

JANUARY–MARCH 2019

# INTERIM REPORT



tvo

## **Teollisuuden Voima Oyj's Interim Report January 1–March 31, 2019**

**Teollisuuden Voima's (TVO) electricity generation at Olkiluoto 1 and Olkiluoto 2 plant units continued safely and reliably through the first quarter of 2019. The Finnish Government granted an operating licence to OL3 EPR plant unit on 7 March 2019. The installation of the electrical systems, the instrumentation and control system (I&C), and mechanical systems are continued in the site as the plant unit is prepared for the loading of nuclear fuel. The preparations of Posiva's final disposal facility proceeded according to plan.**

### **Operating Environment**

During the beginning of the year, European Parliament continued discussions on the platform on sustainable investment. The vote on the EU sustainability taxonomy proposal took place in March. Unlike the European Commission's proposal, European Parliament's decision does not include a statement on climate and carbon neutral energy, but it emphasizes renewable energy instead. The discussion on the European Commission's proposal in the European Council is in initial phase.

European Parliament discussed European Union's preliminary climate strategy for 2050 in March. In its non-binding declaration European Parliament demands increasing of EU's emission reduction goal to 55% by 2030. In addition, European Parliament presumes that EU will be carbon neutral by 2050. European Parliament also demanded European Commission to make an introduction of a bill related to the climate strategy in between 2022–2024.

Most of the amendments of the Business Income Tax Act, which were realised to implement the requirements of the EU Directive preventing aggressive international tax planning, entered into force on 1 January 2019. The Act applies to all companies regulated by the Business Income Tax Act, including energy companies operating according to the Mankala principle. The Ministry of Finance will continue the preparation of an "infrastructure exception" for the Act in accordance with a statement from Parliament.

### **Financial Performance**

TVO operates on a cost-price principle (Mankala principle). TVO's goal is not to make profit or pay dividends. The shareholders are charged incurred costs on the price of electricity and thus in principle the profit/loss for the period under review is zero, unless specific circumstances dictate otherwise. The shareholders pay variable costs based on the volumes of energy supplied and fixed costs in proportion to their ownership, regardless of whether they have made any use of their share of the output or not. Because of the Company's operating principle, key indicators based on financial performance will not be presented.

The consolidated turnover for the period under review January 1–March 31, 2019 was EUR 87.1 (January 1–March 31, 2018: EUR 89.1) million. The amount of electricity delivered to shareholders was 3,968.6 (4,095.9) GWh. The slight decrease in delivered electricity to shareholders is due to lower amount of delivery of Meri-Pori coal-fired power plant compared to last year.

The consolidated profit/loss was EUR 2.0 (5.0) million.

## Financing and Liquidity

TVO's financial situation has developed as planned.

TVO's liabilities (non-current and current) at the end of the period in review, excluding the loan from the Finnish State Nuclear Waste Management Fund relented to shareholders, totalled EUR 4,731.7 (December 31, 2018: 4,749.8 ) million, of which EUR 679.3 (679.3) million were subordinated shareholder loans. During the period under review, new non-current liabilities were raised EUR 100.0 (0.0) million and repayments were made EUR 293.5 (0.0) million.

The Company has EUR 1,300 million syndicated revolving credit facility in total which consists of two tranches. EUR 1,000 million matures in 2023 and EUR 300 million matures in 2021. During the period under review, the maturity of EUR 300 million tranche was extended to 2022.

The OL3 EPR project's share of financing costs has been capitalized in the balance sheet.

TVO uses its right to borrow funds back from the Finnish State Nuclear Waste Management Fund within the framework of legal regulations. On March 31, 2019 the amount of the loan was EUR 591.4 (December 31, 2018: 666.2) million and it has been relented to the Company's A-series shareholders. On March 29, 2019, the loan from the Finnish State Nuclear Waste Management Fund was decreased by EUR 74.8 (March 31, 2018 increased by 10.7) million.

## Nuclear Power

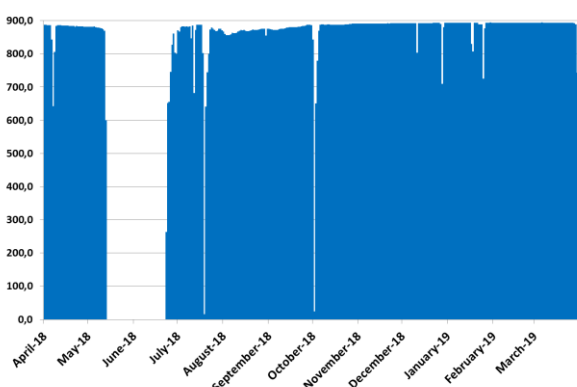
### Olkiluoto 1 and Olkiluoto 2

The electricity production of the Olkiluoto power plant units Olkiluoto 1 (OL1) and Olkiluoto 2 (OL2) during the period under review was 3,838 (3,829) GWh. The total load factor was 100.0 (100.0) %.

The plant units operated safely and reliably during the period under review. OL1's net production was 1,914 (1,902) GWh and the load factor 99.9 (100.0) %. OL2's net production was 1,924 (1,928) GWh and the load factor 100.0 (100.0) %.

