CIPHER NEUTRON

Delivering Green Hydrogen at the lowest affordable world prices.

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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.

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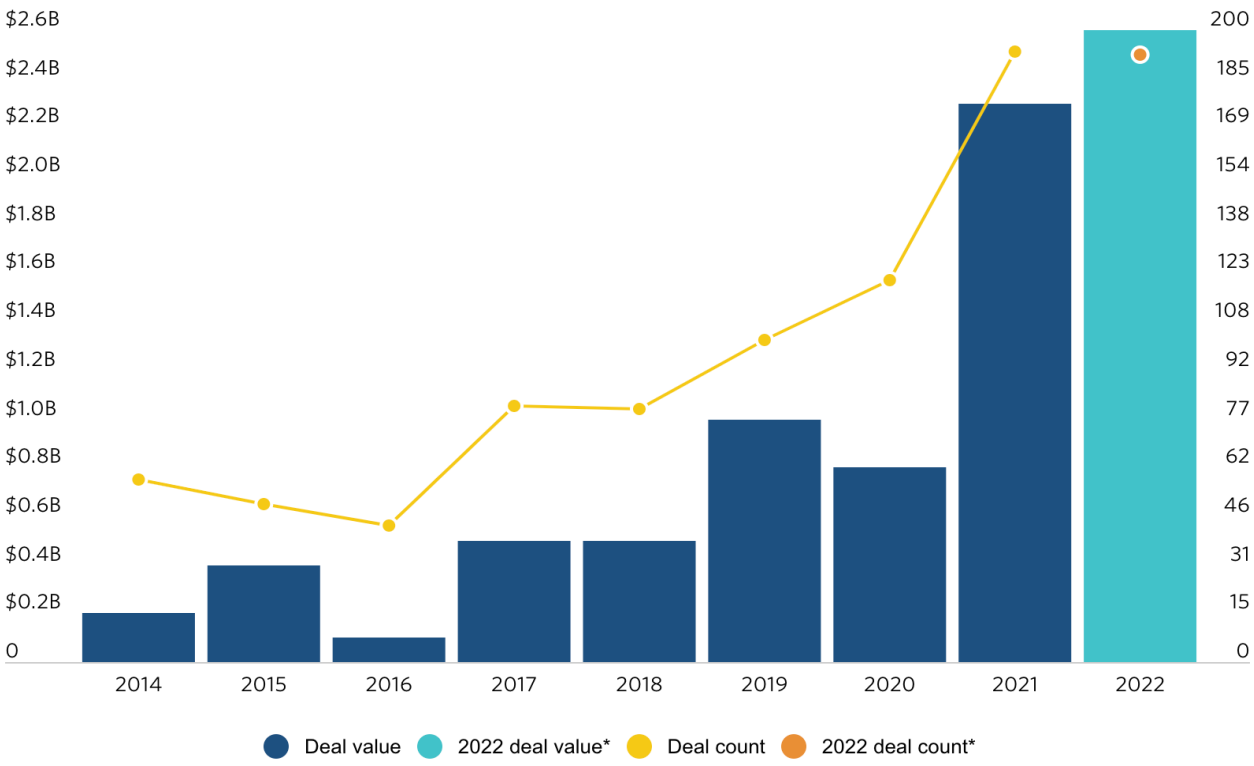
- Cipher Neutron Inc., its directors, officers and employees claim Safe Harbor.

INVESTMENT OPPORTUNITY

Hydrogen is one of the most promising of alternative fuels.

VCs have broken a record in 2022 through their investments in hydrogen-related companies

Startups focused on creating, moving or using H2 are getting more funding as attention sharpens on the zero-emission fuel

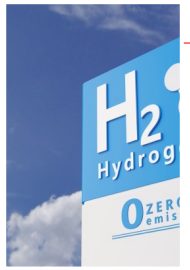


Green-tech *could be the largest economic opportunity of the 21st Century.*

John Doerr (successful American investor and venture capitalist)

ABOUT US

Our name: Cipher is an Arabic word for zero. Hydrogen is the only element with zero neutrons, hence the name Cipher Neutron.

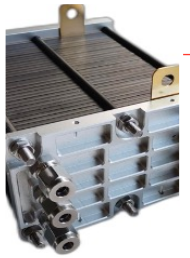


A cleantech company focused on

Low-Cost Green Hydrogen

North America's 1st company marketing

AEM Electrolyser technology



World's 1st to apply for patent in innovative

Reversible Fuel Cell technology

HYDROGEN MARKET

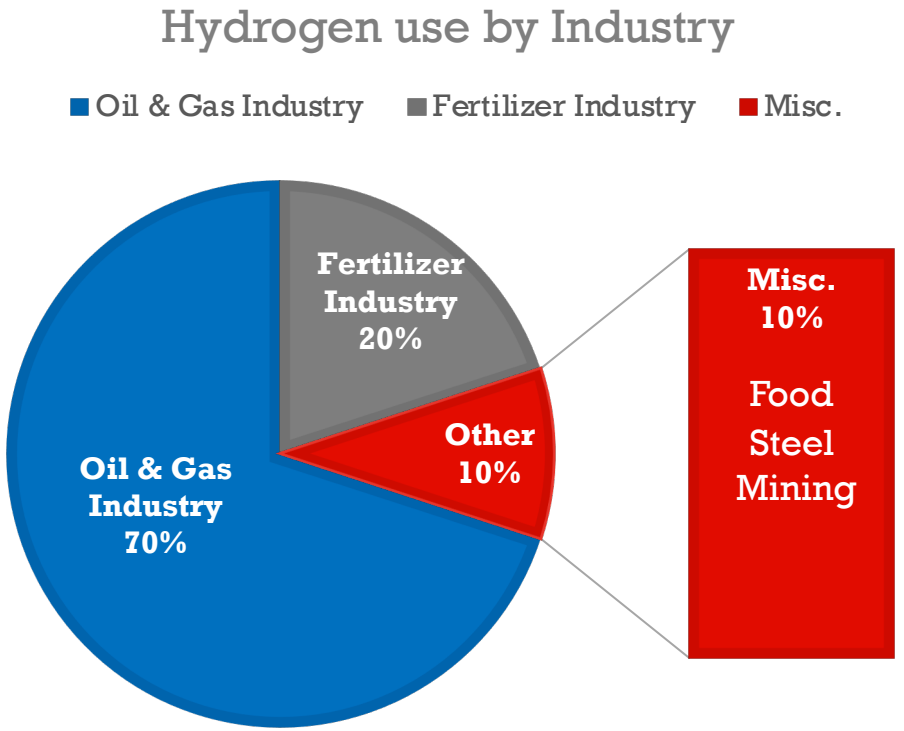
Hydrogen is colorless, odorless, and a non-poisonous gas. Hydrogen is the smallest element in the universe and is considered as the fuel of the future.

Existing market

- Oil & Gas (USD$100 B of H2)
- Fertilizer (USD $ 30 B of H2)
- Mining (USD $ 500 M of H2)
- Chemical industry (USD $750 M)
- Food industry (USD $100 M)

