

# A GLOBAL SOLUTION TO REDUCE POLLUTION

May 2023  
Presentation



# Forward Looking Statement

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- ▶ The requirement for significant financing to develop and market its technology;
- ▶ The ability to establish and maintain arrangements with industry recognized strategic partners;
- ▶ Market acceptance of the Company's technology and products;
- ▶ Competition in all aspects of its business;
  
- ▶ The effect of general economic, credit and capital market conditions on its business;
- ▶ The ability to complete product development milestones and progress towards commercialization of product within the contemplated timetable;
- ▶ The ability to attract and keep highly qualified staff and management; and
- ▶ Changes in product profit margins due to pricing changes driven by variations in customer demand, competition, or unforeseen factors.

•The Company's forward-looking statements should be considered in the context of these and other risk factors. All future written and oral forward-looking statements made by the Company on its behalf are also subject to these factors. The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Securities laws vary between Canadian provinces and investors should seek independent legal advice regarding compliance with applicable securities laws in connection with any investment in the Company. The securities of the Company are not registered under United States securities laws. This presentation/document is not a prospectus or a public offering in any jurisdiction.

# Highlights

Carbon Emission Reduction Technology	International Growth Strategy
Diversification in Trucking, Mining, Oil & Gas	Multiple Vertical Markets
Proprietary know-how & Patents	Leader in Hydrogen Technology
Carbon Credit measurement	Potential Recurring Revenue
High Barriers to Entry	Dominant Competitor Advantage
Compelling Value Proposition to users	< 1 year payback
Strong Margins	Attractive Business Model



# HydraGEN™ Patented Technology

- dynaCERT has developed & commercialized a patented proprietary Electroliser called HydraGEN™
- Produces measured amounts of hydrogen and oxygen gases from distilled water
- Delivers H<sub>2</sub> and O<sub>2</sub> at the air intake of internal combustion engines
- Results in:
  - > More power
  - > Better torque
  - < Less fuel consumption and
  - < Less CO<sub>2</sub>, CO, and NO<sub>x</sub>



# HydraGEN™ Features

- On-demand, no H2 storage, no pressure, safer
- With a low power demand from the engine's battery
- Delivered to the air intake of internal combustion engines
- On trucks, mining equipment, generators, reefers, construction equipment
- < particulate matter
- < black smoke
- < Diesel Exhaust Fluid and < Diesel Particulate Filter



# 2023 Timely Investment Opportunity



OIL PRICES AT DECADE HIGH'S: MAKING  
HYDRAGEN™ COMPELLING FOR USERS



GLOBAL ECONOMY IS LEARNING HOW  
TO REGENERATE IMPACT OF COVID  
SLOWDOWN



GLOBAL SUPPLY CHAIN IS FILTERING  
THROUGH THE BUSINESS COMMUNITY  
WORLDWIDE

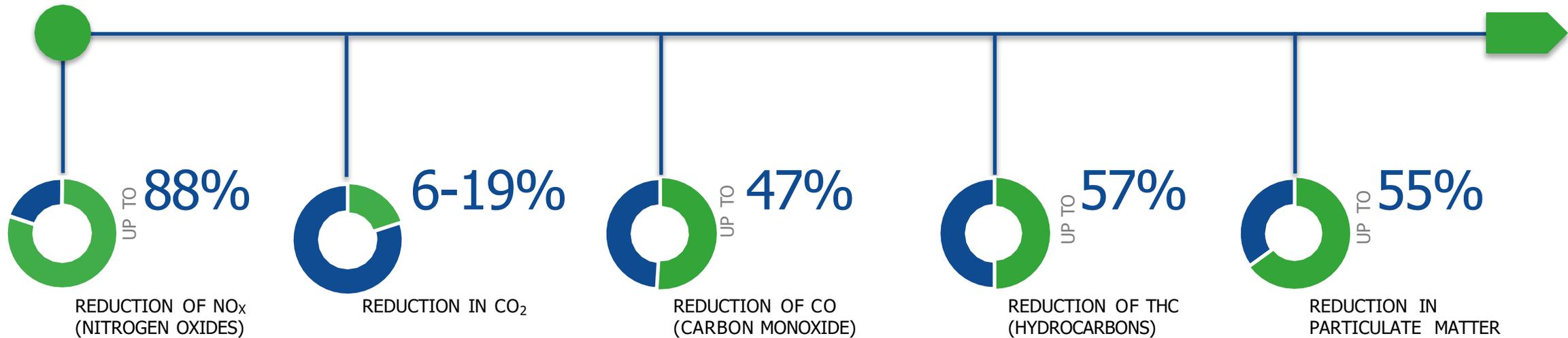


# Emission Benefits

# HydraGEN™

## HydraGEN™ Lowers Emissions Substantially

The following results have been acquired from accredited third party verification performed by PIT Group in Montreal, Quebec, Continental EMITEC in Germany and performance testing at the UOIT ACE in Toronto, Ontario.

