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# Teollisuuden Voima Oyj

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## Table Of Contents

# Teollisuuden Voima Oyj

## Rationale

| Corporate Credit Rating |
|---|
| BBB/Negative/A-2 |

### Business Risk

- A protective business model, including full cost cover, backed by long-term off-take agreements with the owners.
- Strong operational track record and competitive production cost of existing plants.
- Supportive political and regulatory environment.
- Significant project risk related to the construction of a third nuclear plant.
- Asset concentration and general risk related to nuclear power operations.

### Financial Risk

- Weak financial ratios, owing to non-profit structure.
- Relatively short-dated debt maturity profile relative to the economic life of the asset base.
- Sufficient liquidity to cover significant funding needs over the next few years.
- Shareholder obligation to pay all annual fixed costs, including installments and interest.

## Outlook

The negative outlook on Finland-based nuclear power producer Teollisuuden Voima Oyj (TVO) reflects Standard & Poor's Ratings Services' view of the risk that lower market prices and higher costs could permanently reduce TVO's competitiveness, which could dilute the cost advantage it affords its owners over time. We believe maintaining a cost advantage relative to market prices is critical to the shareholders' long-term supportiveness of TVO.

### Downside scenario

We could lower the ratings if we believe that depressed market prices and increased production costs have permanently weakened TVO's competitive position and reduced the economic attractiveness of its business model to its owners. This could, for example, result from further significant delays in the construction of the Olkiluoto 3 nuclear power plant and related cost overruns.

We could also lower the ratings if any significant shareholder were no longer able or willing to continue to purchase its proportionate output from TVO, and no other or new shareholder were willing to assume the responsibility. We could also lower the rating if we were to see material weakening in the credit quality of TVO's underlying shareholders, which could lead to a reduced ability to fulfil their obligations to TVO. In addition, the ratings could be negatively affected if TVO takes a final decision on building a fourth nuclear power plant. However, we understand that the company has applied for a five-year extension of the timeline for submitting a construction license for such a plant.

### Upside scenario

We could revise the outlook to stable if we become more certain that TVO's production costs will remain competitive and structurally below market prices in the longer term, supporting the continued economic attractiveness of its business model. This could happen, for example, if we gained better visibility on the final cost and timetable of the

Olkiluoto 3 project.

## Standard & Poor's Base-Case Scenario

Our base-case scenario for 2014-2015 points to continued high production capacity at the company's nuclear plants and a stable equity ratio, despite significant ongoing investment in Olkiluoto 3.

### Assumptions

- TVO will continue to fully cover its production costs, (including interest expenses), which we expect will remain very competitive in the near term.
- No unexpected outages at the company's existing plants, Olkiluoto 1 and Olkiluoto 2.
- No further significant cost overruns in the commissioning of Olkiluoto 3.
- No penalties received from or paid to the suppliers of Olkiluoto 3 tied to the arbitration process related to construction delays.
- No significant financial commitments for a potential fourth nuclear reactor.

### Key Metrics

| | 2013A | 2014E | 2015E |
|---|---|---|---|
| Capacity factor (%)* | 95.1 | >90 | >90 |
| Capital spending (mil. €)§ | 301 | 400-500 | 600-700 |
| Equity ratio (%)± | 30.0 | 25-30 | 25-30 |

*Availability of Olkiluoto 1 and Olkiluoto 2. §Including capitalized interest. ±As defined by the company (equity divided by balance sheet total, minus provision-related nuclear waste management loans from the Finnish State Nuclear Waste Management fund). A--Actual. E--Estimate.

## Company Description

TVO is a non-listed public company, established in 1969 to produce electricity for its shareholders at cost price under the Finnish Mankala business model. The largest shareholders are Pohjolan Voima, another company based on the Mankala principle, and Fortum Power & Heat.

The company owns and operates two nuclear power plant units, Olkiluoto 1 and Olkiluoto 2, at Olkiluoto in southwestern Finland. Each plant has a net capacity of 880 megawatts. TVO also receives power from its 45%-owned Meri-Pori coal-fired power plant, which has a total capacity of 565 megawatts (Fortum Power & Heat being the majority owner and operator). A third 1,600-megawatt nuclear power plant (Olkiluoto 3) is under construction.

