



**PEMBINA PIPELINE CORPORATION**

**ANNUAL INFORMATION FORM**

**For the Year Ended December 31, 2017**

**February 22, 2018**

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## GLOSSARY OF TERMS

Terms used in this Annual Information Form and not otherwise defined have the meanings set forth below:

**"2013 Base Shelf Prospectus"** means the final short form base shelf prospectus filed with the securities commissions or similar regulatory authorities in each of the provinces of Canada on February 22, 2013 allowing Pembina to offer and issue, from time to time: (i) Common Shares; (ii) preferred shares; (iii) any bonds, debentures, notes or other evidences of indebtedness of any kind, nature or description of Pembina ("**Debt Securities**"); (iv) warrants to purchase Common Shares and Debt Securities; and (v) subscription receipts (together with the foregoing, collectively, the "**2013 Securities**") of Pembina of up to \$3,000,000,000 aggregate initial offering price of 2013 Securities (or the equivalent thereof in one or more foreign currencies or composite currencies, including U.S. dollars) during the 25 month period that the 2013 Base Shelf Prospectus was valid;

**"2015 Base Shelf Prospectus"** means the final short form base shelf prospectus filed with the securities commissions or similar regulatory authorities in each of the provinces of Canada on March 18, 2015 allowing Pembina to offer and issue, from time to time: (i) Common Shares; (ii) preferred shares; (iii) Debt Securities; (iv) warrants to purchase Common Shares and Debt Securities; and (v) subscription receipts of Pembina (together with the foregoing, collectively, the "**2015 Securities**") of up to \$5,000,000,000 aggregate initial offering price of 2015 Securities (or the equivalent thereof in one or more foreign currencies or composite currencies, including U.S. dollars) during the 25 month period that the 2015 Base Shelf Prospectus was valid;

**"2017 Base Shelf Prospectus"** means the final short form base shelf prospectus filed with the securities commissions or similar regulatory authorities in each of the provinces of Canada on July 27, 2017 allowing Pembina to offer and issue, from time to time: (i) Common Shares; (ii) preferred shares; (iii) warrants to purchase Common Shares; (iv) subscription receipts of Pembina; and (v) units comprising any combination of the foregoing (together with the foregoing, collectively, the "**2017 Securities**") of up to \$3,000,000,000 aggregate initial offering price of 2017 Securities (or the equivalent thereof in one or more foreign currencies or composite currencies, including U.S. dollars) during the 25 month period that the 2017 Base Shelf Prospectus is valid, which 2017 Securities may be offered separately or together, in amounts, at prices and on terms to be determined based on market conditions at the time of the sale and set forth in one or more shelf prospectus supplements;

**"ABCA"** means the *Business Corporations Act* (Alberta), R.S.A. 2000, c. B-9, as amended from time to time, including the regulations promulgated thereunder;

**"ABSA"** means the Alberta Boilers Safety Association;

**"AEGS"** means the Alberta Ethane Gathering System comprised of 1,330 km of integrated pipeline legs that span the southern and central portions of Alberta;

**"AEGS Notes"** has the meanings ascribed thereto under "*Description of the Capital Structure of Pembina – Other Debt*";

**"AER"** means the Alberta Energy Regulator;

**"Alliance"** means Alliance Canada and Alliance US;

**"Alliance Canada"** means Alliance Pipeline Limited Partnership;

**"Alliance Canada Marketing"** means Alliance Canada Marketing L.P.;

**"Alliance Pipeline"** means the entire Alliance pipeline system of approximately 3,850 km, including the approximately 3,000 km high-pressure transmission pipeline that runs from north-eastern British Columbia to

delivery points near Chicago, Illinois, approximately 730 km of lateral pipelines in Canada, the approximately 130 km Tioga lateral, and related infrastructure;

"**Alliance US**" means Alliance Pipeline L.P.;

"**AUC**" means the Alberta Utilities Commission;

"**Aux Sable**" means collectively, Aux Sable Canada, Aux Sable US and Alliance Canada Marketing;

"**Aux Sable Canada**" means Aux Sable Canada LP;

"**Aux Sable US**" means collectively, Aux Sable Liquids Products Inc., Aux Sable Liquid Products LP and Aux Sable Midstream LLC;

"**BAR**" means Pembina's business acquisition report on Form 51-102F4 dated October 26, 2017 in respect of the Veresen Acquisition;

"**B.C. Pipelines**" means, collectively, the NEBC Pipeline and the Western Pipeline, as well as certain connector pipelines and provincially regulated pipelines located in British Columbia;

"**BCOGC**" means the British Columbia Oil and Gas Commission;

"**BCUC**" means the British Columbia Utilities Commission;

"**Board**" or "**Board of Directors**" means the board of directors of Pembina from time to time;

"**Canadian Diluent Hub**" or "**CDH**" has the meaning ascribed thereto under "*Description of Pembina's Business and Operations – Midstream Business – Overview*";

"**Channahon Facility**" means Aux Sable's 2.1 bcf/d NGL extraction and fractionation facility in Channahon, Illinois;

"**Cheechem Lateral**" means the lateral pipeline and related facilities, as expanded, delivering synthetic crude oil from a pump station on the Syncrude Pipeline to a terminalling facility located near Cheechem, Alberta;

"**Chevron**" means Chevron Canada Limited;

"**CICA**" means the Canadian Institute of Chartered Professional Accountants;

"**CKPC**" means Canada Kuwait Petrochemical Corporation;

"**Class A Preferred Shares**" means class A preferred shares of Pembina, issuable in series, and where the context requires includes the Series 1 Class A Preferred Shares, the Series 2 Class A Preferred Shares, the Series 3 Class A Preferred Shares, the Series 4 Class A Preferred Shares, the Series 5 Class A Preferred Shares, the Series 6 Class A Preferred Shares, the Series 7 Class A Preferred Shares, the Series 8 Class A Preferred Shares, the Series 9 Class A Preferred Shares, the Series 10 Class A Preferred Shares, the Series 11 Class A Preferred Shares, the Series 12 Class A Preferred Shares, the Series 13 Class A Preferred Shares, the Series 14 Class A Preferred Shares, the Series 15 Class A Preferred Shares, the Series 16 Class A Preferred Shares, the Series 17 Class A Preferred Shares, the Series 18 Class A Preferred Shares, the Series 19 Class A Preferred Shares, the Series 20 Class A Preferred Shares, the Series 21 Class A Preferred Shares and the Series 22 Class A Preferred Shares;

"**Class B Preferred Shares**" means class B preferred shares of Pembina;

"**Common Shares**" means the common shares in the capital of Pembina;

"**Company**" or "**Pembina**" means Pembina Pipeline Corporation, an ABCA corporation and, unless the context otherwise requires, includes its subsidiaries;

"**condensate**" means a hydrocarbon mixture consisting primarily of pentanes and heavier hydrocarbon liquids;

"**Credit Facilities**" has the meaning ascribed thereto under "*Description of the Capital Structure of Pembina – Credit Facilities*";

"**CRP**" means Cutbank Ridge Partnership, a partnership between Encana and Cutbank Dawson Gas Resources Ltd., a subsidiary of Mitsubishi Corporation;

"**Cutbank Complex**" has the meaning ascribed thereto under "*Description of Pembina's Business and Operations – Gas Services Business*";

"**Cutbank Gas Plant**" means Pembina's shallow cut sweet gas processing facility located at 07-16-062-08 W6M;

"**DBRS**" means DBRS Limited;

"**deep cut**" means ethane-plus extraction gas processing capabilities;

"**DRIP**" means Pembina's Premium Dividend<sup>TM(1)</sup> and Dividend Reinvestment Plan and all associated agreements, which were amended and restated effective January 6, 2016;

"**Duvernay I**" has the meaning ascribed thereto under "*Description of Pembina's Business and Operations – Gas Services Business – Overview*";

"**EDGAR**" means the Electronic Data Gathering, Analysis and Retrieval system;

"**Empress East**" has the meaning ascribed thereto under the heading "*Description of Pembina's Business and Operations – Midstream Business – Overview*";

"**Encana**" means Encana Corporation;

"**Equity Accounted Investees**" means Pembina's working interest in Alliance, Aux Sable, Ruby Pipeline Holding Company, LLC, CKPC, Veresen Midstream, Grand Valley I Limited Partnership and Fort Corp;

"**ENT**" has the meaning ascribed thereto under the heading "*Description of Pembina's Business and Operations – Midstream Business – Overview*";

"**FEED**" means front end engineering design;

"**FERC**" means the Federal Energy Regulatory Commission;

"**Field Hub**" has the meaning ascribed thereto under the heading "*Description of Pembina's Business and Operations – Gas Services Business – Overview*";

"**FIMP**" means the facility integrity management program;

"**Financial Statements**" means Pembina's audited, consolidated financial statements for the period ended December 31, 2017;

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<sup>1</sup> <sup>TM</sup> denotes Trademark of Canaccord Genuity Corp.

"**Form 40-F**" means Pembina's annual report on Form 40-F for the fiscal year ended December 31, 2017 filed with the SEC;

"**Fort Corp**" means collectively, Fort Saskatchewan Ethylene Storage Corporation and Fort Saskatchewan Ethylene Storage Limited Partnership;

"**Fund**" has the meaning ascribed thereto under "*Corporate Structure – Name, Address and Formation*";

"**GAAP**" means the generally accepted accounting principles established by the CICA or any successor thereto which are in effect from time to time in Canada;

"**Horizon Expansion**" has the meaning ascribed thereto under "*General Developments of Pembina – Developments in 2016*";

"**Horizon Pipeline**" means the pipeline system and related facilities, as expanded by the Horizon Expansion, designed to deliver synthetic crude oil from the Horizon Project into the Edmonton, Alberta area. See "*Description of Pembina's Business and Operations – Oil Sands & Heavy Oil Business*";

"**Horizon Project**" means the Horizon Oil Sands Project located approximately 70 km north of Fort McMurray, Alberta;

"**HVP**" means high vapour pressure;

"**IFRS**" means the International Financial Reporting Standards including International Accounting Standards and Interpretations together with their accompanying documents which are set by the International Accounting Standards Board, the independent standard-setting body of the International Accounting Standards Committee Foundation (the "**IASC Foundation**"), and the International Financial Reporting Interpretations Committee, the interpretative body of the IASC Foundation but only to the extent the same are adopted by the CICA as GAAP in Canada and then subject to such modifications thereto as are agreed by CICA;

"**Jordan Cove**" means Jordan Cove Energy Project L.P.;

"**Jordan Cove LNG Project**" means the proposed development, construction and operation of a liquefied natural gas production and export facility and related infrastructure on the west coast of the U.S.;

"**Kakwa Gas Plant**" means Pembina's 50 percent interest in the shallow cut sweet gas processing facility located at 01-35-060-05 W6M;

"**KRIA Agreement**" has the meaning ascribed thereto under "*General Developments of Pembina – Developments in 2017*";

"**LVP**" means low vapour pressure;

"**MD&A**" means Pembina's management's discussion and analysis for the year ended December 31, 2017, an electronic copy of which is available on Pembina's profile on the SEDAR website at [www.sedar.com](http://www.sedar.com), and in Pembina's annual report on Form 40-F filed on the EDGAR website at [www.sec.gov](http://www.sec.gov), or at [www.pembina.com](http://www.pembina.com);

"**Medium Term Notes**" means, collectively, the Pembina Medium Term Notes and the Veresen Medium Term Notes;

"**Medium Term Notes, Series 1**" means the \$250 million aggregate principal amount of medium term notes of Pembina issued March 29, 2011. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 2**" means the \$450 million aggregate principal amount of medium term notes of Pembina issued October 22, 2012. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 3**" means the \$200 million, \$150 million and \$100 million aggregate principal amount of medium term notes of Pembina issued April 30, 2013, February 2, 2015 and June 16, 2015, respectively. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 4**" means the \$600 million aggregate principal amount of medium term notes of Pembina issued April 4, 2014. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 5**" means the \$450 million aggregate principal amount of medium term notes of Pembina issued February 2, 2015. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 6**" means the \$500 million aggregate principal amount of medium term notes of Pembina issued June 16, 2015. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 7**" means the \$500 million aggregate principal amount of medium term notes of Pembina issued August 11, 2016. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 8**" means the \$300 million and \$350 million aggregate principal amount of medium term notes of Pembina issued January 20, 2017 and August 16, 2017, respectively. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Medium Term Notes, Series 9**" means the \$300 million and \$250 million aggregate principal amount of medium term notes of Pembina issued January 20, 2017 and August 16, 2017, respectively. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Mitsue Pipeline**" means the pipeline system and related facilities delivering condensate from Whitecourt, Alberta to Utikuma, Alberta for use as diluent for heavy oil;

"**MTN Prospectus**" means the final short form base shelf prospectus filed with the securities commissions or similar regulatory authorities in each of the provinces of Canada on July 27, 2017 allowing Pembina to offer and issue, from time to time, medium term notes (the "**2017 Medium Term Notes**") of Pembina of up to \$3,000,000,000 aggregate initial offering price of 2017 Medium Term Notes (or the equivalent thereof in one or more foreign currencies or composite currencies, including U.S. dollars) during the 25 month period that the MTN Prospectus is valid, which 2017 Medium Term Notes may be offered separately or together, in amounts, at prices and on terms to be determined based on market conditions at the time of the sale and set forth in one or more shelf prospectus or pricing supplements;

"**Musreau I**" means the Musreau A, Musreau C and Musreau D trains, shallow cut sweet gas processing facility, owned 100 percent by Pembina, and Pembina's 50 percent interest in the Musreau B train, located at 04-25-062-06 W6M;

"**Musreau II**" means Pembina's 100 MMcf/d shallow cut sweet gas processing plant and associated NGL and gas gathering pipelines near Musreau I;

"**Musreau III**" means Pembina's 100 MMcf/d shallow cut sweet gas processing facility near Musreau I and II;

"**Musreau Deep Cut**" means the 205 MMcf/d NGL extraction facility and related 10 km NGL sales pipeline connected to the Peace Pipeline and located at the Musreau I facility;

"**NEB**" means the National Energy Board;



"**NEBC Expansion**" means Pembina's expansion to its pipeline infrastructure in northeast British Columbia increasing the capacity of the NEBC Pipeline by approximately 75 mbpd;

"**NEBC Pipeline**" means the pipeline system and related facilities, as expanded by the NEBC Expansion, delivering crude oil and condensate from northeastern British Columbia to Taylor, British Columbia;

"**NGL**" means natural gas liquids, including ethane, propane, butane and condensate;

"**Nipisi Pipeline**" means the pipeline system and related facilities delivering blended heavy oil from Utikuma, Alberta to Edmonton, Alberta;

"**North Central Liquids Hub**" has the meaning ascribed thereto under "*General Developments of Pembina – Developments in 2017*";

"**Northern Pipeline**" means the pipeline system and related facilities delivering NGL from Taylor, British Columbia to Fort Saskatchewan, Alberta;

"**Northwest Pipeline**" means the pipeline system and related facilities delivering crude oil from northeastern British Columbia to Boundary Lake, Alberta;

"**NYSE**" means the New York Stock Exchange;

"**Option Plan**" means the stock option plan of Pembina approved by the Shareholders on May 26, 2011, as amended effective February 26, 2015;

"**Pacific Connector**" means Pacific Connector Gas Pipeline, LP;

"**Pacific Connector Gas Pipeline**" has the meaning ascribed thereto under "*Description of Pembina's Business and Operations – Veresen Business – Overview*";

"**PDH/PP Facility**" has the meaning ascribed thereto under "*General Developments of Pembina – Developments in 2017*";

"**Peace Pipeline**" means the pipeline system and related facilities delivering light crude oil, condensate, propane mix (C<sub>3</sub>+) and ethane mix (C<sub>2</sub>+) from northwestern Alberta to Edmonton, Alberta and to Fort Saskatchewan, Alberta;

"**Pembina Medium Term Note Indenture**" means the indenture dated March 29, 2011 between Pembina, Pouce Coupé Pipe Line Ltd., Plateau Pipe Line Ltd., Alberta Oil Sands Pipeline Ltd., Pembina Pipeline (an Alberta partnership), Pembina North Limited Partnership, Pembina West Limited Partnership, Pembina Oil Sands Pipeline L.P., Pembina Marketing Ltd., Pembina Midstream Limited Partnership, Pembina Gas Services Ltd., Pembina Gas Services Limited Partnership and Computershare Trust Company of Canada, as supplemented by the first supplemental note indenture dated April 2, 2012 between Pembina, Pembina NGL Corporation, 1598313 Alberta Ltd., Provident Infrastructure and Logistics LP, Provident Midstream Holdings GP ULC, Provident Midstream Inc., Provident GP Inc., Provident Facilities (NGL) Ltd., Provident Facilities (NGL) L.P., 1195714 Alberta Ltd., 1444767 Alberta Ltd., Provident Energy Pipeline Inc., Empress NGL Partnership, Kinetic Resources (LPG), Pro Holding Company, Provident Midstream (USA) Inc., Pro US LLC, Pro Midstream Company, Kinetic Resources (U.S.A.), Pro GP Corp., Pro LP Corp., Terraquest, Inc. and Computershare Trust Company of Canada, and as further supplemented by the second supplemental note indenture dated October 24, 2014 among Pembina, Pembina Prairie Facilities Ltd., Pembina Prairie Facilities Holdco Ltd. and Computershare Trust Company of Canada, providing for the issuance of the Pembina Medium Term Notes;

"**Pembina Medium Term Notes**" means, collectively, the Medium Term Notes, Series 1, the Medium Term Notes, Series 2, the Medium Term Notes, Series 3, the Medium Term Notes, Series 4, the Medium Term Notes, Series 5, the

Medium Term Notes, Series 6, the Medium Term Notes, Series 7, the Medium Term Notes, Series 8 and the Medium Term Notes, Series 9;

**"Pembina Nexus Terminal"** means Pembina's terminalling and storage facilities located in the Edmonton, Alberta area and forming an integral part of the terminal connecting key infrastructure in the Edmonton-Fort Saskatchewan-Namao, Alberta area, as further described under *"Description of Pembina's Business and Operations – Midstream Business"*;

**"PEIMP"** means the Pressure Equipment Integrity Management Program;

**"Phase II HVP Expansion"** means the incremental increase of NGL capacity on the Peace and Northern Pipeline System by 53 mbpd;

**"Phase II LVP Expansion"** means the incremental increase of crude oil and condensate capacity on the Peace Pipeline by 55 mbpd;

**"Phase III Expansion"** means pipeline expansions, underpinned by long-term, fee-for-service agreements in Pembina's operating areas, following and expanding on certain segments of Pembina's existing Northern and Peace Pipeline systems from Taylor, British Columbia southeast to Edmonton, Alberta increasing the capacity on the system by approximately 420 mbpd;

**"Phase IV Expansion"** has the meaning ascribed thereto under *"General Developments of Pembina – Developments in 2017"*;

**"Phase V Expansion"** has the meaning ascribed thereto under *"General Developments of Pembina – Developments in 2017"*;

**"PHMSA"** means the Pipeline and Hazardous Materials Safety Administration;

**"PIC"** means Petrochemical Industries Company K.S.C., a subsidiary of the Kuwait Petroleum Corporation, a company owned by the State of Kuwait;

**"Pouce Coupé Pipeline"** means the pipeline system and related facilities delivering sweet crude oil and HVP hydrocarbon products from Dawson Creek, British Columbia to Pouce Coupé, Alberta;

**"Premium Dividend™"** has the meaning ascribed thereto under *"Description of the Capital Structure of Pembina – Premium Dividend™ and Dividend Reinvestment Plan"*;

**"Prince Rupert Terminal"** has the meaning ascribed thereto under *"General Developments of Pembina – Developments in 2017"*;

**"Redemption Amount"** has the meaning ascribed thereto under *"Description of the Capital Structure of Pembina – Class B Preferred Shares"*;

**"Redwater West"** has the meaning ascribed thereto under the heading *"Description of Pembina's Business and Operations – Midstream Business – Overview"*;

**"Resthaven Facility"** has the meaning ascribed thereto under *"Description of Pembina's Business and Operations – Gas Services Business"*;

**"Resthaven Expansion"** means Pembina's 100 MMcf/d (gross) expansion of its Resthaven Facility and the completion of a gas gathering pipeline to deliver gas into Resthaven;

"**RFS I**" means Pembina's 73 mbpd NGL fractionator at Redwater, Alberta;

"**RFS II**" means Pembina's second 73 mbpd NGL fractionator at Redwater, Alberta;

"**RFS III**" means Pembina's 55 mbpd propane-plus fractionator at Redwater, Alberta;

"**Ruby Pipeline**" means a gas transmission pipeline that runs from the Opal hub in Wyoming to the Malin hub in Oregon;

"**S&P**" means Standard & Poor's Rating Services, a division of The McGraw-Hill Companies;

"**Saturn I**" means Pembina's deep cut NGL extraction facility located in the Berland area of Alberta with 200 MMcf/d of extraction capacity;

"**Saturn II**" means Pembina's second deep cut NGL extraction facility in the Berland area, a twin of Saturn I;

"**Saturn Complex**" has the meaning ascribed thereto under "*Description of Pembina's Business and Operations – Gas Services Business*";

"**Saturn Phase II Plant**" means Veresen Midstream's 200 MMcf/d gross gas processing facility in the Montney region;

"**SCADA**" means supervisory control and data acquisition. See "*Other Information Relating to Pembina's Business – Information and Communication Systems*";

"**SEC**" means the United States Securities and Exchange Commission;

"**SEDAR**" means the System for Electronic Document Analysis and Retrieval;

"**SEEP**" has the meaning ascribed thereto under "*Description of Pembina's Business and Operations – Gas Services Business*";

"**Series 1 Class A Preferred Shares**" means the cumulative redeemable rate reset Class A Preferred Shares, series 1 of Pembina, issued July 26, 2013. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

"**Series 2 Class A Preferred Shares**" means the cumulative redeemable floating rate Class A Preferred Shares, series 2 of Pembina, issuable on conversion of the Series 1 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

"**Series 3 Class A Preferred Shares**" means the cumulative redeemable rate reset Class A Preferred Shares, series 3 of Pembina, issued October 2, 2013. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

"**Series 4 Class A Preferred Shares**" means the cumulative redeemable floating rate Class A Preferred Shares, series 4 of Pembina, issuable on conversion of the Series 3 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

"**Series 5 Class A Preferred Shares**" means the cumulative redeemable rate reset Class A Preferred Shares, series 5 of Pembina, issued January 16, 2014. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

"**Series 6 Class A Preferred Shares**" means the cumulative redeemable floating rate Class A Preferred Shares, series 6 of Pembina, issuable on conversion of the Series 5 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 7 Class A Preferred Shares"** means the cumulative redeemable rate reset Class A Preferred Shares, series 7 of Pembina, issued September 11, 2014. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 8 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 8 of Pembina, issuable on conversion of the Series 7 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 9 Class A Preferred Shares"** means the cumulative redeemable rate reset Class A Preferred Shares, series 9 of Pembina, issued April 10, 2015. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 10 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 10 of Pembina, issuable on conversion of the Series 9 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 11 Class A Preferred Shares"** means the cumulative redeemable minimum rate reset Class A Preferred Shares, series 11 of Pembina, issued January 15, 2016. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 12 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 12 of Pembina, issuable on conversion of the Series 11 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 13 Class A Preferred Shares"** means the cumulative redeemable minimum rate reset Class A Preferred Shares, series 13 of Pembina, issued April 27, 2016. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 14 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 14 of Pembina, issuable on conversion of the Series 13 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 15 Class A Preferred Shares"** means the cumulative redeemable rate reset Class A Preferred Shares, series 15 of Pembina, issued in exchange for the Veresen Series A Preferred Shares on October 2, 2017. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 16 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 16 of Pembina, issuable on conversion of the Series 15 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 17 Class A Preferred Shares"** means the cumulative redeemable rate reset Class A Preferred Shares, series 17 of Pembina, issued in exchange for the Veresen Series C Preferred Shares on October 2, 2017. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 18 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 18 of Pembina, issuable on conversion of the Series 17 Class A Preferred Shares. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 19 Class A Preferred Shares"** means the cumulative redeemable rate reset Class A Preferred Shares, series 19 of Pembina, issued in exchange for the Veresen Series E Preferred Shares on October 2, 2017. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares*";

**"Series 20 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 20 of Pembina, issuable on conversion of the Series 19 Class A Preferred Shares. See *"Description of the Capital Structure of Pembina – Class A Preferred Shares"*;

**"Series 21 Class A Preferred Shares"** means the cumulative redeemable minimum rate reset Class A Preferred Shares, series 21 of Pembina, issued December 7, 2017. See *"Description of the Capital Structure of Pembina – Class A Preferred Shares"*;

**"Series 22 Class A Preferred Shares"** means the cumulative redeemable floating rate Class A Preferred Shares, series 22 of Pembina, issuable on conversion of the Series 21 Class A Preferred Shares. See *"Description of the Capital Structure of Pembina – Class A Preferred Shares"*;

**"Series C Convertible Debentures"** means the 5.75 percent convertible unsecured subordinated debentures of Pembina issued November 24, 2010 and redeemed by Pembina on October 13, 2015;

**"Series C Senior Notes"** has the meaning ascribed thereto under *"Description of the Capital Structure of Pembina – Other Debt"*;

**"Series D Senior Notes"** has the meaning ascribed thereto under *"Description of the Capital Structure of Pembina – Other Debt"*;

**"Series E Convertible Debentures"** means the 5.75 percent convertible unsecured subordinated debentures issued by Provident Energy Ltd. on November 1, 2010, assumed by Pembina in April 2012 and redeemed by Pembina on October 13, 2015;

**"Series F Convertible Debentures"** means the 5.75 percent convertible unsecured subordinated debentures maturing December 31, 2018 issued by Provident Energy Ltd. on April 29, 2011 and assumed by Pembina in April 2012;

**"SGER"** has the meaning ascribed thereto under *"General Risk Factors – Environmental Costs and Liabilities"*;

**"shallow cut"** means sweet gas processing with propane and/or condensate-plus extraction capabilities;

**"Shareholders"** means the holders of Common Shares;

**"South Central Liquids Hub"** means Veresen Midstream's liquids handling facility in the region south of Fort St. John, British Columbia;

**"Sunrise Plant"** means Veresen Midstream's 400 MMcf/d gross gas plant in the Montney region;

**"Syn crude Pipeline"** means the pipeline system and related facilities delivering synthetic crude oil from the Syn crude Project into the Edmonton, Alberta area;

**"Syn crude Project"** means the joint venture that was formed for the recovery of oil sands, crude bitumen or products derived from the Athabasca oil sands, located near Fort McMurray, Alberta;

**"take-or-pay"** has the meaning ascribed thereto under *"Description of Pembina's Business and Operations – Conventional Pipelines Business – Contractual Arrangements – Firm Contracting"*;

**"Taylor to Boundary Lake Pipeline"** means the pipeline and related facilities delivering sweet HVP hydrocarbon products from Taylor, British Columbia to Boundary Lake, Alberta;

**"throughput"** means volume of product delivered through a pipeline;

"**TIMP**" means the tank integrity management program;

"**Tower Plant**" means Veresen Midstream's 200 MMcf/d gross rich gas processing complex in the Montney region;

"**Tower Liquids Hub**" means Veresen Midstream's liquids handling facility located near the Sunrise, Tower and Saturn Phase II Plants;

"**TSX**" means the Toronto Stock Exchange;

"**Vantage Expansion**" has the meaning ascribed thereto under "*General Developments of Pembina – Developments in 2016*";

"**Vantage Pipeline**" means the HVP pipeline that links a growing supply of ethane from the North Dakota Bakken play to the petrochemical market in Alberta, originating from a large-scale gas plant in Tioga, North Dakota extending approximately northwest through Saskatchewan and terminating near Empress, Alberta, where it is connected to the AEGS;

"**Veresen**" means Veresen Inc.;

"**Veresen Acquisition**" has the meaning ascribed thereto under "*General Developments of Pembina – Significant Acquisitions*";

"**Veresen Common Shares**" has the meaning ascribed thereto under "*General Developments of Pembina – Significant Acquisitions*";

"**Veresen Medium Term Note Indenture**" means the trust indenture dated November 22, 2011 between Veresen and Computershare Trust Company of Canada, as supplemented by the first supplemental note indenture dated March 14, 2012 between Veresen and Computershare Trust Company of Canada, as further supplemented by the second supplemental note indenture dated June 13, 2014 between Veresen and Computershare Trust Company of Canada, and as further supplemented by the third supplemental note indenture dated November 10, 2016 between Veresen and Computershare Trust Company of Canada, providing for the issuance of the Veresen Medium Term Notes;

"**Veresen Medium Term Notes, Series 1**" means the \$150 million aggregate principal amount of medium term notes of Pembina (formerly Veresen) issued November 22, 2011. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Veresen Medium Term Notes, Series 3**" means the \$50 million aggregate principal amount of medium term notes of Pembina (formerly Veresen) issued March 14, 2012. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Veresen Medium Term Notes, Series 4**" means the \$200 million aggregate principal amount of medium term notes of Pembina (formerly Veresen) issued June 13, 2014. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Veresen Medium Term Notes, Series 5**" means the \$350 million aggregate principal amount of medium term notes of Pembina (formerly Veresen) issued November 7, 2016. See "*Description of the Capital Structure of Pembina – Medium Term Notes*";

"**Veresen Medium Term Notes**" means, collectively, the Veresen Medium Term Notes, Series 1, the Veresen Medium Term Notes, Series 3, the Veresen Medium Term Notes, Series 4 and the Veresen Medium Term Notes, Series 5;

**"Veresen Midstream"** means Veresen Midstream Limited Partnership, a limited partnership owned by a wholly-owned subsidiary of Pembina and affiliates of Kohlberg Kravis Roberts & Co. L.P.;

**"Veresen Preferred Shares"** means the Veresen Series A Preferred Shares, the Veresen Series B Preferred Shares, the Veresen Series C Preferred Shares, the Veresen Series D Preferred Shares, the Veresen Series E Preferred Shares and the Veresen Series F Preferred Shares;

**"Veresen Series A Preferred Shares"** means the cumulative redeemable preferred shares, series A of Veresen, issued February 14, 2012;

**"Veresen Series B Preferred Shares"** means the cumulative redeemable preferred shares, series B of Veresen, issuable on conversion of the Veresen Series A Preferred Shares;

**"Veresen Series C Preferred Shares"** means the cumulative redeemable preferred shares, series C of Veresen, issued October 21, 2013;

**"Veresen Series D Preferred Shares"** means the cumulative redeemable preferred shares, series D of Veresen, issuable on conversion of the Veresen Series C Preferred Shares;

**"Veresen Series E Preferred Shares"** means the cumulative redeemable preferred shares, series E of Veresen, issued April 1, 2015;

**"Veresen Series F Preferred Shares"** means the cumulative redeemable preferred shares, series F of Veresen, issuable on conversion of the Veresen Series E Preferred Shares;

**"WCSB"** means the Western Canadian Sedimentary Basin; and

**"Western Pipeline"** means the pipeline system and related facilities delivering crude oil from Taylor, British Columbia to Prince George, British Columbia.

All dollar amounts set forth in this Annual Information Form are in Canadian dollars unless otherwise indicated. References to "\$" or "C\$" are to Canadian dollars and references to "US\$" are to U.S. dollars. On February 21, 2018, the daily exchange rate reported by the Bank of Canada, was C\$1.00 equals US\$0.7892.

Except where otherwise indicated, all information in this Annual Information Form is presented as at the end of Pembina's most recently completed financial year, being December 31, 2017.

A reference made in this Annual Information Form to other documents or to information or documents available on a website, does not constitute the incorporation by reference into this Annual Information Form of such other documents or such other information or documents available on such website unless otherwise stated.

#### **ABBREVIATIONS AND CONVERSIONS**

In this Annual Information Form, the following abbreviations have the indicated meanings:

mbbls	thousands of barrels, each barrel representing 34.972 Imperial gallons or 42 US gallons
mmbbls	millions of barrels
Mbpd	thousands of barrels per day
mmbpd	millions of barrels per day
MMcf/d	million cubic feet per day

mboe/d	thousands of barrels of oil equivalent per day, using the conversion factor of 6 mcf of natural gas being equivalent to one bbl of oil
bcf/d	billion cubic feet per day
km	kilometres
CO <sub>2</sub> e	carbon dioxide equivalent
MW	megawatt

Barrels of oil equivalent ("**boe**") may be misleading, particularly if used in isolation. A boe conversion ratio of 6 mcf of natural gas: 1 bbl of oil is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead.

The following table sets forth certain standard conversions between Standard Imperial Units and the International System of Units (or metric units).

<u>To convert from</u>	<u>To</u>	<u>Multiply by</u>
bbls	cubic metres	0.59
cubic metres	bbls	6.293
miles	kilometres	1.609
kilometres	miles	0.621

#### **NON-GAAP MEASURES**

Pembina's Financial Statements, which may be found on Pembina's profile on the SEDAR website at [www.sedar.com](http://www.sedar.com), and in Pembina's annual report on Form 40-F filed on Pembina's profile on the EDGAR website at [www.sec.gov](http://www.sec.gov), are presented in compliance with IFRS. Certain financial information included in such Financial Statements is contained or incorporated by reference within this Annual Information Form.

Readers should take note, however, that within this Annual Information Form, terms are used by management to evaluate the performance of Pembina and its businesses that are not defined by GAAP. Since non-GAAP measures do not have a standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other companies, securities regulations require that non-GAAP measures be clearly defined, qualified and reconciled to their nearest GAAP measure. With the exception of Operating Margin, which definition was modified to capture proportionate interests in Equity Accounted Investees, these non-GAAP measures are calculated and disclosed on a consistent basis from period to period. Specific adjusting items may only be relevant in certain periods; however, prior periods have not been restated as there is no significant impact.

The intent of non-GAAP measures is to provide additional useful information with respect to Pembina's operational and financial performance to investors and analysts, though the measures do not have any standardized meaning under IFRS. The measures should not, therefore, be considered in isolation or used in substitute for measures of performance prepared in accordance with IFRS. Other issuers may calculate these non-GAAP measures differently or use different non-GAAP measures.

In particular, in this Annual Information Form, the terms "net revenue" and "operating margin" are used to describe certain financial information of Pembina. Readers should be cautioned that net revenue and operating margin are not defined by GAAP and are included in this Annual Information Form to describe certain financial information of Pembina and should not be construed as alternatives to revenue, earnings, gross profit, or other measures of financial results determined in accordance with GAAP as indicators of Pembina's performance.

"**Net revenue**" is a non-GAAP financial measure which is defined as total revenue less cost of goods sold including product purchases. Management believes that net revenue provides investors with a single measure to indicate the margin on sales before non-product operating expenses that is comparable between periods. Management utilizes



net revenue to compare consecutive results, particularly in the Midstream business, to aggregate revenue generated by each of Pembina's businesses and to set comparable objectives.

"**Operating margin**" is a non-GAAP financial measure which is defined as gross profit on a proportionately consolidated basis before depreciation and amortization included in operations and unrealized gain/loss on commodity-related derivative financial instruments from assets directly held and proportionate interest in operating margin or preferred income from equity accounted investees. Pembina's proportionate share of results from investments in equity accounted investees with a preferred distribution is presented in operating margin as a 50 percent common interest. Management believes that operating margin provides useful information to investors for assessing the financial performance of the Company's operations. Management utilizes operating margin in setting objectives and views it as a key performance indicator of the Company's success. For more information see unaudited supplemental financial information for equity accounted investees.