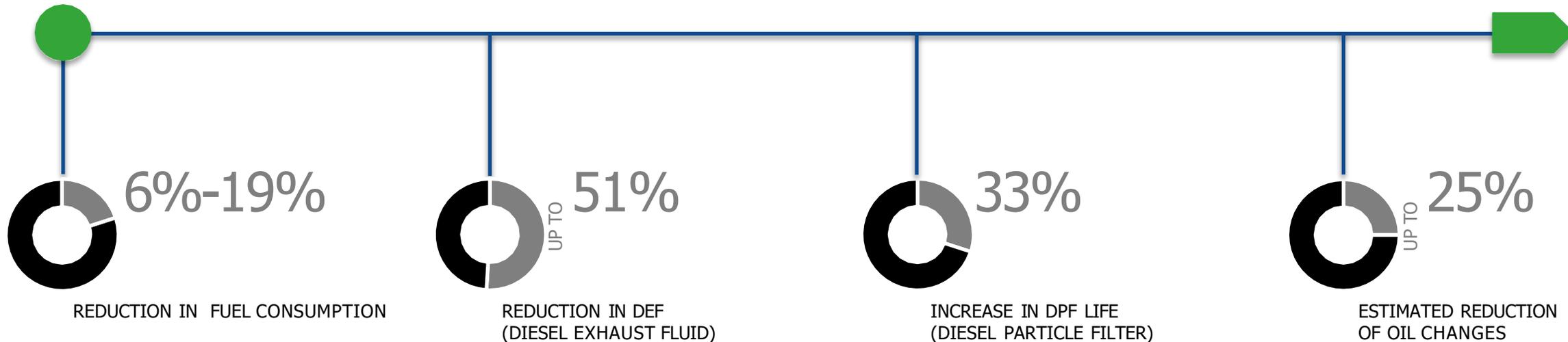


# Economic Benefits

# HydraGEN™

## Lower Consumption and Maintenance

The following results have been acquired from accredited third party verification performed by PIT Group in Montreal, Quebec, Continental EMITEC in Germany, and performance testing at the UOIT ACE in Toronto, Ontario.



# Independent Validations

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UOIT (University of Ontario Institute of Technology)

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PIT Group in Canada

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Continental EMITEC

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iCAT in India

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Independent testimonials by users, globally

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TÜV NORD & TÜV SUD testing for ABE/KBA European Homologation

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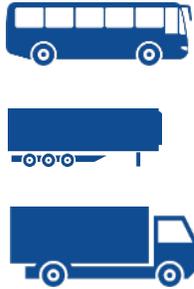
Now: user “audit” with HydraLytica™



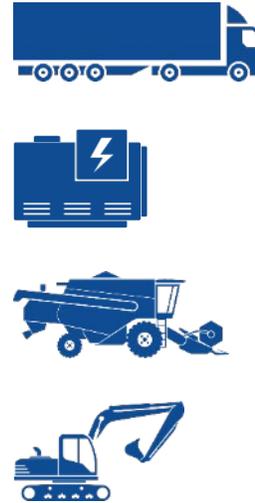
# Product Line

# HydraGEN™

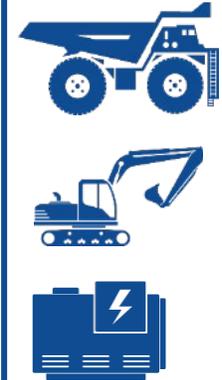
HG2 Series  
1 to 8 litre engines



HG1 Series  
10 to 15 litre engines



HG-4C & HG-6C series  
40 to 100 litre engines



# HG1 Series

## Greener Transportation

- ✓ Suitable for 10-15 L Diesel Engines
- ✓ Reduces Fuel Consumption up to 10%
- ✓ Transportation, Passenger Transport, Power Generation, Construction, Agriculture, Mining
- ✓ Reduce your Carbon Footprint and meet ESG Goals