Emerging market

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



HYDROGEN DEMAND GROWTH FORECASTS

90 million tons of H2 produced

2022

150 billion USD of revenue

International community now demands a ramp up

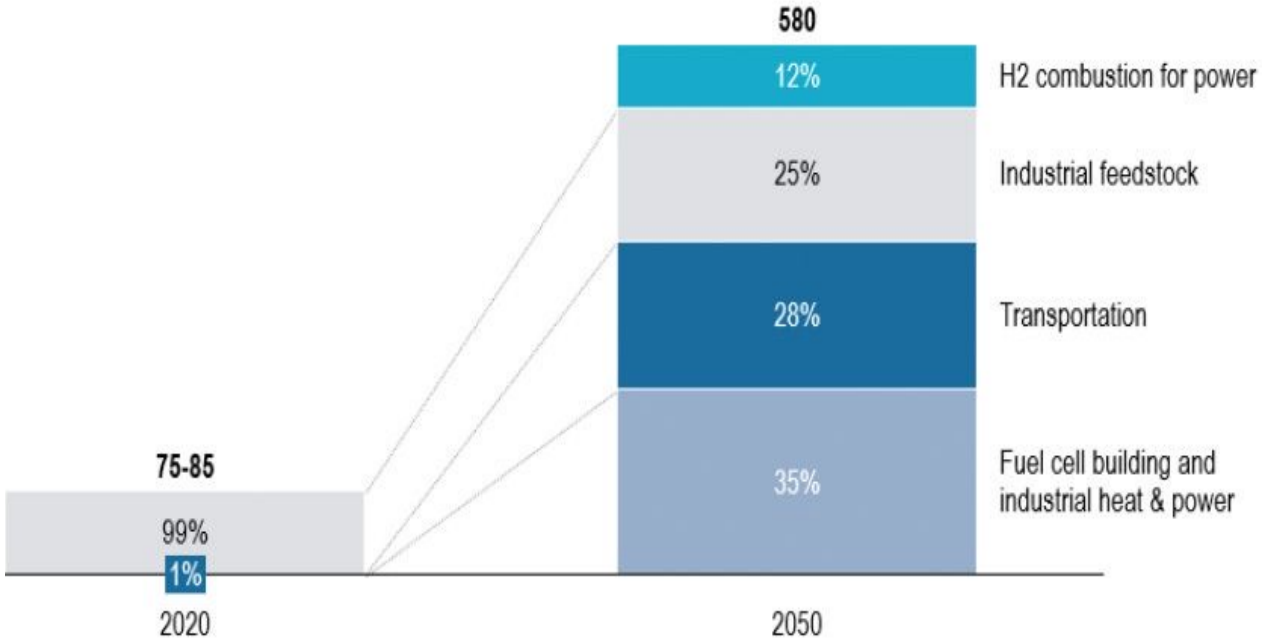
580 million tons of H2 needed annually

2.5 trillion USD market size

2050

30 million jobs

70% of H2 to become green hydrogen



HYDROGEN EXPONENTIAL GROWTH

(GOVERNMENTS RELYING ON HYDROGEN FOR NET-ZERO)

- **Biden-Harris Administration Announces $750 Million To Accelerate Clean Hydrogen Technologies**
- **Canada should focus on exporting clean hydrogen, the head of the European Union said ahead of her visit to Canada.**
- **Canada, Germany sign deal to start hydrogen shipments by 2025**
- **India wants to be a regional hub for green hydrogen**
- **Japan tips in $2.35bn for Gippsland hydrogen plan**

TYPES OF HYDROGEN BEING PRODUCED

Grey Hydrogen (Dirty Hydrogen)

- Hydrogen produced from fossil fuels. A steam reformer is used to break Natural gas into CO2 and H2 under high pressure, high temperature and catalysts.
- 830 million tonnes of CO2 was produced in 2022 due to Grey H2.
- 6% of global natural gas and 2% of global coal going to H2 production/year
- More than 95% of hydrogen produced today is grey hydrogen.

Blue Hydrogen (Low Carbon Hydrogen)

- Hydrogen produced using Carbon capturing technologies. During the SMR process, the CO2 produced is captured and stored underground.
- Blue hydrogen raises elevated health risks for people living in proximity due to greater risks of spills, leaks, or other contamination events.

Green Hydrogen (Clean Hydrogen)

- Hydrogen produced from water electrolysis as produced in Cipher Neutron's technology using renewable resources.
- Green Hydrogen does not produce any CO2.
- International community now demands Green Hydrogen.

GREEN HYDROGEN PRODUCTION METHODS

1. ALKALINE ELECTROLYSIS

The oldest technology to split water into H2 and O2 using a diaphragm. Alkaline electrolysis uses 30% KOH as an electrolyte to promote gas production. A diaphragm is used in between the cell to separate H2 and O2 gasses.

1. Alkaline

Huge footprint
Low H2 production
Low Pressure H2
Highly Corrosive

2. PEM ELECTROLYSIS

PEM (Proton Exchange Membrane) electrolysis is an advanced technology to split water using an exchange membrane. PEM electrolysers use a membrane coated with PGMs (Platinum Group Metals) to excite water molecules to split water into H2 and O2 gases.

2. PEM

Highly Expensive
Use Precious Metals

3. AEM ELECTROLYSIS *(THE LATEST TECHNOLOGY IN GREEN HYDROGEN)*

AEM is the latest technology to split water into H2 and O2 gas using an anion exchange membrane. Anion is considered as the hybrid solution of Alkaline and PEM electrolysis as it offers the benefits of both types without any known challenges.

INTRODUCING CIPHER NEUTRON'S AEM ELECTROLYSER

A highly efficient way to produce Green Hydrogen

No use of precious metals as used in PEM electrolysers

1st North American Company to launch AEM Electrolysers

Backed by 20 years of research and development

GREEN TECHNOLOGY COMPARISON

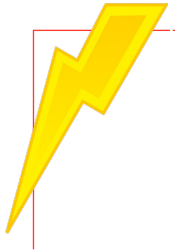
Use Precious metals (Platinum and Iridium)

Competitors in Green Hydrogen				
	Alkaline	PEM	Cipher Neutron's AEM	**Importance**
Market Share 2023	60%	39%	1%	
Market Share 2030	40%	40%	20%	AEM is Fast Growing *(CN estimate)*
Non-Precious Metals	✓	✗	✓	High Capital Costs to Users
High Pressure	✗	✓	✓	Required by Users
High Efficiency	✓	✓	✓	AEM Low Operating Cost to Users
High Gas Purity	✗	✓	✓	Low Capital Cost to Users
Quick System Response	✗	✓	✓	Required by Users
Cold Start	✗	✓	✓	Handles extreme temperatures
Affordable Prices	✓	✗	✓	Affordability
High Current Density	✗	✓	✓	Compact design and lower footprint

CIPHER NEUTRON AEM BENEFITS

Highly Efficient

82% efficiency vs industry standard of 77%



High Ampacity

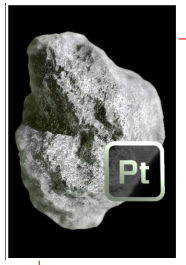
High current density (2amps/cm^2) enables more H2 production per unit area

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

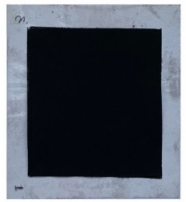
Price Reduction

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/cm2 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.
6. Price reduction in AEM is significant due to its compact design and the elimination of expensive rare earth and precious metals.

