

Japan Credit Rating Agency, Ltd. (JCR) announces the following credit rating.

Pohjolan Voima Oyj (security code: -)

<Affirmation>

Foreign Currency Long-term Issuer Rating: A+
Outlook: Stable

Rationale

- (1) Pohjolan Voima Oyj (PVO) is a private non-profit electricity and heat generation company jointly established by corporates and local governments in Finland in 1943. It provides its 23 shareholders at cost with the power and heat generated by the hydro, thermal and nuclear power plants which the shareholders invested through PVO. PVO is run on the so-called "Mankala" principle, a business model unique to joint-venture power generators in Finland. Specifically, PVO's shareholders are obligated to pay PVO's fixed cost including the payment of financial costs in proportion to capital contribution ratio and regardless of the receipt of power, and for the variable costs in the proportion to the amount of energy taken, taking into account the variable costs of each power acquisition resource separately. The shareholders' commitment to PVO remains solid as demonstrated in their representation in the company's board. Moreover, even if shareholders failed to pay, PVO would be able to recover the cost by selling the suspended power given that, according to JCR's estimates, the average market prices in Finland are currently higher than the production cost. Such business model is an important supporting factor for PVO's rating as it contributes to containing its business and financial risks. The rating is also supported by its position as a principal electricity supplier in Finland.
- (2) The prospective start of commercial operation of Teollisuuden Voima Oyj (TVO)'s new nuclear power plant Olkiluoto 3 (OL3), in which PVO is investing in 60%, has been further postponed by fourteen months since JCR's last rating review on PVO, and is now scheduled for March 2021. However, the settlement agreement reached in March 2018 between TVO and Areva-Siemens consortium, OL3's turn-key-contractors, for the arbitration proceeding concerning the delay of the project obliged the supplier consortium to secure adequate necessary financial, technical and human resources to complete the project. JCR therefore holds that, even if the completion of the OL3 project is further delayed, the risk of PVO's production cost significantly rising from the current estimate as a result of an increase in financial burden for TVO is low. Taking these into consideration, JCR has affirmed PVO's rating with Stable outlook.
- (3) PVO is a principal electricity supplier in Finland, generating around 15% of the country's total electricity consumption. Of total electricity generated by PVO in 2018, 67% (70% in 2017) was sourced from nuclear power, 13% (16%) from hydro power and 20% (14%) from thermal power. PVO's nuclear power is supplied by two nuclear power plants, Olkiluoto 1 and 2 (OL1&2), run by TVO which is 59% owned by PVO. After commercial operation of OL3, PVO's dependence on nuclear power is expected to further increase as PVO will receive electricity generated at OL3 in proportion to its shareholding ratio in this facility.
- (4) According to JCR's estimates, the average selling price of the power generated by PVO operating at cost price, was around EUR28/MWh in 2018, staying below the Nordic electricity market Nord Pool's Finland area prices of EUR47/MWh. Once OL3 comes into operation, PVO's average production cost will also go up as depreciation of the OL3 construction cost will start. However, it is not envisaged that the market prices in Finland will significantly fall below PVO's production cost in the near future. This is partly because Finland, a net importer of electricity, cannot import cheaper electricity from abroad above a certain amount due to the limited capacity of cross-border transmission lines. In addition, PVO's production cost is less volatile as compared with the market prices, which JCR sees as an additional value for PVO's shareholders who put priority on stable power supply. JCR will continue to monitor how cost competitiveness of electricity generated by PVO will evolve in relation to the market prices, as a lower margin in relation to the market prices could reduce PVO's capacity to absorb possible cost overruns, or weaken the shareholders' economic incentive to receive electricity from PVO.

Rating

Issuer: Pohjolan Voima Oyj

<Affirmation>

Foreign Currency Long-term Issuer Rating: A+ Outlook: Stable

Rating Assignment Date: December 19, 2019

The criteria used for identifying matters which serve as assumptions for the assessment of the credit status, and the criteria used for setting of grades indicating the results of the assessments of the credit status are published as "Types of Credit Ratings and Definitions of Rating Symbols" (January 6, 2014) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

Outline of methodology for determination of the credit rating is shown as "JCR's Rating Methodology" (November 7, 2014) and "Electric Power" (April 25, 2016) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

Japan Credit Rating Agency, Ltd.Jiji Press Building, 5-15-8 Ginza, Chuo-ku, Tokyo 104-0061, Japan
Tel. +81 3 3544 7013, Fax. +81 3 3544 7026

