

## JCR Affirmed AA Rating on Teollisuuden Voima Oyj

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

### *Rationale*

The rating is supported primarily by (a) its strategic importance in Finland that holds nuclear power at the center of its energy and environment policies, (b) its minimized business risk on the so-called "Mankala" principle, a cooperative business model widely accepted in Finland and (c) its excellent track records as nuclear power operator in safety management, efficiency and cost competitiveness.

Outlook of the rating is stable. Although the Fukushima nuclear accident cast a shadow on the nation's otherwise clearly supportive public opinion, there is no change in the government's initiative to promote nuclear power plants (NPP) further. The safety checkup mandated under the EU "stress tests" has been made without problem up to detailed investigations on each plant unit. As precaution against certain exceptional natural conditions and simultaneous malfunctions in the security systems TVO is preparing extra security measures such as augmentation of its emergency power supply systems. JCR will see its assessment in the final report of the European Commission in June 2012. JCR has no immediate concern about its business model, operational ability and cost competitiveness.

(1) Thanks to a cold winter on top of the recovery of industrial activity, the domestic demand for electricity in 2010 rose by 7.6% to 87.5 TWh from 81.3 TWh of a year earlier. The domestic electricity production increased more than proportionately, by 11.6% from 69.2 TWh to 77.2 TWh, as Norway and Sweden had prolonged shortage of water and the major maintenance outages at multiple NPPs, respectively. The hydrological situation has since improved and the electricity price on the Nord Pool market has stabilized and is currently relatively low. Under the circumstances TVO maintains its high capacity-factor operation and competitive price. The electricity demand in Finland and Northern Europe is expected to keep increasing in the medium to long term. So is the preference to carbon free energy sources. JCR believes TVO still has a great deal of potential demand for its electricity generation and its business model remains effective in coming years.

The overdue construction of Olkiluoto 3 (OL 3) is expected to be delayed further up until 2014 in the earliest. Its expected impact on the electricity price of OL 3 deliverable in consummation and hence TVO's financial risk is largely mitigated thanks to the fixed price turn-key contract with its supplier.

(2) TVO is established in 1969 as a privately held non-profit NPP operator in Finland. As a base-load electricity producer TVO satisfies about 18% of the country's electricity consumption as of 2010. It supplies electricity exclusively to its shareholders at generation cost. Its shareholders base is closed and stable, consisting of the country's largest privately owned power company PVO (58.1%), followed by Fortum Power and Heat Oy (26.0% shares), which itself is 51% state-owned and the largest power company in Finland, Kemira Oyj, a chemical and energy firm, and municipality-owned electricity generation and transmission companies and a major distribution company (6 in total). TVO's articles of association entitle its shareholders to receive electricity supply at generation cost in proportion to their shareholdings while obliging them to underwrite the supply and compensate annual fixed costs in proportion to their stakes and variable costs in proportion to the volume of electricity purchased. Moreover, the articles set a deadline for payment of the fixed cost one month ahead of actual electricity delivery. Electricity supply could be immediately suspended, should a shareholder fail to pay by the due date. Surplus electricity that might ensue can be sold to other shareholders or in the liquid wholesale electricity market, Nordpool. TVO's electricity cost has always been below the market price, and therefore of great merit for the clients who themselves are electricity companies, making its collection risk extremely low.

In Finland roughly a half of the power supply is carried out in this way, a unique cooperative business model called "Mankala". Mankala is well established as succeeded to contribute to a stable and cost-effective supply of electricity. Its benefit extends from tax saving at the power company which posts no profit to its shareholder clients as their power purchase at sub-market price is regarded as an internal deal and therefore exempt from the fair trading regulations and resultant extra profit is from ordinary taxation. As TVO has shareholders which also are Mankala enterprises, the number of its stakeholders including indirect ones counts as many as around 60, of which composition is industrial companies 44%, Fortum 26% and municipalities 30%. In theory,

although unthinkable at the moment, there is a possibility in which the Mankala business model turned out in the future to be unsustainable or it ceased to give TVO a competitive advantage in the electricity production for some reason, thus causing a downward pressure on the rating.