CIPHER NEUTRON'S SUPERIOR AEM TECHNOLOGY

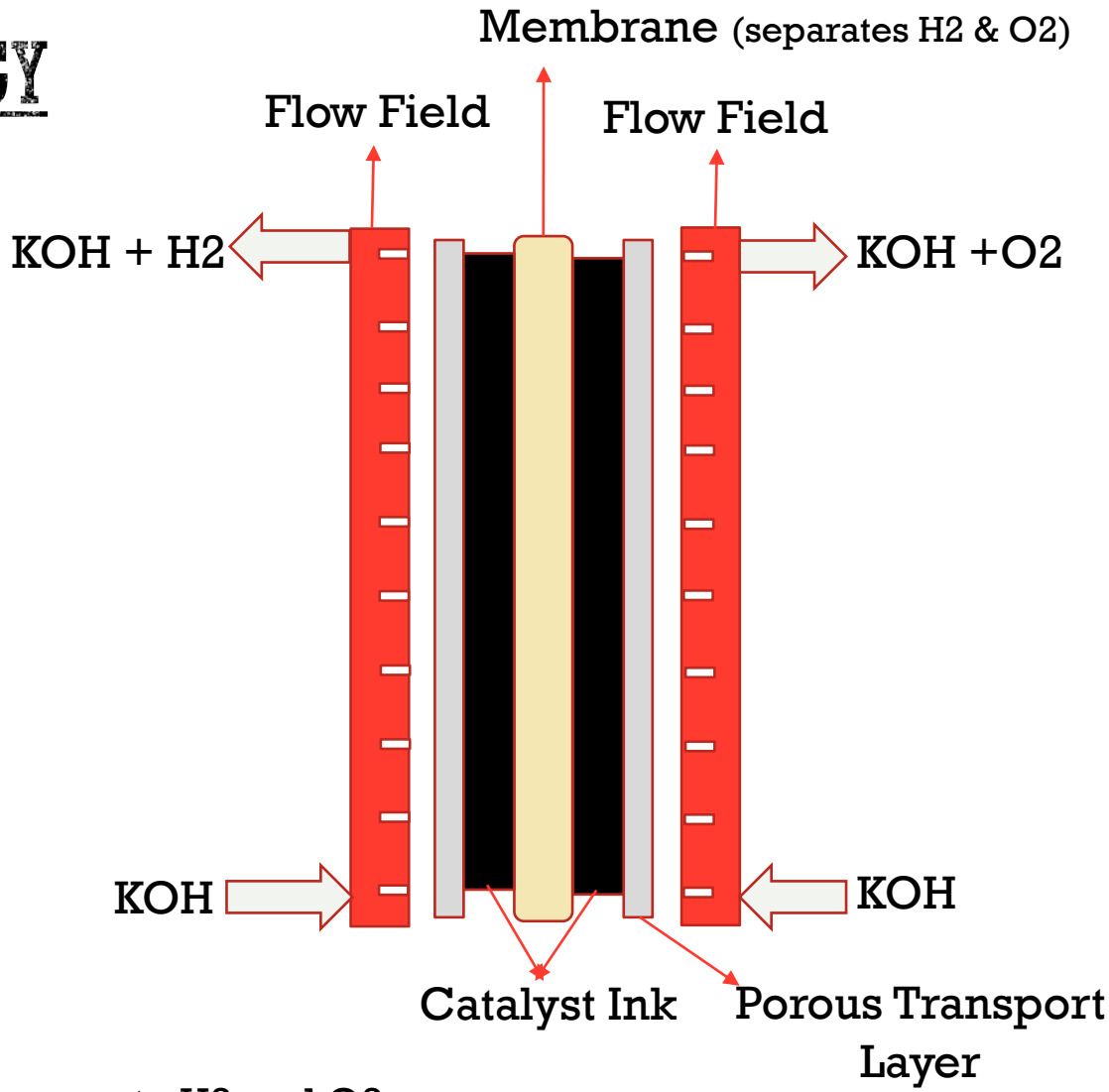
AEM has 3 key components



Membrane

Ink Preparation

Flow fields



Cipher Neutron's superior components

Membrane: Cipher Neutron uses state of the art Anion membrane to separate H2 and O2 gases.

Flow fields: Allow the liquid to flow. Cipher Neutron has unique patent pending flow field design.

Ink preparation: Catalyst Ink promotes water molecule to split. Cipher Neutron has unique ink recipe and a unique methodology to coat ink over the membrane that allows to achieve higher efficiency.

EFFICIENCY GAIN BENEFITS *(WHY BETTER OPERATING COSTS TO THE USER)*

Why Clients will buy Cipher Neutron AEM					
	Traditional 1 Megawatt Project	Cipher Neutron 1 Megawatt Project	Savings over Traditional H2 project	Annual Savings	Annual tCO2e over traditional Green H2 project
Efficiency	77%	82%	**6%**		
H2 Produced	470 kg/day	498 kg/day	**28 kg**	**10,220 kg**	**102**
Revenue/day @ USD 10/kg	$ 4,700	$ 4,980	**$ 280**	**$102,100**	
Revenue/day @ USD 5/kg	$2,350	$2,490	**$140**	**$ 51,100**	

AEM 1 MW project can fuel more than 1700 Fuel Cell cars above the annual efficiency gains compared to a traditional project

AEM Advantages Highlights

- 6% reduction in Green hydrogen price
- 10% - 25% lower cost compared to PEM
- 20 X more gas per unit surface area over alkaline

GREEN HYDROGEN ELECTROLYSER PRRODUCERS *(EXPENSIVE SUPPLY CONSTRAINED PEM-BASED USING PLATINUM)*

Green Hydrogen Market Demand to replace established H2 Industry

	PLUG POWER	nel	ITM POWER	SIEMENS energy
Market Cap	**6.82 billion**	**2.17 billion**	**591 million**	**16.4 billion**
Annual Revenue	701 million	987 million	5.63 million	7.62 billion

	John Cockerill	Bloomenergy	CPH2 CLEAN POWER HYDROGEN	sunfire
Market Cap	**850 million**	**3.77 billion**	**62 million**	**N/A**
Annual Revenue	250 million	462 million	0	N/A

FEW AEM COMPETITORS HAVE THE KNOW-HOW TO DELIVER

Existing AEM Industry Participants:

Hydrolite

Market Cap – N/A
Technology – AEM
Electrolyser size – N/A
Market ready - No

Enapter

Years of Electrolyser R&D
Market Cap – 0.5 billion CAD
IPO value -1 Billion Euros
Technology – AEM
Electrolyser size – 2.4 kW
Market ready – Yes
TTM Sales – 4,000,000

Cipher Neutron

Pre-Market Value– N/A
Technology – AEM and RFC
Electrolyser size – 5 kW
Market ready - yes

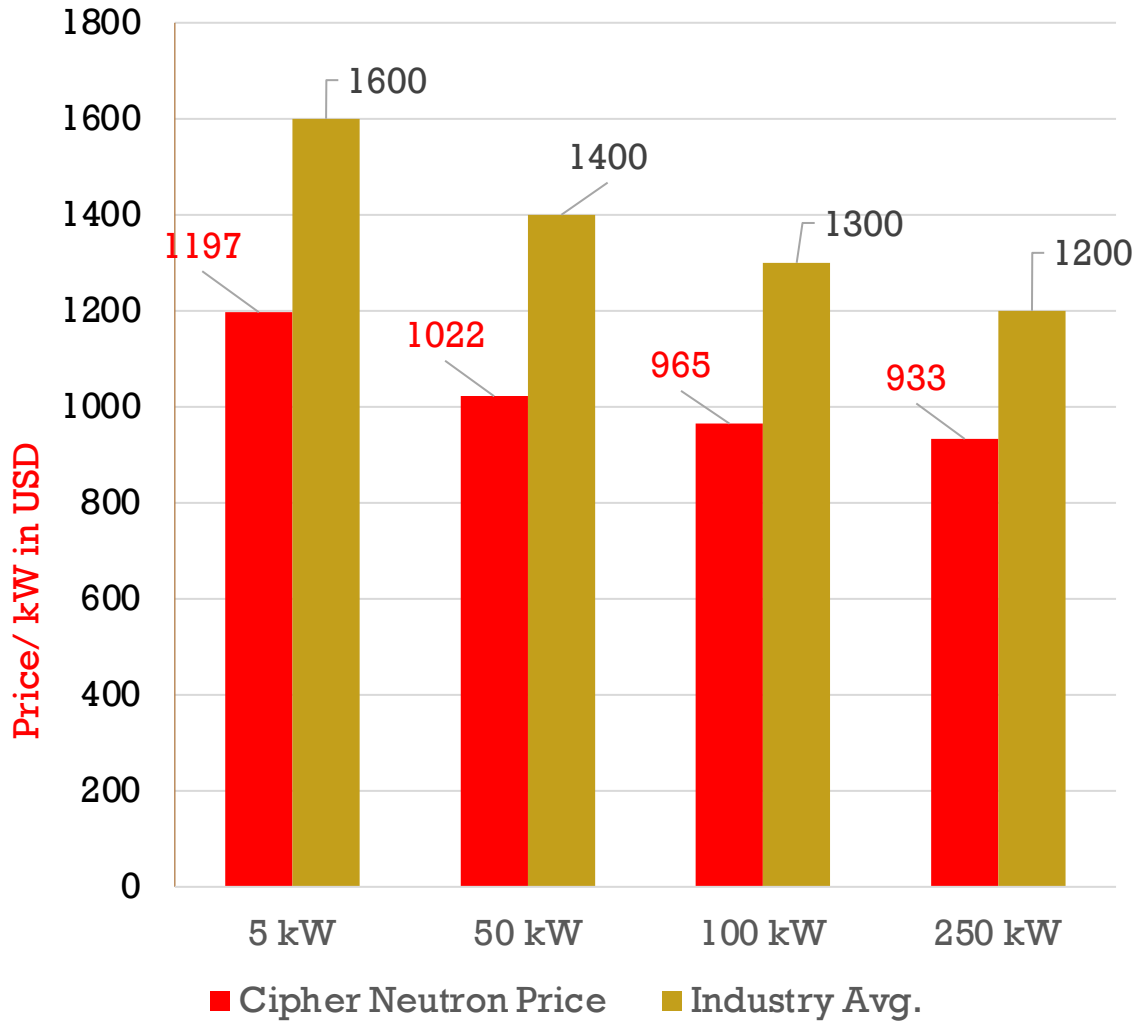
Announced Attempts in Recent AEM R&D:

Evonik

Cummins

AEM PRODUCT DESCRIPTION & PRICES

Cipher Neutron Product Pricing Benefits				
Product *Size*	**Hydrogen Production per hour in L**	**Hydrogen Production per day in kg**	**Price in USD**	**Price USD/kW**
5 kW	*1000 Liter*	*2 kg*	*$ 5,984*	*$ 1,197*
50 kW	*10,000 Liter*	*22 kg*	*$ 51,090*	*$ 1,022*
100 kW	*20,000 Liter*	*44 kg*	*$ 96,512*	*$ 965*
250 kW	*50,000 Liter*	*110 kg*	*$ 233,254*	*$ 933*



CN AEM PRODUCT TARGET MARKET & PRICE POINTS

Green Hydrogen Economy Scenario				
Industry	*Production*	*H2 Required*	*CN system Required*	*Addressable Green H2 Market Size*
Ammonia	1 tonne	200 kg	**2 X 250 kW** **100 X 5 kW**	30 million tonnes
Steel	1 tonne	45 kg	1 X 100 kW	45 million tonnes
Fuelling station	1 tonne	1000 kg	9 X 250 kW 1 X 50 kW	25 million tonnes (CN prediction in 2030)

Cipher Neutron's target market is *high volume Green Hydrogen* for large-scale industrial use.