In 2010, the Finnish parliament made a decision in principle to approve TVO's application to construct a fourth nuclear power plant at Olkiluoto. Although TVO has started the bidding and engineering phase for the fourth plant, it has not yet taken a final decision on construction. TVO is also a 60% shareholder in Posiva Oy, which is responsible for the final disposal of spent fuel from the plants.

## Business Risk: Strong

TVO's "strong" business risk profile is underpinned by its protective business model, including a full cost-cover structure backed by long-term off-take agreements with the owners. According to the company's articles of association, the shareholders are severally liable for TVO's annual fixed costs (accounting for about 80%-85% of total costs), including interest expenses and debt installments. They are also responsible for TVO's variable costs in proportion to their off-take. Although the shareholders are not jointly liable for TVO's costs, we believe they would have a strong interest in supporting TVO should any individual shareholder default, as long as TVO's production costs would be competitive in the long term. Alternatively, we believe that TVO could sell any residual output through the Nordic spot power market and cover all, or at least a significant portion, of its costs.

The commissioning of Olkiluoto 3 will initially significantly increase the total production costs TVO will charge its shareholders, as the production cost will also include depreciation, capitalized interest, and interest costs. We believe, however, that TVO's production costs will remain competitive over the long term because we expect the company to amortize the debt related to Olkiluoto 3. The cost of construction has been escalated by delays and cost overruns (commissioning was originally planned for 2009) and, despite a turn-key fixed-price contract, there is no certainty that TVO will receive compensation through ongoing arbitration with the supplier. These factors could increase TVO's future total production costs beyond our current expectations.

In addition, difficult conditions in the Nordic electricity markets have put further pressure on electricity prices, and we believe that TVO's cushion against any further decline in market prices or increased costs, due to further cost overruns or delays of Olkiluoto 3, has decreased significantly. If this situation were to persist in the longer term, we believe this would weaken TVO's competitive position and could reduce the economic attractiveness of TVO's business model for its owners. We do not currently incorporate any impact from the prospective construction of a fourth nuclear power plant at Olkiluoto because we anticipate that a final decision about construction is not likely before Olkiluoto 3 is in operation.

Although the shareholders are responsible for TVO's fixed costs, regardless of whether or not the company produces electricity, TVO would likely need to remain operationally efficient and cost competitive for its business model to be viable over the long term. TVO's limited asset base, with only two plants, exposes it to significant operational risk. TVO has a strong operational track record, which contributes to the competitive production costs at its existing nuclear plants. Moreover, the company's high operating efficiency is evidenced by high capacity utilization rates, which have averaged about 95% over the past 20 years and constantly remained above 90%, despite lengthy outages due to upgrades in recent years. TVO has modernized and upgraded its plants over the years, ensuring that they always have a remaining technical lifetime of 40 years.

In our opinion, the Finnish government has been supportive of nuclear power and the Mankala model. This was demonstrated by its approval in 2002 of the construction of Olkiluoto 3 and its decision, in principle, in 2010, on the construction of two new nuclear reactors, including Olkiluoto 4.

The credit quality of UPM-Kymmene and Stora Enso, TVO's major underlying shareholders through Pohjolan Voima

Oy (PVO), is weaker than TVO's. We believe this is mitigated by PVO's direct obligation to TVO and, in our view, there is a high likelihood that other or new shareholders would step in if any of the existing shareholders were to default.

## S&P Base-Case Operating Scenario

In our base-case assessment, we assume that TVO will continue to fully cover its production costs (including interest expenses), which we expect to remain very competitive in the near term. We estimate that TVO's production costs for its current two nuclear plants are about €20 per megawatt hour, which compares favorably with Nordic power exchange (Nord Pool) futures prices for 2014 (about €31 per megawatt hour as of mid-June 2014). We base this on the following key factors:

- Olkiluoto 1 and Olkiluoto 2 will continue to operate without any unexpected outages, at capacity factors comfortably above 90%.
- Olkiluoto 3 would not be in operation during the forecast period 2014-2015.
- We have assumed no further major delays or cost overruns in the commissioning of Olkiluoto 3.
- We factor in no prospective gains or losses from the ongoing arbitration with the provider of Olkiluoto 3.
- No construction of a fourth nuclear power plant at Olkiluoto because we anticipate that a final decision on construction is unlikely before Olkiluoto 3 is in operation.

