

06 December 2023 – Neuss, Germany

Rating Action / Update:

Creditreform Rating has affirmed the unsolicited corporate issuer rating of Teollisuuden Voima Oyj at **BBB-** / **stable** / **L3**

Creditreform Rating (CRA) has affirmed the unsolicited, public corporate issuer rating of Teollisuuden Voima Oyj – referred to here as the Company or TVO, as well as the unsolicited corporate issue rating of long-term local currency senior unsecured notes issued by TVO at **BBB-**. The outlook remains stable. The initial short-term issuer rating was set to **L3** (Adequate level of liquidity).

Current relevant factors for the rating

The following considerations were of specific relevance for the rating assessment:

- Successful connection of OL3 to Finland's electricity grid and start of regular production on 01 May 2023
- Improvement in key financial ratios in 2022 and 9M 2023
- Positive financial performance in the first three quarters of 2023 and positive effects of the start of electricity production of OL3
- Stable creditworthiness of TVO's shareholders
- Balance sheet structure with room for further improvement, especially regarding TVO's leverage
- Exposure to indirect energy market risk

ESG-criteria:

CRA generally takes ESG factors (environment, social and governance) into account within its rating decisions. In the case of Teollisuuden Voima Oyj we have not identified any ESG factors with significant influence.

TVO generates CO₂-neutral electricity, which is in line with the general political direction of reducing CO₂ emissions and especially the targets of the EU Green Deal. The production of nuclear energy and the disposal of used fuel is heavily regulated, and supervised based on Finnish nuclear energy legislation, the underlying principle of ensuring that the use of nuclear energy is safe and in line with the overall good of society. Additionally, we see it as positive from a business and sustainability perspective, that TVO has a final disposal facility for spent fuel, which was approved by the Finnish Government in 2021. Final disposal is supposed to start in the mid-2020s.

In 2022, Nuclear Energy was included in the EU taxonomy. Since TVO's business model focusses solely on the complete lifecycle of nuclear energy production, 99% of the company's turnover and 100% of its capital expenditure were aligned with the EU taxonomy as of the end of 2022. Since TVO has also published a Green Bond Framework in June 2023, the company could potentially benefit from its taxonomy-alignment in financing by reaching out to investors that are looking for taxonomy-aligned bonds and loans.

A general valid description of Creditreform Rating AG, as well as a valid description of corporate ratings for understanding and assessing ESG factors in the context of the credit rating process, can be found [here](#).

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ESG factors are factors related to environment, social issues and, governance. For more information, please see the "Regulatory requirements". CRA generally takes ESG relevant factors into account, when assessing the rating object and discloses them when they have a significant influence on the creditworthiness of the rating object, leading to a change in the rating result or the outlook.

Please note:

The scenarios are based on information available at the time of the rating. Within the forecast horizon, circumstances may occur that could lead to a change of the rating out of the indicated range.

Rating result

The current unsolicited corporate issuer rating of **BBB-** attests a highly satisfactory level of creditworthiness to Teollisuuden Voima Oyj. TVO's business model, producing electricity only for its shareholders, and at cost price, is a key rating factor and as a result the creditworthiness of its shareholders have a considerable impact on our rating assessment. We currently consider the Company's shareholder base sufficient to support the unsolicited corporate issuer rating of **BBB-**. In the event of a default of one of its shareholders, TVO could, according to its Articles of Association, immediately cut off distribution of electricity and sell it to the party submitting the best offer. Compared to our last published rating action, the new OL3 power plant has been connected to the Finnish electricity grid and started its commercial operation on 01 May 2023. Therefore, the previous dampening factor on our rating of the prolonged insecurity when OL3 will start production, is omitted. We will closely monitor how TVO uses the proceeds from electricity production of its OL3 power plant, to identify potential effects on our rating evaluation.

TVO is awarded some degree of systemic relevance as it provides approximately 20% of all electricity consumed in Finland and this is expected to increase to approximately 30% after the full commissioning of OL3. The OL3 power plant will also decrease Finland's electricity import needs by approximately 60%. In addition, Finland and Finnish municipalities indirectly hold more than 50% of the company's share capital through various investments in TVO's (direct or indirect) shareholders.

