



Xebec Adsorption Inc.  
Management's Discussion and Analysis  
Fourth Quarter and fiscal year ended December 31, 2017

April 23th, 2018

Additional information relating to the Company can be found on SEDAR at [www.sedar.com](http://www.sedar.com)



The following Management's Discussion and Analysis ("MD&A") of Xebec provides a review of the results of operations, financial conditions and cash flows of Xebec for the three-month period and the fiscal year ended December 31, 2017. This discussion should be read in conjunction with the information contained in the Company's audited consolidated financial statements and related notes for the year ended December 31, 2017 and 2016. Additional information, including our annual information form (AIF) can be found on SEDAR at [www.sedar.com](http://www.sedar.com).

The financial information presented herein has been prepared on the basis of International Financial Reporting Standards (IFRS) for financial statements and is expressed in Canadian dollars unless otherwise stated.

In this MD&A, unless otherwise indicated or required by the context, "Xebec", "the Company", "we", "us", "our", "our Company", "the Group" and "our Group" designate, as the case may be, Xebec Adsorption Inc. or Xebec Adsorption Inc. and its subsidiaries. The Company's other subsidiaries are designated as follows: "Xebec USA" for Xebec Adsorption USA, Inc., "Xebec Shanghai" for Xebec Adsorption (Shanghai) Co. Ltd and "Xebec Europe" for Xebec Adsorption Europe SRL. Also, the fiscal year ending December 31, 2017 and those ended in prior years are sometimes designated by the terms "Fiscal 2017", "Fiscal 2016" and so on.

The information contained in this MD&A and certain other sections of this report also includes some figures that are not performance measures consistent with IFRS, such as earnings (loss) before amortization, financial expenses, other items and income taxes ("EBITDA"). The Company uses EBITDA because this measure enables management to assess the Company's operational performance. This measure is a widely accepted financial indicator of a company's ability to repay and assume its debt. Investors should not regard it as an alternative to operating revenues or cash flows, or a measure of liquidity. As this measure is not established in accordance with IFRS, it might not be comparable to those of other companies.

The information contained in this Management's Report accounts for any major event occurring up to April 23, 2017, the date on which the Board of Directors approved the consolidated financial statements and Management's Report for the year ended December 31, 2017. It presents the Company's status and business context as they were, to management's best knowledge, at the time this report was written.

This document contains forward-looking statements, which are qualified by reference to, and should be read together with, the "Forward-looking Statements" cautionary notice on page 32 of this MD&A.



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## 1 OUR BUSINESS

### 1.1. Who We Are

Established in 1967, Xebec has over 50 years of experience in adsorption technology, supplying more than 9,000 units to over 1,500 clients worldwide.

Xebec specializes in compressed air and gas generation and purification systems, developing products and technology solutions for environmentally-responsible generation, purification, dehydration, separation, and filtration applications.

### 1.2. Products Include

- Hydrogen Purification Systems for fuel cell and industrial applications
- Renewable Hydrogen Generation from Renewable Natural Gas
- Biogas purification to renewable natural gas (RNG) from agricultural digesters, landfill sites and waste water treatment plants
- State-of-the-art Gas Processing Systems for removal of CO<sub>2</sub> from Natural Gas
- Natural Gas Dryers for Natural Gas Vehicles (NGV) refueling stations
- Energy-efficient Compressed Air Dryers & best-in-class Compressed Air and Gas Filters for a broad range of industrial applications



### 1.3. Customers Include

Our customers come from a wide variety of industries, because our technologies are deployed throughout the industrial world and cover applications in industries as diverse as hospitals to paint shops, food processing to algae production, and factory floors to upstream gas wells.



In addition, our business is international with deliveries to countries like Madagascar, Kazakhstan, Malaysia, Thailand, China, Japan, South Korea, France, Italy, Austria, U.S., Mexico, Columbia, Argentina and many others.

### 1.4. Internationally Recognized



- Headquarters in Montreal, Quebec, Canada – Manufacturing, Sales & R&D
- Sales & Engineering Offices in Houston, Texas & Milan, Italy
- Manufacturing, Sales and Engineering in Shanghai
- Sales Partners in Singapore, France, Austria, South Korea

### 1.5. Technology

#### ■ Adsorption Technology

Adsorption is a process that occurs when a gas or liquid (solute) accumulates on the surface of a solid or a liquid (adsorbent) forming a film of molecules or atoms (adsorbate). Xebec designs, develops, builds, sells, and services engineered adsorption and filtration products for industrial air and gas purification and separation applications employing the principles of Pressure Swing Adsorption (PSA) and Temperature Swing Adsorption (TSA).

#### ■ Membrane Technology

Xebec's membrane solution is another proven technology for gas purification. When pressurized gas feed enters the membrane modules, certain molecules have a much stronger preference to diffuse and permeate through the polymer-based membrane than other molecules. As a result, the product stream, which is rich in a certain molecule type, is retained in the pressurized side as product gas.

#### ■ Filtration Technology

Air and gas filters are used to separate liquid droplets, particles or solid contaminants, and oil vapor out of air and gas flows. Xebec also offers specialized natural gas filters for on-board natural gas fueled vehicles, for treatment of the natural gas prior to it entering into the combustion process.

## 1.6. Internationally accredited



## 2 OUR BUSINESS SEGMENTS

### Industrial Compressed Air & Gas Treatment

Industrial purification equipment, parts & service

### Clean Technology

Renewable Natural Gas, Hydrogen & Renewable Hydrogen

### Oil and Gas Processing

Natural gas purification and CO2 removal via membranes

### 2.1. INDUSTRIAL COMPRESSED AIR AND GAS TREATMENT (CAGT)

Almost all industrial gases, whether they are inert, flammable, acid, reactive, or oxidizing, can be purified or dried using what is commonly known as adsorption or membrane technology to remove targeted impurities or separate bulk mixtures. These technologies are used in many industrial air and gas treatment processes including air separation, nitrogen and oxygen enrichment for medical and industrial applications as well as drying applications for air, natural gas, carbon monoxide, carbon dioxide, sulfur dioxide, acetylene, propylene, propane, and syngas.

Xebec designs, develops, builds, sells, and services a range of adsorption and membrane air and gas purification solutions for natural gas dehydration and conditioning and for natural gas upgrading (NGX Solutions®); desiccant, refrigerant and modular air dryers for a wide range of industrial air applications (ADX Solutions®); and gas generators and systems for nitrogen (N2X Solutions™) and oxygen (O2X Solutions™). In addition, Xebec provides a complete range of compressed air and gas filtration products under its FSX Solution® brand as well as alternative brand replacements.

Xebec's strengths in this field:

- Xebec can capitalize on this historically high margin business that creates a significant recurring revenue base from sales of parts and service to over 9,000 currently operating global installations
- Xebec has invested heavily over the last few years in product development of additional purification products that can be sold to existing and new customers, thanks to its strong reputation for quality

- Xebec has established a roll-up strategy focused on acquiring small to mid-sized Compressed Air and Gas service businesses (\$3-5M revenue) throughout Ontario, Alberta and BC to create a leading national Compressed Air & Gas distribution business
- Xebec is the only Canadian manufacturer of gas adsorption and gas membrane systems with a full product portfolio and all necessary Canadian and Provincial certifications (CRN, CSA etc.) and is well positioned for growth

### 2.1.1. CAGT Market Size for Xebec's Products

- U.S. Market approx. USD\$700 to USD\$800 Million
- Canadian Market for Xebec products approx. CDN\$60 to CDN\$70 Million, of which Xebec currently has a 9% market share, with a target of 30 to 40% by 2020

### 2.1.2. Product Line & Services

- Compressed Air and Gas Dryers
- Compressed Air and Gas Filters
- Nitrogen and Oxygen Generators
- Spare Parts and Replacement Filter Elements
- Dew-point Probes and Calibration Services



## 2.2. CLEAN TECH – RENEWABLE NATURAL GAS AND HYDROGEN

Xebec's proprietary rotary valve technology replaces the complex and bulky network of piping and valves used in conventional Pressure Swing Adsorption (PSA) systems with two compact, integrated valves. Especially for biogas to RNG, Xebec's advanced biogas upgrading system improves methane recovery rates, reduces operating costs and consequently improves the profitability of the project for the owner. Xebec's rotary valve technologies are integrated into some of its advanced hydrogen and gas purification products, which operate at significantly higher cycle speeds (up to 50 cycles/minute) than conventional PSA systems. This results in a direct reduction in the amount of adsorbent material, the size of equipment and the amount of energy required to purify a given volume of feed gas.

Xebec has the most compact, economical and reliable PSA systems available today. With minimal pressure drop, remarkable uptime performance, occupying a fraction of the footprint of conventional systems, Xebec PSA systems have earned a reputation for easy, flexible installation and problem-free, economical performance.

