



# | Investor Presentation

June 07, 2018





# Forward-looking Statements

Certain statements in this presentation may constitute "forward-looking" statements within the meaning of applicable securities laws. This forward-looking information includes, but is not limited to, the expectations and/or claims of management of Xebec with respect to information regarding the business, operations and financial condition of Xebec. Forward looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Xebec or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such statements use words like "anticipate", "believe", "plan", "estimate", "expect", "intend", "may", "will" and other similar terminology. This list is not exhaustive of the factors that may affect forward-looking information contained in this presentation. These statements reflect current expectations regarding future events and operating performance and speak only as of the date of this presentation. Forward-looking statements involving significant risks and uncertainties should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements.



# Who We Are

● Today...  
Xebec designs, engineers and manufactures innovative products and technology solutions that transform raw gases into marketable sources of clean energy for industrial use, transportation, gas utilities and the public sector.

● Tomorrow ...  
With proven proprietary technology, Xebec is well positioned to be a facilitator in the rapidly developing **Global Energy Transition** space, including the field of renewable gases and methanation technology for energy storage.

9000+ units

50+ years experience

1500+ customers





## Industrial Compressed Air & Gas Treatment

Industrial purification equipment, parts & service for applications as diverse as manufacturing, medical and petrochemical industries

## Clean Technology

Renewable Natural Gas, Hydrogen & Renewable Hydrogen systems/plants for the production of fuel for a wide variety of applications, from fuel cells to the replacement of fossil fuels in transportation.



# Industrial Compressed Air & Gas

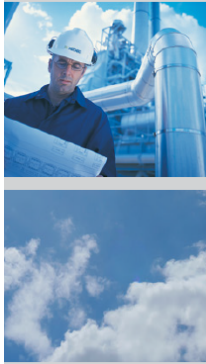




# Our Bread and Butter

## ADXSOLUTIONS

### CLEAN, DRY COMPRESSED AIR



Adsorption Air Dryers

## ADXSOLUTIONS

### ADXDRIY - MODULAR. COMPACT.



Modular Compressed Air Dryers

## ADXSOLUTIONS

### ADXCool



Non-Cycling Refrigerated Compressed Air Dryers

## FSXSOLUTIONS

### XSERIES

#### AIR FILTRATION for

- General Purpose Air
- High Quality Air
- Critical Applications



Compressed Air Filters

## FSXSOLUTIONS

### XV SERIES



#### CNG FILTRATION

- Trucks
- Vans
- Cars
- Forklifts



Natural Gas Vehicle (NGV) Filters

## N2XSOLUTIONS

### ON SITE NITROGEN

for a range of applications, including

- Food & Beverage
- Laser
- Chemical
- Metal & Glass Processing
- Electronics
- Pharmaceutical
- Oil & Gas Extraction
- Aviation



Nitrogen Generation



# Industrial Compressed Air and Gas

- Historically high margin; significant recurring revenue base from sales of parts and service to over 9,000 installations. Looking forward, high 30's to mid 40's in gross margin
- Heavily invested in product development of additional purification products
- Roll-up strategy to acquire 3-5 small service businesses (\$3-5M revenue) to create the leading Canadian National Compressed Air Treatment business
- Xebec is the only Canadian manufacturer of adsorption systems with a full product portfolio and all necessary Canadian Federal & Provincial certifications (CRN, CSA etc.)



Medium Pressure Housings



High Pressure Filters



High Quality Desiccant



# Industrial Compressed Air and Gas

● Organic revenue growth up to \$ 12 million by 2020

● Acquisitions in Q3/2018, with total acquisition revenue of C\$15 to C\$20 million by 2020

● Total Revenue C\$ 25 to 30 million; Gross Margins ~ 40%; EBITDA margins of 17% to 20%

● 40% of privately owned companies in Canada will change ownership within the next 5 years.

## 5 Acquisitions

- 3 to 5 million in revenue each
- 3 in Ontario
- 1 in Alberta
- 1 in British Columbia



Source: Business Development Bank of Canada, "The Coming Wave of Business Transitions in Canada".