## Peer comparison

**Table 1**

**Teollisuuden Voima Oyj--Peer Comparison**

| | Teollisuuden Voima Oyj | Fortum Oyj | Tekniska verken i Linkoping AB | Drax Power Ltd. |
|---|---|---|---|---|
| Rating as of June 27, 2014 | BBB/Negative/A-2 | A-/Negative/A-2 | A/Stable/A-1 | BB/Stable/-- |
| **(Mil. €)** | **--Average of past three fiscal years--** | | | |
| Revenues | 356.8 | 6,125.3 | 627.1 | 2,290.0 |
| EBITDA | 105.8 | 2,492.5 | 118.2 | 356.0 |
| Funds from operations (FFO) | (60.6) | 1,912.4 | 98.5 | 349.8 |
| Net income from continuing operations | 11.5 | 1,460.7 | 43.3 | 273.3 |
| Capital expenditures | 181.5 | 1,326.0 | 79.3 | 223.0 |
| Free operating cash flow | (246.2) | 306.7 | 48.0 | (7.6) |
| Discretionary cash flow | (246.2) | (581.3) | 25.9 | (127.9) |
| Cash and short-term investments | 1.6 | 238.3 | 15.3 | 373.1 |
| Debt | 2,947.5 | 9,040.7 | 240.4 | 308.8 |
| Equity | 1,344.5 | 10,441.7 | 398.6 | 1,692.0 |
| **Adjusted ratios** | | | | |
| EBITDA margin (%) | 29.6 | 40.7 | 18.8 | 15.5 |
| EBITDA interest coverage (x) | 0.6 | 6.1 | 10.2 | 12.5 |
| EBIT interest coverage (x) | 0.3 | 4.5 | 5.5 | 9.8 |
| Return on capital (%) | 1.3 | 8.9 | 8.7 | 13.1 |
| FFO/debt (%) | (2.1) | 21.2 | 41.0 | 113.4 |
| Free operating cash flow/debt (%) | (8.4) | 3.4 | 19.9 | (2.4) |

**Table 1**

| Teollisuuden Voima Oyj--Peer Comparison (cont.) | | | | |
|---|---|---|---|---|
| Debt/EBITDA (x) | 27.9 | 3.6 | 2.0 | 0.9 |
| Total debt/debt plus equity (%) | 68.7 | 46.4 | 37.6 | 15.4 |

## Financial Risk: Significant

Our assessment of TVO's financial risk profile as "significant" is mainly based on the company's high leverage. Because of the company's nonprofit cost-cover structure, its financial ratios are less indicative of its financial risk profile than those of profit-seeking enterprises. Although partly equity financed, the construction of Olkiluoto 3 has significantly increased TVO's capital spending and debt in recent years. In addition, the interest costs related to the debt for Olkiluoto 3 are being capitalized during construction. This means that they are treated as capital expenditure in TVO's accounts and will not be covered by production charges to the shareholders until the plant is on stream and producing. The capitalization of interest costs during construction, instead of gradually charging shareholders for the increasing interest cost, further weakens TVO's financial measures. This is likely to persist for the next few years, due to continued high investment needs and negative free cash flows during the completion of Olkiluoto 3. We anticipate, for example, that funds from operations (FFO), including capitalized interest, will be negative over the near term.

The financial risk profile is supported by TVO's full cost-cover structure and its articles of association, which stipulate that the shareholders are responsible for all annual fixed costs, including instalments and interest payments on the company's loans falling due annually in accordance with its loan agreements, as well as other expenses resulting from the financing of the company. This also mitigates refinancing risk related to TVO's relatively short-dated debt maturity profile in relation to the economic lifetime of its asset base and near-term cash flows. That said, TVO's debt does not benefit from any guarantees.

## S&P Base-Case Cash Flow And Capital Structure Scenario

- In our base-case scenario, we assume that TVO's financial risk profile will remain negatively affected in the near to medium term by its large investment in the new nuclear plant Olkiluoto 3. Combined with the company's not-for-profit structure, and because the costs related to Olkiluoto 3 will not be charged to shareholders until the plant is in production, this results in weak debt-protection measures.
- We anticipate that FFO including capitalized interest will be negative over the near term. We believe, however, that the company has sufficient liquidity sources to cover the substantial cash outflows during the remainder of the plant's construction, as well as upcoming near-term debt maturities.
- We expect the remaining capital spending related to Olkiluoto 3 to amount to about €1.9 billion, including capitalized interest.
- The equity ratio as defined by the company is expected to be 25%-30% in 2014 and 2015.

