



Clean Energy for a Cleaner Future

Corporate Presentation

May 2022

Private & Confidential

The Challenge

Global demand for energy is increasing. Historically, hydrocarbons have been the world's primary energy source. However, the negative effect of utilizing hydrocarbon fuels, where carbon is released into the atmosphere, has created the need to find an environmentally cleaner source of energy without the release of pollutants.

As a result, a new hydrogen economy has emerged whereby hydrogen can be used to store and deliver clean, usable energy. Existing methods for producing hydrogen, however, are costly and require water and/or oxygen in their production process, carbon capture and sequestration, or both.

Our Solution

Innova's revolutionary, proprietary HIP™ technology converts naturally abundant hydrocarbons into high-purity, clean hydrogen and high-quality, customizable graphite and graphene with zero water and oxygen inputs and zero carbon emissions. This means lower production costs and an environmentally friendly energy solution.

Our Vision

To develop zero-emission, clean energy technologies that produce carbon-free hydrogen energy and high-quality, high-demand by-products.

Our HIP™ Advantage

Zero water and oxygen inputs and zero carbon dioxide emissions mean lower production costs and an environmentally friendly energy solution.



Our HIP™ Technology*

Converts natural gas into high-purity, clean hydrogen and high-quality, customizable graphite and graphene.

**Patent pending*

0%

Water Inputs

0%

Oxygen Inputs

0%

Carbon Emissions

100%

Clean, Affordable Energy



Meet our Team

Committed to the pursuit of clean energy technologies.
Driven to create value for our shareholders & growth for our economy.



Brian Alford

BSc, PEng

Co-Founder & Co-CEO

Brian has founded and created value for five successful public and private companies, one of which includes raising over \$200M to fund growth through acquisitions and capital projects, achieving a peak market capitalization of \$700M. He has 28 years of experience in the roles of President & CEO, director, management, and engineering. Brian is a “big-picture” thinker who leads by example and has an innate ability to secure and motivate talent, bridge gaps between organizational disciplines, and continuously seek out opportunities to create value for stakeholders. Some of the companies he has worked for include Murphy Oil, Bronco Energy, Sproule Associates, and Axiom Oil and Gas. Brian holds a Bachelor of Science in Mechanical Engineering from Queen’s University.



Kamelia (Kami) Giles

BCom (Fin)-BCom (Int’l Bus) (Dist)

Co-Founder, Co-CEO & CFO

Kami is a McGill business graduate with over 25 years of entrepreneurial experience in the areas of corporate finance, accounting, marketing, and business development. She has been involved in the creation and development of both private and publicly listed companies, including co-founding a successful TSX-V listed company, generating a 4.6x exit within two years. Kami’s forte is in strategic relationships, capital raising and deployment, budgeting and forecasting, cash management and cost controls. Kami is also known for her strong interpersonal relationship and negotiating skills. Her passion lies in working with like-minded team players driven to not only create value for stakeholders but to make a positive environmental impact.



Dr. Norman Arrison

BSc, MSc, PhD, PEng

Co-Founder & CTO

Norman is a passionate scientist, engineer, and inventor who brings nearly 50 years of expertise to the team, with a focus on creating innovative solutions to environmental concerns. His illustrious career includes being appointed by Prime Ministers Brian Mulroney and Pierre Trudeau to serve two separate terms on the Science Council of Canada, being appointed Design Officer in charge of safety systems for the 600 MW CANDU Nuclear Reactor for Atomic Energy of Canada, Director of Research at Global Thermoelectric Power Systems Ltd., and working with the Canadian Armed Forces, IBM and others. Norman holds numerous patents to inventions currently in use world-wide and has an extensive list of published papers. He holds a PhD, MSc and BSc in Chemical Engineering and is a member of The Association of Professional Engineers, Geologists and Geophysicists of Alberta and The American Chemical Society.

**Donny Bobocel**

PET

Co-Founder & President

Donny is an Engineering Technologist with almost [40 years](#) of technical experience in both field and management roles. A seasoned energy professional, Donny brings expertise in project planning and execution, field optimization and the management of safe, efficient, low-cost operations. His broad career background from being a founder in energy production and service start-ups to various operational roles within larger energy companies provides the in-depth and diverse skill set required for the development, execution, and commercialization of Innova's technologies.

**Matt Desroches**

BSc, PEng

Co-Founder & COO

Matt brings over [11 years](#) of engineering experience in the planning and execution of highly capitalized development projects in Alberta and British Columbia. His expertise in decision analysis, risk mitigation and economic modelling within the energy sector provides the perfect skill set necessary for the transition of Canada's oil and gas industry to becoming net carbon neutral. Matt has a Bachelor of Science degree in Engineering from Montana Tech and is a licensed Professional Engineer in the province of Alberta.

**James Tatum**

BSc, MSc

Technology Development Engineer

James earned his MSc in Mechanical Engineering from the University of Alberta, specializing in methane pyrolysis, and is the proud winner of the Indigenous Graduate Award and A Metis Scholars' Award. He completed his BSc in Mechanical Engineering at the U of A as well, winning multiple awards including the 'Indspire' Post-Secondary Education Award, Indigenous Careers Award, Metis Nation of Alberta Undergraduate Award, and the Jason Lang Scholarship. He joins Innova with two years of prior industry experience at Shell, CNRL and Syncrude, with expertise in project management, CAD design, and research and development. He has taken on a leading role in the design and execution of Innova's proprietary technology and is the principal investigator of the technology's products. James has been a registered Engineer-in-Training with APEGA since 2018.

**Dr. Jason Olfert**

BSc, MSc, PhD, PEng

Technical Advisor & Research Collaborator, University of Alberta

Jason is a Professor in the Department of Mechanical Engineering at the University of Alberta. He obtained his PhD in Engineering from the University of Cambridge, and MSc and BSc in Mechanical Engineering from the University of Alberta. His research is focused on developing novel aerosol instruments, characterizing particulate emissions from combustion sources, including those from methane pyrolysis, internal combustion engines, gas turbine engines, flares, and burners, and understanding how aerosols affect global climate. He has worked on the development of the centrifugal particle mass analyzer, aerodynamic aerosol classifier and the miniature inverted soot generator, which are all commercially available instruments. Jason serves as an editor for the journal Aerosol Science and Technology, has over 90 peer-reviewed journal publications, and has received several awards including the University of Alberta, Faculty of Engineering Teaching Award, Mechanical Engineering Club: Award for Teaching Excellence, Sheldon K. Friedlander Award, Masao Horiba Award and Fissan-Pui-TSI Award for his contributions to aerosol science. He is a licensed Professional Engineer in the province of Alberta and founder of Argonaut Scientific Corporation.

**Dr. Marc Secanell**

BSc, MSc, PhD, PEng

Technical Advisor & Research Collaborator, University of Alberta

Marc is a Professor in the Department of Mechanical Engineering at the University of Alberta and the Director of the Energy Systems Design Laboratory. He received his PhD and MSc in Mechanical Engineering from the University of Victoria, and his BEng from the Universitat Politècnica de Catalunya (BarcelonaTech). In 2008, Marc was an Assistant Research Officer at the National Research Council of Canada, Institute for Fuel Cell Innovation in Vancouver, Canada and in 2015-16, was a visiting research scholar in the Energy Conversion Division at the Lawrence Berkeley National Laboratory, US. His research interests are in the areas of: a) analysis and computational design of energy systems, such as polymer electrolyte fuel cells, polymer electrolyzers, flywheels and cooling towers; b) fabrication and characterization of polymer electrolyte fuel cells and electrolyzers; c) finite element analysis; and, d) multidisciplinary design optimization. His current research projects include the development of the open-source Fuel Cell Simulation Toolbox (OpenFCST), an open-source framework to analyze fuel cells, the development of mathematical models and optimization strategies for cooling towers, methane pyrolysis reactors and high-speed composite flywheels, and the fabrication and characterization of low loading polymer electrolyte fuel cells and electrolyzers. Marc has authored over 50 journal articles, 30 conference proceedings and two book chapters receiving over 3,000 citations (h-index: 33 in Google Scholar). He has been an invited speaker at prestigious conferences such as the Electrochemical Society Meeting and the Gordon Research Conference in Fuel Cells and has received several awards including the University of Alberta, Faculty of Engineering Teaching Award, Excellence in Engineering Research Award, the Association of Professional Engineers and Geoscientists of Alberta (APEGA) Early Accomplishment Award, and a Hydrogen and Fuel Cells Canada Scholarship. Marc is also the Co-Chair of the 2022 GRC Fuel Cell Conference.



Proprietary Technology

Patent Pending Thermal & Catalytic Methane Pyrolysis for
Turquoise Hydrogen, Graphite & Graphene Production

The Hydrogen Spectrum

Not all hydrogen is created equally.

Grey Hydrogen

- Produced from fossil fuels, primarily natural gas, through a process called methane reforming.
- Carbon dioxide by-product is released into the atmosphere, which is considered to be a significant environmental pollutant.
- Makes up ~95% of current global hydrogen production.

Blue Hydrogen

- Produced primarily through steam methane or auto thermal reforming, where either steam or oxygen reacts with methane to form hydrogen & carbon dioxide.
- These methods incorporate carbon capture utilization & storage (CCUS) technologies to reduce carbon intensity, in many cases by up to 80-90% compared to grey hydrogen.

Green Hydrogen

- Produced by electrolysis, a process that uses an electric current to break water molecules into hydrogen & oxygen.
- To be considered green, electricity used must come from renewable sources, such as wind, hydro, or solar.
- No carbon dioxide is produced thus making the hydrogen climate neutral.
- Currently green is the most costly to produce of all the hydrogen categories.
- Accounts for < 1% of the total hydrogen produced.

Turquoise Hydrogen

- Produced by methane pyrolysis, where methane is converted into hydrogen & solid carbon at very high temperatures. There are three types of methane pyrolysis: thermal, catalytic & plasma.
- Uses 4–7.5x less electricity than green hydrogen, depending on the technology used.
- Uses ~50% less energy than blue hydrogen to produce same amount of hydrogen, and no water or oxygen is required, as is the case with blue hydrogen.
- No carbon dioxide is generated, as is the case with grey & blue hydrogen. Rather, the by-product is highly valuable solid carbon.

Zero Water + Zero Oxygen

+ Zero Carbon Emissions

+ Valuable By-Product

= Lower Cost, Clean Energy Alternative



innovahydrogen HIP™ Technology

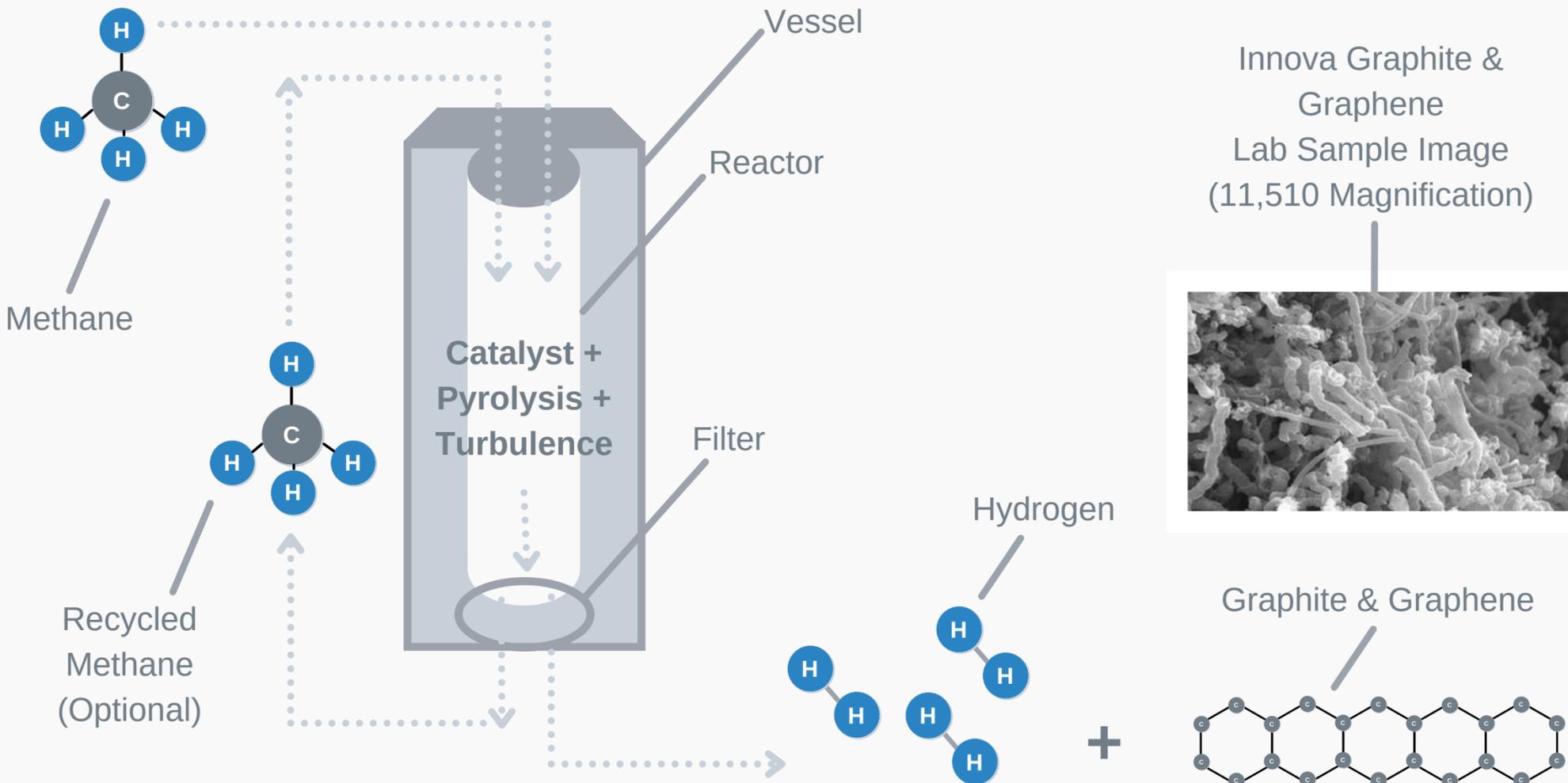
Produces turquoise hydrogen through both thermal & catalytic methane pyrolysis, with the incremental value-add of graphite & graphene as solid carbon by-products.