## **Solution:** Industrial Compressed Air and Gas Treatment



**Client:**  
Hydro Quebec



**High Pressure  
Compressed Air Dryers**



**Supporting Hydro  
Quebec's LG4 Plant**



## **Solution:** Industrial Compressed Air and Gas Treatment



**Client:**  
Honda



**Xebec Compressed  
Air Dryers**



**Supporting the Honda  
Car Plant in Alabama**



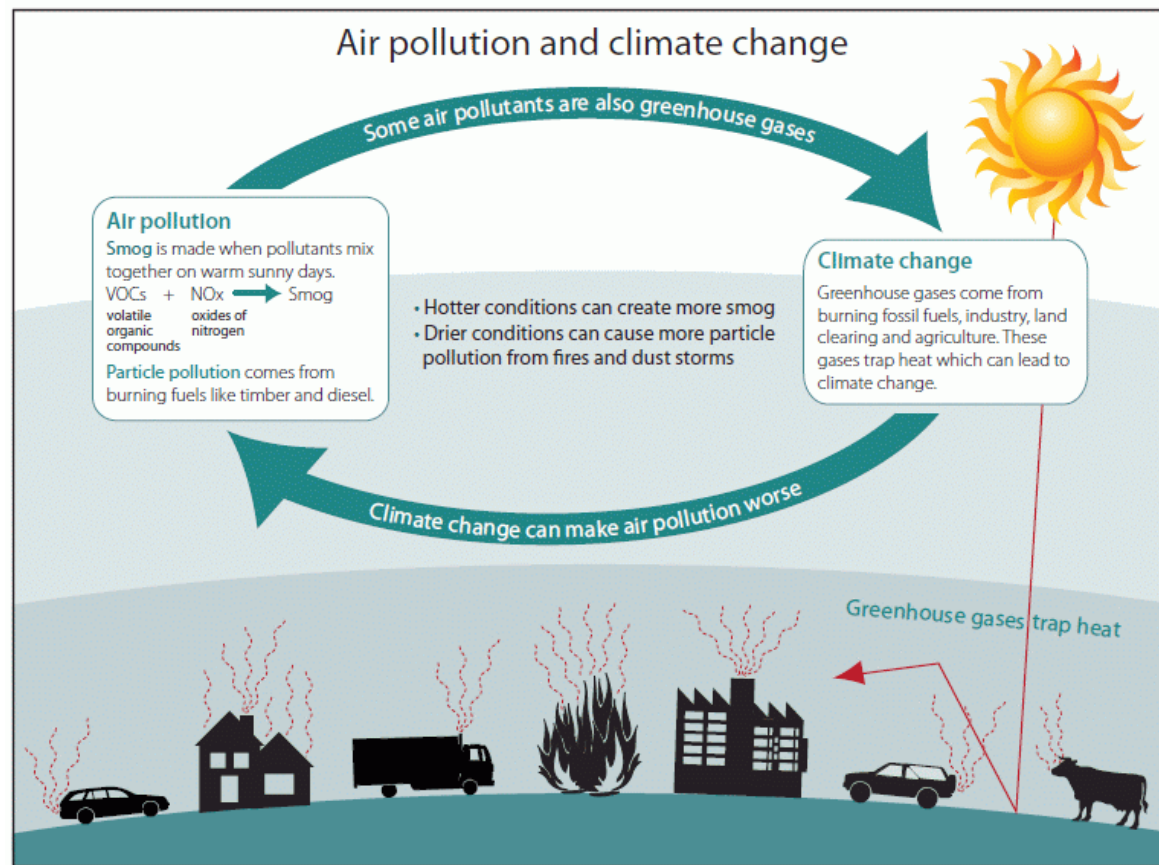
# Cleantech - Renewables & Hydrogen





# Clean Energy Is An Imperative

- Our planet is getting hotter and dirtier
- The dominance by fossil petroleum fuel, particularly in the transportation sector, has many major adverse environmental consequences, with high corresponding economic costs



Adapted from State of the Environment NSW 2000





Rising Temperatures



*Air pollution in China*  
*– 4,000 deaths a day*

**Worsening Air Pollution**



# Acute health issues

## DELHI POLLUTION DEATHS UP BY 100% SINCE 1991

By Neetu Chandra Sharma in New Delhi

**T**HE health of Delhites has been hit hard by air pollution, with the number of deaths and cardiovascular and respiratory diseases linked to the menace shooting up in recent years.

A World Health Organisation (WHO) study ranked New Delhi as the world's worst city for air pollution, with an annual average of 133 micrograms of small particulates, known as PM 2.5 per cubic metre. Released on Wednesday, the study conducted in 1,400 cities found that air pollution has worsened since a smaller survey in 2011, putting Delhi residents at higher risk of cancer and heart disease.

A similar study done by Indian Institute of Technology (IIT)-Roorkee in association with the University of Minnesota and University of Colorado at Denver has revealed a marked rise in deaths due to cardiovascular and respiratory diseases and hospital admissions for "chronic obstructive pulmonary diseases" (COPD) linked to pollution.

"As many as 8,946 cases of total mortality, 3,413 cases of cardiovascular mortality, 1,302 cases of respiratory mortality and over 12,809 hospital admission of COPD were recorded in Delhi in 1991. With 100 per cent growth,

these figures in 2010 became 18,229 cases of total mortality, 6,474 cases of cardiovascular mortality, 2,701 cases of respiratory mortality and 26,825 hospital admission," the study done

by Professor Rhola Ram Gurjar of IIT-Roorkee said. In 2000, about 11,394 cases of total mortality, 3,912 cases of cardiovascular mortality, 1,697 cases of respiratory mortality

and 16,263 cases of hospital admission of COPD were recorded for Delhi, reported the study titled *Human health risks in national capital territory of Delhi due to air pollution*. The study, recently published in *Atmospheric Pollution Research Journal*, adopted WHO guideline concentrations for assessing air pollutants like sul-

### Doctors see rise in respiratory diseases

phur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>) and total suspended particles (TSP). The study also assessed the risk to people from these pollutants. It found that higher ambient concentrations of suspended particulate matter (SPM) and nitrogen oxides (NO<sub>x</sub>) are responsible for excess number of deaths and illnesses in Delhi.

The study covered the areas of North-West, South, West, North-East, South-West, East, North-Central and New Delhi districts during 1991-2010. They calcu-

lated the health risks using ambient air pollution concentration data of monitoring stations in each district was used for calculating district-wise health risk estimates.

The results found dissimilar trends in terms of deaths, diseases and hospital admissions. From 2002, the North-West district was at the top for the highest excess number of cases of hospital admission of COPD until 2010, while from 2002 to 2010, the North West district topped the chart with the excess number of cases of deaths due to cardiovascular diseases.

Doctors have been witnessing an increased number of cases of respiratory disease which they attribute to air pollution. "There is an increase in cases of respiratory diseases, especially in children. Air pollution is contributing to respiratory diseases while there is also a possibility of malformation of organs in new born babies as mothers are exposed to pollution for prolonged periods," said Dr. Dinesh Kapil, consultant pediatrician at Red Cross Hospital.