For more information with respect to financial measures which have not been defined by GAAP, including reconciliations to the closest comparable GAAP measure, see the "*Non-GAAP Measures*" and the "*Unaudited Supplementary Information for Investments in Equity Accounted Investees*" sections of the MD&A, which sections are incorporated by reference herein.

#### **FORWARD-LOOKING STATEMENTS AND INFORMATION**

Certain statements contained in this Annual Information Form constitute "forward-looking statements" within the meaning of the *United States Private Securities Litigation Reform Act of 1995* and "forward-looking information" within the meaning of applicable Canadian securities legislation (collectively, "**forward-looking statements**"). All forward-looking statements are based on Pembina's current expectations, estimates, projections, beliefs, judgments and assumptions based on information available at the time the applicable statement was made and in light of Pembina's experience and its perception of historical trends. Forward-looking statements are typically identified by words such as "anticipate", "continue", "estimate", "expect", "may", "will", "project", "should", "could", "would", "believe", "plan", "intend", "design", "target", "undertake", "view", "indicate", "maintain", "explore", "entail", "schedule", "objective", "strategy", "likely", "potential", "outlook", "aim", "propose", "goal", and similar expressions suggesting future events or future performance.

By their nature, forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements. Pembina believes the expectations reflected in those forward-looking statements are reasonable but no assurance can be given that these expectations will prove to be correct and such forward-looking statements included in this Annual Information Form should not be unduly relied upon. The forward-looking statements included herein speak only as of the date of the Annual Information Form.

In particular, this Annual Information Form contains forward-looking statements pertaining to, among other things, the following:

- the future levels and sustainability of cash dividends that Pembina intends to pay to its shareholders, the dividend payment dates and the tax treatment thereof;
- planning, construction, capital expenditure estimates, schedules, regulatory and environmental applications and anticipated approvals, expected capacity, incremental volumes, in-service dates, rights, activities, benefits and operations with respect to new construction of, or expansions on existing pipelines, gas services facilities, fractionation facilities, terminalling, storage and hub facilities and other facilities or energy infrastructure, as well as the impact of Pembina's new projects on its future financial performance;
- pipeline, processing, fractionation and storage facility and system operations and throughput levels;

- treatment under existing and proposed governmental regulatory regimes, including taxes, environmental, project assessment and greenhouse gas regulations and related abandonment and reclamation obligations, and Aboriginal, landowner and other stakeholder consultation requirements;
- Pembina's estimates of and strategy for payment of future abandonment costs and decommissioning obligations, and deferred tax liability;
- Pembina's strategy and the development and expected timing of new business initiatives, growth opportunities and the impact thereof;
- increased throughput potential, processing capacity and fractionation capacity due to increased oil and gas industry activity and new connections and other initiatives on Pembina's pipelines and at Pembina's facilities;
- expected future cash flows and the sufficiency thereof, financial strength, sources of and access to funds at attractive rates, future contractual obligations, future financing options, future renewal of credit facilities, availability of capital to fund growth plans, operating obligations and dividends and the use of proceeds from financings;
- future demand for Pembina's infrastructure and services;
- tolls and tariffs, and processing, transportation, fractionation, storage and services commitments and contracts;
- operating risks (including the amount of future liabilities related to pipeline spills and other environmental incidents) and related insurance coverage and inspection and integrity programs;
- inventory and pricing in the North American liquids market;
- the future success, growth, expansions, contributions, capacity expectations, results of operations, financial strength of certain of Pembina's Equity Accounted Investments;
- the future benefits and impacts of the Veresen Acquisition;
- compliance by the Company with ABSA and other integrity regulatory compliance requirements, including planned activities under its PEIMP;
- the impact of the current commodity price environment on Pembina; and
- competitive conditions and Pembina's ability to position itself competitively in the industry.

Various factors or assumptions are typically applied by Pembina in drawing conclusions or making the forecasts, projections, predictions or estimations set out in forward-looking statements based on information currently available to Pembina. These factors and assumptions include, but are not limited to:

- oil and gas industry exploration and development activity levels and the geographic region of such activity;
- the success of Pembina's operations;
- prevailing commodity prices, interest rates, tax rates and exchange rates and the ability of Pembina to maintain current credit ratings;

- the availability of capital to fund future capital requirements relating to existing assets and projects;
- expectations regarding participation in Pembina's pension plan;
- future operating costs, including geotechnical and integrity costs, being consistent with historical costs;
- oil and gas industry compensation levels remaining consistent with historical levels;
- in respect of current developments, expansions, planned capital expenditures, completion dates and capacity expectations: that third parties will provide any necessary support; that any third-party projects relating to Pembina's growth projects will be sanctioned and completed as expected; that any required commercial agreements can be reached; that all required regulatory and environmental approvals can be obtained on the necessary terms in a timely manner; that counterparties will comply with contracts in a timely manner; that there are no unforeseen events preventing the performance of contracts or the completion of the relevant facilities; and that there are no unforeseen material costs relating to the facilities which are not recoverable from customers;
- in respect of the stability of Pembina's dividends: prevailing commodity prices, margins and exchange rates; that Pembina's future results of operations will be consistent with past performance and management expectations in relation thereto; the continued availability of capital at attractive prices to fund future capital requirements relating to existing assets and projects, including, but not limited to, future capital expenditures relating to expansion, upgrades and maintenance shutdowns; the success of growth projects; future operating costs; that counterparties to agreements will continue to perform their obligations in a timely manner; that there are no unforeseen events preventing the performance of contracts; and that there are no unforeseen material construction or other costs related to current growth projects or current operations;
- prevailing regulatory, tax and environmental laws and regulations and tax pool utilization; and
- the amount of future liabilities relating to lawsuits and environmental incidents and the availability of coverage under Pembina's insurance policies (including in respect of Pembina's business interruption insurance policy).

The actual results of Pembina could differ materially from those anticipated in the forward-looking statements included in this Annual Information Form as a result of the material risk factors set forth below:

- the regulatory environment and decisions, and Aboriginal and landowner consultation requirements;
- the impact of competitive entities and pricing;
- the failure to realize the anticipated benefits or synergies of the Veresen Acquisition;
- reliance on third parties to successfully operate and maintain certain assets;
- labour and material shortages;
- reliance on key relationships and agreements and the outcome of stakeholder engagement;
- the strength and operations of the oil and natural gas production industry and related commodity prices;
- non-performance or default by counterparties to agreements which Pembina or one or more of its subsidiaries has entered into in respect of its business;

- actions by governmental or regulatory authorities, including changes in tax laws and treatment, changes in royalty rates or increased environmental regulation;
- fluctuations in operating results;
- adverse general economic and market conditions in Canada, North America and worldwide, including changes, or prolonged weaknesses, as applicable, in interest rates, foreign currency exchange rates, commodity prices, supply/demand trends and overall industry activity levels;
- constraints on, or the unavailability of, adequate infrastructure;
- changes in the political environment, in North America and elsewhere, and public opinion;
- ability to access various sources of debt and equity capital;
- changes in credit ratings;
- technology and security risks;
- natural catastrophes; and
- other risk factors as set out in this Annual Information Form under "*Risk Factors*."

These factors should not be construed as exhaustive. Unless required by law, Pembina does not undertake any obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Any forward-looking statements contained herein are expressly qualified by this cautionary statement.

## CORPORATE STRUCTURE

### Name, Address and Formation

Pembina Pipeline Corporation is a corporation amalgamated under the ABCA. It is the successor to Pembina Pipeline Income Fund (the "**Fund**") following the completion of the reorganization of the Fund from an income trust structure to a corporate structure by way of plan of arrangement involving the Fund, Pembina and the holders of the Fund's trust units pursuant to which the trust was reorganized into Pembina on October 1, 2010. Pembina is also the successor to Veresen following the completion of the Veresen Acquisition on October 2, 2017 whereby, among other things, Pembina amalgamated with Veresen and the resulting entity continued as "Pembina Pipeline Corporation". Pembina's principal and registered office is located at Suite 4000, 585 - 8th Avenue S.W., Calgary, Alberta, T2P 1G1.

### Pembina's Subsidiaries

The following chart indicates Pembina's material subsidiaries, including their jurisdictions of incorporation, formation or organization and the percentage of voting securities owned, or controlled or directed, directly or indirectly, by Pembina or its subsidiaries.

Principal Subsidiaries <sup>(1)</sup>	Jurisdiction of Incorporation/Formation/ Organization	Ownership
Pembina Pipeline (an Alberta partnership)	Alberta	100%
Pembina West Limited Partnership	Alberta	100%

<b>Principal Subsidiaries<sup>(1)</sup></b>	<b>Jurisdiction of Incorporation/Formation/Organization</b>	<b>Ownership</b>
Pembina Gas Services Limited Partnership	Alberta	100%
Pembina Oil Sands Pipeline L.P.	Alberta	100%
Pembina Midstream Limited Partnership	Alberta	100%
Pembina Infrastructure and Logistics LP	Alberta	100%
Pembina Empress NGL Partnership	Alberta	100%
Pembina Resource Services Canada	Alberta	100%
Pembina Prairie Facilities Ltd.	Alberta	100%
Fort Chicago Pipeline II U.S. L.P.	Delaware, US	100%
Fort Chicago Holdings II U.S. LLC	Delaware, US	100%
Veresen U.S. Infrastructure Inc.	Delaware, US	100%
Veresen Energy Infrastructure No. 2 Inc.	Alberta	100%

<sup>(1)</sup> Subsidiaries are omitted where, at Pembina's most recent financial year-end: (i) the total assets of the subsidiary do not exceed 10 percent of Pembina's consolidated assets; (ii) the revenue of the subsidiary does not exceed 10 percent of Pembina's consolidated revenue; and (iii) the conditions in (i) and (ii) would be satisfied if the omitted subsidiaries were aggregated, and the reference in (i) and (ii) changed from 10 percent to 20 percent.

#### **Amended Articles**

On May 13, 2013, Pembina filed articles of amendment under the ABCA to create a new class of shares, the Class A Preferred Shares, to change the designation and terms of the Class B Preferred Shares, and to increase the maximum number of directors of Pembina from eleven to thirteen, after receiving Shareholder approval for such amendments.

On October 2, 2017, Pembina filed articles of amendment under the ABCA to create the Series 15, Series 16, Series 17, Series 18, Series 19 and Series 20 Class A Preferred Shares.

On October 2, 2017, Pembina filed articles of amalgamation under the ABCA to effect the amalgamation of Pembina and Veresen pursuant to the Veresen Acquisition. Pursuant to the Veresen Acquisition, all of the outstanding Veresen Series A, C and E Preferred Shares were exchanged for Series 15, 17 and 19 Class A Preferred Shares, respectively. The Series 15, 17 and 19 Class A Preferred Shares have the same terms and conditions as the outstanding Veresen Series A, C and E Preferred Shares. The Series 16, 18 and 20 Class A Preferred Shares have the same terms and conditions as the Veresen Series B, D and F Preferred Shares.

On December 1, 2017, Pembina filed articles of amendment under the ABCA to create the Series 21 and Series 22 Class A Preferred Shares.

#### **GENERAL DEVELOPMENTS OF PEMBINA**

During the three-year period ending on December 31, 2017 and 2018 year-to-date, Pembina continued to execute its business plan and advance its growth strategy as discussed below.

## Developments in 2015

- January 1 Peter Robertson, Pembina's former Senior Vice President and Chief Financial Officer, retired effective December 31, 2014 and Scott Burrows was promoted to the position of Vice President, Finance and Chief Financial Officer effective January 1, 2015.
- January 15 Pembina announced that Gordon J. Kerr had been appointed to Pembina's Board of Directors.
- February 2 Pembina issued and sold \$450 million aggregate principal amount of Medium Term Notes, Series 5 and \$150 million aggregate principal amount of Medium Term Notes, Series 3, through a re-opening, pursuant to two pricing supplements dated January 28, 2015 under its 2013 Base Shelf Prospectus, as supplemented by a prospectus supplement thereto dated April 24, 2013. See "*Description of the Capital Structure of Pembina – Medium Term Notes.*"
- April 10 Pembina completed a bought deal offering of 9,000,000 Series 9 Class A Preferred Shares at a price of \$25.00 per Series 9 Class A Preferred Share pursuant to a prospectus supplement dated April 2, 2015 under its 2015 Base Shelf Prospectus, for aggregate gross proceeds of \$225 million. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares.*"
- April 27 Pembina announced that it had placed its Phase II LVP Expansion into service.
- May 5 Pembina announced that its Board of Directors approved a 5.2 percent increase in its monthly Common Share dividend rate from \$0.145 per Common Share to \$0.1525 per Common Share.
- May 21 Pembina announced that it would provide terminalling services for the North West Redwater Partnership with respect to the partnership's planned refinery under a 30-year fixed return agreement and a 10-year NGL mix purchase and sale agreement related to RFS III.
- May 21 Pembina announced it had entered into agreements to construct a new pipeline lateral in the Karr area of Alberta with expected capacity of approximately 30 mbpd.
- June 16 Pembina issued and sold \$600 million aggregate principal amount of Medium Term Notes, Series 6 and \$100 million aggregate principal amount of Medium Term Notes, Series 3, through a re-opening, pursuant to two pricing supplements dated June 11, 2015 under its 2015 Base Shelf Prospectus. See "*Description of the Capital Structure of Pembina – Medium Term Notes.*"
- September 2 Pembina announced the commissioning of Saturn II, SEEP, the gathering pipeline associated with the Resthaven Expansion, as well as the Phase II HVP Expansion.
- October 13 Pembina completed the redemption of its Series C and Series E Convertible Debentures. Pembina elected to satisfy the Redemption Amount of both series of debentures through the issuance of Common Shares.
- November 5 Pembina announced plans to construct, own and operate Duvernay I at an expected capital cost of \$125 million.
- November 19 Pembina completed a bought deal offering of 15,335,250 Common Shares at a price of \$30.00 per Common Share pursuant to a prospectus supplement dated November 12, 2015 under its 2015 Base Shelf Prospectus, for aggregate gross proceeds of approximately \$460 million.

## Developments in 2016

- January 15 Pembina completed a bought deal offering of 6,800,000 Series 11 Class A Preferred Shares at a price of \$25.00 per Series 11 Class A Preferred Share pursuant to a prospectus supplement dated January 8, 2016 under its 2015 Base Shelf Prospectus, for aggregate gross proceeds of \$170 million. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares.*"
- February 25 Pembina announced that it had entered into agreements for the construction of a new pipeline lateral in the Altares area of British Columbia which will transport production from the Montney resource play and will connect into Pembina's NEBC Expansion.
- March 17 Pembina announced that its Board of Directors approved a 4.9 percent increase in its monthly Common Share dividend rate from \$0.1525 per Common Share to \$0.16 per Common Share.
- March 29 Pembina completed a bought deal offering of 15,335,250 Common Shares at a price of \$30.00 per Common Share pursuant to a prospectus supplement dated March 18, 2016 under its 2015 Base Shelf Prospectus, for aggregate gross proceeds of approximately \$345 million.
- March Pembina commissioned three new storage tanks at its ENT, which provided a total of 550,000 barrels of additional crude oil storage capacity, more than doubling the total capacity of the ENT.
- April Pembina commissioned RFS II.
- April Pembina completed and placed into service Musreau III.
- April 6 Pembina announced that it had exercised \$500 million of its accordion feature under its Credit Facilities, increasing the funds available to \$2.5 billion.
- April 11 Pembina announced a joint feasibility study with PIC, for the evaluation of a world-scale combined propane dehydrogenation and polypropylene upgrading facility in Alberta.
- April 20 Pembina announced the completion of its acquisition of sour natural gas processing assets in the Kakwa area of Alberta. The acquired assets included a sour natural gas processing complex and associated infrastructure, and preliminary engineering studies, licenses and surface rights for the future construction of a sour natural gas processing facility.
- April 21 Pembina announced that it had received approval from the AER relating to the construction of two 270 km, 24" and 16" pipelines between Fox Creek and Namao, Alberta, as part of the Phase III Expansion.
- April 27 Pembina completed a bought deal offering of 10,000,000 Series 13 Class A Preferred Shares at a price of \$25.00 per Series 13 Class A Preferred Share pursuant to a prospectus supplement dated April 18, 2016 under its 2015 Base Shelf Prospectus, for aggregate gross proceeds of \$250 million. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares.*"
- May Pembina completed and placed into service the Resthaven Expansion.
- May 31 Pembina announced that it had entered into agreements related to constructing associated infrastructure relating to Duvernay I, including condensate, gas and water field handling, a gas gathering trunk line and a fuel line.
- August 11 Pembina issued and sold \$500 million aggregate principal amount of Medium Term Notes, Series 7 pursuant to a pricing supplement dated August 8, 2016 under its 2015 Base Shelf Prospectus,

as supplemented by a prospectus supplement thereto dated June 11, 2015. See "*Description of the Capital Structure of Pembina – Medium Term Notes.*"

- November 3 Pembina announced that it had completed the expansion of the Vantage Pipeline and the Horizon Pipeline, increasing Vantage's mainline capacity from 40 mbpd to approximately 68 mbpd through the addition of mainline pump stations and the construction of a new 80 km, 8" gathering lateral (the "**Vantage Expansion**"), and increasing the capacity on the Horizon Pipeline to 250 mbpd through the upgrading of mainline pump stations and other facility modifications (the "**Horizon Expansion**").
- December 5 Pembina announced its capital spending plan of approximately \$1.9 billion for 2017, directed mainly at multi-year execution projects and long-term value creation.
- December 5 Pembina's previously announced proposed propane dehydrogenation and polypropylene upgrading facility was conditionally awarded \$300 million in royalty credits from the Alberta Government's Petrochemicals Diversification Program.

#### **Developments in 2017**

- January 5 Pembina announced that it had received regulatory approval for and initiated construction on the NEBC Expansion.
- January 20 Pembina issued and sold \$300 million aggregate principal amount of Medium Term Notes, Series 8 and \$300 million aggregate principal amount of Medium Term Notes, Series 9 pursuant to two pricing supplements dated January 17, 2017 under its 2015 Base Shelf Prospectus, as supplemented by a prospectus supplement thereto dated June 11, 2015. Pembina used the net proceeds from the sale of the Medium Term Notes, Series 8 and Series 9 to repay short-term debt, as well as to fund Pembina's capital program and other general corporate purposes. See "*Description of the Capital Structure of Pembina – Medium Term Notes.*"
- February 16 Pembina announced that it entered into a 20-year infrastructure development and service agreement (the "**KRIA Agreement**") with Chevron. The KRIA Agreement includes an area of dedication by Chevron, in the Duvernay resource play near Fox Creek, Alberta. Under the KRIA Agreement and subject to Chevron sanctioning development in the region, Chevron has the right to require Pembina to construct, own and operate gas gathering pipelines and processing facilities, liquids stabilization facilities and other supporting infrastructure for the area of dedication, together with Pembina providing long-term service for Chevron on its pipelines and fractionation facilities. In aggregate, and subject to internal Chevron and regulatory approvals, the infrastructure developed over the term of the KRIA Agreement has the potential to represent a multi-billion dollar investment by Pembina. While the KRIA Agreement and respective obligations of the parties are binding, infrastructure development remains contingent upon Chevron sanctioning development, as well as necessary environmental and regulatory approvals.
- March 7 Pembina announced that its Board of Directors suspended its DRIP, effective April 25, 2017.
- April 3 Pembina announced that its Board of Directors approved a 6.25 percent increase in its monthly Common Share dividend rate from \$0.16 per Common Share to \$0.17 per Common Share.
- April 3 Pembina announced two new expansions to its Peace and Northern Pipeline Systems for a total estimated capital cost of \$325 million: (i) the Fox Creek and Namao pump stations ("**Phase IV Expansion**"), which is comprised of two pump stations on the 24" pipeline from Fox Creek to Namao, Alberta and (ii) the Lator to Fox Creek expansion ("**Phase V Expansion**"), an



approximately 95 kilometre, 20" pipeline from Lator to Fox Creek, Alberta, both with an expected in-service date in late 2018. The Phase IV Expansion is expected to increase pipeline capacity by an incremental 180 mbpd and the Phase V Expansion is expected to increase pipeline capacity by an incremental 260 mbpd.

- April 11 Pembina announced that it signed a non-binding letter of intent with Prince Rupert Legacy Inc. (a wholly-owned subsidiary of the City of Prince Rupert) for Pembina to develop a liquefied petroleum gas terminal on Watson Island (the "**Prince Rupert Terminal**"), lands wholly owned by Prince Rupert Legacy Inc.
- May 1 Pembina announced that it entered into an arrangement agreement with Veresen, whereby Pembina offered to acquire all of the issued and outstanding shares of Veresen by way of a plan of arrangement under the ABCA.
- May Pembina announced that Grant Billing did not stand for re-election and Bruce D. Rubin had been appointed to Pembina's Board of Directors.
- May 15 Pembina announced that it, along with PIC, reached key milestones for the previously announced proposed integrated propylene and polypropylene production facility in Sturgeon County, Alberta ("**PDH/PP Facility**"), including 50/50 joint venture agreements and the formation of CKPC. It was also announced that CKPC will proceed with activities for FEED for the PDH/PP Facility. FEED activities are expected to be completed by late 2018, followed by a final investment decision from each partner.
- June 30 Pembina placed its Phase III Expansion into service.
- June 30 Pembina announced that in conjunction with the Phase III Expansion, RFS III was also placed into service. Backstopped by long-term, take-or-pay contracts, RFS III added 55 mbpd of additional propane-plus fractionation capacity and leveraged the designs of RFS I and RFS II. This resulted in Pembina's Redwater complex having an aggregate fractionation capacity of approximately 210 mbpd.
- July 1 Scott Burrows was appointed to Senior Vice President and Chief Financial Officer, and Harry Andersen was appointed to Senior Vice President, External Affairs & Chief Legal Officer.
- July 11 Pembina announced that the common and preferred shareholders of Veresen, at separate special meetings of shareholders, voted to approve the Veresen Acquisition.
- July 12 Pembina announced that the Court of Queen's Bench of Alberta approved the Veresen Acquisition.
- August 16 Pembina issued and sold \$350 million aggregate principal amount of Medium Term Notes, Series 8 and \$250 million aggregate principal amount of Medium Term Notes, Series 9, through a re-opening, pursuant to its MTN Prospectus, as supplemented by two pricing supplements thereto dated August 14, 2017. Pembina used the net proceeds from the sale of the Medium Term Notes, Series 8 and Series 9 to repay short-term indebtedness, as well as to fund Pembina's capital program and for other general corporate purposes. See "*Description of the Capital Structure of Pembina – Medium Term Notes.*"
- September 28 Pembina announced additional project enhancements to the Phase V Expansion which are expected to increase pipeline capacity by an incremental 45 mbpd upstream of La Glace, Alberta.

- October 2 Pembina announced closing of the Veresen Acquisition. For more information on the Veresen Acquisition, see "*Significant Acquisitions*" below.
- October 2 Pembina announced that its Board of Directors approved a 5.88 percent increase in its monthly Common Share dividend rate from \$0.17 per Common Share to \$0.18 per Common Share.
- October 2 Maureen Howe, Henry Sykes and Doug Arnell were appointed to the Board of Directors.
- November 1 Pembina placed its NEBC Expansion and its Altares lateral into service.
- November 1 Pembina placed its Duvernay Complex into service, which included Duvernay I and the associated Field Hub.
- November 6 Pembina announced that it executed agreements to construct and operate the first tranche of infrastructure development under the KRIA Agreement, including raw product separation and water removal, a condensate stabilization facility with approximately 30 mbpd of raw inlet condensate handling capacity, a 100 MMcf/d gas processing facility with approximately 5 mbpd of propane-plus liquids capacity and a 10-inch condensate pipeline lateral that will connect to the Peace Pipeline, for an expected capital cost of \$290 million, with an anticipated in-service date of mid to late 2019.
- November 29 Pembina announced its capital spending plan of approximately \$1.3 billion for 2018, directed mainly at multi-year execution projects and long-term value creation.
- November 29 Pembina announced that its Board of Directors approved the development of the Prince Rupert Terminal, with an expected capacity of approximately 25 mbpd, and an expected in service date in mid-2020, subject to the receipt of necessary regulatory and environmental approvals.
- November 29 Pembina announced the sanctioning of the development of a liquids hub ("**North Central Liquids Hub**"), which supports operations for CRP within the Montney region. This project is being advanced through Veresen Midstream. The North Central Liquids Hub will provide separation and stabilization of increased condensate volumes from CRP to support the recently in-service Sunrise Plant and Saturn Phase II Plant.
- December 7 Pembina completed a bought deal offering of 16,000,000 Series 21 Class A Preferred Shares at a price of \$25.00 per Series 21 Class A Preferred Share pursuant to a prospectus supplement dated November 30, 2017 under its 2017 Base Shelf Prospectus, for aggregate gross proceeds of \$400 million. Pembina used the net proceeds from the sale of the Series 21 Class A Preferred Shares for capital expenditures and to reduce its indebtedness under the Credit Facilities. See "*Description of the Capital Structure of Pembina – Class A Preferred Shares.*"

## 2018 Year to Date Developments

- January 2 Pembina announced the appointment of newly created positions within Pembina's executive team effective January 1, 2018, reporting to Mick Dilger, Pembina's President and Chief Executive Officer: Jason Wiun, Senior Vice President and Chief Operating Officer, Pipelines; Jaret Sprott, Senior Vice President and Chief Operating Officer, Facilities; Stu Taylor, Senior Vice President Marketing and New Ventures and Corporate Development Officer; and Paul Murphy, Senior Vice President and Corporate Services Officer.
- January 23 Veresen Midstream placed its Saturn Phase II Plant into service.

## Significant Acquisitions

On October 2, 2017, Pembina and Veresen completed a court-approved plan of arrangement under Section 193 of the ABCA (the "**Veresen Acquisition**"), pursuant to which Pembina acquired all of the issued and outstanding common shares of Veresen ("**Veresen Common Shares**") and Veresen Preferred Shares, in accordance with the terms and conditions of the arrangement agreement dated May 1, 2017 between Pembina and Veresen. Pursuant to the Veresen Acquisition, Veresen subsequently amalgamated with Pembina and continued under the name "Pembina Pipeline Corporation".

For a description of Veresen's business, see "*Description of Pembina's Business and Operations – Veresen Business.*"

Under the Veresen Acquisition, holders of Veresen Common Shares who elected to receive cash consideration received, on a pro-rated basis, an aggregate amount that equals (i) cash of approximately \$6.4314, and (ii) approximately 0.2809 of a Common Share, multiplied by the number of Veresen Common Shares held by such holder of Veresen Common Shares. For certainty, a portion of such Veresen Common Shares was exchanged for cash and a portion for Common Shares pursuant to the Veresen Acquisition. Holders of Veresen Common Shares who elected to receive share consideration, or did not make an election, were not subject to pro-rationing and received 0.4287 of a Common Share for each Veresen Common Share held by them. The aggregate consideration paid by Pembina for the Veresen Common Shares under the Veresen Acquisition was comprised of an aggregate of 99,465,826 Common Shares and \$1,522,501,087 in cash.

The cash portion of the consideration paid to Veresen Common Shareholders was funded through cash in hand and a draw down on Pembina's Credit Facilities.

Under the Veresen Acquisition, holders of Veresen Preferred Shares received, for each Veresen Preferred Share, a Class A Preferred Share with substantially the same terms and conditions as the Veresen Preferred Shares exchanged by them. The Series 15, 17 and 19 Class A Preferred Shares issued in exchange for the Veresen Preferred Shares have been listed on the TSX under the symbols "PPL.PR.O", "PPL.PR.Q" and "PPL.PR.S".

Additional information relating to the Veresen Acquisition is provided in the BAR, which has also been filed on SEDAR.

## DESCRIPTION OF PEMBINA'S BUSINESS AND OPERATIONS

### Pembina's Business Objective and Strategy

Pembina's goal is to provide highly competitive and reliable returns to investors through monthly dividends on its Common Shares while enhancing the long-term value of its securities. To achieve this, Pembina's strategy is to:

- Preserve value by providing safe, responsible, cost-effective and reliable services.
- Diversify the Company's asset base along the hydrocarbon value chain by providing integrated service offerings which enhance profitability.
- Pursue projects or assets that are expected to generate increased cash flow per share and capture long-life, economic hydrocarbon reserves.
- Maintain a strong balance sheet through the application of prudent financial management to all business decisions.

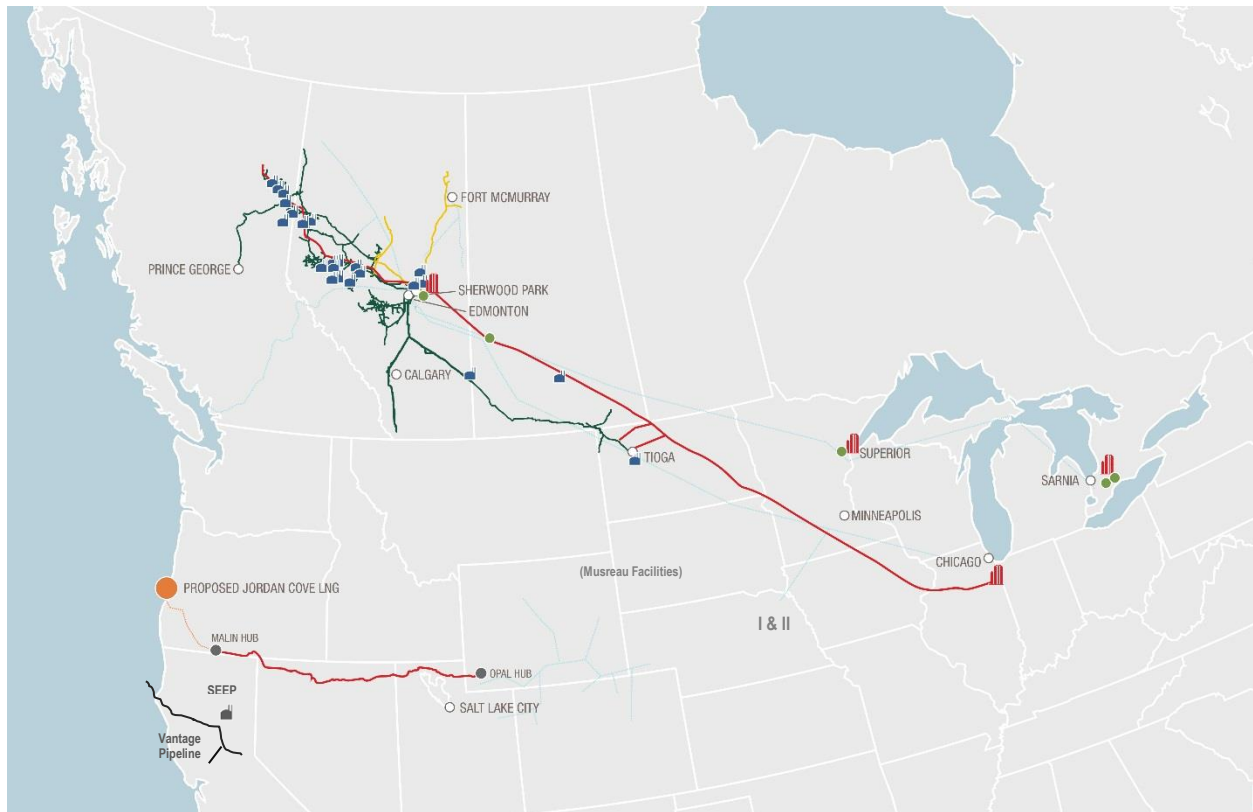
### Overview of Pembina's Business

There are three general sectors in the oil and gas industry: "upstream", "midstream" and "downstream." The upstream sector encompasses exploration for and production of hydrocarbon liquids in their raw forms. In the

midstream sector, hydrocarbon products are gathered, processed, transported and marketed to the downstream sector. The downstream sector consists of refiners, end-use customers, local distributors and wholesalers.

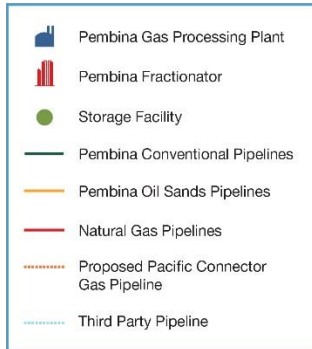
Pembina is a leading transportation and midstream service provider that has been serving North America's energy industry for over 60 years. Pembina owns an integrated system of pipelines that transport various hydrocarbon liquids and natural gas products produced primarily in western Canada. The Company also owns gas gathering and processing facilities and an oil and natural gas liquids infrastructure and logistics business. Pembina's integrated assets and commercial operations along the majority of the hydrocarbon value chain allow it to offer a full spectrum of midstream and marketing services to the energy sector. Pembina is committed to working with its community and aboriginal neighbours, while providing value for investors in a safe, environmentally-responsible manner. This balanced approach to operating ensures the trust Pembina builds among all of its stakeholders is sustainable over the long term.

Pembina is structured into five businesses: Conventional Pipelines, Oil Sands & Heavy Oil, Gas Services, Midstream and Veresen, which are described in their respective sections of this Annual Information Form. Effective January 1, 2018, the Company reorganized certain assets, including assets acquired in connection with the Veresen Acquisition, into existing Pembina business units, plus the addition of a new pipeline business unit named the "Transmission Business Unit".

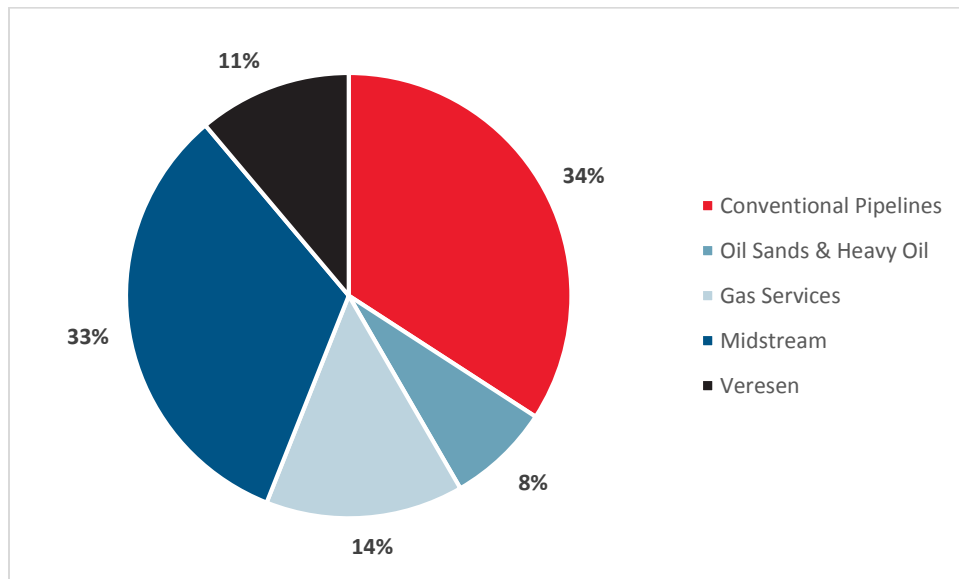


## Operations Overview

The above map illustrates Pembina's assets:



The operating margin from each of Pembina's five businesses in 2017 was as follows:



The following table sets forth certain financial and operating highlights for 2017, 2016 and 2015.