Warranty: 1 Year Limited Manufacturer's

Certifications:



# Transport & Logistics Application



# Transport & Generation/Oil Fields



# Construction Application



# Transport & Logistics Application



# Results – Mining Pilots

Reducing carbon emissions, improving diesel fuel economy



**CAT797**

1.3MM Tonnes Hauled  
3,300 Cycles

**13.4%**  
Fuel Efficiency



**Komatsu  
930E**

380,000 Tonnes Hauled  
700 Hours

**11.8%**  
Fuel Efficiency

**TRIALS  
Achieved  
8%-13%  
Diesel Fuel  
Efficiency Gain**

**11.0%**  
Fuel Efficiency

**Highway  
Transport**  
1,280 Hours



**12.6%**  
Fuel Efficiency



**Dynamometer  
14L MAN Truck**

3rd Party Testing  
>Emitec/Contential



**8.9%**  
Fuel Efficiency



**CAT793**

320,000 Tonnes Hauled  
826 Hours

**2022 Trials**



# HG2R Series



## Greener Transportation

- ✓ Suitable for 1-8 L Diesel Engines
- ✓ Reduces Fuel Consumption up to 10%
- ✓ Transportation, Passenger Transport, Power Generation, Construction, Agriculture
- ✓ Reduce your Carbon Footprint and meet ESG Goals



Warranty: 1 Year Limited Manufacturer's

Certifications:



# Power Generation Application



HydraGEN™ HG4C unit



Fuel Tank and Containerised Generator

# HG4C



## Greener Mining

- ✓ Suitable for 40–60 L Diesel Engines
- ✓ Reduces Fuel Consumption up to 10%
- ✓ Power Generation, Heavy Mining and Construction Agreement
- ✓ Reduce your Carbon Footprint and meet ESG Goals



Warranty: 1 Year Limited Manufacturer's

Certifications:



# HG6C



## Greener Mining

- ✓ Suitable for 60–90 L Diesel Engines
- ✓ Reduces Fuel Consumption up to 10%
- ✓ Power Generation, Heavy Mining and Construction Agreement
- ✓ Reduce your Carbon Footprint and meet ESG Goals



Warranty: 1 Year Limited Manufacturer's

Certifications:



# Mining Application – Open Pit



# Target Markets - Industries Served



## CURRENT MARKETS



- Buses



- Refrigerated Trailers



- Small Trucks



- Class 8 Trucks



- Power Generators

- Farming



- Construction



- Mining Equipment



## PLANNED



- Passenger vehicles



- Small Marine Vessels



- Ocean Vessels



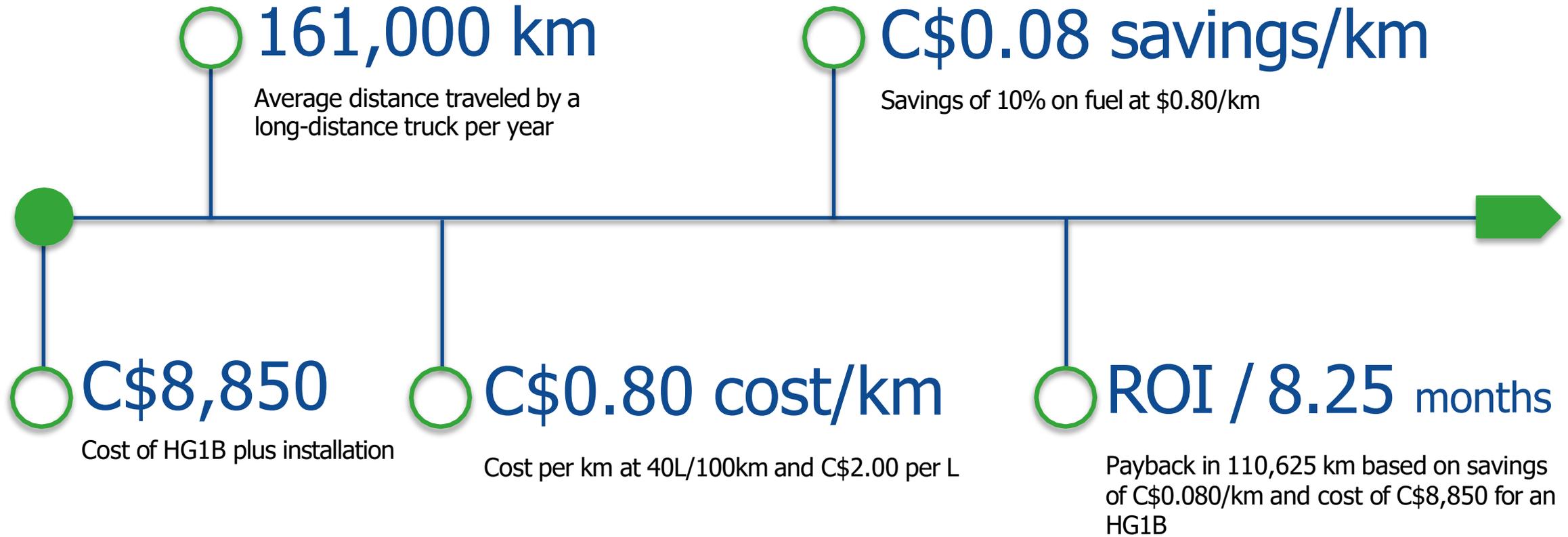
- Locomotives



# Diverse Applications of HydraGEN™



# Value Proposition to End-User



*\*Payback model is only based on fuel savings. End-users of HydraGEN™ Technology may also find cost savings from other areas such as reduction of DPF filters used, less DEF usage and less oil changes.*

# Market Size

- **Total ICE Market**

- 1 Billion internal combustion engines operate world-wide
- 100 Million new internal combustion engines built world-wide every year

- **HG2 Market Estimate**

- 20 Million in North America
- 40 Million in Europe
- 55 Million in South Asia
- 20 Million in South America

## Europe

- 145 million trucks

## North America

- 711,000 trucking companies relying on 3.5 million drivers
- 15.5 million class 8 trucks
- 36 million trucks registered for business

## South America & India

- 210 million trucks

# Dealer Network – September 2022



48 Qualified Dealers & Agents Globally that Service 55 Countries:



# HydraLytics™ Benefits



Automated Reporting & Analytics



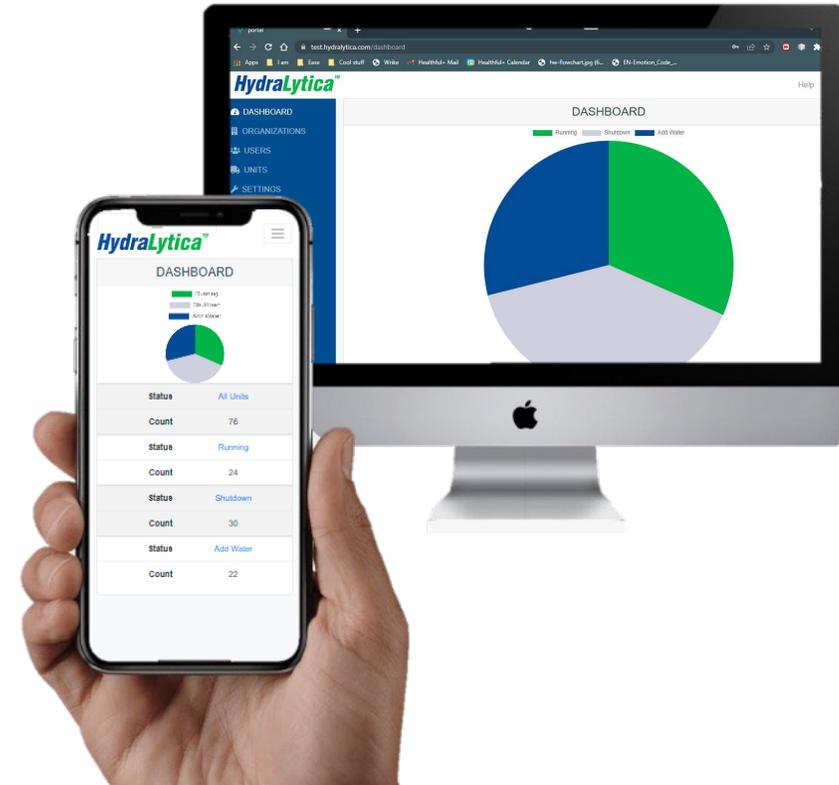
Automated fleet-wide tracking of fuel savings, emission reduction, & carbon credits generated.



Reduce Maintenance Cost



HydraLytics™ also automates fleet management for the HydraGEN™ system.