Outlook

The one-year outlook for the unsolicited issuer rating of TVO is stable. This assessment is primarily based on the fact, that the OL3 plant has successfully started regular electricity production, which reduces the risk level of the company. In general, the start of operation of OL3 can allow TVO to deleverage, given the fact that the depreciations on OL3 (which TVO's shareholders fully pay in-cash) will presumably be higher than the company's investment needs, which gives the company headroom to utilize funds for a reduction of debt. However, as of Q3 2023, absolute debt levels remained fairly constant as compared to 2022. Therefore, the outlook remains stable, but we will monitor TVO's success in deleveraging for our upcoming rating actions.

Best-case scenario: BBB

In our best-case scenario for one year, we assume a rating of BBB. In this scenario, we assume that TVO successfully uses the funds from OL3's electricity sales for a reduction of the company's indebtedness and thereby an improvement of its balance sheet structure. Also, in this scenario we assume that the creditworthiness of the company's shareholders remains on a satisfactory level, sufficient for an issuer rating level of BBB.

Worst-case scenario: BB+

In our worst-case scenario for one year, we assume a rating of BB+. The start of regular electricity production of OL3 has significantly reduced the risk for long unexpected delays. However, in this scenario, further unexpected problems resulting in outages of OL3 stop the plant's production for a significant amount of time and further investments are needed, which increases TVO's risk and worsens the company's key financial ratios. Also, in this scenario we assume that the

creditworthiness of the company's shareholders worsens, acting as a dampening factor on our rating assessment.

Business development and outlook

During 2022, TVO's total electricity production was 16,351 GWh (2020: 14,438 GWh) corresponding to approximately 20 percent of all electricity consumed in Finland and approximately 24 percent of all electricity produced. The combined load factor of OL1 and OL2 was 93.0 percent (2021: 92.8 percent), due to the refuelling and maintenance outages in May and June for OL1 and April and May for OL2. For the first time, OL3 was connected to the Finnish grid in March of 2022 and the plant contributed around 12 % to TVO's total electricity production of 2022. During the business year, TVO generated revenues of EUR 358 million (2021: EUR 299 million), EBITDA of EUR 74 million (2021: EUR 60 million) and EAT of EUR -48 million (2021: EUR -20 million).

Table 1: Financials of Teollisuuden Voima Oyj | Source: TVO Annual report 2022, standardized by CRA

Teollisuuden Voima Oyj Selected key figures of the financial statement analysis Basis: Annual accounts and report of 31.12. (IAS, Group)	CRA standardized figures ¹	
	2021	2022
Sales (million EUR)	298.71	358.21
EBITDA (million EUR)	60.27	73.76
EBIT (million EUR)	16.27	26.77
EAT (million EUR)	-19.65	-47.88
EAT after transfer (million EUR)	-19.65	-47.88
Total assets (million EUR)	8,645.27	8,942.29
Equity ratio (%)	23.67	22.24
Capital lock-up period (days)	69.25	17.14
Short-term capital lock-up (%)	150.27	72.36
Net total debt / EBITDA adj. (factor)	106.64	89.48
Ratio of interest expenses to total debt (%)	0.63	1.17
Return on Investment (%)	0.20	0.31

Over the course of the first nine months of 2023, TVO's total electricity production was 17,622 GWh (9M 2022: 11,888 GWh). The substantial increase in electricity output compared to 9M 2022 is attributable to OL3's start of regular electricity production on 01 May 2022. The new power plant contributed more than forty percent to TVO's electricity output, despite the fact that OL3 started production only during the second quarter of the year. Following this increase in electricity output, revenues soared to EUR 587 million (9M 2022: EUR 250 million), EBITDA increased to EUR 260 million (9M 2022: EUR 14 million) and EAT improved to EUR 67 million (9M 2022: EUR -52 million). TVO plans to keep the profits of 2023 as retained earnings in the balance sheet, which can be judged favorably from a ratings perspective if this actually leads to an improvement in key financial ratios. It should be noted, however, that this profit has to be evaluated as an exception and cannot be seen as a lasting trend. Since the company operates on a cost-price

¹ For analytical purposes, CRA adjusted the original values in the financial statements in the context of its financial ratio analysis. For example, when calculating the analytical equity ratio, deferred tax assets, goodwill (entirely or partly), and internally-generated intangible assets are subtracted from the original equity, whilst deferred tax liabilities are added. Net total debt takes all balance sheet liabilities into account. Therefore, the key financial figures shown often deviate from the original values of the company.

basis, prices for 2024 will be adjusted resulting in a normalization – i.e. profits will presumably not occur in 2024.