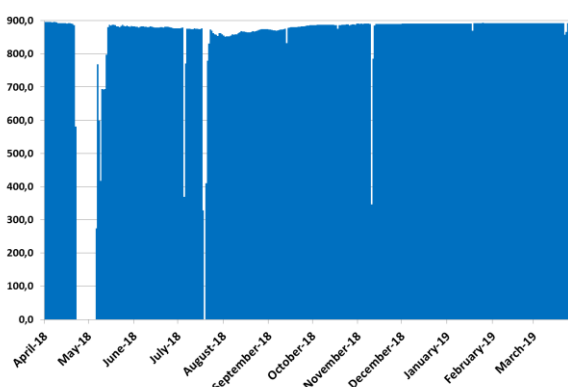
#### Olkiluoto 1

Average electrical power MW  
April 1, 2018–March 31, 2019



#### Olkiluoto 2

Average electrical power MW  
April 1, 2018–March 31, 2019



## **Olkiluoto 3 EPR**

Olkiluoto 3 EPR (OL3 EPR), currently under construction, was procured as a fixed-price turnkey project from a consortium (Supplier) formed by Areva GmbH, Areva NP SAS and Siemens AG. As stipulated in the plant contract, the consortium companies have joint and several liability for the contractual obligations.

According to the schedule provided by Plant Supplier in November 2018, nuclear fuel was planned to be loaded into the reactor in June 2019, the first connection to the grid was planned to take place in October 2019, and the start of regular electricity production of the OL3 EPR nuclear power plant unit was planned to take place in January 2020.

According to a stock exchange release published by TVO after the period under review on 10 April 2019, the Plant Supplier will update the schedule of OL3 EPR project and deliver a new schedule to TVO by the end of June. Based on the information provided by the Plant Supplier the fuel will not be loaded to the reactor at least before the end of August.

Most of the construction works for the plant unit have been completed. The installation of the electrical systems, the instrumentation and control system (I&C), and mechanical systems is still in progress. The hot functional testing (HFT) was completed in May 2018. In HFT, the nuclear and turbine island operated for the first time together as an entity without nuclear fuel. During HFT, it was noticed that the pressurizer surge line vibrates. Vibration will be eliminated by modifying surge line's supporting structures.

Training of the operating personnel has progressed and operator licences were granted by Radiation and Nuclear Safety Authority (STUK) in the end of 2018.

On 25 February 2019 Radiation and Nuclear Safety Authority (STUK) gave its statement on operating licence application of Olkiluoto 3 EPR plant unit. STUK did not see any obstacles to grant the licence as applied until the end of 2038. STUK reviewed, accordingly with the Nuclear Energy Act, OL3 EPR plant unit's safety, and also operation of the TVO Group as entity, such as resources, know-how and nuclear waste management. The Finnish Government granted the operating licence to the plant unit on 7 March 2019.

The workforce at the site at the end of the period under review was about 2,000 persons. Occupational safety at the site remained at a good level.

All realized costs of the OL3 EPR project that can be recognized in the cost of the asset have been entered as property, plant and equipment in the Group balance sheet.

## **Nuclear Fuel**

During the period under review, nuclear fuel purchases amounted to EUR 22.2 (28.0) million and the amount consumed to EUR 14.8 (15.3) million.

The nuclear fuel and uranium stock carrying value on March 31, 2019 was EUR 260.2 (December 31, 2018: 252.8) million.

## **Nuclear Waste Management**

Under the Finnish Nuclear Energy Act, the Company is responsible for the measures related to nuclear waste management and the related costs.

The liabilities in the consolidated financial statement show a provision related to nuclear waste management liability of EUR 956.6 (December 31, 2018: 952.0) million, calculated according to the international IFRS accounting principles. A corresponding amount, under assets, represents the Company's share in the Finnish State Nuclear Waste Management Fund.

In order to cover the costs of nuclear waste management, TVO makes contributions to the Finnish State Nuclear Waste Management Fund accordingly with the Finnish Nuclear Energy Act. In November 2018, MEAE set TVO's liability for nuclear waste management at EUR 1,505.8 (1,481.6) million to the end of 2018 and the Company's funding target in the Finnish State Nuclear Waste management Fund for 2019 at EUR 1,505.8 (1,470.8) million.

In March 2019, the Finnish State Nuclear Management Fund confirmed TVO's nuclear waste management fee for 2018 at EUR 26.7 (33.6) million, which was paid into the Fund on March 29, 2019 (March 31, 2018). The nuclear waste management fee for 2019 will be confirmed in March 2020.

## **Final Disposal of Spent Nuclear Fuel**

Posiva Oy is responsible for the final disposal of spent nuclear fuel generated at the power plants of its owners, TVO (Olkiluoto NPP) and Fortum (Loviisa NPP).

The preparatory stage of the construction and building services engineering work for the encapsulation plant has progressed as planned with the contractor. Decisions on the suppliers of the main equipment for the encapsulation plant have mostly been made, and the design of the plant's equipment is progressing.

Excavation work of ONKALO has continued with the first safety-classified central tunnel. The aim is to complete the scope of the excavation work on the two first safety-classified central tunnels that is included in the current excavation contract during 2019. The raise boring of the canister shaft has been completed. The installation work of the Full-scale In-situ System Test (FISST) for final disposal, which started in 2018, continues in ONKALO. The aim of the FISST test is to demonstrate that Posiva's safe disposal concept can be implemented according to plan. The test will be monitored for several years.