# Business Model

CAD 90,000,000 expenditures to develop and design	18 Years of R&D
dynaCERT assembles product in Toronto, Canada	newly upgraded assembly facilities
Cost of production: 50% of wholesale price	Profit Margin: 100%
Products sold through global dealer/agent network	In Europe dynaCERT GmbH
Dealer network insures local sales, marketing & service	Reduces sales & marketing Overhead
Multiple Target Markets	Using dealer network Strategy
Multiple Product Versions	Adaptation to client Requirements
Continuous R&D	Maintain market & product Leadership



# Comparable Technology = Trailer Skirts

## Trailer Skirts

- 90% of long-haul trucks have added skirts since their launch 9 years ago
- Skirts cost C\$3,000 can save 1% fuel

## HydraGEN™ Technology

- Cost the end-user ~C \$10,000 and can save approximately 10% fuel, 1% for C\$1,000

## Comparison

- HydraGEN™ is a 3 x Better Proposition than trailer skirts



# Verra Carbon Credits

Verified Carbon Standard (VCS)  
by Verra

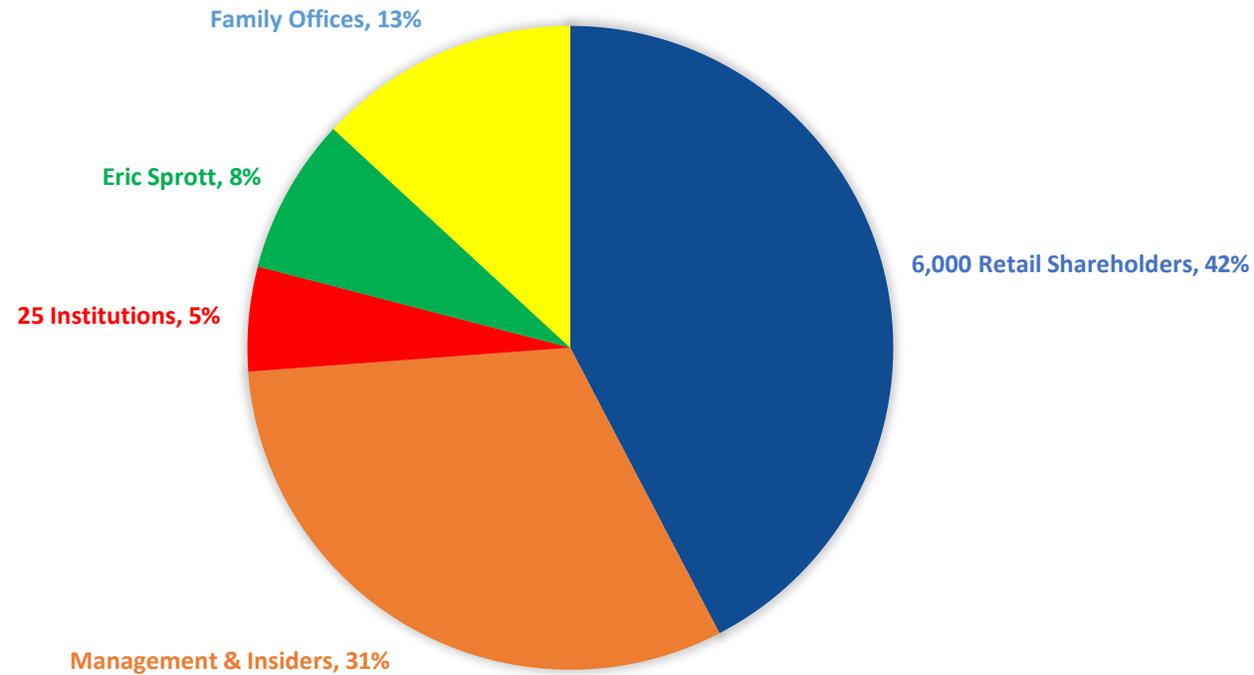
The VCS Program is the world's  
leading voluntary program for  
the certification of GHG emission  
reduction projects

dynaCERT obtained Verra VCS  
Methodology approval in 2021



# Strong Shareholders

APPROXIMATE VALUES



# High Barriers to Entry



Worldwide Patents + Unique ECU (Electronic Control Unit)



Technological advantage: e.g., weather robustness, separation method of H<sub>2</sub> and O<sub>2</sub>,