A Lower Cost, Clean Energy Solution

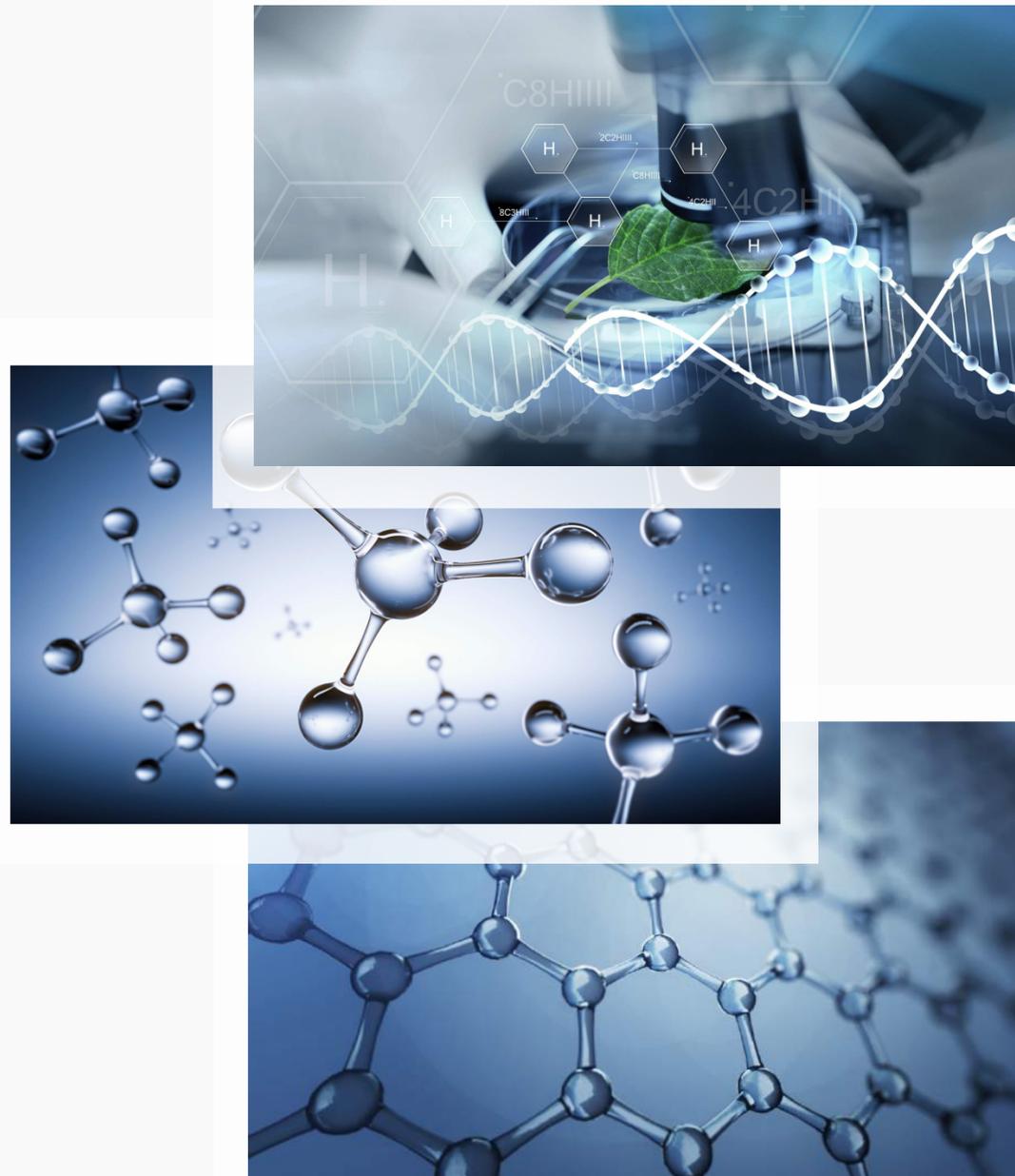
- Patent pending thermal & catalytic methane pyrolysis for turquoise hydrogen, graphite & graphene production
- Uses naturally abundant & inexpensive methane as its only feedstock, unlike other existing methods that require water and/or oxygen
- Methane broken down into valuable products: hydrogen, graphite & graphene, with zero carbon emissions
- Hydrogen lab verified at 
- Graphite & graphene lab verified at 

Input: Methane (Zero Water, Steam, or Oxygen Required)



Output: Hydrogen, Graphite & Graphene (Zero Carbon Emissions Created)

"Plug & Play" Modular Design • Fewer Inputs • No Emissions • Highly Valuable By-Product



- **Innova obtained five patents from multi-national (in exchange for founders shares)**
 - Patented technology produced graphite (for lubricants) with hydrogen & graphene by-products
 - Hydrogen & graphene by-products were considered undesirable at time & multi-national did not lay claim to by-products in their patents
 - Patents were the result of 10+ years research by multi-national R&D team & successfully granted in the '80's
- **Innova R&D team has improved upon patented technology to create optimized HIP™ technology**
- **IP searches conducted by Blakes, Cassels & Graydon LLP has resulted in clean search & no infringements**
- **HIP™ patent application filed for production of hydrogen, graphite & graphene**
 - Patent pending status - provisional patent allows for additional subject matter to be incorporated through R&D process
 - Patent will be relied upon to support global patent protection strategy + roadmap for additional proprietary advancements in clean energy technology

Innova's HIP™ Advantage:



Zero water and oxygen inputs and zero carbon dioxide emissions mean lower production costs and an environmentally friendly energy solution.

Current Hydrogen Production Methods	Cost (CapEx + OpEx)	Fresh Water Requirements	Oxygen Requirements	CCUS Requirements	Infrastructure Dependency
 HIP™ Methane Pyrolysis (Turquoise Hydrogen)	\$	⊗	⊗	⊗	⊗
Steam Methane Reformation (Blue Hydrogen)	\$ \$	✓	⊗	✓	✓
Auto-Thermal Reformation (Blue Hydrogen)	\$ \$ \$	✓	✓	✓	✓
Electrolysis (Green Hydrogen)	\$ \$ \$ \$	✓	⊗	⊗	✓

Hydrogen Competitive Differentiation

Innova is one of six thermal & catalytic methane pyrolysis players globally and one of two in Canada, one of two with a graphite by-product and the only one with a graphene by-product.

Global Methane Pyrolysis Players	Methane Pyrolysis Type		Carbon By-Product			Development Stage		Country				
	Thermal	Catalytic	Solid Carbon	Graphite	Graphene	Lab	Pilot	CA	US	AU	FI	Global
	✓	✓	✓	✓	✓	✓		✓				
	✓		✓				✓					✓
	✓		✓				✓	✓				
	✓	✓	✓				✓				✓	
	✓	✓		✓			✓			✓		
	✓	✓	✓				✓		✓			

Hydrogen Applications



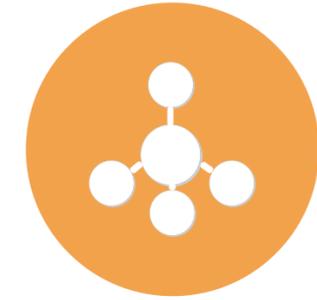
Transportation



Heat & Power for Buildings

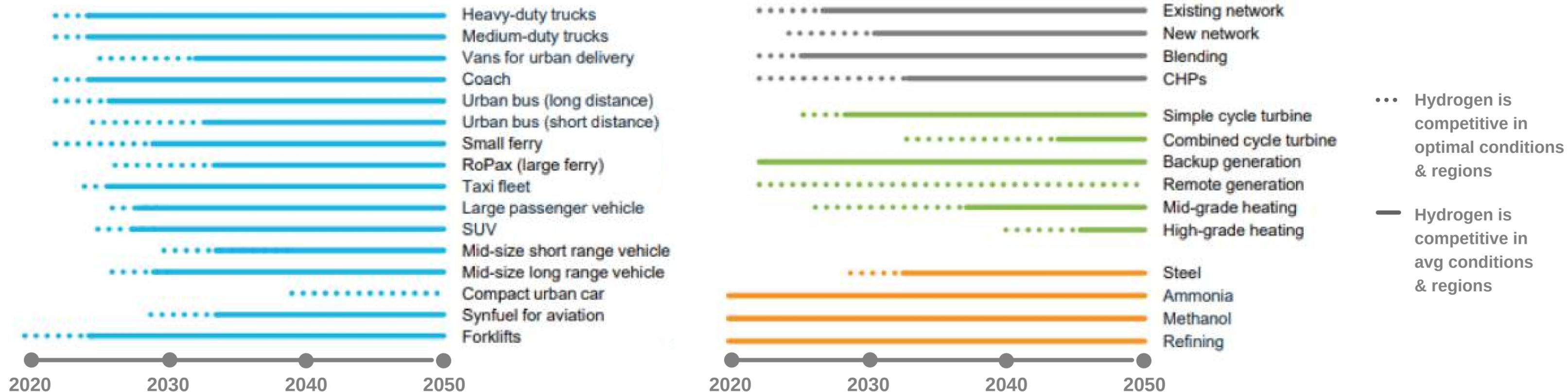


Heat & Power for Industry

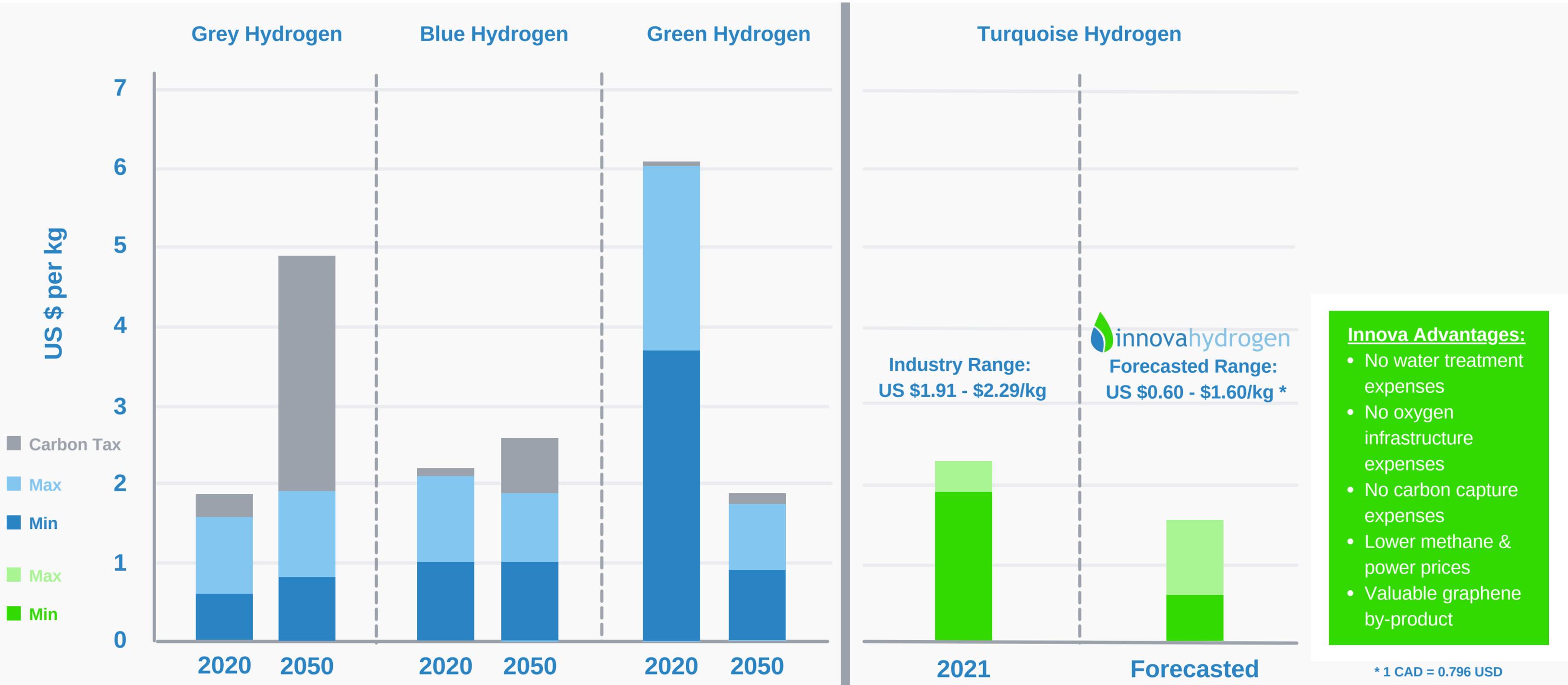


Industry Feedstock

Cost Competitiveness Trajectories of Hydrogen Applications

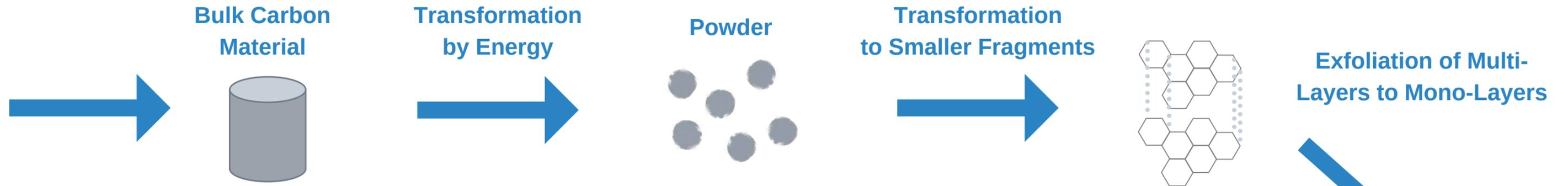


Hydrogen Costs Comparison



Source: TD Securities: "Hydrogen Industry Primer - A Significant Enabler of the Energy Transition", Feb 2021; BMO Capital Markets: "The Bold & The Blue-tiful: Canadian Oil and Gas' Role in the Hydrogen Economy", Mar 2021; Publicly available data

Top Down (TD) Approach:





Disruptive HIP™ Technology
Uses BU Method BUT Produces BOTH Monolayer AND Bulk Graphene

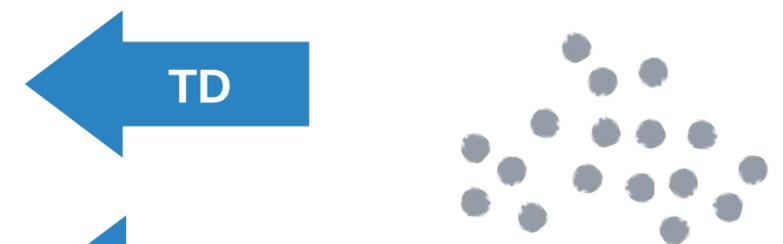
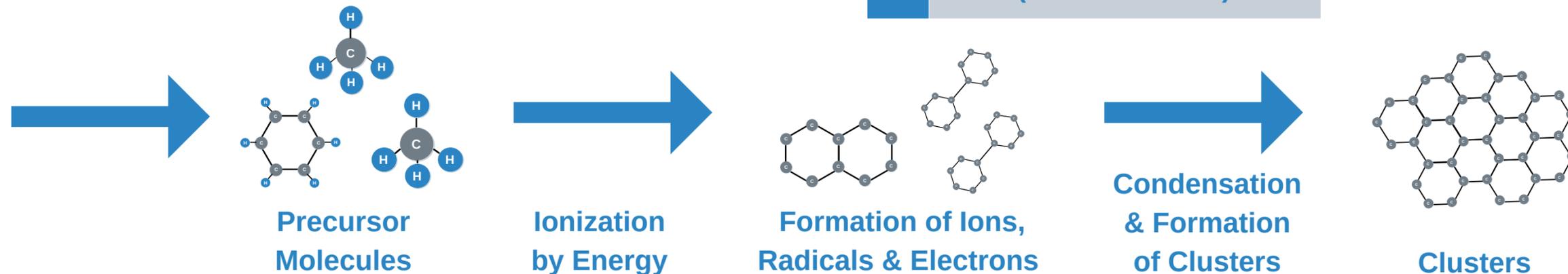
TD

Bulk Graphene:
 Larger Volumes
 Lower Quality
 Lower Price
 ("Additive Grade")

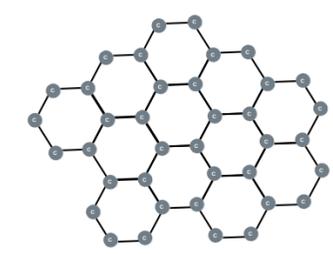
BU

Monolayer Graphene:
 Smaller Volumes
 Higher Quality
 Higher Price
 ("Device Grade")