Posiva's owners provided the nuclear waste management Annual Report for 2018 to the Ministry of Economic Affairs and Employment in late March.

## **Coal Power**

### **Meri-Pori**

TVO has a 45 percent holding in the Meri-Pori coal-fired power plant owned and operated by Fortum Power and Heat Oy. Fortum received TVO's share of Meri-Pori's power capacity in the

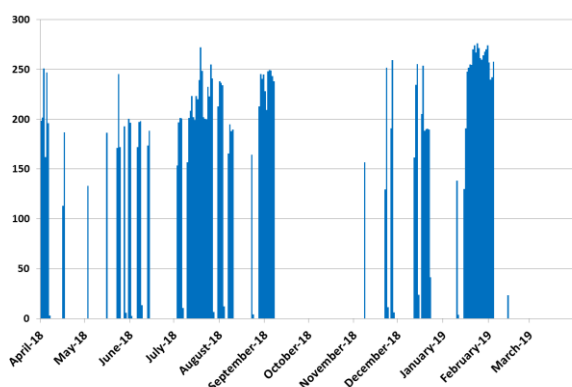
beginning of 2019 and TVO will renounce its share of Meri-Pori's capacity in the beginning of July 2020.

The amount of electricity produced by TVO's share at the Meri-Pori coal-fired power plant on January 1–March 31, 2019 was 130.7 (273.1) GWh requiring 47.4 (98.8) thousand tons of coal and 108.1 (222.1) thousand tons of carbon dioxide emission rights.

### **TVO's share of Meri-Pori's production**

**Average electrical power MW**

**April 1, 2018–March 31, 2019**



### **Acquisitions of Tangible and Intangible Assets and Shares**

Investments during the period under review were EUR 65.8 (103.4) million. Investments of the parent company were EUR 63.2 (103.0) million, of which EUR 52.2 (91.4) million were allocated to the OL3 project.

During the period under review, emission rights were acquired worth EUR 2.4 (2.3) million. The Company's need for carbon dioxide emission rights for the period under review are covered by acquired emission rights.

### **Pending Court Cases and Disputes**

There were no pending court cases or disputes in the end of period under review.

### **Personnel**

The total number of personnel in the Group at the end of the period under review was 902 (December 31, 2018: 878, March 31, 2018: 832). The number of permanent employees in the Group at the end of the period under review was 877 (December 31, 2018: 863, March 31, 2018: 800).

## **Annual General Meeting**

TVO's Annual General Meeting on March 27, 2019 approved the financial statements for 2018, confirmed the consolidated income statement and balance sheet, and discharged the members of the Board of Directors and the President and CEO from liability.

Risto Andsten was elected as a new Board member, replacing Matti Ruotsala. Other Board members were re-elected. At its organization meeting, the Board elected Ilkka Tykkyläinen as Chairman and Tiina Tuomela as Deputy Chairman. The Board also chose from among its members the members and chairmen of the Board Committees.

## **Auditing**

The Interim Report is unaudited.

## **Risks and Uncertainty Factors in the Near Future**

The major risks and uncertainty factors in TVO's operations have been presented in the 2018 Report of the Board of Directors.

During the period under review, no material new risks connected with the Company's operation have arisen.

## **Assessment of Year-End Developments**

Electricity production is expected to continue as in previous years. The prerequisites for nuclear power production at Olkiluoto are good. Nuclear fuel availability is guaranteed by long-term agreements.

Realization of the OL3 EPR nuclear power plant project and preparing the plant unit for production will be continued. For the loading of nuclear fuel, TVO still needs a separate permission from the Radiation and Nuclear Safety Authority (STUK). The vibration of pressurizer surge line detected in hot functional testing (HFT) must be suppressed before fuel loading. STUK will inspect TVO's plans for the solution, supervises the work and verifies that the modification works are done and that the functionality of the solution is tested before the fuel loading. TVO will continue to support the Supplier to complete the project.

Meri-Pori coal-fired power plant's capacity is used according to Fortum's operation plan.

Posiva has assessed its capability for the construction of the encapsulation plant and for launching the final technical equipping of the underground repository. The next interim target is to make the decision on starting the construction of the encapsulation plant during 2019.

## **Events after the Period under Review**

TVO and Wärtsilä Finland Oy (Wärtsilä) signed an agreement on delivery of Emergency Diesel Generators and their auxiliary systems to Olkiluoto nuclear power plant (so called EDG project) in 2013. In December 2018, Wärtsilä published a stock exchange release announcing a major provision it has made on two nuclear power plant projects to cover the cost exceedings and project delays, and that the allocation of responsibility for the additional costs and delays are in dispute. In April 2019, Wärtsilä announced in its notification addressed to TVO that EUR 65.0 million of the provision applies to TVO's EDG project. In addition, Wärtsilä announced that internal clearance on the costs that will be demanded from TVO is still ongoing.

According to a stock exchange release published by TVO on 10 April 2019, the Plant Supplier will update the schedule of OL3 EPR project and deliver a new schedule to TVO by the end of June. Based on the information provided by the plant supplier the fuel will not be loaded to the reactor at least before the end of August.

