

JANUARY–JUNE 2019

INTERIM REPORT



tvo

Teollisuuden Voima Oyj's Interim Report January 1–June 30, 2019

During the first half of 2019, Teollisuuden Voima's (TVO) electricity generation at Olkiluoto 1 and Olkiluoto 2 plant units continued safely and reliably. The electricity production of Olkiluoto nuclear power plant reached 500 TWh on 21 April.

The outage of Olkiluoto 2 was brought forward by four days on account of a damaged fuel unit. Despite the change in schedule, the outages were otherwise completed as planned.

The preparations for the loading of nuclear fuel continued at Olkiluoto 3 EPR. The liquid absorber solution for the vibration of the pressurizer surge line was approved by Radiation and Nuclear Safety Authority in May. After the interim report period TVO received an updated schedule for the commissioning of the OL3 EPR plant unit from the plant supplier Areva-Siemens Consortium. According to the received information, the regular electricity generation at the OL3 plant unit will start in July 2020.

Posiva has decided to implement the production facility which is designed for spent fuel handling and consists of the encapsulation plant and the final disposal facility. In addition to construction of the encapsulation plant the rooms that have already been excavated in ONKALO shall be equipped with the systems needed for starting the final disposal.

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 final phase and the negotiations between the Council, the Commission and the Parliament will start in October.

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.

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 and the programme of Finnish Government that started on 6 June 2019.

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 used 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–June 30, 2019 was EUR 124.6 (January 1–June 30, 2018: EUR 166.7 million). Lower fixed fee invoiced from shareholders during the period under review was due to the Nuclear Waste Management fee (see Nuclear Waste Management), which caused the lower turnover compared to the previous year.

The amount of electricity delivered to shareholders was 7,035.1 (6,813.5) GWh. The higher delivery volume of Olkiluoto plant units was due to shorter outages compared to the previous year.

The consolidated profit/loss was EUR 27.6 (-10.8) million. An updated cost estimate based on a new nuclear waste management technical plan and schedule and the changes of the provision regarding nuclear waste management obligation had an effect on the profit/loss and turnover of the period under review.

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, totaled EUR 4,786.4 (December 31, 2018: 4,749.8) million, of which EUR 679.3 (679.3) million were subordinated shareholder loans. During the period under review, TVO raised a total of EUR 100.0 (400.0) million in non-current liabilities. Repayments during the period under review amounted to EUR 308.7 (371.8) 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 June 30, 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.

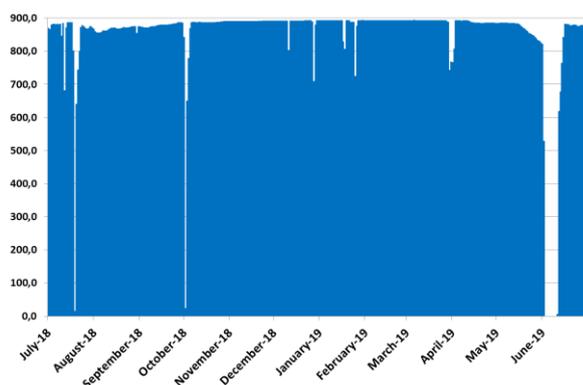
Nuclear Power

Olkiluoto 1 and Olkiluoto 2

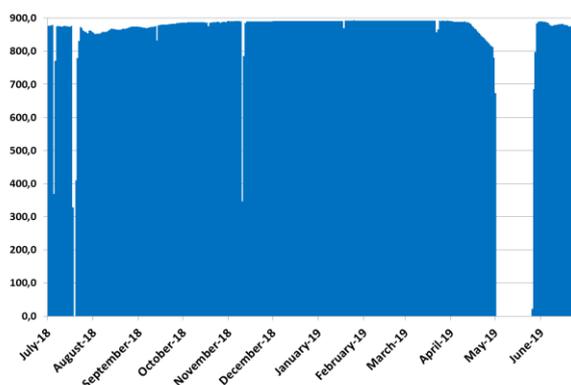
The electricity production of the Olkiluoto power plant units Olkiluoto 1 (OL1) and Olkiluoto 2 (OL2) during the period under review was 6,910 (6,458) GWh. The total load factor was 89.6 (84.2) %. The electricity production of Olkiluoto nuclear power plant reached 500 TWh on 21 April.

The plant units operated safely and reliably during the period under review. OL1's net production was 3,615 (2,932) GWh and the load factor 93.7 (76.9) %. OL2's net production was 3,295 (3,526) GWh and the load factor 85.4 (91.4) %.