Bottom Up (BU) Approach:



Nanoparticles



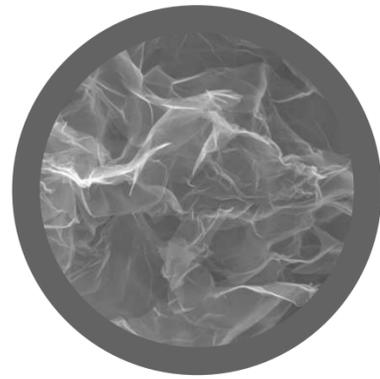
Graphene Types & Applications

Lab Graphene
("Device Grade")

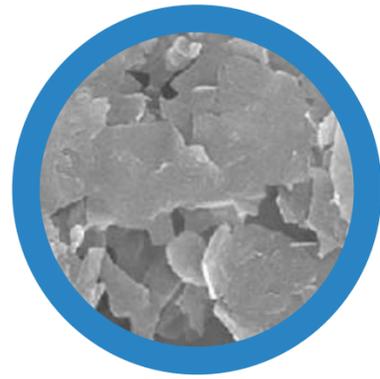


Monolayer
Graphene

Bulk Graphene
("Additive Grade")

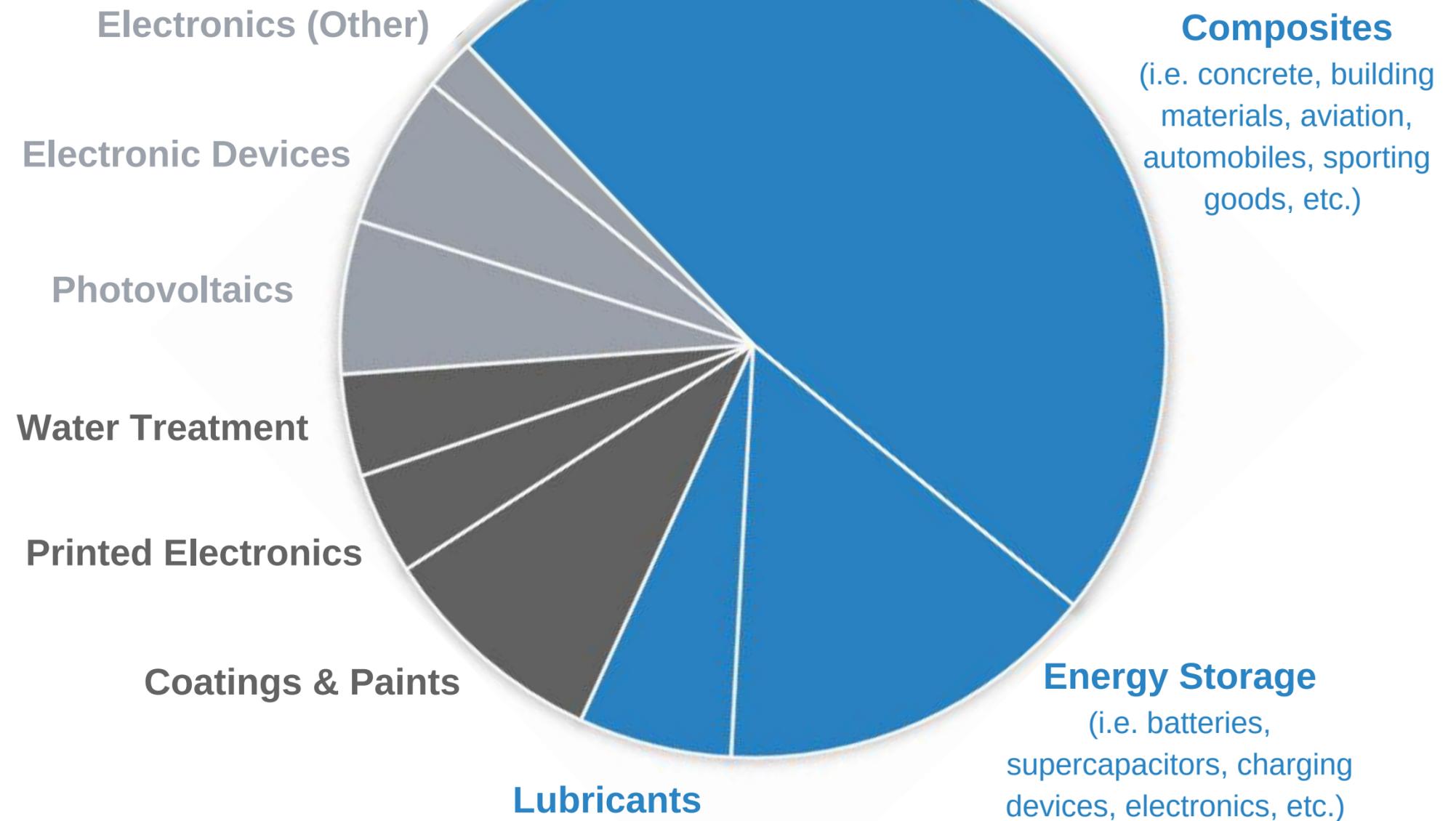


Few Layer
Graphene



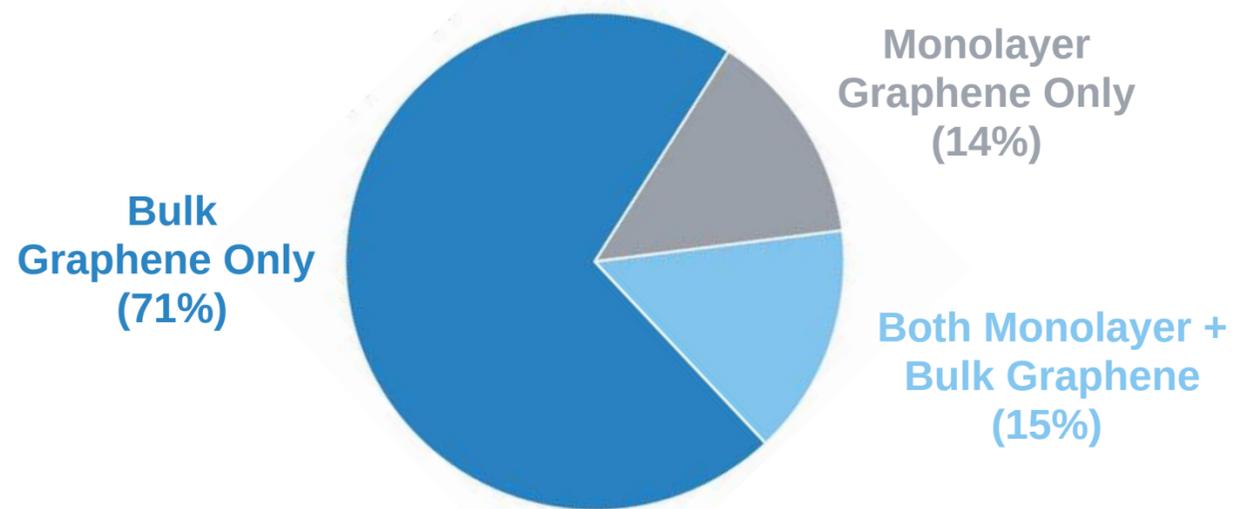
Graphene
Nanoplatelets

Forecast of 2024 Graphene Use



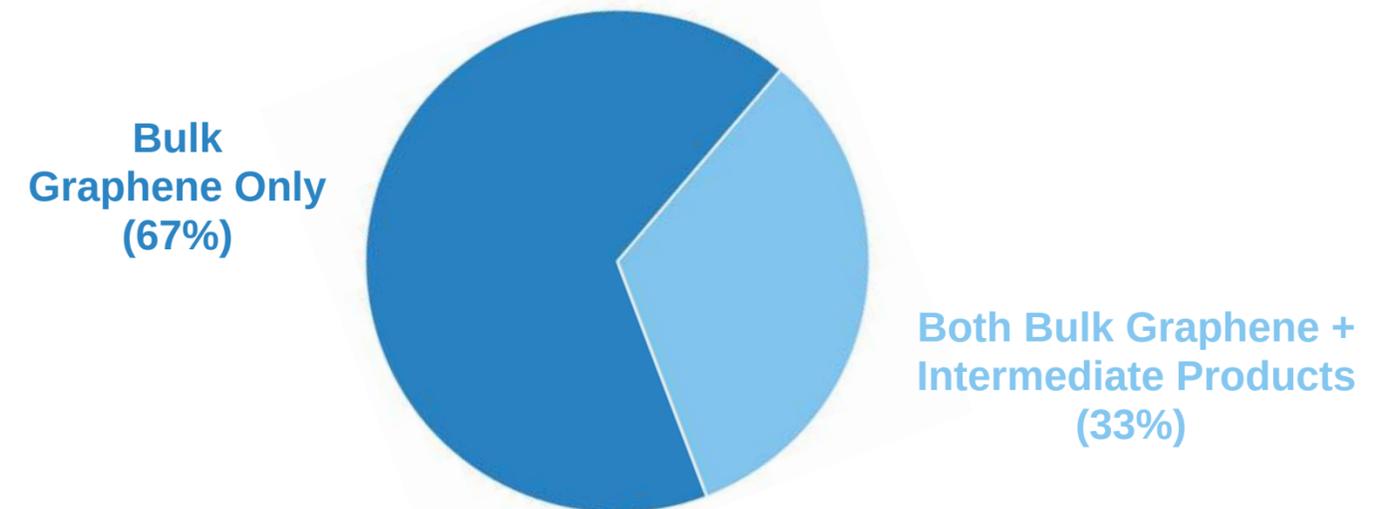
Graphene Production Comparisons

Proportion of Producers Supplying Monolayer, Bulk or Both



- **Majority** of producers engaged in **bulk graphene**
- **Small number** of producers with ability to **produce both** monolayer & bulk

Proportion of Producers Supplying Bulk or Both Bulk & Value-Added Intermediate Products



- **Growing number of producers vertically integrating** to produce downstream goods in addition to raw graphene materials
- **Common strategy to gain customer confidence** before wider adoption of raw materials
- Potential **increased profitability by delivering value-added products** in addition to raw graphene materials



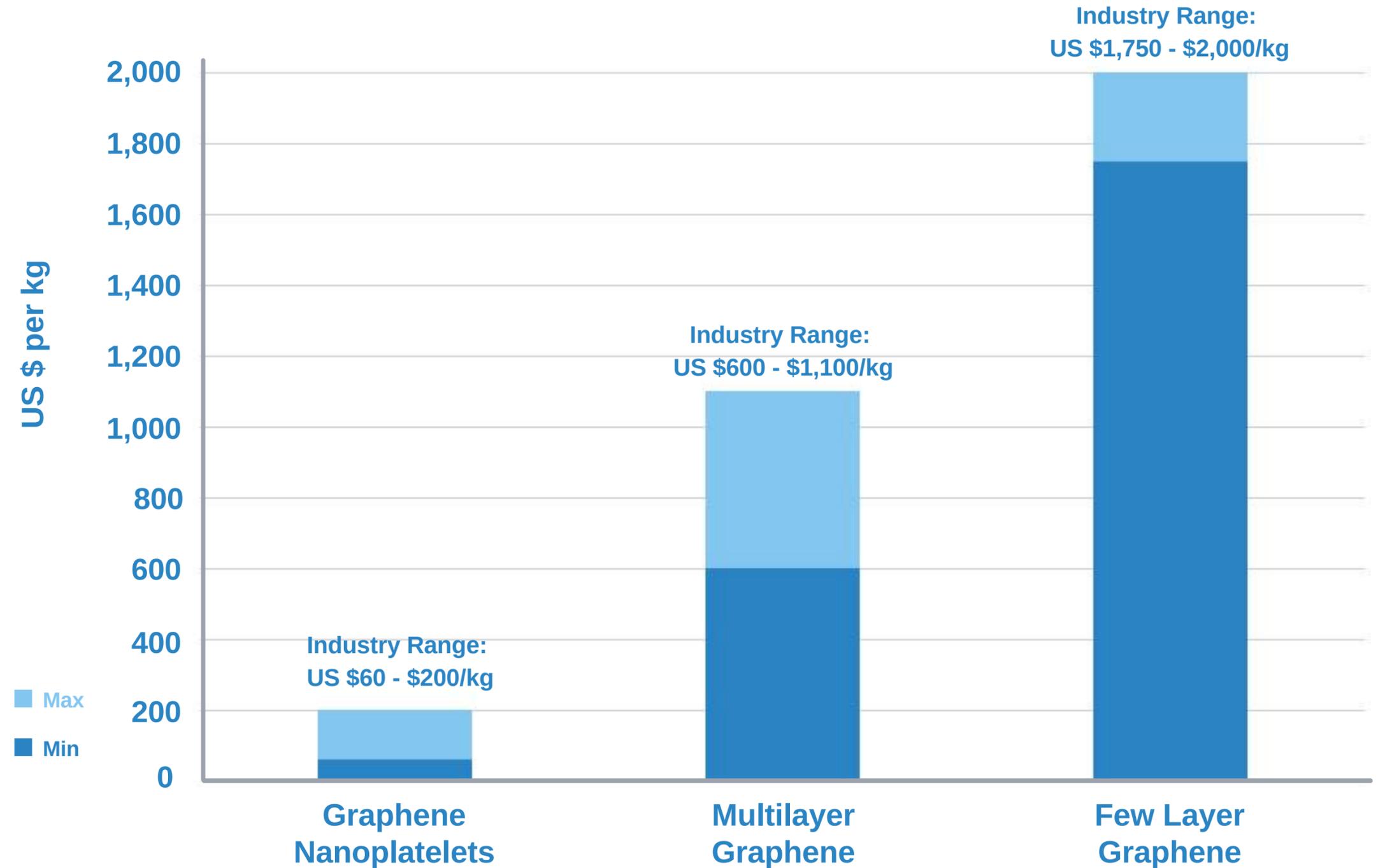
Uniquely positioned to be able to provide ***BOTH*** monolayer & bulk graphene + additional ***future value-add opportunity*** through ***vertical integration***