- (3) TVO's facilities comprise two NPP, OL1 and OL2 with capacity of 880 MW each. In addition, it holds the right to take 45% of the electricity generated by a coal-fired plant (Meri-Pori, with a capacity of 565 MW) owned by Fortum, in order to adjust its generation volume. After the completion of OL3 with a capacity of 1,600 MW, TVO's facilities will have a 27-8% share in the country's power generation capacity. The capacity factors at its existing two nuclear plants have been staying above 95% since 1999, one of the highest by international standards, thanks to a state-of-art NPP management including efficient annual outages. TVO has been constantly modernizing the two nuclear plants under its policy to keep them in operation anytime for the next 40 years. As a result, their capacity has been increased by 30% from 660 MW at their start-up to the current levels.

TVO's average nuclear electricity generation cost is about EUR18.72 /MWh as of 2010, significantly lower than the market prices on the Nord Pool. While Finland has limited natural resources, its electricity demand is high due to the presence of energy-intensive industries and huge heating needs during winter. Electricity consumption per capita in Finland is one of the greatest among developed nations, and the country is a constant importer of electricity. Although the government plans to reduce the import dependence, the supply-demand gap in the Nordic region is likely to tighten in the medium to long term. Also with a rising interest in clean energy without greenhouse gas emission, potential demand for the electricity supplied by TVO is expected to remain strong.

A potential increase in the levelized electricity price of OL3 due to the delay in construction is expected as of September 2011 to be EUR 4-5 /MWh, which lets the competitiveness of TVO's electricity price largely intact. However, as the contractor AREVA-Siemens consortium has filed its claims, which now amounts to EUR 1.9 billion, for arbitration at the International Chamber of Commerce (ICC) since 2008, while TVO also filed its counter claims of EUR 1.4 billion against the damage caused by the delay, JCR will closely watch further development of the arbitration.

- (4) The local tax authority allows TVO to transfer otherwise taxable income to the depreciation reserves so as to adjust the net profit to zero on a stand-alone basis. On consolidated basis it posted a small EUR 37 million profit in 2010 after three times minor losses consecutively until 2009. The amount of interest bearing liabilities, excluding loan from the Finnish State Nuclear Waste Management Fund (VYR) which is lent on to the shareholders, is approximately EUR 2.8 billion as of June 2011. TVO raised EUR 79.3 million by issuing 75,187,257 of Series B shares to the existing shareholders. Its equity ratio stands at 30.4% as of June 2011 (28.4% in 2010). The amount of debt is expected to grow further in connection with OL 3 investment but TVO will maintain its equity ratio at no less than 25% as its long-term commitment and is able to obtain additional capital by its shareholders, if necessary. Its Euro Medium Term Note Programme is revised with an increased amount of EUR 2.5 billion. Its liquidity position is good, with cash and cash equivalent amounting to approximately EUR 95.6 million, undrawn amount of credit lines at banks amounting to EUR 1.692 billion and untapped subordinated loan from shareholders of EUR 300 million. In addition, shareholders have provided EUR 300 million subordinated loan commitment to TVO to cover the competition and engineering costs of OL4 project. The company has a CP program with a limit of EUR 1.0 billion, out of which EUR750 million is untapped.

Note: See a separate press release for JCR's credit rating on TVO's affiliated company, PVO.

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### Rating

Issuer: Teollisuuden Voima Oyj

#### <Affirmation>

| Issues                                       | Rating | Outlook |
|--|--------|---------|
| FC (Foreign Currency Long-Term Senior Debts) | AA     | Stable  |

Outline of the method for the determination of the credit rating is posted as "Rating Methodology (Corporate)" on JCR's home page (<http://www.jcr.co.jp>). The rating methodology is subject to additions and changes. In such cases, however, these additions and changes are shown in chronological order. Please check the release date of this press release against that of the rating methodology (i.e., the date when such methodology became effective) and then refer to the rating methodology above.



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