Xebec's strengths in this field:

- 25 recent RNG projects completed, while over 200 Xebec hydrogen purifiers are currently operating, with more coming on stream in 2018

- Growing quote/order book for 2018; and a solid order pipeline into 2018 and 2019
- Readiness to take advantage of opportunities driven by government incentives as well as regulations to curb CO2 emissions in transportation. Strong Interest in Italy and France and growing interest in Canada and the U.S. with a number of projects in advanced stages
- Continued buildout of clean natural gas refueling infrastructure both in the U.S. and Canada, combined with renewable natural gas as a transportation fuel, are gaining traction
- Uniquely positioned to offer a win-win business model: sell core technology to partners for them to develop and serve local markets while Xebec drives aftermarket revenue with its proprietary technology, or offer complete systems to end-users in clearly identified markets

### 2.2.1. Renewable Natural Gas (RNG) and Renewable Hydrogen Market Size

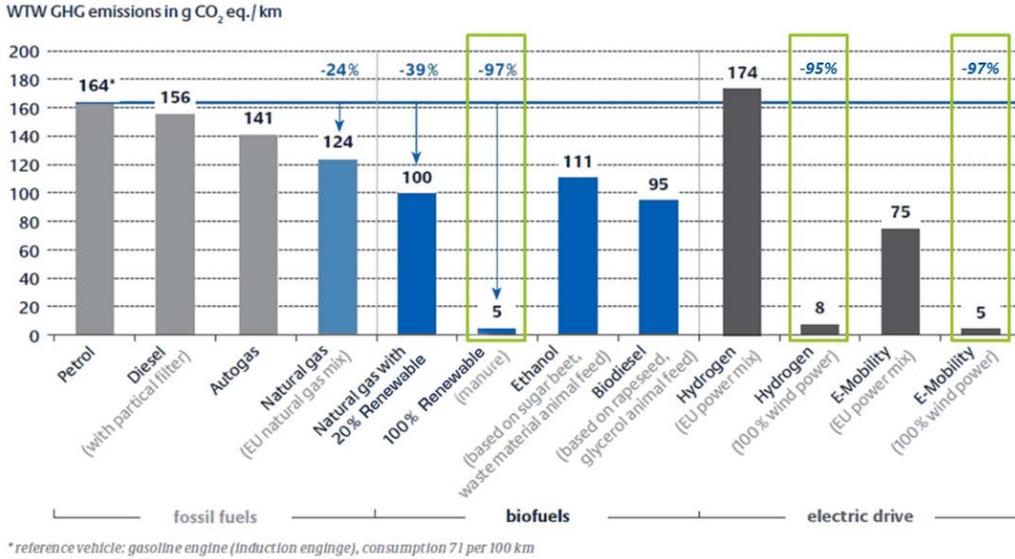
- The global RNG upgrading market will be worth an estimated \$4B by 2025, or \$350MM annually, with a CAGR of 26.9%
- Xebec has approx. 12% market share with 50+ projects in the emerging Renewable Natural Gas category
- Xebec estimates a 15% global market share in RNG by 2020

Xebec considers hydrogen purification for fuel cell applications and renewable hydrogen as a fuel for Fuel Cell Electric Vehicles (FCEV) to be one of the major opportunities over the next decade and beyond. Xebec is working with several fuel cell manufacturers to provide purification equipment to their refueling and/or hydrogen production equipment. As fuel cells gain traction over the next coming years the market will look for specialized purification solutions in a compact design.

- Fuel Cell Electric Vehicles (FCEV) in transportation are forecast to increase to 250,000 by 2027 (0.1% of the U.S. vehicle population).
- Annual production of fuel cell vehicles is forecast to reach 50,000 per year by 2025.
- Each FCEV requires about 0.5 to 1.5 kg of hydrogen per day, or about 125 to 375 tons/day by 2027 (30% legislated to be renewable hydrogen (RH<sub>2</sub>) in California)
- The market for renewable hydrogen is expected to grow from currently about \$30 million annually to about \$365 million annually by 2027
- Currently, only fossil hydrogen is readily available, and today fossil merchant hydrogen production worldwide equates to about 150 tons/day
- Fossil hydrogen today is either produced through electrolysis (electricity from coal or natural gas) or through steam methane reforming of



natural gas (fossil natural gas). Renewable hydrogen is produced through electrolysis using renewable electricity, or through steam methane reforming of renewable natural gas (upgraded biogas to renewable natural gas), and consequently has an extremely low carbon content compared to fossil hydrogen and ideal for low carbon transport fuels.



**Low Carbon Fuels – The Renewable Natural Gas and Renewable Hydrogen Opportunity**  
*(Xebec offers solutions for renewable natural gas and renewable hydrogen)*  
 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>

### 2.2.2. Product Line

We offer a full suite of proprietary technology products in the following categories:

- Biogas to renewable natural gas
- Hydrogen purification systems
- Natural gas dehydration units for refueling stations
- Solutions for the generation of renewable hydrogen (RH2), including filtration & separation products

### 2.3. OIL AND GAS PROCESSING

During the fiscal year 2017 Xebec reduced its activities in the Oil & Gas segment in order to fully focus on the imminent opportunities in Cleantech. This decision will allow Xebec to reduce costs associated with the continued development of the membrane technology for CO<sub>2</sub> removal from natural gas, and free up resources that can be re-assigned to Cleantech activities. Some organizational changes have already resulted, allowing us to allocate more internal resources toward profit-making activities in our two other segments.

### 3 GROWTH STRATEGY

#### 3.1. Business Drivers

- Increasing demand for Compressed Air and Gas equipment across the food & beverage, medical and pharma industries that can deliver cleaner, purer, oil-free, dry and sterile compressed air
- Increasing demand for small scale decentralized hydrogen production and purification solutions for fuel cell applications in transport and power generation
- Hydrogen purification technologies poised to experience robust growth in the U.S., China, Japan, Canada and India in refining and electronics industries (industrial applications)
- Upstream oil and gas clients need to improve financial performance through a reduction in OPEX while implementing environmentally friendly and cost efficient gas purification solutions
- Rapidly increasing demand for RNG as a readily available low carbon transport fuel in Europe, Canada and California.

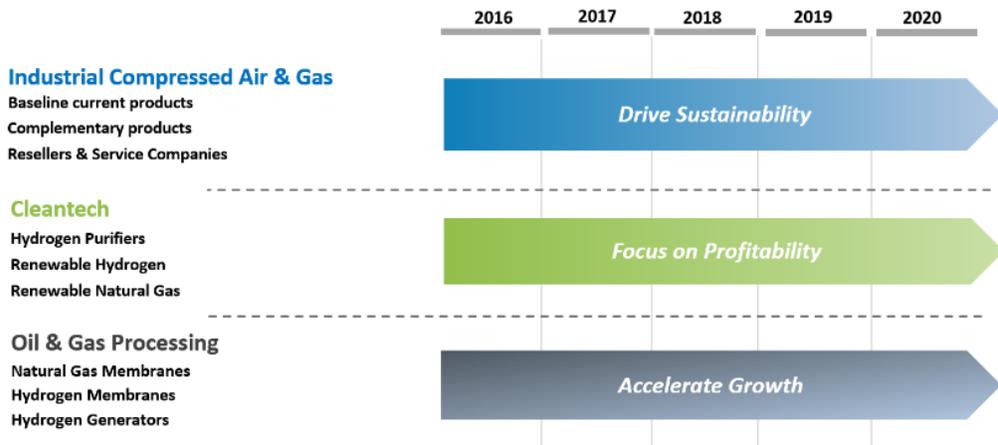
#### 3.2. Path to Sustainable, Profitable Growth

##### 3.2.1. Drive Recurring Revenue

- Concentrate on Filtration, Parts & Service
- Optimize Supply Chain Network
- Develop Acquisition Strategy

##### 3.2.2. Build & Market Clean Energy Solutions

- Expand RNG Opportunities in France, Italy, Canada and California
- Focus on Hydrogen for Fuel Cells
- Continue to Grow National & Int'l Partnerships



### 3.3. Summary of Forward Path

Xebec's short term goal is to increase both revenue and earnings and build a sustainable business model that will allow for future growth and expansion of the company.

The **Industrial Compressed Air and Gas segment** generates a large portion of the recurring revenue for the company and is seen as the foundation for stability and sustainability. With over 9,000 adsorption units in operation, Xebec has a built-in parts and maintenance business that recurrently generates high margin revenue. As the only adsorption equipment manufacturer in Canada that is fully CRN/CSA certified, Xebec has continued to see a solid increase in sales and quote activity over the last 12 months. This increase is largely driven by a lower Canadian dollar versus the US dollar, combined with the fact that all equipment competitors in this segment are US based. Xebec continues to work on executing a first acquisition in the Industrial segment in 2018.