Graphene Pricing Comparisons

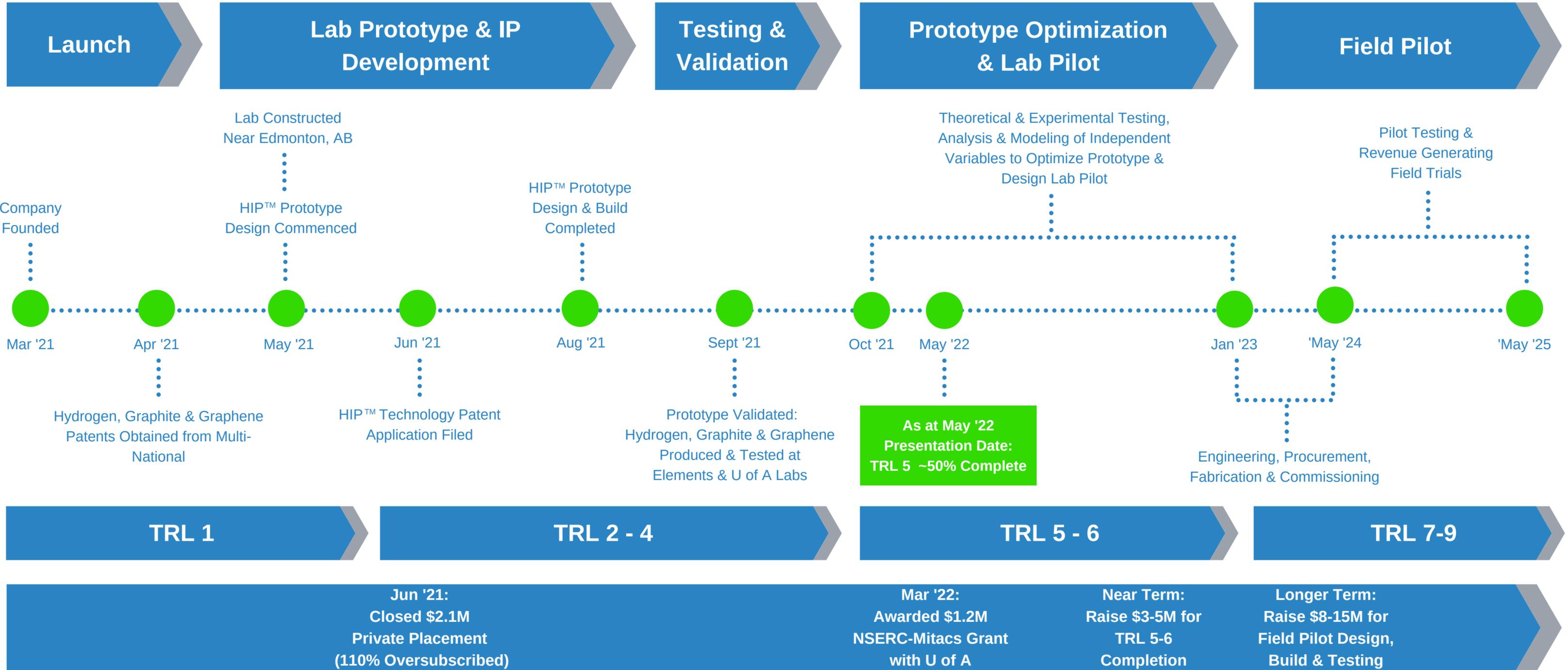
Monolayer graphene:
US \$55M per kilogram
 VS.
 Bulk graphene:
US \$60 to \$2,000 per kilogram



Graphene a **natural by-product**
of Innova's process;
 Even at **lowest end of price**
spectrum, provides **significant**
revenue stream

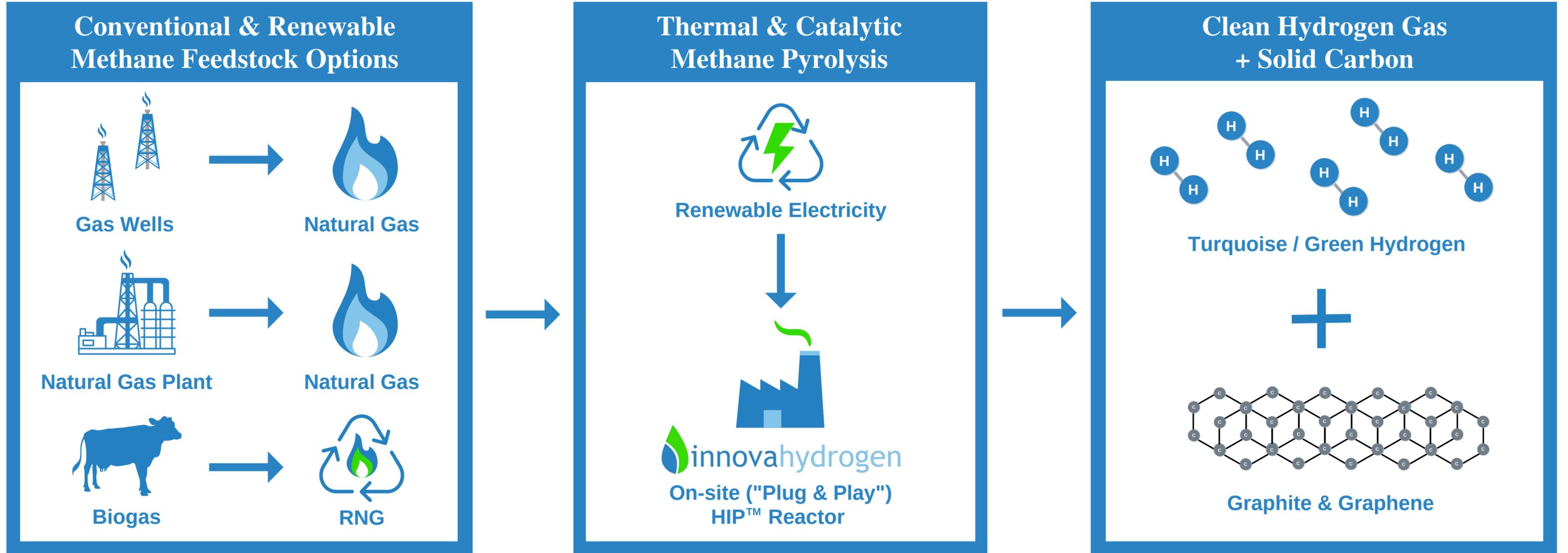


Path to Commercialization



Project Phase	Project Description	Partner	Sponsor	Status
Ongoing R&D TRL 5 - 9	<p>"Decarbonizing Canada's Hydrogen Production Using Low-Cost Methane Pyrolysis Catalytic Reactors":</p> <ul style="list-style-type: none"> Develop unique approaches of using low-cost disposable catalysts to solve catalyst deactivation & coking Develop models for natural-gas thermo-catalytic decomposition reactors to scale to industrial level design 	 <p>UNIVERSITY OF ALBERTA Chemical & Mechanical Engineering Departments</p>	 	Project Awarded \$1.2M by NSERC & Mitacs
Field Pilot TRL 7 - 9	<p>"Clean Fuels & Industrial Fuels Switching":</p> <ul style="list-style-type: none"> Bring Innova HIP™ technology to industrial scale in modular fashion Industry partner to install & operate pilot-scale reactor from Innova & assess reactor in terms of conversion efficiency, net carbon emissions & economics Industry partner to provide in-kind contributions in the form of a host site for Innova's reactor, engineering & field services to integrate reactor into site, testing of the reactor & sale of hydrogen & graphene 	<p><u>CONFIDENTIAL</u></p> <p>Reputable, intermediate, well-financed TSX-listed transition-focused energy company</p> 		<p>Pending:</p> <p>Joint Application for \$1M Submitted to NRCan</p> <p>Stage 1 Approved; Now in Stage 2</p>

Field Pilot Supply & Off-Takes



 **innovahydrogen Field Pilot:**

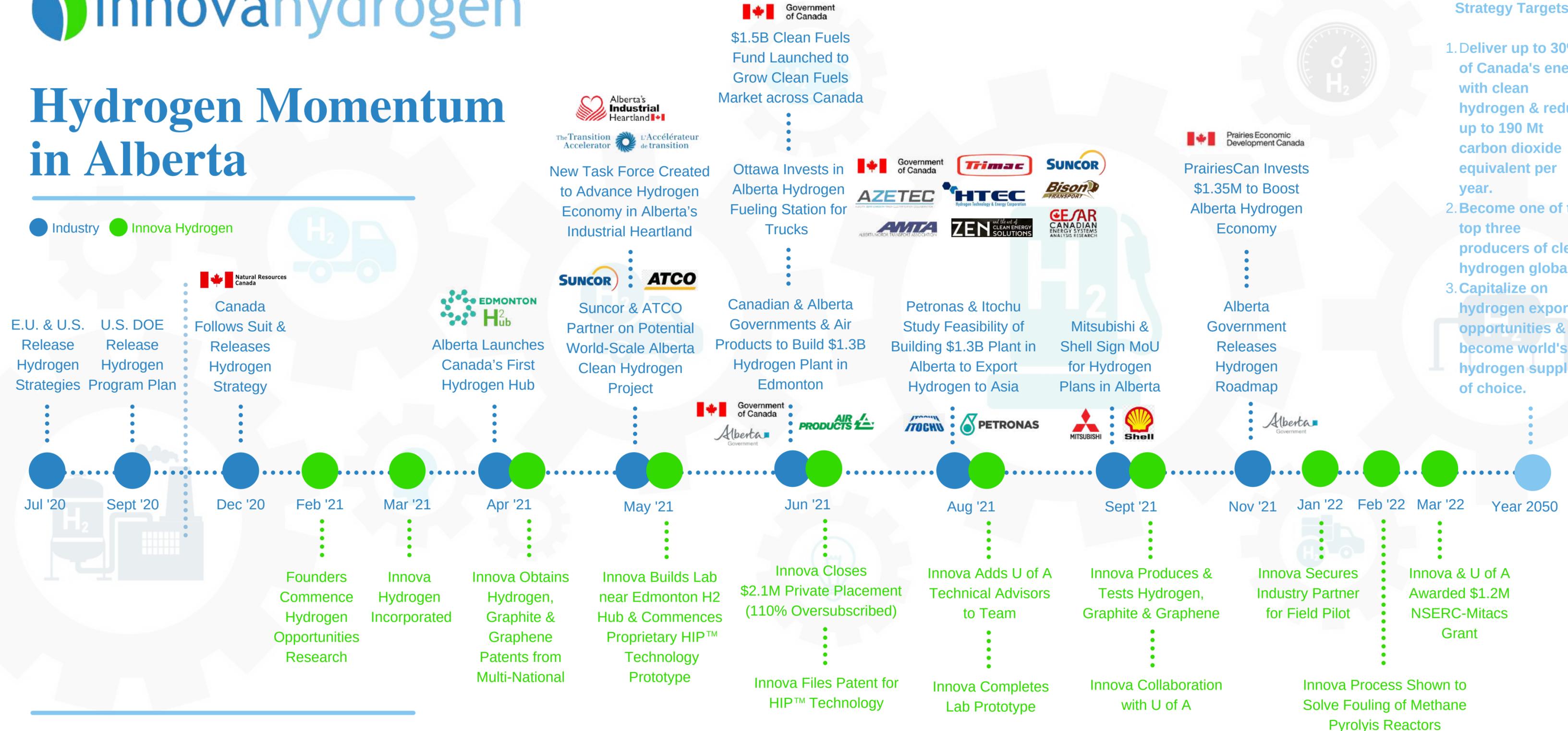
- 2 mmcf/d feedstock provided by natural gas plant at industry partner host site
- Industry partner to install & operate pilot-scale reactor & test reactor for conversion efficiency, net carbon emissions & economics
- Forecasted production of ~4,000 kg/d hydrogen + ~13,000 kg/d graphite & graphene

Hydrogen Momentum in Alberta

● Industry ● Innova Hydrogen

Canada's Hydrogen Strategy Targets:

1. Deliver up to 30% of Canada's energy with clean hydrogen & reduce up to 190 Mt carbon dioxide equivalent per year.
2. Become one of the top three producers of clean hydrogen globally.
3. Capitalize on hydrogen export opportunities & become world's hydrogen supplier of choice.

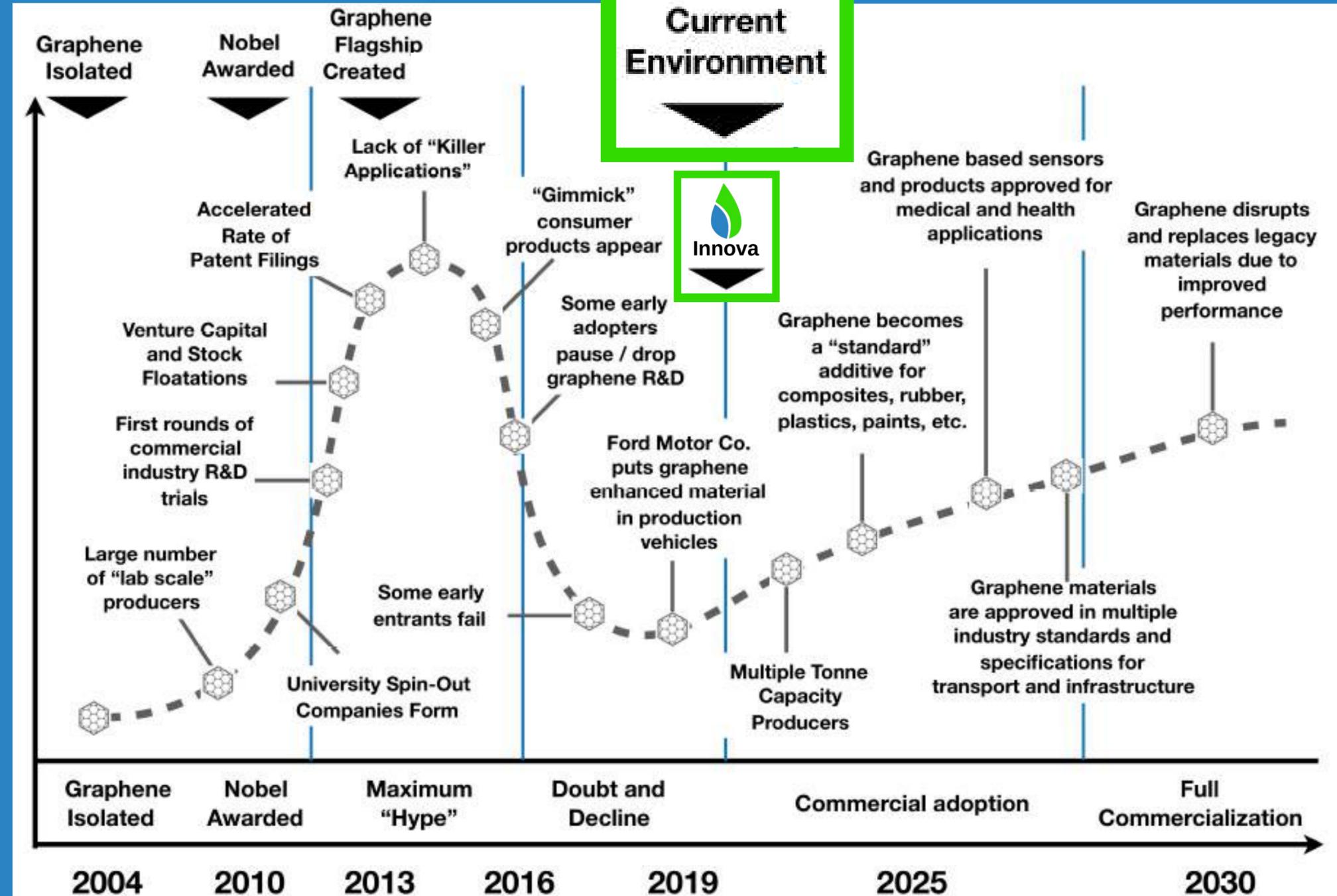


Innova Seizes Opportunity to Gain First Mover Advantage

Graphene Momentum

- Graphene on upswing of commercial adoption, as signified by Ford's inclusion of graphene in production vehicles
- Innova positioned to take advantage of upswing:
 - Field pilot completion & multi-tonne production targeted for 2024-2025
 - In line with forecasted commercial adoption

The Graphene "Hype Cycle"



HYDROGEN

ECO

H₂

Valuation Considerations

Innova Offers a Unique Value Proposition to Take Advantage of the Growing Hydrogen & Graphene Markets

Innova to **reduce cost of capital** by leveraging available **non-dilutive funding** and **tax credits**.

