



Chart Industries

STRATEGIC INVESTMENT UPDATE, DECEMBER 15, 2020

CHART®

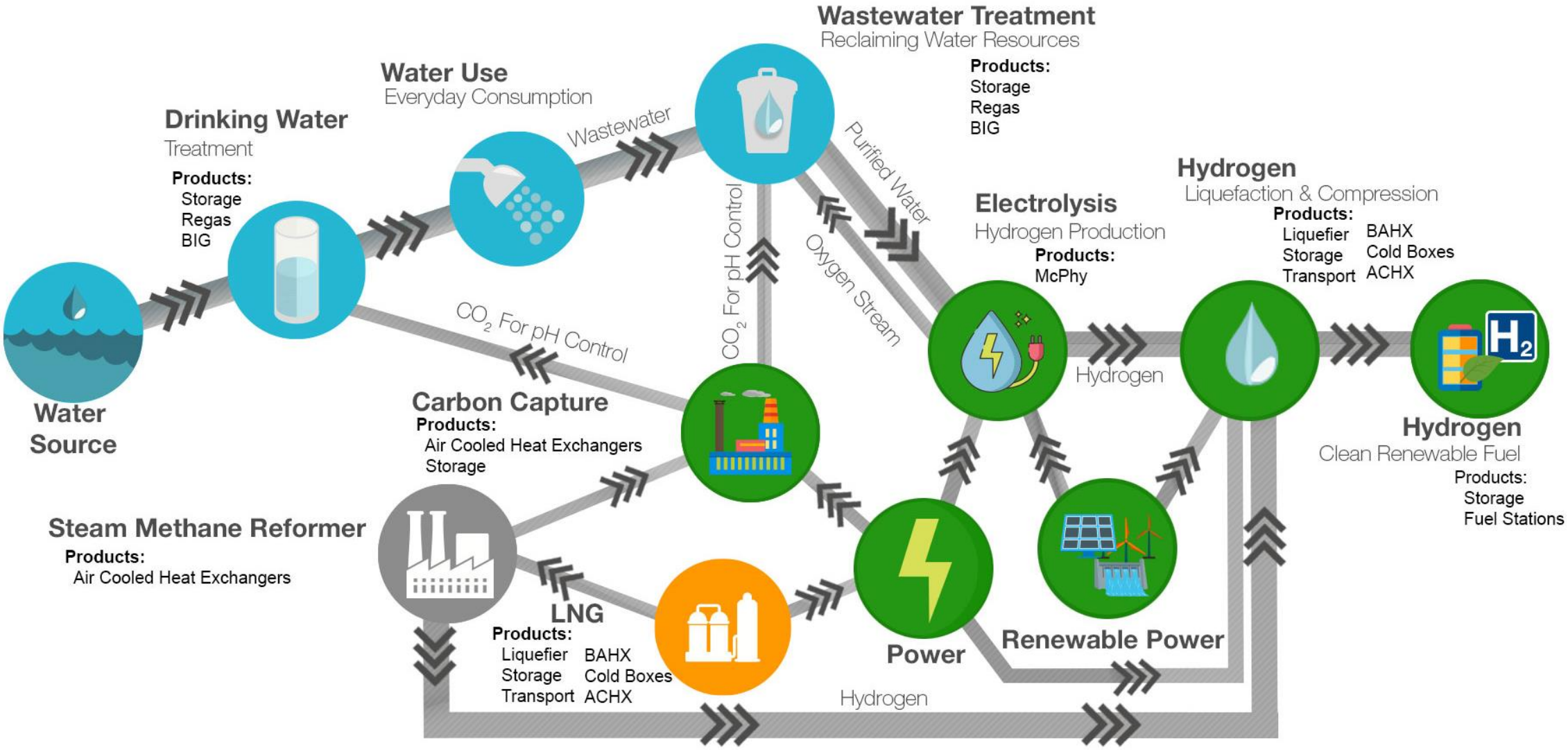
Cooler By Design.

Forward Looking Statements

CERTAIN STATEMENTS MADE IN THIS PRESENTATION ARE FORWARD-LOOKING STATEMENTS WITHIN THE MEANING OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995. FORWARD-LOOKING STATEMENTS INCLUDE STATEMENTS CONCERNING THE COMPANY'S BUSINESS PLANS AND OTHER MATTERS, INCLUDING STATEMENTS REGARDING PENDING ACQUISITIONS (INCLUDING THE EXPECTATION THAT THE COMPANY WILL ENTER INTO DEFINITIVE TRANSACTION DOCUMENTATION TO ACQUIRE SES), COMPLETED ACQUISITIONS, COST SYNERGIES AND EFFICIENCY SAVINGS, EXPANSION OF THE BUILDING, DEVELOPMENT AND USE OF LH2 PRODUCTION PLANTS, FUELING STATIONS AND FUEL CELL VEHICLES GLOBALLY, OBJECTIVES, FUTURE ORDERS, REVENUES, MARGINS, EARNINGS OR PERFORMANCE, LIQUIDITY AND CASH FLOW, CAPITAL EXPENDITURES, BUSINESS TRENDS, GOVERNMENTAL INITIATIVES, INCLUDING EXECUTIVE ORDERS AND OTHER INFORMATION THAT IS NOT HISTORICAL IN NATURE. FORWARD-LOOKING STATEMENTS MAY BE IDENTIFIED BY TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "COULD," "EXPECTS," "ANTICIPATES," "BELIEVES," "PROJECTS," "FORECASTS," "OUTLOOK," "GUIDANCE," "CONTINUE," "TARGET," OR THE NEGATIVE OF SUCH TERMS OR COMPARABLE TERMINOLOGY.