Our 250-kW electrolyser stack is a perfect fit for the large-scale hydrogen industry because it significantly reduces the operating expenses and capital expenditures.

AEM SALES PIPELINE

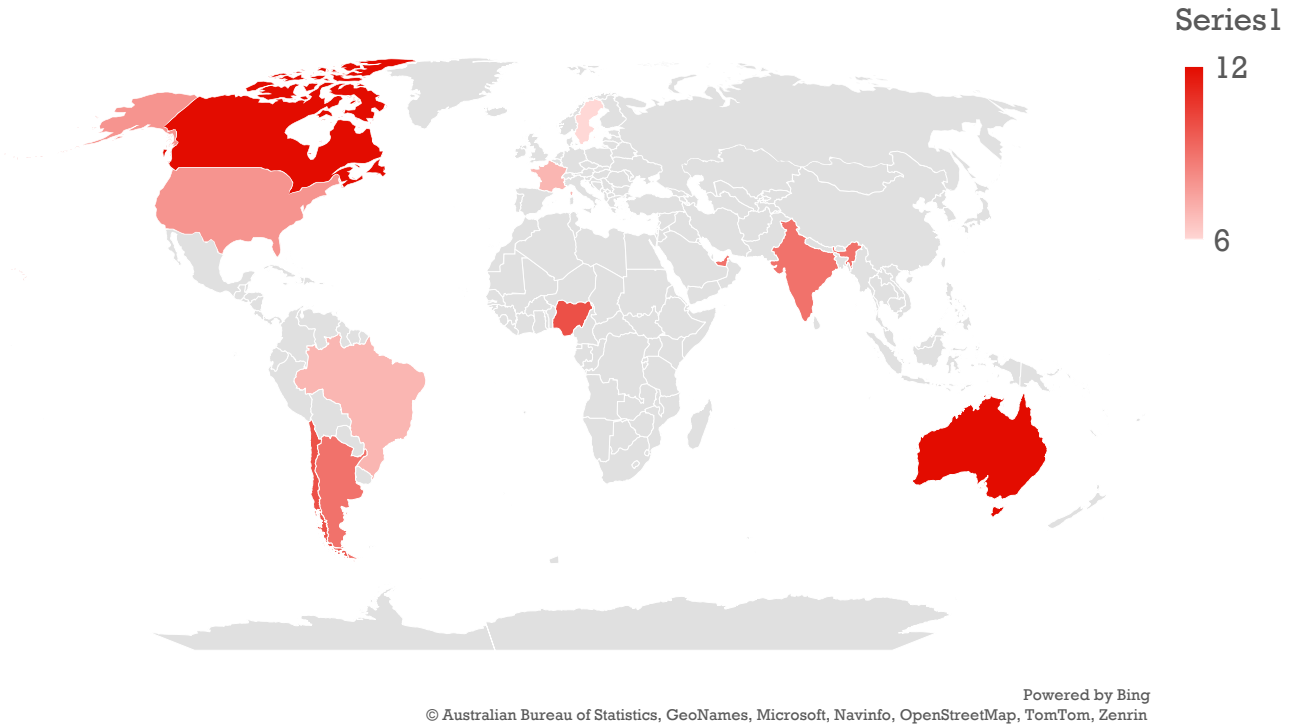
Total unit sales predictions	Year 1	Year 2	Year 3	Year 4
5 kW stack	✓	✓	✓	✓
50 kW stack		✓	✓	✓
100 kW stack				✓
250 kW stack				✓
5 kW electrolyser		✓	✓	✓
50 kW electrolyser		✓	✓	✓
100 kW electrolyser			✓	✓
250 kW electrolyser			✓	✓
Total Assumjed Revenue	$ 104,307	$ 7,685,779	$ 39,520,901	$ 317,539,965

Clients in Advanced Discussions

PARTNERSHIPS & MOUs

Company	Relationship type
dynaCERT Inc.	Research Collaboration
Spectronik	MOU for AEM Sales
Schnell International	MOU for AEM Sales
Ionomr Innovations	MOU for AEM Membrane
Kuber Group	MOU for AEM Sales
Astec/Safe Energy	MOU for Sales, Marketing and EPC

Dealer Network



In addition: Our research partner dynaCERT has 47 dealers across the globe selling electrolysers.

FUTURE R&D OF CIPHER NEUTRON

THE RFC (REVERSIBLE FUEL CELL)

1st Company to have Reversible Fuel Cell with Graphene Storage

Non-compressed Hydrogen Storage

Single system to produce Green Hydrogen and Clean Electricity

Ability to replace Lithium-ion batteries

Patent Pending

FUTURE R&D OF CIPHER NEUTRON

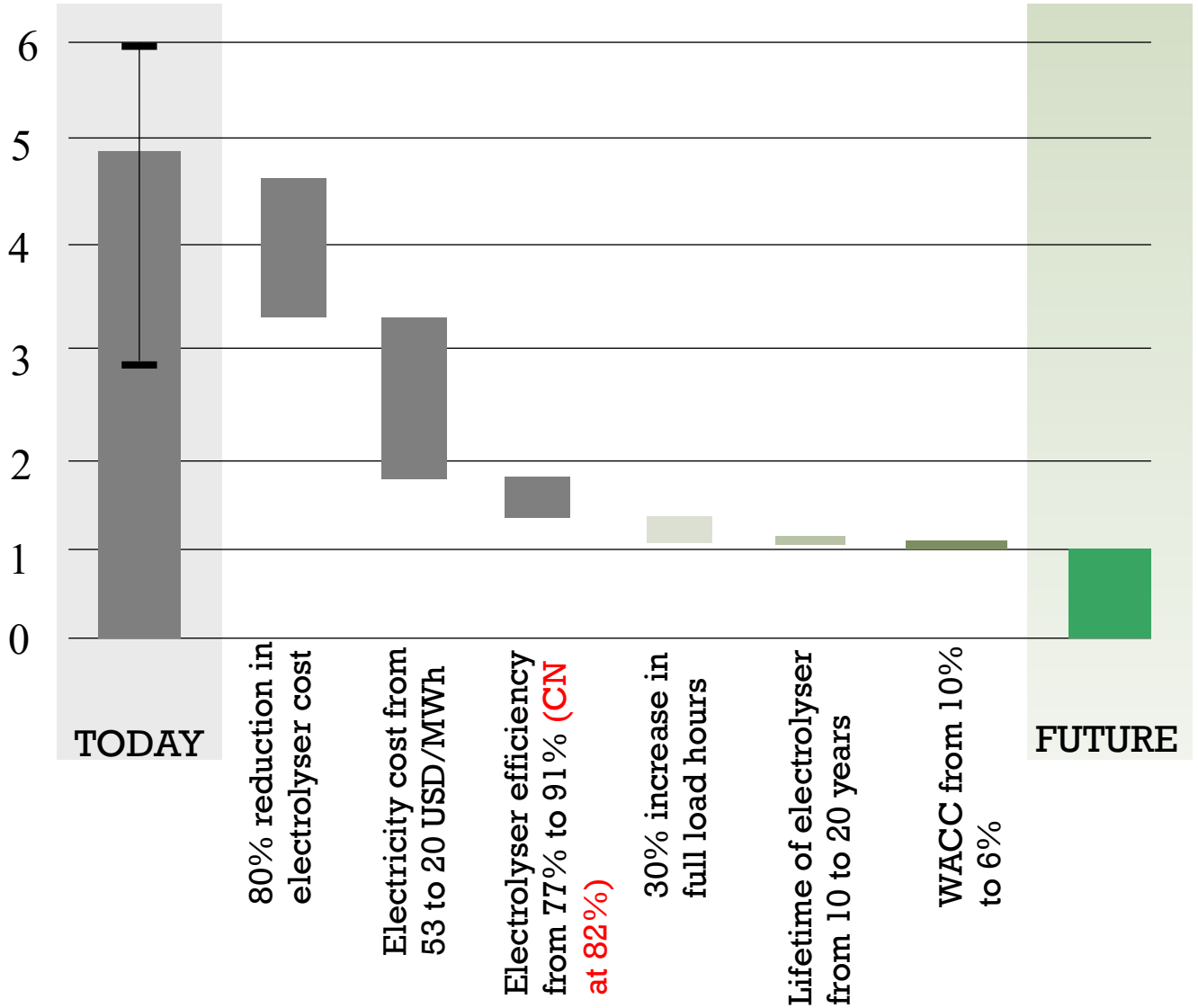
RFC APPLICATIONS

- Energy storage
- Residential and commercial power backup
- Off-grid/remote hotels, communities, cottages, etc.
- Utility market
- Capturing surplus/off-peak power