In the **Cleantech segment** Xebec is seeing a solid uptick in activity in Europe, driven by its biogas to renewable natural gas product offering. In addition, Xebec is seeing an increased interest in its hydrogen purification products. Xebec is currently expanding its sales efforts in Europe, with the goal to capitalize on the ongoing European and national renewable energy programs and feed-in tariffs that drive the Cleantech segment.

#### 3.3.1. Year-to-Date

- In 2016, Xebec has seen quarterly improvements in its financial performance and has turned profitable in 2017. Net profit for the twelve months ended December 31, 2017 is totaling 0.1 million.
- For the twelve months ended December 31, 2017, we have seen a 54% increase in revenues compared to the same period in 2016, an improvement from a net loss of CDN\$ 2.7 million (EPS -0.07) compared to a net profit of CDN\$ 0.1 million (EPS 0.002) and a gross margin expansion from 22.6% to 39.1% .
- Working capital has increased from negative \$(1.2 million) as at December 31, 2016 to positive \$1.8 million as at December 31, 2017 (current ratio from .8 to 1.3)
- Order bookings have increased from CDN\$ 8.4 million in Q4/16 to CDN\$ 13.9 million in Q4/17, representing a 65% increase.

#### 3.3.2. 2018 Ahead

- Xebec's focus on sales of biogas upgrading plants in Europe, Canada and California will accelerate, as will the continued attention on recurring revenue – sales continue to strengthen and the breadth of the product portfolio continues to offer solid short term opportunities
- Execute a first acquisition in the industrial segment
- Continue to find and establish new partnerships in Europe, North America and Asia in order to broaden the sales and partner network and increase revenue stability
- Hydrogen purification opportunities tied to Fuel Cell Electric Vehicles and Fuel Cell Fork Trucks and Renewable Hydrogen (RH<sub>2</sub>) interest continues to grow

## 4 OPERATING RESULTS

### Selected Financial Information

(in millions of \$)

|  | Three months ended |               | Twelve months ended |               |
|--|--------------------|---------------|---------------------|---------------|
|  | December 31,       |               | December 31,        |               |
|  | 2017               | 2016          | 2017                | 2016          |
| Industrial Compressed Air & Gas Treatment                  | 0,98               | 1,09          | 4,46                | 4,78          |
| Clean Technology   | 2,12               | 2,18          | 8,90                | 4,81          |
| Oil & Gas Processing                                       | 0,16               | -             | 1,39                | -             |
| <b>Total revenue</b>                                       | <b>3,26</b>        | <b>3,27</b>   | <b>14,75</b>        | <b>9,59</b>   |
| Gross margin   | 1,02               | 1,00          | 5,77                | 2,17          |
| Gross Margin %   | 0,31               | 0,31          | 0,39                | 0,23          |
| Research and Development expenses                          | 0,01               | 0,06          | (0,03)              | 0,14          |
| Selling and administrative expenses                        | 1,63               | 1,06          | 5,22                | 4,36          |
| Foreign exchange loss                                      | (0,10)             | (0,02)        | 0,13                | 0,21          |
| Insurance compensation                                     | -                  | -             | (0,13)              | -             |
| (Gain)/loss on conversion of shares issued by a subsidiary | 0,10               | (0,07)        | -                   | (0,35)        |
| <b>Operating profit (loss)</b>                             | <b>(0,62)</b>      | <b>(0,03)</b> | <b>0,58</b>         | <b>(2,19)</b> |
| Finance expenses   | 0,30               | 0,15          | 0,49                | 0,54          |
| Income taxes   | -                  | (0,06)        | -                   | (0,06)        |
| <b>Net profit (loss)</b>                                   | <b>(0,92)</b>      | <b>(0,12)</b> | <b>0,09</b>         | <b>(2,67)</b> |
| Net profit (loss) per share                                | (0,018)            | (0,003)       | 0,002               | (0,070)       |
| EBITDA (1)   | (0,26)             | 0,01          | 1,07                | (2,02)        |
| Cash used in operating activities                          | 0,53               | (0,98)        | (1,85)              | (2,74)        |
| Cash and cash equivalents                                  | 0,98               | -             | 1,34                | 1,09          |
| Working capital  | 0,72               | 0,90          | 1,84                | (1,21)        |
| Total Assets   | 0,99               | 0,16          | 8,34                | 5,57          |
| Total non-current liabilities (excluding deferred revenue) | 1,83               | 0,81          | 6,86                | 4,51          |

(1) EBITDA is Non-IFRS measure. Refer to section 16 - Reconciliation of Non-IFRS Measure.



### **Highlights for the twelve months ended December 31, 2017 compared to the twelve months ended December 31, 2016**

Revenues increased by \$5.1 million or 53% to \$14.7 million for the twelve month period ended December 31, 2017 compared to \$9.6 million for the same period prior year. The increase is mainly due to additional sales in the Clean Technology business segment; more specifically, for biogas to renewable natural gas projects and hydrogen purification systems. It is also explained by the sales of services and products in the Oil and Gas sector.

- Gross margin increased from \$2.2 million to \$5.8 million, or 39% of revenue, up from 23% of revenue. The twelve months of 2017 include higher margin projects.
- Selling and administrative expenses (“SG&A”) for the twelve months of 2017 of \$5.2 million were higher by \$0.8 million or 18% compared to \$4.4 million for the twelve months of 2016. This is primarily due to the granting of stock options to directors, officers and employees, and to an increase of selling expenses related to higher sales and the hiring of key personnel.
- Net profit increased by \$2.8 million or \$0.07 per share to \$0.1 million or \$0.002 per share in the twelve months of 2017 from \$(2.7 million) or \$(0.07) per share in the twelve month period prior year. The change is primarily due to higher volume of revenue, improvement of margins, and a gain on an insurance claim, partially offset by a lower gain on conversion of shares issued by a subsidiary.
- EBITDA increased to \$1.1 million for the twelve months ended December 31, 2017 from \$(2.0 million) for the same period last year. The improvement resulted mainly from a higher volume of revenue and the improvement of margins.

### **Highlights for the three months ended December 31, 2017 compared to the three months ended December 31, 2016**

Revenues reach \$3.3 million for the three months ended December 31, 2017. These results are constant compared to the same period prior year.

- Gross margin increased by 0.7%, to reach 31% of revenue.
- Selling and administrative expenses (“SG&A”) for the fourth quarter of 2017 of \$1.6 million were higher by \$0.5 million or 55% compared to \$1.1 million for the prior year same quarter. This is primarily due to the hiring of key personnel, expenses to promote sales, visibility and costs related to issuance of convertible debenture in the fourth quarter of 2017.
- Net loss increased by \$0.8 million or \$0.02 per share to \$(0.9 million) or \$(0.02) per share in the fourth quarter from \$(0.1 million) or \$(0.003) per share in the same period prior year. The change is primarily due to the hiring of key personnel and increase of financial expenses related to issuance of convertible debenture.
- EBITDA decreased to a loss of \$0.3 million for the three months ended December 31, 2017 from \$ 0.01 million for the same period last year. This is primarily due to the hiring of key personnel, expenses to promote sales and visibility, and costs related to issuance of convertible debenture in the fourth quarter of 2017.

## CURRENT BACKLOG

The order backlog is calculated considering contracts received and considered as firm orders.

### Current backlog as of April 23, 2018:

| Business Segment:                         | April 23,<br>2018 | November 28,<br>2017 | August 25,<br>2017 | May 23,<br>2017 |
|---|-------------------|----------------------|--------------------|-----------------|
| In million of \$                          |                   |                      |                    |                 |
| Industrial Compressed Air & Gas Treatment | 3,3               | 0,7                  | 1,7                | 1,3             |
| Clean Technology                          | 10,6              | 16,0                 | 7,2                | 7,4             |
| Oil and Gas Processing                    | -                 | -                    | -                  | -               |
| Consolidated Backlog                      | 13,9              | 16,7                 | 8,9                | 8,7             |

### Business Segment Review

We report our results in three business segments, being Industrial Compressed Air & Gas Treatment, Clean Technology, and Oil & Gas Processing. Our reporting structure reflects the way we manage our business and how we classify our operations for planning and measuring performance. The corporate office and administrative support is reported under Corporate and Other.