FORWARD-LOOKING STATEMENTS CONTAINED IN THIS PRESENTATION OR IN OTHER STATEMENTS MADE BY THE COMPANY ARE MADE BASED ON MANAGEMENT'S EXPECTATIONS AND BELIEFS CONCERNING FUTURE EVENTS IMPACTING THE COMPANY AND ARE SUBJECT TO UNCERTAINTIES AND FACTORS RELATING TO THE COMPANY'S OPERATIONS AND BUSINESS ENVIRONMENT, ALL OF WHICH ARE DIFFICULT TO PREDICT AND MANY OF WHICH ARE BEYOND THE COMPANY'S CONTROL, THAT COULD CAUSE THE COMPANY'S ACTUAL RESULTS TO DIFFER MATERIALLY FROM THOSE MATTERS EXPRESSED OR IMPLIED BY FORWARD-LOOKING STATEMENTS. FACTORS THAT COULD CAUSE THE COMPANY'S ACTUAL RESULTS TO DIFFER MATERIALLY FROM THOSE DESCRIBED IN THE FORWARD-LOOKING STATEMENTS INCLUDE: THE COMPANY'S ABILITY TO SUCCESSFULLY INTEGRATE RECENT ACQUISITIONS AND ACHIEVE THE ANTICIPATED REVENUE, EARNINGS, ACCRETION AND OTHER BENEFITS FROM THESE ACQUISITIONS; THE COMPANY'S ABILITY TO ENTER INTO DEFINITIVE TRANSACTION DOCUMENTATION TO ACQUIRE SES; RISKS RELATING TO THE RECENT OUTBREAK AND CONTINUED UNCERTAINTY ASSOCIATED WITH THE CORONAVIRUS (COVID-19) AND THE OTHER FACTORS DISCUSSED IN ITEM 1A (RISK FACTORS) IN THE COMPANY'S MOST RECENT ANNUAL REPORT ON FORM 10-K FILED WITH THE SEC AND QUARTERLY REPORTS ON FORM 10-Q, WHICH SHOULD BE REVIEWED CAREFULLY. THE COMPANY UNDERTAKES NO OBLIGATION TO UPDATE OR REVISE ANY FORWARD-LOOKING STATEMENT.

Chart Offers Unique, Multi-Faceted ESG Products



Market Trends are Similar for LNG, Hydrogen, Water, Carbon and Direct Air Capture