**Financial and Operating Highlights**  
(in \$ millions unless otherwise noted)

	<u>Conventional Pipelines</u>			<u>Oil Sands &amp; Heavy Oil</u>			<u>Gas Services<sup>(4)</sup></u>			<u>Midstream<sup>(5)</sup></u>			<u>Veresen<sup>(7)</sup></u>			<u>Total<sup>(8)</sup></u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Average revenue and sales volumes (mbpd, except as otherwise indicated) <sup>(1)</sup>	757 <sup>(2)</sup>	650 <sup>(2)</sup>	614 <sup>(2)</sup>	1,060 <sup>(2)</sup>	975 <sup>(2)</sup>	880 <sup>(2)</sup>	176 <sup>(6)</sup>	139 <sup>(6)</sup>	110 <sup>(6)</sup>	145	143	116	162	-	-	2,300	1,907	1,720
Revenue	884	719	628	210	202	213	378	283	209	4,034	3,183	3,690	15	-	-	5,521	4,387	4,740
Net Revenue <sup>(3)</sup>	884	719	628	210	202	213	365	271	208	772	572	458	15	-	-	2,246	1,764	1,507
Operating expenses	227	222	224	66	62	74	89	76	64	69	69	71	8	-	-	459	429	433
Realized loss (gain) on commodity-related derivative financial instruments	1	3	3	-	-	-	-	-	-	93	7	(40)	-	-	-	94	10	(37)
Operating margin <sup>(3)</sup>	656	494	401	144	140	139	276	195	144	631	518	438	214	-	-	1,921	1,347	1,122

**Notes:**

- (1) Includes Pembina's proportionate share of results from investments in Equity Accounted Investees. Pembina's jointly controlled businesses, in accordance with IFRS, are accounted for using the equity method. To fully understand and evaluate the performance of these businesses, selected operational and financial information has been presented on a proportionately consolidated basis.
- (2) Revenue volumes are equal to contracted plus interruptible volumes.
- (3) See "Non-GAAP Measures."
- (4) Gas Services net revenue is net of \$13 million in cost of goods sold, net of product purchases for 2017 (2016: \$12 million; 2015: \$1 million).
- (5) Midstream net revenue is net of \$3,262 million in cost of goods sold, net of product purchases for 2017 (2016: \$2,611 million; 2015: \$3,232 million). Average volume in Midstream represents NGL sales volumes.
- (6) Average volume for Gas Services is in mboe/d, which is converted from MMcf/d at a ratio of 6:1. Average MMcf/d processed in 2017 was 1,056 MMcf/d (2016: 836MMcf/d; 2015: 656 MMcf/d).
- (7) Pembina's operational and financial results do not include the operating and financial results of the Veresen Acquisition for the first nine months ended September 30, 2017 and for the years ending December 31, 2016 and 2015, since the Veresen Acquisition was completed following the end of the third quarter of 2017, on October 2, 2017.
- (8) Not including corporate and intersegment eliminations – see Note 20 ("Operating Segments") note in the Financial Statements.

Further discussion of operational results and new developments and outlook for Pembina's business segments for the years ended December 31, 2017 and 2016 is contained in the section "Proportionately Consolidated Overview" in the MD&A, which section is incorporated by reference herein.

**Conventional Pipelines Business**

*Overview*

Pembina's Conventional Pipelines business comprises a strategically located pipeline network of approximately 10,000 km. This network transports hydrocarbon liquids and extends across much of Alberta and parts of British Columbia, Saskatchewan and North Dakota. The primary objectives of this business are to provide safe, responsible, reliable and cost effective transportation services for customers, pursue opportunities for increased throughput, and maintain and/or grow sustainable operating margin on invested capital by capturing incremental volumes, expanding the Company's pipeline systems, managing revenue and following a disciplined approach to operating expenses.

### *Major Customers*

There are approximately 50 shippers (including many major shippers of petroleum products in western Canada) on the conventional pipeline systems owned and operated by Pembina. The primary delivery points for hydrocarbon products include, the Enbridge Pipeline systems for multiple products; the Kinder Morgan North 40 terminal and the Trans Mountain pipeline system at Edmonton, Alberta; the Strathcona refinery in the Edmonton area; Pembina's CDH near Fort Saskatchewan; the Husky Energy Prince George refinery; the AEGS and all major NGL fractionators near Fort Saskatchewan, Alberta.

### *Contractual Arrangements*

The contracts within Pembina's Conventional Pipelines business are fee-for-service in nature, but vary in their structure as follows:

#### Non-Firm Contracts

Capacity within the Conventional Pipelines business that has not been secured under the "Firm Contracting" structure described below is contracted under fee-for-service, evergreen-style, month-to-month contracts on an interruptible basis that allow Pembina to adjust tolls for actual volumes, operating expenses and capital expenditures on a periodic basis. These contracts do not require Pembina to guarantee a specified amount of dedicated pipeline capacity for a customer. Rather, customers nominate volumes on a monthly basis and tariffs are set periodically by receipt point.

Many of Pembina's B.C. Pipelines are operated under a cost-of-service methodology, which is reviewed annually and/or semi-annually whereby Pembina is able to flow through the actual operating costs of the systems to shippers while recovering an acceptable return on invested capital; however, there is no firm volume commitment under some of these long-term, cost-of-service agreements as would be typical in a cost-of-service agreement.

#### Firm Contracting

Since 2012, Pembina has focused on securing base volumes on its Peace, Northern and Vantage Pipeline systems under a firm contract structure, where a fee-for-service toll (which includes flow-through operating costs for power and extraordinary events) is set under the contract and customers receive a firm amount of pipeline capacity for the transportation of their product. Under firm contracts, customers also agree to a minimum volume or revenue commitment ("**take-or-pay**"). Through this process, the significant majority of crude oil, condensate and NGL product transported on the Peace, Northern and Vantage Pipeline systems is contracted under long-term, take-or-pay agreements that provide customers with firm-service in exchange for a minimum revenue requirement. Due to substantial customer demand for additional capacity, Pembina announced its Phase III Expansion and subsequent upsize in 2013 and 2014, respectively. In the second half of 2014, due to customer demand, Pembina converted a significant majority of the existing and expansion capacity for crude oil, condensate and NGL on the Peace Pipeline system to firm-service, take-or-pay agreements. The Phase III Expansion is backstopped by firm-service agreements with a substantial take-or-pay component and have a ten year average term. Prior to completion of the Phase III expansion on June 30, 2017, Pembina announced the Phase IV Expansion and Phase V Expansion to address ongoing customer demand for capacity. Pembina expects to place the Phase IV and Phase V Expansions into service in late 2018.

### *Competitive Environment*

Competition among existing crude oil, condensate and NGL pipelines is based primarily on the cost of transportation, access to supply, the quality and reliability of service, contract carrier alternatives, and proximity and access to markets.

Pembina's Conventional Pipelines are feeder pipelines that move products in the field, from batteries, processing facilities and storage tanks, to markets and export pipelines primarily in the Edmonton and Fort Saskatchewan, Alberta, area. Given that the majority of Pembina's pipelines in its Conventional Pipelines business are connected to existing oil batteries and infrastructure, existing volumes generally remain connected to the pipeline system until it is uneconomical to provide pipeline transportation services, usually due to low volume, in which case the connection may be discontinued and the producer may truck volumes to an alternate delivery point. With Pembina's track record of safe, reliable and cost-effective operations, service tenure, the complex nature of its systems and high levels of customer service, it is difficult for a competitor to replicate the high-value service offering that Pembina provides. Pembina's Phase III Expansion contracting process illustrated that customers are satisfied with Pembina's service offering as those customers contracted on a long-term basis with Pembina though there was significant competition for the project.

Unlike connected facilities, unconnected volumes of product are typically trucked to the most cost-effective truck unloading facility, and there is direct competition from numerous service providers serving the same area. Most volumes that are trucked are either from locations that are too far away to obtain economic pipeline service or have volumes too small to make a pipeline connection economically viable. Typically, a producer's selection of a truck terminal is only partially based on tolls; often it is also based on whether the volumes need some form of treatment to meet pipeline specifications, as well as arbitrage opportunities associated with the product. Pembina owns fourteen truck terminals (these form part of Pembina's Midstream business) to assist in aggregating unconnected volumes onto its systems. There are several other pipelines and terminal operators which compete for trucked volumes in Pembina's operating areas. Competition for these volumes include the Alliance Pipeline and local market fractionators for NGL's, as well as the Rangeland and Rainbow pipelines, rail and numerous other pipelines connected to terminal operations for crude oil and condensate.

Producer activity focused on NGL development continues in the Deep Basin Cretaceous, Montney and Duvernay resource areas served by Pembina's Peace and Northern Pipelines. Pembina has successfully been able to leverage its existing assets to provide incremental capacity in these areas, as evidenced by Pembina's numerous pipeline expansion projects, which are underpinned by long-term, fee-for-service contracts with area producers. These fee-based contracts are only exposed to volume fluctuations above take-or-pay commitments, thus providing very stable cash flow. There is no direct commodity price exposure associated with this type of contract.

A delay in the development of downstream processing, transportation and end-user facilities may also impact the future development and profitability of Pembina's Conventional Pipeline systems. The Edmonton, Alberta area NGL fractionation capacity may need to be expanded beyond current contracted volumes to process any potential forecasted incremental NGL volumes.

## **Oil Sands & Heavy Oil Business**

### *Overview*

Pembina plays an important role in supporting Alberta's oil sands and heavy oil industry. Pembina's Oil Sands & Heavy Oil business operates approximately 1,650 km of pipeline and has approximately 1,060 mbpd of capacity, under long-term, extendible contracts, which provide for the flow-through of eligible operating expenses to customers. As a result, operating margin from this business is primarily driven by the amount of capital invested and is predominantly not sensitive to fluctuations in certain operating expenses, actual throughput or commodity prices.

Pembina is the sole transporter of synthetic crude oil for the Syncrude Project (via the Syncrude Pipeline) and the Horizon Project (via the Horizon Pipeline) to delivery points near Edmonton, Alberta. The Cheecham Lateral transports synthetic crude oil from a common pump station on the Syncrude Pipeline and Horizon Pipeline to a terminalling facility located near Cheecham, Alberta, where it is then used as diluent for oil sands producers operating southeast of Fort McMurray, Alberta. Pembina also owns and operates the Nipisi and Mitsue Pipelines, which provide transportation for producers operating in the Pelican Lake and Peace River heavy oil regions of Alberta.



### *Major Customers*

The major shippers on Pembina's oil sands, heavy oil and diluent pipelines are large upstream exploration and production companies. Pembina's oil sands and heavy oil pipelines provide dedicated service under long-term contracts.

### *Contractual Arrangements*

Pembina's Syncrude Pipeline has a capacity of 389 mbpd and is fully contracted under a cost-of-service, extendible, long-term agreement that expires no earlier than the end of 2035.

The Horizon Pipeline is fully contracted to a single customer and has a capacity of up to 335 mbpd. The Horizon Pipeline is operated under the terms of a 25-year fixed return contract, which extends to 2034.

Pembina's Cheecham Lateral has a capacity of 230 mbpd and is fully contracted to shippers under the terms of a 25-year fixed return extendible agreement that expires in 2032.

The Nipisi and Mitsue Pipelines have a contracted capacity of 106 mbpd and are contracted under 10-year fee-for-service agreements, with substantial take-or-pay components, which commenced in 2011. These contracts also have extension and expansion rights.

### *Competitive Environment*

While regional delivery infrastructure capacity is sufficient for current production levels, the primary focus of infrastructure development is expected to be on accessing markets outside of Alberta for the majority of bitumen and heavy oil blend produced in Alberta. In the long term, expansions of existing condensate and synthetic crude diluent supply infrastructure, as well as blended bitumen and heavy oil pipeline delivery systems, will be required depending on the rate at which oil sands and heavy oil may be produced in the future. See "*Risk Factors – Risks Inherent in Pembina's Business – Reserve Replacement, Throughput and Product Demand.*"

Given the long-term nature of oil sands and heavy oil investments, most pipelines serving existing production are underpinned by long-term transportation agreements. Competition primarily arises with respect to incremental supply that requires additional pipeline capacity. In some cases, existing pipeline companies have under-utilized assets which can be re-purposed to suit a customer's needs, giving them a competitive advantage when competing for new projects. In other cases, where construction of significant new infrastructure is required, pipeline companies compete for these opportunities based primarily on their operating expertise, cost of capital and commercial flexibility.

## **Gas Services Business**

### *Overview*

Pembina's operations include a natural gas gathering and processing business, which is strategically positioned in an active condensate and NGL-rich area of western Canada and is integrated with certain other Pembina businesses. Pembina's Gas Services business provides sweet and sour gas gathering, compression, condensate stabilization, both shallow cut and deep cut processing services for its customers, primarily on a fee-for-service basis under long-term contracts. The condensate and NGL extracted through the facilities in this business are transported by Pembina's Conventional Pipelines business on its Peace and Vantage Pipeline systems. A portion of the volumes are further processed at Pembina's fractionation facilities. Operating assets within Pembina's Gas Services business include:

- Pembina's Cutbank complex (the "**Cutbank Complex**") – located near Grande Prairie, Alberta, this facility includes six shallow cut sweet gas processing plants (the Cutbank Gas Plant, Musreau I, Musreau II, Musreau III, the Kakwa Gas Plant and the Kakwa River shallow cut plant), one deep cut sweet gas processing plant

(Musreau Deep Cut) and a raw to deep cut sour gas processing facility (Kakwa River Deep Cut). In total, the Cutbank Complex has 675 MMcf/d gross (618 MMcf/d net) of shallow cut sweet gas processing capacity, 205 MMcf/d of sweet deep cut extraction capacity and 200 MMcf/d of raw to deep cut sour gas processing capacity. The Cutbank Complex also includes approximately 450 km of gathering pipelines, nine field compression stations and centralized condensate stabilization.

- Pembina's Saturn complex (the "**Saturn Complex**") – located near Hinton, Alberta, includes the Saturn I and Saturn II facilities for a total of 400 MMcf/d of deep cut gas processing capacity, as well as approximately 25 km of gathering pipelines.
- Pembina's Resthaven facility (the "**Resthaven Facility**") – located near Grande Cache, Alberta, includes 300 MMcf/d gross (214 MMcf/d net) of raw to deep cut sweet gas processing capacity, as well as approximately 30 km of gathering pipelines.
- Pembina's Saskatchewan ethane extraction plant ("**SEEP**") – located to service the southeast Saskatchewan Bakken region; has deep cut sweet gas processing capacity of 60 MMcf/d, ethane fractionation capabilities of up to 4.5 mbpd and a 104 km of ethane delivery pipeline.
- Pembina's Duvernay complex (the "**Duvernay Complex**") – located near Fox Creek, Alberta, includes 100 MMcf/d gross (75 MMcf/d net) shallow cut sweet gas processing plant and 12 km of sales gas pipeline ("**Duvernay I**"), and supporting infrastructure, which includes 35 km of gas gathering pipeline and fuel gas pipeline, respectively, 30 MMcf/d gas compression, 10 mbpd raw condensate stabilization and 5 mbpd water handling in the field ("**Field Hub**").

The Cutbank Complex, Saturn Complex, Resthaven Facility and Duvernay Complex are connected to Pembina's Peace Pipeline system and SEEP is connected to Pembina's Vantage Pipeline system.

#### *Major Customers*

Gas Services has approximately 40 customers, including independent producers as well as some multi-national oil and gas companies. Gas Services processes customers' natural gas at Pembina's Cutbank Complex, Saturn Complex, Resthaven Facility and Duvernay Complex and delivers the natural gas to the TransCanada pipeline system in Alberta and the NGL to the Pembina-owned and operated Peace Pipeline system. Customers' natural gas processed at SEEP is delivered to the TransGas System in Saskatchewan and the ethane is delivered to Pembina's Vantage Pipeline system.

#### *Contractual Arrangements*

Under the contractual arrangements with producers associated with the Cutbank Complex, Saturn Complex, Resthaven Facility, SEEP and Duvernay Complex, Pembina is largely protected from the impact of market fluctuations in the price of natural gas and NGL. The gathering and processing business is based on charging fees to customers on the volume of raw or processed gas that is gathered and/or processed through its facilities and the fees are largely based on a fixed-fee-for-service methodology and, in some instances, based on fixed return on invested capital. The fee-for-service contracts associated with the Gas Services business comprise a mixture of firm and interruptible service contracts of varying durations. The contractual fee structure incorporates a capital fee based on functional unit usage, as well as provisions for the recovery of operating and overhead costs.

In 2017, approximately 84 percent of the operating margin from these facilities was protected under contracts containing take-or-pay commitments. Any capacity that is not utilized on a firm-service basis is provided to area producers on an interruptible basis.

## *Competitive Environment*

Gas producers continued to focus their exploration and development on liquid-rich gas areas during 2017. Pembina's Gas Services expansion and new development plans continue to be focused in condensate and NGL-rich geographical areas including the regional Montney and Duvernay areas, along with other emerging liquid-rich formations.

Gas processing infrastructure requirements are largely driven by area profitability, which is impacted by commodity prices, and the gas producer's ability to access capital. In times where gas prices are relatively low and NGL prices are relatively high, producers are incentivized to extract as much NGL out of the raw gas stream as possible. During times when NGL prices are lower, producers may opt to leave more liquids entrenched within their raw gas. Pembina has the flexibility to offer facilities with varying degrees of liquids extraction capability to support customers in a variety of market conditions.

With its existing assets, Pembina is able to process gas, extract condensate and NGL from the gas, and transport the liquids through its conventional pipelines to its CDH and fractionation complexes, where Pembina is able to market the products to end users. With an integrated service offering along the condensate and NGL value chain and substantial gas processing plant construction and operating experience, Pembina believes it is strongly positioned compared to other service providers to capture new business. Evidence of this is Pembina's continuing ability to secure new projects, such as the KRIA Agreement and related infrastructure service agreements, Duvernay I and the related Field Hub, which were placed into service in the fourth quarter in 2017.

## **Midstream Business**

### *Overview*

Pembina offers customers a comprehensive suite of midstream products and services through its Midstream business as follows:

- Crude oil midstream assets include:
  - 14 truck terminals providing pipeline and market access for crude oil and condensate production that are not pipeline connected;
  - Pembina Nexus Terminal which includes an area where 21 inbound pipeline connections and 13 outbound pipeline connections converge providing access to approximately 1.2 mmbpd of crude oil and condensate supply connected to the terminal;
  - Edmonton North Terminal ("**ENT**"), located within the Pembina Nexus Terminal, includes approximately 900 mbbbls of above ground storage having access to crude oil, synthetic crude oil and condensate supply transported on Pembina's operated pipelines and products from various third-party operated pipelines; and
  - Canadian Diluent Hub ("**CDH**"), located within the Pembina Nexus Terminal in the Heartland area and includes 500 mbbbls of above ground storage, providing direct connectivity for growing domestic condensate volumes to the oil sands via downstream third-party pipelines.
- NGL Midstream includes two vertically integrated NGL operating systems – Redwater West and Empress East.
  - The Redwater West NGL system ("**Redwater West**") includes the 750 MMcf/d gross (322.5 MMcf/d net) Younger extraction and fractionation facility in British Columbia; two 73 mbpd NGL fractionators (RFS I and RFS II); a 55 mbpd propane-plus fractionator (RFS III); 8.3 mmbbls of finished product cavern storage in Redwater, Alberta; and third-party fractionation capacity in Fort

Saskatchewan, Alberta. Redwater West purchases NGL mix from various natural gas and NGL producers and fractionates it into finished products for further distribution and sale. Also located at the Redwater site is Pembina's rail-based terminal which services Pembina's proprietary and customer needs for importing and exporting NGL products.

- The Empress East NGL system ("**Empress East**") includes 2.1 bcf/d capacity in the straddle plants at Empress, Alberta; 20 mbpd of fractionation capacity and 1.1 mmbbls of cavern storage in Sarnia, Ontario; and 7.1 mmbbls of hydrocarbon storage at Corunna, Ontario (the "**Corunna Terminal**"). Empress East extracts NGL mix from natural gas at the Empress straddle plants and purchases NGL mix from other producers/suppliers. Ethane and condensate are generally fractionated out of the NGL mix at Empress and sold into western Canadian markets. Pembina transports propane/butane NGL mix predominantly to Sarnia, Ontario for further fractionation, distribution and sale into markets in central Canada and the eastern U.S. Storage and terminalling services are also provided to customers at the Corunna Terminal.

The financial performance of Pembina's Midstream business can be affected by seasonal demands for products and other market factors. In NGL Midstream, propane inventory generally builds over the second and third quarters of the year and is sold in the fourth quarter and the first quarter of the following year during the winter heating season. Condensate, butane and ethane are generally sold rateably throughout the year. See "*Risk Factors – Risks Inherent in Pembina's Business – Midstream Business – Commodity Price Risk.*"

#### *Crude Oil Midstream: Major Customers*

Pembina's Crude Oil Midstream business customers are generally those who produce and/or market crude oil and condensate on Pembina's pipeline systems, are downstream markets for those volumes, or are interested in ancillary services related to those volumes.

Pembina's crude oil terminals are configured to access and provide services for the main, traded grades of Canadian crude oil as well as access domestic and imported condensate streams. The terminals provide essential services for Pembina's customers with outbound delivery flexibility and above ground storage.

At Pembina's truck terminals, the Company's customer base generally comprises the same group who seek to transport various product volumes, including condensate, on Pembina's conventional and oil sand systems. Truck terminals are particularly attractive to those producers who are unable to justify pipeline/oil battery connections due to relatively low daily production, or are producing in advance of being pipeline connected. During 2017, Pembina's truck terminal network brought an average of approximately 51 mbpd of crude oil and condensate onto the conventional pipelines.

#### *Crude Oil Midstream: Contractual Arrangements*

The contractual arrangements underpinning Pembina's Crude Oil Midstream business vary by service offering.

In aggregate, Pembina's Crude Oil Midstream business' broad service offerings leverage the value chain – focusing on services that complement the existing network of facilities and energy infrastructure across Pembina's asset base. Facilities and services provided are complementary to one another and create synergies for Pembina and its customers.

#### *NGL Midstream: Major Customers*

Pembina's NGL Midstream business extracts, processes, stores, transports and markets NGL and offers these services to third-party customers across the WCSB and North America. The assets are integrated across Canada and the U.S., and are also used to generate fee-for-service income. The business is supported by an integrated supply, marketing and distribution function that contributes to the overall operating margin of Pembina.

Pembina purchases NGL mix from various natural gas producers and fractionates it into finished products at Redwater West. Redwater West also includes natural gas supply volumes from the Younger NGL extraction plant located at Taylor in northeastern British Columbia. The Younger plant supplies specification NGL to local markets as well as NGL mix supply to the Fort Saskatchewan, Alberta area for fractionation and sale and condensate to Pembina's CDH.

Pembina extracts NGL from natural gas at the Empress straddle plants and purchases NGL mix from other producers/suppliers. Ethane and condensate are generally fractionated out of the NGL mix at Empress and sold into the western Canadian marketplace. Pembina transports propane/butane NGL mix predominantly to Sarnia, Ontario for fractionation and sale into markets in central Canada and the eastern U.S.

Ethane is predominately purchased by third-party petro-chemical companies while another third party purchases the majority of the condensate from the Empress debutanizer. Third parties operate the Younger NGL extraction plant, the E1 plant at Empress and storage and fractionation assets in Sarnia, Ontario (which form part of the Empress East system). If for any reason these parties were unable to perform their obligations under the various agreements with Pembina, the revenue and the operations of Pembina's NGL Midstream business could be negatively impacted. See "*Risk Factors – Risks Inherent in Pembina's Business – Reliance on Principal Customers*" and "*Risk Factors – Risks Inherent in Pembina's Business – Joint Ownership and Third Party Operators*."

#### *NGL Midstream: Contractual Arrangements*

Pembina's NGL Midstream business provides a multitude of services for its customers. At Redwater West, Pembina provides NGL fractionation, storage, terminalling (loading and off-loading services) and at Empress East, Pembina provides storage, loading, off-loading, ethane and condensate fractionation. Storage services are typically provided to various customers under either a fee-for-service or fixed-return agreement with contract lengths ranging between one to 25 years. Loading and off-loading services are provided on a fee-for-service basis under contracts that range from one-year to multi-year terms. It is common practice for customers to sign up for more than one service with Pembina including storage, loading and off-loading. NGL fractionation services at Redwater West are provided under a multi-year, fee-for-service contract and ethane and condensate fractionation services at Empress East are provided to major energy companies under long-term, cost-of-service arrangements. Pembina's Redwater West and Empress East assets are also employed to generate proprietary income in addition to fee-for-service revenue streams.

#### *Competitive Environment*

Pembina's Midstream business model operates in a competitive environment for transportation, terminalling, storage and rail. The demand for NGL terminalling, storage and rail has grown due to supply growth and downstream consumption interest. This growth in demand for midstream services supported the development of large-scale, fee-for-service infrastructure across Pembina's Midstream business. Going forward, the demand for additional midstream infrastructure will be determined by the rate at which the WCSB hydrocarbon production grows.

Pembina's Midstream infrastructure and logistics business is subject to competition from other truck terminals, storage facilities and fractionators which are either in the general vicinity of the facilities or have gathering systems that are or could potentially extend into areas served by the facilities.

Producers in western Canada compete with producers in other regions to supply crude oil, condensate, NGL and natural gas and other hydrocarbon products to customers in North America, and the hydrocarbon industry also competes with other industries to supply the fuel, feedstock and other needs of consumers. Such competition may have an adverse effect on the production of hydrocarbon products in western Canada and, as a result, on the demand for Pembina's services.

The value potential associated with Pembina's Midstream service offering is dependent upon the ability of Pembina to: provide connections to both downstream pipelines and end-use markets; understand the value of the commodities transported, stored and terminalled; provide flexibility and a variety of storage options; and adjust to

a liquid, responsive, forward commodity market. Pembina actively monitors market conditions and stream values and qualities to target revenue opportunities and service offerings. Pembina is also proactively working with upstream and downstream customers to develop value-added terminalling solutions and increase available optionality. The Midstream business is exposed to commodity price fluctuations, and the decline in commodity prices has impacted price differentials and spreads. Further, the prices of products that are marketed by Pembina are subject to volatility as a result of such factors as seasonal demand changes, extreme weather conditions, general economic conditions, changes in crude oil markets and other factors. See "*Risk Factors – Midstream Business – Commodity Price Risk.*"

## **Veresen Business**

### *Overview*

Pembina acquired assets and investments through the Veresen Acquisition that include:

- 100 percent interest in the AEGS with approximate aggregate design capability of 330 mbpd;
- 50 percent interest in the Alliance Pipeline with nameplate capacity of 1,600 MMcf/d gross;
- 50 percent convertible preferred interest in the Ruby Pipeline with nameplate capacity of 1,500 MMcf/d gross;
- 46.3 percent interest in Veresen Midstream, which owns assets in western Canada serving the Montney geological play in northeastern Alberta and northwestern British Columbia including gas processing plants with capacity of 1,516 MMcf/d gross, as well as gas gathering pipelines and compression;
- An ownership interest in Aux Sable (approximately 42.7 percent in Aux Sable US and Alliance Canada Marketing and 50 percent in Aux Sable Canada), which includes a 131 mbpd gross NGL fractionation facility and gas processing capacity of 2.1 bcf/d gross near Chicago, Illinois and other natural gas and NGL processing facilities, logistics and distribution assets in the U.S. and Canada, as well as transportation contracts on the Alliance Pipeline; and
- A wholly-owned one million barrel ethane storage facility under construction near Burstall, Saskatchewan.

The Alliance Pipeline is approximately 3,850 km in length, consisting of approximately 3,000 km of integrated, high-pressure 42" and 36" diameter natural gas mainline pipeline system extending from northeastern British Columbia, to delivery points near Chicago, Illinois, plus approximately 730 km of lateral pipelines and 56 receipt points primarily located in supply areas in the northwestern Alberta and northeastern British Columbia, portions of the WCSB, the approximately 130 km Tioga lateral in North Dakota, and related infrastructure. The Alliance Pipeline facilities include 14 mainline compression stations, operating and maintenance facilities, and an associated SCADA system.

The Alliance US segment has three receipt points (one at the international border and two in North Dakota), and 11 delivery points (two in North Dakota, one in Iowa, and eight along the delivery header near Chicago), and related infrastructure owned by Alliance US.

The Alliance Pipeline connects in the Chicago area with two local natural gas distribution systems and five interstate natural gas pipelines, which provides shippers with access to natural gas markets in the mid-western and northeastern U.S., and eastern Canada. The current downstream natural gas receipt capacity for these connected pipelines and local distribution systems in the Chicago area exceeds 6 bcf/d.

The Alliance Pipeline connects with the Channahon Facility (owned by Aux Sable Liquid Products, a related party to Alliance Canada), near the terminus of the Alliance Pipeline, which extracts NGL from the natural gas transported on the system. The Channahon Facility is one of the largest extraction and fractionation plants in North America and

provides access to multiple NGLs markets and distribution channels. All existing Alliance shippers have signed extraction agreements that give Aux Sable the right to extract NGLs from the rich gas transported by the Alliance Pipeline system.

The Ruby Pipeline is a natural gas transmission system delivering natural gas production to the western U.S. The Ruby Pipeline is 680 miles in length with a 42-inch diameter and has a current capacity of 1.5 bcf/d, with four mainline compression stations.

The AEGS transports purity ethane within Alberta from various ethane extraction plants to major petrochemical complexes located near Joffre and Fort Saskatchewan, Alberta. At 1,336 km in total length, AEGS is comprised of separate legs that form an integrated system which includes interconnections with an underground storage site in Fort Saskatchewan, Alberta.

Veresen Midstream's assets are located in northwest Alberta and northeast British Columbia and service the Montney region and other geological formations and include the Hythe/Steeprock natural gas and processing complex, the Saturn Plant, Saturn Phase II Plant, Tower Plant, approximately 950 km of gas gathering lines and 1,415 MMcf/d gross of gas compression and the South Central and Tower Liquids Hubs.

Prior to the Veresen Acquisition, in early 2011, Veresen began pursuing a proposed business opportunity for the development, construction, and operation of the Jordan Cove LNG Project. Veresen's intention was to site an LNG export terminal within the International Port of Coos Bay in Coos County, Oregon and construct a natural gas pipeline (the "**Pacific Connector Gas Pipeline**"), to connect the Jordan Cove LNG terminal to large-volume natural gas supply pipelines and gas production regions within the U.S. Rockies and western Canada.

#### *Summary of Recent Developments*

On September 21, 2017, Veresen announced Jordan Cove and Pacific Connector filed applications with the FERC for the construction and operation of a 7.8 million tonne per annum liquefied natural gas export terminal in Coos Bay, Oregon and the related Pacific Connector Gas Pipeline that will transport natural gas from the Malin Hub in southern Oregon to the LNG export terminal. Jordan Cove and Pacific Connector are requesting that FERC issue a Draft Environmental Impact Statement in 2018, and this would lead to a FERC decision by the end of 2018. This will position the project for a potential final investment decision in 2019 and an in-service date in 2024.

#### *Major Customers*

Alliance Canada has fully contracted its firm receipt service through 2020. Alliance Canada has 30 long-term firm shippers, and Alliance US has 25 long-term firm shippers. The average daily firm contract capacity, including seasonal firm service with contract terms of one day to seven months, through the year contracted to the Canadian border is 1.561 bcf/d and 1.619 bcf/d from the U.S. border. In addition, Alliance sells interruptible transportation service on a price-biddable basis.

No single permanent shipper represented more than 24% of the transportation revenues on the Alliance Pipeline for the year ended December 31, 2017. The ten largest shippers, in terms of transportation revenues, represented approximately 76% of the transportation revenues of Alliance Canada, and 83% of Alliance US. Owners, or affiliates of owners, of Alliance and Aux Sable accounted for approximately 23% of the transportation revenues on the Alliance Canada segment and 25% of the transportation revenues on the Alliance US segment for the year ended December 31, 2017.

Alliance Canada Marketing holds total firm transportation capacity of 76.2 MMcf/d on the Alliance Pipeline. This capacity was not contracted at the time Alliance Pipeline was approved and Alliance Canada Marketing was formed solely to manage this capacity. Alliance Canada Marketing's mandate is to generate earnings from the capacity, for the benefit of its owners, through the purchase, transportation and sale of natural gas and from the optimization of those activities.

Approximately 69% of the capacity of the Ruby Pipeline (approximately 1,068 MMcf/d gross), is contracted under long-term firm contracts having a weighted average remaining contract term of approximately five and a half years. 90% of the contracted volumes are held by investment grade shippers.

The AEGS shipper community is currently comprised of shippers that are either a major ethane producer or consumer and have substantive energy infrastructure and/or petrochemical investments in Alberta. Each shipper has been party to long-term take-or-pay ethane transportation agreement on the AEGS, the majority of which have been in place since 1999 and expire at the end of 2018. Effective January 1, 2019, approximately 95% of the existing capacity on the system has been contracted to new 20 year take-or-pay agreements.

Aux Sable Liquid Products LP has the right to extract NGLs from all of the natural gas transportation by the shippers on the Alliance Pipeline for the period of the transportation agreements. Aux Sable has signed rich gas premium agreements with gas producers in the Montney and Duvernay areas of Alberta and British Columbia. Aux Sable Liquid Products LP and a single counterparty entered into an NGL sales agreement dated effective December 31, 2005, pursuant to which Aux Sable Liquid Products LP sells all of its NGL production from its base facility at Channahon to such counterparty. In return, Aux Sable Liquid Products LP receives a fixed annual fee and percentage share of any net margin generated from the business in excess of specified thresholds. The NGL sales agreement has an initial term expiring March 31, 2026, and may be extended by mutual agreement for 10-year terms on a continuous basis.

#### *Competitive Environment*

The Alliance Pipeline faces competition in pipeline transportation to its Chicago area delivery points and interconnected pipeline delivery points downstream of its Chicago terminus from both existing pipelines and proposed projects. Alliance is also exposed to competition from new sources of natural gas, such as the Appalachian Basin which runs from upstate New York to Virginia. The continued development of the Appalachian Basin may provide an alternative source of gas to this location and further decrease natural gas imports from Canada into the northeastern region of the U.S.

The Ruby Pipeline competes to deliver gas into the western U.S. primarily with western Canadian gas delivered through TransCanada's gas transmission northwest pipeline system and, to a lesser extent, with U.S. Rockies gas delivered through Williams Northwest Pipeline LLC's northwest pipeline ("**Williams Pipeline**"). The Ruby Pipeline provides an important source of supply diversification for customers in the Pacific Northwest U.S. and northern California who would otherwise be largely reliant on Canadian supply.

The Ruby Pipeline competes to export gas from the U.S. Rockies with several pipelines, including the Williams Pipeline into the Pacific Northwest, Kern River Gas Transmission Company's Kern River pipeline into California, and numerous pipeline systems that can transport gas into the eastern and midwestern U.S. Growing gas production from prolific shale basins in the northeastern U.S. has negatively affected eastern exports of U.S. Rockies gas in recent years relative to western exports on pipelines, including the Ruby Pipeline.