#### **Industrial Compressed Air & Gas Treatment**

(in millions of \$)

|  | Three months ended<br>December 31, |             | Twelve months ended<br>December 31, |      |
|--|------------------------------------|-------------|-------------------------------------|------|
|  | 2017                               | 2016        | 2017                                | 2016 |
| <b>Revenues</b>                            | <b>0,98</b>                        | 1,09        | <b>4,46</b>                         | 4,78 |
| <b>COGS</b>                                | <b>0,80</b>                        | 0,43        | <b>2,79</b>                         | 2,94 |
| <b>Gross margin</b>                        | <b>0,18</b>                        | 0,66        | <b>1,67</b>                         | 1,84 |
| <b>Gross Margin %</b>                      | <b>18%</b>                         | 61%         | <b>37%</b>                          | 38%  |
| <b>Selling and administrative expenses</b> | <b>0,25</b>                        | 0,21        | <b>0,81</b>                         | 0,69 |
| <b>Segment gain (loss)</b>                 | <b>(0,07)</b>                      | <b>0,45</b> | <b>0,86</b>                         | 1,15 |

**Revenues** decreased by \$0.3 million or 7% to \$4.46 million for the twelve months ended December 31, 2017, compared to \$4.78 million in 2016. The decrease is mainly explained by some late delivery of material by suppliers.

**Gross Margin** decrease for the twelve months ended December 31, 2017 to 37% compared to 38% for the same period last year.

**SG&A Expenses** totaled \$0.8 million for the twelve months ended December 31, 2017 compared to \$0.7 million in the same period in 2016, an increase of \$0.1 million.

### **Clean Technology**

(in millions of \$)

|  | Three months ended<br>December 31, |             | Twelve months ended<br>December 31, |               |
|--|------------------------------------|-------------|-------------------------------------|---------------|
|  | 2017                               | 2016        | 2017                                | 2016          |
| <b>Revenues</b>                            | <b>2,12</b>                        | 2,18        | <b>8,90</b>                         | 4,81          |
| <b>COGS</b>                                | <b>1,44</b>                        | 1,84        | <b>6,18</b>                         | 4,48          |
| <b>Gross margin</b>                        | <b>0,68</b>                        | 0,34        | <b>2,72</b>                         | 0,33          |
| <b>Gross Margin %</b>                      | <b>32%</b>                         | 16%         | <b>31%</b>                          | 7%            |
| <b>Research and Development expenses</b>   | <b>0,01</b>                        | 0,06        | <b>(0,03)</b>                       | 0,14          |
| <b>Selling and administrative expenses</b> | <b>0,30</b>                        | 0,17        | <b>0,93</b>                         | <b>0,65</b>   |
| <b>Segment gain (loss)</b>                 | <b>0,37</b>                        | <b>0,11</b> | <b>1,82</b>                         | <b>(0,46)</b> |

**Revenues** increased by \$4.1 million or 85% to \$8.9 million for the twelve month period ended December 31, 2017 compared to \$4.8 million in the same period of 2016. The increase is mainly due to additional sales of biogas equipment used for renewable natural gas projects and hydrogen purification systems.

**Gross Margin** improved in the twelve months ended December 31, 2017 to 31% compared to 7% in the same period of 2016, driven by higher margin projects.

**SG&A Expenses** increased by \$0.3 million to \$0.9 million mainly due to the increase of the revenue in the twelve months ended December 31, 2017 as compared to the same period last year.

### **Oil and Gas Processing**

(in millions of \$)

|  | Three months ended<br>December 31, |      | Twelve months ended<br>December 31, |      |
|--|------------------------------------|------|-------------------------------------|------|
|  | 2017                               | 2016 | 2017                                | 2016 |
| <b>Revenues</b>                            | <b>0,16</b>                        | -    | <b>1,39</b>                         | -    |
| <b>COGS</b>                                | -                                  | -    | -                                   | -    |
| <b>Gross margin</b>                        | <b>0,16</b>                        | -    | <b>1,39</b>                         | -    |
| <b>Gross Margin %</b>                      | <b>100%</b>                        | 0%   | <b>100%</b>                         | 0%   |
| <b>Selling and administrative expenses</b> | <b>0,09</b>                        | -    | <b>0,29</b>                         | -    |
| <b>Segment gain (loss)</b>                 | <b>0,07</b>                        | -    | <b>1,10</b>                         | -    |

**Revenues** increased to \$1.4 million for the twelve month period ended December 31, 2017 compared to \$nil in the same period in 2016. The increase is mainly explained by the sale of new products and by services supplied to a third party to support the development of new products in the oil and gas processing sector.



**Gross Margin** is 100% in the twelve month period ended December 31, 2017 as the product and services costs were recorded as expenses in the prior years.

**SG&A Expenses** totaled \$0.3 million for the twelve month period ended December 31, 2017 and \$nil for the same period in 2016.

### Corporate and Other

(in millions of \$)

|  | Three months ended |        | Twelve months ended |        |
|--|--------------------|--------|---------------------|--------|
|  | December 31,       |        | December 31,        |        |
|  | 2017               | 2016   | 2017                | 2016   |
| <b>Selling and administrative expenses</b>                   | <b>1,00</b>        | 0,68   | <b>3,19</b>         | 3,02   |
| <b>Gain/Loss on disposal PP&amp;E</b>                        | -                  | -      | <b>(0,13)</b>       | -      |
| <b>Foreign exchange loss (gain)</b>                          | <b>(0,10)</b>      | (0,02) | <b>0,13</b>         | 0,21   |
| <b>(Gain) on conversion of shares issued by a subsidiary</b> | <b>0,10</b>        | (0,07) | -                   | (0,35) |
| <b>Total</b>   | <b>1,00</b>        | 0,59   | <b>3,19</b>         | 2,88   |
| <b>Financial income</b>                                      | <b>(0,01)</b>      | -      | <b>(0,12)</b>       | -      |
| <b>Financial expense</b>                                     | <b>0,31</b>        | 0,15   | <b>0,61</b>         | 0,54   |
| <b>Finance loss</b>  | <b>0,30</b>        | 0,15   | <b>0,49</b>         | 0,54   |
| <b>Corporate Expenses</b>                                    | <b>1,30</b>        | 0,74   | <b>3,68</b>         | 3,42   |

## 5 FINANCIAL CONDITION

### Summary Balance Sheet

|                         | December 31,   | December 31 |
|-------------------------|----------------|-------------|
| In thousands of \$      | 2017           | 2016        |
| Current assets          | <b>7 714</b>   | 5 104       |
| Non-current assets      | <b>627</b>     | 465         |
|                         | <b>8 341</b>   | 5 569       |
| Current liabilities     | <b>5 870</b>   | 6 310       |
| Non-current liabilities | <b>6 861</b>   | 4 506       |
| Shareholders' equity    | <b>(4 390)</b> | (5 247)     |
|                         | <b>8 341</b>   | 5 569       |

The increase in the company's total assets between December 31, 2017 and December 31, 2016 represents \$2.8 million. This is reflected by the increase of the cash and cash equivalent of \$0.3 million due to the issuance of convertible debentures. The increases in trade and other receivables of \$1.3 million and \$0.6 million in the inventory resulted in higher volume of sales. Reversal of allowance for doubtful accounts of \$0.4 million and an investment in engineering standardisation of \$0.3 million also affect the assets.

The increase in liabilities of \$1.9 million is mainly explained by the increases of a new loan with Export Development Canada for an amount of \$1.4 million, a new convertible debentures of \$1.6 million and the increase, due to interest, of the obligation arising from non-controlling interest participation in a subsidiary of \$0.3 million. These increases were partially offset by the decreases of the Government royalty program



obligation \$(0.2million), the deferred revenues \$(0.2million), the warranty provision \$(0.2 million), and the bank loan \$(0.8 million).

Positive working capital improved to \$1.8 million for a current ratio of 1.3:1 compared with a negative working capital of \$1.2 million and a 0.8:1 ratio as at December 31, 2016.

**Shareholders' equity** totalled \$(4.4 million) as at December 31, 2017, up by \$0.9 million from December 31, 2016. The change is mainly due to the net income for the year ended December 31, 2017 \$(0.1 million), the conversion of some debentures \$(0.3 million) and the exercise of some share-based compensation \$(0.3 million).

### Indebtedness

| In thousands of \$        | December 31,<br>2017 | December 31<br>2016 |
|---------------------------|----------------------|---------------------|
| Bank loans                | -                    | 755                 |
| Short term debt           | 1 547                | 780                 |
| Long-term debt            | 6 640                | 4 359               |
| <b>Total indebtedness</b> | <b>8 187</b>         | 5 894               |

**Total debt** (bank loans, short term and long-term debt) amounted to \$8.2 million as at December 31, 2017, up by \$2.3 million from December 31, 2016. This increase is mostly due to the facility loan with Export Development Canada for the amount of \$1.4 million, a new convertible debenture of \$1.5 million, the increase, due to interest, of the obligation arising from non-controlling interest participation in a subsidiary of \$0.3 million which was partially offset by the lower usage of the line of credit of \$0.8 million and the reduction of the government royalty program \$(0.2 million).