FUTURE R&D OF CIPHER NEUTRON (CIPHER NEUTRON IS AMONG THE LEADERS IN THE RACE TO REDUCE GREEN H2 PRICE)

Target – Department of Energy
Less than **$2/kg of Green H2** by 2026

Target – Cipher Neutron
Less than **$1.5/kg of Green H2** by 2030
Less than **$500/kW electrolyser** by 2030



Based on IRENA

CIPHER NEUTRON (LEADING THE GLOBAL GREEN HYDROGEN COST REDUCTION RACE)

Cipher Neutron AEM R&D 12 months Focus	Challenge	Benefit
1. Increase current density	Moderate	High
2. Reduce ohmic losses and gas permeation of AEM membranes	Moderate	High
3. Improve kinetics for hydrogen and oxygen evolution	Moderate	High
4. Improved flow fields	Easy	Medium
5. Improved membrane	Difficult	High
6. Improved efficiency	Difficult	High
7. Eliminate mechanical degradation	Difficult	High

PRODUCT LAUNCH TIMELINE

Q4 2023
- 5 kW AEM Stack

Q3 2024
- 50 kW AEM Stack

Q1 2025
- 100 & 250 kW AEM Stack
- 5 kW RFC

Q2 2026
- 10 kW RFC

Q4 2026
- 10 kW RFC
- 50 kW RFC

2023 | 2024 | 2025 | 2026 | 2026

Product	Stage	Expected launch date
5 kW Stack	Tested and approved from R&D	Q4 2023
50 kW Stack	Under testing in R&D	Q3 2024
100 kW Stack	Design stage	Q1 2025
250 kW Stack	Design stage	Q1 2025
RFC 5 kW	Design stage	Q1 2025
RFC 10 kW	Design stage	Q2 2026
RFC 20 kW	Design stage	Q4 2026
RFC 50 kW	Design stage	Q4 2026

Cipher Neutron AEM production facility

PATENTS FILED

Successfully filed 5 patents. Many more under development.

Patent - Title	Status
Graphene Slurry Based Power Back Up System	Published, Patent Pending
Highly Efficient HT-PEM Fuel Cell Using Heat Pipe Based Cooling System	Published, Patent Pending
A Highly Efficient Polymer Acidic Electrolyte-based Reversible Fuel Cell With Serpentine Micro Flow	Published, Patent Pending
A Hybrid Solar Chimney With Wind Turbine Fore Hanced Efficiency	Published, Patent Pending
Highly Efficient Anion Exchange Membrane Electrolyser With Circular End Plates And Flow Channels	Published, Patent Pending

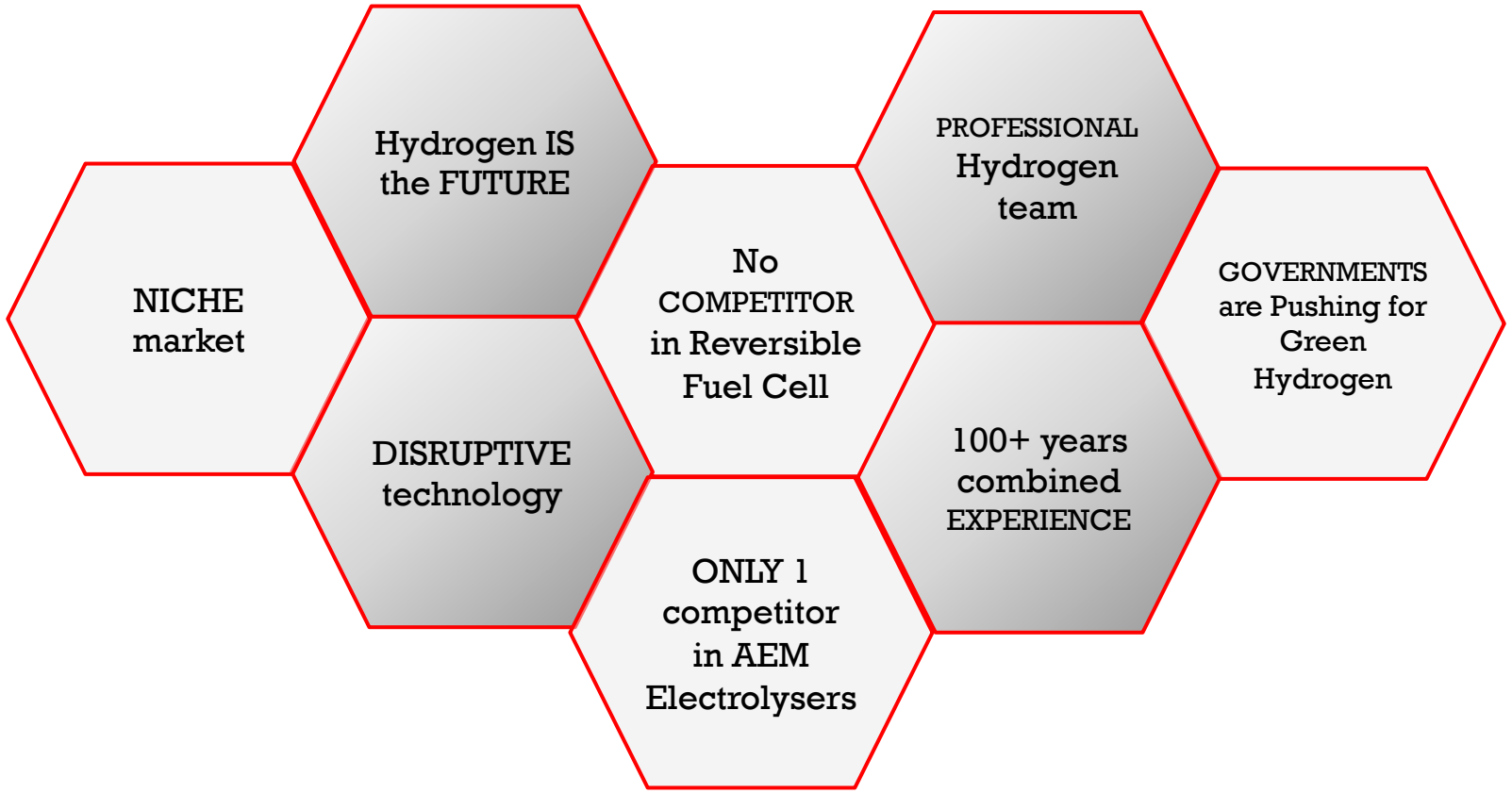
TRADEMARK LOGO

KEY SUCCESS FACTORS

- Professionals at Cipher Neutron
- Commitment to protect all our intellectual property & competitive innovations by filing worldwide patents
- Collaborations with top universities
- Corporate reward programme for employee excellence in innovation
- Careful selection of priorities to deploy research and production funds effectively

WHY INVEST

Hydrogen is one of the most promising alternative fuels.
Cipher Neutron can produce low coast Green Hydrogen.



OUR MANAGEMENT

Gurjant Randhawa, M.Eng, P.Eng
Director, President and CEO
Hydrogen Experience:10+ year

Dr. Larisa Karpenko, P.hd
Product Development
Hydrogen Experience: 20+ year

Jean Pierre Colin
Corporate Secretary
Hydrogen Experience: 7+ year

Dr. Mayilvelnathan, *P.hd*
Director, Business Development
Hydrogen Experience: 20+ year

Ranny Dhillon, M.Eng,
Director, Chief Technical Officer
Hydrogen Experience: 8+ year

Amit Khedkar
Chemical Engineer, EPC Specialist
Hydrogen Experience: 10+ years

Dr. Amandeep Oberoi, P.hd
Chief Scientist
Hydrogen Experience – 20+ years

Gurpreet Bhullar, M.Eng
Head of Research & Development
Hydrogen Experience – 8+ years

OUR MANAGEMENT

"Great things in business are never done by one person; they're done by a team of people." – **Steve Jobs**

Gurjant Randhawa, M.Eng, P.Eng
Director, President and CEO

Gurjant Randhawa is a visionary and highly-respected professional with extensive background in Cleantech technologies with focus on Hydrogen. Gurjant is registered with Professional Engineers Ontario, a highly respected licensing and regulating body for professional engineering in the province.

