

# dynaCERT Obtains European Approval of its Hydrogen Technology



August 26, 2019 (Source) – *dynaCERT* Inc. (TSX VENTURE: DYA) (OTCQB: DYFSF) (FRA: DMJ) is very pleased to announce that its wholly-owned European subsidiary, *dynaCERT GmbH*, (individually or together

“*dynaCERT*” or the “Company”) has obtained from Kraftfahrt-Bundesamt (“KBA”), the Transport Ministry of Germany, the Allgemeine Betriebserlaubnis (“ABE”) National Type Approval (“Homologation”).

ABE Homologation, which emanates from KBA, permits the marketing, sales, installation and use of *dynaCERT*’s HydraGEN™ Technology in Germany and is utilized throughout the entire European Union.

## Unique Innovative Breakthrough

*dynaCERT* has achieved a major and unprecedented milestone.

Applications for ABE Type Approval must meet stringent testing and validations required by rigorous and exacting regulation in Germany.

*dynaCERT*’s HydraGEN™ Technology is the only hydrogen gas supply system that has ever been approved by KBA and received Homologation for the ABE Type Approval. This unique advantage gives *dynaCERT* a lead in hydrogen-based technology and provides a strong market benefit as well as a barrier to entry for imitators and possible competitive technologies.

## **Importance of ABE Homologation Globally**

The addressable market of *dynaCERT's* HydraGEN™ Technology has expanded significantly and globally with the addition of this first-in-kind ABE Homologation.

As a result of its reputation for excellence, the acceptance of an ABE Homologation is monitored by other countries on every continent of the globe. In regulating their transportation industry, many countries and jurisdictions world-wide rely on the ABE Homologation as the unequivocal standard of due diligence and excellence for the regulated use of new expertise, such as *dynaCERT's* HydraGEN™ Technology.

## **Thorough Due Diligence by ABE**

*dynaCERT's* HydraGEN™ Technology underwent thorough testing to obtain ABE Homologation.

Moreover, the ABE Homologation from KBA required approximately 26 months of proofs of concept, testing, validations, verifications, confirmations, authentications, rigorous trials with strict protocols, scientific analysis, exacting reviews using both on-road and in-laboratory methods, and accompanying certified reports. Numerous engineers, combustion specialists and automotive experts, including world-renowned authorities in Europe such as Continental EMITEC, TÜV Nord, TÜV Süd, were consulted and relied upon by KBA which granted the ABE. (See Press Releases dated August 16, 2018 and September 17, 2018).

## **Market Size**

According to the European Automobile Manufacturers Association ("ACEA"), there are over 398 million vehicles in the European Region. Approximately forty-five percent (45%) are diesel-powered. Almost all of the approximately 39 million commercial vehicles are diesel-powered and these are eligible for *dynaCERT's* HydraGEN™ Technology across the European Union and the rest of Europe. *dynaCERT's* ABE Homologation from KBA

applies to more than 560 MAN powered vehicle types and models.

### **Marketing Significance**

Commencing immediately, marketing and sales of *dynaCERT's* HydraGEN™ Technology can launch throughout Europe by the Company's numerous licensed dealers and distributors.

In the last 18 months, *dynaCERT* has identified and negotiated numerous distributor and dealer agreements to market and sell its HydraGEN™ Technology. Such dealers and distributors include very qualified *dynaCERT* resellers covering European countries such as Germany, Austria, Belgium, Netherlands, Luxemburg, Spain, Portugal, Lithuania, Latvia, Estonia, Norway, Sweden, Finland, Denmark, the United Kingdom and Ireland.

*dynaCERT* continues to increase its dealer and distributor footprint in Europe and throughout the world.

### **Value of Homologation to the Trucking Industry**

*dynaCERT's* HydraGEN™ Technology advances the same interests upheld by new European regulations and the Paris Agreement on Climate Change.

The European regulations for CO2 reduction came into effect in January 2019. These regulations require all truck manufacturers to provide full emission testing on every new vehicle model in various load and road configurations. These tests then become the baseline from which each vehicle sold in Europe built after January 1, 2025 must achieve a 15% reduction in CO2 emissions. A further 5% reduction requirement is to be achieved by 2030. Vehicles that do not achieve these CO2 reductions will lose their regulatory approvals. (see Press Release of September 24, 2018 and the European Union Regulation entitled "*Commission Regulation (EU) 2017/2400 of 12 December 2017 of the European Parliament as regards the*

*determination of the CO2 emissions and fuel consumption of heavy-duty vehicles".)*

*dynaCERT's HydraGEN™ Technology is a currently existing and readily available solution for this CO2 pollution throughout Europe.*

### **Validation of Exceptional Results**

Based on the TÜV Nord recorded fuel consumption reductions witnessed and certified during the ABE application process, *dynaCERT's HydraGEN™ Technology* provides an ROI or payback of less than one (<1) year for most of its long-distance trucking user applications.