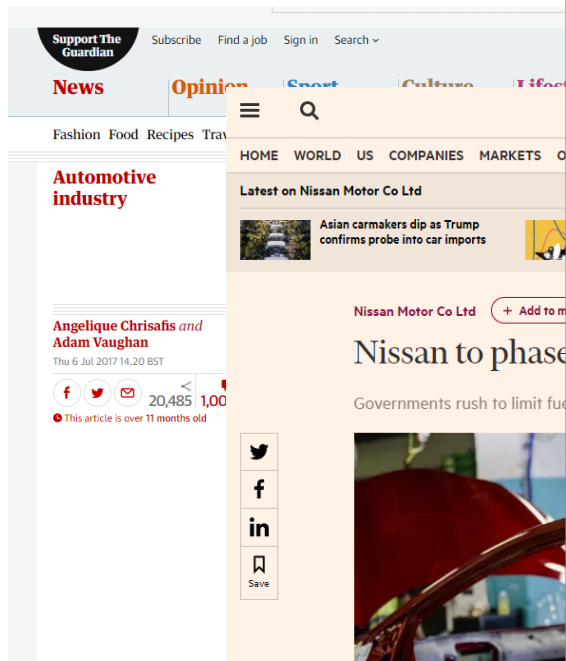
**Reduce CO2**



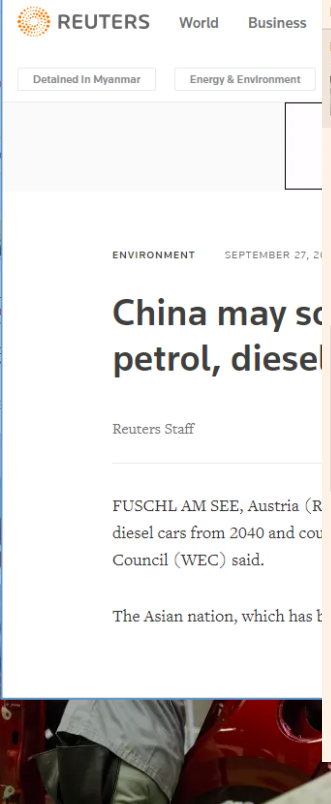


# A Global Energy Transition

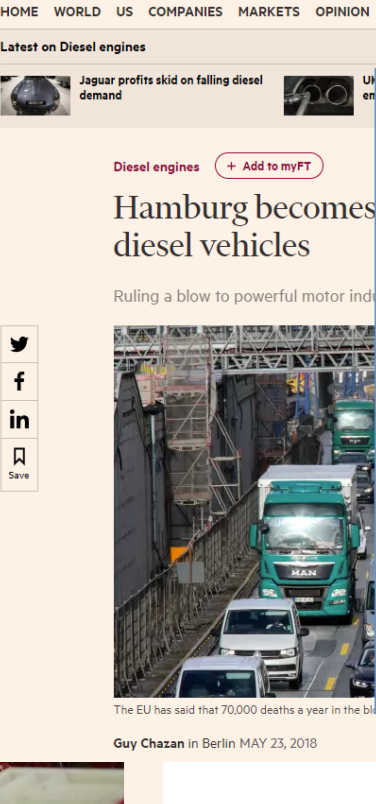
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**REUTERS** World Business  
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ENVIRONMENT SEPTEMBER 27, 2018  
**China may scrap petrol, diesel**  
Reuters Staff  
FUSCHL AM SEE, Austria (R) diesel cars from 2040 and cou Council (WEC) said.  
The Asian nation, which has b



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Latest on Diesel engines  
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**Hamburg becomes first to ban diesel vehicles**  
Ruling a blow to powerful motor ind  
The EU has said that 70,000 deaths a year in the bl  
Guy Chazan in Berlin MAY 23, 2018

**International plans to ban petrol and diesel vehicles**

Country	Deadline issued	Deadline	Content of ban	Current status
Holland	April 2016	2025	Ban on sale of petrol and diesel vehicles	Proposed
Norway	May 2016	2025	Ban on sale of petrol and diesel vehicles	Awaiting final decision
Germany	October 2016	2030	Ban on the sale of traditional internal combustion engine vehicles	Decided
India	June 2017	2030	Ban on sale of petrol and diesel vehicles	Planned
France	July 2017	2040	Ban on sale of petrol and diesel vehicles	Decided
UK	July 2017	2040	Ban on sale of petrol and diesel vehicles	Decided

...today's headlines are tomorrow's solutions



# A Global Energy Transition

- **Governments and agencies** at every level are now invested in significant climate change initiatives
- **Industries** in every sector of daily life are actively engaged in reduction of CO2 emissions
- **Major Gas utilities** have committed to aggressive sustainability targets in renewable gas energy





# Our Cleantech Opportunity

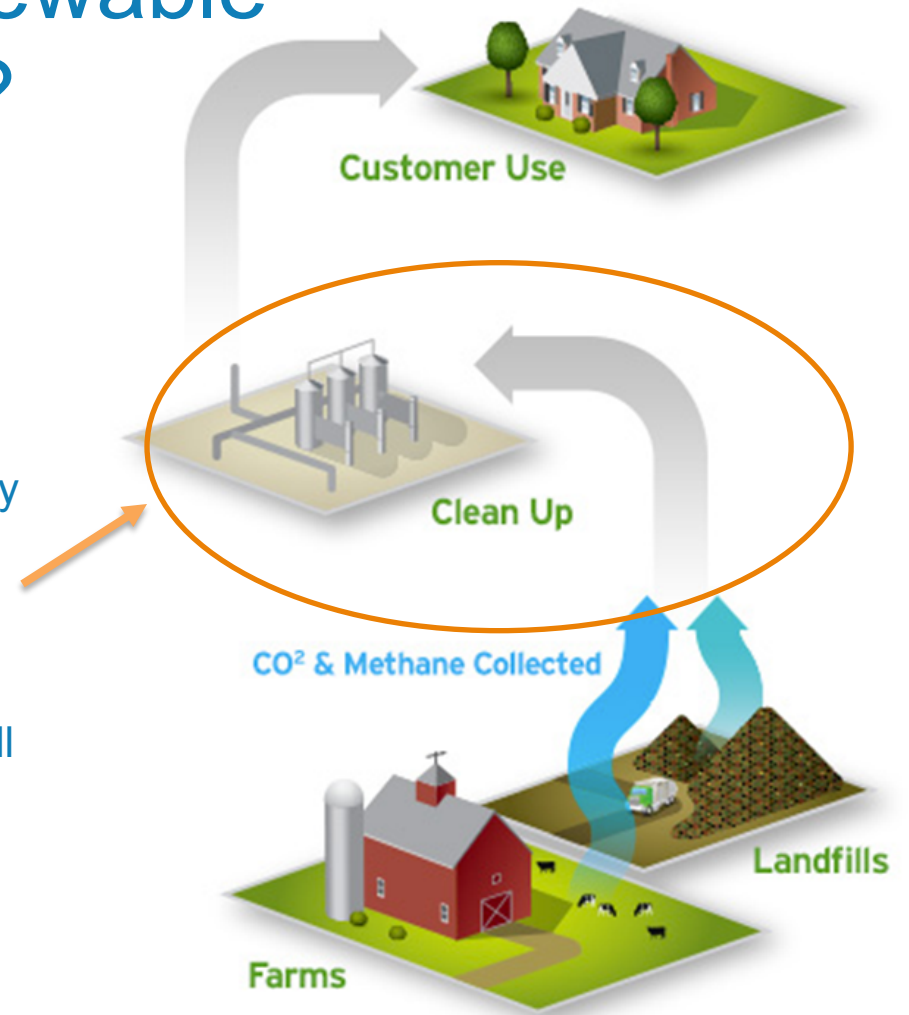
- **Xebec** is already involved in the generation of renewable natural gas (RNG), renewable hydrogen (H<sub>2</sub>) and power-to-gas(P2G) energy storage play via methanation of hydrogen and renewable carbon dioxide (CO<sub>2</sub>)
- **Xebec** is perfectly positioned to focus on “Renewable Gases” (not just Renewable Natural Gas) and their significant future contribution to a greenhouse gas neutral energy system
- **Xebec** credentials, experience, products and technology allow us to be a key facilitator in this global energy transition space





# What Is Renewable Natural Gas?

- RNG is natural gas (biomethane) produced from existing waste streams and other biomass sources like animal waste.
- Once processed, it is interchangeable with traditional pipeline quality natural gas. It is carbon neutral, extremely versatile and can be fully compatible with U.S. pipeline infrastructure. This is where Xebec plays.
- RNG has the potential to add up to 2.5 quadrillion Btu annually – enough to meet natural gas needs of half of all American homes.
- It reduces GHG emissions by up to 95% compared to fossil natural gas.