April 18, 2019  
Teollisuuden Voima Oyj  
Board of Directors



## Key Figures of TVO Group

TVO GROUP (IFRS) (M€)	Q1 2019	Q1 2018	2018
Turnover	87	89	350
Profit/loss for the period	2	5	-18
Investments <sup>1)</sup>	66	103	181
Equity	1 743	1 665	1 745
Subordinated shareholder loans (hybrid equity) (included in the former) <sup>3)</sup>	679	579	679
Non-current and current interest-bearing liabilities (excluding loan from VYR) <sup>2)</sup>	4 132	4 079	4 141
Loan from VYR <sup>2)</sup>	591	666	666
Provision related to nuclear waste management	957	960	952
Obligatory provisions	0	150	0
Balance sheet total	7 542	7 628	7 662
Equity ratio % <sup>4)</sup>	29,1	27,7	28,9
Average number of personnel	902	821	872

<sup>1)</sup> Acquisitions of property, plant and equipment, intangible assets and shares are based on gross investments.

<sup>2)</sup> The Finnish State Nuclear Waste Management Fund (VYR)

<sup>3)</sup> Subordinated loans

<sup>4)</sup> Equity ratio % = 100 x 
$$\frac{\text{equity}}{\text{balance sheet total} - \text{provision related to nuclear waste management} - \text{loan from the Finnish State Nuclear Waste Management Fund}}$$

## Key Figures of Teollisuuden Voima Oyj

TEOLLISUUDEN VOIMA OYJ (FAS) (M€)	Q1 2019	Q1 2018	2018
Parent company's interim financial statement has been made in accordance with the Finnish Accounting Standards (FAS).			
Turnover	87	88	346
Profit/loss before appropriations	2	6	1
Fuel costs	19	22	72
Nuclear waste management costs	20	14	58
Capital expenditure (depreciation and financial income and expenses)	10	13	53
Investments <sup>1)</sup>	63	103	177
Equity	857	863	857
Appropriations	189	191	187
Obligatory provisions	0	150	0
Non-current and current interest-bearing liabilities (excluding loan from VYR and shareholder loans) <sup>2)</sup>	4 052	3 998	4 070
Loans from equity holders of the company <sup>3)</sup>	679	579	679
Loan from VYR <sup>2)</sup>	591	666	666
Balance sheet total	6 488	6 556	6 619
Equity ratio % <sup>4)</sup>	29,3	27,7	29,0
Average number of personnel	901	820	871

<sup>1)</sup> Acquisitions of tangible and intangible assets and shares are based on gross investments.

<sup>2)</sup> The Finnish State Nuclear Waste Management Fund (VYR)

<sup>3)</sup> Subordinated loans

<sup>4)</sup> Equity ratio %  $= 100 \times \frac{\text{equity} + \text{appropriations} + \text{loans from equity holders of the company}}{\text{balance sheet total} - \text{loan from the Finnish State Nuclear Waste Management Fund}}$

### ELECTRICITY DELIVERED TO EQUITY HOLDERS OF THE COMPANY (GWh)

	Q1 2019	Q1 2018	2018
Nuclear power	3 838	3 823	14 063
Coal-fired power	131	273	660
Total	3 969	4 096	14 723

TVO GROUP

**CONSOLIDATED FINANCIAL STATEMENT IN BRIEF AND NOTES****Consolidated Income Statement**

<b>EUR 1 000</b>	<b>Q1 2019</b>	<b>Q1 2018</b>	<b>2018</b>
<b>Turnover</b>	<b>87 096</b>	<b>89 130</b>	<b>350 271</b>
Work performed for own purposes	5 033	3 716	14 941
Other income	3 065	3 025	11 762
Materials and services	-34 345	-32 933	-140 260
Personnel expenses	-15 594	-13 899	-63 480
Depreciation and impairment charges	-10 418	-13 545	-55 181
Other expenses	-22 247	-20 950	-103 401
<b>Operating profit/loss</b>	<b>12 590</b>	<b>14 544</b>	<b>14 652</b>
Finance income	2 958	4 274	13 170
Finance expenses	-13 785	-13 914	-47 435
Total finance income and expenses	-10 827	-9 640	-34 265
Share of the profit/loss of joint ventures	264	92	1 387
<b>Profit/loss before income tax</b>	<b>2 027</b>	<b>4 996</b>	<b>-18 226</b>
<b>Profit/loss for the period</b>	<b>2 027</b>	<b>4 996</b>	<b>-18 226</b>

**Profit/loss for the period attributable to:**

Equity holders of the company	2 027	4 996	-18 226
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**Consolidated Statement of Comprehensive Income**

<b>EUR 1 000</b>	<b>Q1 2019</b>	<b>Q1 2018</b>	<b>2018</b>
Profit/loss for the period	2 027	4 996	-18 226
Other comprehensive items			
Items that may be reclassified to profit or loss in subsequent periods:			
Cash flow hedges	-3 000	-5 974	7 125
Total other comprehensive profit/loss items for the period	-3 000	-5 974	7 125
<b>Total comprehensive profit/loss for the period</b>	<b>-973</b>	<b>-978</b>	<b>-11 101</b>

**Total comprehensive profit/loss for the period attributable to:**

Equity holders of the company	-973	-978	-11 101
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TVO GROUP