With more than 10 years of hands-on experience in hydrogen and unparalleled leadership skills, Gurjant has led the Cipher Neutron team with his in-depth knowledge in hydrogen technologies including but not limited to thin-film deposition, flow through porous media/ gas diffusion layers, strong material characterization skills and experience with electrochemical diagnostic methods.

Gurjant successfully put together a team of global scientists, engineers, technology developers, experts in hydrogen technology, and people that have worked in hydrogen and power generation sector for decades. Previously, he served as the Head of Research and Development for a successful Toronto Stock Exchange listed company which markets globally carbon emissions reduction technologies. Gurjant co-invented new technologies and filed many international patents in the hydrogen space.

Ranny Dhillon, M.Eng,
Director, Chief Technical Officer

Ranny Dhillon is a result oriented and innovative professional with 8+ years of research and development, prototyping, protype to production experience in hydrogen electrolyzers, fuel cells and Membrane electrode preparation techniques. Ranny has thorough understanding of PEMFC, PEM Electrolysers, AEM Electrolysers and their sub-components such as MEA, Gas Diffusion Layer, Porous Transport Layer, Flow Fields etc. Ranny co-invented 3 international patents in switching cell technology, amperage-based analysis of hydrogen gas and Graphene-based hydrogen storage and delivery system.

Ranny has also worked on other renewable energy sources such as solar chimney, pump storage, geothermal and wind energy. Ranny has a very strong background in electromechanical engineering and holds a Masters in Engineering degree in Electrical Engineering. Ranny successfully developed and launched numerous automotive grade products.

Dr. Mayilvelnathan*, P.hd*
Director, Business Development

Dr. Mayilvelnathan Vivekananthan (Vivek) is an Inventor, Innovation Coach and likes to work at the convergence of multiple clean and green energy technologies. Dr. Vivek has 20+ years of experience in the clean energy industry and in the area of research, planning, designing, development, implementation and operation of Green hydrogen projects in various parts of the world. Dr. Vivek's extensive international experience in both academia research and industry has allowed him to build an extensive network of friends and collaborators across the whole hydrogen value chain that work right now in the amazing challenge of building a new energy system for our society.

Currently Green Hydrogen Advisor for International Solar Energy Storage (ISES),Germany, Expert member in Global Wheels Foundations, USA, and Startup mentor for E4 Shell Green projects, Dr. Vivek also has expertise in application Engineering, Estimation for Green Hydrogen projects with timelines and study for Hydrogen value chains, and Hydrogen production by water electrolysis. Dr. Vivek also has in depth knowledge of optimisation of the Hydrogen electrolyser project's technical parameters, i.e. renewable power mix, hydrogen generator, ammonia loop etc. for the project.

OUR MANAGEMENT

Dr. Larisa Karpenko, P.hd
Product Development,
Reversible Fuel Cells

Dr.Karpenko-Jereb Larisa is an expert in simulation and modelling of polymer electrolyte fuel cells with more than 20-years-experience in academic and applied research. She graduated in the field of Electrochemistry and Physical Chemistry from the Institute of Membrane Technology at the Kuban State University, Krasnodar (Russia).

Since 2009 she has been working on modelling and simulation of durability and lifetime of polymer electrolytes and catalysts applied in renewable energy sources. The newly developed models have been used to diagnose critical conditions and monitoring degradation processes in the cells in order to optimize energy source reliability.

Dr. Karpenko-Jereb is the author and co-author of two book chapters and around 25 peer-reviewed papers. She is also a reviewer for a few scientific journals published by Elsevier and Springer, a leader of research projects granted by the Austrian Promotion Foundation (FFG).

Dr. Amandeep Oberoi, P.hd
Chief Scientist

Amandeep Singh has 10 + years of Research and Development experience in Hydrogen Fuel Cells, Electrolysers and Hydrogen storage mediums. He has got 13 patents under his name and published more than 50 research articles in refereed internal journals and conferences. Dr. Oberoi has received his PhD in Mechanical and Manufacturing Engineering from the RMIT University, Australia. Besides, he is an Australian Commonwealth Government's Scholarship Awardee and a research grant awardee from Brown Coal Innovation Australia.

Dr. Oberoi is a renowned researcher in the field of hydrogen technology with a research focus on Green Hydrogen generation, its storage in various porous mediums, and utilization in PEM fuel cells for varied applications. Dr. Oberoi Executed numerous projects on the development of solutions for improved electrocatalysts and efficiencies for water electrolysers, fuel cells and reversible fuel cells.

Jean-Pierre Colin MBA, LL.L, DCS
Corporate Secretary

Jean-Pierre Colin is Corporate Executive & Director of Public Companies in the Environmental & ESG compliant industry, Green & Hydrogen Economy: Galaxy Power Inc., Galaxy Placements Inc., dynaCERT Inc., Sego Resources Inc., White Metal Resources Corp.

JP was a pioneer of Flow Through Shares who led $ Billions in Flow Through Share financings in Canada during his thirty-year career as an investment banker on Bay Street in Toronto. He also initiated numerous public Flow Through Share Funds which in aggregate successfully managed and invested over $750 Million.

During his career as an investment banker, JP led corporate finance, syndication and M&A professionals focussing on resources and technology sectors, including Clean Technology.

Long-standing track record as senior Investment Banker and M&A specialist in the Canadian & International Financial Markets heading successful Corporate Finance Departments of Canadian mid-cap Securities Dealers.

Jean-Pierre Colin is a member of the Hydrogen Working Group of the Government of Ontario & Lobbying Government of Canada for Clean Technology Tax Incentives. Mr. Colin is LL.L. (Civil Law), MBA, DCS, Member of the Quebec Bar.

OUR MANAGEMENT

Amit Khedkar, M.Eng
Chemical Engineer, EPC specialist

Amit Khedkar is a hydrogen scientist with chemical engineering background. During his recent role, Amit was Assistant Manager, Hydrogen Group at Iwatec Corporation Ltd, Nagasaki, Japan. A position with the combined roles of system design & integration, vendor development, project management, EPC and EMS project execution, market research and business development for fuel cell, hydrogen, and biogas projects. Having lived and worked there since 2017, Amit has gained invaluable market and cultural knowledge to boost any organisation's development efforts in the hydrogen generation market.

Prior to joining Iwatec, he worked with BHEL R&D, India, Sree Harshi Infoway Pvt Ltd, India and h2e power system Pvt Ltd, India which gave him thorough understandings on PEM and SOFC fuel cell component design, integration and testing.

During 7+ years of professional work experience, he also gained skills to work on vendor development, negotiations and proposal presentation. Besides that. He worked with several other well-known companies from India, Japan, USA, Netherlands, Germany, Belgium, Taiwan and Italy.

Gurpreet Bhullar, M.Eng
Head of Research & Development

Gurpreet Bhullar is double masters in Mechanical Engineering and Management studies. Gurpreet has 8 years+ of work experience enriched with Product Development Techniques (PDT) and practical experience in design controls, risk management, verification, validation and change control, and failure investigation tools and techniques. His past work experience is a mix of academics and industry that provides him a critical theoretical and practical thinking ability.

Gurpreet has in depth knowledge of PEMFC, PEM Electrolysers, AEM Electrolysers and their sub-components such as MEA, Gas Diffusion Layer, Porous Transport Layer, Flow Fields etc.

Gurpreet has experience leading the development of the foundation design processes, design system and libraries, and adoption of the design strategy throughout the product lifecycle.