Stimulus Funds Directed toward Green Energy & Water Activities

Aggressive GHG and CO2 Reduction Goals Being Established Globally

Population & Economic Growth

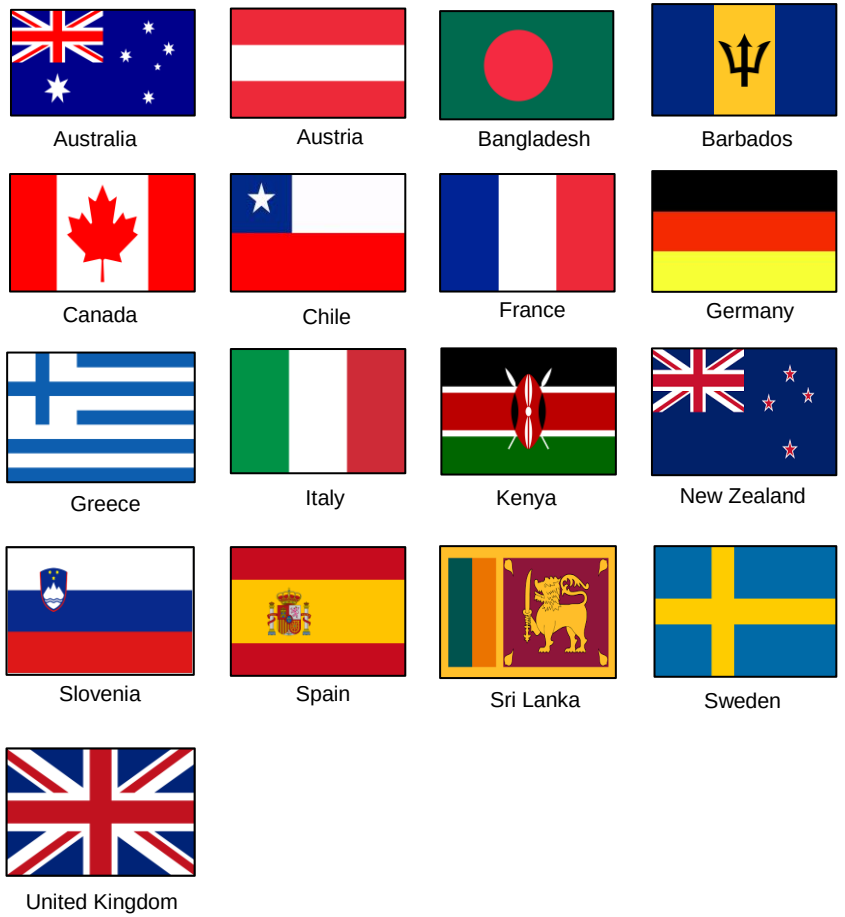
Role of Corporate Sustainability

Untraditional Players Entering These Markets

Early Partnerships Yield Key Positioning In These Markets

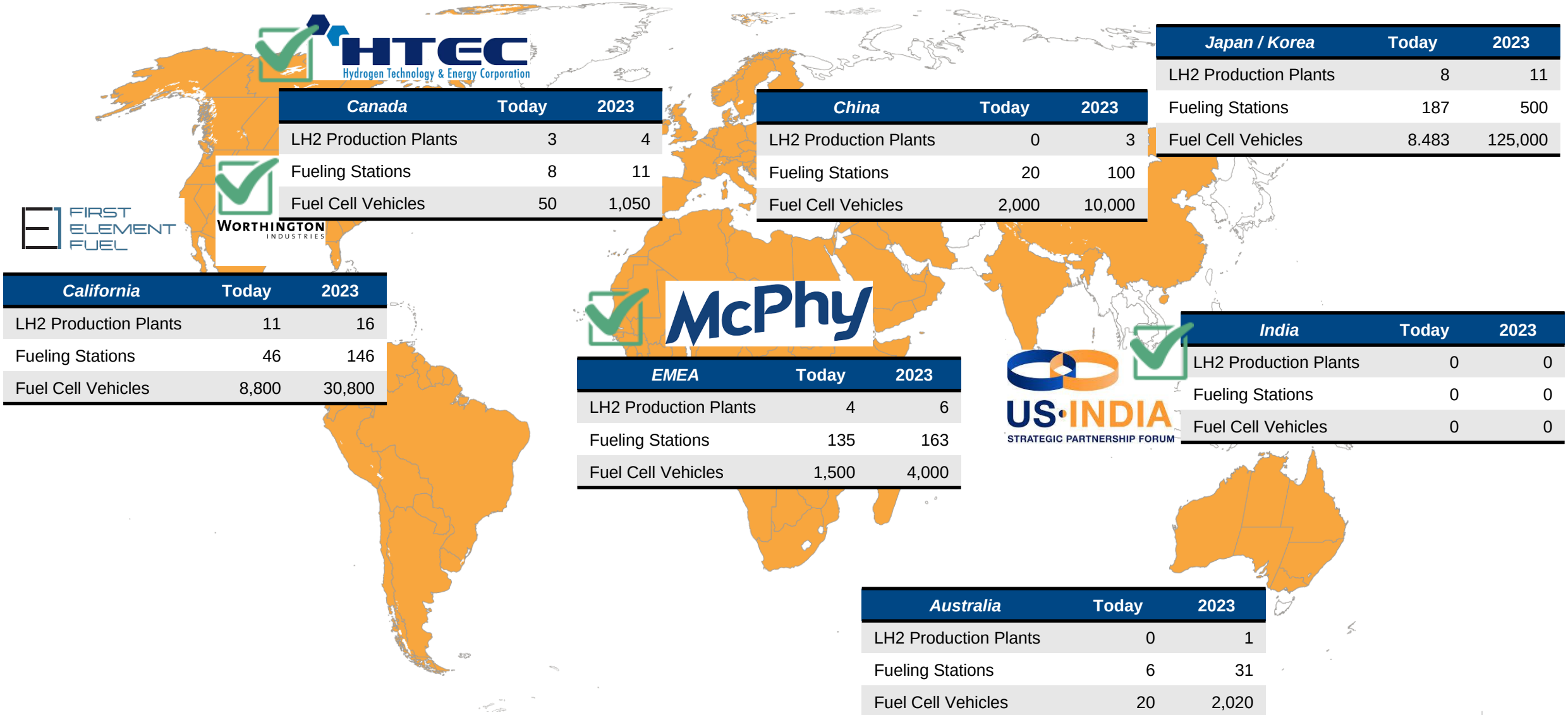
Clean Energy Is Global and Now

Carbon Neutral By 2050 or Sooner



100% Renewable (No Coal) By 2050 or Sooner

Global Commercial Hydrogen Penetration



Canada	Today	2023
LH2 Production Plants	3	4
Fueling Stations	8	11
Fuel Cell Vehicles	50	1,050

China	Today	2023
LH2 Production Plants	0	3
Fueling Stations	20	100
Fuel Cell Vehicles	2,000	10,000

Japan / Korea	Today	2023
LH2 Production Plants	8	11
Fueling Stations	187	500
Fuel Cell Vehicles	8.483	125,000

California	Today	2023
LH2 Production Plants	11	16
Fueling Stations	46	146
Fuel Cell Vehicles	8,800	30,800

EMEA	Today	2023
LH2 Production Plants	4	6
Fueling Stations	135	163
Fuel Cell Vehicles	1,500	4,000

India	Today	2023
LH2 Production Plants	0	0
Fueling Stations	0	0
Fuel Cell Vehicles	0	0

Australia	Today	2023
LH2 Production Plants	0	1
Fueling Stations	6	31
Fuel Cell Vehicles	20	2,020

HTEC Brings Customer and Canadian Expansion

Comml Access

- Canadian hydrogen fuel production, distribution and dispensing leader
- Poised to capitalize on the Canada wide hydrogen strategy being released
- Established government relationships with over $50 million in support secured
- 5 operating stations, 5 stations under construction or in engineering
- 5MW Electrolyzer project in BC in engineering phase

Canada Access

British Columbia

- Retail station networks
- Distribution
- Electrolysis and by-product production opportunities

Alberta

- First heavy-duty fueling station in the province under construction

Quebec

- Retail station network under development in partnership with operator of 400+ gas stations

HTEC Has A Variety of Key Customers & Partners

HTEC and Chart Near-Term Commercial Opportunities:

1. ***Hydrogen Fueling Station Projects***
   a. Making HTEC stations in Quebec based on liquid hydrogen
   b. Upgrading HTEC's existing stations to enable use of liquid hydrogen