Table 2: The development of business of Teollisuuden Voima Oyj | Source: Q3 report 2023, reported information

Teollisuuden Voima Oyj				
In million EUR	30.09.2022	30.09.2023	Δ	Δ %
Sales	250.1	587.0	336.9	134.7
EBITDA	13.6	260.1	246.5	1,816.8
EBIT	-21.1	143.9	165.0	n.a.
EBT	-52.0	66.9	118.8	n.a.
EAT	-52.0	66.9	118.9	n.a.

The war in Ukraine does not have any direct material impact on our rating assessment. TVO has only limited commercial connections to Russia and the Company's procurement processes are always based on multiple sourcing. Most of the uranium procured by TVO comes from Kazakhstan, Canada and Australia and the fuel elements ordered are constructed and assembled in Germany, Spain or Sweden.

It will be of importance for our upcoming rating actions, if TVO is actually able to significantly deleverage, using the funds from electricity sales of OL3. Based on the 9M 2023 figures reported by the company, we see a gradual improvement in TVO's key financial ratios as the most likely scenario over the coming year, which is the basis of the stable rating outlook.

Further ratings

Based on the long-term issuer rating and taking into account our liquidity analysis, the short-term rating of Teollisuuden Voima Oyj was set at **L3** (standard mapping), which corresponds to an adequate liquidity assessment for one year.

The rating objects of the issue ratings are exclusively long-term senior unsecured issues, denominated in euro, issued by Teollisuuden Voima Oyj, which are included in the list of ECB-eligible marketable assets. Teollisuuden Voima Oyj is guarantor in respect of the issues that have been issued under the Euro Medium Term Note Programme (EMTN), with the last basis prospectus of 12 May 2023.

We have provided the long-term local currency senior unsecured notes issued by Teollisuuden Voima Oyj with an unsolicited rating of **BBB- / stable**. The ratings are based on the corporate issuer rating.

Long-term local currency senior unsecured notes issued by Teollisuuden Voima Oyj, which have similar conditions to the current EMTN programme, denominated in euro and included in the list of ECB-eligible marketable assets, generally receive the same ratings as the current LT LC senior unsecured notes issued under the EMTN programme. Notes issued in any currency other than euro, or other types of debt instruments, have not yet been rated by CRA. For a list of all currently valid ratings and additional information, please consult the website of Creditreform Rating AG.

Table 3: Overview of CRA Ratings | Source: CRA

Rating Category	Details	
	Date of rating committee	Rating
Teollisuuden Voima Oyj	06.12.2023	BBB- / stable / L3
Long-term Local Currency (LC) Senior Unsecured Issues issued by Teollisuuden Voima Oyj	06.12.2023	BBB- / stable
Other	--	n.r.

Appendix

Rating history

The rating history is available under the following [link](#).

Table 4: Corporate Issuer Rating of Teollisuuden Voim Oyj

Event	Rating created	Publication date	Result
Initial rating	24.10.2018	29.10.2018	BBB- / stable

Table 9: LT LC Senior Unsecured Issues issued by Teollisuuden Voim Oyj

Event	Rating created	Publication date	Result
Initial rating	24.10.2018	29.10.2018	BBB- / stable

Table 11: Short-term issuer ratings of Teollisuuden Voim Oyj

Event	Rating created	Publication date	Result
Initial rating	06.12.2023	www.creditreform-rating.de	L3

Regulatory requirements

The rating² was not endorsed by Creditreform Rating AG (Article 4 (3) of the CRA-Regulation).

The present rating is, in the regulatory sense, an unsolicited rating that is public. The analysis was carried out on a voluntary basis by Creditreform Rating AG, which was not commissioned by the Issuer or any other third party to prepare the present rating.

The rating is based on the analysis of published information and on internal evaluation methods for the assessment of companies and issues. The rating object was informed of the intention of creating or updating an unsolicited rating before the rating was determined.

The rating object participated in the creation of the rating as follows:

With Rated Entity or Related Third Party Participation	Yes
With access to Internal Documents	No
With Access to Management	No

A management meeting did not take place within the framework of the rating process.

The documents and information gathered were sufficient to meet the requirements of Creditreform Rating AG's rating methodologies.

The rating was conducted based on the following rating methodologies and the basic document.

² In these regulatory requirements the term "rating" is used in relation to all ratings issued by Creditreform Rating AG in connection to this report. This may concern several companies and their various issues.