Information herein has been obtained by JCR from the issuers and other sources believed to be accurate and reliable. However, because of the possibility of human or mechanical error as well as other factors, JCR makes no representation or warranty, express or implied, as to accuracy, results, adequacy, timeliness, completeness or merchantability, or fitness for any particular purpose, with respect to any such information, and is not responsible for any errors or omissions, or for results obtained from the use of such information. Under no circumstances will JCR be liable for any special, indirect, incidental or consequential damages of any kind caused by the use of any such information, including but not limited to, lost opportunity or lost money, whether in contract, tort, strict liability or otherwise, and whether such damages are foreseeable or unforeseeable. JCR's ratings and credit assessments are statements of JCR's current and comprehensive opinion regarding redemption possibility, etc. of financial obligations assumed by the issuers or financial products, and not statements of opinion regarding any risk other than credit risk, such as market liquidity risk or price fluctuation risk. JCR's ratings and credit assessments are statements of opinion, and not statements of fact as to credit risk decisions or recommendations regarding decisions to purchase, sell or hold any securities such as individual bonds or commercial paper. The ratings and credit assessments may be changed, suspended or withdrawn as a result of changes in or unavailability of information as well as other factors. JCR receives a rating fee paid by issuers for conducting rating services in principle. JCR retains all rights pertaining to this document, including JCR's rating data. Any reproduction, adaptation, alteration, etc. of this document, including such rating data, is prohibited, whether or not wholly or partly, without prior consent of JCR.

JCR is registered as a "Nationally Recognized Statistical Rating Organization" with the U.S. Securities and Exchange Commission with respect to the following four classes. (1) Financial institutions, brokers and dealers, (2) Insurance Companies, (3) Corporate Issuers, (4) Issuers of government securities, municipal securities and foreign government securities.

JCR publishes its press releases regarding the rating actions both in Japanese and in English on the same day. In case that it takes time to translate rating rationale, JCR may publicize the summary version, which will be replaced by the full translated version within three business days. (Regarding Structured Finance products, JCR only publicize the summary version in English.)

Copyright © Japan Credit Rating Agency, Ltd. All rights reserved.



Information Disclosure Form

Japan Credit Rating Agency, Ltd.

Disclosure Required by Paragraph (a)(1)(ii) of Rule 17g-7

Issuer:	Pohjolan Voima Oyj
Rating Publication Date:	December 24, 2019

1 The Symbol, Number, or Score in the Rating Scale used to Denote Credit Rating Categories and Notches and, the Identity of the Obligor or the Identity and a Description of the Security or Money Market Instrument as Required by Paragraph (a)(1)(ii)(A) of Rule 17g-7

- Please see the news release.

2 The version of the procedure or methodology used to determine the credit rating; as Required by Paragraph (a)(1)(ii)(B) of Rule 17g-7

- Please see the news release.

3 The Main Assumptions and Principles used in Constructing the Procedures and Methodologies used to Determine the Credit Rating as Required by Paragraph (a)(1)(ii)(C) of Rule 17g-7

- The credit rating methodology assumes, in principle, to be applied to assess the likelihood of a given debt payment in light of its issuer's condition and business environment, etc. in the relevant future. There is certain limitation, however, in the time horizon that the rating foresees.
- The credit rating methodology assumes, in principle, that the factors posted in the below are particularly important for such likelihood to be determined, and that the rating determination is made by evaluating each of them not only quantitatively but also employing qualitative analyses.

A) Business Bases

The likelihood of a given debt payment is highly conditional to its issuer's business bases - how they can be maintained/ expanded into the future and thereby secure earnings and cash flows in adequacy and in a sustainable way.

B) Financial Grounds and Asset Quality

The likelihood of debt payment is highly dependent on the degree of the issuer's indebtedness and loss absorption capacity in terms of equity capital. Also notable is that a financial institution might see a significant loss of financial grounds as a result of changes in value of the assets under its possession.

C) Liquidity Positions

The likelihood of debt payment is highly dependent on the adequacy of the issuer's cash and other sources of repayment (liquidity positions).

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The likelihood of debt payment is affected one way or the other by the issuer's related parties such as parent company, subsidiary, guarantor, and the government of the issuer's business domicile, etc. - by their own conditions and/ or position of support/ assistance for the issuer.