2. ***Development of two LH2 production facilities in Canada***

3. ***Leveraging Chart's Partnership with McPhy***
   a. Potential use of McPhy electrolyzer in HTEC's 5 MW project
   b. Continued use of McPhy solutions in HTEC stations

ENERGY PRODUCTS TODAY For A Better Tomorrow

Natural Gas

Products
- BAHX
- Cryogenic Storage
- Vaporizers
- Std. Plant Solutions
- Modular Plant Solutions
- IPSMR® Technology
- LNG Fueling Stations
- LNG Dispensers
- Onboard Fueling Tanks
- Ship Fueling
- Rail Fueling
- Storage & Regas
- Transport Trailers
- ISO Containers

Natural Gas Reforming

Products
- ACHX

Carbon Capture Utilization & Storage

Products
- ACHX
- Cryogenic Storage
- BAHX
- Cold Boxes

SES INNOVATION

Hydrogen Gas Storage

Products
- Cryogenic Storage
- Heavy & Light Duty Fueling Stations

Hydrogen Liquefaction

Products
- Liquefier
- BAHX
- Cryogenic Storage
- ACHX
- Cold Boxes

HTEC Hydrogen Technology & Energy Corporation

FIRST ELEMENT FUEL

Hydrogen Distribution

Products
- ISO Containers
- Transport Trailers
- Ships & Railcars
- Bunkering, Loading & Regas
- Fueling Stations

Wind Power

Water Electrolysis

Products

McPhy Driving clean energy forward

Solar Power

Water Treatment

BlueInGreen solutions for water quality

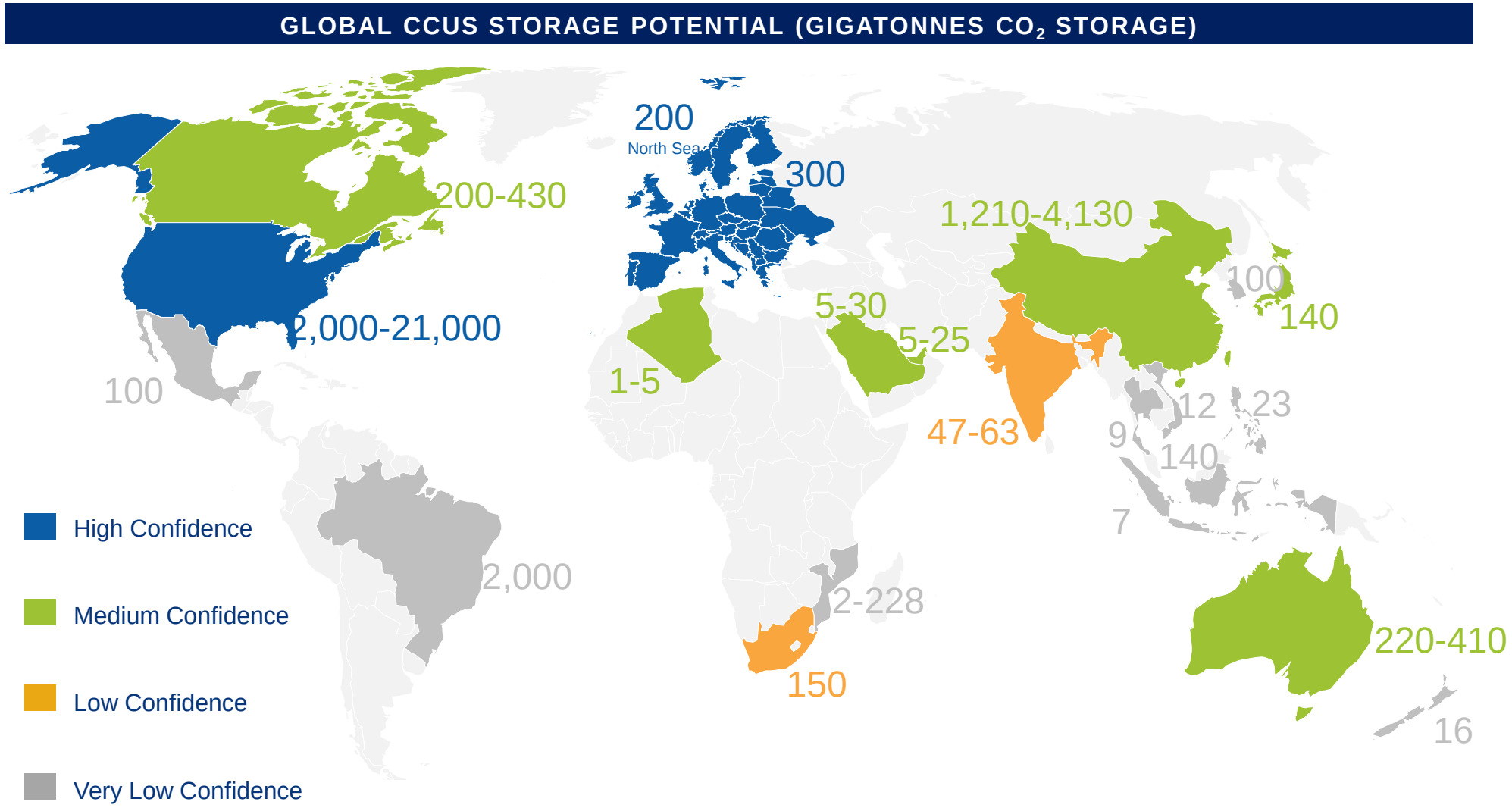
Products
- SDOX®
- StreamLineO2
- CDOX®
- StreamLineCO2
- HyDOZ®
- StreamLineO3
- SDOX-CS®
- Services

Hydro Power

CHART

Cooler By Design.™

CCUS storage potential overlaps with H2 producing regions



Source: Global CCS Institute, Global Status Report 2019

CCUS Interplay with Water Treatment

Every industry uses water and creates wastewater…

1 Gallon of Beer | 680 Gallons of Water

Just because you're not drinking water, doesn't mean you're not using water. Sadly, every cold one comes at a price.