**Consolidated Statement of Financial Position**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
<b>Assets</b>			
<b>Non-current assets</b>			
Property, plant and equipment	5 407 982	5 348 019	5 353 160
Intangible assets	11 278	6 666	11 333
Loans and other receivables	594 494	791 403	669 295
Investments in joint ventures	6 253	4 694	5 989
Investments in shares	1 934	1 934	1 934
Derivative financial instruments	36 329	23 920	31 999
Share in the Finnish State Nuclear Waste Management Fund	956 584	959 687	952 020
<b>Total non-current assets</b>	<b>7 014 854</b>	<b>7 136 323</b>	<b>7 025 730</b>
<b>Current assets</b>			
Inventories	268 316	263 547	260 594
Trade and other receivables	145 131	121 844	149 640
Derivative financial instruments	5 274	11 517	5 240
Cash and cash equivalents	108 487	94 671	221 166
<b>Total current assets</b>	<b>527 208</b>	<b>491 579</b>	<b>636 640</b>
<b>Total assets</b>	<b>7 542 062</b>	<b>7 627 902</b>	<b>7 662 370</b>
<b>Equity and liabilities</b>			
<b>Capital and reserves attributable to equity holders of the company</b>			
Share capital	600 365	606 193	600 365
Share premium reserve and statutory reserve	242 383	242 383	242 383
Reserve for invested non-restricted equity	3	0	3
Fair value and other reserves	-350	-10 449	2 650
Subordinated shareholder loans (hybrid equity)	679 300	579 300	679 300
Retained earnings	221 316	247 236	220 556
<b>Total equity</b>	<b>1 743 017</b>	<b>1 664 663</b>	<b>1 745 257</b>
<b>Liabilities</b>			
<b>Non-current liabilities</b>			
Provision related to nuclear waste management	956 584	959 687	952 020
Obligatory provisions	0	150 000	0
Loan from the Finnish State Nuclear Waste Management Fund	591 441	666 242	666 242
Bonds	2 517 100	2 016 149	2 582 556
Other financial liabilities	1 071 589	941 760	1 067 941
Derivative financial instruments	30 028	30 126	30 252
<b>Total non-current liabilities</b>	<b>5 166 742</b>	<b>4 763 964</b>	<b>5 299 011</b>
<b>Current liabilities</b>			
Current financial liabilities	503 481	1 048 286	459 513
Derivative financial instruments	10 211	42 382	706
Advance payments received	20 507	40 397	20 398
Trade payables	11 476	12 846	7 184
Other current liabilities	86 628	55 364	130 301
<b>Total current liabilities</b>	<b>632 303</b>	<b>1 199 275</b>	<b>618 102</b>
<b>Total liabilities</b>	<b>5 799 045</b>	<b>5 963 239</b>	<b>5 917 113</b>
<b>Total equity and liabilities</b>	<b>7 542 062</b>	<b>7 627 902</b>	<b>7 662 370</b>

TVO GROUP

**Consolidated Statement of Changes in Equity**

<b>EUR 1 000</b>	<b>Share capital</b>	<b>Share premium reserve and statutory reserve</b>	<b>Reserve for invested non-restricted equity</b>	<b>Fair value and other reserves</b>	<b>Subordinated shareholder loans (hybrid equity)</b>	<b>Retained earnings</b>	<b>Attributable to equity holders of the company</b>	<b>Total equity</b>
<b>Equity 1 Jan 2019</b>	<b>600 365</b>	<b>242 383</b>	<b>3</b>	<b>2 650</b>	<b>679 300</b>	<b>220 556</b>	<b>1 745 257</b>	<b>1 745 257</b>
Profit/loss for the period	0	0	0	0	0	2 027	2 027	2 027
Other comprehensive items:								
Cash flow hedges	0	0	0	-3 000	0	0	-3 000	-3 000
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-1 267	-1 267	-1 267
<b>Equity 31 Mar 2019</b>	<b>600 365</b>	<b>242 383</b>	<b>3</b>	<b>-350</b>	<b>679 300</b>	<b>221 316</b>	<b>1 743 017</b>	<b>1 743 017</b>

<b>EUR 1 000</b>	<b>Share capital</b>	<b>Share premium reserve and statutory reserve</b>	<b>Reserve for invested non-restricted equity</b>	<b>Fair value and other reserves</b>	<b>Subordinated shareholder loans (hybrid equity)</b>	<b>Retained earnings</b>	<b>Attributable to equity holders of the company</b>	<b>Total equity</b>
<b>Equity 1 Jan 2018</b>	<b>606 193</b>	<b>242 383</b>	<b>0</b>	<b>-4 475</b>	<b>579 300</b>	<b>243 293</b>	<b>1 666 694</b>	<b>1 666 694</b>
Profit/loss for the period	0	0	0	0	0	4 996	4 996	4 996
Other comprehensive items:								
Cash flow hedges	0	0	0	-5 974	0	0	-5 974	-5 974
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-1 053	-1 053	-1 053
<b>Equity 31 Mar 2018</b>	<b>606 193</b>	<b>242 383</b>	<b>0</b>	<b>-10 449</b>	<b>579 300</b>	<b>247 236</b>	<b>1 664 663</b>	<b>1 664 663</b>