Source: SoCalGas



# Solution: Cleantech Biogas to RNG Purification



Bioloie Biogaz Station, France



# Solution: Cleantech Biogas to RNG Purification



Quimper Biogaz Station / GRDF



# Solution: Cleantech Biogas to RNG Purification



Former President Hollande of France  
Inaugurates a Xebec System - 2016





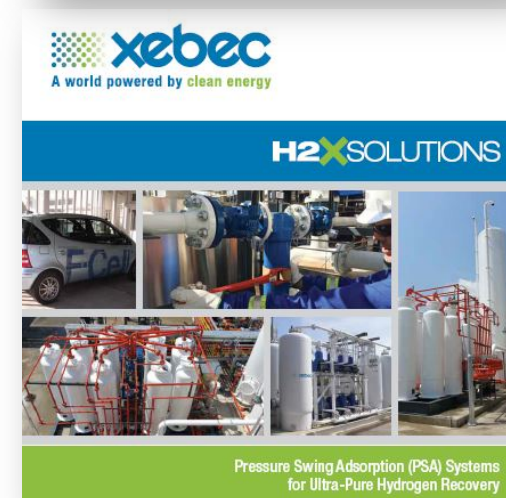


# Recent Wins



*Breathing the future*

- Xebec recently signed an exclusive market development and commercialization agreement with Sapió Group of Italy. Under this agreement, Sapió is entering into a minimum purchase order commitment for multiple Xebec biogas upgrading plants for a total value of 33 million Euros (C\$ 51 million) to be delivered over three years.
- Xebec's China subsidiary has just received four orders for its hydrogen fast cycle pressure swing adsorption (PSA) gas purification systems totaling CDN\$ 3.4 million. Deliveries are scheduled to occur within the next six months.





# Business Drivers

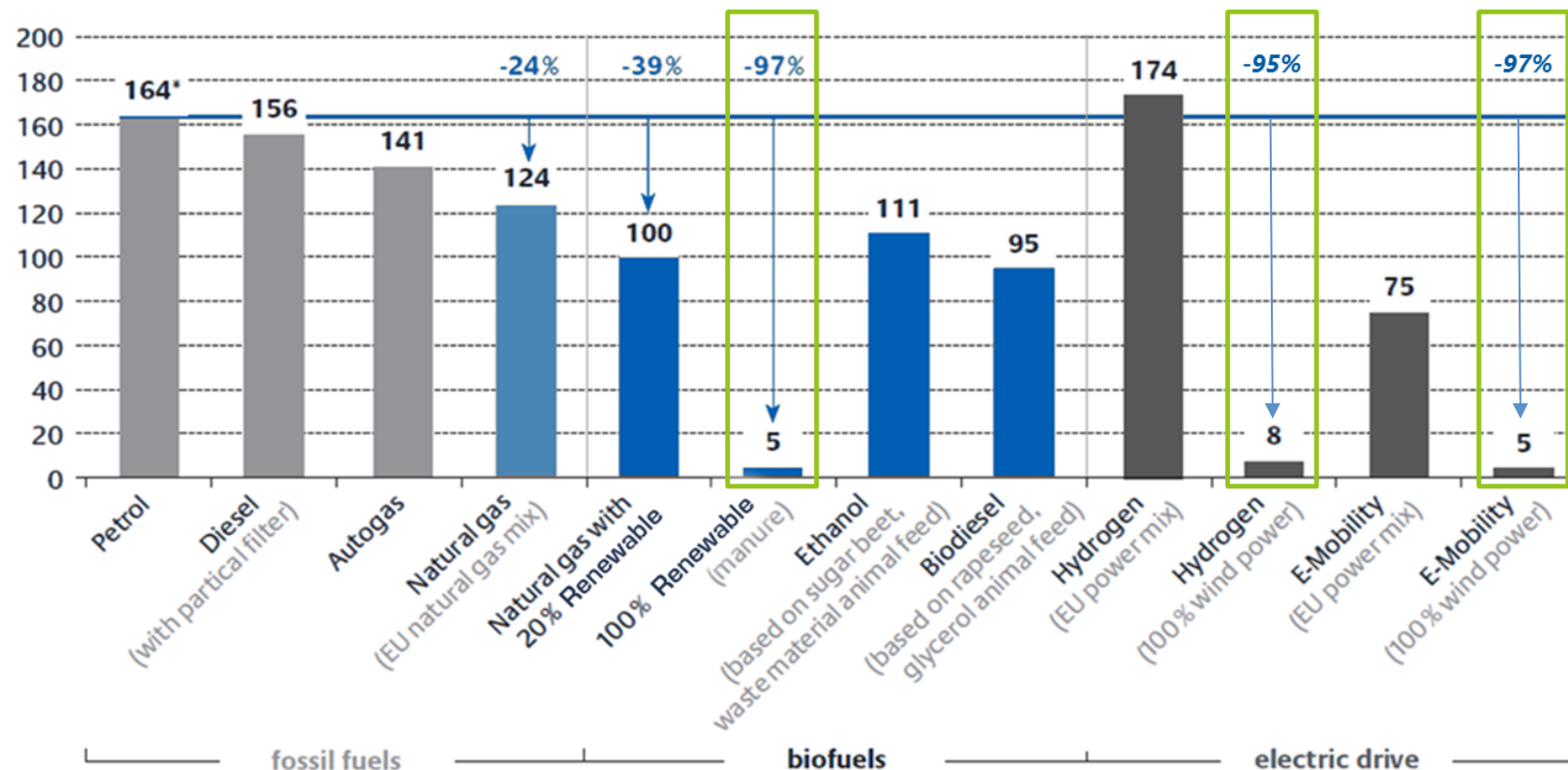
- Increased demand for **renewable natural gas (RNG)**
- Emerging opportunities in **renewable hydrogen (RH<sub>2</sub>)** as a transportation fuel for Fuel Cell Electric Vehicles (FCEV)
- Ongoing development work to **convert electrical energy into chemical energy**. Through innovative methanation reactions of CO<sub>2</sub> and H<sub>2</sub>, syngas can be produced for large scale **energy storage**.
- Increasing demand for **industrial compressed air equipment** to deliver cleaner, purer, oil-free, dry and sterile compressed air





# RNG and Hydrogen - The Opportunity

WTW GHG emissions in g CO<sub>2</sub> eq./km



\* reference vehicle: gasoline engine (induction engine), consumption 71 per 100 km

Source: NREL - Renewable Hydrogen Potential from Biogas in the United States, 2014  
Department of Energy - <https://energy.gov/eere>, German Energy Agency, <http://www.zevstates.us>