1 Pound of Beef | 1,800 Gallons of Water

You know what goes great with beer? Beef. And you know what it takes to make beef? Water. Does eating a burger count as hydrating? Probably not.

1 Gallon of Coffee | 690 Gallons of Water

Iced or steamed, sugar or straight - every cup of joe requires water. Just something to think about while the barista is busy misspelling your name.

1 Pair of Jeans | 2,900 Gallons of Water

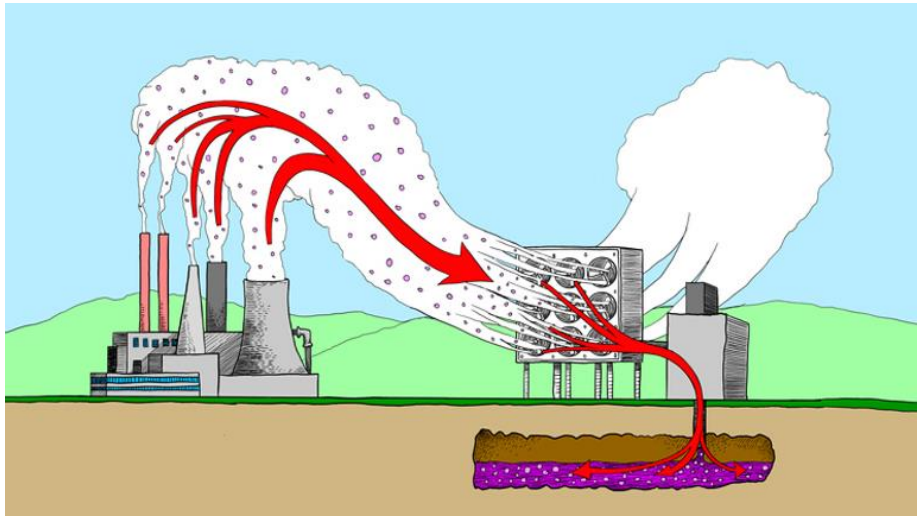
After your beer, burger and coffee, you're probably going to need to size up on your next pair of pants. Unfortunately, it takes water to make those too.

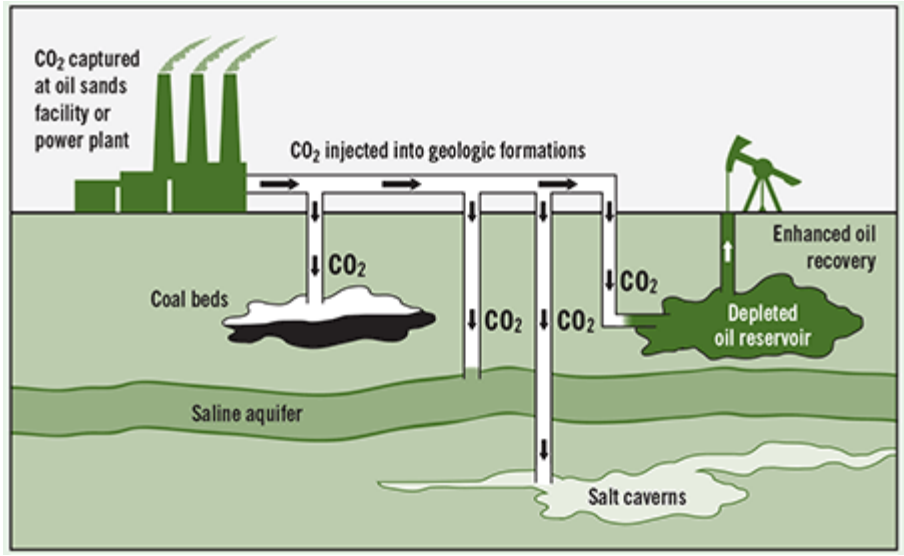
- In many cities, wastewater treatment facilities (WWTP) are the largest energy consumers
- WWT could account for 3% of global energy consumption if continuing to treat with conventional technologies
- Chemical energy embedded in wastewater is estimated to be more than 9x that required to treat the wastewater
- CCU can occur within the existing wastewater infrastructure during treatment, not requiring additional space or transport
- End users of CO2 typically are located in close proximity to WWTP

Carbon Capture Process

HOW IS IT CAPTURED?

Capture technologies allow the separation of carbon dioxide from gases produced in electricity generation and industrial processes by one of three methods: pre-combustion capture, post-combustion capture and oxyfuel combustion. The captured CO2 is dehydrated and compressed prior to entering the pipeline.





- **WHERE DOES IT GO?**
- Captured CO2 is injected into a storage pipeline to send the CO2 to underground storage reserves. These are typically depleted oil reserves, coal beds, saline aquifers and salt caverns.
- CO2 is also used in Enhanced Oil Recovery (EOH) as well as fuel manufacturing.
- If the CO2 is high enough quality, it can also be used in the merchant market for food and beverage purposes.