The exceptionally positive TÜV Nord testing results of *dynaCERT's HydraGEN™ Technology* on diesel engines which were meticulously recorded and certified during the ABE Homologation process include an 8.9% improvement in fuel consumption, an 8.7% reduction in CO2, an 88% reduction in NOx, a 52% reduction in Total Hydrocarbons (THC), a 54.5% reduction in Particulate Matter (PM) and a 74.3% reduction in Particulate Number.

In addition, *dynaCERT* is also currently engaged in applying for the monetizing of Carbon Credits which can significantly improve the value proposition of the Company's *HydraGEN™ Technology*, its ROI and payback (see Press Release of March 26, 2019).

Further economic benefits include reduced Diesel Exhaust Fluid (DEF) consumption, reduced Diesel Particulate Filter (DPF) changes, and reduced diesel engine oil and filter changes.

### **Design of HydraGEN™ Technology**

The *HydraGEN™ Technology* is designed to add a stream of pure hydrogen gas (H2) and oxygen gas (O2) into the air intake of a diesel engine. Adding pure hydrogen gas in controlled amounts

through an air intake acts as a combustion catalyst improving the consumption of diesel fuel and reduces harmful carbon emissions such as NOx.

The HydraGEN™ Technology was developed as an on-demand system to produce hydrogen and oxygen gas and uses a sophisticated patented electrolysis system. Distilled water mixed with potassium hydroxide (KOH) is used to produce clean gas in an appropriate amount for introduction into the air-intake of the engine. The exact amount of hydrogen gas flow is regulated by *dynaCERT*'s proprietary patented Electronic Control Unit, appropriately named "the Smart ECU". The determination of the rate of gas flows is a key feature of *dynaCERT*'s proprietary know-how and HydraGEN™ Technology.

The HydraGEN™ Technology unit is suitable for all outdoor climates. A built-in heater ensures that the device can function even in very cold temperatures. The device is ready for operation at temperatures between minus sixty (- 60) and plus 50 (+ 50) degrees Celsius.

The HydraGEN™ system is protected by a rugged, lightweight housing that is typically attached to a mounting bracket on a vehicle. The HydraGEN™ Technology unit is powered directly from the onboard power system of the vehicle and instantly shuts down when the engine is switched off. The device can also be switched off mechanically; on the side of the device is an on-off switch.

There is no on-board storage of hydrogen gas and the system is operated in an ambient, non-pressure, condition for safety purposes.

### **Upcoming European Events**

On November 8 and 9, 2019, the *dynaCERT* team will be available for institutional investors, private investors and industry representatives in Munich, Germany at the "International Precious Metals & Raw Materials Fair".

From November 25, 2019 to November 27, 2019, Jim Payne, *dynaCERT*'s CEO, will introduce the Company to institutional investors, analysts and media representatives at the "German Equity Forum" in Frankfurt, Germany.

On December 11 and 12, 2019, *dynaCERT* will participate in the 28th Munich Capital Market Conference (MKK) of GBC AG and present itself to analysts and investors. The event is the largest investor conference in Southern Germany for small and mid cap companies.

### **Corporate Statements**

Enrico Schlaepfer, *dynaCERT*'s Vice President of Global Sales stated, "*dynaCERT* is the first manufacturer of an automotive aftermarket product that is allowed to apply hydrogen and oxygen into the combustion chamber of diesel engines across Europe. We have written automotive history! With the ABE Homologation in Germany, *dynaCERT* has reached a historic milestone in the trucking world. Over the last twenty-six months, our teams in Germany and Canada, collaborating with TÜV Nord and TÜV Süd, successfully achieved their goals. *dynaCERT* in Germany is now well-situated to effectively position and market the HydraGEN™ Technology in the European marketplace. In fact, with our HydraGEN™ Technology, regional governments can align themselves with their national environmental goals for the benefit of climate protection. With available HydraGEN™ Technology, Europe has come a step closer to achieving the ambitious pollution reduction goals set out in the Paris Agreement."

Jim Payne, *dynaCERT*'s CEO stated, "On behalf of our Board of Directors, I congratulate and thank all the technical staff and European teams at *dynaCERT* for the success of achieving *dynaCERT*'s important Homologation landmark and for their devotion and unwavering persistence in this enduring but extremely worthwhile process. *dynaCERT* now stands out globally as having a unique approval and validated technology that

reduces carbon emissions while at the same time reduces fuel consumption. We are grateful to have received one of the most highly-respected and coveted approvals in our industry.”

**About dynaCERT Inc.**

*dynaCERT* Inc. manufactures and distributes Carbon Emission Reduction Technology 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, resulting in lower carbon emissions and greater 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, marine vessels and railroad locomotives. Website: [www.dynaCERT.com](http://www.dynaCERT.com)

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***On Behalf of the Board  
Murray James Payne, CEO***