### Capital Stock Information

The authorized share capital of the Company consists of an unlimited number of common shares and an unlimited number of preferred shares.

As at December 31, 2017, Xebec had 42,504,367 common shares issued.

### Share Purchase Warrants Outstanding

As at December 31, 2017, no Warrants were outstanding.

### Stock Options Outstanding

The Company Stock Option Plan (the "Plan") allows for the issuance of stock options. Under the Plan, the maximum number of common shares available for issuance was 5,804,837.

As at December 31, 2017, the maximum number of common shares available for issuance under all stock-based compensation arrangements was 7,892,773.

Under the terms of the Plan, stock options are granted with an exercise price not less than the discounted market price (as such terms are defined in the Policies of the TSX Venture Exchange) of the common shares at the time of grant. Stock options generally vest quarterly over four years and are exercisable for five or seven years from the date of grant.

The Board of Directors, with the approval of the shareholders of the Company at the annual meeting held on June 15, 2017, has amended the Plan in order to change the relevant provisions therein so that the aggregate



number of common shares reserved for issuance under the amended plan be fixed at 7,892,773 common shares (being 20% of all issued and outstanding common shares of the Company). The Company has obtained the TSX Venture Exchange's approval on August 9, 2017, so may grant options above the initial limit of 5,904,580.

As at December 31, 2017, the Company had 7,829,030 options outstanding under the Plan with a weighted average exercise price of \$0.19.

## 6 SUMMARY OF QUARTERLY RESULTS

| In thousands of \$,<br>except net earnings (loss) per share | 2017   |       |       |       | 2016    |        |        |         |
|---|--------|-------|-------|-------|---------|--------|--------|---------|
|   | Q4     | Q3    | Q2    | Q1    | Q4      | Q3     | Q2     | Q1      |
| Revenues  | 3 259  | 4 129 | 4 047 | 3 310 | 3 265   | 1 795  | 2 072  | 2 453   |
| Net income (loss)   | (928)  | 93    | 359   | 572   | (122)   | (506)  | (986)  | (1 057) |
| Earnings (loss) per share                                   |        |       |       |       |         |        |        |         |
| Basic   | (0,02) | 0,002 | 0,01  | 0,01  | (0,003) | (0,01) | (0,02) | (0,03)  |
| Diluted   | (0,02) | 0,002 | 0,01  | 0,01  | (0,01)  | (0,01) | (0,02) | (0,03)  |

## 7 LIQUIDITY AND CAPITAL RESOURCES

| Cash flow from (used in)<br>in thousands of \$ | Three months ended<br>December 31, |       |        | Twelve months ended<br>December 31, |         |        |
|--|------------------------------------|-------|--------|-------------------------------------|---------|--------|
|  | 2017                               | 2016  | Change | 2017                                | 2016    | Change |
| Operating activities                           | 402                                | (981) | 1 384  | (1 855)                             | (2 740) | 885    |
| Investing activities                           | (307)                              | (57)  | (250)  | (335)                               | (84)    | (250)  |
| Financing activities                           | 623                                | 1 045 | (422)  | 2 549                               | 1 370   | 1 179  |

### *Analysis of principal cash flows for the year ended 2017*

**Operating activities** in the year 2017, generated \$0.4 million of cash, compared to \$(1.0 million) of cash used for the same period in 2016, a difference of \$1.4 million. The increase in non-cash working capital is mainly explained as follows: decrease of the trades and other receivables \$2.3 million, increase of trade payables and accrued liabilities of \$1.0 million, reduction of the deferred revenues \$0.8 million, the inventories increase \$(1.8 million) and net loss \$(0.9 million).

**Investing activities** Cash outflow for the year 2017 relates mainly to an investment in engineering standardisation of \$0.3 million.

**Financing activities** for the year 2017 resulted in a cash inflow of \$0.6 million explained mainly by the issuance of convertible debentures \$2.0 million, reduction of partial reimbursement of the facility loan with Export Development Canada of \$0.6 million, and the lower usage of the line of credit by \$0.7 million.

## Contractual Obligations

| in millions of \$                    | Payments Due by Period |            |                | Total      |
|--------------------------------------|------------------------|------------|----------------|------------|
|                                      | 1 year                 | 2 -5 years | Beyond 5 years |            |
| Operating leases                     | 0,5                    | 1,3        | 1,6            | 3,1        |
| <b>Total contractual obligations</b> | <b>0,5</b>             | <b>1,3</b> | <b>1,6</b>     | <b>3,1</b> |

## Credit Facilities

As at December 31, 2017, the Company had access to credit facilities in the amount of \$750,000 with the TD Bank which were guaranteed by Export Development of Canada and bore interest at the TD Bank's prime rate plus 3.0% per annum. This credit facility was not used as at December 31, 2017.

The Company has a guarantee facility of \$2,750,000 with Toronto Dominion Bank of Canada. The guarantee facility was used up to \$1,823,000 as at December 31, 2017.

The bank loan is secured by a first ranking hypothec of \$5,000,000 on all movable property of the Company.

As at December 31, 2017, the Company had a non-brokered private placement of convertible unsecured debentures of the Company, maturing November 15, 2019, for aggregate gross proceeds to the Company of \$2,024,149. The debentures bear interest at a rate of 8% per annum. The debentures may be converted into common shares of the Company, at any time prior the maturity date, at the request of a holder of debentures, at a conversion price of \$0.65 per common share.

As at December 31, 2017, the Company had a non-brokered private placement of convertible unsecured debentures of the Company, maturing November 30, 2019, for aggregate gross proceeds to the Company of \$700,000. The debentures bear interest at a rate of 9% per annum. The debentures may be converted into common shares of the Company, at any time prior the maturity date, at the request of a holder of debentures, at a conversion price of \$0.15 per common share.

On December 12 2016, the Company contracted a facility loan with Export Development Canada ("EDC") for an amount of \$2,000,000. The facility bears an interest of prime rate plus 6.3% annum. This interest is payable every month. On December 31 2017, the balance of the loan was \$1,437,912 and the reimbursements will be made following the completion of certain project milestones.

## 8 OUTSTANDING SHARE DATA

As at April 23, 2018, the following common shares and stock options were outstanding:

|   | Number of shares  | Exercise Price | Expiring Date      |
|---|-------------------|----------------|--------------------|
| Issued and outstanding Common Shares as of April 23, 2018 | 42 504 367        |                |                    |
| Debentures  | 4 666 667         | \$0.15         | November 30, 2019  |
|   | 3,114,075         | \$0.65         | November 15, 2019  |
|   | 7,780,742         | \$0.35         |                    |
| Stock Options   | 258 065           | \$0.16         | March 31, 2018     |
|   | 232 272           | \$0.22         | August 11, 2018    |
|   | 1 519 500         | \$0.10         | December 22, 2018  |
|   | 100 000           | \$0.15         | April 25, 2021     |
|   | 200 000           | \$0.14         | May 29, 2021       |
|   | 2 000 000         | \$0.12         | September 22, 2021 |
|   | 400 000           | \$0.05         | January 8, 2023    |
|   | 2 108 193         | \$0.18         | March 5, 2024      |
|   | 500,000           | \$0.49         | August 29, 2024    |
|   | 400,000           | \$0.55         | December 19, 2022  |
|   | 111,000           | \$0.55         | December 19, 2024  |
|   | 7 829,030         | \$0.19         |                    |
| Fully diluted as at April 23, 2018                        | <b>58 114 139</b> |                |                    |

## 9 CRITICAL ACCOUNTING ESTIMATES

The Company makes estimates and assumptions concerning the future that will, by definition, seldom equal actual results. The following are the estimates and judgments applied by management that affect the Company's unaudited condensed interim consolidated financial statements.

### **Inventories must be valued at the lower of cost and net realizable value.**

A write-down of inventory will occur when its estimated market value less applicable variable selling expenses is below its carrying amount. Materials and other supplies held for use in the production of inventories are not written down below cost if the finished products in which they will be incorporated are expected to be sold at or above cost. This estimation process involves significant management judgment and is based on the Company's assessment of market conditions for its products determined by historical usage, estimated future demand and, in some cases, the specific risk of loss on specifically identified inventory. Any change in the assumptions used in assessing this valuation will impact the carrying amount of the inventory and have a corresponding impact on cost of goods sold.