Numerous Incentives Related to CO2…

California cap-and-trade system (AB32)

- Regulates the CO2 emissions of industry using a market-based system

Low Carbon Fuel Standard (LCFS)

- Program to reduce carbon in fuels and supports the Hydrogen Refueling Infrastructure (HRI) credit
- California and Oregon have adopted the program; 10 additional U.S. States are evaluating

45Q

- Provides tax credit to companies that sequester CO2 through geologic sequestration, enhanced oil recovery, chemical or biological sequestration
- Benefits are after-tax and can be used in conjunction with other carbon credits, increasing their value

European Emission Trading System (EU ETS)

- Governments of 31 participating countries involved

…In a Very Active Clean Energy Space…

Types of CO2 Applications We Supply… Very Broad

Food & Beverage

- CarboMax tanks for microbrewing and onsite brew pubs
- Food freezing
- Convenience stores and national restaurant chaings doing national upgrades

Concrete Curing

- PM 6000 HP tanks are perfect for the application
- Multiple channels
- Reduces curing time and cost for concrete pouring

Vaccine Storage

- Storage equipment at the front end of supply chain
- Work with dry ice
- Utilized in the dry ice mfg equipment, removing us from the chain of liability

Cannabis

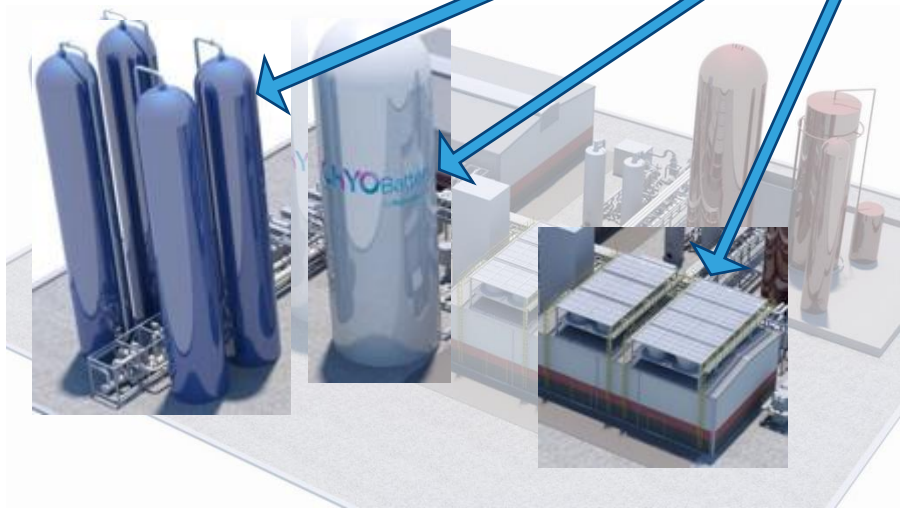
- Election resulted in new states legalizing marijuana
- COVID drove growth
- CarboMax 750 works well for CO2 enhanced atmospheric growing

Others

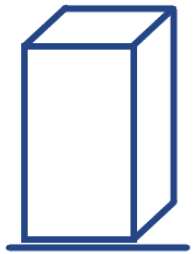
- pH control for swimming pools, fitness centers, etc.
- Die cooling
- Dry ice pellets for fire fighting

Carbon and Direct Air Capture Equipment Capabilities

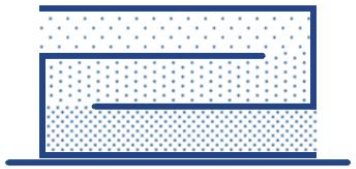
Liquid Air Storage



Direct Air Capture

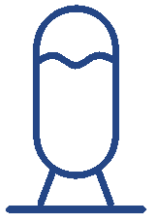


Coldbox



BAHX

Air Coolers



Storage Tanks

Transport Carriers

Dosers, Pipe

Post Combustion CO2 Capture

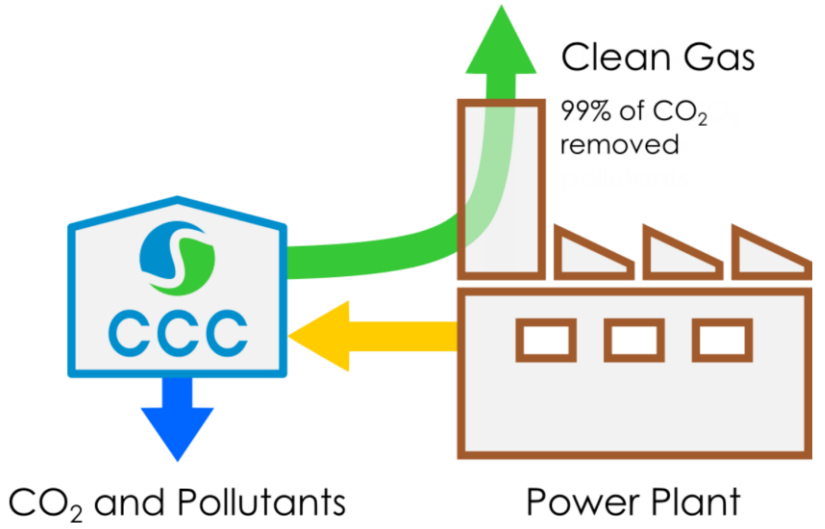
- Cryogenic process that delivers high purity liquid CO2 ready for transport and use
- Amine process using adsorption to deliver gaseous CO2