Lead Time advantage: \$90 million & 18 years to develop the Technology



Regulatory advantage: Certification in global jurisdictions takes years



Distribution Network advantage: e.g., 47 qualified dealers globally



First-to-Market advantage: across many verticals, e.g., transportation, mining, oil & gas, generators, construction



# Significant Progress in 2021 & 2022



Robust Product: New 2021 Redesigned HydraGEN™ Electroliser



User-Friendly Operation: New 2021 Water Delivery System & HydraLytica™



Encouraging 2022 Trial Data from Customers



Trials with Large Clients in major vertical markets



2021-2022 Plan to focus on R&D to better understand the science



Hiring outside expertise such as Martin Technologies



Hiring new Talent internally





Cipher neutron

*Green Hydrogen at the lowest affordable prices.*

# About cipher neutron



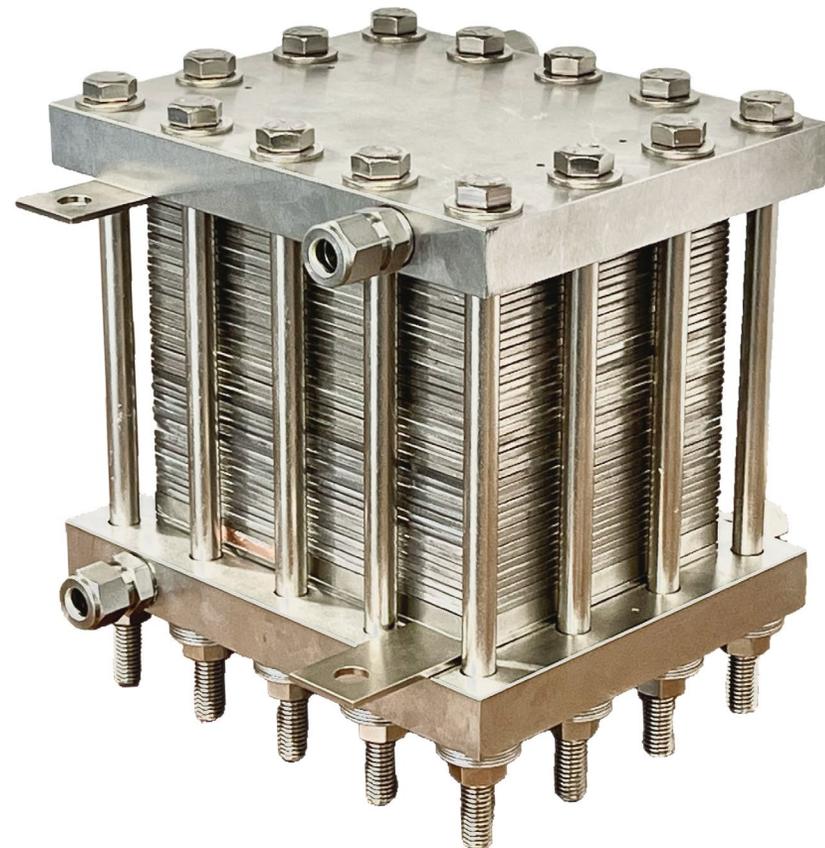
A cleantech company focused on  
**Low-Cost Green Hydrogen Generation**



North America's 1<sup>st</sup> company marketing  
**AEM Electrolyser technology**



World's 1<sup>st</sup> to apply for  
patent in innovative  
**Reversible Fuel Cell technology**



# Hydrogen market

## Existing market

- Oil & Gas (USD \$40 B)
- Fertilizer (USD \$ 80 B)
- Mining (USD \$ 5 B)
- Chemical industry (USD \$15 B)
- Food industry (USD \$1 B)