During 2017, the AEGS continued to transport the majority of ethane extracted in, or imported into, Alberta.

In the Dawson region, Veresen Midstream has an area of mutual interest that requires Encana/CRP to utilize the structure governed under a midstream services agreement between Encana/CRP and Veresen Midstream for their gas midstream needs and is expected to result in strong facility utilization. In the Hythe/Steepprock area, Veresen Midstream has a take-or-pay commitment from Encana for the majority of the current available capacity of these facilities over the duration of the midstream services agreement between Encana and Veresen Midstream. Therefore, Encana is incentivized to flow gas volumes to these facilities and it is expected that they will remain near capacity for a significant period of time.

The scale and geographic location of the Channahon Facility provides western Canadian and Bakken producers with economic options for liquids rich natural gas take away and access to U.S. NGL markets, avoiding costly investments in filed processing and transportation infrastructure.



## OTHER INFORMATION RELATING TO PEMBINA'S BUSINESS

### Information and Communication Systems

Pembina employs modern SCADA technology on all of its pipeline systems. The SCADA systems allow for continuous electronic monitoring and control of the pipeline systems from dedicated computer consoles located in Pembina's control centre. Operators monitor the computer consoles 24 hours per day, 365 days per year. The SCADA systems and associated leak detection software continually monitor pipeline flow and operating conditions. Line balance calculations are performed automatically by the system and alarms are triggered when imbalances are detected. When imbalance alarms are triggered, trained control centre operators investigate the alarm or shut down the pipeline in accordance with Pembina's Segment Imbalance Response Protocol.

Pembina is committed to ongoing upgrade of its system control and monitoring equipment. In 2015 and 2016, Pembina migrated major pipeline systems to new SCADA platforms and the Company presently has approximately \$180 million allocated to long-term upgrades of its communications systems, SCADA & leak detection systems, and field PLC network.

In February 2016, Pembina moved pipeline control personnel to its newly constructed, state-of-the-art control centre, further illustrating Pembina's commitment to safe and reliable operations. Also in 2016, Pembina moved and upgraded its backup control center from Drayton Valley to a location in the vicinity of Calgary, Alberta.

### Integrity Management

Pembina employs comprehensive integrity management programs ("IMP's") and dedicates a significant portion of its annual operating budget directly to integrity management activities. Pembina's IMP's include the systems, processes, analysis and documentation designed to ensure proactive and transparent management of its pipeline systems and facilities, and compliance with applicable standards and regulations.

Pembina's IMP's are designed to achieve enhanced safety, reliability and longevity through the entire asset lifecycle and are established in accordance with code requirements set out by the Canadian Standards Association (CSA Z662) and to comply with various regulatory agencies across Canada and the U.S.

Proactive integrity management activities extend into pipeline operations with programs including right-of-way patrols and public awareness to reduce the likelihood of third-party damage, system-specific hazard evaluations and risk assessments, geotechnical programs to manage slope instability and river crossings, the use of specific chemicals to reduce the likelihood of internal corrosion from impurities and bacteria in the oil, cathodic protection to mitigate the possible growth of external corrosion, training and competency management programs for staff and contractors, enhanced emergency response procedures and training exercises.

Between 2007 and 2012, Pembina completed a baseline geotechnical inspection program of pipelines to inventory all water crossings and slopes and to assess integrity threats posed by these crossings and slopes. Baselines continue each year as new pipelines are constructed or acquired. In 2014, Pembina completed a detailed braided river study which identifies water crossings most susceptible to lateral movement. This study allowed Pembina to proactively anticipate where this movement will occur and plan its annual mitigation, monitoring, and inspection procedures accordingly. In 2015 and 2016, Pembina utilized the findings of this study to transition Pembina's geotechnical and hydrotechnical programs to a more scientific and engineering-based approach, allowing for a more accurate assessment of when mitigations need to be completed. This enhanced assessment allows Pembina to better estimate when pipelines could be subjected to forces from ground movement and river erosion, and better understand how much damage the pipelines would incur, if any. This transition aims to be proactive and reduce the impact to Pembina's pipelines from unplanned environmental and geological events, and is designed to enhance the predictability and accuracy of forecasting for Pembina's geotechnical and hydrotechnical maintenance and mitigation programs.

The cornerstone of Pembina's IMP's is the use of in-line inspection ("ILI") technology to measure and record both the distribution and severity of specific features in the pipe depending on the ILI technology. These inspections identify the location and severity of corrosion and other metal loss defects, using high-resolution magnetic flux leakage tools, and of deformation defects, using high-resolution caliper tools, with potential to adversely affect pipeline "fitness-for-service." Through proactive use of these sophisticated electronic tools, defects (both internal and external) with the potential to compromise pipeline integrity are identified and repaired. Projected defect growth rates and/or historical operating knowledge are used to plan re-inspection intervals. Pembina's re-inspection frequency and intervals are typically selected so that remaining defects are re-assessed and repaired before they have a material effect on pipe integrity.

Pembina has employed ILI since the early 1970s, progressing to newer, high resolution ILI technology in the late 1990s and continuing to implement improvements to technology as they become available.

For those line segments with higher susceptibility to crack failures, Pembina also employs specialized ultrasonic ILI crack detection technology. Pembina has completed crack detection inspections on all of its major pipelines that are susceptible to cracking due to their operating conditions and vintage and continues to monitor the susceptibility of cracking on an annual basis. Data from these inspections is analyzed by Pembina and third-party technical experts, in conjunction with pipeline pressure data, to design appropriate mitigation, repair and re-assessment programs.

For pressure vessels and piping associated with Pembina's gas processing and fractionation facilities, Pembina has developed and registered a PEIMP with the ABSA. The PEIMP established methodology, processes and integrity verification are activities required to ensure Pembina is in full compliance with the regulatory requirements set forth by ABSA. In 2016, Pembina formally introduced two new IMP's: the TIMP and the FIMP, which address the integrity requirements for storage assets and facility piping stations. In 2015 and 2016, Pembina conducted a series of internal audits to ensure compliance with requirements of the PEIMP, TIMP, and FIMP. Pembina was audited by ABSA in 2017 and received top quartile scoring based upon all audits conducted by ABSA. The objective of the program(s) detailed in the PEIMP, TIMP, and FIMP is to ensure the reliable, safe operation of pressure equipment and facility equipment, and to prevent injury and environmental damage. These integrity management programs provide a formal approach to the integrity management of Pembina's facility equipment throughout its life cycle – from design and construction, through operation and maintenance to decommissioning. The programs apply to all registered and unregistered pressure equipment, storage assets, and facility piping stations. Pembina continued activities in 2017 to comply with ABSA and other regulatory compliance requirements, and plans to continue such activities in 2018, as set out below.

Summary of 2015, 2016, 2017 and planned 2018 PEIMP activities (in compliance with ABSA):

<b>Activity</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Pressure Vessel Inspections	147	372	587	285
Storage Tank Inspections	19	18	13	243
Piping System Inspections <sup>(1)</sup>	73	67	67	75
Internal Audits	4	3	4	4

**Notes:**

(1) Piping System Inspections' program commenced in 2015.

**Industry Regulation**

Pembina's pipelines are regulated by various regulatory bodies, including, but not limited to, the AER, BCUC, BCOGC, NEB, PHMSA and FERC.

With respect to rate-regulation in Alberta, once a permit to construct a pipeline is issued by the AER, subject to a common carrier declaration, the pipeline is free to establish tolls in a competitive market environment. Tolls are

established under contracts of varying terms and conditions and are also posted by location for non-firm (interruptible) service. Posted tolls which are applied to non-firm volumes can generally be adjusted to respond to changing volumes, costs and market circumstances. Contracted tolls on firm contracts can also be adjusted, where permitted by the terms of the contract, for such things as changes in the consumer price index, changes in power costs, extraordinary natural events that impact pipeline integrity and changes to regulations associated with pipelines. Pipeline customers have recourse to the AER, with respect to pipeline access and discrimination among customers and to the AUC on tariff matters if a common carrier declaration is made. Pembina's facilities are subject to regulation by the AER under the Licensee Liability Rating Program and the Large Facility Liability Management Program. These programs require that Pembina submit an abandonment and reclamation estimate to the AER and that Pembina demonstrate the financial ability to complete the required activities.

The tolls on the B.C. Pipelines are rate-regulated by the BCUC. The BCUC approves tolls that may be charged by common carriers and regulates other tolls on a complaints basis.

Interprovincial or international pipelines fall under the NEB's jurisdiction. Under NEB regulations, companies who own and/or operate NEB-regulated pipelines are divided into two groups. Group 1 consists of the major pipeline companies which are subject to enhanced regulatory oversight by the NEB. The other pipeline companies under the jurisdiction of the NEB, not included in Group 1, have been classified as Group 2. The Canadian segment of the Alliance Pipeline is classified as Group 1. Pembina's other NEB regulated pipelines are regulated as Group 2 companies by the NEB. For these Group 2 pipeline systems, if no complaint is filed, the NEB may presume that the filed tariffs are just and reasonable. The Northwest Pipeline, the Taylor-to-Belloy section of the Northern Pipeline, the Pouce Coupé Pipeline and the Pouce Coupé lateral pipeline, all licensed by Pembina's wholly-owned subsidiary Pouce Coupé Pipe Line Ltd., are regulated by the NEB. Pembina's Taylor to Boundary Lake Pipeline owned by Pembina Energy Services Inc. and Pembina's Vantage Pipeline, which is owned by Pembina Prairie Facilities Ltd., both wholly-owned subsidiaries of Pembina, are regulated by the NEB. The Tupper pipelines, licensed by Veresen Energy Pipeline Inc., and 42% owned by Pembina, are also regulated by the NEB. In October 2016, regulations with respect to the *Pipeline Safety Act*, specifically Financial Requirements Respecting Pipelines were pre-published in the Canada Gazette, Part I. Pembina will be required to maintain financial resources of a minimum of \$300 million to meet the absolute liability limit requirements in the *Pipeline Safety Act*. The NEB can order the Company to maintain these financial resources and readily accessible funds in specific types of financial instruments.

Pembina is subject to requirements relating to pipeline abandonment on its NEB regulated pipelines. In May, 2014, the NEB issued its MH-001-2013 Reasons for Decision which set out that by January 1, 2015, all NEB-regulated companies must have a set-aside mechanism in place to begin accumulating funds to pay for pipeline abandonment.

The FERC is an independent agency that regulates the interstate transmission of natural gas, and oil. The Ruby Pipeline and the US segment of the Alliance Pipeline are subject to FERC jurisdiction. Further, Alliance US is subject to regulation by the FERC as a "natural gas company" under the *US Natural Gas Act of 1938*. Under such legislation, the FERC has jurisdiction over Alliance US with respect to virtually all commercial aspects of its business, including transportation of natural gas, rates and charges, construction of new facilities, extension or abandonment of service and facilities, accounts and records, depreciation and amortization policies, the acquisition and disposition of facilities, the initiation and discontinuation of services, affiliate relationships and certain other matters. The U.S. segment of the Vantage Pipeline is subject to FERC jurisdiction.

In general, rates charged by interstate natural gas pipeline companies may not exceed the statutory "just and reasonable" or "recourse" rates approved by the FERC and natural gas pipeline companies are prohibited from granting any undue preference to any person or maintaining any unreasonable difference in their rates or terms and conditions of service. However, under the FERC's current policies, a pipeline may obtain approval to charge negotiated rates which differ from (and may exceed) the "just and reasonable" or the FERC regulated "recourse" rate. The FERC approved Alliance US's proposal to offer shippers both negotiated and "recourse" rate options. Accordingly, Alliance US's existing tariff contains both negotiated and "recourse" rates.

See "*Risk Factors – Risks Inherent in Pembina's Business – Abandonment Costs*", "*Risk Factors – Risks Inherent to Pembina's Business – Environmental Costs and Liabilities*" and "*Risk Factors – Risks Inherent to Pembina's Business – Regulation and Legislation*."

## **Environmental Matters**

Pembina's pipelines and other assets are subject to environmental controls in the form of approvals and compliance with applicable federal, provincial, state and local laws and regulations in Canada and the U.S. Such laws and regulations govern, among other things, operating and maintenance standards, emissions and waste discharge and disposal. Management believes that Pembina's facilities and operations meet or exceed those requirements. Pembina participates in the following applicable regulated emission reporting programs: Canadian Greenhouse Gas Emissions Reporting Program, Alberta Specified Gas Reporting Program, Ontario Cap and Trade Reporting Regulations and the Canadian National Pollutant Release Inventory Reporting Program.

To confirm regulatory compliance and conformance with Pembina's internal environmental standards, Pembina has in place an Environmental Management System, which includes a planned environmental audit program. As part of this program, regularly scheduled third-party environmental compliance audits are conducted at various facilities within a selected business unit each year. The program is designed such that assets within each major business unit are audited at least once every five years.

Pembina's focus on integrity management and safe operations continues to result in low incident frequency and minimal environmental impact. Pembina makes expenditures each year on pre-existing spill sites, none of which are material to Pembina, to manage environmental liability. In addition to the environmental expenses associated with its operations, Pembina also invests in environmental assessment, planning, permitting and post-construction monitoring associated with the Company's capital projects.

## **Safety Management Systems**

Pembina's success is rooted in the safety and security of its people and assets, wherever Pembina lives, works and plays. Pembina aims to minimize incidents with its corporate safety culture of "Zero by Choice."

To achieve this, Pembina reinforces its commitment to a safe worksite through contractor screening, frequent safety meetings, rigorous project inspection, investigation and review of hazards, near misses and incidents. To further enhance improvement company-wide, Pembina has established a corporate Incident Review Panel ("**IRP**") and a Safety Culture Improvement Steering Committee.

Pembina's IRP, which has been in place since the first quarter of 2010, meets six times a year and consists of operations, engineering and safety leaders as well as business and service unit Vice Presidents and the President and Chief Executive Officer. The IRP is focused on analyzing and understanding the causes of incidents and determining and completing resulting action plans to eliminate re-occurrence and, more importantly, ensuring that learnings are fully communicated and implemented on a corporate-wide basis.

Pembina holds a Certification of Recognition designation which is awarded to employers who have health and safety programs that meet established government standards.

Compliance with all policies, procedures and regulations is a requirement at Pembina. Pembina's Safety Management System ("**SMS**") employs a systematic approach comprised of principles, standards, procedures, guidelines, and other supporting documents, aligned and supportive of the Health, Safety and Environment Policy. Security and Emergency Management Programs are addressed as part of the SMS, which forms part of Pembina's Operating Management System.

In addition, Pembina has plans in place to enable it to safely respond to all emergency situations. Through the Company's emergency preparedness and training, Pembina minimizes potential impacts and reduces service

interruptions across all of its pipeline systems and related facilities. Comprehensive Emergency Response Plans ("ERPs") set out specific procedures and responsibilities to ensure safe and rapid incident response following the Incident Command System response structure. Pembina continually improves its ERPs with the latest landowner, resident and stakeholder data and up-to-date maps of its pipeline systems and related facilities.

Inventories of specially-designed emergency response equipment for deployment along Pembina's pipeline system are maintained and as a member of the Western Canadian Spill Services Co-op, the Canadian Energy Pipeline Association Mutual Aid Plan and Emergency Response Assistance Canada, Pembina has full access to emergency response equipment and participates in emergency response exercises with other industry members. Emergency response equipment is strategically located near Pembina's operations to ensure a swift response.

### **Pipeline Rights-of-Way and Land Tenure**

Pembina's real property interests fall into two basic categories of ownership: (i) a number of locations, including many pumping stations and terminal and storage facilities, which are owned in fee simple; and (ii) the majority of locations which are covered by leases, easements, rights-of-way, permits or licences from landowners or governmental authorities permitting the use of such land for the construction and operation of a pipeline. Pembina believes that the operator of each of its pipeline assets has sufficient property interests to permit the operation of such assets.

### **Indemnification and Insurance**

Pembina maintains insurance to provide coverage in relation to the ownership of its assets and also maintains standard director and officer insurance consistent with industry practice.

Pembina believes that it has procured such insurance coverage as would be maintained by a prudent owner and operator of the type of assets owned and operated by Pembina. This insurance coverage is subject to limits and exclusions or limitations on coverage that Pembina considers reasonable given the cost of procuring insurance and current operating conditions. However, there can be no assurance that insurance coverage will be adequate in any particular situation or that insurers will be able to fulfill their obligations should a claim be made. Further, there can be no assurance that such insurance coverage will be available in the future on commercially reasonable terms or at commercially reasonable rates.

### **Employees**

As at December 31, 2017, Pembina employed 1,539 personnel, of which 881 were engaged in the performance of field operations and superintendence activities, and 658 were engaged in the performance of facilities engineering, systems, management, finance, accounting, administration, human resources, information services, drafting, business development and safety and environmental service activities. Of the above field operations employees, 16 are unionized. Pembina's workforce is relatively stable with limited turnover and employees are financially encouraged to remain in Pembina's employment through options to purchase Common Shares, long-term incentive programs and pension plans, all of which vest over time.

### **Corporate Governance and Corporate Social Responsibility**

Pembina is committed to maintaining a high standard of corporate governance and ethical practices, both within the corporate boardroom and throughout its operations. Pembina's corporate governance practices are designed with a view to:

- Enhancing and preserving value;
- Protecting dividends;

- Ensuring Pembina meets its obligations to all regulatory bodies, business partners, customers, stakeholders, employees and Shareholders; and
- Operating in a safe, reliable and environmentally responsible way.

Pembina intends to publish its first Corporate Social Responsibility Report mid-year 2018.

Pembina is a public company listed on the TSX and the NYSE, and it recognizes and respects rules and regulations applicable to listed issuers in both Canada and the U.S. Pembina's corporate governance practices comply with the Canadian governance guidelines, which include the governance rules of the TSX and the Canadian Securities Administrators ("**CSA**"), including:

- National Instrument 52-110 - *Audit Committees ("NI 52-110")*;
- National Policy 58-201 - *Corporate Governance Guidelines*; and
- National Instrument 58-101 - *Disclosure of Corporate Governance Practices*.

Pembina also complies with the governance listing standards of the NYSE and the governance rules of the SEC that apply to foreign private issuers.

Pembina's governance practices comply with the NYSE standards for U.S. companies in all significant respects, except as summarized on Pembina's website at [www.pembina.com](http://www.pembina.com). As a non-U.S. company, Pembina is not required to comply with most of the governance listing standards of the NYSE. As a foreign private issuer, however, Pembina must disclose how its governance practices differ from those followed by U.S. companies that are subject to the NYSE standards.

Some of Pembina's best practices are derived from the NYSE rules and comply with applicable rules adopted by the SEC to meet the requirements of the *Sarbanes-Oxley Act of 2002* and the *Dodd-Frank Wall Street Reform and Consumer Protection Act*.

Further information about Pembina's corporate governance will be contained in Pembina's information circular for its 2018 annual meeting, and copies of Pembina's Code of Ethics, Whistleblower and other corporate governance policies can be found on Pembina's website at [www.pembina.com](http://www.pembina.com).

Certain of Pembina's policies are aimed at preserving a positive relationship with the physical and social environment in which Pembina operates, as follows:

#### *Health, Safety and Environment ("**HSE**") Policy*

Health, safety and the environment are top priorities in all of Pembina's operations and business activities. Pembina is committed to being an industry leader in conducting its business so that it meets or exceeds all applicable laws and regulations designed to protect the health and safety of workers, the public and safeguard the environment affected by its activities. Pembina is also committed to improving its HSE performance. These areas are of paramount importance to management, employees and contractors at the Company. Pembina believes that excellence in HSE practices is essential to the well-being of the Company.

The HSE Committee of the Board of Directors monitors compliance with the HSE Policy through regular reporting. Pembina's Operating Management System ("**OMS**") is a road map to its protection programs and procedures. Pembina's OMS and protection programs provide a systematic approach to principles, standards, procedures, guidelines, and other supporting documents that are aligned with and support the HSE Policy and Pembina's commitment to operational excellence. In addition, Pembina's OMS aligns with external industry standards and applicable legislated requirements, which also support the "Plan-Do-Check-Act" cycle of continuous improvement,

and aim to ensure that Pembina's "Safety Starts with Me – Zero by Choice" safety culture is embedded in our day-to-day operations. Management is informed regularly of all important and/or significant operational issues and initiatives through formal reporting and incident management processes.

#### *Alcohol and Drug Policy*

As part of Pembina's commitment to its employees, contractors and the public, Pembina has in place a comprehensive alcohol and drug policy which ensures all employees remain fit for work while on duty or on call. This policy forms a part of Pembina's approach to risk mitigation and safety and supports the HSE Policy.

#### *Aboriginal Relations Policy*

By striving for positive and mutually-beneficial relationships with Aboriginal and Tribal leadership and communities, Pembina employees, consultants and contractors will help build continued success for Pembina's existing and expanding systems and other businesses. As part of Pembina's approach to Aboriginal and Tribal relations, Pembina desires to enter into lasting and mutually-beneficial relationships with all Aboriginal and Tribal peoples affected by its operations.

#### *Whistleblower Policy*

Pembina is committed to high standards of professional and ethical conduct in all activities. Pembina's reputation for honesty and integrity among its stakeholders is key to the success of its business. The transparency, honesty, integrity and accountability of Pembina's financial, administrative and management practices are vital. These high standards guide the decisions of the Board of Directors and are relied upon by Pembina's stakeholders and the financial markets.

For these reasons, it is critical to maintain a workplace where concerns regarding questionable business practices can be raised without fear of any discrimination, retaliation or harassment. Pembina also believes that encouraging a culture of openness and ethical leadership from management will help this process. As such, Pembina's Whistleblower Policy encourages directors, officers, employees, consultants, contractors, agents and external stakeholders to act responsibly and raise any serious concerns and report any potential instances of unethical practices within Pembina, rather than overlooking a problem or seeking a resolution of the problem outside Pembina. In addition to raising concerns directly with Pembina management, individuals may report concerns to the chair of the Audit Committee on a confidential or anonymous basis, or may raise concerns on a confidential or anonymous basis through Pembina's whistleblower line, which is available 24 hours a day, seven days a week both online and through a toll-free number. Complaints received by Pembina under its Whistleblower Policy are thoroughly investigated.

#### *Security Management Policy*

Pembina is committed to protecting the safety of its workers, the public, and to safeguarding Pembina's facilities, information and information technologies. These areas are of paramount importance to management, employees and contractors at the Company. Pembina believes that excellence in security management is essential to the well-being of the Company. As such, Pembina is committed to identifying security risks and establishing appropriate programs and procedures to reduce these risks to an acceptable level, and to testing these programs and procedures to assess their effectiveness on a regular basis.

## **CANADIAN OIL AND GAS INDUSTRY**

### **General**

The discussion below provides a high-level overview of the crude and heavy oil industry, the NGL and natural gas industry and midstream infrastructure industry, with a particular focus on western Canada, given that a significant

portion of Pembina's operations are situated in Alberta. Pembina also has operations in eastern Canada and the U.S. within its Midstream, Conventional Pipelines and Veresen business. Volumes which feed into those assets originate in western Canada before being transported to eastern markets via a third-party pipeline, as discussed below under "*Product Transportation: Export Liquids Pipeline Systems.*" The Vantage Pipeline imports ethane from these areas into western Canada, as discussed below under "*Product Transportation: Feeder Pipeline Systems.*" Additionally, Pembina also owns the AEGS, which gathers and transports ethane within Alberta. Pembina also holds investments in Alliance and Ruby Pipeline Holding Company, LLC, companies that have interests in natural gas pipelines in parts of Canada and the U.S. Pembina investments in natural gas processing include the Company's interest in Aux Sable, a natural gas extraction and fractionation business located near the terminus of Alliance Pipeline, and the Company's interest in Veresen Midstream, which owns midstream assets in northeast British Columbia.

Western Canada is the major source of conventional crude oil, synthetic crude oil, natural gas, bitumen and related products (including NGL and condensate) in Canada. Domestic crude oil and natural gas production in the west comes primarily from Alberta with lesser amounts from British Columbia, Saskatchewan, Manitoba and the Northwest Territories. Synthetic crude oil and bitumen come from the oil sands developments near Fort McMurray, Alberta. Efficient, low cost, and safe transportation by pipeline, rail and truck from producing fields to refineries, processing plants and domestic and export markets is essential to the Canadian oil and gas industry.

### **Canadian Crude and Heavy Oil Overview**

While western Canada has one of the world's largest crude oil reserves, the WCSB was once considered to be a declining resource. However, over the past number of years, the crude oil industry in Alberta and western Canada in general has been revived due to the implementation of improved drilling technologies which have enabled increased recoveries and have enhanced economics. These technologies (for example, multi-stage hydraulic fracturing) have allowed producers to access tighter areas of conventional reserves as well as shales, which were previously considered to be uneconomical. Through this development, crude oil produced from the WCSB has significantly increased.

Alberta is also abundant in oil sands – a natural mixture of sand, water, clay and a type of natural heavy oil called "bitumen." Once the bitumen is recovered and processed to separate it from the sand and water and upgraded, synthetic crude oil is produced. Oil sands may be extracted by surface mining where it is moved by trucks to a cleaning facility or by in-situ processes which use steam, solvents or thermal energy to allow the bitumen to be pumped to the surface. Because bitumen is so viscous, it requires dilution with lighter hydrocarbons, such as condensate, to make it transportable by pipeline.

Condensate is the "heaviest" gas liquid. As producers increase their production of oil sands and heavy oil, there is a growing demand for condensate, as it is used to dilute bitumen. With assets spanning across the crude oil, condensate and NGL value chains, Pembina is uniquely positioned to provide customers with access to condensate via pipeline or rail as well as produced through fractionation.

Pipelines continue to be the most economical and predominant mode of transporting large amounts of crude oil, NGL, condensate, and heavy oil; however, given the extensive rail infrastructure network across North America and the lack of sufficient export pipeline capacity, transporting hydrocarbon products by rail has gained momentum.

### *Product Transportation: Feeder Pipeline Systems*

Feeder pipeline systems gather petroleum products from producing fields and facilities for transport to regional centres for storage, fractionation, refining and connection to larger pipelines. From these centres, petroleum products are further transported by export pipeline or rail systems either to domestic markets in western or eastern Canada or to markets in the northern U.S. for end-use, or used as feedstock in refineries or the petrochemical industry. The major operational centre for the Canadian oil and natural gas industry is the Edmonton/Fort Saskatchewan area of Alberta, which is the largest crude oil refining centre in western Canada and a major



fractionation and market hub for NGL and related products. In addition, the Edmonton/Fort Saskatchewan area is the hub of the Alberta feeder pipeline network and the starting point of many large Canadian export pipelines.

All of Pembina's pipelines within its Conventional Pipelines business are feeder pipelines or gathering systems. Average revenue volumes in Pembina's Conventional Pipelines business were 757 mbpd in 2017. The Conventional Pipelines segment transports the majority of its products to the Edmonton/Fort Saskatchewan, Alberta area, while a smaller amount is delivered to the AEGS via the Vantage Pipeline from the North Dakota Bakken play. Pembina's oil sands and heavy oil pipelines had a combined contracted capacity of 1,060 mbpd in 2017. These pipelines primarily transport products from established production fields in their respective service areas (the Syncrude Project and the Horizon Project) into the refining and export pipeline centres at Edmonton. The Cheecham Lateral transports synthetic crude oil from a common pump station on the Syncrude Pipeline and Horizon Pipeline to a terminalling facility located near Cheecham, Alberta, where it is then used as diluent for oil sands projects in the area. The Nipisi Pipeline and Mitsue Pipeline provide diluted heavy oil and diluent transportation for operators in the Pelican Lake and Peace River heavy oil regions of Alberta.

Conventional feeder pipelines and gathering systems generally experience lower volumes during the spring months as a result of reduced drilling primarily due to weight restrictions on roads, producers conducting maintenance on their batteries and gas plant turnarounds. The magnitude and duration of road weight restrictions are dependent upon spring weather conditions. Many battery operators also perform maintenance work on production facilities during the spring months. Road restrictions and battery maintenance can also impact gathering pipeline receipts during the fall months, although the impact on throughput is generally less pronounced than during the spring months.

#### *Product Transportation: Export Liquids Pipeline Systems*

The export liquids pipelines originating in the Edmonton area are the TransMountain Pipeline and the Enbridge Pipeline. Crude oil and refined products delivered to domestic and export markets on the west coast are transported through the TransMountain Pipeline. Crude oil and refined products delivered to eastern Canada and the northern U.S. are transported through the Enbridge Pipeline. NGL delivered to eastern Canadian and export markets are transported through the Enbridge Pipeline. The existing Keystone Pipeline and Express Pipeline also export crude oil from Hardisty, Alberta. However, none of Pembina's systems are directly connected to Hardisty.

#### **NGL Overview**

The NGL industry involves the production, storage, transportation and marketing of products that are extracted from natural gas prior to its sale to end-use customers. The profitability of the industry is based on the products extracted being of greater economic value as separate commodities (net of the costs of extraction and transportation) than as components of natural gas.

Natural gas is a mixture of various hydrocarbon components, the most abundant of which is methane. The higher value hydrocarbons, which include ethane (C<sub>2</sub>), propane (C<sub>3</sub>), butane (C<sub>4</sub>) and condensate (C<sub>5+</sub>), are generally in gaseous form at the pressures and temperatures under which natural gas is gathered and transported. NGL extraction facilities recover NGL mix from natural gas in a liquid form. The significant majority of NGL supply in western Canada is derived from natural gas processing, with the remainder derived from the refining of crude oil.

The NGL value chain begins with the gathering of gas produced from the wellhead and moving it to a gas plant. The gas then gets processed through field processing plants and mainline extraction facilities, as well as treated for removal of water, sulphur and other impurities. The value chain culminates with the transportation of NGL mix from the gas plant via pipeline to the fractionation plants where the NGL will be separated into saleable products and marketed to the final NGL customers.

Condensate is produced naturally at the well-head when natural gas is brought to the surface at a gas well. Most condensate is typically separated from natural gas at the field gas plant. It is then either trucked to a connection

point on a pipeline, or the natural gas plant may be connected directly into a gathering pipeline system for onward delivery to market.

#### *NGL Extraction*

NGL is recovered at three distinct types of facilities: natural gas field plants, natural gas mainline straddle plants and oil refineries. Field plants process raw natural gas, which is produced from wells in the immediate vicinity, to remove impurities such as water, sulphur and carbon dioxide prior to the delivery of natural gas to the major natural gas pipeline systems. Field plants also remove almost all condensate and as much as 65 percent of propane and 80 percent of butane in order to meet pipeline specifications, leaving ethane and unrecovered NGL in the sales gas. Most western Canadian field plants do not extract ethane but leave it in the natural gas. Once processed, the sales gas is then compressed and delivered to one of the major gas transmission systems in the region. In the Province of Alberta, any residual NGL and ethane in the natural gas is extracted at mainline straddle plants prior to export. Pembina has ownership interests in three of the five mainline Empress straddle plants on the Nova Gas Transmission system and the Younger Extraction plant on the Spectra system.

NGL extraction produces a mixed hydrocarbon product (either ethane-plus or propane-plus), which must be further processed in subsequent steps to separate out the individual products. At most field facilities, only sufficient NGL to make the residual gas marketable is extracted; however, with the addition of deep cut processing facilities such as Pembina's Musreau Deep Cut facility (an example of a field straddle plant) and Pembina's Empress plant (an example of a mainline straddle plant), further NGL extraction is possible to ensure the maximum amount of NGL is recovered. NGL products have historically been priced relative to oil, so this additional level of recovery is dependent on the relative value between oil and natural gas. As the relative price of oil versus natural gas increases, the economic impetus for this activity is also increased.

#### *NGL Fractionation*

NGL mix extracted at field plants and straddle plants is transported via pipelines, truck or rail to fractionation facilities, which enhance value by separating the mix into its components: ethane, propane, butane and condensate. Due to size, storage and transportation limitations, fractionation generally does not occur at field plants, but rather at larger, well-connected, centralized locations. NGL mix is moved by truck or pipeline to fractionation facilities. Once fractionated, the products are stored and transported to end markets by pipeline, truck or rail.

#### *NGL Transportation*

The efficient movement of NGL products requires significant infrastructure, including transportation assets (pipelines, trucks, rail cars), storage facilities, and terminals (rail and truck). The safest, most efficient and the lowest-cost means for moving NGL products to markets is by pipeline. The Canadian energy sector has an extensive pipeline network for the transportation of NGLs to fractionation facilities, petrochemical complexes, underground storage facilities and the end-user. Pipelines serve as the main mode of NGL transportation (pre and post fractionation). Additionally, truck and rail also transport NGL, where rail specifically transports component pieces of NGL.

#### *NGL Storage*

Storage assets offer a number of key strategic advantages, which include: (i) providing the necessary operational buffer between production of NGL (which varies daily depending on gas flows and composition) and their consumption (which can vary from day-to-day and season-to-season depending on market needs); (ii) allowing NGL sellers to store inventory to accommodate outages in NGL fractionation plants; and (iii) exploiting seasonal price differentials that may develop over the course of a year (particularly for propane and butane).

## *NGL Marketing*

The North American markets for NGL are largely continental in nature, though exports have been increasing, with end uses varying substantially by product from heating and transportation fuels to petrochemical and crude oil refining feed stocks. Ethane is used as feedstock for the petrochemical industry. Propane is the most versatile of the NGL products with uses such as home and commercial heating, crop drying, cooking, motor fuel and petrochemical feedstock. Butane is used primarily in gasoline blending, either directly or in the production of iso-octane and as a diluent for heavy oil. Condensate is used primarily as a diluent to blend with heavy crude oil to decrease viscosity and density, allowing transport in pipelines. In addition, condensate is used as a refinery feedstock in the production of gasoline.

### **Natural Gas Transportation**

The natural gas transportation industry from western Canada to eastern markets has historically been controlled by companies affiliated with TransCanada Pipelines Limited. Natural gas supply and pipeline infrastructure has grown over the past several years creating increased competition throughout North America. Production in the U.S. has increased, primarily due to shale gas production, and the lower cost of shale gas has increased competition and created opportunity for customer selection. While production in the mature WCSB has increased slightly in recent years, production is likely to decline in the near term due to reduced drilling activity in 2017, although activity remains strong in certain areas of the WCSB. For example, incremental natural gas production that has been focused in the vicinity of Alliance Canada's receipt infrastructure in the WCSB has grown in recent years.

The efficient movement of natural gas requires significant infrastructure, including transportation assets (pipelines, trucks, rail cars), storage facilities, and terminals (rail and truck). The safest, most efficient and the lowest-cost means for moving natural gas to markets is by pipeline. The Canadian energy sector has an extensive pipeline network for the transportation of natural gas to field plants and extraction facilities. Pipelines serve as the main mode of natural gas transportation.

### **Midstream Services for Crude Oil, Synthetic Crude Oil & NGL**

Crude oil, synthetic crude oil and NGL produced in Canada are transported to market through extensive gathering and transportation systems – feeder pipeline systems and export pipeline systems – discussed above.