Rating methodology	Version number	Date
Corporate Ratings	2.4	July 2022
Corporate Short-Term Ratings	1.0	June 2023
Non-financial Corporate Issue Ratings	1.0	October 2016
Rating Criteria and Definitions	1.3	January 2018

The documents contain a description of the rating categories and a definition of default.

The rating was carried out by the following analysts:

Name	Function	Mail-Address
Esra Höffgen	Lead-analyst	E.Hoeffgen@creditreform-rating.de
Natallia Berthold	Analyst	N.Berthold@creditreform-rating.de

The rating was approved by the following person (person approving credit ratings, PAC):

Name	Function	Mail-Address
Philip Michaelis	PAC	P.Michaelis@creditreform-rating.de

On 06 December 2023, the analysts presented the rating to the rating committee and the rating was determined. The rating result was communicated to the company on 06 December 2023. There has not been a subsequent change to the rating.

The rating will be monitored until Creditreform Rating AG withdraws the rating. The rating can be adjusted as part of the monitoring, if crucial assessment parameters change.

In 2011, Creditreform Rating AG was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on this registration, Creditreform Rating AG is allowed to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation.

ESG-factors

You can find out whether ESG factors were relevant to the rating in the upper section of this rating report "Relevant rating factors".

A general valid description for Creditreform Rating AG, as well as a valid description of corporate ratings for understanding and assessing ESG factors in the context of the credit rating process, can be found [here](#).

Conflict of interests

No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or in approving credit ratings and rating outlooks.

Creditreform Rating AG ensures that the provision of ancillary services does not present conflicts of interest with its credit rating activities and discloses in the final rating reports any ancillary services provided for the rated entity or any related third party. The following ancillary services were provided for the rating entity or for third parties associated with the rated entity:

No ancillary services in the regulatory sense were carried out for this rating object.

For the complete list of provided rating and credit service ancillaries please refer to the Creditreform Rating AG's [website](#).

Rules on the presentation of credit ratings and rating outlooks

The approval of credit ratings and rating outlooks follows our internal policies and procedures. In line with our "Rating Committee Policy", all credit ratings and rating outlooks are approved by a rating committee based on the principle of unanimity.

To prepare this credit rating, Creditreform Rating AG has used following substantially material sources:

Corporate issuer rating:

1. Annual report
2. Website
3. Internet research

Corporate issue rating:

1. Corporate issuer rating incl. information used for the corporate issuer rating
2. Documents on issues / instruments

There are no other attributes and limitations of the credit rating or rating outlook other than those displayed on the Creditreform Rating AG website. Furthermore, Creditreform Rating AG considers as satisfactory the quality and extent of information available on the rated entity. With respect to the rated entity, Creditreform Rating AG regarded available historical data as sufficient.

Between the time of disclosure of the credit rating to the rated entity and the public disclosure, no amendments were made to the credit rating.

The Basic Data Information Card indicates the principal methodology or version of methodology that was used in determining the rating, with a reference to its comprehensive description.

In cases where the credit rating is based on more than one methodology or where reference only to the principal methodology might cause investors to overlook other important aspects of the credit rating, including any significant adjustments and deviations, Creditreform Rating AG explains this fact in the credit rating report and indicates how the different methodologies or other aspects are taken into account in the credit rating. This information is integrated in the credit rating report.

The meaning of each rating category, the definition of default or recovery and any appropriate risk warning, including a sensitivity analysis of the relevant key rating assumptions such as mathematical or correlation assumptions, accompanied by worst-case scenario credit ratings and best-case scenario credit ratings are explained.

The date at which the credit rating was initially released for distribution and the date when it was last updated, including any rating outlooks, is indicated clearly and prominently in the Basic

Data Information Card as a “rating action”; initial release is indicated as “initial rating”, other updates are indicated as an “update”, “upgrade” or “downgrade”, “not rated”, “confirmed”, “selective default” or “default”.

In the case of a rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within the Basic Data Information Card.

In accordance with Article 11 (2) EU-Regulation (EC) No 1060/2009, a registered or certified credit rating agency shall make available, in a central repository established by ESMA, information on its historical performance data including the rating transition frequency and information about credit ratings issued in the past and on their changes. Requested data are available at the [ESMA website](#).

An explanatory statement of the meaning of Creditreform Rating AG’s default rates are available in the credit rating methodologies disclosed on the website.

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