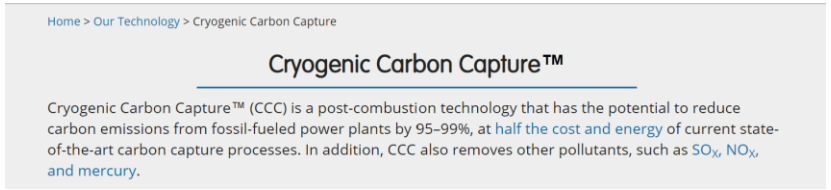
Direct Air Capture

- Removal of CO2 directly from the atmosphere
- Uses air cooled heat exchangers as contactor surface to capture CO2 from air stream
- Air coolers are the most significant part of these projects

About SES and SES Technology

2008-2009	2010-2012	2013-2016	2017-2020
R&D contract from Danish utility (DONG Energy)	Grants from State of Wyoming and US DOE	Grants from State of WY and UT, ARPA-E, and Canada	Grant from US DOE, R&D Contract Pacificorp, and KAUST HL IP funding




Home > Our Technology > Cryogenic Carbon Capture

Cryogenic Carbon Capture™

Cryogenic Carbon Capture™ (CCC) is a post-combustion technology that has the potential to reduce carbon emissions from fossil-fueled power plants by 95–99%, at half the cost and energy of current state-of-the-art carbon capture processes. In addition, CCC also removes other pollutants, such as SO_X, NO_X, and mercury.

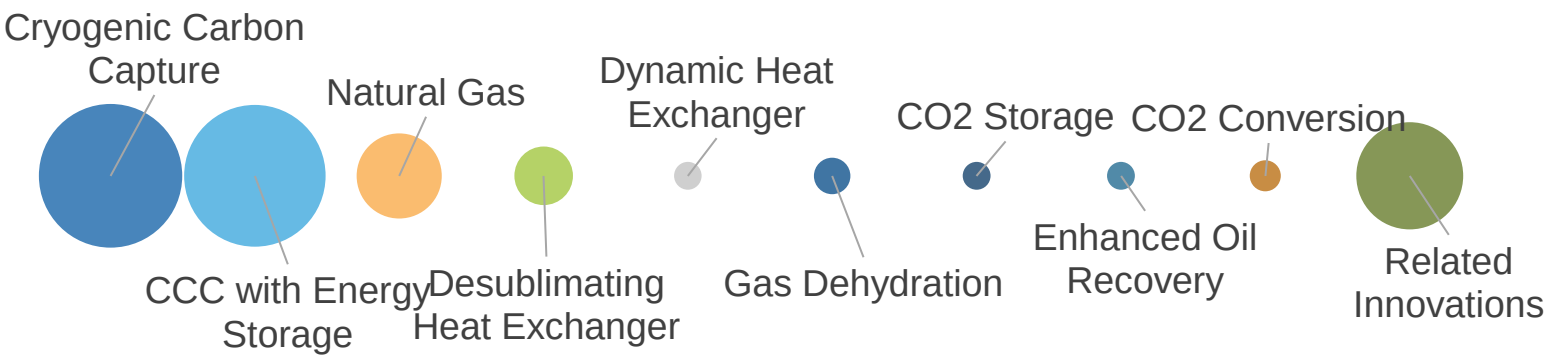
- The SES cryogenic solution for carbon capture for flue gas is more efficient than current conventional amines used for CO2 removal
- Uses Chart's BAHX, cold boxes and IPSMR® process to produce refrigeration for CO2 removal
- CO2 liquefaction and energy storage via LNG liquefaction can be merged with the SES carbon capture process without adding completely new refrigeration equipment

SES Founders Will Stay With the Business

Dr. Larry Baxter
Co-Founder and CTO
Dr. Larry Baxter is responsible for the technical direction and vision of SES. He has spent his entire career working with sustainability issues and combustion and is well respected for his expertise in this area. He is also a Professor of Chemical Engineering at Brigham Young University. He holds B.S. and Ph.D. degrees in Chemical Engineering and his research focus has been sustainable energy systems. Prior to joining the faculty at BYU, Dr. Baxter worked for fourteen years at Sandia National Laboratories' Combustion Research Facility. He has written five chapters for books, edited four books, and authored over 70 archival journal publications.

Andrew Baxter
Co-Founder and CEO
At the end of 2008 Andrew Baxter co-founded Sustainable Energy Solutions and has led the company to its current success. Prior to his work at SES, he spent two years at Zinch.com where he helped launch and grow a business to profitability in the education industry. Andrew's professional interests include energy, sustainability, education, and innovation. Andrew has a degree in Economics and Business from Brigham Young University and an MBA from Rice University with an emphasis in energy and entrepreneurship.

SES Patents Combined with Chart Equipment Will Create an Extremely Differentiated CCUS Offering



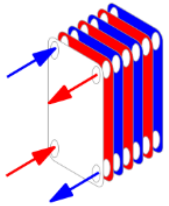
Combination of Chart and SES Will Also Address:

Cryogenic natural gas treating for LNG, NGL, and midstream applications

Dehydration technology

Cryogenic energy storage

De-sublimating heat exchangers



Dynamic heat exchangers

Differentiated innovation:

- 44 SES U.S. issued patents
- 17 SES U.S. patents pending
- Additional 20 SES patents issued internationally

Chart key equipment used in SES CCC for power, industrial and hydrogen:

- SMR systems
- BAHX
- Cold Boxes
- Cryogenic tanks
- VIP
- Instrumentation
- Controls