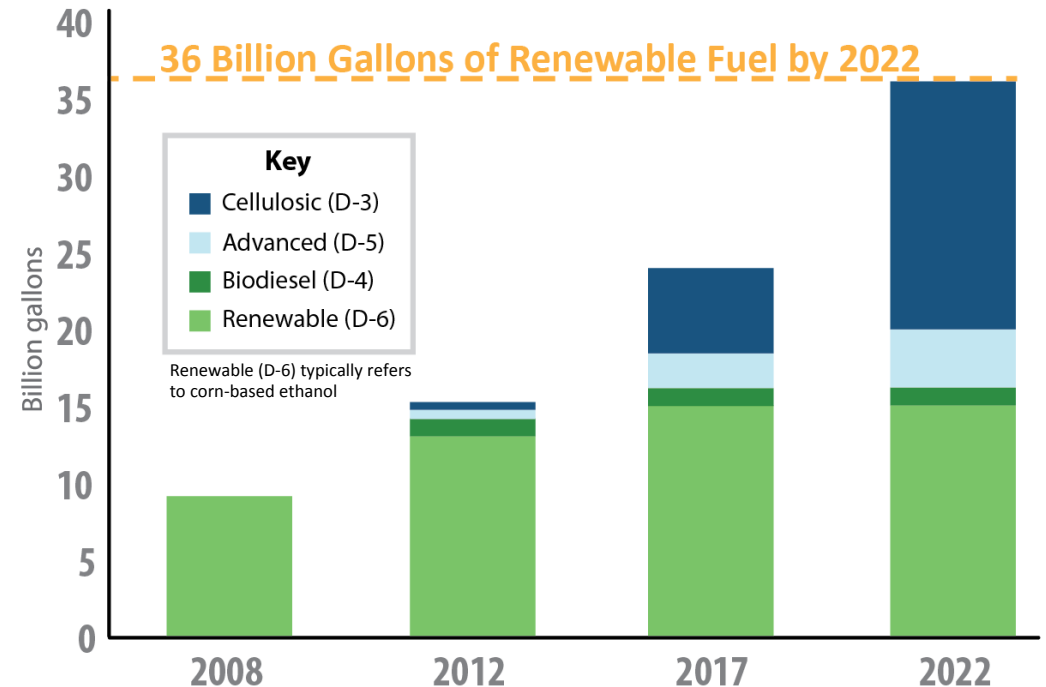


# RNG – The Cellulosic Fuel Opportunity

## United States

- Since 2014 RNG has qualified as a cellulosic biofuel under the Renewable Fuel Standard.
- In 2016 it filled 82% of all cellulosic biofuel (D-3) requirements under the RFS.

### Congressional Volume Target for Renewable Fuel



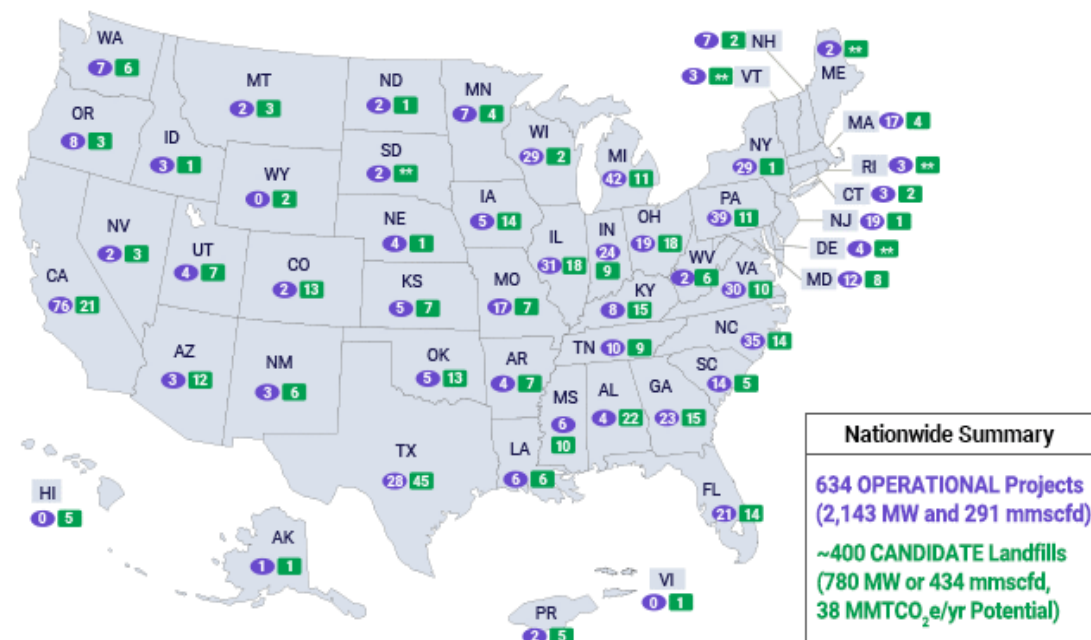
Source: U.S. EPA - Renewable Fuel Standard  
[www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard](https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard)



# RNG – Market Size and Opportunity

## United States

- 11,000 potential biogas sites on farms
  - Approx. 8,200 dairy & swine farms
  - Approx. 2,450 waste water treatment plants
- Short term opportunities are tied to landfills –
  - Approx. 630 operating sites
  - Approx. 400 candidate sites
- RNG prices have increased from a range of \$7 - \$15 to a range of \$30 - \$70 GJ
- Estimated market size of \$2 to \$3 billion

