge with world experts can be more powerful than working alone introspectively.”

Jim Payne, President and CEO of *dynaCERT*, stated, “Realizing the potential of Green hydrogen requires government, industry and researchers to work together. For twenty years, *dynaCERT* has been fostering the benefits of hydrogen. *dynaCERT* continues featuring our commercially available Hydrogen-on-Demand Alkaline Electrolysers to the global marketplace with its renowned HydraGEN™ Technology, which includes a line of models designed to reduce fuel consumption of diesel engines and significantly reduce Carbon Emissions and other GHG’s. *dynaCERT* continues working with VERRA and our associates to secure our premium data-driven Carbon Credits to be tracked and monitored by our HydraLytics™ Technology. We were also Canadian pioneers in launching successful research and development in Hydrogen high-volume, high-pressure, low-cost Green AEM Electrolysers. As a public company, we continue to remain very committed to low-carbon Green Hydrogen while becoming a Canadian world leader in the growing Green Hydrogen economy. This duty is beyond just good business, its ethical and extremely necessary for an energy-hungry world exceeding an exploding 8 Billion population.”

### **Significance of Green Hydrogen:**

Over 95% of the world’s hydrogen is produced using the steam methane reforming process. In this reaction, carbon dioxide is released. Green Hydrogen, including technology developed by *dynaCERT* and Cipher Neutron’s AEM Green Electrolysers, do not produce carbon dioxide and GHGs.

Generally, today, grey hydrogen is mainly used in the refining and chemical sectors and produced from fossils, accounting for 6% of global natural gas use and 2% of coal consumption and

being responsible for 900 million tonnes of carbon dioxide of annual CO<sub>2</sub> emissions out of the global 37 billion tonnes annually. For every one (1) kilo of grey hydrogen produced, approximately nine (9) kilos to ten (10) kilos of carbon dioxide GHG pollutants are released in the atmosphere.

If the USA Hydrogen goals are achieved, scenarios show the opportunity for at least a 5-fold increase in clean Green Hydrogen use. A USA industry estimate shows the potential for 16% carbon dioxide emission reduction by 2050.

The grey hydrogen GHG polluting market is openly being challenged by world governments and ESG conscious and concerned citizens that are desperately seeking Green Hydrogen remedies, such as those of *dynaCERT* and Cipher Neutron, to quickly replace the vastly polluting and GHG emitting grey hydrogen consumption patterns throughout the world, while, at the same time, reducing the proliferation of GHG emitting hydrocarbon fuels and replacing some of such consumption with Green Hydrogen, which Green Hydrogen does not produce GHGs.

Significant GHGs are produced by grey hydrogen. Hence, the importance of Green Hydrogen produced with innovative Green AEM Electrolysers, such as the innovative Green AEM Electrolysers of *dynaCERT* and Cipher Neutron.

*dynaCERT* and Cipher Neutron believe that their technological achievements are the first and most significant battle victories in penetrating and displacing the significant and highly profitable international USD 500 Billion annual polluting grey hydrogen industry.

**About Cipher NeutronInc.**

Please see: [www.cipherneutron.com](http://www.cipherneutron.com)

## **About dynaCERT Inc.**

dynaCERT Inc. manufactures and distributes Carbon Emission Reduction Technology along with its proprietary HydraLytics™ Telematics, a means of monitoring fuel consumption and calculating GHG emissions savings designed for the tracking of possible future Carbon Credits for use with internal combustion engines. As part of the growing global Hydrogen Economy, our patented technology creates hydrogen and oxygen on-demand through a unique electrolysis system and supplies these gases through the air intake to enhance combustion, which has shown to lower carbon emissions and improve fuel efficiency. Our technology is designed for use with many types and sizes of diesel engines used in on-road vehicles, reefer trailers, off-road construction, power generation, mining and forestry equipment. Website: [www.dynaCERT.com](http://www.dynaCERT.com).

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**On Behalf of the Board**

**Murray James Payne, CEO**

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