### Financial summary

**Table 2**

| Teollisuuden Voima Oyj--Financial Summary | | | | | |
|---|---|---|---|---|---|
| | --Fiscal year ended Dec. 31-- | | | | |
| **(Mil. €)** | **2013** | **2012** | **2011** | **2010** | **2009** |
| Revenues | 366 | 352 | 352 | 363 | 305 |
| EBITDA | 121 | 95 | 102 | 96 | 58 |
| Funds from operations (FFO) | (34) | (93) | (55) | (64) | (63) |
| Net income from continuing operations | 31 | (2) | 6 | 37 | (41) |
| Capital expenditures | 179 | 161 | 204 | 188 | 712 |
| Free operating cash flow | (212) | (238) | (288) | (248) | (807) |
| Discretionary cash flow | (212) | (238) | (288) | (248) | (807) |
| Cash and short-term investments | 2 | 1 | 1 | 1 | 1 |
| Debt | 3,088 | 3,029 | 2,725 | 2,501 | 2,315 |
| Equity | 1,462 | 1,310 | 1,262 | 1,185 | 1,045 |
| **Adjusted ratios** | | | | | |
| EBITDA margin (%) | 33.0 | 27.0 | 28.9 | 26.4 | 19.0 |
| EBITDA interest coverage (x) | 0.7 | 0.5 | 0.6 | 0.6 | 0.5 |
| EBIT interest coverage (x) | 0.4 | 0.2 | 0.3 | 0.2 | 0.1 |
| Return on capital (%) | 1.7 | 0.9 | 1.2 | 1.1 | 0.4 |
| FFO/debt (%) | (1.1) | (3.1) | (2.0) | (2.6) | (2.7) |
| Free operating cash flow/debt (%) | (6.9) | (7.9) | (10.6) | (9.9) | (34.8) |
| Debt/EBITDA (x) | 25.6 | 31.9 | 26.8 | 26.1 | 40.0 |
| Debt/debt and equity (%) | 67.9 | 69.8 | 68.3 | 67.9 | 68.9 |

## Liquidity

We view TVO's liquidity as "adequate," based on our expectation that available liquidity sources will cover anticipated cash outflows by more than 1.2x over the next 12 months. TVO's sound relationships with banks, satisfactory standing in credit markets, in our view, and adequate headroom under financial covenant, further support its liquidity position.

We anticipate that TVO's existing liquidity sources--cash, long-term committed credit facilities, and shareholder loan commitments--will be sufficient to cover significant cash outflows primarily related to the completion of Olkiluoto 3 over the next few years. We believe that TVO needs to maintain ample liquidity and proactively prefinance upcoming funding needs well in advance to offset refinancing risk. Positively, fixed costs are charged monthly in advance, which reduces TVO's working capital needs.

The company's loan documentation includes one financial covenant, which stipulates an equity-to-asset ratio of 25%. In calculating the ratio, the company excludes from debt fully funded waste-management liabilities and loans from the Finnish State Nuclear Waste Management Fund, the proceeds of which were onlent to the shareholders. The company includes shareholder loans in its calculation of equity. As of March 31, 2014, the ratio was about 30%, according to TVO. We also take into consideration shareholder loan commitments of currently €720 million, including €500 million for the completion of Olkiluoto 3, which TVO can draw on at any time to improve the equity ratio and covenant headroom if needed.

### Principal Liquidity Sources

- About €100 million in unrestricted cash and equivalents;
- Access to an undrawn €1.5 billion revolving credit facility, of which €50 million matures in 2016 and €1.45 billion in 2018;
- Shareholder loan commitments totaling €720 million related to the construction of Olkiluoto 3 and the bidding and engineering phase of Olkiluoto 4; and
- FFO, which we expect to be about €80 million over the near term (excluding capitalized interest).

### Principal Liquidity Uses

- Debt of about €380 million maturing in the next 12 months and €106 million in the subsequent 12 months; and
- Expected capital expenditures of about €0.3 billion-€0.4 billion in the next 12 months.