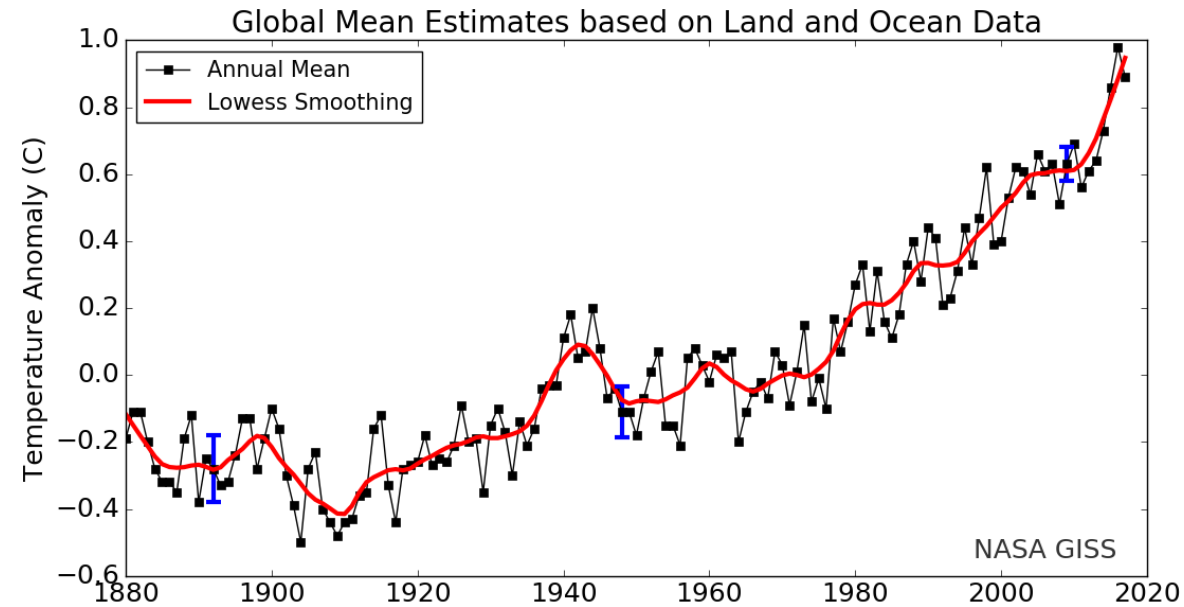


Source: U.S. EPA, Landfill Methane Outreach Program (LMOP)  
<http://ec.europa.eu/energy/en/topics/renewable-energy/biofuels>  
<http://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/sustainability-criteria>



# RNG – Market Size and Opportunity

## United States

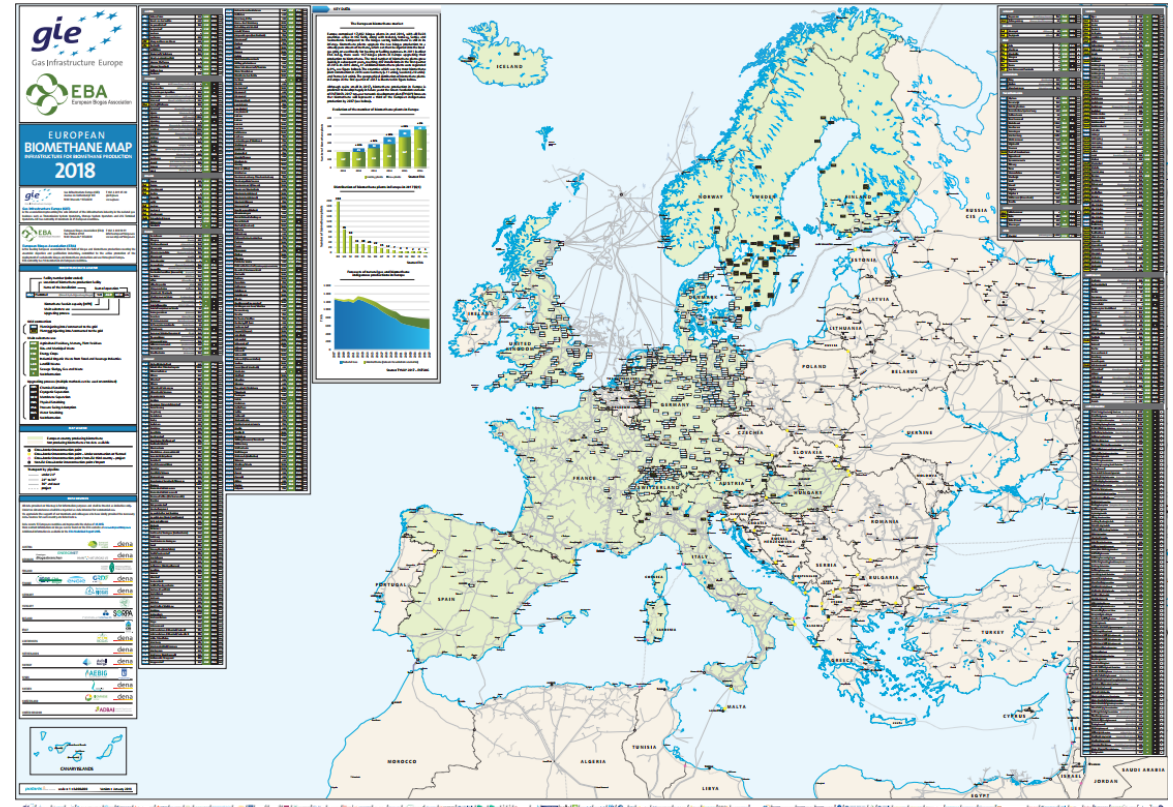




# RNG – Market Size and Opportunity

## Europe

- Market opportunity tied to Renewable Energy Directive (RED)
- Prices for RNG, “Biomethane” in Europe, are in the 30 Euro per GJ range
- Estimated market size: \$2 to \$4 billion for farm based biogas upgrading systems
- Growth forecast is strong, particularly countries like France, Ireland, Italy, Spain