USE OF PROCEEDS

Research Budget		
Buget Items	*Year 1*	***Year 2***
Capex		
R&D Plant	$ 3,000,000	$ 500,000
Opex		
Raw Material	$ 500,000	$ 500,000
Facility Rental	$ 250,000	$ 250,000
R&D Wages	$ 750,000	$ 750,000
Consultation	$ 500,000	$ 500,000
Sub- Total	$ 5,000,000	$ 5,000,000
2 Year Total	***$ 10,000,000***	

Production Budget		
Budget Items	*Year 1*	*Year 2*
Capex		
Production Plant	$ 3,000,000	
Opex		
Raw Material	$ 100,000	$ 2,500,000
Facility Rental	$ 900,000	$ 1,000,000
Indirect Labour	$ 180,000	$ 500,000
Direct Labour	$ 300,000	$ 500, 000
Misc.	$ 500,000	$ 500,000
Sub- Total	$ 5,000,000	$ 5,000,000
2 Year Total	***$ 10,000,000***	

G&A Budget		
Budget Items	*Year 1*	*Year 2*
Director & Management	$ 1,000,000	$ 1,000,000
Key Employees	$ 500,000	$ 500,000
Legal Fees	$ 250,000	$ 250,000
Patents	$ 250,000	$ 250,000
Misc. (Travel, Marketing)	*$ 500,000*	*$ 500,000*
Sub - Total	$ 2,500,000	$ 2,500,000
2 Year Total	***$ 5,000.000***	

Total Budget: $ 25,000,000 (CAD)

Capex Expenditure in R&D

- Ink Coating machine
- Electrolyser test station
- Fuel cell test station
- Membrane development lab

Capex Expenditure in Production

- Capacity – 100 MW/year
- Ink Coating machine
- Electrolyser test station
- Semi-automated Assembly line
- Raw material

THE OFFERING

Offering Terms		
	CAD	USD
Size	$ 25,000,000	$ 18,189,756
Price	$ 1.00	$ 0.728
Number of Units	25,000,000	25,000,000
Shares/Unit	1	1
Warrants/Unit	0.5	1
Exercise Price of Warrants	$ 1.50	$ 1.091

DYNACERT OPTIONS

dynaCERT Options					
option name	expiry date	CAD exercise price	number of CN shares	CAD proceeds	USD proceeds
A	October 1, 2023	$ 0.38	6,666,667	$ 2,500,000	$ 1,818,976
B	March 31, 2024	$ 0.38	6,666,667	$ 2,500,000	$ 1,818,976
C	December 31, 2024	$ 0.38	16,000,000	$ 6,000,000	$ 4,365,541
D	July 31, 2025	$ 0.61	10,666,666	$ 6,500,000	$ 4,729,336
total		$ 0.44	40,000,000	$ 17,500,000	$ 12,732,829

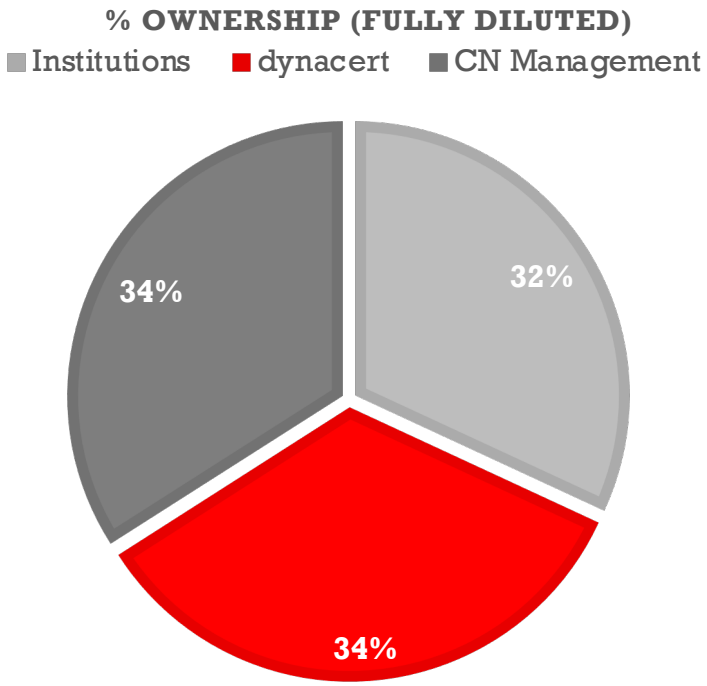
Assumes		
USD/CAD	$	1.37

CAP TABLE

Pro-Forma Cap Table					
	Number	CAD Valuation/Price	CAD Proceeds	USD Valuation/Price	USD Proceeds
Existing CN Shares	40,000,000				
Unit Offering	25,000,000	$ 1.00	$ 25,000,000	$ 0.73	$ 18,189,756
dynaCert Options	40,000,000	$ 0.44	$ 17,500,000	$ 0.32	$ 12,732,829
Total Undiluted	105,000,000		42,500,000		30,922,584
Warrants	12,500,000	$ 1.50	$ 18,750,000	$ 1.09	13,642,317
Options	10,500,000	$ 1.00	$ 10,500,000	$ 0.73	7,639,697
Total Fully Diluted	128,000,000		71,750,000		52,204,598

Assumes		
USD/CAD	$	1.37

OWNERSHIP


% OWNERSHIP (FULLY DILUTED)
Institutions
dynacert
CN Management
34%
32%
34%

PROJECTIONS

Revenue	Year 1	Year 2	Year 3	Year 4	Year 5
Visibility	$ 110,824	$ 8,103,888	$ 15,276,569	$ 119,994,153	$ 580,665,607
Projected	$ 104,307	$ 8,011,643	$ 37,292,028	$ 333,806,151	$ 871,573,858
Gross Margin	$ 40,351	$ 673,896	$ 10,012,522	$ 76,910,529	$ 195,219,527

Revenue	Year 6	Year 7	Year 8	Year 9	Year 10
Visibility	$ 874,662,136	$ 113,388,979	$ 93,592,414		
Projected	$ 1,159,365,226	$ 801,289,010	$ 1,358,311,069	$ 1,839,689,045	$ 2,668,794,064
Gross Margin	$ 271,273,951	$ 220,312,726	$ 349,753,051	$ 468,580,466	$ 661,747,602

SENSITIVITY ANALYSIS

NPV — *Discount Rate* *10.0%*

NPV @ 10.0% (10 years) in CAD millions

Electrolyser Margin \ Stack Margin	10%	20%	30%	40%	50%
50%	$ 1,246.0	$ 1,277.3	$ 1,308.6	$ 1,339.9	$ 1,371.3
40%	$ 1,085.3	$ 1,116.6	$ 1,148.0	$ 1,179.3	$ 1,210.6
30%	$ 924.6	$ 956.0	$ 987.3	$ 1,018.6	$ 1,049.9
20%	$ 764.0	$ 795.3	$ 826.6	$ 857.9	$ 889.2
10%	$ 603.3	$ 634.6	$ 665.9	$ 697.3	$ 728.6

NPV Per Share

Per Share NPV @ 10.0% (10 years) in CAD

Electrolyser Margin \ Stack Margin	10%	20%	30%	40%	50%
50%	$ 14.16	$ 14.51	$ 14.87	$ 15.23	$ 15.58
40%	$ 12.33	$ 12.69	$ 13.04	$ 13.40	$ 13.76
30%	$ 10.51	$ 10.86	$ 11.22	$ 11.58	$ 11.93
20%	$ 8.68	$ 9.04	$ 9.39	$ 9.75	$ 10.11
10%	$ 6.86	$ 7.21	$ 7.57	$ 7.92	$ 8.28

IRR

IRR (10 years) in CAD

Electrolyser Margin \ Stack Margin	10%	20%	30%	40%	50%
50%	166%	168%	170%	172%	173%
40%	153%	155%	158%	160%	162%
30%	140%	142%	144%	147%	149%
20%	124%	127%	130%	132%	135%
10%	107%	110%	113%	116%	119%

CIPHER NEUTRON & HYDROGEN IN THE NEWS

- dynaCERT and Cipher Neutron Catapult into the Hydrogen Economy Establishing an International R&D Facility in the Greater Toronto Metropolitan Area
- Dynacert Invests $17.5M in Cipher Neutron Under Collaborative R&D Deal
- dynaCERT and Cipher Neutron Signs MOU with Safe Energy and Astec in India, Europe & Middle East
- dynaCERT and Cipher Neutron to unveil new electrolyser technology at the Edmonton
- dynaCERT and Cipher Neutron Applaud the Canadian Clean Technology Tax Incentives of Budget 2023
- Plans for $1.3B net-zero hydrogen plant underway in alberta's capital region
- Edmonton region boasts $100 billion in hydrogen opportunities: expert
- European investment bank and kenya strengthen green hydrogen cooperation
- India makes $2.3 billion green hydrogen push to meet climate goals
- Japan is putting $2.35bn into a project to turn coal from victoria's latrobe valley into "clean hydrogen"
- Germany pushes green hydrogen use in transport as national infrastructure takes shape
- Canada should focus on green, not blue, hydrogen

Connecting Green Hydrogen MENA 2023 (CGHM2023)

APPENDIX

BARRIERS OF GREEN HYDROGEN UPTAKE

HIGH PRODUCTION COSTS: Green hydrogen produced using electricity from an average renewable energy plant in 2019 would be two to three times more expensive than grey hydrogen. In addition, adopting green hydrogen technologies for end uses can be expensive. Vehicles with fuel cells and hydrogen tanks cost at least 1.5 to 2 times more than their fossil fuel counterparts (NREL, 2020). Similarly, synthetic fuels for aviation are today, even at the best sites in the world, up to eight times more expensive than fossil jet fuel (IRENA, 2019a).