Building on GTLS/SES Commercial Opportunities

GTLS Current Commercial Work	SES Current Commercial Work	Opportunities In Development
• Involved in a cryogenic process pilot plant • Developing concepts for several partners on direct air carbon capture projects • Bidding on over 20 related projects globally, equipment only	• 20-30 tonne per day CO2 capture system to be built in modules • Host site is cement plant to produce CO2 to make clean transport fuel • Two international projects in the near-term	• Industrial Associate for University of Texas (Austin) Carbon Management Program developing amine-based process for deployment of CO2 capture from flue gas • Developing ACHX installation method to reduce plot space requirements by 50%

Specialty Markets Driving Growth

700M

Water Treatment

- Improving water quality and wastewater reuse utilize liquid oxygen and CO2 in purification process

Drivers of Size Opportunity

- Regulation on water treatment
- Population growth

750M

Over The Road Trucking

- LNG as alternative fuel to diesel for heavy duty vehicles
- HLNG vehicle tanks for onboard heav- duty trucks
- HLH2 onboard tanks in development

Drivers of Size Opportunity

- Regulations in EU
- Reduced engine noise while addressing emission reduction

1100M

Hydrogen

- H2 vehicle fueling stations, transport equipment and liquefaction storage at H2 production sites
- H2 storage and mobility equipment
- BAHX for H2 liquefaction

Drivers of Size Opportunity

- Buildout of hydrogen fueling infrastructure
- Development of “green hydrogen” economy
- Government stimulus packages
- Brand name fast followers

500M

Food & Beverage

- Food preservation equipment
- Nitrogen dosing equipment

Drivers of Size Opportunity

- Nitro-beverage changeover
- National and global chains
- Brand name fast followers

400M → 600M

Carbon & Direct Air Capture

- Air cooled heat exchangers
- Storage tanks
- BAHX and cold boxes

Drivers of Size Opportunity

- Carbon emissions reductions targets
- CO2 supply shortage

250M

Cannabis

- Liquid CO2 storage and supply / delivery systems
- Used in grow houses, CBD oil extraction and packaging

Drivers of Size Opportunity

- Legalization of cannabis
- Regulatory approval for CBD.

200M

Molecules By Rail

- Gas By Rail tender cars approved for use

Drivers of Size Opportunity

- Legalization of LNG by rail in the U.S.
- Expected growth in EU

200M

Industrial Lasers

- High purity liquid nitrogen (gas assist) provides a faster cut and superior edge, free of impurities

Drivers of Size Opportunity

- Uptime requirements in manufacturing
- Reducing steps in production

200M

Space

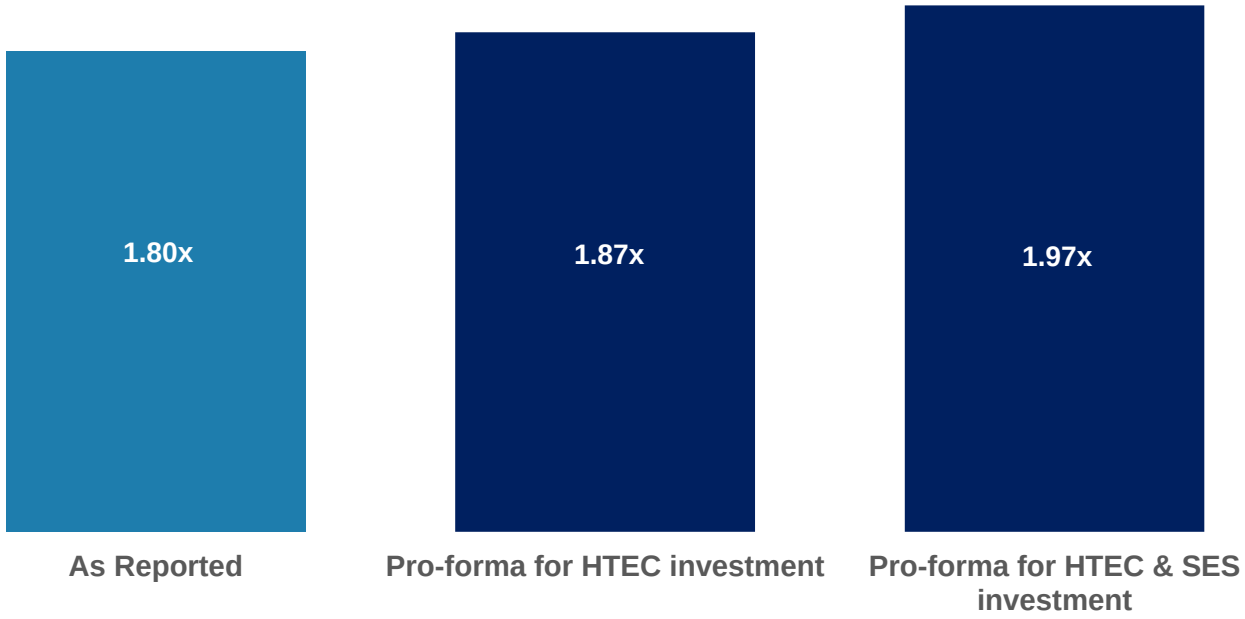
- Cryogenic liquid propellants are used as fuel for rocket propulsion

Drivers of Size Opportunity

- Proliferation of private space travel industry

Strong Balance Sheet

Net Leverage Ratio
as of November 30, 2020



- **$109 million of cash on hand as of November 30, 2020**
- **$377.2 million of net debt as of November 30, 2020**
- **$412.9 million pro forma net debt for HTEC and SES as of November 30, 2020**