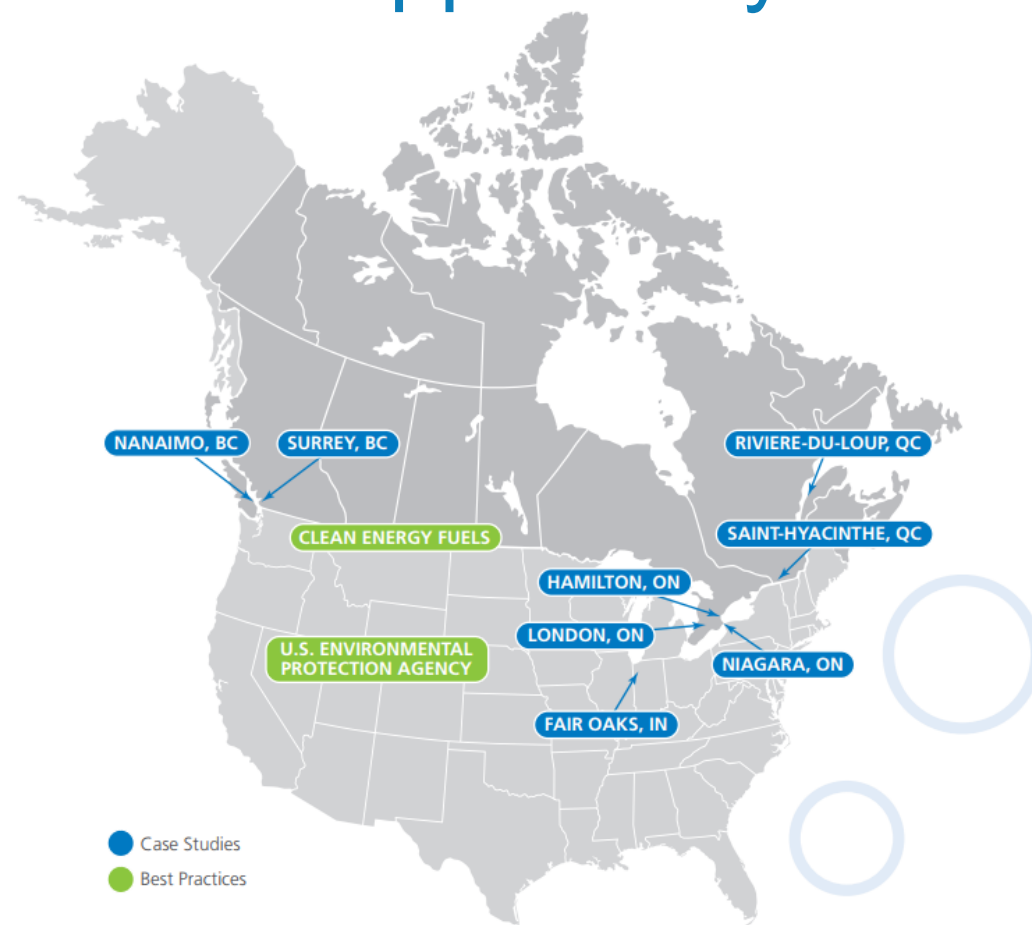




# RNG – Market Size and Opportunity

## Canada

- Introduction of Cap & Trade in 2018, and Canadian Clean Fuel Standard (CFS) in 2019
- Situation similar to Germany in the 1990s, both in Canada and the U.S.
- Market size in Canada ~ 1,000 to 1,500 RNG facilities, requiring investments of between \$2 to \$3 billion over the next 15 to 20 years
- Currently RNG trades between \$9 to \$30 GJ in Canada



Source: Canadian Biogas Association



# Financial Review





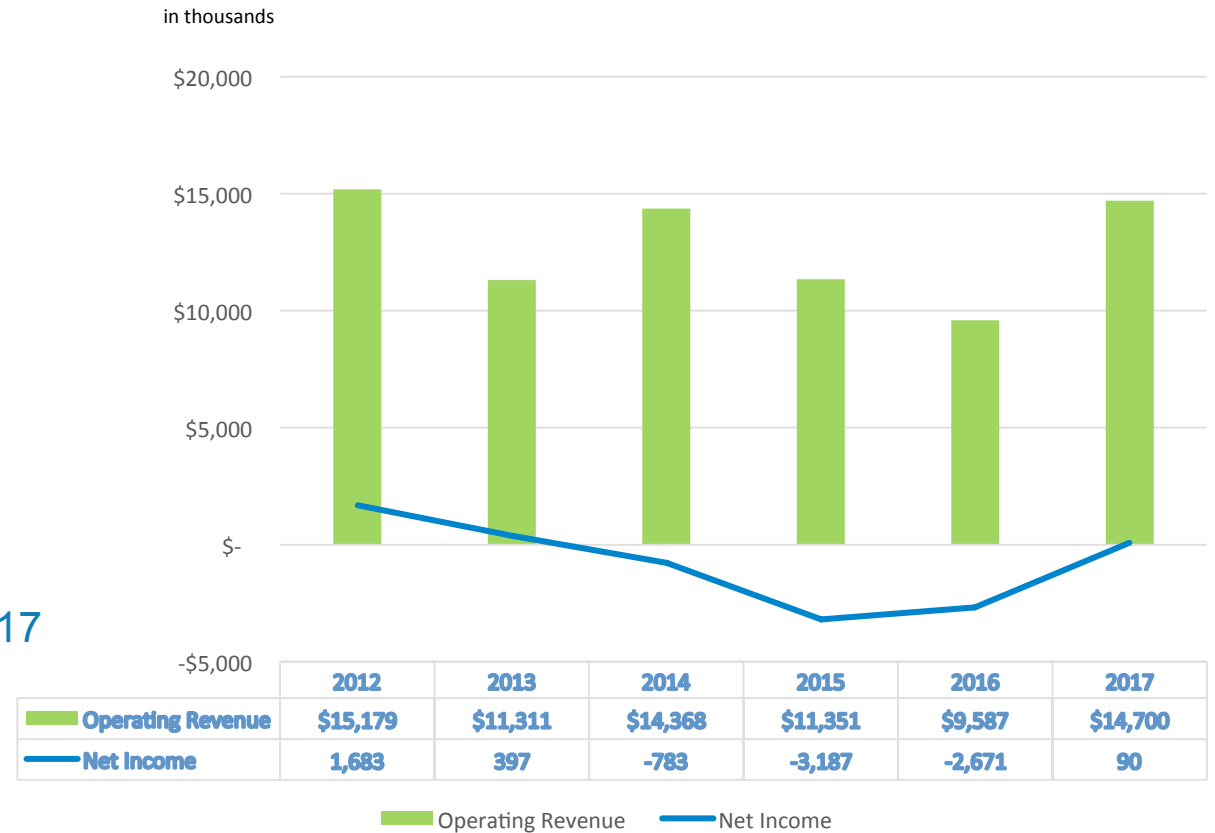
# Looking Back – FY 2017

## Improved 2017 results versus 2016.

- Revenue growth of 57%
- Revenue – C\$ 14.7 million
- EPS for 2017 - C\$ 0.002

## Strengthened balance sheet

## Visibility on accelerated growth beyond 2017 from contracts, project pipeline and opportunities





# First Quarter 2018



- Q1/18 Revenue - C\$ 3.2 million
- Net Loss – C\$ 1.4 million
- EBITDA – negative C\$ 1.0 million

Significant increase of 660 % in order backlog to C\$66.1 million as of May 28, 2018. Includes the Sapio firm order commitment.



Xebec signed an exclusive market development and commercialization agreement with Sapio Group. Under this agreement, Sapio is entering into a minimum purchase order commitment for multiple Xebec biogas upgrading plants for a total value of 33 million Euros (C\$ 51 million) to be delivered over three years.



Xebec continues to work on executing its defined acquisition strategy in the Industrial segment and expects to close the first roll-up in Q3/ 18.