TVO GROUP

**Consolidated Statement of Cash Flows**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
<b>Operating activities</b>			
Profit/loss for the period	2 027	4 996	-18 226
Adjustments:			
Finance income and expenses	10 827	9 640	34 265
Depreciation and impairment charges	10 418	13 545	55 181
Share of the profit/loss of joint ventures	-264	-92	-1 387
Other non-cash flow income and expenses	-11 218	-9 661	-15 161
Sales profit/loss of property, plant and equipment and shares	0	0	14
Change in working capital:			
Increase (-) or decrease (+) in non-interest-bearing receivables	1 467	-83 306	-6 204
Increase (-) or decrease (+) in inventories	-7 637	-6 408	-3 503
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	-12 522	-36 731	2 284
Interest paid and other finance expenses	-978	-651	-3 624
Interest received	3 444	3 790	3 878
<b>Cash flow from operating activities</b>	<b>-4 436</b>	<b>-104 878</b>	<b>47 517</b>
<b>Investing activities</b>			
Acquisition of property, plant and equipment	-88 449	-432 450	-620 478
OL3 EPR project compensation	0	328 000	328 000
Proceeds from sale of property, plant and equipment	0	0	15
Acquisition of intangible assets	-48	0	-155
Loan receivables granted	-9 205	-10 725	-10 867
Repayments of loans granted	84 006	0	240
<b>Cash flow from investing activities</b>	<b>-13 696</b>	<b>-115 175</b>	<b>-303 245</b>
<b>Financing activities</b>			
Reduction of share capital	0	0	-5 825
Withdrawals of subordinated shareholder loans (hybrid equity)	0	0	100 000
Withdrawals of long-term loans	100 000	10 725	804 993
Repayment of long-term loans	-369 191	-858	-719 644
Interest paid of subordinated shareholder loans (hybrid equity)	-737	-368	-4 285
Increase (+) or decrease (-) in current financial liabilities	175 381	164 986	161 416
<b>Cash flow from financing activities</b>	<b>-94 547</b>	<b>174 485</b>	<b>336 655</b>
<b>Change in cash and cash equivalents</b>	<b>-112 679</b>	<b>-45 568</b>	<b>80 927</b>
Cash and cash equivalents at the beginning of period	221 166	140 239	140 239
<b>Cash and cash equivalents at the end of period</b>	<b>108 487</b>	<b>94 671</b>	<b>221 166</b>

TVO GROUP

## Notes to the Interim Report

### ACCOUNTING POLICIES

The interim financial statements have been prepared in accordance with IAS 34 Interim Financial Reporting -standard. The accounting policies adopted are consistent with those of the Group's annual financial statements for the year ended on 31 December 2018. Additionally the changes according to the revised IAS/IFRS standards have been adopted.

### MANAGEMENT'S CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS

The preparation of Interim Report requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, income and expenses. The actual results may differ from these estimates. Significant assumptions made by the management in applying Group's accounting policies and crucial uncertainties were the same as the ones applied to the annual financial statements as for the year ended on 31 December 2018.

### IFRS 16 LEASES

The Group has adopted IFRS 16 Leases -standard on 1 January 2019. Because of the adoption, recognition of the right-of-use assets EUR 762 thousand has been made to property, plant and equipment and recognition of lease liability EUR 762 thousand has been made to non-current liabilities and current liabilities. The expected impact on the profit/loss for the financial year 2019 is EUR -486 thousand.

## TVO GROUP

**SEGMENT REPORTING****Segment structure in TVO**

The Group has two reportable segments; nuclear power and coal power.

The electricity of the nuclear power segment is produced at two nuclear power plant units, Olkiluoto 1 and Olkiluoto 2 (OL1 and OL2). A new unit, Olkiluoto 3 (OL3), is under construction at Olkiluoto. The subsidiary of TVO, TVO Nuclear Services Oy (TVONS), of which operation is related to nuclear power, is also included in the nuclear power segment.

The electricity of coal-fired power segment is produced by TVO share at the Meri-Pori coal-fired power plant. Fortum will be entitled to use TVO's share of the Meri-Pori capacity as of the beginning of 2019, and TVO will relinquish its share in Meri-Pori in full in the beginning of July 2020.

**Segment calculation principles**

TVO Group discloses in the segment information; turnover, profit/loss for the period and assets, which the chief operation decision maker follows.

The chief operation decision maker follows reporting according to Finnish Accounting Standards (FAS). Adjustments made under IFRS accounting policies are reported in group level.

**TURNOVER BY SEGMENTS**

<b>EUR 1 000</b>	<b>Q1 2019</b>	<b>Q1 2018</b>	<b>2018</b>
Nuclear power	79 340	77 317	305 842
Coal-fired power	7 756	11 813	44 429
<b>Total</b>	<b>87 096</b>	<b>89 130</b>	<b>350 271</b>

**PROFIT/LOSS FOR THE PERIOD BY SEGMENTS**

<b>EUR 1 000</b>	<b>Q1 2019</b>	<b>Q1 2018</b>	<b>2018</b>
Nuclear power	1 898	6 877	6 155
Coal-fired power	0	-1 191	-4 240
Profit/loss before appropriations (FAS)	1 898	5 686	1 915
The impact of the nuclear waste management obligation	-587	-813	-22 564
The impact of financial instruments	290	-151	335
Other IFRS adjustments	162	182	701
Share of the profit/loss of joint ventures	264	92	1 387
<b>Total (IFRS)</b>	<b>2 027</b>	<b>4 996</b>	<b>-18 226</b>