**Impairment of internally generated intangible assets**

The Company performs a test for internally generated intangible assets impairment when there is any indication that internally generated intangible assets have suffered any impairment in accordance with the accounting policy stated in the summary of significant accounting policies of these consolidated financial statements. The recoverable amounts of internally generated intangible assets have been determined based on value-in-use calculations. The value in use calculation is based on a discounted cash flow model. These calculations require the use of estimates and forecasts of future cash flows. Qualitative factors, including strength of customer relationships, degree of variability in cash flows as well as other factors are considered when making assumptions with regard to future cash flows and the appropriate discount rate. A change in any of the significant assumptions or estimates used to evaluate internally generated intangible assets could result in a material change to the results of operations.

**Percentage of completion and revenues from long-term production-type contracts**

Revenues recognized on long-term production-type contracts reflect management's best assessment by taking into consideration all information available at the reporting date and the result on each ongoing contract and its estimated costs. The management assesses the profitability of the contract by applying important judgments regarding milestones marked, actual work performed and estimated costs to complete. Actual results could differ because of these unforeseen changes in the ongoing contracts' models.

**Allowance for doubtful accounts**

The Company reviews all amounts periodically for indications of impairment and the amounts impaired have been provided for as an allowance for doubtful accounts.

**Liquidity risk**

The assessment of the Company's ability to continue as a going concern and to raise sufficient funds to pay for its ongoing operations expenditures, meets its liabilities for the ensuing year, involve significant judgment based on historical experience and other factors including expectation of future events that are believed to be reasonable under the circumstances.

## 10 CHANGES IN ACCOUNTING POLICIES AND ACCOUNTING PRONOUNCEMENTS

The following standards have been issued but are not yet effective:

In May 2014, the IASB issued IFRS 15, "Revenues from Contracts with Customers", to specify how and when to recognize revenue as well as requiring the provision of more information and relevant disclosure. IFRS 15 supersedes IAS 18, "Revenue", IAS 11, "Construction Contracts", and other revenue-related interpretations. The standard is mandatory since January 1, 2018. The Company has evaluated that there is no material impact of this standard on its consolidated financial statements.

In July 2014, the IASB amended IFRS 9, "Financial Instruments", to bring together the classification and measurement, impairment and hedge accounting phases of the IASB's project to replace IAS 39, "Financial Instruments: Recognition and Measurement". The standard supersedes all previous versions of IFRS 9 and is mandatory since January 1, 2018. The Company has evaluated that there is no material impact of this standard on its consolidated financial statements.

In January 2016, IASB issued IFRS 16, "Leases", which specifies how an IFRS reporter will recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with IFRS 16's approach to lessor



accounting substantially unchanged from its predecessor, IAS 17. The standard will be mandatory for annual periods beginning on or after January 1, 2019. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

## 11 OUTLOOK

### 11.1. Current Market and Guidance for 2018

Current market conditions remain favorable in the Industrial and Cleantech segments, allowing us to plan for significant increases in total revenue in 2018. At this point we expect revenue growth of 50% to 70% for 2018 compared to 2017, leading to revenues in the range of CDN\$ 22.0 to 25.0 million. For Fiscal 2018 Xebec expects earnings per share (EPS) in the range of 0.02 to 0.05. Our goal in 2018 is continued growth and profitability, in line with our 3 year business plan and our defined annual assumptions.

### 11.2. Industrial Compressed Air and Gas Treatment

Xebec has been working on completing its product portfolio with additional complementary products and services, like refrigerated air dryers, modular air dryers, vacuum regenerated air dryers, nitrogen and oxygen generators, including specialized air and gas filters for stationary and mobile applications. Xebec has also defined a three year acquisition strategy that will lead to inorganic revenue growth. The first acquisition is targeted to close in 2018. Xebec expects to grow this segment in 2018 by 25% to 35% compared to last year, while maintaining solid gross margins. We expect revenues in the CDN \$ 6.0 to 7.5 million range for 2018.

### 11.3. Clean Technology – Hydrogen and Renewables

In our Cleantech segment we made significant progress on order bookings since the end of 2017. We have seen market interest for biogas upgrading plants increase significantly, especially in Italy and France, which are emerging as the largest renewable natural gas markets in the world. Consequently, we anticipate solid revenue growth in Italy and France in 2018. In North America we are seeing a strengthening of activities both in the U.S. and Canada. These activities could lead to significant order flow over the next few quarters. Timing of North American projects are more difficult, and their impact on revenue forecasts are more significant than European ones, since individual order sizes tend to be much larger than in Europe. We expect this segment to grow by about 80 % to 100% in 2018 compared to 2017, generating revenue between CDN\$ 16 million to CDN\$ 18 million.

### 11.4. Oil and Gas Processing

After review of its available resources, Xebec decided to transition out of this business segment and allocate the available resources and funds to the Cleantech segment, which is experiencing significant growth. Xebec believes that gas sweetening would be an attractive medium to long term business, but given its significant growth in other segments, Xebec's directors and management came to the conclusion that the company does not have the resources necessary to aggressively grow three business segments at the same time. Over the course of 2018 Xebec will continue to support specific customers and partners, and help them transition to alternate suppliers and establish alternate relationships.

### 11.5. Delivery Outlook

Our order lead times are between 12 weeks to 9 months, and we normally enjoy good visibility over at least

two to three quarters. We operate in various end markets so our delivery outlook is subject to a number of factors that are within our control, such as product availability, delivery lead times, price and market engagement initiatives, as well as a number of factors beyond our control, such as macroeconomic conditions, environmental site permits, customer project financing, feedstock availability, off-take agreements etc. As part of our annual budget planning cycle, we make a number of underlying assumptions regarding delivery outlook in each of our relevant market segments in order to plan capacity and appropriately allocate our resources.

The following table is a summary assessment of those factors we anticipate will most significantly influence deliveries by relevant business segment, as well as our anticipated level of deliveries by relevant segment. We caution that readers should not place undue reliance on this assessment and refer to our forward-looking statement in Section 18 of this MD&A.

| Business Segment                    | Economic Activity in 2017   | External and Corporate Specific Considerations   | Anticipated Economic Activity in 2018   |
|-------------------------------------|---|--|---|
| Industrial Compressed Air and Gas   | Revenues and orders delivered were about the same than in 2016.                 | We continue to see growth in our end markets, especially the MRO segment. Expanded product portfolio will be positive going forward.   | We anticipate revenues and orders delivered will be higher than in 2017. Accretive M&A activity will increase revenue & profit. |
| Cleantech – Hydrogen and Renewables | Revenues and orders delivered were higher than in 2016.                         | Governments continue to support programs to accelerate the use of renewable natural gas, especially in France and Italy. California is developing into a market in 2018 Fuel Cell Electric Vehicles which are becoming commercially available, slowly increasing demand for hydrogen and renewable hydrogen. | We anticipate revenues and orders delivered will be significantly higher than in 2017.  |
| Oil & Gas Processing                | No revenues or orders were recorded in 2016 . Some revenue recognition in 2017. | Decision to transition out of the gas sweetening segment to fully focus on the Cleantech opportunity.  | Transition revenues are still expected in 2018. We do not expect new orders in this segment.                                    |

### 11.6. Outlook Summary

The timing and full realization of the opportunities above, under the current market environment, cannot be assured or specifically established. It is however important to understand the magnitude of these opportunities and the transformative impact that any one of them will have on the business going forward.

Over the past few years, we have taken significant steps to reduce operating and product costs, streamline our operations, and we are in the process of strengthening our consolidated financial position and repair our balance sheet. While we may still see volatility in our revenue over the short-term, our expectations for the longer-term are that our revenue trend will continue to improve. At April 16, 2018, our order backlog was CDN\$ 13.9 million (April 24, 2017 – CDN\$ 11.5 million) spread across our three business segments and numerous geographical regions. Xebec expects to be converting a large portion of this backlog into revenue in Fiscal 2018.



As a global company, we are subject to the risks arising from adverse changes in global economic and political conditions. Political conditions such as government commitments and policies towards environmental protection and renewable energy may change over time. Economic conditions in leading and emerging economies have been, and remain, unpredictable. In particular, currency fluctuations could have the impact of significantly reducing revenue and gross margin as well as the competitive positioning of our product portfolio. These macroeconomic and geopolitical changes could result in our current or potential customers reducing purchases or delaying shipment which could cause revenue recognition on these products to shift into 2019 or beyond.