- Like Q4/17, both Q1/18 and Q2/18 are influenced by working capital challenges.
- Currently in final stages of establishing a significant working capital facility which will allow us to meet our 2018 financial targets
- Order backlog to be delivered in 2018 supports budgeted revenue numbers
  - Revenue growth in 2018 of 50% to 70% compared to 2017, leading to revenues in the range of C\$ 22.0 to 25.0 million.
  - Earnings per share (EPS) are expected in the range of 0.02 to 0.05.
  - Target year end backlog in excess of C\$ 50 million



# Creating Shareholder Value

## ● WELL POSITIONED



- Strategically positioned in the fast growing natural gas & renewable energy sector
- 2 business verticals include cleantech and industrial compressed air and gas treatment

## ● WINNING TEAM



- Globally experienced and highly motivated Management team and active, participating Board

## ● GROWING MARKET



- Large industry size in the billions globally across Xebec product verticals
- Improving financial margins and performance
- Growing recurring revenues from >9,000 existing installations

## ● LARGE R&D INVESTMENT



- Over C\$60 million invested in technology development to date resulting in cutting edge and commercially attractive products



# Capital Market Profile

- **Exchange and Ticker Info:** TSXV: XBC
- **Corporate Headquarters:** Montreal, Canada
- **Shares Outstanding:** 42,504,367
- **Shares Fully Diluted:** 56,099,139
- **Stock Price (May 29):** 0.80
- **52 Week High / Low:** \$0.84 - \$0.30
- **Market Capitalization on Date:** C\$34,003,494
- **In Business Since:** 1967
- **Number of Employees:** ~80
- **1Q 2018 Revenues:** C\$3.2 million
- **Inside Ownership %:** 23%
- **Institutional Ownership %:** 6%





# Key Investment Considerations

- The **global transition to a low-carbon, low-pollution and resource-efficient economy** offers significant opportunities for equipment sales, recurring revenues from aftermarket and service agreements, and Build-Own-Operate business models. Xebec is well positioned to exploit these opportunities and grow shareholder value.
- Xebec is the leading Cleantech provider in the **fast growing renewable gas sector** in both North America and Europe. Xebec is also well-positioned for the developing **renewable hydrogen** and **Power to Gas** energy storage opportunities.
- Xebec has a **proven track record worldwide and leading proprietary technologies** used with over 1500 customers globally
- Xebec has a **significant recurring revenue model** from 9,000 existing industrial product installations that require ongoing parts and service – a foundation for profitability and future growth



# Board and Management





# Board of Director Biographies



## **Guy Saint-Jacques – Director**

Mr. Saint-Jacques joined the Department of External Affairs in 1977. He held office in New York City, Mexico City, Kinshasa, and Hong Kong as well as twice in Washington, D.C., the last time as Minister and Deputy Head of Mission. He has been Deputy High Commissioner at the High Commission of Canada in London, UK, and has been posted three times to Beijing (he speaks fluent Mandarin), where he worked in the Consular Affairs division. Prior to his last posting in China, Guy was Chief Negotiator and Ambassador for Climate Change. His last Public Service posting was as Ambassador Extraordinary and Plenipotentiary for Canada to the People's Republic of China through to October 2016. Since retiring from Public Service, Mr. Saint-Jacques has been working as an adviser. He is a Senior Fellow at the China Institute of the University of Alberta as well as at the Institut d'etudes internationales de Montreal (IEIM).



## **William Beckett – Director**

William (Bill) Beckett is the past-President and CEO of Dart Aerospace with extensive operations and executive management experience in the Industrial and Aerospace sectors. He started his career with Canadian General Electric, and continued his professional development with other industry leaders including Pratt & Whitney Canada., gaining strong management and technical skills, including an expertise in Lean Manufacturing. He is a Professional Engineer (Mechanical) and a member of the Order of Engineers of Quebec.



## **Joseph H. Petrowski – Director**

Mr. Petrowski led the Cumberland Farms Gulf Oil Group, a diversified petroleum and retail convenience store holding company located in 29 states with more than 8,000 employees and \$16 billion in annual revenues. Cumberland Farms is the 18th largest private company on the Forbes 500 list. During his tenure as CEO, the company achieved record earnings. After leaving Cumberland Farms, Mr. Petrowski founded Mercantor Partners, a private equity group focused on downstream energy investments. Among other duties, Mr. Petrowski is a member of the Board and former non-executive Chairman of Gulf Oil, and advisor to Chairman of Brookwood Financial in Beverly, Ma., a \$3 billion private equity firm investing in downstream fueling, real estate and convenience retail.



# Management Biographies



**Kurt Sorschak**

**President & CEO & Board Director**

Mr. Sorschak co-founded Xebec Adsorption Inc., and developed it from a local compressed air and gas dryer manufacturer into an internationally active gas purification company. Kurt was recently honoured with Canada's 2018 Clean16 Award as the Leader in Cleantech, and EDC presented Kurt as their 2018 Export Cleantech Star.



**Dr. Prabhu Rao**

**Chief Operating Officer (COO) & Board Director**

Dr. Rao was CEO of McPhy Energy North America. He is a seasoned executive with over 15 years of experience in the alternative energy industry with technical expertise in the areas of alternative fuels, emissions controls, environmental air quality, combustion, hydrogen generation, and fuel cells.



**Louis Dufour**

**Chief Financial Officer (CFO)**

Mr. Dufour has more than 20 years of corporate finance and operational experience, most recently as a Partner of CFO Optimum, where he had financial oversight from cost accounting and IT implementation, through risk management, M&A integration, and governmental negotiations.



# Management Biographies



## **Dr. Peter Cheng – General Manager, Xebec China**

Dr. Cheng has held various executive positions with ABB, Hong Kong and China Gas Investment Limited, as well as A.T. Kearney, in the fields of energy business development, and engineering and operations improvement. He holds a Ph.D. in mechanical engineering and an MBA. Dr. Cheng is a professional engineer in Ontario, a qualified senior engineer in China, an advisor to the Enterprise Management Committee of the China Gas Association, and an expert in the category of foreign technology and economy in China.



## **Dr. Francesco Massari – General Manager, Xebec Europe**

Dr. Massari brings 25 years of experience in high-tech and clean-tech industries. In his previous role as Chief Technology Officer (CTO) at McPhy Energy S.A., a French renewable energy company, Dr. Massari was responsible for electrolyser development and deployment, especially as they relate to power-to-gas energy storage solutions. He managed the technology roadmap to serve the transportation, industrial and energy markets, helping to build their strategy for this leading edge technology.



## **Dr. Amir Ghasdi - Director, Business Development, Cleantech**

Dr. Amir Ghasdi is a leading expert in the field of gas purification, especially adsorption technology. As a chemical engineer, Dr. Ghasdi has more than 12 years of experience in industrial and academic environments in the area of gas separation and purification. Prior to becoming Director for Business Development Dr. Ghasdi led the R&D efforts of the company.





Innovators in Clean Capitalism

**Kurt Sorschak**  
President & CEO

450-979-8701  
[ksorschak@xebecinc.com](mailto:ksorschak@xebecinc.com)