Funder / Program Name	Eligibility Determined	Application		Awarded
		Underway	Filed	
NSERC Alliance-Mitacs Accelerate: Decarbonizing H2 Production Using Low-Cost Methane Pyrolysis Catalytic Reactors	✓		✓	✓ \$1.2M
Natural Resources Canada (NRCan): Clean Fuels & Industrial Fuel Switching	✓		✓	
Breakthrough Energy Fellows	✓		✓	
Scientific Research & Experimental Development (SR&ED) Tax Incentives	✓	✓		
Sustainable Development Technology Canada (SDTC)	✓	✓		
Strategic Innovation Fund (SIF)	✓			
National Research Council of Canada (NRC) Energy Innovation Program	✓			
NRC Industrial Research Assistance Program (IRAP)	✓			
NRC Industrial Research Assistance Program Youth Employment Program (IRAP YEP)	✓			
Alberta Innovates: Voucher	✓			
Alberta Innovates: Clean Resources	✓			
Alberta Innovates: R&D Associate	✓			
Alberta Innovates: Commercialization Associates Program	✓			
Alberta Innovation & Employment Grant	✓			
Business Development Canada (BDC)	✓			
Accelerated CCA	✓			

Capitalization Table

Beneficial Holder	Shares	Options	Total	% of Total
Founders, Officers, Employees & Consultants	16,440,001	2,010,000	18,450,001	82.6%
Friends, Family & Close Business Associates	3,010,128	-	3,010,128	13.5%
Other (Retail)	867,000	-	867,000	3.9%
	<u>20,317,129</u>	<u>2,010,000</u>	<u>22,327,129</u>	<u>100.0%</u>

Last Financing (Jun '21)

\$2.158M Private Placement (4,317,128 common shares @ \$0.50)
 \$10.16M (Basic) & \$11.16M (Fully-Diluted) Post-Money Valuation

Working Capital (May '22)

\$1.1M

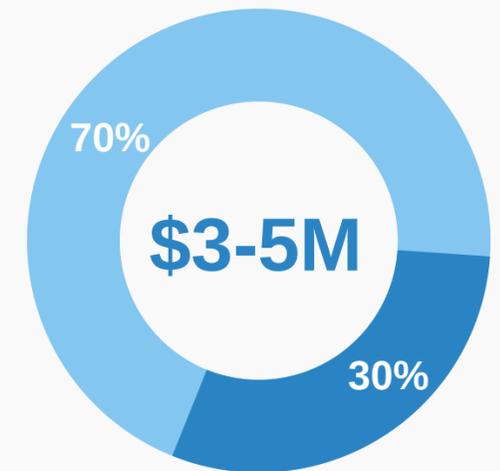
Near-Term Financing

\$3-5M for TRL 5 - 6 Advancement
 (Pricing & valuation to be discussed)

Use of Proceeds

R&D (TRL 5 - 6 Advancement)

- Theoretical & experimental testing, analysis & modeling of independent variables
- Lab trials & prototype optimization
- Lab pilot design, build & testing
- Additional patent applications



General Corporate

- U of A partnership
- Grant applications
- Sales & marketing
- Industry partnerships
- Talent acquisition
- Advisory services
- Working capital



Large addressable market with Innova being **one of six thermal & catalytic methane pyrolysis players globally** & the **only one with a valuable graphene** by-product (scarcity premium)



Seized opportunity to gain **first mover advantage** in Alberta; Strategically positioned **within Canada's first hydrogen hub** to leverage resources, infrastructure & government funding, and **well positioned** to take advantage of **upswing in graphene market**



Partnership with U of A to further advance & optimize technology; **Partnership with industry** re: field pilot installation, operation, testing & off-takes



Awarded \$1.2M NSERC Alliance-Mitacs Accelerate Grant in partnership with U of A; Additional substantial **non-dilutive, non-repayable government grants available** throughout development life cycle



Validated prototype design; Hydrogen, graphite & graphene **independently tested & verified**



Patent pending on HIP™ technology; Other technologies in the pipeline



Proven execution by management team; Advanced from **TRL 1 to 4 in short six month period** (Mar-Sept '21); **TRL 5 ~50% complete as at May '22**; More meaningful milestones expected in 2022



Innova is a **clean technology** company that **requires zero water & oxygen inputs** and **produces zero emissions** to generate clean hydrogen and graphene, a green material



Contact Info

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Appendix

Corporate Presentation

May 2022

Private & Confidential

Strong government commitment to deep decarbonization, backed by financial support, regulation and clear hydrogen strategies and targets, has triggered **unprecedented momentum in the hydrogen industry**.

- **197 countries** have now signed the **Paris Agreement** to limit global warming to 1.5-2 degrees C
- **49 countries** representing **80% of global GDP** have **net-zero ambitions**, up from 50% at the beginning of 2021
- **75 countries** representing **50% of global GDP** have **net-zero targets**
- **31 countries** representing **73% of global GDP** have **hydrogen-specific strategies**
- **49 governments** worldwide are using **carbon pricing / taxation schemes**



Funds are placing **sustainability at the center of their investment approach** and plan significant reallocation of capital to address climate threats.

- **Global sustainable fund** assets climbed to **\$2.25T USD** in Q2 2021, up 12% from Q1 2021
- **Global sustainable funds** attracted net inflows of **\$139.2B USD** in Q2 2021, **\$185.3B USD** in Q1 2021 and **\$158.3B USD** in Q4 2020
- **Canadian sustainable funds** attracted **\$1.6B USD** in Q2 2021, **\$4.1B USD** Q1 2021 and **\$1.2B USD** in Q4 2020

The **clean energy transition** is becoming prevalent **in the energy & resource sector**.

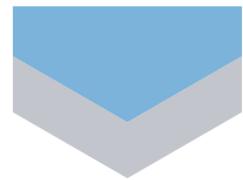
- **89% of E&R companies** reported they already had a plan in place, or were developing a strategy, to **reduce reliance on fossil fuels**



Hydrogen's Role in Decarbonization

Hydrogen plays seven roles in the energy transition.

Hydrogen is a *central pillar of the energy transformation* required to limit global warming to 2 degrees C.



The world will need to *decrease energy-related carbon dioxide emissions by 60%* until 2050.

Enable the renewable energy system

Decarbonize end uses

Enable **large-scale renewables integration** and power generation



Distribute energy across sectors and regions



Act as a **buffer** to increase system resilience



Help decarbonize **transportation**



Help decarbonize **industrial energy use**



Help decarbonize **building heat and power**



Serve as renewable **feedstock**

In all seven application areas, hydrogen can offer economically viable and socially beneficial solutions.

Hydrogen Applications Overview

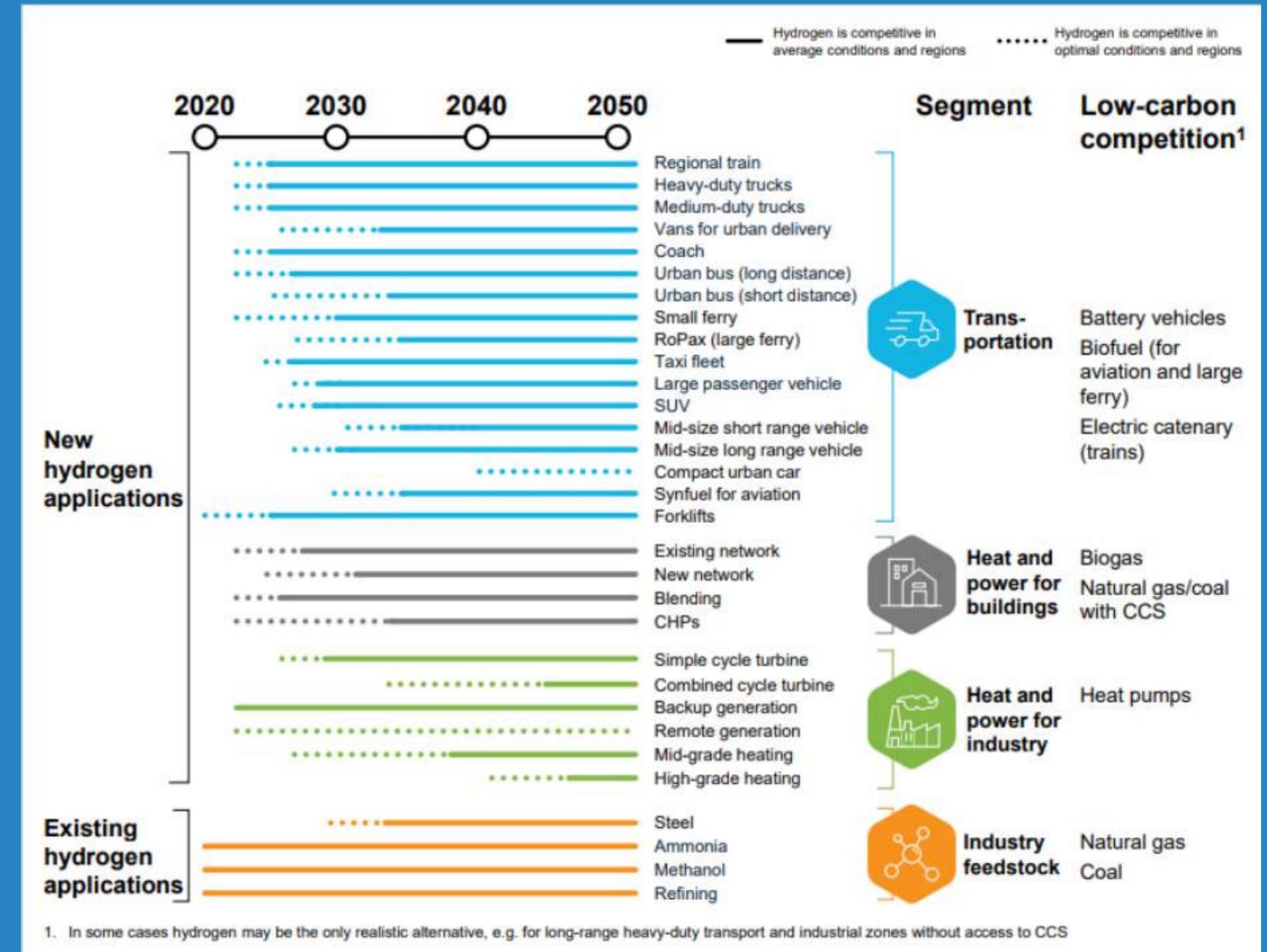


In addition, hydrogen can also be used in, e.g.

Mobility: Container ships, tankers, tractors, container ships, motorbikes, tractors, off-road applications, fuel cell airplanes.

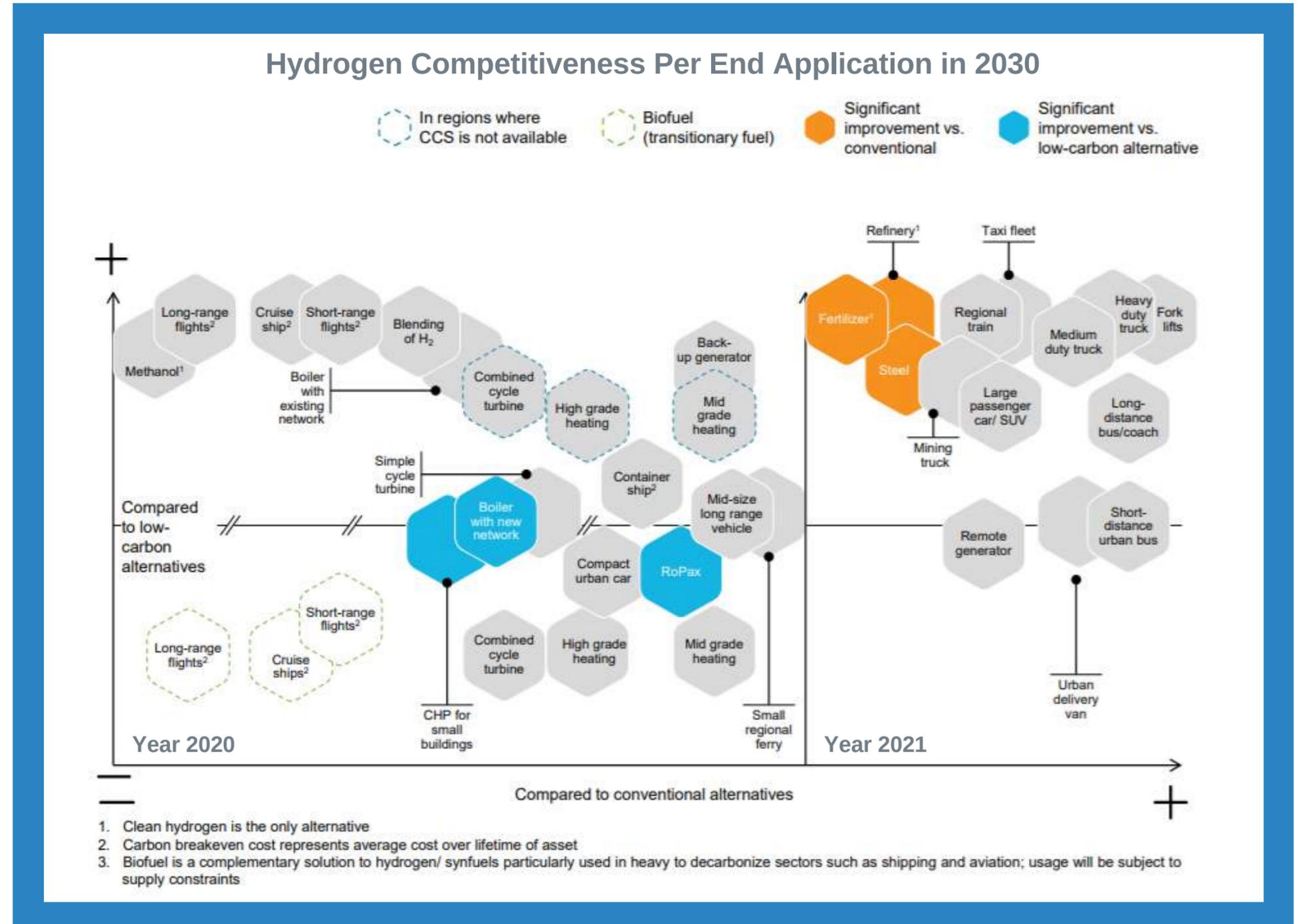
Other: Auxiliary power units, large scale CHP for industry, mining equipment, metals processing (non-DRI steel), etc..