Growth in crude oil midstream is largely focused on receipt terminals, above ground storage and other hub services, including delivery of product to local refineries and other downstream pipelines for eventual export. Crude oil production ends up being consumed in refineries. Refineries are widely distributed geographically and can be located anywhere along the transportation chain, from the production basin hub locations to mid-point junctions on transmission networks to tidewater where foreign production is able to access North American markets via marine transport. For locations directly connected to Pembina's pipelines, there is a service requirement to manage supply with demand, balancing between the pipeline and the customer.

On the receipt side, Pembina's truck terminals are a means for oil, condensate and NGL production, which is not pipeline connected, to secure transportation access to market.

Where pipelines converge, there is a requirement to manage the product flow between the systems. Historically this has been buffered through tankage downstream of Pembina's operations. There is an internal demand for hub storage which will not only buffer flows for downstream deliveries, but also smooth operation of Pembina's complex batched conventional pipeline network and its oil sands pipelines. As a further service category, with the growth in demand for diluents for heavy oil transportation, there is a new requirement to manage diluents prior to injection into the various diluent delivery pipelines. This demand includes accessing the greatest variety of diluents, meeting diluent quality specifications and storage. To this end, Pembina continues to develop the Canadian Diluent Hub (described in "*Description of Pembina's Business and Operations – Midstream Business*"), which is expected to provide interconnectivity via pipeline and potentially rail to downstream markets and enable Pembina to offer

upstream and downstream customers access to merchant storage and other complementary midstream services, and become a diluent platform for servicing the oil sands.

### **DESCRIPTION OF THE CAPITAL STRUCTURE OF PEMBINA**

The authorized capital of Pembina consists of an unlimited number of Common Shares, a number of Class A Preferred Shares, issuable in series, not to exceed twenty percent of the number of issued and outstanding Common Shares at the time of issuance of any Class A Preferred Shares, and an unlimited number of Class B Preferred Shares. As of December 31, 2017, there were approximately 503 million Common Shares outstanding, approximately 15.7 million Common Shares issuable pursuant to outstanding options under the Option Plan, and approximately 3.2 million Common Shares reserved for issuance pursuant to the Series F Convertible Debentures. In addition, 10 million Series 1 Class A Preferred Shares, 6 million Series 3 Class A Preferred Shares, 10 million Series 5 Class A Preferred Shares, 10 million Series 7 Class A Preferred Shares, 9 million Series 9 Class A Preferred Shares, 6.8 million Series 11 Class A Preferred Shares, 10 million Series 13 Class A Preferred Shares, 8 million Series 15 Class A Preferred Shares, 6 million Series 17 Class A Preferred Shares, 8 million Series 19 Class A Preferred Shares and 16 million Series 21 Class A Preferred Shares were outstanding as of December 31, 2017.

The following is a summary of the rights, privileges, restrictions and conditions attaching to the Common Shares, the Class A Preferred Shares and the Class B Preferred Shares.

#### **Common Shares**

Holders of Common Shares are entitled to receive notice of and to attend all meetings of Shareholders and to one vote at such meetings for each Common Share held. The holders of the Common Shares are, at the discretion of the Board of Directors and subject to applicable legal restrictions, entitled to receive any dividends declared by the Board of Directors on the Common Shares, and are entitled to share in the remaining property of Pembina upon liquidation, dissolution or winding-up, subject to the rights of the holders of the Class A Preferred Shares and Class B Preferred Shares.

Pembina has a shareholder rights plan (the "**Plan**") that was adopted to ensure, to the extent possible, that all Shareholders are treated fairly in connection with any take-over bid for Pembina and to ensure that the Board is provided with sufficient time to evaluate unsolicited take-over bids and to explore and develop alternatives to maximize Shareholder value. The Plan creates a right that attaches to each present and subsequently issued Common Share. Until the Separation Time (as defined in the Plan), which typically occurs at the time of an unsolicited take-over bid, whereby a person acquires or attempts to acquire 20 percent or more of the Common Shares, the rights are not separable from the Common Shares, are not exercisable and no separate rights certificates are issued. Each right entitles the holder, other than the 20 percent acquirer, from and after the Separation Time (as defined in the Plan) and before certain expiration times, to acquire one Common Share at a substantial discount to the market price at the time of exercise. The Board of Directors may waive the application of the Plan in certain circumstances. The Plan was reconfirmed by Shareholders at Pembina's 2016 annual meeting and must be reconfirmed at every third annual meeting thereafter. Accordingly, the Plan, with such amendments as the Board of Directors determines to be necessary or advisable, and as may otherwise be required by law, is expected to be placed before Shareholders for approval at Pembina's 2019 annual meeting. A copy of the agreement relating to the current Plan has been filed on Pembina's SEDAR and EDGAR profiles on May 13, 2016 and May 31, 2016, respectively.

#### **Class A Preferred Shares**

The Class A Preferred Shares were not intended to and will not be used by the Company for anti-takeover purposes without Shareholder approval. Subject to certain limitations, the Board may, from time to time, issue Class A Preferred Shares in one or more series and determine for any such series, its designation, number of shares and respective rights, privileges, restrictions and conditions. The Class A Preferred Shares as a class have, among others, the provisions described below.

Each series of Class A Preferred Shares shall rank on parity with every other series of Class A Preferred Shares, and shall have priority over the Common Shares, the Class B Preferred Shares and any other class of shares ranking junior to the Class A Preferred Shares with respect to redemption, the payment of dividends, the return of capital and the distribution of assets in the event of the liquidation, dissolution or winding-up of Pembina. The Class A Preferred Shares of any series may also be given such preferences, not inconsistent with the provisions thereof, over the Common Shares, the Class B Preferred Shares and over any other class of shares ranking junior to the Class A Preferred Shares, as may be determined by the Board.

In the event of the liquidation, dissolution or winding-up of Pembina, if any cumulative dividends or amounts payable on a return of capital in respect of a series of Class A Preferred Shares are not paid in full, the Class A Preferred Shares of all series shall participate rateably in: (a) the amounts that would be payable on such shares if all such dividends were declared at or prior to such time and paid in full; and (b) the amounts that would be payable in respect of the return of capital as if all such amounts were paid in full; provided that if there are insufficient assets to satisfy all such claims, the claims of the holders of the Class A Preferred Shares with respect to repayment of capital shall first be paid and satisfied and any assets remaining shall be applied towards the payment and satisfaction of claims in respect of dividends. After payment to the holders of any series of Class A Preferred Shares of the amount so payable, the holders of such series of Class A Preferred Shares shall not be entitled to share in any further distribution of the property or assets of Pembina in the event of the liquidation, dissolution or winding-up of Pembina.

Holders of any series of Class A Preferred Shares will not be entitled (except as otherwise provided by law and except for meetings of the holders of Class A Preferred Shares or a series thereof) to receive notice of, attend at, or vote at any meeting of shareholders of Pembina, unless the Board shall determine otherwise in the terms of a particular series of Class A Preferred Shares, in which case voting rights shall only be provided in circumstances where Pembina shall have failed to pay a certain number of dividends on such series of Class A Preferred Shares, which determination and number of dividends and any other terms in respect of such voting rights, shall be determined by the Board and set out in the designations, rights, privileges, restrictions and conditions of such series of Class A Preferred Shares. Other than as set out below, the material characteristics of each series of Class A Preferred Shares are substantially the same.

The table below outlines the number of outstanding, and the material provisions of, each of the issued series of Class A Preferred Shares.

Series	Issue Date	Issued and Outstanding	Amount (C\$)	Annual Dividend Rate	Redemption and Conversion Option Date <sup>(2)(3)</sup>	Reset Spread	Per Share Base Redemption/Liquidation Value	Right to Convert on a one for one basis <sup>(4)</sup>
1	July 26, 2013	10,000,000	\$250,000,000	\$1.0625 <sup>(1)</sup>	December 1, 2018	2.47% <sup>(3)</sup>	\$25.00	Series 2
3	October 2, 2013	6,000,000	\$150,000,000	\$1.1750 <sup>(1)</sup>	March 1, 2019	2.60% <sup>(3)</sup>	\$25.00	Series 4
5	January 16, 2014	10,000,000	\$250,000,000	\$1.2500 <sup>(1)</sup>	June 1, 2019	3.00% <sup>(3)</sup>	\$25.00	Series 6
7	September 11, 2014	10,000,000	\$250,000,000	\$1.1250 <sup>(1)</sup>	December 1, 2019	2.94% <sup>(3)</sup>	\$25.00	Series 8
9	April 10, 2015	9,000,000	\$225,000,000	\$1.1875 <sup>(1)</sup>	December 1, 2020	3.91% <sup>(3)</sup>	\$25.00	Series 10
11	January 15, 2016	6,800,000	\$170,000,000	\$1.4375 <sup>(1)</sup>	March 1, 2021	5.00% <sup>(5)</sup>	\$25.00	Series 12
13	April 27, 2016	10,000,000	\$250,000,000	\$1.4375 <sup>(1)</sup>	June 1, 2021	4.96% <sup>(5)</sup>	\$25.00	Series 14
15	October 2, 2017 <sup>(6)</sup>	8,000,000	\$200,000,000	\$1.1160 <sup>(7)</sup>	September 30, 2022	2.92% <sup>(3)</sup>	\$25.00	Series 16
17	October 2, 2017 <sup>(6)</sup>	6,000,000	\$150,000,000	\$1.2500 <sup>(7)</sup>	March 31, 2019	3.01% <sup>(3)</sup>	\$25.00	Series 18
19	October 2, 2017 <sup>(6)</sup>	8,000,000	\$200,000,000	\$1.2500 <sup>(7)</sup>	June 30, 2020	4.27% <sup>(3)</sup>	\$25.00	Series 20
21	December 7, 2017	16,000,000	\$400,000,000	\$1.2250 <sup>(1)</sup>	March 1, 2023	3.26% <sup>(8)</sup>	\$25.00	Series 22

**Notes:**

- (1) The holder is entitled to receive a fixed, cumulative preferential dividend per year payable quarterly on the 1st day of March, June, September and December, as declared by the Board of Directors.
- (2) The Company may, at its option, redeem all or a portion of an outstanding series of Class A Preferred Shares on the Redemption Option Date and every fifth year thereafter for the Base Redemption Value per share plus all accrued and unpaid dividends.
- (3) The dividend rate will reset on the Redemption and Conversion Option Date and every five years thereafter at a rate equal to the sum of the then five-year Government of Canada bond yield plus the applicable Reset Spread noted above.
- (4) A holder has the right, subject to certain conditions, to convert their Class A Preferred Shares into cumulative redeemable Class A Preferred Shares of a specified series on the Conversion Option Date and every fifth anniversary thereafter. The even numbered series of Class A Preferred Shares carry the right to receive floating, cumulative preferential dividends at a rate, reset quarterly, equal to the sum of the then 90 day Government of Canada treasury bill rate plus the applicable reset spread.
- (5) The dividend rate will reset on the Redemption and Conversion Option Date and every five years thereafter at a rate equal to the sum of the then five-year Government of Canada bond yield plus the applicable Reset Spread noted above, provided that in any event, the rate for the Series 11 and Series 13 Class A Preferred Shares shall not be less than 5.75 percent.
- (6) Effective October 2, 2017 and pursuant to the Veresen Acquisition, all of the outstanding Veresen Series A, C and E Preferred Shares were exchanged for Series 15, 17 and 19 Class A Preferred Shares.
- (7) The holder is entitled to receive a fixed, cumulative preferential dividend per year payable quarterly on the last day of March, June, September and December, as declared by the Board of Directors.
- (8) The dividend rate will reset on the Redemption and Conversion Option Date and every five years thereafter at a rate equal to the sum of the then five-year Government of Canada bond yield plus the applicable Reset Spread noted above, provided that in any event, the rate for the Series 21 Class A Preferred Shares shall not be less than 4.90 percent.

**Class B Preferred Shares**

The Class B Preferred Shares were not intended to and will not be used by the Company for anti-takeover purposes without Shareholder approval. If at any time a holder of Class B Preferred Shares ceases to be, or is not, a direct or indirect wholly-owned subsidiary of Pembina, Pembina, with or without knowledge of such event, shall be deemed, without further action or notice, to have automatically redeemed all of the Class B Preferred Shares held by such holder in exchange for the redemption amount as set out in Pembina's articles per share together with all declared but unpaid dividends thereon (the "**Redemption Amount**").

Holders of Class B Preferred Shares are not entitled to receive notice of, to attend or to vote at any meeting of the Shareholders, except as required by law. The Class B Preferred Shares are retractable and redeemable at the option of the holder thereof and Pembina, respectively.

The holders of Class B Preferred Shares shall be entitled to receive, if and when declared by the Board of Directors, preferential non-cumulative dividends and upon the liquidation, dissolution or winding-up of Pembina, the holders of Class B Preferred Shares shall be entitled to receive for each such share, in priority to the holders of Common Shares, the Redemption Amount.

All of the issued Class B Preferred Shares of Pembina were cancelled pursuant to the amalgamation between Pembina and its wholly-owned subsidiary, Alberta Oil Sands Pipeline Ltd., on October 1, 2015. There are currently no Class B Preferred Shares outstanding.

#### **Premium Dividend™ and Dividend Reinvestment Plan**

Effective January 6, 2016, Pembina amended and restated its DRIP and all associated agreements. Pursuant to the amended and restated DRIP, eligible Shareholders had the opportunity to receive, by reinvesting the cash dividends declared payable by Pembina on their Common Shares, either (i) additional Common Shares at a discount of up to five percent to the Average Market Price (as defined in the DRIP), pursuant to the "Dividend Reinvestment Component" of the DRIP, or (ii) a premium cash payment (the "**Premium Dividend™**") equal to 101 percent of the amount of reinvested dividends, pursuant to the "Premium Dividend™ Component" of the DRIP.

On March 7, 2017, Pembina announced that its Board of Directors suspended the DRIP, effective April 25, 2017.

#### **Series F Convertible Debentures**

The Series F Convertible Debentures are listed on the TSX under the symbol "PPL.DB.F."

The Series F Convertible Debentures were issued April 29, 2011 in the principal aggregate amount of \$172,500,000. The Series F Convertible Debentures bear interest at an annual rate of 5.75 percent, payable semi-annually on June 30 and December 31 in each year and have a maturity date of December 31, 2018. Each Series F Convertible Debenture is convertible into Common Shares at the option of the holder at any time prior to the close of business on December 31, 2018 and the business day immediately preceding the date specified for redemption by Pembina of the Series F Convertible Debentures, at a conversion price of \$29.53 per Common Share, subject to adjustment in certain events. Following December 31, 2016, the Series F Convertible Debentures may be redeemed in whole or in part at the option of Pembina at a price equal to their principal amount plus accrued and unpaid interest. Any accrued unpaid interest will be paid in cash.

As at December 31, 2017, \$95 million principal amount of Series F Convertible Debentures were outstanding.

Pembina retains a cash conversion option on the Series F Convertible Debentures, allowing the Company to pay cash to the converting holder of the debentures in lieu of the holder's entitlement to Common Shares, at the option of the Company.

#### **Credit Facilities**

Pembina's credit facilities as at December 31, 2017 consisted of an unsecured \$2.5 billion revolving credit facility due May 31, 2020, which includes a \$250 million accordion feature (the "**Revolving Credit Facility**") and an unsecured operating facility of \$20 million due May 31, 2018 (the "**Operating Credit Facility**", and together with the Revolving Credit Facility, the "**Credit Facilities**"). Borrowings on the Credit Facilities bear interest at prime lending rates plus nil to 1.25 percent or Bankers' Acceptances rates plus 1.00 percent to 2.25 percent. Margins on the Credit Facilities are based on the credit rating of Pembina's senior unsecured debt. There are no repayments due over the term of the Credit Facilities. As at December 31, 2017, Pembina had \$1.8 billion drawn on bank debt and \$321 million in cash, leaving \$1.1 billion of cash and unutilized debt facilities. Pembina also had an additional \$22 million in letters of credit issued on separate demand letter credit facilities.

## Medium Term Notes

Pembina's obligations under the Pembina Medium Term Notes and the Pembina Medium Term Note Indenture are guaranteed by certain subsidiaries of Pembina. Subject to certain conditions, as noted below, Pembina may redeem each series of Pembina Medium Term Notes, either in whole, or in part, upon not less than 30 and not more than 60 days prior notice, at a price equal to the greater of (i) par and (ii) the Canada Yield Price (as defined below), plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption. In respect of the Pembina Medium Term Notes, "**Canada Yield Price**" means, in effect, a price equal to the price of a specific series of Pembina Medium Term Notes, as applicable, calculated in accordance with generally accepted financial practice in Canada to provide a yield to maturity equal to the Government of Canada Yield (as defined below) plus the Redemption Premium set forth in the table below. In respect of the Pembina Medium Term Notes, "**Government of Canada Yield**" means, on any date, in effect, the yield to maturity on such date compounded semi-annually which a non-callable Government of Canada bond would carry if issued, in Canadian dollars in Canada, at 100 percent of its principal amount on such date with a term to maturity equal to the remaining term to maturity of the specified series of Pembina Medium Term Notes, as applicable. The Government of Canada Yield will be the average of the yields determined by two major Canadian investment dealers selected by Pembina. In certain circumstances following a Change of Control (as such term is defined in the Pembina Medium Term Note Indenture) and a resulting downgrade in the ratings of the Pembina Medium Term Notes to below an investment grade, Pembina will be required to make an offer to repurchase all or, at the option of any holder of Pembina Medium Term Notes, any part, at a purchase price payable in cash equal to 101 percent of the aggregate outstanding principal amount thereof plus accrued and unpaid interest, if any, to the date of purchase. After certain dates (as set forth below), Medium Term Notes, Series 3, 4, 5, 6, 7, 8 and 9 may be redeemed at a price equal to par, plus accrued but unpaid interest, if any, to but excluding the date of redemption.

Subject to certain conditions, as noted below, Pembina may redeem each series of Veresen Medium Term Notes, either in whole, or in part, upon not less than 30 and not more than 60 days prior notice, at a price equal to the greater of (i) par and (ii) the Canada Yield Price (as defined below), plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption. In respect of the Veresen Medium Term Notes, "**Canada Yield Price**" means, in effect, a price equal to the price of a specific series of Veresen Medium Term Notes, as applicable, calculated in accordance with generally accepted financial practice in Canada to provide a yield to maturity equal to the Government of Canada Yield (as defined below) plus the Redemption Premium set forth in the table below. In respect of the Veresen Medium Term Notes, "**Government of Canada Yield**" means, on any date, in effect, the yield to maturity on such date compounded semi-annually which a non-callable Government of Canada bond would carry if issued, in Canadian dollars in Canada, at 100 percent of its principal amount on such date with a term to maturity equal to the remaining term to maturity of the specified series of Veresen Medium Term Notes, as applicable. The Government of Canada Yield will be the average of the yields determined by two major Canadian investment dealers selected by Pembina. In certain circumstances following a Change of Control (as defined in the Veresen Medium Term Note Indenture) and a resulting downgrade in the ratings of the Veresen Medium Term Notes to below an investment grade, Pembina will be required to make an offer to repurchase all or, at the option of any holder of Veresen Medium Term Notes, any part, at a purchase price payable in cash equal to 101 percent of the aggregate outstanding principal amount thereof plus accrued and unpaid interest, if any, to the date of purchase. After certain dates (as set forth below), the Veresen Medium Term Notes, Series 5 may be redeemed at a price equal to par, plus accrued but unpaid interest, if any, to but excluding the date of redemption.



The table below outlines the aggregate principal amount outstanding, and the material provisions of, each of our issued series of Medium Term Notes.

Series	Issue Date	Maturity Date	Principal and Outstanding Amount (C\$)	Annual Coupon Rate	Redemption Premium (per annum)
1 <sup>(1)</sup>	March 29, 2011	March 29, 2021	\$250,000,000	4.89%	0.395%
2 <sup>(1)</sup>	October 22, 2012	October 24, 2022	\$450,000,000	3.77%	0.460%
	April 30, 2013		\$200,000,000		
3 <sup>(2)</sup>	February 2, 2015 <sup>(3)</sup>	April 30, 2043	\$150,000,000	4.75%	0.585%
	June 16, 2015 <sup>(3)</sup>		\$100,000,000		
4 <sup>(4)</sup>	April 4, 2014	March 25, 2044	\$600,000,000	4.81%	0.450%
5 <sup>(5)</sup>	February 2, 2015	February 3, 2025	\$450,000,000	3.54%	0.540%
6 <sup>(6)</sup>	June 16, 2015	June 15, 2027	\$500,000,000	4.24%	0.560%
7 <sup>(7)</sup>	August 11, 2016	August 11, 2026	\$500,000,000	3.71%	0.655%
8 <sup>(8)</sup>	January 20, 2017	January 22, 2024	\$300,000,000	2.99%	0.385%
	August 16, 2017		\$350,000,000		
9 <sup>(9)</sup>	January 20, 2017	January 21, 2047	\$300,000,000	4.74%	0.610%
	August 16, 2017		\$250,000,000		
Veresen 1 <sup>(10)</sup>	November 22, 2011	November 22, 2018	\$150,000,000	4.00%	0.575%
Veresen 3 <sup>(11)</sup>	March 14, 2012	March 14, 2022	\$50,000,000	5.05%	0.750%
Veresen 4 <sup>(12)</sup>	June 13, 2014	June 13, 2019	\$200,000,000	3.06%	0.355%
Veresen 5 <sup>(13)</sup>	November 10, 2016	November 10, 2021	\$350,000,000	3.43%	0.675%

**Notes:**

- (1) Pembina may redeem the Medium Term Notes, Series 1 and Medium Term Notes, Series 2 at a price equal to the greater of (i) par and (ii) the Canada Yield Price, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- (2) Pembina may redeem the Medium Term Notes, Series 3, (a) at any time prior to October 30, 2042 at a price equal to the greater of (i) par and (ii) the Canada Yield Price, and (b) at any time on or after October 30, 2042 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- (3) On February 2, 2015 and June 16, 2015, Pembina re-opened its Medium Term Notes, Series 3 for \$150 million and \$100 million aggregate principal amounts, respectively.
- (4) Pembina may redeem the Medium Term Notes, Series 4, (a) at any time prior to September 25, 2043 at a price equal to the greater of (i) par and (ii) the Canada Yield Price, and (b) at any time on or after September 25, 2043 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- (5) Pembina may redeem the Medium Term Notes, Series 5, (a) at any time prior to November 3, 2024 at a price equal to the greater of (i) par and (ii) the Canada Yield Price, and (b) at any time on or after November 3, 2024 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- (6) Pembina may redeem the Medium Term Notes, Series 6, (a) at any time prior to March 15, 2027 at a price equal to the greater of (i) par and (ii) the Canada Yield Price and (b) at any time on or after March 15, 2027 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- (7) Pembina may redeem the Medium Term Notes, Series 7, (a) at any time prior to May 11, 2026 at a price equal to the greater of (i) par and (ii) the Canada Yield Price and (b) at any time on or after May 11, 2026 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- (8) Pembina may redeem the Medium Term Notes, Series 8, (a) at any time prior to November 22, 2023 at a price equal to the greater of (i) par and (ii) the Canada Yield Price and (b) at any time on or after November 22, 2023 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.

- <sup>(9)</sup> Pembina may redeem the Medium Term Notes, Series 9, (a) at any time prior to July 21, 2046 at a price equal to the greater of (i) par and (ii) the Canada Yield Price and (b) at any time on or after July 21, 2046 at a price equal to par, plus, in either case, accrued but unpaid interest, if any, to but excluding the date of redemption.
- <sup>(10)</sup> Pembina may redeem the Veresen Medium Term Notes, Series 1, at any time prior to the maturity date at a price equal to the greater of (i) par and (ii) the Canada Yield Price, together with accrued and unpaid interest to, but excluding, the date of redemption.
- <sup>(11)</sup> Pembina may redeem the Veresen Medium Term Notes, Series 3, at any time prior to the maturity date at a price equal to the greater of (i) par and (ii) the Canada Yield Price, together with accrued and unpaid interest to, but excluding, the date of redemption.
- <sup>(12)</sup> Pembina may redeem the Veresen Medium Term Notes, Series 4, at any time prior to the maturity date at a price equal to the greater of (i) par and (ii) the Canada Yield Price, together with accrued and unpaid interest to, but excluding, the date of redemption.
- <sup>(13)</sup> Pembina may redeem the Veresen Medium Term Notes, Series 5, (a) at any time prior to October 10, 2021 at a price equal to the greater of (i) par and (ii) the Canada Yield Price, and (b) at any time on or after October 10, 2021 at a price equal to par plus, in either case, accrued but unpaid interest, if any, to but excluding, the date of redemption.

## Other Debt

Other debt at December 31, 2017 included \$267 million aggregate principal amount of senior unsecured notes of Pembina issued November 18, 2009 and due November 18, 2019 and which bear interest at a fixed rate of 5.91 percent per annum (the "**Series D Senior Notes**"), \$200 million aggregate principal amount of senior unsecured notes of Pembina issued September 30, 2006 and due September 30, 2021 and which bear interest at a fixed rate of 5.58 percent per annum (the "**Series C Senior Notes**") and \$73 million aggregate principal amount of senior unsecured notes due May 4, 2020 (the "**AEGS Notes**"). The Series C and D Senior Notes and AEGS Notes are subject to the maintenance of certain financial ratios.

## Credit Ratings

The following information with respect to Pembina's credit ratings is provided as it relates to Pembina's financing costs and liquidity. Specifically, credit ratings affect Pembina's ability to obtain short-term and long-term financing and impact the cost of such financing. A reduction in the current ratings on Pembina's debt by its rating agencies, particularly a downgrade below investment grade ratings, could adversely affect Pembina's cost of financing and its access to sources of liquidity and capital. In addition, changes in credit ratings may affect Pembina's ability to enter into, and the associated costs of entering into, normal course derivative or hedging transactions. Credit ratings are intended to provide investors with an independent measure of credit quality of any issues of debt securities. The credit ratings assigned by the rating agencies are not recommendations to purchase, hold or sell the securities nor do the ratings comment on market price or suitability for a particular investor. Any rating may not remain in effect for a given period of time or may be revised or withdrawn entirely by a rating agency in the future if in its judgement circumstances so warrant.

Pembina has paid each of S&P and DBRS (as defined below) their customary fees in connection with the provision of the below ratings. Pembina has not made any payments to S&P or DBRS over the past two years for services unrelated to the provision of such ratings.

### *DBRS Limited*

DBRS has assigned a debt rating of 'BBB' to each issued senior unsecured note (excluding the AEGS Notes).

The BBB rating is the fourth highest of DBRS' ten rating categories for long-term debt, which range from AAA to D. DBRS uses "high" and "low" designations on ratings from AA to C to indicate the relative standing of securities being rated within a particular rating category. The absence of a "high" or "low" designation indicates that a rating is in the middle of the category. The BBB rating indicates that, in DBRS's view, the rated securities are of adequate credit quality. The capacity for the payment of financial obligations is considered acceptable; however, the issuer may be vulnerable to future events.

Each issued series of Class A Preferred Shares has been rated 'Pfd-3' by DBRS. The Pfd-3 rating is the third highest of six rating categories for preferred shares, which range from a high of Pfd-1 to a low of D. "High" or "low" grades are used to indicate the relative standing within a rating category. The absence of either a "high" or "low" designation

indicates the rating is in the middle of the category. According to the DBRS rating system, preferred shares rated Pfd-3 are of adequate credit quality. While protection of dividends and principal is still considered acceptable, the issuing entity is more susceptible to adverse changes in financial and economic conditions, and there may be other adverse conditions present which detract from debt protection.

When a significant event occurs that directly impacts the credit quality of a particular entity or group of entities, DBRS will attempt to provide an immediate rating opinion. However, if there is uncertainty regarding the outcome of the event, and DBRS is unable to provide an objective, forward-looking opinion in a timely fashion, then the ratings of the issuer will be placed "Under Review."

#### *S&P*

S&P has a long-term corporate credit rating on Pembina of 'BBB'. S&P also has assigned a rating of 'BBB' to each issued senior unsecured note (excluding the AEGS Notes).

The BBB rating is the fourth highest rating, of S&P's ten rating categories for long-term debt which range from 'AAA' to 'D'. The ratings from 'AA' to 'CCC' may be modified by the addition of a plus (+) or minus (–) sign to show relative standing within the major rating categories. Issues of debt securities rated BBB are judged by S&P to exhibit adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.

Each issued series of Class A Preferred Shares has been rated 'P-3 (High)' by S&P. S&P's ratings for preferred shares range from a high of 'P-1' to a low of 'P-5'. "High" or "low" grades are used to indicate the relative standing within a rating category. According to the S&P rating system, securities rated P-3 are regarded as having significant speculative characteristics. While such securities will likely have some quality and protective characteristics, these may be outweighed by large uncertainties or major exposures to adverse conditions. An obligation rated P-3 (High) is less vulnerable to non-payment than other speculative issues. However, it faces major ongoing uncertainties or exposure to adverse business, financial or economic conditions which could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.

**These securities ratings are not recommendations to purchase, hold or sell the securities in as much as such ratings do not comment as to market price or suitability for a particular investor. There is no assurance that any rating will remain in effect for any given period of time or that any rating will not be revised or withdrawn entirely by a rating agency in the future if, in its judgment, circumstances so warrant.**

See "*Risk Factors – General Risk Factors – Credit Ratings.*"

## **DIVIDENDS AND DISTRIBUTIONS**

### **Cash Dividends**

The declaration and payment of any dividend by Pembina is at the discretion of the Board of Directors and will depend on numerous factors, including compliance with applicable laws and the financial performance, debt obligations, working capital requirements and future capital requirements of Pembina and its subsidiaries. See "*Risk Factors.*" The agreements governing Pembina's Credit Facilities provide that if an event of default has occurred under the Credit Facilities, the indebtedness may be accelerated by the lenders, and the ability to pay dividends thereupon ceases. Pembina is restricted from making distributions (including the declaration of dividends) if it is in default under its Credit Facilities (or a default would be expected to occur as a result of such distribution) or if its borrowings exceed its borrowing base threshold.

## Common Shares

Pembina pays cash dividends on its Common Shares on a monthly basis to shareholders of record on the 25<sup>th</sup> calendar day of each month (except for the December record date, which is December 31st), if, as and when determined by the Board of Directors. Should the record date fall on a weekend or a statutory holiday, the effective record date will be the previous business day. The dividend payment date is the 15th of the month following the record date. Should the payment date fall on a weekend or on a holiday, the business day prior to the weekend or holiday becomes the payment date. The following table sets forth the amount of monthly cash dividends paid by Pembina on its Common Shares in 2015, 2016, 2017 and to date in 2018.

### Cash Dividends Per Common Share

Month of Payment Date	2015	2016	2017	2018
January	\$0.1450	\$0.1525	\$0.16	\$0.18
February	\$0.1450	\$0.1525	\$0.16	\$0.18
March	\$0.1450	\$0.1525	\$0.16	\$0.18 <sup>(5)</sup>
April	\$0.1450	\$0.1525	\$0.16 <sup>(3)</sup>	
May	\$0.1450 <sup>(1)</sup>	\$0.16 <sup>(2)</sup>	\$0.17	
June	\$0.1525	\$0.16	\$0.17	
July	\$0.1525	\$0.16	\$0.17	
August	\$0.1525	\$0.16	\$0.17	
September	\$0.1525	\$0.16	\$0.17	
October	\$0.1525	\$0.16	\$0.17 <sup>(4)</sup>	
November	\$0.1525	\$0.16	\$0.18	
December	\$0.1525	\$0.16	\$0.18	
Total	\$1.7925	\$1.89	\$2.03	\$0.54

#### Notes:

- (1) On May 5, 2015, Pembina announced an increase to its monthly dividend from \$0.145 to \$0.1525.
- (2) On May 5, 2016, Pembina announced an increase to its monthly dividend from \$0.1525 to \$0.16.
- (3) On April 3, 2017, Pembina announced an increase to its monthly dividend from \$0.16 to \$0.17.
- (4) On October 2, 2017, Pembina announced an increase to its monthly dividend from \$0.17 to \$0.18.
- (5) On February 5, 2018, Pembina announced that the Board of Directors had declared a dividend of \$0.18 per Common Share to be paid, subject to applicable law, on March 15, 2018 to holders of Common Shares of record on February 25, 2018.

## Class A Preferred Shares

Dividends on each issued series of Class A Preferred Shares (excluding the Series 15, 17 and 19 Class A Preferred Shares) are payable on the first day of March, June, September and December of each year, if, as and when declared by the Board. Dividends on the Series 15, 17 and 19 Class A Preferred Shares are payable on the last day of March, June, September and December of each year, if, as and when declared by the Board. Additional information regarding dividends payable on the Class A Preferred Shares can be found under the heading "*Description of the Capital Structure of Pembina – Class A Preferred Shares*" herein.

The following table sets forth the amount of monthly cash dividends paid by Pembina on its Class A Preferred Shares in 2015, 2016, 2017 and to date in 2018.