**ASSETS BY SEGMENTS**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
Nuclear power	6 475 311	6 549 587	6 606 883
Coal-fired power	12 984	6 500	12 525
Total (FAS)	6 488 295	6 556 087	6 619 408
The impact of the nuclear waste management obligation	1 010 146	1 035 587	1 006 169
The impact of financial instruments	9 049	-1 867	2 070
The impact of finance leases	53 171	54 892	53 166
Other IFRS adjustments	-23 841	-20 480	-23 421
Share of the profit/loss of joint ventures	5 242	3 683	4 978
<b>Total (IFRS)</b>	<b>7 542 062</b>	<b>7 627 902</b>	<b>7 662 370</b>



## TVO GROUP

**CHANGES IN PROPERTY, PLANT AND EQUIPMENT**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
<b>Opening net book amount <sup>1)</sup></b>	<b>5 353 922</b>	<b>5 261 866</b>	<b>5 261 866</b>
Increase	65 733	101 048	172 174
Decrease	-1 358	-1 662	-198 956
Depreciation and impairment charges	-10 315	-13 233	-53 540
Accumulated depreciation from deduction	0	0	171 616
<b>Closing net book amount</b>	<b>5 407 982</b>	<b>5 348 019</b>	<b>5 353 160</b>

**CHANGES IN INTANGIBLE ASSETS**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
<b>Opening net book amount</b>	<b>11 333</b>	<b>4 662</b>	<b>4 662</b>
Increase	48	2 316	8 989
Decrease	0	0	-18 516
Depreciation and impairment charges	-103	-312	-1 641
Accumulated depreciation from deduction	0	0	17 839
<b>Closing net book amount</b>	<b>11 278</b>	<b>6 666</b>	<b>11 333</b>

<sup>1)</sup> Recognition of the right-of-use assets EUR 762 thousand has been made to property, plant and equipment on 1 January 2019.

TVO GROUP

**FINANCIAL RISK MANAGEMENT**

The objectives of financial risk management and finance policy are the same as those applied to the annual financial statement for the year ended 31 December 2018.

**DERIVATIVE FINANCIAL INSTRUMENTS**

Nominal values of the derivative financial instruments \*

EUR 1 000	31 Mar 2019	31 Mar 2018	31 Dec 2018
Interest rate swaps	1 996 071	2 549 518	2 196 071
Forward foreign exchange contracts and swaps <sup>1)</sup>	113 700	130 942	121 628
Cross-currency swaps	554 720	642 418	554 697
<b>Total</b>	<b>2 664 491</b>	<b>3 322 877</b>	<b>2 872 397</b>

<sup>1)</sup> Forward contracts are mainly used for hedging fuel purchases against currency risk. The opposite forward contracts, which have been acquired to adjust these hedging amounts are netted in the table with each other, whereby the nominal describes the protected position.

Fair values of the derivative financial instruments *	31 Mar 2019			31 Mar 2018			31 Dec 2018		
	Positive	Negative	Total	Positive	Negative	Total	Positive	Negative	Total
EUR 1 000									
Interest rate swaps									
Cash flow hedges		-14 262	-14 262	372	-13 399	-13 027		-12 199	-12 199
Fair value hedges	14 812		14 812	17 266	-1 608	15 657	13 016		13 016
Non-hedges		-5 427	-5 427					-3 105	-3 105
Forward foreign exchange contracts and swaps									
Cash flow hedges	13 821	-131	13 690	4 917	-2 888	2 029	15 242	-544	14 698
Non-hedges	939	-86	853	424	-263	161	758	-112	646
Cross-currency swaps									
Non-hedges	12 032	-20 335	-8 303	12 458	-54 349	-41 891	8 222	-14 998	-6 775
<b>Total</b>	<b>41 603</b>	<b>-40 239</b>	<b>1 364</b>	<b>35 437</b>	<b>-72 508</b>	<b>-37 071</b>	<b>37 239</b>	<b>-30 958</b>	<b>6 281</b>

\* Cross-currency swaps related to Private Placements included.

**TVO GROUP DEBT STRUCTURE BY MATURITY**

31 March 2019											Total
EUR 1 000	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Loans from financial institutes	44 413	44 413	149 498	519 698	44 698	27 286	27 286	27 286	27 286	13 000	924 864
Public bonds	58 266	131 954	500 000	250 561	500 000	551 707	500 000		75 000	88 000	2 655 488
Loans from other sources		79 114		56 117							135 231
Finance lease liabilities	864	1 735	1 744	1 752	1 761	1 770	43 544				53 171
Commercial papers	326 817	9 981									336 798
<b>Total</b>	<b>430 360</b>	<b>267 197</b>	<b>651 242</b>	<b>828 128</b>	<b>546 459</b>	<b>580 763</b>	<b>570 830</b>	<b>27 286</b>		<b>101 000</b>	<b>4 105 552</b>

**TVO GROUP CREDIT COMMITMENT BY MATURITY**

31 March 2019											Total
EUR 1 000	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Syndicated revolving credit facility				300 000	1 000 000						1 300 000
Bilateral revolving credit facility											
Bilateral bank loan				100 000							100 000
<b>Total</b>				<b>400 000</b>	<b>1 000 000</b>						<b>1 400 000</b>

Both syndicated and bilateral facilities are undrawn.

The average interest rate on loans and derivatives on 31 March 2019 was 1.73 % (2018: 1.81 %).