Cost Competitiveness Trajectories of Hydrogen Applications



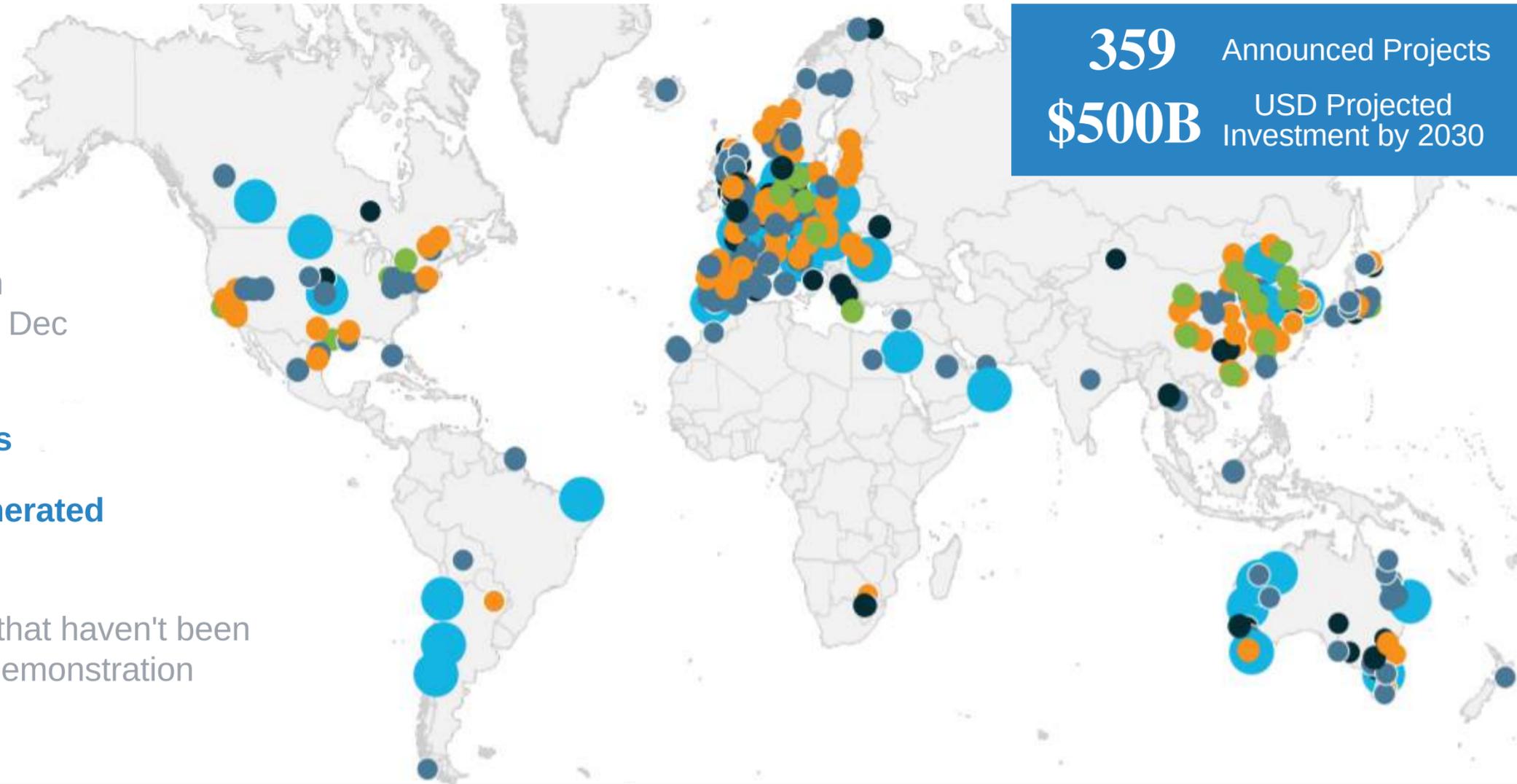
Hydrogen Competitiveness Increasing

- There is an **increase in projected 2030 hydrogen competitiveness in 2021** compared to 2020.
- In addition to the applications that were previously competitive in 2020, such as commercial vehicles, trains, long-range transport applications and boilers, **today's improved outlook adds fertilizer, refinery, steel, aviation, and shipping applications.**



Hydrogen Investments Accelerating Rapidly

- **359** announced large-scale **projects**
- **\$500B USD** projected **investment by 2030**, of which \$150B USD associated with mature projects
- Announced production capacity of **11Mt by 2030**, an **increase of 64%** since Dec 2020 and **> 450%** since Dec 2019
 - **70%** capacity from **renewable energy sources**
 - **30%** capacity from **low-carbon hydrogen generated by fossil fuels** combined with CCUS
- Evidence of many other early development projects that haven't been publicly announced - large-scale as well as R&D & demonstration projects



G R E E N

H₂

Large Addressable Market

R E N Regional, Domestic & Global Opportunities

Global Hydrogen Demand

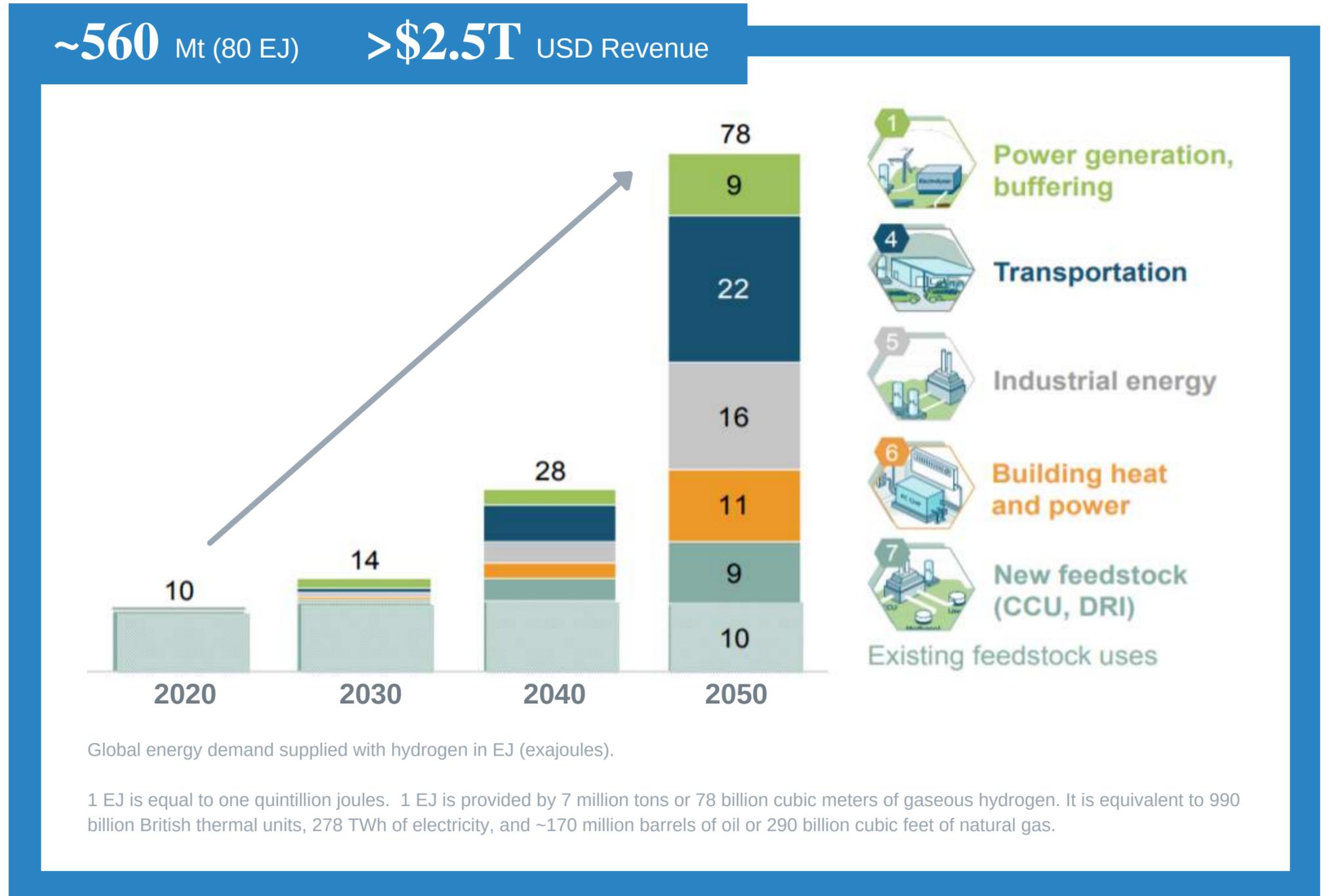
Hydrogen technology is not new. The world already produces and consumes more than 55 Mt of hydrogen annually in a wide range of industrial processes.



Demand for hydrogen expected to grow to almost 80 EJ (560 Mt) per year in 2050, enough to meet the world's current energy demand for 2.5 months.



Hydrogen at this scale would create revenue potential of more than \$2.5T USD per year



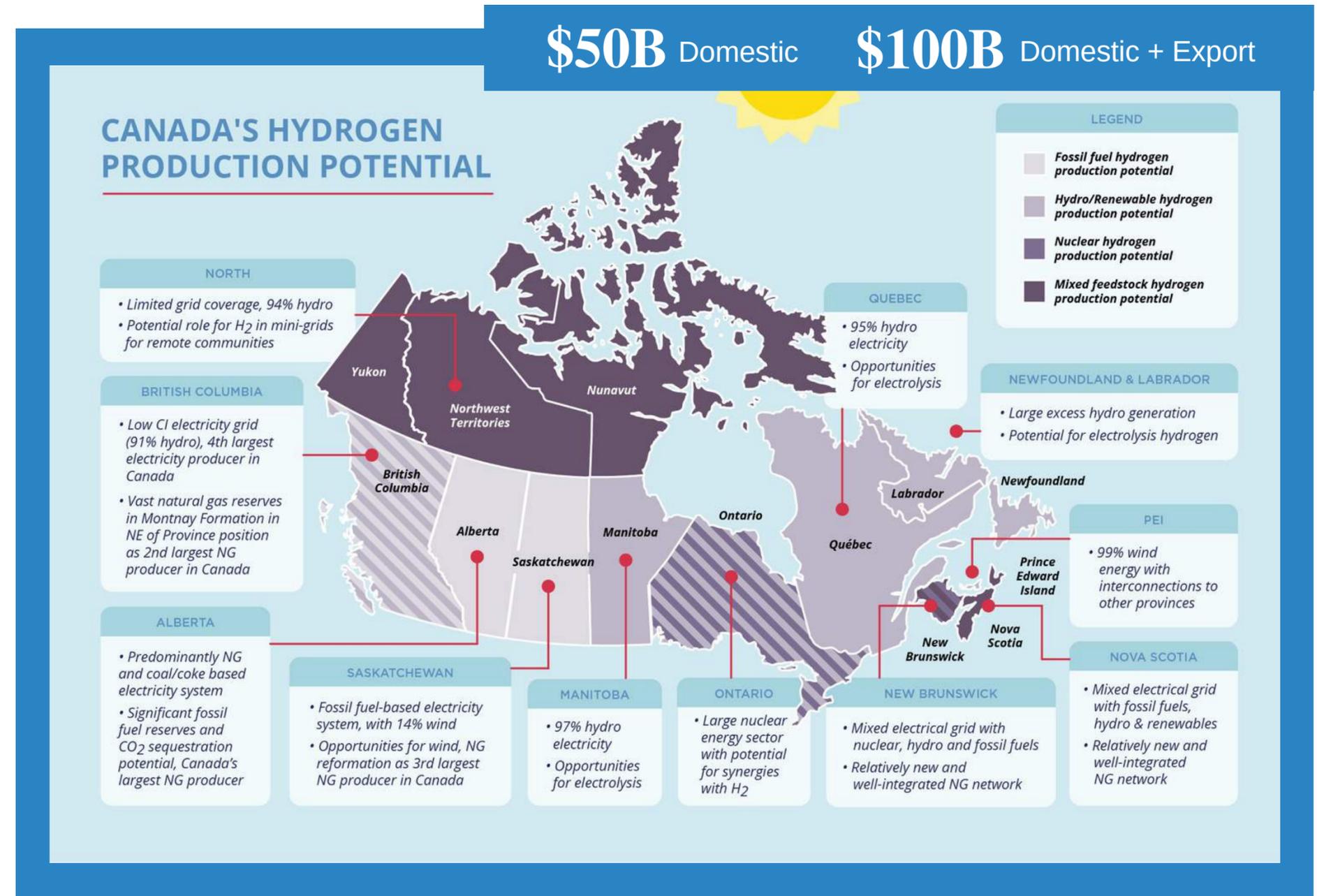
Launched to position Canada as a
*"world-leading producer, user and exporter of clean hydrogen,
 and associated technologies"*.

- Canada to **employ hydrogen** as a key enabler to reach **net-zero emissions** by 2050
- Canada to **create regional hydrogen hubs** to take advantage of different regional strengths for hydrogen production & utilization opportunities. In **April 2021, Canada launched its first hydrogen hub** just outside of Edmonton, Alberta.
- Hydrogen to create economic growth with **> 350,000 sector jobs**
- Canada to **become one of the top three producers of clean hydrogen** globally by 2050
- Canada to capitalize on hydrogen export opportunities and **become the world's hydrogen supplier of choice**

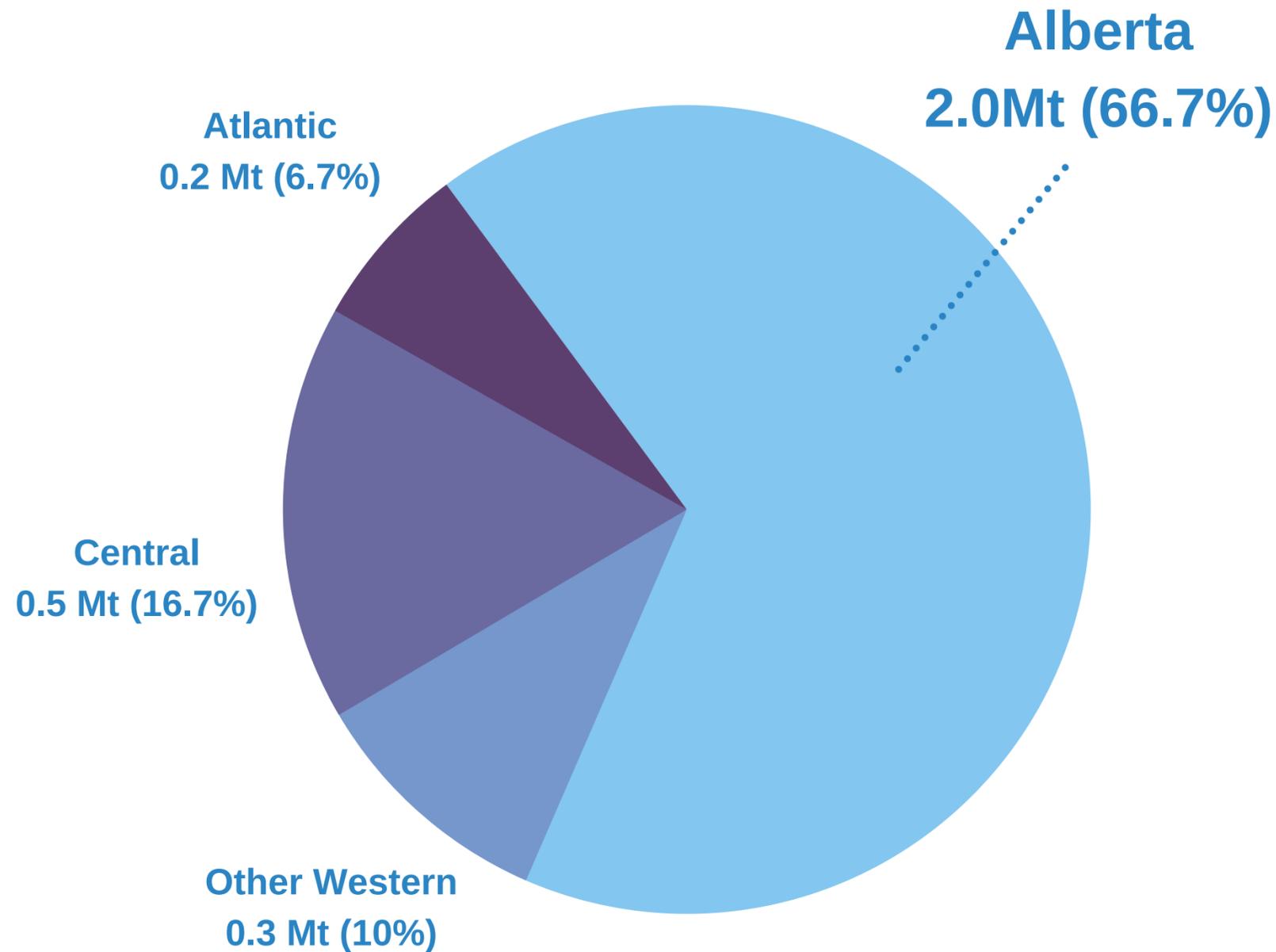


Canada's Hydrogen Demand

- **Domestic hydrogen demand** projected to rise to **14-25 Mt** per year by 2050, translating to **\$50B per year**
- **Domestic market + export opportunities** to the U.S., Asia & Europe could exceed **30-60 Mt** per year, translating to **\$100B per year**
- Clean hydrogen to **deliver up to 30% of Canada's energy**, reducing up to 190 Mt carbon dioxide equivalent per year
- **Already one of the top 10 hydrogen producers globally**, with over 3 Mt of annual hydrogen production
- **Already recognized as a competitive player** in clean hydrogen production, with the **2nd lowest costs** in Asia-Pacific Economic Cooperation (APEC) forum countries. Price to produce emissions-free hydrogen in Canada using natural gas & CCUS is 2nd only to natural gas & CCUS in Russia



Canada's Hydrogen Landscape Dominated by Alberta



- Canada is currently one of the top 10 hydrogen producers globally, accounting for ~3 Mt of hydrogen per year, or ~4% of the global total
- Of this, more than 75% is produced in Western Canada, with approximately half in each of the chemicals/fertilizer and refining sectors
- **Alberta dominates the landscape, accounting for 66.7% of Canada's demand for use in upgrading and Alberta Industrial Heartland refining and chemicals**
- Alberta Industrial Heartland near Edmonton viewed as **the prime hub to lead Canada's hydrogen transition** given its existing hydrogen production/infrastructure, technical expertise & CCUS scalability

Alberta's Hydrogen Roadmap

Launched with the aim to secure over *\$30B in capital investments* & establish Alberta as a *global supplier-of-choice* in clean hydrogen exports by 2030.