Cipher Neutron

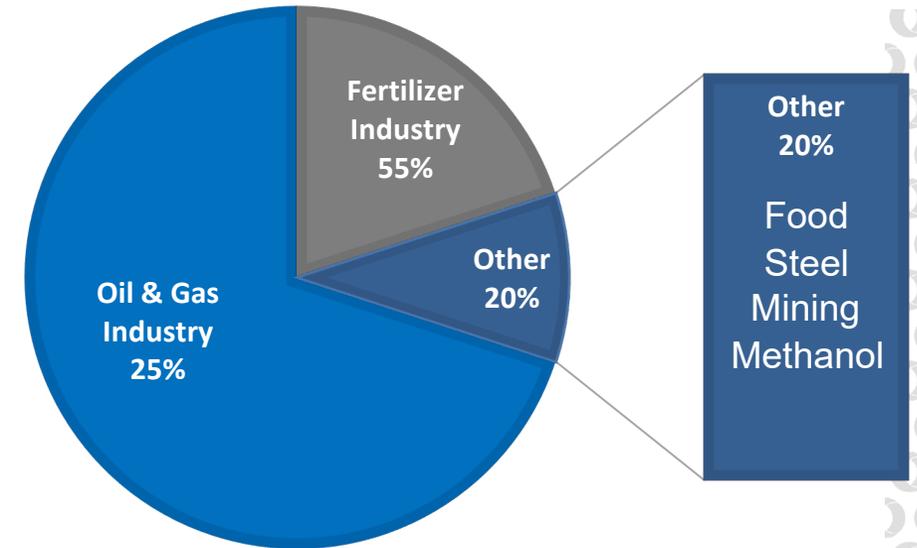
## Emerging market

- Fuel Cell
- Hydrogen IC engine
- Natural Gas Blending
- Steel Manufacturing



## Hydrogen use by Industry

■ Oil & Gas Industry ■ Fertilizer Industry ■ Misc.



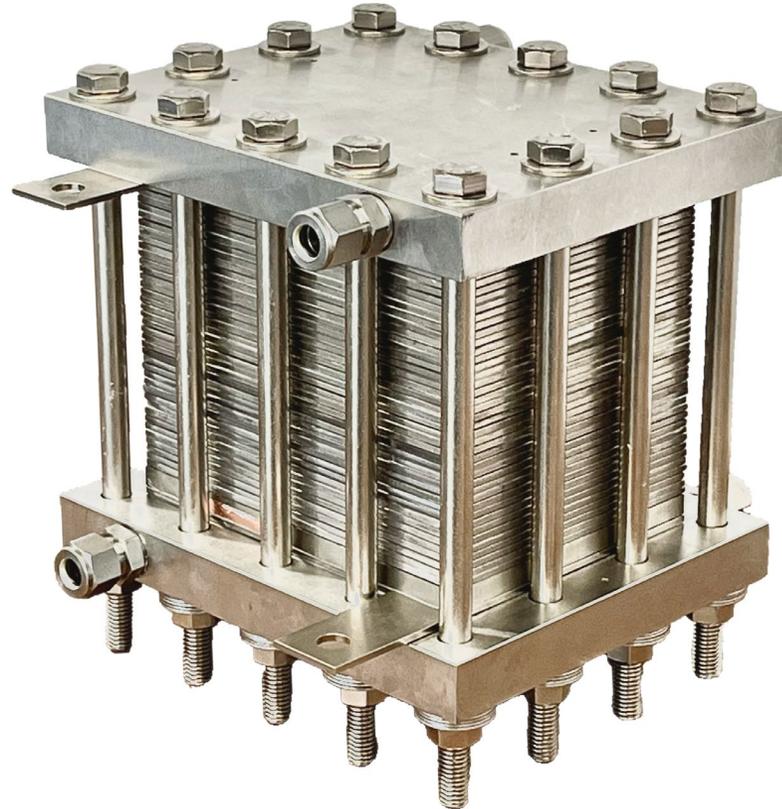
# Introducing **dynaCERT's & cipher neutron's aem** electrolyser

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*A highly efficient way to produce Green Hydrogen*

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No use of precious metals as used in PEM electrolysers



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1<sup>st</sup> North American Company to launch AEM Electrolysers

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Backed by 22 years of research and development

# OUR Aem benefits



## **Highly Efficient**

82% efficiency vs industry standard of 77%



## **High Ampacity**

High current density (2amps/cm<sup>2</sup>) enables more H2 production per unit area



## **High Pressure**

Eliminates the need for expensive secondary compressors up to 30 bars.



## **Compact Design**

Enables light weight and smaller footprint electrolysers



## **No Precious Metals**

AEM Electrolysers do not use any precious metals as used in other technologies



## **Price Reduction**

Less than \$950 (USD) per kW

1. High Efficiency enables more hydrogen production using the same amount of energy/power. This results in lower operating costs to produce green hydrogen.
2. High Ampacity enables more hydrogen gas from a given area. Alkaline electrolysers have ampacity of around 0.1 amps/cm<sup>2</sup> Vs 2 amps in our AEM.
3. High Pressure enables easy storage of hydrogen and also eliminates the need to buy expensive hydrogen compressors to compress hydrogen.
4. Compact design enables less material required for the manufacturing of the electrolyser. This leads to lower Capex.
5. No precious metals enables our AEM electrolysers more sustainable and affordable. Precious group metals could also be subject to supply-chain problems coming from hostile nations.
6. Price reduction in AEM is significant due to its compact design and the elimination of expensive rare earth and precious metals.