### Cash Dividends Per Class A Preferred Share

Quarterly Payment Date <sup>(1)</sup>	Series 1	Series 3	Series 5	Series 7	Series 9 <sup>(2)</sup>	Series 11 <sup>(3)</sup>	Series 13 <sup>(4)</sup>	Series 15 <sup>(5)</sup>	Series 17 <sup>(6)</sup>	Series 19 <sup>(7)</sup>	Series 21 <sup>(8)</sup>	Total
<b>2015</b>												
Mar	\$0.265625	\$0.293750	\$0.312500	\$0.281250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1.153125
June	\$0.265625	\$0.293750	\$0.312500	\$0.281250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1.153125
Sept	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.468500	N/A	N/A	N/A	N/A	N/A	N/A	\$1.621625
Dec	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	N/A	N/A	N/A	N/A	N/A	N/A	\$1.450000
<b>2016</b>												
Mar	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.181200	N/A	N/A	N/A	N/A	N/A	\$1.631200
June	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	N/A	N/A	N/A	N/A	N/A	\$1.809375
Sept	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.500200	N/A	N/A	N/A	N/A	\$2.309546
Dec	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.359375	N/A	N/A	N/A	N/A	\$2.168750
<b>2017</b>												
Mar	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.359375	N/A	N/A	N/A	N/A	\$2.168750
June	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.359375	N/A	N/A	N/A	N/A	\$2.168750
Sept	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.359375	N/A	N/A	N/A	N/A	\$2.168750
Dec	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.359375	\$0.279000	\$0.312500	\$0.312500	N/A	\$3.072750
<b>2018</b>												
Mar <sup>(9)</sup>	\$0.265625	\$0.293750	\$0.312500	\$0.281250	\$0.296875	\$0.359375	\$0.359375	\$0.279000	\$0.312500	\$0.312500	\$0.281900	\$3.354650

**Notes:**

- (1) A holder of Series 1, 3, 5, 7, 9, 11, 13 and 21 Class A Preferred Shares is entitled to receive a fixed, cumulative preferential dividend per year payable quarterly on the first day of March, June, September and December, as declared by the Board of Directors. A holder of Series 15, 17 and 19 Class A Preferred Shares is entitled to receive a fixed, cumulative preferential dividend per year payable quarterly on the last day of March, June, September and December, as declared by the Board of Directors.
- (2) The initial dividend on the Series 9 Class A Preferred Shares was paid on September 1, 2015 for the period commencing on the date of issuance (April 10, 2015) up to but excluding September 1, 2015.
- (3) The initial dividend on the Series 11 Class A Preferred Shares was paid on March 1, 2016 for the period commencing on the date of issuance (January 15, 2016) up to but excluding March 1, 2016.
- (4) The initial dividend on the Series 13 Class A Preferred Shares was paid on September 1, 2016 for the period commencing on the date of issuance (April 27, 2016) up to but excluding September 1, 2016.
- (5) The initial dividend on the Series 15 Class A Preferred Shares was paid on December 31, 2017 for the period commencing on the date of issuance (October 2, 2017) up to but excluding December 31, 2017. Prior to the completion of the Veresen Acquisition, the holders of Veresen Series A Preferred Shares were paid a quarterly dividend of \$0.275000 by Veresen for each Veresen Series A Preferred Share held.
- (6) The initial dividend on the Series 17 Class A Preferred Shares was paid on December 31, 2017 for the period commencing on the date of issuance (October 2, 2017) up to but excluding December 31, 2017. Prior to the completion of the Veresen Acquisition, the holders of Veresen Series C Preferred Shares were paid a quarterly dividend of \$0.312500 by Veresen for each Veresen Series C Preferred Share held.
- (7) The initial dividend on the Series 19 Class A Preferred Shares was paid on December 31, 2017, 2017 for the period commencing on the date of issuance (October 2, 2017) up to but excluding December 31, 2017. Prior to the completion of the Veresen Acquisition, the holders of Veresen Series E Preferred Shares were paid a quarterly dividend of \$0.312500 by Veresen for each Veresen Series A Preferred Share held.
- (8) The initial dividend on the Series 21 Class A Preferred Shares will be paid on March 1, 2018 for the period commencing on the date of issuance (December 7, 2017) up to but excluding March 1, 2018.
- (9) On January 8, 2018, Pembina announced that the Board of Directors had declared a quarterly dividend of \$0.265625 per Series 1 Class A Preferred Share, \$0.2937500 per Series 3 Class A Preferred Share, \$0.312500 per Series 5 Class A Preferred Share, \$0.281250 per Series 7 Class A Preferred Share, \$0.296875 per Series 9 Class A Preferred Share, \$0.359375 per Series 11 Class A Preferred Share, \$0.359375 per Series 13 Class A Preferred Share and \$0.281900 per Series 21 Class A Preferred Share to be paid, subject to applicable law, on March 1, 2018 to holders of record on February 1, 2018. On January 8, 2018, Pembina announced that the Board of Directors had declared a quarterly dividend of \$0.279000 per Series 15 Class A Preferred Share, \$0.312500 per Series 17 Class A Preferred Share and \$0.312500 per Series 19 Class A Preferred Share to be paid, subject to applicable law, on March 31, 2018 to holders of record on March 15, 2018.

## MARKET FOR SECURITIES

### Trading Price and Volume

The Common Shares are listed and traded on the TSX under the symbol "PPL." The Common Shares are also listed on the NYSE under the trading symbol "PBA." The following table sets forth the price ranges for and trading volumes of the Common Shares on the TSX for 2017, as reported by the TSX, and on the NYSE for 2017, as reported by NYSE.

Month	TSX (PPL)				NYSE (PBA)			
	High (\$)	Low (\$)	Close (\$)	Volume	High (US\$)	Low (US\$)	Close (US\$)	Volume
January	42.70	40.17	40.37	12,946,131	32.72	30.64	31.01	3,944,447
February	43.49	39.90	42.92	17,777,923	33.24	30.49	32.31	6,364,676
March	43.90	41.89	42.14	21,344,682	32.61	31.28	31.71	6,405,672
April	44.65	41.71	43.50	22,391,428	33.52	31.12	31.88	5,804,260
May	44.43	41.42	43.17	34,686,299	32.93	30.32	31.96	8,238,070
June	44.55	42.18	42.95	28,926,940	33.56	31.69	33.12	8,456,411
July	43.95	42.29	42.49	14,552,921	34.97	32.67	34.10	6,892,992
August	43.09	39.04	40.25	18,190,689	34.29	31.10	32.23	8,345,114
September	44.42	39.83	43.78	30,285,743	35.59	32.17	35.10	8,045,304
October	44.53	40.60	42.65	33,252,427	35.63	31.71	33.07	10,111,416
November	46.17	42.29	44.93	33,252,427	36.30	33.21	34.86	13,010,036
December	45.54	44.03	45.51	17,300,143	36.29	34.50	36.18	8,766,648

The Series F Convertible Debentures are listed and traded on the TSX under the symbol "PPL.DB.F." The following table sets forth the price range for and trading volume of the Series F Convertible Debentures on the TSX for 2017, as reported by the TSX.

Month	High (\$)	Low (\$)	Close (\$)	Volume
January	143.00	136.79	137.50	33,550
February	146.50	136.65	146.50	6,310
March	146.96	143.00	143.00	6,940
April	150.00	145.64	148.25	1,310
May	150.00	143.48	147.49	2,530
June	150.00	144.00	144.67	3,320
July	145.99	143.01	144.99	120
August	145.00	133.75	136.09	2,850
September	150.00	136.00	150.00	3,690
October	150.40	140.33	140.91	1,300
November	153.45	145.00	153.45	3,880
December	152.87	150.25	152.84	2,170

The Series 1 Class A Preferred Shares, Series 3 Class A Preferred Shares, Series 5 Class A Preferred Shares, Series 7 Class A Preferred Shares, Series 9 Class A Preferred Shares, Series 11 Class A Preferred Shares, Series 13 Class A Preferred Shares, Series 15 Class A Preferred Shares, Series 17 Class A Preferred Shares, Series 19 Class A Preferred Shares and Series 21 Class A Preferred Shares are listed and traded on the TSX under the symbols "PPL.PR.A", "PPL.PR.C", "PPL.PR.E", "PPL.PR.G", "PPL.PR.I", "PPL.PR.K", "PPL.PR.M", "PPL.PR.O", "PPL.PR.Q", "PPL.PR.S" and "PPL.PF.A", respectively. The following tables set forth the price range for and trading volume of the Series 1, Series 3, Series 5, Series 7, Series 9, Series 11, Series 13, Series 15, Series 17, Series 19 and Series 21 Class A Preferred Shares on the TSX for 2017, all as reported by the TSX.

Month	Series 1 (PPL.PR.A)				Series 3 (PPL.PR.C)				Series 5 (PPL.PR.E)			
	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume
January	20.34	18.65	20.21	266,137	21.09	19.70	20.99	94,310	23.20	21.71	22.88	269,216
February	20.92	19.90	20.50	207,523	21.60	20.53	21.36	99,378	23.30	22.40	23.14	154,545
March	21.37	20.31	20.93	349,290	22.30	21.23	21.91	134,302	24.00	22.98	24.00	191,818
April	21.55	20.75	20.80	131,277	22.54	21.71	21.80	110,818	24.33	23.46	23.50	186,274
May	21.20	20.07	20.21	76,760	22.22	21.17	21.25	106,830	23.89	23.00	23.09	106,753
June	20.99	19.33	20.69	205,513	21.74	20.55	21.55	239,900	23.71	22.09	23.47	337,919
July	21.23	20.50	21.20	186,004	22.24	21.59	22.06	263,567	24.11	23.32	23.80	129,319
August	21.22	20.00	20.09	117,715	22.12	20.90	21.01	50,799	23.80	22.48	22.73	150,252
September	21.68	20.15	21.62	192,267	22.42	21.11	22.36	51,939	24.10	22.73	24.01	123,384
October	22.92	21.60	21.91	172,143	23.88	22.42	22.67	165,697	24.57	23.72	23.74	116,982
November	22.30	21.74	22.05	93,014	23.00	22.40	22.90	254,924	24.40	23.75	24.38	100,621
December	22.18	21.09	21.78	75,487	22.90	21.85	22.48	114,066	24.47	23.57	24.25	119,200

Month	Series 7 (PPL.PR.G)				Series 9 (PPL.PR.I)				Series 11 (PPL.PR.K)			
	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume
January	21.90	20.65	21.60	353,809	25.01	24.43	24.90	457,160	26.75	25.84	25.84	190,228
February	22.26	21.05	22.04	187,894	24.99	24.67	24.87	143,030	26.54	25.80	26.39	159,661
March	23.28	21.98	23.15	121,652	25.18	24.50	24.98	122,842	26.58	26.09	26.35	258,940
April	23.71	22.72	22.79	111,888	25.18	24.48	24.72	127,374	26.85	26.35	26.36	127,146
May	23.09	22.12	22.25	102,517	24.94	24.33	24.51	174,172	26.48	26.13	26.28	165,000
June	22.89	21.30	22.80	91,122	24.99	23.87	24.84	177,500	26.88	26.31	26.82	117,265
July	23.47	22.70	23.19	56,639	25.20	24.77	25.14	88,341	26.87	26.43	26.44	63,176
August	23.20	22.04	22.28	29,638	25.05	24.32	24.75	116,388	26.43	25.50	26.21	68,895
September	23.64	22.21	23.64	249,666	25.40	24.75	25.25	42,369	26.38	26.16	26.31	69,358
October	24.29	23.25	23.44	181,001	25.71	25.21	25.21	104,083	26.72	26.31	26.31	101,343
November	24.24	23.42	23.73	107,326	25.35	25.00	25.15	137,433	26.53	26.30	26.39	178,833
December	23.84	23.10	23.57	171,767	25.55	24.90	25.43	91,834	26.42	26.11	26.34	123,867

Month	Series 13 (PPL.PR.M)				Series 15 (PPL.PR.O)				Series 17 (PPL.PR.Q)			
	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume
January	26.64	25.93	25.95	195,341	19.97	17.83	19.97	892,509	22.80	21.08	22.75	132,273
February	26.55	25.79	26.49	344,331	20.98	19.60	20.26	130,791	23.00	22.25	22.25	95,111
March	26.50	26.10	26.45	1,119,833	21.40	20.11	21.30	125,370	23.58	22.21	23.50	120,838
April	26.83	26.43	26.48	98,192	21.99	20.90	21.05	184,093	23.70	22.37	22.58	57,734
May	26.48	26.14	26.43	378,469	23.11	20.25	20.50	192,065	24.14	22.32	22.55	99,311
June	26.87	26.29	26.85	245,408	21.43	19.76	21.42	205,106	23.07	21.80	22.91	69,035
July	26.76	26.41	26.43	322,365	22.40	21.31	22.11	550,822	23.93	22.87	23.58	230,555
August	26.46	25.50	26.20	88,166	22.12	20.82	21.80	105,561	23.53	22.58	22.98	36,277
September	26.49	26.11	26.31	36,808	22.24	21.58	22.20	324,240	23.60	22.50	23.55	72,989
October	26.73	26.31	26.40	123,786	24.34	22.21	22.75	99,651	24.40	22.81	23.68	72,112
November	26.59	26.31	26.38	417,525	23.85	22.68	23.55	192,212	24.50	23.66	24.32	111,859
December	26.48	23.13	26.31	105,972	23.99	22.87	23.50	124,759	24.35	23.26	23.84	97,108

Month	Series 19 (PPL.PR.S)				Series 21 (PPL.PF.A)			
	High (\$)	Low (\$)	Close (\$)	Volume	High (\$)	Low (\$)	Close (\$)	Volume
January	24.79	23.06	24.52	118,141	N/A	N/A	N/A	N/A
February	24.75	24.02	24.24	249,769	N/A	N/A	N/A	N/A
March	24.82	24.09	24.82	332,038	N/A	N/A	N/A	N/A
April	25.10	24.06	24.66	185,996	N/A	N/A	N/A	N/A
May	25.45	24.60	24.90	637,123	N/A	N/A	N/A	N/A
June	25.45	24.74	24.93	207,533	N/A	N/A	N/A	N/A
July	25.49	24.93	25.14	286,450	N/A	N/A	N/A	N/A
August	25.35	24.59	25.10	137,910	N/A	N/A	N/A	N/A
September	25.45	24.97	25.35	116,643	N/A	N/A	N/A	N/A
October	25.89	25.25	25.40	108,318	N/A	N/A	N/A	N/A
November	25.88	25.35	25.50	160,986	N/A	N/A	N/A	N/A
December	25.80	25.25	25.44	258,803	25.19	24.85	25.13	2,750,870

### Prior Sales

In 2017, options to purchase Common Shares were issued to employees pursuant to Pembina's Option Plan. For a discussion of options issued and the terms thereof, refer to Note 23 to Pembina's Financial Statements, the portions of which are found under the headings "Disclosure of share option plan" and "Share options granted" are incorporated by reference herein.

## DIRECTORS AND OFFICERS

### Directors of Pembina

The following table sets out the name and residence for each director of Pembina as of the date of this Annual Information Form, the date on which they were appointed as a director of Pembina and their principal occupations during the past five years.

Name and Residence	Date Appointed	Principal Occupation During the Past Five Years
Anne-Marie N. Ainsworth <sup>(2)(4)</sup> Houston, Texas, USA	October 7, 2014	Independent businesswoman since March 2014; prior thereto, President and Chief Executive Officer and a member of the Board of Directors of the general partner of Oiltanking Partners, L.P. (a master limited partnership engaged in independent storage and transportation of crude oil, refined petroleum products and liquefied petroleum gas) and President and Chief Executive Officer of Oiltanking Holding Americas, Inc. from November 2012 to March 2014; prior thereto, Senior Vice President of Refining of Sunoco Inc. from November 2009 to March 2012. Currently a member of the board of directors of Archrock, Inc., Kirby Corporation and HollyFrontier Corporation.
Doug Arnell <sup>(4)(11)</sup> Vancouver, British Columbia, Canada	October 2, 2017	President and Chief Executive Officer of Helm Energy Advisors Inc., a private company that provides advisory services to the global energy sector, since March 2015; prior thereto, Chief Executive Officer of Golar LNG Ltd. from 2011 to 2015 and employed by Golar LNG Ltd. since September 2010. Currently a director of Methanex Corporation.



Name and Residence	Date Appointed	Principal Occupation During the Past Five Years
Michael H. Dilger Calgary, Alberta, Canada	January 1, 2014	President and Chief Executive Officer of Pembina since January 1, 2014; prior thereto, President and Chief Operating Officer of Pembina from February 2012 until December 31, 2014; prior thereto, Vice President, Chief Operating Officer of Pembina from November 2008 to February 2012.
Randall J. Findlay <sup>(1)(5)(6)(7)</sup> Calgary, Alberta, Canada	March 8, 2007	Corporate director since 2006; prior thereto, President of Provident Energy Trust from 2001 to 2006. Currently a member of the board of directors of HNZ Group Inc. and Superior Plus Corp.
Lorne B. Gordon <sup>(3)(5)(8)</sup> Calgary, Alberta, Canada	October 24, 1997	Independent businessman since 2006; prior thereto, Vice Chairman of Coril Holdings Ltd. (a private investment and holding company) from 2004 to 2006.
Maureen E. Howe <sup>(2)(12)</sup> Vancouver, British Columbia, Canada	October 2, 2017	Independent businesswoman since 2008; prior thereto, a Research Analyst and Managing Director at RBC Capital Markets from 1996 to 2008. Currently a member of the board of directors of TimberWest Forest Corp. and the Insurance Corporation of British Columbia.
Gordon J. Kerr <sup>(2)(3)(10)</sup> Calgary, Alberta, Canada	January 15, 2015	Independent businessman since 2013; prior thereto, President and Chief Executive Officer and director of Enerplus Corporation (a North American energy producer) from May 2001 until July 2013.
David M.B. LeGresley <sup>(2)(3)</sup> Toronto, Ontario, Canada	August 16, 2010	Independent businessman since September 2008; prior thereto, Vice Chairman of National Bank Financial from 2006 to 2008. Currently a member of the board of directors of Equitable Group Inc.
Robert B. Michaleski <sup>(4)</sup> Calgary, Alberta, Canada	January 4, 2000	Corporate director since January 1, 2014; prior thereto, Chief Executive Officer of Pembina from January 2000 until December 31, 2013; until February 15, 2012, he also served as President. Currently a member of the board of directors of Essential Energy Services Ltd. and Vermilion Energy Inc.
Leslie A. O'Donoghue <sup>(3)(5)</sup> Calgary, Alberta, Canada	December 17, 2008	Executive Vice President, Corporate Development and Strategy and Chief Risk Officer of Nutrien Ltd. (formerly Agrium Inc.) (a retail supplier of agricultural products and services and a producer and marketer of agricultural nutrients and industrial products) since October 30, 2012; prior thereto, Executive Vice President, Operations of Agrium Inc. from April 30, 2011 to October 30, 2012; prior thereto, Chief Legal Officer and Senior Vice President, Business Development of Agrium Inc.

Name and Residence	Date Appointed	Principal Occupation During the Past Five Years
Bruce D. Rubin <sup>(2)(4)</sup> Calgary, Alberta, Canada	May 5, 2017	Independent businessman since 2017; prior thereto, Operating Advisor for The Carlyle Group from 2015 to 2017; prior thereto, Advisor for Braskem America from 2014 to 2017; prior thereto, Executive Advisor for Court Square Partners from 2013 to 2015; prior thereto, Chief Executive Officer of Braskem America, and executive with Braskem America from 2010 until 2013; prior thereto, Chief Executive Officer of Sunoco Chemicals and Senior Vice President of Sunoco Inc. from 2008 until 2010. Currently a member of the board of directors of DISA Global Solutions (a Court Square Capital Partners company) and the M. Holland Company.
Jeffrey T. Smith <sup>(4)(5)(9)</sup> Calgary, Alberta, Canada	April 2, 2012	Independent businessman. Currently a member of the board of directors of NAL Resources Limited (an oil and gas company).
Henry Sykes <sup>(3)(12)(13)</sup> Calgary, Alberta, Canada	October 2, 2017	Independent businessman since 2014; prior thereto, the President and a director of MGM Energy Corp. from January 2007 to June 2014; President of ConocoPhillips Canada from 2001 to 2006; Executive Vice President, Business Development of GulfCanada Resources.

**Notes:**

- (1) Chairman of the Board.
- (2) Member of Audit Committee.
- (3) Member of Human Resources and Compensation Committee.
- (4) Member of the Health, Safety and Environment Committee.
- (5) Member of the Governance Committee.
- (6) Mr. Findlay was a director of Wellpoint Systems Inc. (a TSX Venture Exchange listed company) from June 2008 until January 31, 2011. Wellpoint Systems Inc. was placed into receivership by two of its lenders on January 31, 2011. Wellpoint Systems Inc. was a company supplying software to the energy industry in Canada, the U.S. and internationally.
- (7) Mr. Findlay was a director of Spyglass Resources Corp. (a TSX listed company) from March 2013 until May 13, 2015. Spyglass Resources Corp. was placed into receivership by a syndicate of its lenders on November 26, 2015.
- (8) Mr. Gordon will not stand for re-election at the next annual meeting of Shareholders to be held May 4, 2018.
- (9) Mr. Smith was a director of Spyglass Resources Corp. (a TSX listed company) from March 2013 until August 11, 2015. Spyglass Resources Corp. was placed into receivership by a syndicate of its lenders on November 26, 2015.
- (10) Mr. Kerr was a director of Laricina Energy Ltd., a private company, until February 5, 2016. Laricina Energy Ltd. was subject to proceedings under the *Companies Creditors Arrangement Act* in 2015. On February 1, 2016, the proceedings were conditionally discharged.
- (11) On May 5, 2017, Pembina announced that Grant Billing did not stand for re-election and Bruce D. Rubin had been appointed to Pembina's Board of Directors.
- (12) Following closing of the Veresen Acquisition, Maureen E. Howe, Henry Sykes and Doug Arnell were appointed to Pembina's Board of Directors effective October 2, 2017.
- (13) Mr. Sykes was a director of Parallel Energy Trust ("Parallel") from March 2011 until February 2016. On or about November 9, 2015, Parallel filed an application in the Alberta Court of Queen's Bench for creditor protection under the *Companies' Creditors Arrangement Act* (Canada) and voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code. In the Chapter 11 proceedings, the Bankruptcy Court approved the sale of the assets of Parallel and the sale closed on January 28, 2016. Further, on March 3, 2016, the Canadian entities of Parallel filed for bankruptcy under the *Bankruptcy and Insolvency Act* (Canada).

Shareholders elect the directors of Pembina at each annual meeting of the Shareholders. The directors of Pembina serve until the next annual meeting of the Shareholders or until their successors are duly elected or appointed. All of Pembina's directors are "independent" within the meaning of National Instrument 58-101 – *Disclosure of Corporate Governance Practices*, adopted by the CSA, with the exception of Mr. Dilger, who is President and Chief Executive Officer of Pembina. In addition, Pembina has adopted Standards for Director Independence which meet

or exceed the requirements set out in National Policy 58–201 – *Corporate Governance Guidelines*, National Instrument 52–110 – *Audit Committees*, the SEC rules and regulations, the *Sarbanes-Oxley Act of 2002* and the NYSE rules.

The Board of Directors has four committees, the Audit Committee, the Health, Safety and Environment Committee, the Human Resources and Compensation Committee, and the Governance Committee. Additional information regarding the responsibilities of these committees will be contained in Pembina's information circular for its annual meeting of Shareholders to be held on May 4, 2018.

### Executive Officers of Pembina

The following table sets out the name, residence and office held with Pembina for each executive officer of the Company as at February 21, 2018, as well as their principal occupations during the past five years.

<u>Name and Residence</u>	<u>Office with Pembina</u>	<u>Principal Occupation During the Past Five Years</u>
Michael H. Dilger Calgary, Alberta, Canada	President and Chief Executive Officer	President and Chief Executive Officer since January 1, 2014; prior thereto, President and Chief Operating Officer of Pembina since February 15, 2012; prior thereto, Vice President, Chief Operating Officer of Pembina since November 2008.
Paul J. Murphy Calgary, Alberta, Canada	Senior Vice President and Corporate Services Officer	Senior Vice President and Corporate Services Officer since January 1, 2018; prior thereto, Senior Vice President, Pipeline and Crude Oil Facilities since September 4, 2013; prior thereto, Vice President, Conventional Pipelines of Pembina since February 14, 2011; prior thereto, Vice President, NGL Extraction of Inter Pipeline Fund since July 2004.
Stuart V. Taylor Calgary, Alberta, Canada	Senior Vice President, Marketing and New Ventures and Corporate Development Officer	Senior Vice President, Marketing and New Ventures and Corporate Development Officer since January 1, 2018; prior thereto, Senior Vice President, NGL and Natural Gas Facilities since September 4, 2013; prior thereto, Vice President, Gas Services of Pembina since July 1, 2009.
J. Scott Burrows Calgary, Alberta, Canada	Senior Vice President and Chief Financial Officer	Senior Vice President and Chief Financial Officer since August 1, 2017; prior thereto, Vice President, Finance and Chief Financial Officer since January 1, 2015; prior thereto, Vice President, Capital Markets of Pembina since September 2013; prior thereto, Vice President, Corporate Development and Investor Relations since March 2013; prior thereto, Senior Manager, Corporate Development and Planning since January 2012.

<b>Name and Residence</b>	<b>Office with Pembina</b>	<b>Principal Occupation During the Past Five Years</b>
Harold K. Andersen Calgary, Alberta, Canada	Senior Vice President, External Affairs and Chief Legal Officer	Senior Vice President, External Affairs and Chief Legal Officer since August 1, 2017; prior thereto, Vice President, Legal and General Counsel of Pembina since April 1, 2013; prior thereto, General Counsel of Pembina since December 2011; prior thereto, Partner and Associate at Stikeman Elliott LLP (a law firm) from June 2000 to December 2011.
Elizabeth Spomer Houston, Texas	Senior Vice President, LNG Division	Senior Vice President, LNG Division since October 2, 2017 and President and Chief Executive Officer of Jordan Cove LNG; prior thereto, Senior Vice President, Global Business Development with BG Group PLCA.
Jason T. Wiun Calgary, Alberta, Canada	Senior Vice President and Chief Operating Officer, Pipelines	Senior Vice President and Chief Operating Officer, Pipelines since January 1, 2018; prior thereto, Vice President, Conventional Pipelines of Pembina since January 1, 2014; prior thereto, Vice President, Gas Services since September 2013; prior thereto, Senior Manager, Business Development, Conventional Pipelines since 2011.
Jaret A. Sprott Calgary, Alberta, Canada	Senior Vice President and Chief Operating Officer, Facilities	Senior Vice President and Chief Operating Officer, Facilities since January 1, 2018; prior thereto, Vice President, Gas Services of Pembina since January 1, 2015; prior thereto, Senior Manager, Peace River Arch (Alberta Montney), Northern Operating Area of Encana since March 2013; prior thereto, Senior Manager, Bighorn (Deep Basin Cretaceous) since April 2012.

As at February 21, 2018, the directors and executive officers of Pembina beneficially owned, or controlled or directed, directly or indirectly, an aggregate of 1,436,163 Common Shares, representing approximately 0.3 percent of the then outstanding Common Shares.

### **Conflicts of Interest**

The directors and officers of Pembina may be directors or officers of entities which are in competition with or are customers or suppliers of Pembina or certain entities in which Pembina holds an equity investment. As such, these directors or officers of Pembina may encounter conflicts of interest in the administration of their duties with respect to Pembina. Directors and officers of Pembina are required to disclose the existence of potential conflicts in accordance with Pembina's Code of Ethics and other corporate governance policies which can be found on Pembina's website at [www.pembina.com](http://www.pembina.com) and in accordance with the ABCA. See "*Risk Factors – General Risk Factors – Potential Conflicts of Interest.*"

## **AUDIT COMMITTEE INFORMATION**

### **The Audit Committee's Charter**

The Audit Committee Charter is set forth in Appendix "A" to this Annual Information Form.

## **Composition of the Audit Committee and Relevant Education and Experience**

Pembina's Audit Committee is comprised of Gordon J. Kerr, as Chairman, Anne-Marie Ainsworth, Maureen E. Howe, David M.B. LeGresley and Bruce D. Rubin each of whom is independent and financially literate within the meaning of NI 52-110 and in accordance with Pembina's Standards for Director Independence available at [www.pembina.com](http://www.pembina.com). Set forth below are additional details regarding each member of the Audit Committee.

### ***Gordon J. Kerr***

Mr. Kerr is the Chairman of the Audit Committee and has been a member of the Audit Committee since February 27, 2015. Mr. Kerr is independent within the meaning of such term in NI 52-110, and in accordance with the rules prescribed by the SEC and the NYSE. Mr. Kerr is a member of the Management Advisory Council of the Haskayne School of Business at the University of Calgary. Mr. Kerr is a former President and Chief Executive Officer of Enerplus Corporation, a position he held from May 2001 until July 2013. He is also a past Chairman of the Canadian Association of Petroleum Producers, a former director of Deer Creek Energy Limited and a past member of the Canadian Council of Chief Executives. Since beginning his career in 1979, he has gained extensive management experience in leadership positions at various oil and gas companies.

Mr. Kerr commenced employment with Enerplus Corporation and its predecessors in 1996, holding positions of increasing responsibility, including the positions of Chief Financial Officer and Executive Vice President. Mr. Kerr graduated from the University of Calgary in 1976 with a Bachelor of Commerce degree. He received a Chartered Accountant designation and was admitted as a member of the Institute of Chartered Accountants of Alberta in 1979 and was later appointed a Fellow of the Institute of Chartered Accountants of Alberta in February 2011. This business experience provides Mr. Kerr with the skill set and financial literacy required to carry out his duties as a member of the Audit Committee.

### ***Anne-Marie N. Ainsworth***

Anne-Marie N. Ainsworth has been a member of the Audit Committee since October 7, 2014. Ms. Ainsworth is independent within the meaning of such term in NI 52-110, and in accordance with the rules prescribed by the SEC and the NYSE. Ms. Ainsworth currently serves as a member of the board of directors and audit committee of Archrock, Inc. and Kirby Corporation. She has served as President and Chief Executive Officer and a member of the Board of Directors of the general partner of Oiltanking Partners, L.P. and as President and Chief Executive Officer of Oiltanking Holding Americas, Inc. from November 2012 to March 2014. Ms. Ainsworth previously held the position of Senior Vice President of Refining of Sunoco Inc. from November 2009 until March 2012. Prior to joining Sunoco, Ms. Ainsworth was employed by Motiva Enterprises, LLC, where she was the General Manager of the Motiva Norco Refinery in Norco, Louisiana from 2006 to 2009. From 2003 to 2006 Ms. Ainsworth was Director of Management Systems & Process Safety at Shell Oil Products U.S., and from 2000 to 2003 she was Vice President of Technical Assurance at Shell Deer Park Refining Company. Ms. Ainsworth holds a Master of Business Administration degree from Rice University, where she served as an adjunct professor from October 2000 to October 2009, and a Bachelor of Science degree in Chemical Engineering from the University of Toledo. This business experience provides Ms. Ainsworth with the skill set and financial literacy required to carry out her duties as a member of the Audit Committee.

### ***Maureen E. Howe***

Maureen E. Howe has been a member of the Audit Committee since October 2, 2017. Ms. Howe is independent within the meaning of such term in NI 52-110, and in accordance with the rules prescribed by the SEC and the NYSE. Ms. Howe currently serves as a member of the board of directors and chair of the audit committee of TimberWest Forest Corp., a private company. She has served as Managing Director at RBC Capital Markets in equity research and was regularly a top ranked analyst in Canada by independent industry surveys. Prior to joining RBC Capital Markets, Ms. Howe held finance positions in the utility industry, investment banking and portfolio management. Ms. Howe holds a Bachelor of Commerce (Honours) from the University of Manitoba and a Ph.D. in Finance from the University

of British Columbia. This business experience provides Ms. Howe with the skill set and financial literacy required to carry out her duties as a member of the Audit Committee.

***David M.B. LeGresley***

David M.B. LeGresley has been a member of the Audit Committee since April 2, 2012. Mr. LeGresley is independent within the meaning of such term in NI 52–110, and in accordance with the rules prescribed by the SEC and the NYSE. Mr. LeGresley is a former executive of National Bank Financial and spent 12 years with that company, most recently serving as Vice Chairman from 2006 to 2008. Prior to that assignment he was National Bank Financial's Executive Vice President and Head of Corporate and Investment Banking (1999 to 2006); Managing Director and Head of Vancouver Investment Banking (1998 to 1999); and Managing Director, Investment Banking (1996 to 1998). Mr. LeGresley has extensive experience in the financial services industry, including positions at Salomon Brothers Canada from 1990 to 1996 and CIBC Wood Gundy from 1986 to 1990. He also serves as a chairman and director of a TSX-listed company, Equitable Group Inc., as well as one private company, Woodland Biofuels Inc. He is on the advisory committee for CANFAR (the Canadian Foundation for AIDS Research). Mr. LeGresley received a Bachelor of Applied Science Degree in Engineering from the University of Toronto in 1981 and a Master of Business Administration from Harvard Business School in 1986. He is a graduate of the Institute of Corporate Directors – Rotman Directors Education Program and a member of the Institute of Corporate Directors. This business experience provides Mr. LeGresley with the skill set and financial literacy required to carry out his duties as a member of the Audit Committee.

***Bruce D. Rubin***

Mr. Rubin has been a member of the Audit Committee since May 5, 2017. Mr. Rubin is independent within the meaning of such term in NI 52–110, and in accordance with the rules prescribed by the SEC and the NYSE. Mr. Rubin is an independent businessman with over 38 years of experience, including various executive and advisory positions and board memberships in the energy, refining and petrochemical sectors. He served as the Chief Executive Officer of Sunoco Chemicals and was a Senior Vice President of Sunoco Inc., from 2008 until 2010, and held various other executive positions during a 32-year career with that company. Mr. Rubin was Braskem America's first Chief Executive Officer, and he served with Braskem America in an executive capacity from 2010 until 2013. He oversaw the successful transition of Sunoco Chemicals to Braskem America and supported the successful acquisition by Braskem America of Dow Chemicals' polypropylene business. Mr. Rubin is currently an advisor for Braskem America. Mr. Rubin served on the board of directors of Sylvatex Inc. from 2012 to 2016, and currently serves on the board of DISA Global Solutions (a Court Square Capital Partners company). He is currently an advisor for Sylvatex Inc. and previously served as an Executive Advisor for Court Square Partners from 2013 to 2015 as well as an Operating Advisor for The Carlyle Group from 2015 to 2017. Mr. Rubin has a Master of Business Administration Degree from Widener University as well as a Bachelor of Science degree in Chemical Engineering from the University of Pennsylvania. This business experience provides Mr. Rubin with the skill set and financial literacy required to carry out his duties as a member of the Audit Committee.

**Pre-Approval Policies and Procedures for Audit and Non-Audit Services**

As outlined in Pembina's Audit Committee Charter and the terms of engagement with Pembina's external auditors, the Audit Committee of the Board is directly responsible for overseeing the relationship, reports, qualifications, independence and performance of the external auditor and audit services by other registered public accounting firms engaged by Pembina. The Audit Committee has the authority and responsibility to recommend the appointment and the revocation of the appointment of the external auditors engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services, and to fix their remuneration. The external auditor reports directly to the Audit Committee. The Audit Committee's appointment of the external auditor is subject to annual approval by the Shareholders.

The Audit Committee is also responsible for the pre-approval of all permissible non-audit services to be provided by the external auditors considering the potential impact of such services on the independence of external auditors

and, subject to any *de minimis* exemption available under applicable laws. Such approval can be given either specifically or pursuant to pre-approval policies and procedures adopted by the committee, including the delegation of this ability to one or more members of the Audit Committee to the extent permitted by applicable law, provided that any pre-approvals granted pursuant to any such delegation must be detailed as to the particular service to be provided, may not delegate Audit Committee responsibilities to management of Pembina, and must be reported to the full Audit Committee at the first scheduled meeting of the Audit Committee following such pre-approval.

### External Auditor Service Fees

The following table sets out the fees billed to Pembina for professional services provided by KPMG LLP during each of the last two financial years:

YEAR	AUDIT FEES <sup>(1)</sup>	AUDIT-RELATED FEES <sup>(2)</sup>	TAX FEES <sup>(3)</sup>	ALL OTHER FEES <sup>(4)</sup>
2017	\$2,739,500	\$114,900	\$437,250	NIL
2016	\$2,067,100	\$30,000	\$639,918	NIL

#### Notes:

- (1) Audit fees were for professional services rendered by KPMG LLP for the audit of Pembina's annual financial statements and reviews of Pembina's quarterly financial statements, as well as services provided in connection with statutory and regulatory filings or engagements. In 2017, fees included additional expense for the 2017 Base Shelf Prospectus, MTN Prospectus, prospectus supplements in relation to the offering of Series 21 Class A Preferred Shares, pricing supplements in relation to the sale and issue of Medium Term Notes, Series 8 and 9, management information circular dated March 16, 2017 and BAR. In 2016, fees included additional expense for Pembina's prospectus supplements in relation to the offerings of Series 11 and Series 13 Class A Preferred Shares, Common Shares and Medium Term Notes, Series 7, and associated French translations.
- (2) Audit-related fees are for assurance and related services, including French translations in connection with statutory and regulatory filings for 2017, reasonably related to the performance of the audit or review of Pembina's financial statements and not reported under "Audit Fees" above. 2016 and 2017 fees included audit fees for the pension plan audit.
- (3) Tax fees were for tax compliance of \$74,350 (2016: \$190,050) and tax advice and tax planning of \$362,900 (2016: \$449,868). In addition to the 2017 fees stated above, KPMG billed \$108,040 in 2018 prior to the date hereof. The fees were for non-audit tax services. 2016 and 2017 fees included tax consultation and tax compliance fees incurred for preparing and filing the tax returns for Pembina's subsidiaries.
- (4) All other fees are fees for products and services provided by Pembina's auditors other than those described as "Audit Fees", "Audit-related Fees" and "Tax Fees."