Goals for 2030

Integrate hydrogen at-scale into Alberta's domestic energy system.

Reduce GHG emissions by ~14 Mt per year.

Establish Alberta as the global supplier-of-choice in clean hydrogen exports.

Alberta Advantages

Industrial clusters, energy resources, competitive business environment & environmental commitment.

Significant expertise in producing, handling & safely using hydrogen at industrial scale.

One of the lowest-cost producers of clean hydrogen in the world.

Ability to expand into several clean hydrogen value chains, attract investment into Alberta & lead Canada's clean hydrogen economy.

Benefits to Alberta

Economic growth:
During the construction stage, tens of thousands of jobs could be sustained & billions of dollars of economic activity attracted. During the operations stage, thousands of jobs & hundreds of millions of dollars of economic activity could be sustained.

Emissions reduction:
Alberta could reduce its GHG emissions by 14 Mt per year, a 5% reduction from 2019.

Hydrogen Markets

Domestic markets to decarbonize & support investment attraction & retention:

- Residential & commercial heating
- Power generation & storage
- Transportation
- Industrial processes

Targeted export markets:

- Canadian & North America jurisdictions, Europe & Asia Pacific

Roadmap Phases

Phase 1: Establish policy foundations, close tech gaps & accelerate commercialization with dedicated research & innovation support, reduce carbon intensity of existing production & deploy clean hydrogen into end-use markets.

Phase 2: Achieve scale through tech maturation & commercialization.

Canada's First Hydrogen Hub: Edmonton Region, Alberta



- Put the Edmonton Region, Alberta & Canada on track **to be global competitors & leaders in the production & export of low-carbon hydrogen**
- **Serve as a blueprint** for how other regions across Canada can also take advantage of the hydrogen opportunity & join forces to build a strong Canada-wide hydrogen economy
- **Connect all hubs** across Canada to break the cycle of insufficient hydrogen supply & demand
- **Achieve sufficient scale for a strong Canada-wide hydrogen economy**

**Backed by >\$2M in Funding
from Three Levels of Government**

**Plans underway for >25 projects related to
production, transportation & hydrogen end use**

- Currently **world's lowest cost producers of low-carbon hydrogen**, which can be made in the region for about half the wholesale price of diesel by upgrading low-cost natural gas
- Existing **experience in hydrogen** production & CCUS, **abundant natural resources**, vast network of pipeline **infrastructure**, large **talent pool** of engineers & tradespeople, engaged industry, government, Indigenous & academic **leaders**
- Same things that made Alberta an energy powerhouse will allow region to sustain its role as a **leader in the clean energy future**



Innova Strategically Positioned within this Region to Leverage Talent Pool, Resources & Infrastructure

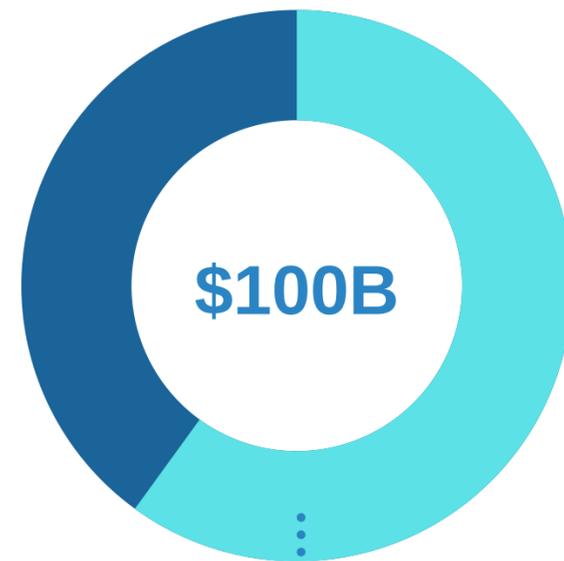
Hydrogen Opportunity by 2050

Global
Total Addressable Market
\$2.5T



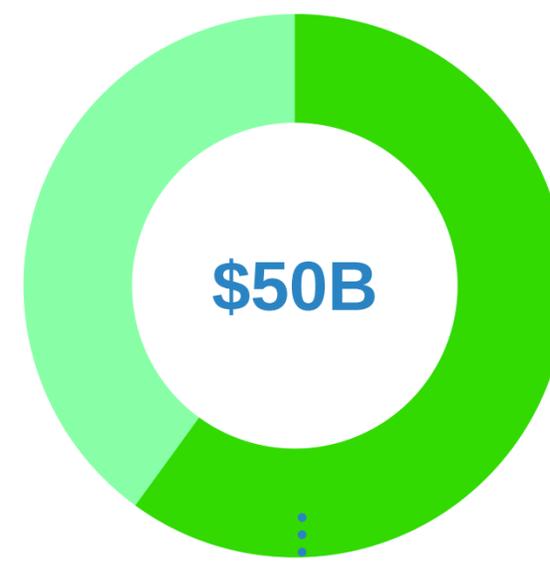
Serviceable
Addressable Market
\$1.5T

Canada (Domestic + Export)
Total Addressable Market
\$100B



Serviceable
Addressable Market
\$60B

Canada (Domestic)
Total Addressable Market
\$50B



Serviceable
Addressable Market
\$30B

- Based on Canada's sectoral energy use, majority (>60%) of hydrogen decarbonization potential in Western Canada
- Western Canada harnesses ~60% of Canada's domestic hydrogen opportunity, including 65% of potential in traditional gas end-use markets and 44% of transportation and other refined products
- Natural gas likely to support the majority of hydrogen market expansion opportunities until at least 2030



Why Graphene and Why Now?

Global Upswing in Graphene Adoption & Commercialization to Replace Legacy Materials

”

Graphene is a disruptive technology; one that could open up new markets and even replace existing technologies or materials. It is when graphene is used both to improve an existing material and in a transformational capacity that its true potential can be realized ... Combining all of graphene's amazing properties **could create an impact of the scale last seen with the Industrial Revolution.**

”

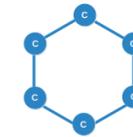
- University of Manchester

Graphene Discovery



- Scientists knew one atom thick, two-dimensional crystal graphene existed, but **no one knew how to extract it from graphite until 2004.**
- **In 2004**, graphene was isolated by two researchers at The University of Manchester, Prof. Andre Geim & Prof. Kostya Novoselov, who won the **Nobel Prize** in Physics for their pioneering work.

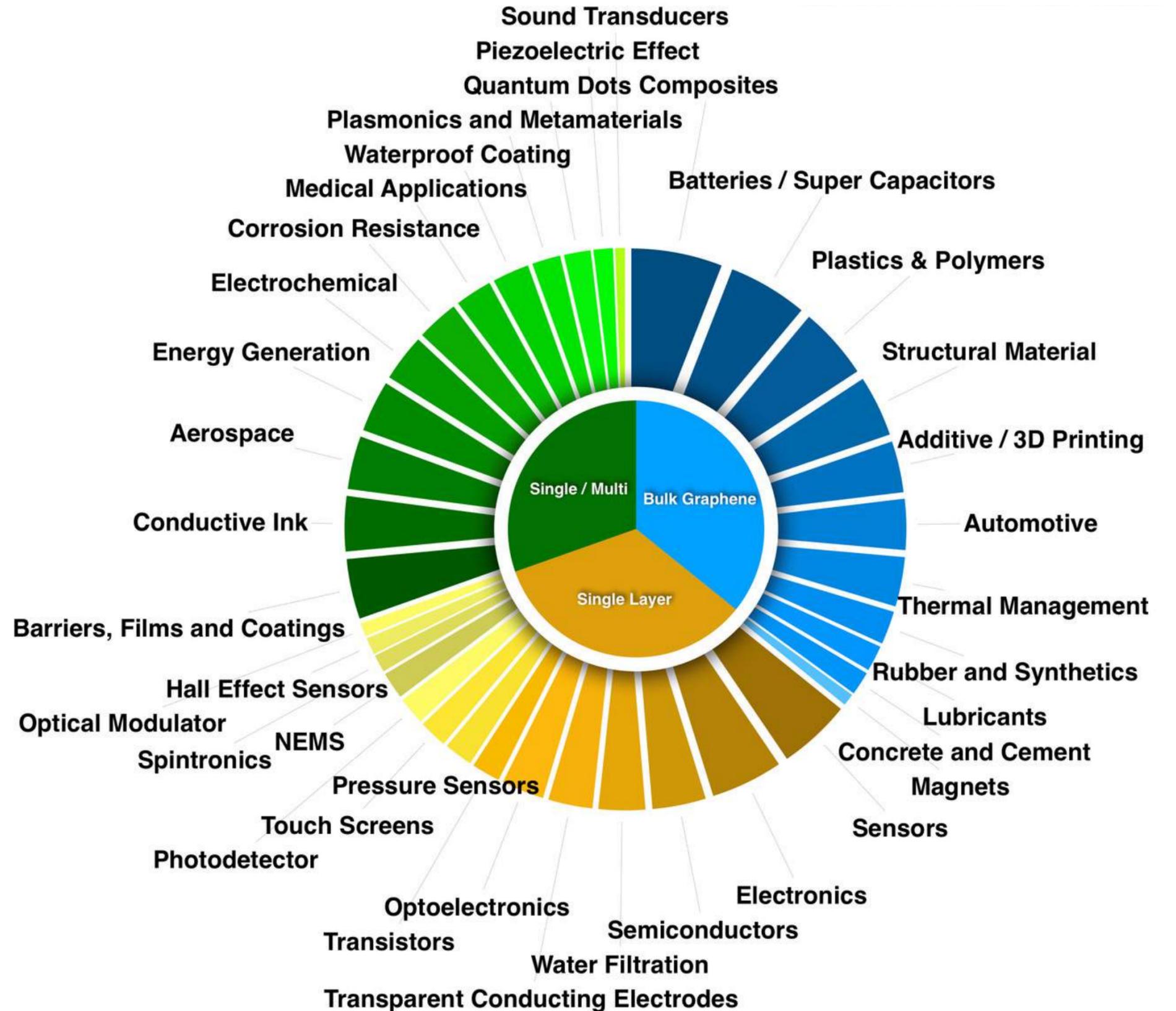
Graphene Properties



- **Tightly bonded carbon atoms** arranged in a hexagonal lattice
- **World's first 2D material**
- **One million times smaller** than the diameter of a single human hair
- **Better at conducting heat** than any other material
- **More electrically conductive** than copper
- **200x stronger** than steel, yet incredibly **lightweight & flexible**; like rubber it that can **stretch up to 25% of its original length**
- Optically **transparent**
- **Atomic-level barrier properties**

Countless Applications for Graphene

- There are a **vast number of products, processes & industries** for which graphene could create a significant impact **due to its amazing properties**.
- **No other material on earth has breadth of superlatives** that graphene boasts, making it ideal for **countless applications**.

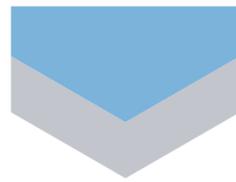


Graphene Industry Timeline

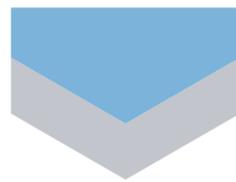


Global Graphene Demand Increasing

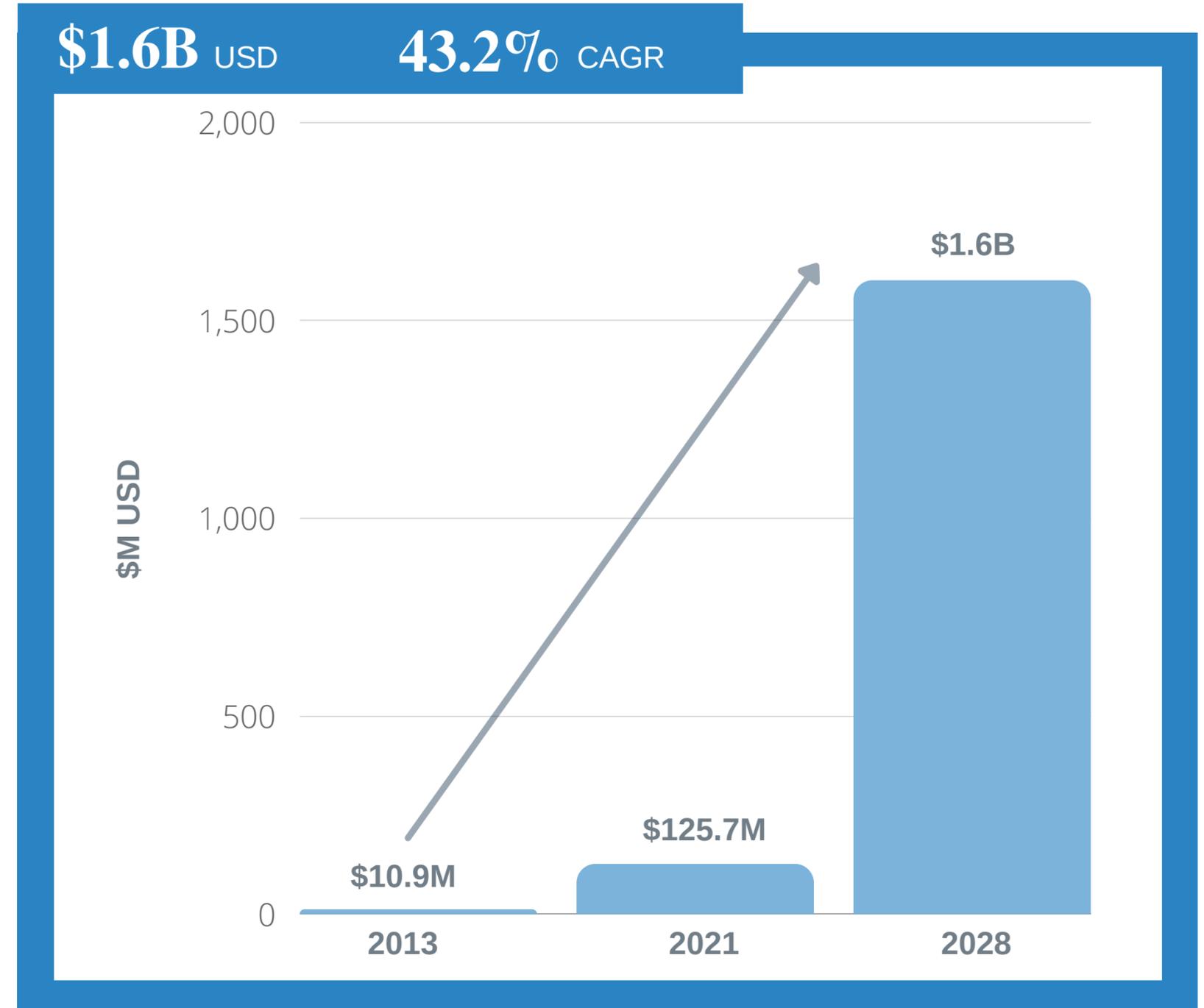
Global graphene market **increased from \$10.9M USD in 2013 to \$125.7M USD in 2021.**