### Debt maturities

(As of March 31, 2014)

2014: €263 million

2015: €220 million

2016: €377 million

2017: €261 million

Thereafter: €2.2 billion

## Reconciliation

We make the following major adjustments to TVO's accounts as reported under International Financial Reporting Standards:

- Surplus cash. We adjust debt for essentially all of TVO's cash on the balance sheet, which are placed centrally with the parent company and we believe should be readily available.
- Debt serviced by third parties. We subtract loans from the Finnish State Nuclear Waste Management Fund because the proceeds are onlent to shareholders on a proportionate basis, and TVO has pledged the receivables from the shareholders as collateral for the loans.
- Asset-retirement obligations. On a discounted basis, TVO's share in the Finnish State Nuclear Waste Management Fund is equal to its liability. Accordingly, we make no adjustments to TVO's debt.
- Capitalized interest. We adjust TVO's interest expenses with the amounts related to borrowing costs in respect of Olkiluoto 3 that were capitalized in intangible assets.
- Accrued interest expenses reported under trade payables and other current liabilities are added to debt.

**Table 3**

**Reconciliation Of Teollisuuden Voima Oyj Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. €)**

| | --Fiscal year ended Dec. 31, 2013-- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Teollisuuden Voima Oyj reported amounts** | | | | | | | | | | |
| | **Debt** | **Shareholders' equity** | **Revenues** | **EBITDA** | **Operating income** | **Interest expense** | **EBITDA** | **Cash flow from operations** | **Dividends paid** | **Capital expenditures** |
| Reported | 4,109 | 1,462 | 366 | 120 | 63 | 20 | 120 | 84 | -- | 301 |
| Standard & Poor's adjustments | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Interest expense (reported) | -- | -- | -- | -- | -- | -- | (20) | -- | -- | -- |
| Interest income (reported) | -- | -- | -- | -- | -- | -- | 12 | -- | -- | -- |
| Current tax expense (reported) | -- | -- | -- | -- | -- | -- | (0) | -- | -- | -- |
| Operating leases | 1 | -- | -- | 0 | 0 | 0 | 0 | 0 | -- | -- |
| Surplus cash | (142) | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Capitalized interest | -- | -- | -- | -- | -- | 122 | (122) | (122) | -- | (122) |
| Asset retirement obligations | -- | -- | -- | -- | -- | 25 | (25) | 7 | -- | -- |
| Non-operating income (expense) | -- | -- | -- | -- | 12 | -- | -- | -- | -- | -- |
| Reclassification of interest and dividend cash flows | -- | -- | -- | -- | -- | -- | -- | (3) | -- | -- |
| Debt - Accrued interest not included in reported debt | 52 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Debt - Debt serviced by third parties | (932) | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total adjustments | (1,021) | 0 | 0 | 0 | 12 | 147 | (155) | (117) | 0 | (122) |
| **Standard & Poor's adjusted amounts** | | | | | | | | | | |
| | **Debt** | **Equity** | **Revenues** | **EBITDA** | **EBIT** | **Interest expense** | **Funds from operations** | **Cash flow from operations** | **Dividends paid** | **Capital expenditures** |
| Adjusted | 3,088 | 1,462 | 366 | 121 | 75 | 167 | (34) | (33) | 0 | 179 |

## Related Criteria And Research

- The Treatment Of Non-Common Equity Financing In Nonfinancial Corporate Entities, April 29, 2014
- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Jan. 2, 2014
- Corporate Methodology: Ratios And Adjustments, Nov. 19, 2013
- Methodology For Linking Short-Term And Long-Term Ratings For Corporate, Insurance, And Sovereign Issuers, May 7, 2013
- Methodology: Management And Governance Credit Factors For Corporate Entities And Insurers, Nov. 13, 2012
- Methodology: Business Risk/Financial Risk Matrix Expanded, Sept. 18, 2012
- Use Of CreditWatch And Outlooks, Sept. 14, 2009
- 2008 Corporate Criteria: Analytical Methodology, April 15, 2008
- 2008 Corporate Criteria: Rating Each Issue, April 15, 2008
- Applying Key Rating Factors to U.S. Cooperative Utilities, Nov. 21, 2007

| Ratings Detail (As Of June 27, 2014) | |
|---|---|
| **Teollisuuden Voima Oyj** | |
| Corporate Credit Rating | BBB/Negative/A-2 |
| Senior Unsecured | BBB |
| **Corporate Credit Ratings History** | |
| 23-May-2014 | BBB/Negative/A-2 |
| 04-Jun-2012 | BBB/Stable/A-2 |
| 06-Oct-2006 | NR/--/NR |

*Unless otherwise noted, all ratings in this report are global scale ratings. Standard & Poor's credit ratings on the global scale are comparable across countries. Standard & Poor's credit ratings on a national scale are relative to obligors or obligations within that specific country.

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