## 12 RELATED PARTY TRANSACTIONS

| In thousands of \$   | For the three-month period ended December 31, |           | For the twelve-month period ended December 31, |            |
|--|---|-----------|--|------------|
|  | 2017  | 2016      | 2017   | 2016       |
| Marketing and professional services expenses paid to companies controlled by members of the immediate family of an officer | 69  | 38        | 159  | 112        |
| <b>Total</b>   | <b>69</b>                                     | <b>38</b> | <b>159</b>                                     | <b>112</b> |

## 13 DISCLOSURE CONTROLS

Our management is responsible for establishing and maintaining disclosure controls and procedures (“DC&P”) designed to provide reasonable assurance that the information we are required to disclose in our annual filings, interim filings and other reports (the “reports”) filed or submitted under the applicable securities legislation is recorded, processed, summarized and reported within the time periods specified in the applicable securities legislation. DC&P include, without limitation, controls and procedures designed to ensure that the information required to be disclosed by an issuer in the reports filed or submitted under the applicable securities legislation is accumulated and communicated to the issuer’s management, including its Chief Executive Officer and Chief Financial Officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

As at December 31, 2017, an evaluation was carried out, under the supervision of and with the participation of our management, including the President and Chief Executive Officer and the Chief Financial Officer, of the design and effectiveness of our disclosure controls and procedures as defined under NI 52-109. This evaluation was based on the framework set forth in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Upon such review, the Chief Executive Officer, the Chief Financial Officer and the Chief Operating Officer determined that there were no significant deficiencies in the design of our DC&P.

### Entity Level Controls

We did not maintain a completely effective control environment as defined in accordance with COSO control framework. Specifically, we do not have comprehensive procedure manuals to clearly communicate management’s and employees’ roles and responsibilities in our internal control over financial reporting. To mitigate the risk, management relies heavily on manual procedures and detection controls, management meetings, quarterly reviews of financial statements of our subsidiaries. These manual procedures were performed during the interim and annual periods ended December 31, 2017 and 2016. The Company did not adopt the COSO framework.

## 14 INTERNAL CONTROL OVER FINANCIAL REPORTING

Our internal control over financial reporting (“ICFR”) includes, among others, those policies and procedures that: (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS, and that our receipts and expenditures are being made only in accordance with authorization of our management; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

We carried out an evaluation of our ICFR, under the supervision of and with the participation of our management, including our Chief Executive Officer, our Chief Financial Officer and our Chief Operating Officer as to the material weaknesses relating to the design of our ICFR as of December 31, 2017. This evaluation was based on the previous Internal Control-Integrated Framework issued by the COSO. The evaluation considered the procedures designed to ensure that information required to be disclosed by the Company in reports filed or submitted under the applicable securities legislation is recorded, processed, summarized and reported in the time periods specified in the rules and forms of the applicable securities legislation and communicated to our management as appropriate to allow discussions regarding required disclosure. Upon such review, our Chief Executive Officer, Chief Financial Officer and our Chief Operating Officer have determined that there existed material weaknesses in the design of our ICFR. The ICFR weaknesses we identified did not result in adjustments to our interim and annual consolidated financial statements for 2017 and 2016. Following our assessment, we identified the following material weaknesses:

### **Segregation of Duties**

We have deficient controls within our accounting department over segregation of duties inherent to the department’s size and turnover in 2017. Specifically, as a result of the limited number of personnel in the accounting department, certain financial personnel had incompatible duties that allowed for the creation, review and processing of certain financial data without independent review and authorization. In 2017 some formal approbation process has being put in place and a corporate controller has been hired. To mitigate the risk, our management relies heavily on manual procedures and detection controls, regular management meetings, as well as reviews of our financial statements and of our subsidiaries. These manual procedures were performed for the periods ended December 31, 2017 and 2016.

### **Information Technology**

We have deficient controls within our Enterprise Resources Planning (“ERP”) system inherent to the limited support available from its vendor and the limitation of the application in respect of controls related to password. To mitigate the risk, our management relies heavily on manual procedures and detection controls, regular management meetings, as well as reviews of our financial statements and of our subsidiaries. These manual procedures were performed for the periods ended December 31, 2017 and 2016.

### **Remediation of Material Weaknesses in Internal Control over Financial Reporting and Disclosure Controls**

We have initiated the following actions to address the material weaknesses in our DC&P and ICFR identified as of December 31, 2017.

- Entity Level Controls



Our Management has taken an active role in responding to the deficiencies identified, including overseeing management's implementation of the remedial measures described below.

- Information Technology General Controls

Management outsource the support aspect of its information technology platform. In 2018, a mandate will be given to an outside firm to identify corrective actions to be made on the Company's information technology platform in order to implement a new ERP system in 2019.

### **Inadequate Segregation of Duties**

We will continue to use appropriate measures to restrict or independently monitor systems access and properly assign job roles and responsibilities to employees to ensure the proper segregation of duties where feasible. As the Company grows, we will expand the number of individuals involved in the accounting function.

We realize that some of the above weaknesses are inherent to a company of our size. Nevertheless, we believe in and are committed to establishing rigorous DC&P and ICFR. It will take time to put in place the rigorous controls and procedures desired by our management and Board of Directors. We cannot at this time estimate how long it will take to complete the steps identified above. Our management will continue to evaluate the effectiveness of our overall control environment and will continue to refine existing controls as they, in conjunction with our Audit Committee, Chief Executive Officer and Chief Financial Officer, think necessary.

Other than the remediation efforts discussed above and the implementation of the Company's' ICFR, there have been no changes in our ICFR that occurred since the beginning of the period ended March 31, 2018 that have materially affected or are reasonably likely to materially affect our ICFR. Our management, including our Chief Executive Officer, Chief Operating Officer and our Chief Financial Officer, has discussed these issues and remediation efforts with our Audit Committee.

We will provide updates on the remediation plan in our quarterly and annual management reports.

It should be noted that while our management believes that current disclosure and internal controls and procedures provide a reasonable level of assurance, it cannot be expected that existing disclosure controls and procedures or internal financial controls will prevent all human errors and circumvention or overriding of the controls and procedures. A control system, no matter how well conceived or operated, can provide only reasonable assurance, not absolute, that the objectives of the control system are met.

## **15 RECONCILIATION OF NON-IFRS MEASURES**

**EBITDA** (unaudited)



|                                   | Three months ended<br>December 31, |       | Twelve months ended<br>December 31, |         |
|-----------------------------------|------------------------------------|-------|-------------------------------------|---------|
| In thousands of \$                | 2017                               | 2016  | 2017                                | 2016    |
| Net income (loss)                 | (927)                              | (122) | 97                                  | (2 671) |
| Income Tax                        | -                                  | (59)  | -                                   | (59)    |
| Depreciation of property          | 22                                 | 24    | 88                                  | 95      |
| Amortization of intangible assets | 20                                 | 20    | 80                                  | 77      |
| Finance cost net                  | 624                                | 148   | 812                                 | 539     |
| EBITDA                            | (261)                              | 11    | 1 077                               | (2 019) |

\* EBITDA is a non-IFRS financial measure.

## EBITDA

Is not a performance measure defined under IFRS and is not considered an alternative to income from operations or net (loss) earnings in the context of measuring a company's performance. EBITDA does not have a standardized meaning and is therefore not likely to be comparable with similar measures used by other publicly traded companies.

The positive EBITDA for the twelve months of 2017 has amounted to \$1.1 million compared to a negative EBITDA of \$(2.0) million in the same period of 2016, an increase of \$3.1 million. This improvement is mainly due to the increase of the net income for a similar amount.

The net finance cost for the twelve months ending December 31, 2017 includes the finance income of \$(0.1) million, interest and charges on debts for the amount of \$0.4 million, accretion on convertible debenture and on the obligation arising from the shares issued by a subsidiary totaling \$0.5 million. It excludes the forgiveness of debt of \$(0.3) million.

## 16 ENTERPRISE RISK MANAGEMENT

### Our Definition of Business Risk

We define business risk as the degree of exposure associated with the achievement of key strategic, financial, organizational and process objectives in relation to the effectiveness and efficiency of operations, the reliability of financial reporting, compliance with laws and regulations and the safeguarding of assets within an ethical organizational culture.

Our enterprise risks are largely derived from the Corporation's business environment and are fundamentally linked to our strategies and business objectives. We strive to proactively mitigate our risk exposures through rigorous performance planning and effective and efficient business operational management. We strive to avoid taking on undue risk exposures whenever possible and ensure alignment with business strategies, objectives, values and risk tolerances.

The following sections summarize the principal risks and uncertainties that could affect our future business results going forward and our associated risk mitigation activities.

## 17 RISK FACTORS

An investment in our common shares involves risk. Investors should carefully consider the risks and

uncertainties described below and in our Annual Information Form. The risks and uncertainties described below and in our Annual Information Form are not the only ones we face. Additional risks and uncertainties, including those that we do not know about now or that we currently deem immaterial, may also adversely affect our business. For a more complete discussion of the risks and uncertainties which apply to our business and our operating results (which are summarized below), please see our Annual Information Form and other filings with Canadian Regulatory Authorities ([www.sedar.com](http://www.sedar.com)).