# FUTURE R&D OF CIPHER NEUTRON

the RFC (Reversible Fuel Cell)

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1<sup>st</sup> Company to have Reversible Fuel Cell with Graphene Storage

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Non-compressed Hydrogen Storage



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Single system to produce Green Hydrogen and Clean Electricity

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Ability to replace Lithium-ion batteries

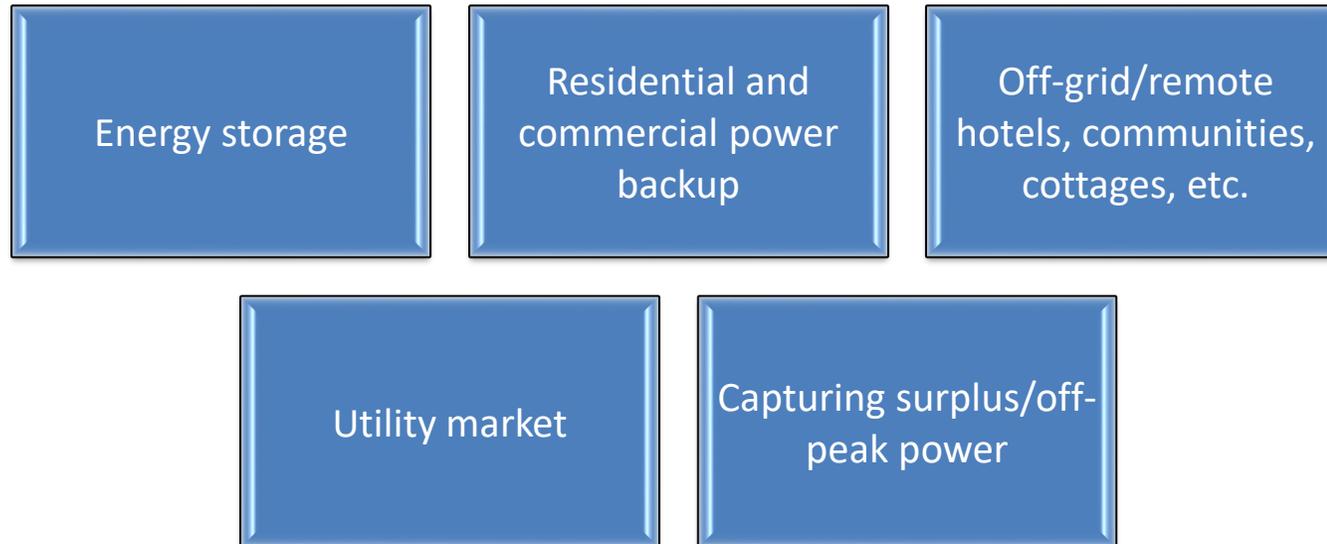
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Patent Pending

# FUTURE R&D OF CIPHER NEUTRON

## RFC

## Applications



# Management



**Jim Payne**  
President, CEO &  
Director

- CEO of dynaCERT since 2013
- Previously CEO of privately held consulting, project management and real-estate development company
- Successfully built and managed his own private companies for more than 38 years providing experience in accounting, business leadership, and the legal aspects of governance



**Wayne Hofmann**  
Chairman

- Chartered Accountant
- Former business executive with Deere & Company responsible for mergers and acquisitions; Vice President, Finance and President of John Deere Credit
- Treasurer of Christians For Israel, Canada, responsible for Planning and Development



**Jean-Pierre Colin**  
Executive Vice  
President & Director



**Khoa Tran**  
Director of Finance



**Enrico Schlaepfer**  
VP of Global Sales



**Ed Cordeiro**  
Director of Sales



**David Bridge**  
Technical Advisor

# Board of Directors



**Wayne Hofmann**  
Chairman



**Jim Payne**  
President & CEO



**Jean-Pierre Colin**  
Executive Vice President & Director  
former Investment Banker



**Amir Farahi**  
Director, Government  
Relations Consultant



**Jeff Zajac**  
Director, CEO of Facial Stats Ai,  
& CEO of Solus One



# Thank You

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