E) Order of Seniority in Debt Payment

The likelihood of debt payment can be different between given debts of the same issuer. The likelihood of debt payment for an individual debt is dependent on the issuer's discretion, and/ or its rank relative to other debts of the same issuer in the order of seniority in principal/ interest payment which is determined by design as financial product or by laws, etc.

4 The Potential Limitations of the Credit Rating as Required by Paragraph (a)(1)(ii)(D) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- The objective of the credit rating herewith presented does not include any concerns other than the likelihood of debt payment, such as risks of price changes, market liquidity, etc.
- The credit rating herewith presented is necessary to be reviewed along with possible changes of the issuer of rated objects in its business performance and/ or circumstances which include regulatory environment, and hence subject to possible alteration.

5 Information on the Uncertainty of the Credit Rating as Required by Paragraph (a)(1)(ii)(E) of Rule 17g-7

- The information used for the determination of credit rating as herewith presented is obtained by JCR from the issuer of rated objects and other sources that JCR trusts in terms of accuracy and reliability but possibly contains errors due to human, non-human or other causes. Consequently, the credit rating determined on the grounds of such information does not constitute, explicitly or implicitly, any representation or warrant of JCR on the information itself or any consequences of its use in terms of accuracy, relevance, timeliness, wholeness, market value, or usefulness for any specific purposes.

6 Use of Due Diligence Services of a Third Party in Taking the Rating Action as Required by Paragraph (a)(1)(ii)(F) of Rule 17g-7

- There is no use of any third-party due diligence service in the determination of the credit rating herewith presented.

7 Use of Servicer or Remittance Reports to Conduct Surveillance of the Credit Rating Required by Paragraph (a)(1)(ii)(G) of Rule 17g-7

- There is no use of any servicer or remittance report to conduct surveillance of the credit rating herewith presented.

8 The Types of Data Relied Upon for the Purpose of Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(H) of Rule 17g-7

- The information posted in the below, which includes data, is used for the determination of the credit rating herewith presented.

A) Audited financial statements presented by the rating stakeholders

B) Explanations of business performance, management plans, etc. presented by the rating stakeholders

9 Overall assessment of the Quality of Information Available and Considered in Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(I) of Rule 17g-7

- JCR holds its basic policies for securing the quality of information as a base of due diligence for the determination of credit ratings. The information used as a base for the determination of credit rating herewith presented satisfies such policies, which include the audit by an independent auditor, the publication by the issuer or some independent media or, otherwise, JCR analyst's scrutiny, etc.
- JCR sees no particular weakness in the quality of information used for the determination of the credit rating herewith presented as compared to the information used in other cases of the credit rating for comparable issuers or ratable objects.

10 Information Relating to Conflicts of Interest as Required by Paragraph (a)(1)(ii)(J) of Rule 17g-7

- JCR does not receive payment of compensation for the determination of the credit rating herewith presented from either one of those parties who are issuer, underwriter, depositor or sponsor.
- JCR did not receive in the last fiscal year in the past payment of compensation from the same party for any kind of JCR's service other than the determination of credit rating, such as one in the ancillary business.

11 Explanation or Measure of the Potential Volatility of the Credit Rating as Required by Paragraph (a)(1)(ii)(K) of Rule 17g-7

A) Business Bases

The credit rating is subject to alteration if there is improvement or deterioration of the issuer's business bases, since its revenue, etc. may improve or deteriorate by the change in its business management policies, clients' preferences, competitive situation, or a technological innovation. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the business bases is large.

B) Financial Grounds and Asset Quality

The credit rating is subject to alteration if the issuer increases/ decreases its debt/ capital or vice versa and thereby makes its individual debt payment liability less or more bearable and its loss absorption capacity into the future decreased or increased. Also, the changes in the quality of asset under the issuer's holding may affect the credit rating, since such changes could raise or lower the likelihood of future loss of the issuer's financial grounds. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the financial grounds and/ or asset quality is large.

C) Liquidity Positions

The credit rating is subject to alteration if there is a change in the issuer's financial management policy or in the relations with fund procurement sources and the change thereby makes its liquidity positions improve or deteriorate. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The credit rating is subject to alteration if there is a change in the issuer's parent company or subsidiary, guarantor or other provider of credit enhancement, or the government of the issuer's

business domicile, or other related parties' own conditions and/ or position of support/ assistance for the issuer, and the change thereby makes its business bases, financial grounds and/ or liquidity positions improve or deteriorate, and/ or making the effectiveness of guarantee and other credit enhancement improve or deteriorate. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large.

E) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating is subject to alteration if there is a change in the rated debt's status in the order of seniority relative to other debts caused by the improvement/ deterioration of the issuer's financial condition. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large. Also, in case of the financial products for which non-payment of interest/ principal is contractually permissible, the credit rating is subject to alteration if and when the likelihood of such non-payment is projected to increase or decrease. The resultant alteration of the credit rating could be by a notch but often as much as a few notches.

F) Rise and Fall in General Economy and Markets

The credit rating is subject to alteration if there is a rise/ fall in the general economy and/ or the markets inducing the issuer's revenues/ expenses to increase/ decrease and vice versa, etc. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is exceptionally large.

G) Various Events

The credit rating is subject to alteration on occurrence of various events, such as change in the issuer's major shareholders, M&A and other organizational change, accident, violation of the law, litigation, legal/ regulatory change, natural disaster, etc., which are unforeseeable at the time when the credit rating is determined, causing a significant change on the issuer's business bases, financial grounds, etc. The resultant alteration of the credit rating could be by a notch but more often than not as much as a few notches.

12

Information on the Content of the Credit Rating, Including the Historical Performance of the Credit Rating and the Expected Probability of Default and the Expected Loss in the Event of Default as Required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

- Historical records of the credit rating herewith presented are posted in the end of this paper.
- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- Facts of the probability of default are posted as Form NRSRO Exhibit 1 on the JCR website under the URL:

<https://www.jcr.co.jp/en/service/company/regu/nrsro/>

13

Information on the Sensitivity of the Credit Rating to Assumptions Made as Required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

A) Business Bases

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's business bases and powers of earning or cash flow generation, etc. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's business bases on some drastic change in the operational environments, etc.

B) Financial Grounds and Asset Quality

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's financial grounds and asset quality. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's financial grounds and/ or asset quality on some drastic change in its business bases.

C) Liquidity Risks

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's liquidity positions. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's liquidity positions on some drastic change in its financial management policy or relations with fund procurement sources, etc.

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's parent company or subsidiaries, guarantor or other providers of credit enhancement, the government of the issuer's business domicile or other related parties' status and stance of support/ assistance for the issuer. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if there is a major change on the part of related parties, such as replacement, disappearance, some drastic improvement/ deterioration of financial grounds/ balances, etc.

E) Rise and Fall in General Economy and Markets

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the prospects of general economy and markets. JCR expects the change should be most likely by a notch but could be as much as a few notches, should the economy or the markets change so greatly.

14

Information on the Representations, Warranties, and Enforcement Mechanisms of an Asset-backed Security as Required by Paragraph (a)(1)(ii)(N) of rule 17g-7

- The credit rating herewith presented is not for an ABS product, and hence no relevant issue.

Japan Credit Rating Agency, Ltd.

Jiji Press Building, 5-15-8 Ginza, Chuo-ku, Tokyo 104-0061, Japan
Tel. +81 3 3544 7013, Fax. +81 3 3544 7026

The Historical Performance of the Credit Rating

Issuer Name	Issue Name	Publication Date	Rating	Outlook/Direction
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 28, 2000	AA	
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 7, 2001	AA	
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 7, 2002	AA	
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 17, 2003	AA	
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 14, 2004	AA	
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	November 19, 2004	AA	
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	December 19, 2005	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 14, 2007	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 15, 2008	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 21, 2009	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 7, 2010	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 4, 2011	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	December 27, 2011	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 18, 2013	AA	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	March 28, 2014	AA	Negative
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	January 21, 2015	AA-	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 17, 2016	AA-	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	December 9, 2016	AA-	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	February 6, 2018	A+	Stable
Pohjolan Voima Oyj	Issuer(Long-term)(FC)	December 17, 2018	A+	Stable

Attestation Required by Paragraph (a)(1)(iii) of Rule 17g-7

I, Atsushi Masuda, have responsibility to this Rating Action and to the best of my knowledge:

- A) No part of the credit rating was influenced by any other business activities.
- B) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated.
- C) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.



Atsushi Masuda
General Manager of International Rating Department

Japan Credit Rating Agency, Ltd.

Jiji Press Building, 5-15-8 Ginza, Chuo-ku, Tokyo 104-0061, Japan
Tel. +81 3 3544 7013, Fax. +81 3 3544 7026