Our business entails risks and uncertainties that affect our outlook and eventual results of our business and commercialization plans. The primary risks relate to meeting our product commercialization milestones, which require that our products exhibit the functionality, cost and performance required to be commercially viable against competing technologies and that we have sufficient access to capital to fund these activities. There is also a risk that key markets for certain of our products may not be as large as we anticipate or never develop, or that market acceptance might take longer to develop than anticipated – in particular for applications such as advanced CO<sub>2</sub> removal from natural gas, which requires industry acceptance and uptake, or our renewable natural gas (RNG) product offering which depends on government programs and regulatory support.

A summary of our identified risks and uncertainties are listed below:

### **17.1. Macroeconomic and Geopolitical**

- The uncertain and unpredictable condition of the global economy could have a negative impact on our business, results of operations and consolidated financial condition, or our ability to accurately forecast our results, and it may cause a number of the risks that we currently face to increase in likelihood, magnitude and duration.
- Significant markets for renewable natural gas (RNG) and other hydrogen purification products may never develop or may develop more slowly than we anticipate. This would significantly harm our revenues and may cause us to be unable to recover the losses we have incurred.
- Changes in government policies and regulations could hurt the market for our products.
- Lack of new government policies and regulations for the renewable energy technologies could hurt the development of our renewable natural gas (RNG) and hydrogen generation and purification products.
- We currently face and will continue to face significant competition from other developers and manufacturers of renewable natural gas (RNG) products and hydrogen purification systems. If we are unable to compete successfully, we could experience a loss of market share, reduced gross margins for our existing products and a failure to achieve acceptance of our proposed products.
- We face competition for CO<sub>2</sub> removal from natural gas systems from developers and manufacturers of traditional technologies and other alternative technologies.
- Rapid technological advances or the adoption of new codes and standards could impair our ability to deliver our products in a timely manner and, as a result, our revenues would suffer.
- Our articles of incorporation authorize us to issue an unlimited number of common and preferred shares. Significant issuances of common or preferred shares could dilute the share ownership of our shareholders, deter or delay a takeover of us that our shareholders may consider beneficial or depress the trading price of our common shares.
- Our share price is volatile and we may continue to experience significant share price and volume fluctuations.

### **17.2. Operating**

- We may not be able to implement our business strategy and the price of our common shares may decline.
- Our quarterly operating results are likely to fluctuate significantly and may fail to meet the expectations of

securities analysts and investors causing the price of our common shares to decline.

- We currently depend on a relatively limited number of customers for a majority of our revenues and a decrease in revenue from these customers could materially adversely affect our business, consolidated financial condition and results of operations.
- Our insurance may not be sufficient.
- Hydrogen Fuel Cell systems and applications may not be readily available on a cost-effective basis, in which case our hydrogen generation and purification products may not find a sufficient end market and our revenues and results of operations would be materially adversely affected.
- We could be liable for environmental damages resulting from our research, development or manufacturing operations.
- Our strategy for the sale of renewable natural gas products depends on developing partnerships with OEMs, governments, systems integrators, suppliers and other market channel partners who will incorporate our products into theirs.
- We are dependent on third party suppliers for key materials and components for our products. If these suppliers become unable or unwilling to provide us with sufficient materials and components on a timely and cost-effective basis, we may be unable to manufacture our products cost-effectively or at all, and our revenues and gross margins would suffer.
- We may not be able to manage successfully the anticipated expansion of our operations.
- If we do not properly manage foreign sales and operations, our business could suffer.
- We will need to recruit, train and retain key management and other qualified personnel to successfully expand our business.
- We may acquire technologies or companies in the future, and these acquisitions could disrupt our business and dilute our shareholders' interests.
- We must continue to lower the cost of our renewable natural gas and hydrogen generation and purification products and demonstrate their reliability or consumers will be unlikely to purchase our products and we will therefore not generate sufficient revenues to achieve and sustain profitability.
- Any failures or delays in field tests of our products could negatively affect our customer relationships and increase our manufacturing costs.
- The components of our products may contain defects or errors that could negatively affect our customer relationships and increase our development, service and warranty costs.
- We depend on intellectual property and our failure to protect that intellectual property could adversely affect our future growth and success.
- Our products use flammable fuels that are inherently dangerous substances and could subject us to product liabilities.

### **17.3. Liquidity**

The Company has realized an operating profit of \$96,752, had cash outflows from operating activities of \$1,854,997 for the twelve-month period ended December 31, 2017 and finished the period with cash and cash equivalents amounting to \$1,341,121, a positive working capital of \$1,843,458 and had access to credit facilities totaling \$750,000 of which \$NIL has been used. During the quarter, management undertook various initiatives and developed a plan to manage its operating and liquidity risks in light of prevailing economic conditions. Management is also currently seeking alternative financings for its operations. The Company has prepared a revised budget and forecast for 2018 for which management believes the assumptions are reasonable. Achieving budgeted results is dependent on improving the volume of revenues in Canada, United States, Europe and China, delivering on sales and contracts schedules, meeting expected overall operating margin levels and controlling general and administrative costs.



The Company is thus faced with uncertainties that may have an impact on future operating results and liquidity. These uncertainties include reduced spending in biogas upgrading projects reflecting the uncertainties of an emerging market, fluctuations in foreign currency rates and achieving the Company's business plan goals as mentioned in the previous paragraph, which includes the development of a new business segment. While management believes it has developed planned courses of action to mitigate operating and liquidity risks, there is no assurance that management will be able to achieve its business plan and maintain the necessary liquidity level, including accessing liquidities from China, if events or conditions develop that are not consistent with management's expectations, key budget assumptions for 2017 and planned courses of action. Therefore, the Company may require additional external funding and there is no assurance that it would be successful. It is possible that future changes in capital markets conditions could result in such funding not being available when required or at acceptable costs. The Company is unable to predict the possible effects, if any, of such uncertainties and the potential adjustments to the carrying values of assets and liabilities that could be needed should the Company have insufficient liquidity. Such adjustments could be material.

#### **17.4. Foreign Currency Exchange**

Our operating results may be impacted by currency fluctuation.

### **18 FORWARD-LOOKING STATEMENTS**

This Management Discussion and Analysis ("MD&A") contains forward-looking statements, including statements regarding the future success of the Company's business, technology, and market opportunities. Forward-looking statements typically contain words such as "believes", "expects", "anticipates", "continues", "could", "indicates", "plans", "will", "intends", "may", "projects", "schedules", "would" or similar expressions suggesting future outcomes or events, although not all forward-looking statements contain these identifying words. Examples of such statements include, but are not limited to, statements concerning: (i) actions expected to be undertaken to achieve the Company's strategic goals; (ii) the key market drivers impacting the Company's success; (iii) intentions with respect to future biogas development work; (iv) expectations regarding business activities and orders that may be received in fiscal 2018 and beyond; (v) trends in, and the development of, the Company's target markets; (vi) the Company's market opportunities; (vii) the benefits of the Company's products, (viii) the intention to enter into agreements with partners; (ix) future outsourcing; (x) expectations regarding competitors; (xi) the expected impact of the described risks and uncertainties; (xii) intentions with respect to the payment of dividends; (xiii) the management of the Company's liquidity risks in light of the prevailing economic conditions; (xiv) the Company's cost reduction plan; and (xv) the search for additional financing over the next months.

These statements are neither promises nor guarantees, but involve known and unknown risks and uncertainties that may cause the Company's actual results, level of activity or performance to be materially different from any future results, levels of activity or performance expressed in or implied by these forward-looking statements. These risks include, generally, risks related to revenue growth, operating results, industry and products, technology, competition, the economy and other factors. Although the forward-looking statements contained herein are based upon what management believes to be current and reasonable assumptions, the Company cannot assure readers that actual results will be consistent with these forward-looking statements. Examples of such assumptions include, but are not limited to: (i) trends in certain market segments and the economic climate generally; (ii) the pace and outcome of technological development; (iii) the identity and expected actions of competitors and customers; and (iv) the value of the Canadian dollar. The forward-looking statements contained herein are made as of the date of this MD&A and are expressly qualified in their entirety by this cautionary statement. Except to the extent required by law, the Company undertakes no obligation to publicly update or revise any forward-looking statements contained herein.



## 19 CORPORATE GOVERNANCE

The Board of Directors of Xebec Adsorption Inc. is comprised of five directors, three of whom are considered to be independent.

## 20 APPROVAL

The Board of Directors of Xebec Adsorption Inc. has approved the disclosure contained in this MD&A. A copy of this MD&A will be provided to anyone who requests it.

## 21 ADDITIONAL INFORMATION

Additional information relating to Xebec Adsorption Inc. is on SEDAR at [www.sedar.com](http://www.sedar.com) or by contacting:

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Attention : Louis Dufour, Chief Financial Officer