On 31 March 2019, the Group's had undrawn credit facilities amounting to EUR 1,400 million (2018: EUR 1,400 million). In addition, the Group's had subordinated shareholder loan (hybrid equity) commitments totaling EUR 250 million (2018: EUR 250 million) and cash and cash equivalents amounting to EUR 108 million (2018: EUR 221 million).

Cash and cash equivalents consist of cash on hand, demand deposits and other current, liquid investments. Fund units consist of fund unit investments that are valued at fair value.

TVO GROUP

## DISCLOSURE OF FAIR VALUE MEASUREMENTS BY THE LEVEL OF FAIR VALUE MEASUREMENT HIERARCHY

EUR 1 000	31 Mar 2019			31 Dec 2018		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
<b>Financial assets at fair value</b>						
Derivative financial instruments at fair value through profit or loss		12 971			8 981	
Derivative financial instruments designated as cash flow hedges		13 821			15 242	
Derivative financial instruments designated as fair value hedges		14 812			13 016	
Equity and fund units investments						
Investments in other shares <sup>1)</sup>			1 934			1 934
<b>Total</b>		<b>41 603</b>	<b>1 934</b>		<b>37 239</b>	<b>1 934</b>
<b>Financial liabilities at fair value</b>						
Derivative financial instruments at fair value through profit or loss		25 847			18 215	
Derivative financial instruments designated as cash flow hedges		14 393			12 743	
Derivative financial instruments designated as fair value hedges						
<b>Total</b>		<b>40 239</b>			<b>30 958</b>	

1) On 31 March 2019, TVO has unquoted shares worth EUR 1,934 (2018: 1,934) thousand. Direct market prices are not available for unquoted shares and therefore their fair value is determined using methods based on management judgement.

**Fair value estimation**

The derivative financial instruments are initially recognized at fair value on the date a derivative contract is entered into and are subsequently measured at fair value. The fair values are determined using a variety of methods and financial valuation techniques, and assumptions are based on market quotations at the balance sheet date (Level 2). The fair value of the interest rate swaps is the present value of the estimated future cash flows. The forward contracts are measured using the market quotes at the closing date.

## BOOK VALUES OF FINANCIAL ASSETS AND LIABILITIES BY CATEGORIES

EUR 1 000	31 Mar 2019			31 Dec 2018		
	Financial liabilities measured at amortized cost	Book Value	Fair value	Financial liabilities measured at amortized cost	Book Value	Fair value
Non-current liabilities						
Other financial liabilities*	3 588 689	3 588 689	3 728 966	3 650 497	3 650 497	3 735 829

\* Bonds and EUR-fixed loans included

For other financial assets and liabilities than the ones presented in the table, the book value corresponds to their fair value.

TVO GROUP

**ASSETS AND PROVISION RELATED TO NUCLEAR WASTE MANAGEMENT OBLIGATION****The balance sheet contains assets and liabilities concerning the nuclear waste management obligation**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	956 584	959 687	952 020
Provision related to nuclear waste management (non-current liabilities)	956 584	959 687	952 020

**TVO's legal liability as stated in the Nuclear Energy Act and the Company's share in the Finnish State Nuclear Waste Management Fund**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
Liability for nuclear waste management according to the Nuclear Energy Act	1 505 800	1 481 600	1 505 800
Funding target obligation	1 505 800	1 470 800	1 505 800
TVO's share in the Finnish State Nuclear Waste Management Fund	1 505 800	1 470 800	1 480 000
Difference between the liability and TVO's share of the fund	0	10 800	25 800

The costs of decommissioning of the power plant and disposal of spent fuel are covered by the provision related to the nuclear waste management obligation. Cost estimates are updated annually and the technical plans and total cost estimates every third year.

TVO contributes funds to the Finnish State Nuclear Waste Management Fund to cover future obligations based on the legal liability calculated according to the Nuclear Energy Act. The difference between the funding obligation target decided by the Ministry of Economic Affairs and Employment (MEAE) and TVO's actual share of the Finnish State Nuclear Waste Management Fund is paid in Q1 each year. TVO's share in the Finnish State Nuclear Waste Management Fund on March 31, 2019 is EUR 1,505.8 million. The carrying amount in the balance sheet is EUR 956.6 million. The difference is due to the fact that IFRIC 5 limits the carrying amount of TVO's interest in the Finnish State Nuclear Waste Management Fund to the amount of the related liability since TVO does not have control over the Finnish State Nuclear Waste Management Fund.

TVO has issued the State the shareholders' guarantees as security to cover the unexpected events as determined in the Nuclear Energy Act. The guarantees are presented in the note Obligations and other commitments.

## TVO GROUP

**OBLIGATIONS AND OTHER COMMITMENTS****Pledged promissory notes and financial guarantees**

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
Pledged promissory notes to the Finnish State Nuclear Waste Management Fund	591 441	666 242	666 242
Guarantees given by shareholders related to the nuclear waste management obligation	135 970	187 500	135 970

**Investment commitments**

Agreement-based commitments regarding the acquisition of property, plant and equipment:

<b>EUR 1 000</b>	<b>31 Mar 2019</b>	<b>31 Mar 2018</b>	<b>31 Dec 2018</b>
OL1 and OL2	72 100	100 000	88 500
OL3	362 700	371 000	351 300
<b>Total</b>	<b>434 800</b>	<b>471 000</b>	<b>439 800</b>

**Pending Court Cases and Disputes**

There were no pending court cases or disputes in the end of period under review.