### RISK FACTORS

The following information is a summary only of certain risk factors relating to Pembina, or an investment in securities of Pembina, or its subsidiaries, or its Equity Accounted Investments, and is qualified in its entirety by reference to, and must be read in conjunction with, the detailed information appearing elsewhere in this Annual Information Form. Shareholders and prospective investors should carefully consider these risk factors before investing in Pembina's securities, as each of these risks may negatively affect the trading price of Pembina's securities, the amount of dividends paid to Shareholders and holders of Class A Preferred Shares and the ability of Pembina to fund its debt obligations, including debt obligations under its outstanding Series F Convertible Debentures, Medium Term Notes and any other debt securities that Pembina may issue from time to time. Information regarding Pembina's risk assessment and management processes can be found in the Company's management information circular dated March 16, 2017 and will also be contained in Pembina's information circular for its 2018 annual meeting of Shareholders.

**Investors should carefully consider the risk factors set out below and consider all other information contained herein and in Pembina's other public filings before making an investment decision.**

Pembina's value proposition is based on balancing economic benefit against risk. Where appropriate, Pembina will reduce risk. Pembina continually works to mitigate the impact of potential risks to its business by identifying all

significant risks so that they can be appropriately managed. To assist with identifying risk, Pembina has implemented a comprehensive Risk Management Program.

## **Risks Inherent in Pembina's Business**

### *Operational Risks*

Operational risks include: pipeline leaks; the breakdown or failure of equipment, pipelines and facilities, information systems or processes; the compromise of information and control systems; the performance of equipment at levels below those originally intended (whether due to misuse, unexpected degradation or design, construction or manufacturing defects); spills at truck terminals and hubs; spills associated with the loading and unloading of harmful substances onto rail cars and trucks; failure to maintain adequate supplies of spare parts; operator error; labour disputes; disputes with interconnected facilities and carriers; operational disruptions or apportionment on third-party systems or refineries, which may prevent the full utilization of Pembina's facilities and pipelines; and catastrophic events including, but not limited to, extreme weather events, including fires, floods and other natural disasters, explosions, train derailments, earthquakes, acts of terrorists and saboteurs, and other similar events, many of which are beyond the control of Pembina and all of which could result in damage to assets, related spills or other environmental issues, operational disruptions, and delays in construction, labour and materials. Pembina may also be exposed from time to time to additional operational risks not stated in the immediately preceding sentences. The occurrence or continuance of any of these events could increase the cost of operating Pembina's assets or reduce revenue, thereby impacting earnings. Additionally, facilities and pipelines are reliant on electrical power for their operations. A failure or disruption within the local or regional electrical power supply or distribution or transmission systems could significantly affect ongoing operations. Further, a significant increase in the cost of power or fuel could have a materially negative effect on the level of profit realized in cases where the relevant contracts do not provide for recovery of such costs. In the long-term, constraints on natural resources could be impacted by climate change initiatives or policies, resulting in additional operational costs, delays or restrictions.

Pembina is committed to preserving customer and Shareholder value by proactively managing operational risk through safe and reliable operations. Senior managers are responsible for the daily supervision of operational risk by ensuring appropriate policies, procedures and systems are in place within their business units and internal controls are operating efficiently. Pembina also has an extensive program to manage system integrity, which includes the development and use of in-line inspection tools and various other leak detection technologies. Pembina's maintenance, excavation and repair programs are focused on risk mitigation and, as such, resources are directed to the areas of greatest benefit and infrastructure is replaced or repaired as required. Pembina carries insurance coverage with respect to some, but not all, casualty occurrences in amounts customary for similar business operations, which coverage may not be sufficient to compensate for all casualty occurrences. In addition, Pembina has a comprehensive Corporate Security Management Program designed to reduce security-related risks.

### *Possible Failure to Realize Anticipated Benefits of Corporate Strategy or the Veresen Acquisition*

Pembina evaluates the value proposition for expansion projects, new acquisitions or divestitures on an ongoing basis. Planning and investment analysis is highly dependent on accurate forecasting assumptions and to the extent that these assumptions do not materialize, financial performance may be lower or more volatile than expected. Volatility in the economy, change in cost estimates, project scoping and risk assessment could result in a loss in profits for Pembina. Large scale acquisitions in particular may involve significant pricing and integration risk. As part of its ongoing strategy, Pembina may complete acquisitions of assets or other entities in the future. Achieving the benefits of completed and future acquisitions depends in part on successfully consolidating functions and integrating operations, procedures and personnel in a timely and efficient manner, as well as Pembina's ability to realize the anticipated growth opportunities and synergies from combining the acquired businesses and operations with those of Pembina. The integration of acquired businesses and entities requires the dedication of substantial management effort, time and resources which may divert management's focus and resources from other strategic opportunities and from operational matters during this process. The integration process may result in the loss of key employees and the disruption of ongoing business, customer and employee relationships that may adversely affect Pembina's



ability to achieve the anticipated benefits of any acquisitions. Acquisitions may also expose Pembina to additional risks, including entry into markets or businesses in which Pembina has little or no direct prior experience, increased credit risks through the assumption of additional debt, costs and contingent liabilities and exposure to liabilities of the acquired business or assets. See "*General Risk Factors – Additional Financing and Capital Resources*" below.

Pembina completed the Veresen Acquisition to strengthen its position in the pipeline industry through a combined asset base that is highly integrated across the value chain, benefit from diversification across basin and products, as well as customers and currency, maintain a strong balance sheet and to pursue large growth projects. Achieving the benefits of the Veresen Acquisition depends in part on successfully consolidating functions and integrating operations, procedures and personnel in a timely and efficient manner, as well as the ability of Pembina, to realize the anticipated growth opportunities and synergies from combining the acquired businesses and operations of Veresen with those of Pembina. The integration of the Veresen assets requires the dedication of substantial management effort, time and resources which may divert management's focus and resources from other strategic opportunities and from operational matters during this process. The integration process may result in the loss of key employees and the disruption of ongoing business, customer and employee relationships that may adversely affect Pembina's ability to achieve the anticipated benefits of the Veresen Acquisition.

Pembina has been working with the Commissioner of Competition and his staff relating to their review of the Veresen Acquisition, and in particular, AEGS. Should Pembina and the Commissioner of Competition not reach a mutual agreement relating to AEGS, the matter may be referred to the Competition Tribunal by the Commissioner of Competition for resolution for a period of up to one year from closing. The Company is of the view that its ownership of AEGS is complementary to its NGL infrastructure, and Pembina's fee-for-service business model will continue to drive increased volumes across both AEGS and its NGL infrastructure benefiting producers and the broader NGL market. However, should a mutual agreement between the Commissioner of Competition and Pembina not be reached, the Competition Tribunal may impose remedies on Pembina as may be permitted by the *Competition Act*, which may have an adverse effect on Pembina's business and operations. At this time Pembina is unable to predict with certainty what impact any such remedies may have but management's current assessment is that any such remedy will have a minimal impact on Pembina's business and operations.

#### *Joint Ownership and Third Party Operators*

Certain of Pembina's assets are jointly held and are governed by partnership and shareholder agreements. As a result, certain decisions regarding these assets require a simple majority, while others require 100% approval of the owners. In addition, certain of these assets are operated by unrelated third party entities. The business success of these assets is to some extent dependent on the effectiveness of the business relationship and decision making among Pembina and the other joint owner(s) and the expertise and ability of these third party operators to successfully operate and maintain the assets. While Pembina believes that there are prudent governance and contractual rights in place, there can be no assurance that Pembina will not encounter disputes with partners or that assets operated by third parties may not perform as expected. Such events could impact operations or cash flows of these assets or cause them to not operate as Pembina expects which, in turn, could have a negative impact on Pembina's business operations and financial results, and could reduce Pembina's expected return on investment, thereby reducing the level of cash available for dividends and to service obligations under Pembina's debt securities and other debt obligations.

#### *Commodity Price Risk*

Pembina's Midstream business includes activities related to product storage, terminalling, and hub services. These activities expose Pembina to certain risks including that Pembina may experience volatility in revenue, and impairments related to the book value of stored product, due to fluctuations in commodity prices. Primarily, Pembina enters into contracts to purchase and sell crude oil, NGL and natural gas at floating market prices. The prices of products that are marketed by Pembina are subject to volatility as a result of such factors as seasonal demand changes, extreme weather conditions, market inventory levels, general economic conditions, changes in crude oil markets and other factors. Pembina manages its risk exposure by balancing purchases and sales to lock-in

margins. Notwithstanding Pembina's management of price and quality risk, marketing margins for commodities can vary and have varied significantly from period to period. This variability could have an adverse effect on the results of Pembina's Midstream business and to a lesser extent, its Veresen business, and its overall results of operations. To assist in effectively smoothing that variability inherent in this business, Pembina is investing in assets that have a fee-based revenue component, and is looking to expand this area going forward.

Pembina is also exposed to possible price declines between the time Pembina purchases NGL feedstock and sells NGL products, and to decreasing frac spreads. Frac spread is the difference between the sale prices of NGL products and the cost of NGL sourced from natural gas and acquired at natural gas related prices. Frac spreads can change significantly from period to period depending on the relationship between NGL and natural gas prices (the "**frac spread ratio**"), absolute commodity prices, and changes in the Canadian to U.S. dollar foreign exchange rate. There is also a differential between NGL product prices and crude oil prices which can change margins realized for midstream products separate from frac spread ratio changes. The amount of profit or loss made on the extraction portion of the business will generally increase or decrease with frac spreads. This exposure could result in variability of cash flow generated by the NGL Midstream business and to a lesser extent, the Veresen business, which could affect Pembina and the cash dividends that Pembina is able to distribute.

The Company utilizes financial derivative instruments as part of its overall risk management strategy to assist in managing the exposure to commodity prices, as well as interest rates, cost of power and foreign exchange risk. As an example of commodity price mitigation, the Company actively fixes a proportion of its exposure to fractionation margins through the use of derivative financial instruments. Additionally, Pembina's Midstream business is also exposed to variability in quality, time and location differentials, and financial instruments may be used to offset the Company's exposures to these basis differentials. The Company does not trade financial instruments for speculative purposes. Commodity price fluctuations and volatility can also impact producer activity and throughput in Pembina's infrastructure, as set out below.

For more information with respect to Pembina's financial instruments and financial risk management program, see Note 24 to Pembina's Financial Statements, which note is incorporated by reference herein.

#### *Reserve Replacement, Throughput and Product Demand*

Pembina's pipeline tariff revenue is based upon a variety of tolling arrangements, including fee-for-service, cost-of-service agreements and market-based tolls. As a result, certain pipeline tariff revenue is heavily dependent upon throughput levels of crude oil, NGL, natural gas and condensate. Future throughput on crude oil, natural gas and NGL pipelines and replacement of oil and gas reserves in the service areas will be dependent upon the activities of producers operating in those areas as they relate to exploiting their existing reserve bases and exploring for and developing additional reserves, and technological improvements leading to increased recovery rates. Similarly, the volumes of natural gas processed through Pembina's gas processing assets depends on production of natural gas in the areas serviced by the gas processing business and associated pipelines. Without reserve additions, or expansion of the service areas, volumes on such pipelines and in such facilities would decline over time as reserves are depleted. As oil and gas reserves are depleted, production costs may increase relative to the value of the remaining reserves in place, causing producers to shut-in production or seek out lower cost alternatives for transportation. If the level of tariffs collected by Pembina decreases as a result, cash flow available for dividends to Shareholders and to service obligations under Pembina's debt securities and Pembina's other debt obligations could be adversely affected.

Over the long-term, the ability and willingness of shippers to continue production, and as a consequence, Pembina's business, will also depend, in part, on the level of demand and prices for crude oil, condensate, NGL and natural gas in the markets served by the crude oil, natural gas and NGL pipelines and gas processing and gathering infrastructure in which Pembina has an interest. Producers may shut-in production at lower product prices or higher production costs.

Global economic events may continue to have a substantial impact on the prices of such products. Pembina cannot predict the impact of future supply/demand or economic conditions, fuel conservation measures, alternative fuel requirements, governmental regulation or technological advances in fuel economy and energy generation devices on the energy and petrochemical industries or future demand for and prices of natural gas, crude oil, condensate and NGL. A lower commodity price environment will generally reduce drilling activity and, as a result, the supply growth that has been fuelling the growth in midstream infrastructure could slow down. Producers in the areas serviced by the business may not be successful in exploring for and developing additional reserves or achieving technological improvements to increase recovery rates and production costs given lower commodity prices, and the gas plants and the pipelines may not be able to maintain existing volumes of throughput. These factors could negatively affect pipeline and processing capacity value as transportation and processing capacity becomes more abundant. Future prices of these products are determined by supply and demand factors, including weather and general economic conditions as well as economic, political and other conditions in other oil and natural gas regions, all of which are beyond Pembina's control. Lower production volumes will also increase the competition for natural gas supply at gas processing plants, which could result in higher shrinkage premiums being paid to natural gas producers.

The rate and timing of production from proven natural gas reserves tied into the gas plants is at the discretion of the producers and is subject to regulatory constraints. The producers have no obligation to produce natural gas from these lands. Pembina's gas processing assets are connected to various third-party trunk line systems. Operational disruptions or apportionment on those third-party systems may prevent the full utilization of Pembina's gas processing assets, which may have an adverse effect on its business.

#### *Customer Contracts*

Throughput on Pembina's pipelines is governed by transportation contracts or tolling arrangements with various producers of petroleum products and natural gas and Pembina is party to numerous contracts of varying durations in respect of its gas gathering, processing and fractionation facilities as well as terminalling and storage services. Any default by counterparties under such contracts or any expiration of such contracts or tolling arrangements without renewal or replacement may have an adverse effect on Pembina's business. Further, some of the contracts associated with the services described above are comprised of a mixture of firm and non-firm contracts and the revenue that Pembina earns on contracts which are based on non-firm or firm without take-or-pay service is dependent on the volume of natural gas, NGL, crude oil and condensate produced by producers in the relevant geographic areas. Accordingly, lower than historical production volumes in these areas (for reasons such as low commodity prices) may have an adverse effect on Pembina's revenue. See "*Description of Pembina's Business and Operations — Oil Sands & Heavy Oil Business*", "*Description of Pembina's Business and Operations — Conventional Pipelines Business*", "*Description of Pembina's Business and Operations – Gas Services Business*" and "*Description of Pembina's Business and Operations – Veresen Business*."

#### *Reputation*

Reputational risk is the potential that market or company specific events, or other factors, could result in the deterioration of Pembina's reputation with key stakeholders. The potential for harming Pembina's corporate reputation exists in every business decision and all risks can have an impact on reputation, which in turn can negatively impact Pembina's business and its securities. Reputational risk cannot be managed in isolation from other forms of risk. Credit, market, operational, insurance, liquidity, regulatory and legal, and technology risks, among others, must all be managed effectively to safeguard Pembina's reputation. Pembina's reputation could also be impacted by the actions and activities of other companies operating in the energy industry, particularly other energy infrastructure providers, over which it has no control. In particular, Pembina's reputation could be impacted by negative publicity related to pipeline incidents, unpopular expansion plans or new projects, and due to opposition from organizations opposed to energy, oil sands and pipeline development and particularly with shipment of production from oil sands regions. Further, Pembina's reputation could be negatively impacted by changing public attitudes towards climate change and the perceived causes thereof, over which the Company has no control. Negative impacts from a compromised reputation, whether as a result of Pembina's actions or otherwise, could

include revenue loss, reduction in customer base, delays in obtaining regulatory approvals with respect to growth projects, reduced access to capital and decreased value of Pembina's securities.

#### *Environmental Costs and Liabilities*

Pembina's operations, facilities and petroleum product shipments are subject to extensive national, regional and local environmental, health and safety laws and regulations governing, among other things, discharges to air, land and water, the handling and storage of petroleum products and hazardous materials, waste disposal, the protection of employee health, safety and the environment, and the investigation and remediation of contamination. Pembina's facilities could experience incidents, malfunctions or other unplanned events that result in spills or emissions in excess of permitted levels and result in personal injury, fines, penalties or other sanctions and property damage. Pembina could also incur liability in the future for environmental contamination associated with past and present activities and properties. The facilities and pipelines must maintain a number of environmental and other permits from various governmental authorities in order to operate, and these facilities are subject to inspection from time to time. Failure to maintain compliance with these requirements could result in operational interruptions, fines or penalties, or the need to install additional pollution control technology. Licenses and permits must be renewed from time to time and there is no guarantee that a license or permit will be renewed on the same or similar conditions. There can be no assurance that Pembina will be able to obtain all of the licenses, permits, registrations, approvals and authorizations that may be required to conduct operations that it may wish to undertake. Further, if at any time regulatory authorities deem any one of Pembina's pipelines or facilities unsafe or not in compliance with applicable laws, they may order it to be shut down. Certain significant environmental legislative initiatives that may materially impact Pembina's business and financial results and conditions are outlined below.

In 2016, the Canadian federal government announced that its initial proposed pan-Canadian carbon tax will be \$10 per tonne commencing in 2018 and will escalate to \$50 per tonne by 2022. In Alberta, the provincial government has launched two of the initiatives under the *Climate Change Act* that were part of the Alberta Climate Leadership Plan. These initiatives included the enactment of the carbon levy on all carbon emissions commencing on January 1, 2017 as well as the release of the revised regulations for large facility emitters under the Carbon Competitiveness Incentive Regulations that came into force on January 1, 2018. Pembina continues to follow the proposed changes to the regulatory framework for the reduction of methane from fugitive and vented gas emissions. All Pembina business entities within Alberta have obtained exemption certification from the carbon levy for the majority of its business activities, which will limit Pembina's exposure to the levy until those exemptions expire in 2023. Where applicable, business entities have also obtained licences under the carbon levy regulations for the buying and selling of regulated fuels without the need to recover and remit the carbon levy on those fuel transactions. Alberta transitioned from the *Specified Gas Emitters Regulation ("SGER")* to the *Carbon Competitiveness Incentive Regulations* in January 2018. This new system uses an output-based emission allocations approach for emissions-intensive industries. Through active participation with industry associations and direct engagement with regulatory bodies, Pembina will continue to monitor and assess for material impacts to Pembina's business as regulations and policies continue to be developed.

Pembina has three natural gas processing facilities subject to the large emitter Carbon Competitiveness Incentive Regulations. At present, the operational and financial impacts are minimal and are anticipated to not change substantially under the new regulatory framework. As more facilities expand and increase production, we anticipate additional facilities will become subject to the large emitter regulations. The potential costs and benefits of those facilities under the new large emitter regulations are continuing to be assessed.

The Government of Alberta, in its climate change legislation and guidelines, is also transitioning oil sands facilities from SGER to an output-based allocation approach for the carbon price and will legislate an overall limit to oil sands greenhouse gas emissions. The legislated emissions limit on oil sands operations will be a maximum 100 megatonnes in any year; currently oil sands operations emit roughly 70 megatonnes per year. This legislated change may limit oil sands production growth in the future.

Similar policy reviews on climate change are underway in British Columbia, Saskatchewan, Manitoba, and Ontario. In Ontario, Pembina is fully registered under the *Ontario Climate Change Act*, the *Cap and Trade Program Regulations* and the *Quantification, Reporting and Verification of Greenhouse Gas Emissions Regulations*, and the product pricing adjustments have been initiated for transactions starting on January 1, 2017 to recover/offset our anticipated compliance costs.

While Pembina believes its current operations are in compliance with all applicable significant environmental and safety regulations, there can be no assurance that substantial costs or liabilities will not be incurred. Moreover, it is possible that other developments, such as changes in environmental and safety laws, regulations and enforcement policies thereunder, including with respect to climate change, claims for damages to persons or property resulting from Pembina's operations, and the discovery of any new pre-existing environmental liabilities in relation to any of Pembina's existing or future properties or operations, could result in significant costs and liabilities to Pembina. If Pembina is not able to recover the resulting costs or increased costs through insurance or increased tariffs, cash flow available to pay dividends to Shareholders and to service obligations under Pembina's debt securities and Pembina's other debt obligations could be adversely affected.

Changes in environmental and safety regulations and legislation, including with respect to climate change, are also likely to impact Pembina's customers and could result in development and production becoming uneconomical, which would impact throughput and revenue on Pembina's systems and in their facilities. See "*Reserve Replacement, Throughput and Product Demand*" above.

While Pembina maintains insurance in respect of damage caused by seepage or pollution in an amount it considers prudent and in accordance with industry standards, certain provisions of such insurance may limit the availability thereof in respect of certain occurrences unless they are discovered within fixed time periods, which typically range from 72 hours to 30 days. Although Pembina believes it has adequate pipeline monitoring systems in place to monitor for a significant spill of product, if Pembina is unaware of a problem or is unable to locate the problem within the relevant time period, insurance coverage may lapse and not be available.

#### *Regulation and Legislation*

Legislation in Alberta and British Columbia exists to ensure that producers have fair and reasonable opportunities to produce, process and market their reserves. In Alberta, the AER and in British Columbia, the BCUC, may declare the operator of a pipeline a common carrier of oil or NGL and, as such, must not discriminate between producers who seek access to the pipeline. Producers and shippers may also apply to the appropriate regulatory authorities for a review of tariffs, and such tariffs may then be regulated if it is proven that the tariffs are not just and reasonable. Regulatory authorities that declare pipeline operators a common carrier may also establish conditions under which the carrier must accept and carry product, including the tolls that may be charged. The potential for direct regulation of tolls, while considered remote by Pembina, could result in toll levels that are less advantageous to Pembina and could impair the economic operation of such regulated pipeline systems.

Since 2014, the AER is the primary regulatory body that Pembina deals with related to Alberta-issued energy permits, with some minor exceptions. In 2018, Pembina will continue to monitor for legislative or procedural changes that could impose an administrative or financial burden on the Company as a result of a single regulator. Additionally, certain of Pembina's subsidiaries own pipelines in British Columbia, which are regulated by the BCOGC, and pipelines that cross provincial or international boundaries, which are regulated by the NEB and FERC. Certain of Pembina's operations and expansion projects are subject to additional regulations, and as Pembina's operations expand throughout Canada and North America, Pembina may be required to comply with the requirements of additional regulators and legislative bodies, including the Canadian Environmental Assessment Agency ("**CEAA**"), the British Columbia Environmental Assessment Office ("**BCEAO**"), the Ontario Ministry of Natural Resources, the Saskatchewan Ministry of Economy, and The Petroleum Branch of Manitoba Mineral Resources. In the U.S., tolls on pipelines are regulated by and reported to the FERC and pipeline operations are governed by the PHMSA, which sets standards for the design, construction, pressure testing, operation and maintenance, corrosion control, training and qualification of personnel, accident reporting and record keeping. The Office of Pipeline Safety, within PHMSA,

inspects and enforces the pipeline safety regulations across the U.S. All regulations and environmental compliance obligations are subject to change at the initiative of the governing body. Pembina continually monitors existing and changing regulations in all jurisdictions in which it currently operates or into which it may expand in the future, and their implications to its operations. However, Pembina cannot predict future regulatory changes, and any such compliance and regulatory changes in any one or multiple jurisdictions could have a material adverse impact on Pembina, its financial results and its Shareholders.

On February 8, 2018, the Canadian federal government introduced Bill C-69 *Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts* ("**Bill C-69**"), which proposes to, among other things, overhaul the federal environmental assessment regime in Canada under the *Canadian Environmental Assessment Act* (Canada), as well as replace the NEB with a new regulator, the Canadian Energy Regulator (the "**CER**"). If passed, Bill C-69 would replace the *Canadian Environmental Assessment Act* with the *Impact Assessment Act* (Canada) (the "**IAA**") and the CEAA with the new Impact Assessment Agency of Canada as the authority responsible for conducting all federal impact assessments (formerly "environmental assessments") for certain designated projects under the IAA, unless referred to a review panel. It is not yet known whether the list of designated projects will be the same as or similar to those under the *Canadian Environmental Assessment Act*. The proposed IAA also contains a broader project assessment process than under the *Canadian Environmental Assessment Act* and provides for enhanced consultation with groups that may be affected by proposed projects, while also expanding the scope of factors and considerations that need to be taken into account under the project assessment process. Bill C-69 also contemplates the adoption of the *Canadian Energy Regulator Act* (Canada) (the "**CERA**") and the repeal of the *National Energy Board Act* (Canada), which would replace the NEB with the CER. The CERA would then continue to oversee approved federal, interprovincial and international energy projects in a manner similar to the current regime under the NEB, with new projects being referred to a review panel under the IAA. Pembina continues to actively monitor developments relating to Bill C-69, and other regulatory initiatives. However, as there can be no assurances that Bill C-69 will be passed in its current form, or at all, Pembina cannot predict the outcome of this or any other future regulatory initiatives. As such, the impact on Pembina resulting from the enactment of the IAA or the CERA, and any other future regulatory initiatives, is uncertain. In the event that such changes, or any future proposed changes, negatively impact Pembina's current business and/or its ability to receive approvals for current and future growth projects in a timely and cost effective manner, such changes could materially and directly impact Pembina's business and financial results. Such regulatory initiatives could also indirectly affect Pembina's business and financial results, by impacting the financial condition and growth projects of its customers and, ultimately, production levels and throughput on Pembina's pipelines and in its facilities.

Recent political events in the U.S. have led to uncertainty regarding ongoing trade relationships, in particular in relation to the North American Free Trade Agreement ("**NAFTA**"). While the current U.S. administration has indicated its intention to renegotiate or withdraw from NAFTA, there have been no formal steps taken in this regard to date. As such, at this time Pembina is unable to predict what impact any such renegotiation or withdrawal may have.

Pembina's business and financial condition could also be influenced by federal and foreign legislation affecting, in particular, foreign investment, through legislation such as the *Competition Act* (Canada) and the *Investment Canada Act* (Canada), and their equivalents in foreign jurisdictions.

There can be no assurance that income tax laws, regulatory and environmental laws or policies and government incentive programs relating to the pipeline or oil and natural gas industry will not be changed in a manner which adversely affects Pembina or its Shareholders or other security holders.

See "*Other Information Relating to Pembina's Business – Industry Regulation.*"

### *Abandonment Costs*

Pembina is responsible for compliance with all applicable laws and regulations regarding the dismantling, decommissioning and site disturbance remediation activities and abandonment of its pipeline systems and other assets at the end of their economic life, and these abandonment costs may be substantial. An accounting provision is made for the estimated cost of site restoration and capitalized in the relevant asset category. A provision is recognized if, as a result of a past event, Pembina has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Pembina's estimates as to the costs of such abandonment or decommissioning could be materially different than the actual costs incurred.

For more information with respect to Pembina's estimated net present value of decommissioning obligations, see Note 15 to Pembina's Financial Statements for the year ended December 31, 2017, which note is incorporated by reference herein. Electronic copies of this document can be found on Pembina's profile on the SEDAR website at [www.sedar.com](http://www.sedar.com) and the EDGAR website at [www.sec.gov](http://www.sec.gov).

The proceeds of the disposition of certain assets, including in respect of certain pipeline systems and line fill, may be available to offset abandonment costs. Pembina may, in the future, determine it prudent or be required by applicable laws or regulations to establish and fund additional reclamation funds to provide for payment of future abandonment costs. Such reserves could decrease cash flow available for dividends to Shareholders and to service obligations under Pembina's debt securities and Pembina's other debt obligations.

Pembina has complied with the NEB requirements on its NEB-regulated pipelines for the creation of abandonment funds and has completed the compliance-based filings that are required under the applicable NEB rules and regulations regarding the abandonment of its pipeline systems and assets. Pembina also has a 50 percent ownership in an NEB-regulated pipeline lateral which is operated by a joint venture partner, and has paid its share of required abandonment funds into trust. The joint venture partner is responsible for the submission of the NEB-compliance based filings for this asset. Pembina will continue to monitor any regulatory changes prior to the next five-year review and will complete the annual reporting as required by the NEB. Pembina owned and/or operated rate-regulated pipelines account for approximately 873 km of the total infrastructure in its Conventional Pipelines business.

### *Completion and Timing of Expansion Projects*

The successful completion of Pembina's growth and expansion projects is dependent on a number of factors outside of Pembina's control, including the impact of general economic, business and market conditions, availability of capital at attractive rates, receipt of regulatory approvals, reaching long-term commercial arrangements with customers in respect of certain portions of the expansions, construction schedules and costs that may change depending on supply, demand and/or inflation, labour, materials and equipment availability, contractor non-performance, civil disobedience, weather conditions, and cost of engineering services. There is no certainty, nor can Pembina provide any assurance, that necessary regulatory approvals will be received on terms that maintain the expected return on investment associated with a specific project, or at all, or that satisfactory commercial arrangements with customers will be reached where needed on a timely basis or at all, or that third parties will comply with contractual obligations in a timely manner. Factors such as special interest group opposition, Aboriginal, landowner and other stakeholder consultation requirements, civil disobedience, changes in shipper support over time, and changes to the legislative or regulatory framework could all have an impact on contractual and regulatory milestones being accomplished. As a result, the cost estimates and completion dates for Pembina's major projects can change during different stages of the project. Early stage projects face additional challenges, including securing leases, easements, rights-of-way, permits and/or licenses from landowners or governmental authorities allowing access for such purposes, as well as Aboriginal consultation requirements. Accordingly, actual costs and timing estimates may vary from initial estimates and these differences can be significant, and certain projects may not proceed as planned, or at all. Further, there is a risk that maintenance will be required more often than currently planned or that significant maintenance capital projects could arise that were not previously anticipated.

Under most of Pembina's construction and operation agreements, the Company is obligated to construct the facilities regardless of delays and cost increases and Pembina bears the risk for any cost overruns and future agreements with customers entered into with respect to expansions may contain similar conditions. While Pembina is not currently aware of any significant undisclosed cost overruns at the date hereof, any such cost overruns in the future may adversely affect the economics of particular projects, as well as Pembina's business operations and financial results, and could reduce Pembina's expected return on investment which, in turn, could reduce the level of cash available for dividends and to service obligations under Pembina's debt securities and other debt obligations. See "*General Risk Factors – Additional Financing and Capital Resources*" and "*Shipper and Processing Contracts*" below.

#### *Operating and Capital Costs*

Operating and capital costs of Pembina's business may vary considerably from current and forecast values and rates and represent significant components of the cost of providing service. In general, as equipment ages, costs associated with such equipment may increase over time. Dividends may be reduced if significant increases in operating or capital costs are incurred and this may also impact the ability of Pembina to service obligations under its debt securities and other debt obligations.

Although operating costs are to be recaptured through the tariffs charged on natural gas volumes processed and oil and NGL transported, respectively, to the extent such charges escalate, producers may seek lower cost alternatives or stop production of their natural gas and/or crude oil.

#### *Risks Relating to NGL by Rail*

Pembina's operations include rail loading, offloading and terminalling facilities. Pembina relies on railroads and trucks to distribute its products for customers as well as to transport raw materials to its processing facilities. Costs for environmental damage, damage to property and personal injury in the event of a railway incident involving hydrocarbons have the potential to be significant and liabilities to Pembina are possible. At this time, the *Railway Safety Act* (Canada), which governs the operation of railway equipment, does not contemplate regulatory enforcement proceedings against shippers, but consignors and shippers may be subject to regulatory proceedings under the *Transportation of Dangerous Goods Act* (Canada), which specifies the obligations of shippers to identify and classify dangerous goods, select appropriate equipment and prepare shipping documentation. While the *Canada Transportation Act* was amended in 2015 to preclude railway companies from shifting liability for third party claims to shippers by tariff publication alone, major Canadian railways have adopted standard contract provisions designed to implement such a shift. Under various environmental statutes in both Canada and the U.S., Pembina could be held responsible for environmental damage caused by hydrocarbons loaded at its facilities or being carried on its leased rail cars. Pembina partially mitigates this risk by securing insurance coverage.

Railway incidents in Canada and the U.S. have prompted regulatory bodies to initiate reviews of transportation rules and publish various directives. Regulators in Canada and the U.S. have begun to phase-in more stringent engineering standards for tank cars used to move petroleum products which required all North American tank cars carrying crude oil or ethanol to be retrofitted by May 1, 2017, and will require all tank cars carrying flammable liquids to be compliant by May 1, 2025. While most legislative changes apply directly to railway companies, costs associated with retrofitting locomotives and rail cars, implementing safety systems, increased inspection and reporting requirements may be indirectly passed on to Pembina through increased freight rates and car leasing costs. In addition, regulators in Canada and the U.S. have implemented changes that impose obligations relating to certification of product and equipment procedures and emergency response procedures, directly on consignors and shippers such as Pembina.

In the event that Pembina is ultimately held liable for any damages resulting from its activities relating to transporting NGLs by rail, for which insurance is not available, or increased costs or obligations are imposed on Pembina as a result of new regulations, this could have an impact on Pembina's business, operations and prospects and could impact earnings and cash flow available to pay dividends and to service obligations under Pembina's debt securities and other debt obligations.



## *Competition*

Pembina competes with other pipelines, midstream, marketing and gas processing and handling services providers in its service areas as well as other transporters of crude oil, NGL and natural gas. The introduction of competing transportation alternatives into Pembina's service areas could potentially have the impact of limiting Pembina's ability to adjust tolls as it may deem necessary and result in the reduction of throughput in Pembina's pipelines. Additionally, potential pricing differentials on the components of NGL may result in these components being transported by competing gas pipelines. Pembina believes it is prepared for and determined to meet these existing and potential competitive pressures. Pembina also competes with other businesses for growth and business opportunities, which could impact its ability to grow through acquisitions and could impact earnings and cash flow available to pay dividends and to service obligations under Pembina's debt securities and other debt obligations. See "*Description of Pembina's Business and Operations – Conventional Pipelines Business – Competitive Environment*", "*Description of Pembina's Business and Operations – Oil Sands and Heavy Oil Business – Competitive Environment*", "*Description of Pembina's Business and Operations – Gas Services Business – Competitive Environment*", "*Description of Pembina's Business and Operations – Midstream Business – Competitive Environment*" and "*Description of Pembina's Business and Operations – Veresen Business – Competitive Environment*."

## *Reliance on Principal Customers*

Pembina relies on several significant customers to purchase product from the Midstream, and to a lesser extent Veresen, business. If for any reason these parties were unable to perform their obligations under the various agreements with Pembina, the revenue and dividends of the Company and the operations of the Midstream business could be negatively impacted. See "*General Risk Factors – Credit Risk*" below.

## **Risk Factors Relating to the Securities of Pembina**

### *Dilution of Shareholders*

Pembina is authorized to issue, among other classes of shares, an unlimited number of Common Shares for consideration and on terms and conditions as established by the Board of Directors without the approval of Shareholders in certain instances. The Shareholders will have no pre-emptive rights in connection with such further issuances. Any issuance of Common Shares may have a dilutive effect on existing Shareholders.