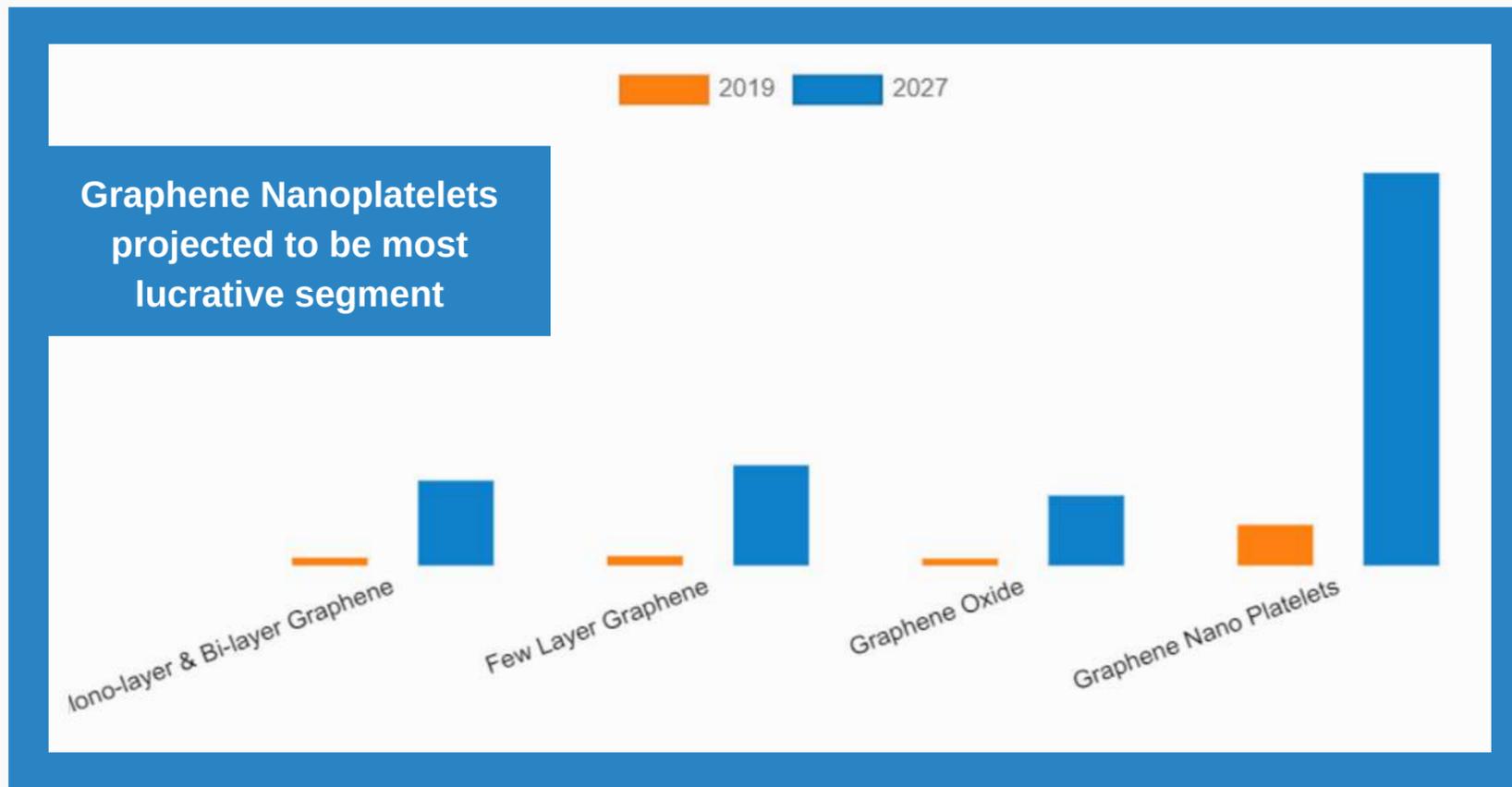
Global graphene market **expected to reach \$1.6B USD by 2028**, representing a **43.2% CAGR** from 2021 to 2028.



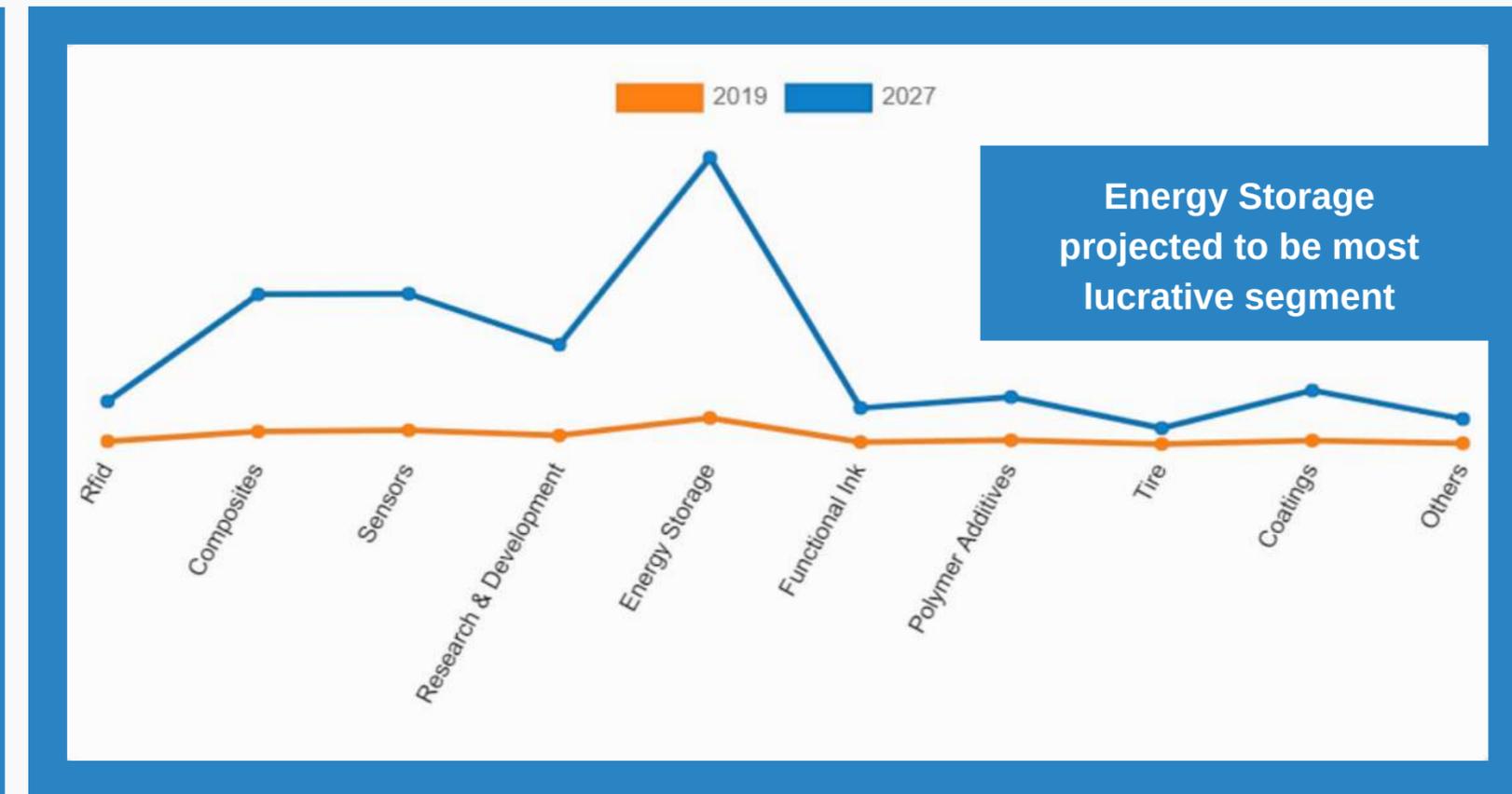
North America & Asia Pacific expected to provide **most lucrative growth opportunities** to global graphene market.



Market Growth by Type



Market Growth by Application



Graphene Nano Platelets and **Energy Storage** are projected to be the most lucrative segments.

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Advisories

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Forward-looking statements contained in this presentation reflect the Company's current expectations and are subject to uncertainty and changes in circumstances that may cause actual results or events to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements are based on estimates and assumptions made by management based on management's knowledge, experience, and perception of historical trends, current conditions and expected future developments, as well as other factors that management believes are appropriate in the circumstances. Although the Company's management believes that the assumptions made and the expectations represented by such statements are reasonable, there can be no assurance that the forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking statements.

Many factors could cause the Company's actual results, performance or achievements, or future events or developments to differ materially from those expressed or implied by the forward-looking statements contained in this presentation, including, without limitation, the following factors: general economic, political, business, technological, competitive, governmental, legislative and regulatory factors, including the impact of, and changes in, applicable laws and regulations; the viability of the Company's technologies, including its Hydrogen by Innova Pyrolysis technology; the Company's ability to attract customers; the Company's ability to adapt to technological changes; the Company's ability to develop and adapt to new industry standards; the Company's ability to effectively manage its growth; the Company's ability to successfully manage and execute its growth strategy; the Company's ability to protect its intellectual property; current or future litigation; the ability of the Company to accurately predict future growth given its limited operating history; the Company's dependence on key personnel; the Company's ability to attract and retain highly-skilled personnel; changes in global economic conditions and the Company's ability to access capital; the Company's ability to compete effectively in the industry; and the company's ability to secure the grants and other sources of funding described herein.

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PURCHASERS' RIGHTS OF ACTION FOR DAMAGES OR RESCISSION

Securities legislation in certain jurisdictions in Canada provides some purchasers ("Purchasers") of securities offered in connection with this presentation, in addition to any other rights they may have at law, with a remedy for rescission or damages or both if an offering memorandum (such as this presentation) or any amendment to it and, in some cases, advertising and sales literature used in connection therewith, contains a misrepresentation. However, these remedies, or notice with respect thereto, must be exercised or delivered, as the case may be, by the Purchaser within the time limits prescribed by the applicable securities legislation.

Each Purchaser should refer to the provisions of the applicable securities legislation for the complete text of these rights and/or consult with a legal advisor.

The rights of action described below are in addition to, and without derogation from, any other right or remedy available at law to the Purchaser and are intended to correspond to the provisions of the relevant securities legislation and are subject to the defenses contained therein.

The following is a summary of the rights of rescission or rights to damages available to Purchasers.

Ontario Purchasers

Securities legislation of the Province of Ontario provides that, subject to the following paragraph, a Purchaser resident in Ontario shall have, in addition to any other rights the Purchaser may have at law, a right of action for damages or rescission (if the Purchaser exercises the right of rescission, the Purchaser ceases to have a right of action for damages, as further explained below) against Innova if the offering memorandum contains a "misrepresentation" (for the purposes of this section, as defined in the Securities Act (Ontario)) (the "OSA") without regard to whether the Purchaser relied on the misrepresentation. Purchasers should refer to the applicable provisions of Ontario securities legislation for particulars of these rights or consult with a lawyer.

Ontario Securities Commission Rule 45-501 provides that the right of action referred to in Section 130.1 of the OSA ("Section 130.1") will apply in respect of an offering memorandum unless the prospective Purchaser is:

- (a) a Canadian financial institution, meaning either: (i) an association governed by the Cooperative Credit Associations Act (Canada) or a central cooperative credit society for which an order has been made under section 473(1) of that Act; or (ii) a bank, loan corporation, trust company, trust corporation, insurance company, treasury branch, credit union, caisse populaire, financial services corporation, or league that, in each case, is authorized by an enactment of Canada or a jurisdiction of Canada to carry on business in Canada or a jurisdiction in Canada;
- (b) a Schedule III bank, meaning an authorized foreign bank named in Schedule III of the Bank Act (Canada);
- (c) The Business Development Bank of Canada incorporated under the Business Development Bank of Canada Act (Canada); or
- (d) a subsidiary of any person referred to in paragraphs (a), (b) or (c), if the person owns all of the voting securities of the subsidiary, except the voting securities required by law to be owned by the directors of the subsidiary.

The right of action that is provided in the Province of Ontario is summarized below.

Subject to the foregoing, Section 130.1 of the OSA provides a Purchaser who purchases securities offered by the offering memorandum with a statutory right of action against Innova for rescission or damages in the event that the offering memorandum or any



Securities Legislation Disclosure

any amendment to it contains a "misrepresentation". A misrepresentation is defined in the OSA as an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make any statement not misleading in light of the circumstances in which it is made. A material fact, when used in relation to securities issued or proposed to be issued, is defined in the OSA as a fact that would reasonably be expected to have a significant effect on the market price or value of the securities.

In the event that an offering memorandum, together with any amendment to it, is delivered to a Purchaser of securities and the offering memorandum contains a misrepresentation which was a misrepresentation at the time of purchase of the securities, the Purchaser will have a statutory right of action against Innova for damages or, while still the owner of the securities, for rescission, in which case, if the Purchaser elects to exercise the right of rescission, the Purchaser will have no right of action for damages, provided that:

(a) no action shall be commenced more than, in the case of an action for rescission, 180 days after the date of the transaction that gave rise to the cause of action; or, in the case of any other action, the earlier of (i) 180 days after the Purchaser first had knowledge of the facts giving rise to the cause of action, or (ii) three years after the date of the transaction that gave rise to the cause of action;

(b) Innova will not be liable if it proves that the Purchaser purchased the securities with knowledge of the misrepresentation;

(c) Innova will not be liable for all or any portion of the damages that it proves do not represent the depreciation in value of the securities as a result of the misrepresentation relied upon; and

(d) in no case will the amount recoverable exceed the price at which the securities were offered to the Purchaser.