LACK OF DEDICATED INFRASTRUCTURE: Hydrogen has to date been produced close to where it is used, with limited dedicated transport infrastructure. There are only about 5000 kilometres of hydrogen transmission pipelines around the world (Hydrogen Analysis Resource Center, 2016), compared with more than 3 million kilometres for natural gas. There are 470 hydrogen refuelling stations around the world (AFC TCP, 2020), compared with more than 200000 petrol and diesel refuelling stations in the United States and the EU. Natural gas infrastructure could be repurposed for hydrogen (IRENA, IEA and REN21, 2020), but not all regions of the world have existing infrastructure.

ENERGY LOSSES: Green hydrogen incurs significant energy losses at each stage of the value chain. About 30-35% of the energy used to produce hydrogen through electrolysis is lost (IRENA, 2020d). In addition, the conversion of hydrogen to other carriers (such as ammonia) can result in 13-25% energy loss, and transporting hydrogen requires additional energy inputs, which are typically equivalent to 10-12% of the energy of the hydrogen itself (BNEF, 2020; Staffell *et al.*, 2018; Ikäheimo *et al.*, 2017). Using hydrogen in fuel cells can lead to an additional 40-50% energy loss.

NEED TO ENSURE SUSTAINABILITY: Electricity can be supplied from a renewable energy plant directly connected to the electrolyser, from the grid, or from a mix of the two. Using only electricity from a renewable energy plant ensures that the hydrogen is "green" in any given moment. Grid-connected electrolysers can produce for more hours, reducing the cost of hydrogen. However, grid electricity may include electricity produced from fossil fuel plants, so any CO2 emissions associated with that electricity will have to be considered when evaluating the sustainability of hydrogen.

Cipher Neutron address all these key issues in our newly developed technology

ENVIRONMENTAL IMPACT OF PEM ELECTROLYSER GHG FOOTPRINT OF PEM

1 MW (MegaWatt) PEM Electrolyser	
Hydrogen Produced	470 kg/day
Iridium Used	2,000 gram
Platinum	800 gram
CO2_e to mine **PGMs (platinum group metals)**	101 tonnes
Water Usage to mine	1.12 million L

A NEW and BETTER technology is a must for hydrogen economy to exist

SUPPORTING DATA

- Average 36 tonne CO2_e to mine 1 kg PGMs
- 16 tonnes of ore processing to produce 1 ounce of platinum
- High waste rock and tailings generated (98% ore becomes tailings)

KEY TAKE AWAYS

- PEM electrolysers rely on mining industry
- Mining for PEM electrolysers has environment impacts
- Precious metal mining has supply chain and demand issues

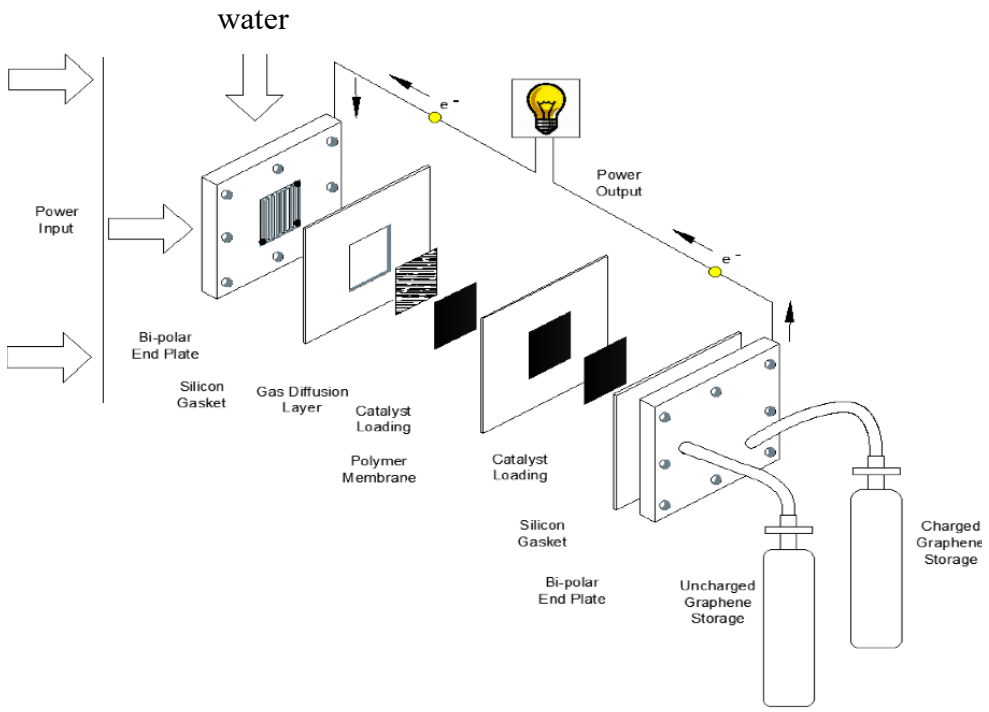
FUTURE R&D OF CIPHER NEUTRON

RFC TECHNOLOGY

- Cipher Neutron's system has two external tanks. One tank contains charged graphene (graphene with stored hydrogen) and the other contains discharged graphene (graphene with no hydrogen stored). During E-mode, the discharged graphene is passed through the reversible fuel cell and the hydrogen produced is trapped inside the graphene. This now becomes charged graphene and is stored in the second tank.
- During FC-mode operation, the polarities of the cell are reversed, and the cell is disconnected from the electric supply. Instead of an electric supply, the cell is connected to an electric load to draw out the current. At anode, the collected H_2 is supplied by pumping the charged graphene that undergoes a hydrogen reduction reaction in the presence of catalyst i.e., H_2 breaks into H^+ and e^- and they follow their usual path to reach the cathode.

$$2H_2 \rightarrow 4H^+ + 4e^-$$

- While travelling towards cathode, e^- satisfy the applied electric load as it is passing through the electric wires. At cathode, the collected O_2 is supplied which reacts with H^+ (that has travelled through the membrane) and e^- (that has travelled through the wires) to reform water.
- In FC- mode, this charged graphene is now pumped back into the RFC and the hydrogen trapped inside gets released during the process.



A FEW GREEN HYDROGEN PROJECTS ACROSS THE GLOBE

- BP spending $36 billion to generate green hydrogen and green ammonia using Solar and wind energy.
- TotalEnergies has joined an Indian venture that may invest $50 billion over 10 years to produce green hydrogen.
- In the US, Amazon has signed a deal with Plug Power to provide green hydrogen to power 800 long-haul trucks or 30,000 forklifts beginning in 2025.
- Air Products will produce green hydrogen in Casa Grande, Arizona, to the tune of 10 metric tons per day.
- Libertad Power announced a deal with Hyundai — they will produce green hydrogen from a new plant in Farmington, New Mexico.
- An international business, Universal Hydrogen will invest over $250 million to produce green hydrogen in a new facility in Albuquerque to provide aviation fuel.
- Chevron is getting ready to produce green and blue hydrogen, and to spend billions of dollars to do it.

Forbes data

RISK FACTORS

- A downturn in the economy generally or in the markets we serve could adversely affect our business competition
- Foreign and domestic economic, political, legal, compliance and business factors could negatively affect our international sales and operations.
- Our failure to maintain appropriate environmental, social, and governance practices and disclosures could result in reputational harm, a loss of customer and investor confidence, and adverse business and financial results.
- Changes in environmental or regulatory requirements could entail additional expenses that could decrease our profitability.
- Our international sales and operations may be adversely impacted by compliance with export laws.
- Our reputation, ability to do business and financial statements may be impaired by improper conduct by any of our employees, agents or business partners.
- Any inability to hire, train and retain a sufficient number of skilled officers and other employees could impede our ability to compete successfully.
- Our growth depends in part on the timely development, commercialization, and customer acceptance of new and enhanced products and services based on technological innovation. If we are unable to develop new products on a timely basis, it could adversely affect our business and prospects.
- Our technology is important to our success and our failure to protect this technology could put us at a competitive disadvantage.
- We may become subject to intellectual property disputes, which are costly and may subject us to significant liability and increased costs of doing business.
- A disruption in, shortage of, or price increases for, supply of our components and raw materials may adversely impact our operations.
- We are subject to numerous governmental regulations, which may be burdensome or lead to significant costs.
- Our business and financial performance could be adversely impacted by a significant disruption in, or breach in security of, our information technology systems.
- If we suffer loss to our facilities, supply chains, distribution systems or information technology systems due to a catastrophic event, our operations could be seriously harmed.
- Changing industry trends may affect our results of operations.
- We rely heavily on manufacturing operations to produce our products and the failure of a key supplier to manufacture and deliver quality product in a timely manner could negatively affect customer satisfaction.

THANK YOU FOR YOUR TIME

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http://www.cipherneutron.com/