### *Risk Factors Relating to the Activities of Pembina and the Ownership of Securities*

The following is a list of certain risk factors relating to the activities of Pembina and the ownership of its securities:

- the level of Pembina's indebtedness from time to time could impair Pembina's ability to obtain additional financing on a timely basis to take advantage of business opportunities that may arise;
- the uncertainty of future dividend payments by Pembina and the level thereof, as Pembina's dividend policy and the funds available for the payment of dividends from time to time will be dependent upon, among other things, operating cash flow generated by Pembina and its subsidiaries, financial requirements for Pembina's operations, the execution of its growth strategy and the satisfaction of solvency tests imposed by the ABCA for the declaration and payment of dividends;
- Pembina may make future acquisitions or may enter into financings or other transactions involving the issuance of securities of Pembina which may be dilutive to the holders of Pembina's securities;
- the inability of Pembina to manage growth effectively, and realize the anticipated growth opportunities from acquisitions and new projects, could have a material adverse impact on its business, operations and prospects; and

- the risk that the market value of the Common Shares may deteriorate materially if Pembina is unable to meet its cash dividend targets or make cash dividends in the future.

#### *Market Value of Common Shares and Other Securities*

Pembina cannot predict at what price the Common Shares, Series F Convertible Debentures, Class A Preferred Shares or other securities issued by Pembina will trade in the future. Common Shares, Series F Convertible Debentures, Class A Preferred Shares and other securities of Pembina will not necessarily trade at values determined solely by reference to the underlying value of Pembina's assets. One of the factors that may influence the market price of such securities is the annual yield on the Common Shares, Series F Convertible Debentures and the Class A Preferred Shares. An increase in market interest rates may lead purchasers of Common Shares, Series F Convertible Debentures or Class A Preferred Shares to demand a higher annual yield and this could adversely affect the market price of the Common Shares, Series F Convertible Debentures or Class A Preferred Shares. In addition, the market price for the Common Shares, Series F Convertible Debentures and the Class A Preferred Shares may be affected by announcements of new developments, changes in Pembina's operating results, failure to meet analysts' expectations, changes in credit ratings, changes in general market conditions, fluctuations in the market for equity or debt securities and numerous other factors beyond the control of Pembina.

**Shareholders are encouraged to obtain independent legal, tax and investment advice in their jurisdiction of residence with respect to the holding of Common Shares, Series F Convertible Debentures or Class A Preferred Shares.**

#### **General Risk Factors**

##### *Additional Financing and Capital Resources*

The timing and amount of Pembina's capital expenditures and contributions to Equity Accounted Investees, and the ability of the Company to repay or refinance existing debt as it becomes due, directly affects the amount of cash dividends that Pembina pays. Future acquisitions, expansions of Pembina's assets, and other capital expenditures and the repayment or refinancing of existing debt as it becomes due will be financed from sources such as cash generated from operations, the issuance of additional shares or other securities (including debt securities) of Pembina, and borrowings. Dividends may be reduced, or even eliminated, at times when significant capital or other expenditures are made. There can be no assurance that sufficient capital will be available on terms acceptable to Pembina, or at all, to make additional investments, fund future expansions or make other required capital expenditures. As a result of the ongoing weakness in the global economy, and in particular the commodity-related industry sectors, Pembina may experience restricted access to capital and increased borrowing costs. Although Pembina's business and asset base have not changed materially, the ability of Pembina to raise capital is dependent upon, among other factors, the overall state of capital markets, its credit rating and investor demand for investments in the energy industry and Pembina's securities in particular. To the extent that external sources of capital, including the issuance of additional shares or other securities or the availability of additional credit facilities, become limited or unavailable on favourable terms or at all due to credit market conditions or otherwise, the ability of Pembina to make the necessary capital investments to maintain or expand its operations, to repay outstanding debt and to invest in assets, as the case may be, may be impaired. To the extent Pembina is required to use cash flow to finance capital expenditures or acquisitions or to repay existing debt as it becomes due, the level of dividends payable may be reduced.

##### *Counterparty Credit Risk*

Counterparty credit risk represents the financial loss Pembina would experience if a counterparty to a financial instrument or commercial agreement failed to meet its contractual obligations in accordance with the terms and conditions of such instruments or agreements with Pembina. Counterparty credit risk arises primarily from Pembina's cash and cash equivalents, trade and other receivables, and from counterparties to its derivative financial instruments.

Pembina continues to closely monitor and reassess the creditworthiness of its counterparties, including financial institutions. This may result in Pembina reducing or mitigating its exposure to certain counterparties where it is deemed warranted and permitted under contractual terms. Pembina manages counterparty credit risk through established credit management techniques, including conducting comprehensive financial and other assessments for all new counterparties and regular reviews of existing counterparties to establish and monitor counterparties' creditworthiness, setting exposure limits, monitoring exposures against these limits and seeking and obtaining financial assurances where warranted and permitted under contractual terms. Pembina utilizes various sources of financial, credit and business information in assessing the creditworthiness of a counterparty including external credit ratings, where available, and in other cases, detailed financial statement analysis in order to generate an internal credit rating based on quantitative and qualitative factors. The establishment of counterparty exposure limits is governed by a Board-designated counterparty exposure limit matrix which represents the maximum dollar amounts of counterparty exposure by debt rating that can be approved for a counterparty. Pembina continues to closely monitor and reassess the creditworthiness of its counterparties, which has resulted in Pembina reducing or mitigating its exposure to certain counterparties where it was deemed warranted and permitted under contractual terms.

Financial assurances may include guarantees, letters of credit and cash. As at December 31, 2017, letters of credit totaling \$110 million (December 31, 2016: \$115 million) were held primarily in respect of customer trade receivables.

Typically, Pembina has collected its receivables in full and at December 31, 2017, approximately 96 percent were current. Pembina has a general lien and a continuing and first priority security interest in, and a secured charge on, all of a shipper's petroleum in its custody. The risk of non-collection is considered to be low and no material impairment of trade and other receivables has been made.

Pembina monitors and manages its concentration of counterparty credit risk on an ongoing basis. Pembina also evaluates counterparty risk from the perspective of future exposure that is created through commercial agreements with existing or new counterparties that support future capital expansion projects. Pembina believes these measures are prudent and allow for effective management of its counterparty credit risk but there is no certainty that they will protect it against all material losses. As part of its ongoing operations, Pembina must balance its market and counterparty credit risks when making business decisions.

#### *Debt Service*

At the end of 2017, Pembina had exposure to floating interest rates on \$1.8 billion in debt. Floating rate debt exposure is, in part, managed by using derivative financial instruments.

Variations in interest rates and scheduled principal repayments, if required under the terms of Pembina's banking agreements could result in significant changes in the amounts required to be applied to debt service before payment of any dividends. Certain covenants in the Company's agreements with its lenders may also limit payments and dividends paid by Pembina.

Pembina and its subsidiaries are permitted to borrow funds to finance the purchase of pipelines and other energy infrastructure assets, to fund capital expenditures and other financial obligations or expenditures in respect of those assets and for working capital purposes. Amounts paid in respect of interest and principal on debt incurred in respect of those assets reduce the amount of cash flow available for dividends on Common Shares. Variations in interest rates and scheduled principal repayments for which Pembina may not be able to refinance at favourable rates or at all, could result in significant changes in the amount required to be applied to service debt, which could have detrimental effects on the amount of cash available for dividends on Common Shares. Pembina, on a consolidated basis, is also required to meet certain financial covenants under the Credit Facilities and is subject to customary restrictions on its operations and activities, including restrictions on the granting of security, incurring indebtedness and the sale of its assets.

The lenders under Pembina's unsecured credit facilities have also been provided with guarantees and subordination agreements. If Pembina becomes unable to pay its debt service charges or otherwise commits an event of default, such as bankruptcy, payments to all of the lenders will rank in priority to dividends and payments to holders of Series F Convertible Debentures.

Although Pembina believes the existing Credit Facilities are sufficient for immediate requirements, there can be no assurance that the amount will be adequate for the future financial obligations of Pembina or that additional funds will be able to be obtained on terms favourable to Pembina or at all.

#### *Credit Ratings*

Rating agencies regularly evaluate Pembina, basing their ratings of its long-term and short-term debt and Class A Preferred Shares on a number of factors. This includes Pembina's financial strength as well as factors not entirely within its control, including conditions affecting the industry in which Pembina operates generally and the wider state of the economy. There can be no assurance that one or more of Pembina's credit ratings will not be downgraded.

Pembina's borrowing costs and ability to raise funds are directly impacted by its credit ratings. Credit ratings may be important to suppliers or counterparties when they seek to engage in certain transactions. A credit rating downgrade could potentially impair Pembina's ability to enter into arrangements with suppliers or counterparties, to engage in certain transactions, and could limit Pembina's access to private and public credit markets and increase the costs of borrowing under its existing credit facilities. A downgrade could also limit Pembina's access to debt and preferred share markets and increase its cost of borrowing.

The occurrence of a downgrade in Pembina's credit ratings could adversely affect its ability to execute portions of its business strategy and could have a material adverse effect on its liquidity, results of operations and capital position.

#### *Reliance on Management and Labour*

Shareholders and other security holders of Pembina will be dependent on senior management and directors of the Company in respect of the governance, administration and management of all matters relating to Pembina and its operations and administration. The loss of the services of key individuals could have a detrimental effect on Pembina. Further, the costs associated with retaining key individuals could adversely affect Pembina's business opportunities and financial results. There is no assurance that Pembina will continue to attract and retain all personnel necessary for the development and operation of its business.

#### *Aboriginal Land Claims and Consultation Obligations*

Aboriginal peoples have claimed title and rights to a substantial portion of the lands in western Canada. Such claims, if successful, could have a significant adverse effect on Pembina's Canadian operations. Further, the successful assertion of Aboriginal title or other claims could have a significant adverse effect on natural gas production or oil sands development in Alberta, which in turn could have a material adverse effect on Pembina's business and operations, including the volume of natural gas and NGL handled through Pembina's facilities.

Additionally, the federal and provincial governments in Canada have a duty to consult and, where appropriate, accommodate Aboriginal people where the interests of the Aboriginal peoples may be affected by a Crown action or decision. Accordingly, the Crown's duty may result in regulatory approvals being delayed or not being obtained in relation to Pembina's Canadian operations.

In mid-2016, the Government of Canada issued changes to the Canadian Environmental Assessment Agency ("**CEAA**") *Technical Guidance for Assessing the Current Use of Lands for Traditional Purposes*. This technical guidance document is used on projects with a CEAA 2012 trigger, including resource projects currently under review by the

NEB. The impact on existing third-party projects has been to add up to six months of time to the project review process. These changes could materially impact the amount of time and capital resources required by Pembina if we were to apply for longer NEB regulated pipelines projects or projects with a CEAA 2012 trigger.

On February 14, 2018, the federal government announced that it will develop, in consultation with First Nations, Inuit, and Métis peoples, a *Recognition and Implementation of Rights Framework* ("**Rights Framework**"). The contents of the Rights Framework will be determined through engagement activities led by the Minister of Crown-Indigenous Relations and Northern Affairs with the intention of having the Rights Framework introduced in 2018 and implemented before October 2019, with such implementation possibly including the introduction of new legislation and policy. Pembina will continue to monitor and assess the impacts the Rights Framework to its business as legislation and/or policies continue to be developed.

#### *Potential Conflicts of Interest*

Shareholders and other security holders of Pembina are dependent upon senior management and the directors of Pembina for the governance, administration and management of the Company. Certain directors and officers of Pembina may be directors or officers of entities in competition to Pembina or may be directors or officers of certain entities in which Pembina holds an equity investment in, and, as such, these directors or officers of Pembina may encounter conflicts of interest in the administration of their duties with respect to Pembina. Pembina partially mitigates this risk by requiring directors and officers to disclose the existence of potential conflicts in accordance with Pembina's Code of Ethics and in accordance with the ABCA.

#### *Litigation*

Pembina and its various subsidiaries and affiliates may be, in the course of their business, subject to lawsuits and other claims. Defence and settlement costs associated with such lawsuits and claims can be substantial, even with respect to lawsuits and claims that have no merit. Due to the inherent uncertainty of the litigation process, the resolution of any particular legal proceeding could have a material adverse effect on the financial position or operating results of Pembina.

#### *Foreign Exchange Risk*

Pembina's investments, commodity-related transactions, rail car leases, the portion of the Vantage Pipeline located in the U.S., tariff cash flows and some of its capital and other expenditure commitments may be subject to currency risk, primarily arising from the denomination of specific earnings, cash flows and expenditure commitments in U.S. dollars. Pembina partially mitigates this risk using an active Risk Management Program to exchange foreign currency for domestic currency at a fixed rate.

#### *Interest Rate Risk*

Pembina has floating interest rate debt which subjects the Company to interest rate risk. Pembina responds to this risk under the active Risk Management Program by entering into financial derivative contracts to fix interest rates.

#### *Cyber Security*

Pembina's infrastructure, technologies and data are becoming increasingly integrated, which creates a risk that failure of one system could lead to failure of other systems. The risk of a cyber-attack targeting the industry is also increasing. A breach in the security or failure of the Company's information technology could result in operational outages, delays, damage to assets or the environment, reputational harm, lost profits, lost data and other adverse outcomes. The Company's security strategy focuses on information technology security risk management, which includes continuous monitoring, threat detection and an incident response protocol.

### *Health and Safety*

The operation of Pembina's business is subject to hazards of gathering, processing, transporting, fractionating, storing and marketing hydrocarbon products, including but not limited to: blowouts; fires; explosions; gaseous leaks; migration of harmful substances; oil spills; corrosion; and acts of vandalism and terrorism. Any of these hazards can interrupt operations, impact Pembina's reputation, cause loss of life or personal injury, result in loss of or damage to equipment, property, information technology systems, related data and control systems, and cause environmental damage that may include polluting water, land or air.

### *Risks Relating to U.S. Tax Reform*

On December 22, 2017, President Trump signed into law P.L. 115-97, informally titled the *Tax Cuts and Jobs Act* (the "TCJA"). The TCJA makes major changes to the Internal Revenue Code of 1986, as amended, including decreasing the U.S. corporate tax rate from 35% to 21%, effective January 1, 2018. The overall future impact of the TCJA to the Company is uncertain due to, among other things, future amendments and changes in its interpretation.

## **INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

To the knowledge of the directors and executive officers of Pembina, none of the directors or executive officers of Pembina, and no person or company that is the direct or indirect beneficial owner of, or who exercises control or direction over, more than 10 percent of the Common Shares, and no associate or affiliate of any of the foregoing, has had any material interest, direct or indirect, in any transaction with Pembina since January 1, 2015 that has materially affected Pembina, or in any proposed transaction that would reasonably be expected to materially affect Pembina.

## **MATERIAL CONTRACTS**

Other than as set forth herein, no contracts material to Pembina and its subsidiaries were entered into during 2017 or 2018 to date or are currently in effect, other than contracts entered into in the ordinary course of business.

## **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

Other than as set forth herein, there are no outstanding legal proceedings, or regulatory actions, penalties or sanctions imposed by a court or regulatory body material to Pembina to which Pembina or any of its direct or indirect subsidiaries is or was a party or in respect of which any of the properties of Pembina or any of its direct or indirect subsidiaries are or were subject, during Pembina's most recent financial year, nor are there any such proceedings, actions, penalties or sanctions known to be contemplated.

On October 14, 2016, Aux Sable Canada received an amended statement of claim filed against them by BP Canada Energy Company, BP Canada Energy Group ULC, BP Products North America, Inc., BP Energy Company and BP Canada Energy Marketing Corp. (collectively, "BP") in the Court of Queen's Bench (Alberta) claiming USD\$350 million in relation to a dispute arising out of a product supply agreement among the parties. On January 5, 2017, Aux Sable filed a Statement of Defence with respect to this claim and BP filed a reply on January 31, 2017.

## **REGISTRAR AND TRANSFER AGENT**

The registrar and transfer agent for the Common Shares, the Series F Convertible Debentures, the Medium Term Notes and the Class A Preferred Shares is Computershare Trust Company of Canada, at its principal offices in Calgary, Alberta, Canada and Toronto, Ontario, Canada. The co-transfer agent and registrar for the Common Shares in the U.S. is Computershare Investor Services U.S., at its principal offices in Golden, Colorado, U.S.

### **INTERESTS OF EXPERTS**

KPMG LLP are the auditors of the Company and have confirmed that they are independent with respect to the Company within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations and also that they are independent accountants with respect to the Company under all relevant U.S. professional and regulatory standards.

Prior to the completion of the Veresen Acquisition, the auditors of Veresen were PricewaterhouseCoopers LLP, Chartered Professional Accountants, of Calgary, Alberta, Canada. PricewaterhouseCoopers LLP has confirmed that they were independent with respect to Veresen within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations.

### **ADDITIONAL INFORMATION**

Additional information relating to Pembina filed with the Canadian securities commissions and the SEC can be found on Pembina's profile on the SEDAR website at [www.sedar.com](http://www.sedar.com), the EDGAR website at [www.sec.gov](http://www.sec.gov), and on Pembina's website at [www.pembina.com](http://www.pembina.com). Additional information, including directors' and officers' remuneration and indebtedness, principal holders of Pembina's securities and securities authorized for issuance under equity compensation plans, as applicable, is contained in Pembina's information circular for its most recent annual meeting of Shareholders that involved the election of directors. Additional financial information relating to Pembina is provided in Pembina's Financial Statements and MD&A for its most recently completed financial year, which have also been filed on SEDAR and EDGAR.

Any document referred to in this Annual Information Form and described as being filed on SEDAR at [www.sedar.com](http://www.sedar.com) and on EDGAR at [www.sec.gov](http://www.sec.gov) (including those documents referred to as being incorporated by reference in this Annual Information Form) may be obtained free of charge from us by contacting our Investor Relations Department by telephone (toll free 1-855-880-7404) or by email ([investor-relations@pembina.com](mailto:investor-relations@pembina.com)).

# AUDIT COMMITTEE CHARTER



## I. ROLE AND OBJECTIVES

The Audit Committee is a committee of the Board of Directors (the "Board") of Pembina Pipeline Corporation (the "Corporation") to which the Board has delegated certain oversight responsibilities relating to the Corporation's financial statements, the external auditors, the internal audit function, risk management, compliance with legal and regulatory requirements and management of information technology related to financial reporting and financial controls. In this Charter, the Corporation and all entities controlled by the Corporation are collectively referred to as "Pembina".

The objectives of the Audit Committee are to maintain oversight of:

- (a) the integrity of Pembina's financial statements, the financial reporting process and internal controls over financial reporting;
- (b) the relationship, reports, qualifications, independence and performance of the external auditor;
- (c) the internal audit function;
- (d) the risk identification, assessment and management program;
- (e) compliance with legal and regulatory requirements;
- (f) management of information technology related to financial reporting and financial controls; and
- (g) maintenance of open avenues of communication among management of the Corporation, the external auditors, the internal auditors and the Board.

## II. MEMBERSHIP AND POLICIES

The Board, based on recommendation from the Governance Committee, will appoint or reappoint members of the Audit Committee. Each member shall serve until his or her successor is appointed unless the member resigns, is removed or ceases to be a director. The Board of Directors may fill a vacancy that occurs in the Committee at any time.

The Audit Committee must be composed of not less than three (3) members of the Board, each of whom must be independent pursuant to the Corporation's Standards for Director Independence and financially literate as determined by the Board using its business judgment. In addition, at least one member must be an "audit committee financial expert" within the meaning of that term under the United States Securities Exchange Act of 1934, as amended, and the rules adopted by the United States Securities and Exchange Commission thereunder. The Board Chair, in consultation with the Governance Committee, will appoint or reappoint the Chair of the Audit Committee from amongst its members.



The Audit Committee may at any time retain outside financial, legal or other advisors as it determines necessary to carry out its duties, at the expense of Pembina. Pembina shall provide for appropriate funding, as determined by the Audit Committee in its capacity as a committee of the Board, for payment of: (i) compensation to the external auditor for the purpose of preparing or issuing an audit report or performing other audit, review or attestation services for Pembina, (ii) compensation to any advisors employed by the Audit Committee, and (iii) ordinary administrative expenses of the Audit Committee that are necessary or appropriate in carrying out its duties.

In discharging its duties under this Charter, the Audit Committee may investigate any matter brought to its attention and will have access to all books, records, facilities and personnel, may conduct meetings or interview any officer or employee, the Corporation's legal counsel, external auditors and consultants, and may invite any such persons to attend any part of any meeting of the Audit Committee.

The Audit Committee has neither the duty nor the responsibility to conduct audit, accounting or legal reviews, or to ensure that the Corporation's financial statements are complete, accurate and in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"); rather, management is responsible for the financial reporting process, internal review process, and the preparation of the Corporation's financial statements in accordance with IFRS, and the Corporation's external auditor is responsible for auditing those financial statements.

### **III. FUNCTIONS**

#### **A. Pembina's Financial Statements, the Financial Reporting Process and Internal Controls over Financial Reporting**

The Audit Committee will meet with management, the internal auditor and the external auditor to review and discuss annual and quarterly financial statements, management's discussion and analyses ("MD&A"), the earnings press releases, and other financial disclosures and determine whether to recommend the approval of such documents to the Board.

- a) In connection with these procedures, the Audit Committee will, as applicable and without limitation, review and discuss with management, internal audit and the external auditor:
  - i. the information to be included in the financial statements and financial disclosures which require approval by the Board including Pembina's annual and quarterly financial statements, notes thereto, MD&A and earnings press releases paying particular attention to any use of "pro forma", "adjusted" and "non-GAAP" information, and ensuring that adequate procedures are in place for the review of the Corporation's public disclosure of financial information extracted or derived from the financial statements;
  - ii. any significant financial reporting issues identified during the reporting period;
  - iii. any change in accounting policies, or selection or application of accounting principles, and their impact on the results and the disclosure;
  - iv. all significant estimates and judgments, significant risks and uncertainties made in connection with the preparation of Pembina's financial statements that may have a material impact to the financial statements;
  - v. any significant deficiencies or material weaknesses identified by management, the internal auditor or the external auditor, compensating or mitigating controls and final assessment and impact on disclosure;

- vi. any major issues as to the adequacy of the internal controls and any special audit steps adopted in light of significant deficiencies or material weaknesses;
  - vii. significant adjustments identified by management, the internal auditor, or the external auditor and assessment of associated internal control deficiencies, as applicable;
  - viii. any unresolved issues between management and the external auditor that could materially impact the financial statements and other financial disclosures;
  - ix. any material correspondence with regulators, government agencies, employee or whistleblower complaints, reports of non-compliance which raise issues regarding the Corporation's financial statements or accounting policies and significant changes in regulations which may have a material impact on the Corporation's financial statements;
  - x. the effect of regulatory and accounting initiatives, as well as any off-balance sheet structures;
  - xi. the competencies and performance of employees in the Corporation's internal audit department and identify staffing needs;
  - xii. significant matters of concern respecting audits and financial reporting processes, including any illegal acts, that have been identified in the course of the preparation or audit of Pembina's financial statements; and
  - xiii. any analyses prepared by management and/or the external auditor setting forth significant financial reporting issues and judgments made in connection with the preparation of financial statements including analyses of the effects of IFRS on the financial statements.
- b) In connection with the annual audit of Pembina's financial statements, the Audit Committee will review with the external auditor:
- i. prior to commencement of the annual audit, plans, scope, staffing, engagement terms and proposed fees;
  - ii. reports or opinions to be rendered in connection therewith including the external auditor's review or audit findings report including alternative treatments of significant financial information within IFRS that have been discussed with management and associated impacts on disclosure; and
  - iii. the adequacy of internal controls, any audit problems or difficulties, including:
    - a) any restrictions on the scope of the external auditor's activities or on access to requested information;
    - b) any significant disagreements with management, and management's response (including discussion among management, the external auditor and, as necessary, internal and external legal counsel);
    - c) any litigation, claim or contingency, including tax assessments and claims, that could have a material impact on the financial position of the Corporation; and
    - d) the impact on current or potential future disclosures.

In connection with its review of the annual audited financial statements and quarterly financial statements, the Audit Committee will also review any significant concerns raised during the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") certifications with respect to the financial statements and Pembina's disclosure controls and internal controls over financial reporting. In particular, the Audit Committee will review with the CEO, CFO, internal auditor and external auditor: (i) all significant deficiencies, material weaknesses or significant changes in the

design or operation of Pembina's internal control over financial reporting that could adversely affect Pembina's ability to record, process, summarize and report financial information required to be disclosed by the Corporation in the reports that it files or submits under applicable securities laws, within the required time periods; and (ii) any fraud, whether or not material, that involves management of Pembina or other employees who have a significant role in Pembina's internal control over financial reporting. In addition, the Audit Committee will review with the CEO, CFO and the internal auditor Pembina's disclosure controls and procedures and at least annually will review management's conclusions about the efficacy of disclosure controls and procedures, including any significant deficiencies, material weaknesses or material non-compliance with disclosure controls and procedures.

The Audit Committee will also maintain a Whistleblower Policy, including procedures for the:

- (a) receipt retention and treatment of complaints received regarding accounting, internal accounting controls or auditing matters; and
- (b) confidential, anonymous submissions of concerns regarding questionable accounting or auditing matters.

#### **B. The External Auditor**

The Audit Committee, in its capacity as a committee of the Board, is directly responsible for overseeing the relationship, reports, qualifications, independence and performance of the external auditor and audit services by other registered public accounting firms engaged by the Corporation. The Audit Committee shall have the authority and responsibility to recommend the appointment and the revocation of the appointment of the external auditors engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services, and to fix their remuneration.

The external auditor will report directly to the Audit Committee. The Audit Committee's appointment of the external auditor is subject to annual approval by the Shareholders.

With respect to the external auditor, the Audit Committee is responsible for:

- (a) the appointment, termination, compensation, retention and oversight of the work of the external auditor engaged by the Corporation including the review and approval of the terms of the external auditors annual engagement letter and the proposed fees;
- (b) resolution of disagreements or disputes between management and the external auditor regarding financial reporting for audit, review or attestation services;
- (c) pre-approval of all legally permissible non-audit services to be provided by the external auditors considering the potential impact of such services on the independence of external auditors and, subject to any *de minimis* exemption available under applicable laws. Such approval can be given either specifically or pursuant to preapproval policies and procedures adopted by the committee including the delegation of this ability to one or more members of the Audit Committee to the extent permitted by applicable law, provided that any pre-approvals granted pursuant to any such delegation may not delegate Audit Committee responsibilities to management of Pembina, and must be reported to the full Audit Committee at the first scheduled meeting of the Audit Committee following such pre-approval;
- (d) obtaining and reviewing, at least annually, a written report by the external auditor describing the external auditor's internal quality-control procedures, any material issues raised by the most recent internal quality-control review, or peer review, of the firm, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the firm, and any steps taken to deal with any such issues and all relationships between the external auditors and the Corporation;

- (e) review of the external auditor which assesses three key factors of audit quality for the audit committee to consider and assess including: independence, objectivity and professional skepticism; quality of the engagement team; and quality of communications and interactions with the external auditor. A written comprehensive review of the external auditor to be considered if required each year and completed at least every five (5) years which will include an:
- i. assessment of quality of services and sufficiency of resources provided by the external auditor;
  - ii. assessment of auditor independence, objectivity and professional skepticism;
  - iii. assessment of value of services provided by the external auditor;
  - iv. assessment of written input from external auditor summarizing:
    - a) background of firm, size, resources, geographical coverage, relevant industry experience, including reputational challenges, systemic audit quality issues identified by Canadian Public Accountability Board ("CPAB") and Public Company Accounting Oversight Board ("PCAOB") in public reports;
    - b) industry experience of the audit team and plans for training and development of the team;
    - c) how the external auditor demonstrated objectivity and professional skepticism during the audit;
    - d) how the firm and team met all criteria for independence including identification of all relationships that the external auditor has with the Corporation and its affiliates and steps taken to address possible institutional threats;
    - e) involvement of engagement quality control review ("EQCR") partner and significant concerns raised by the EQCR partner;
    - f) matters raised to national office or specialists during the review;
    - g) significant disagreements between management and the external auditors and steps taken to resolve;
    - h) satisfaction with communication and cooperation with management and the Audit Committee; and
    - i) findings and firm responses to reviews of the Corporation by CPAB and PCAOB;
  - v. communication of the results of the comprehensive review of the external auditor to the Board and recommending that the Board take appropriate action, in response to the review, as required. It is understood that the Audit Committee may recommend tendering the external auditor engagement at their discretion. In addition to rotation of the EQCR partner as required by law, the Audit Committee, together with the Board, will also consider whether it is necessary to periodically rotate the external audit firm itself. It will be at the discretion of the Audit Committee if the incumbent external auditor is invited to participate in the tendering process; and
  - vi. setting clear hiring policies for Pembina regarding external auditor partners and employees and former partners and employees of the present and former external auditor of the Corporation. Before any external audit partner, senior manager or manager is offered employment by the Corporation, prior approval from the Audit Committee Chair must be received and a one year grace period must pass from the date any work was completed on a Pembina audit engagement before an

external audit partner, senior manager or manager can be considered for contract or employment by the Corporation.

**C. The Internal Audit Process**

The Audit Committee, in its capacity as a committee of the Board will carry out the following responsibilities with regard to the internal audit function:

- (a) review with management and the head of internal audit the charter, activities, staffing, and organizational structure of internal audit, including the performance of the internal audit function;
- (b) have final authority to review and approve the annual audit plan and all major changes to the plan;
- (c) annually convey its view of the performance of the head of internal audit to the Chief Executive Officer as input into the compensation approval process;
- (d) ensure there are no unjustified restrictions or limitations, and review and concur in the appointment, replacement, or dismissal of the head of internal audit; and
- (e) on a regular basis, meet separately with the head of internal audit to discuss any matters that the Audit Committee or the head of internal audit believes should be discussed privately.

**D. Risk Management**

The Audit Committee, in its capacity as a committee of the Board, is directly responsible for overseeing the risk identification, assessment and management program of the Corporation by discussing guidelines and policies to govern the process by which risk identification, assessment and management is undertaken. At least annually, in conjunction with senior management, internal counsel and, as necessary, external counsel and the Corporation's internal and external auditors, the Audit Committee will review the following:

- (a) the Corporation's method of reviewing significant risks inherent in the Corporation's business, assets, facilities, and strategic directions, including the Corporation's risk management and evaluation process;
- (b) discuss guidelines and policies with respect to risk assessment and risk management, including the Corporation's major financial risk exposures and the steps management has taken to monitor and control such exposures. The audit committee is not required to be the sole body responsible for risk assessment and management, but, as stated above, the committee must discuss guidelines and policies to govern the process by which risk assessment and management is undertaken.
- (c) the Annual Corporate Enterprise Management Risk Assessment and updates thereto and report to the Board thereon;
- (d) the major financial risk exposures and steps management has taken to monitor and manage such exposures;
- (e) the Corporation's annual insurance report including the risk retention philosophy and resulting uninsured exposure, if any, including corporate liability protection programs for directors and officers;
- (f) the loss prevention policies, risk management programs, disaster response and recovery programs, and standards and accountabilities of the Corporation in the context of competitive and operational considerations; and
- (g) other risk management matters from time to time as the Audit Committee may consider appropriate or the Board may specifically direct.

## **E. Additional Duties and Responsibilities**

The Audit Committee will also:

- (a) meet separately with management, the internal auditor, the external auditor and, as is appropriate, internal and external legal counsel and independent advisors in respect of issues not elsewhere listed concerning any other audit, finance or risk matters;
- (b) review the appointment of the CFO and any other key financial executives who are involved in the financial reporting process;
- (c) review the Corporation's information technology practices and developments as they relate to financial reporting;
- (d) from time to time discuss the staffing levels and competencies of the finance team with the External Auditor;
- (e) review incidents, alleged or otherwise, as reported by whistleblowers, management, internal audit, the external auditor, internal or external counsel or otherwise, of fraud, illegal acts or conflicts of interest and establish procedures for receipt, treatment and retention of records of incident investigations;
- (f) facilitate information sharing with other committees of the Board as required to address matters of mutual interest or concern in respect of the Corporation's financial reporting;
- (g) assist board oversight in respect of issues not elsewhere listed concerning the integrity of the listed company's financial statements, the listed company's compliance with legal and regulatory requirements, the independent auditor's qualifications and independence, and the performance of the listed company's internal audit function and independent auditors;
- (h) monitor the funding exposure of the Corporation's pension plan;
- (i) receive and review reports from the Corporate Pension Committee at Pembina and recommend or approve changes as appropriate with respect to risk management of pension assets and liabilities, actuarial valuation as required by statute, the Statement of Investment Policies and Procedures, funding policy and corporate performance for the pension plans;
- (j) jointly with the Human Resources and Compensation Committee, report on the status of the pension plans to the Board at least annually; and
- (k) have the authority and responsibility to recommend the appointment and the revocation of the appointment of registered public accounting firms (in addition to the external auditors) engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services, and to fix their remuneration.

In addition, the Audit Committee will perform such other functions as are assigned by law and the Corporation's by-laws, and on the instructions of the Board.

## **IV. MEETINGS**

The Audit Committee will meet quarterly, or more frequently at the discretion of the members of the Audit Committee, as circumstances require.

Additionally, the external auditor may call a meeting of the Audit Committee provided the external auditor abides by the notice requirements set forth below.

Notice of each meeting of the Audit Committee will be given to each member and to the internal and external auditors, who are entitled to attend each meeting of the Audit Committee. The notice will:

- (a) be in writing (which may be communicated by fax or email);
- (b) be accompanied by an agenda that states the nature of the business to be transacted at the meeting in reasonable detail;
- (c) include copies of documentation to be considered at the meeting and reasonably sufficient time to review documentation; and
- (d) be given at least 48 hours preceding the time stipulated for the meeting, unless notice is waived by the Audit Committee members.

A quorum for a meeting of the Audit Committee is a majority of the members present in person, by video conference, webcast or telephone.

If the Chair is not present at a meeting of the Audit Committee, a Chair will be selected from among the members present. The Chair will not have a second or deciding vote in the event of an equality of votes.

At each meeting, the Audit Committee will meet "in-camera", without management or internal or external auditors present, and will meet in separate sessions with each of the head of internal audit and the lead partner of the external auditor at least annually.

The Audit Committee may invite others to attend any part of any meeting of the Audit Committee as it deems appropriate. This includes other directors, members of management, any employee, the Corporation's internal or external legal counsel, external auditors, advisors and consultants.

Minutes will be kept of all meetings of the Audit Committee. The minutes will include copies of all resolutions passed at each meeting, will be maintained with the Corporation's records, and will be available for review by members of the Audit Committee, the Board, and the external auditor.

## **V. OTHER MATTERS**

### **A. Review of Charter**

The Audit Committee shall review and reassess the adequacy of this Charter at least annually or otherwise, as it deems appropriate, and propose recommended changes to the Governance Committee.

### **B. Reporting**

The Audit Committee shall report to the Board activities and recommendations of each Audit Committee meeting and review with the full board any issues that arise with respect to the quality or integrity of the listed Corporation's financial statements, the Corporation's compliance with legal or regulatory requirements, the performance and independence of the Corporation's external auditors, the performance of the internal audit function, management information technology with respect to financial reporting matters, risk management and communication between the parties identified above.

### **C. Evaluation**

The Audit Committee's performance shall be evaluated annually by the Governance Committee and the Board as part of the Board assessment process established by the Governance Committee and the Board.