Olkiluoto 1
Average electrical power MW
July 1, 2018–June 30, 2019



Olkiluoto 2
Average electrical power MW
July 1, 2018–June 30, 2019



Annual Outages

The refueling and maintenance outages carried out at the plant units on alternating years are designed to ensure that a good level of operability and production is maintained at the Olkiluoto nuclear power plant at all times.

The 2019 annual outages of the Olkiluoto nuclear power plant were started by maintenance outage at OL2 plant unit on May 1. The plant unit's outage was brought forward four days to remove damaged fuel from the reactor. Damaged fuel assemblies were removed from the reactor and replaced with fresh fuel. In addition to refueling, significant works included the pressure test of primary circuit, renewal of the heat exchanger in the purification system of reactor water and the renewal of the Fingrid's 400 kV switchgear. The outage took 25 days and the plant unit was connected to the grid as planned on 26 May.

The annual outage carried out at the OL1 plant unit was a refuelling outage. The outage was started on 2 June, and it was completed according to the planned schedule on 11 June.

In addition to TVO's own personnel, up to 850 contractor employees took part in the 2019 annual outage works.

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.

After the interim report period TVO received an updated schedule for the commissioning of the OL3 EPR plant unit from the plant supplier Areva-Siemens Consortium. According to the received information, the regular electricity generation at the OL3 plant unit will start in July 2020. In spring 2019, the plant supplier Areva-Siemens Consortium announced that it will update the schedule for

completing the Olkiluoto 3 EPR project since the modification outage work carried out at the plant unit was not progressing as expected and that it will provide an updated schedule to TVO in summer 2019.

According to the plant supplier, nuclear fuel will be loaded into the reactor in January 2020, the first connection to the grid will take place in April 2020, and the start of regular electricity production of the OL3 EPR nuclear power plant unit will take place in July 2020. According to the commissioning program, the unit will produce 1-3 terawatt hours with varying power levels during the test program, which will begin from the connection to the grid and will end to the beginning of regular electricity production.

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 operating personnel was granted operator licences by Radiation and Nuclear Safety Authority (STUK) in the end of 2018. During the hot functional testing (HFT) in spring 2018, it was noticed that the pressurizer surge line vibrates. STUK approved the solution to eliminate the vibration and the installation work of the absorbers is in progress.

In February 2019 STUK gave its statement on operating licence application of Olkiluoto 3 EPR plant unit. 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 1,800 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 34.4 (34.1) million and the amount consumed to EUR 28.1 (27.6) million.

The nuclear fuel and uranium stock carrying value on June 30, 2019 was EUR 259.1 (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 989.3 (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 estimated nuclear waste management liability of TVO is lower in the end of 2019 than in the previous year based on the decrease of nuclear waste management's total cost estimate updated every three years. Thus, assets will be refunded from the Nuclear Waste Management Fund to TVO in respect of 2019 according to the rules of the Fund. The refund has a decreasing effect to the production cost of OL1/OL2 plant units in 2019. The nuclear waste management liability for 2019 as well as the final refunded amount of the nuclear waste management fee of 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).

Cost estimate of Nuclear Waste Management for Financial Provisions ie. the Nuclear Waste Management Scheme for 2019–2021 was submitted to Ministry of Economic Affairs and Employment of Finland in the end of June. The waste management fee collected from those liable for nuclear waste management is based on the nuclear waste management plan to be updated every three years.

In June Posiva's Board of Directors decided to implement the production facility which is designed for spent fuel handling and consists of the encapsulation plant and the final disposal facility. The project includes the full completion of encapsulation facility, supplementary excavation works of final disposal facility, installation of the systems needed to start the final disposal, the operating licence process and preparation of supply chains needed in the production phase.

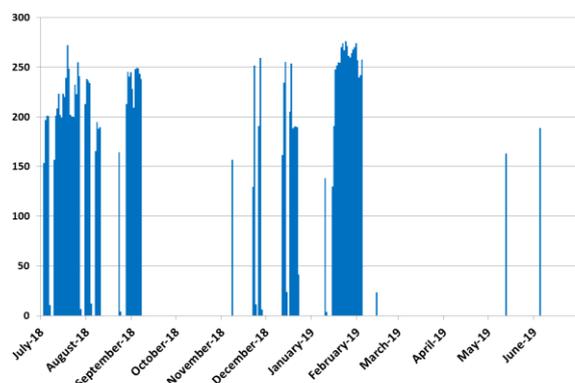
Coal Power

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–June 30, 2019 was 139.2 (369.2) GWh requiring 58.1 (134.5) thousand tons of coal and 114.2 (266.4) thousand tons of carbon dioxide emission rights.

TVO's share of Meri-Pori's production
Average electrical power MW
July 1, 2018–June 30, 2019



Acquisitions of Tangible and Intangible Assets and Shares

Investments during the period under review were EUR 177.7 (147.6) million. Investments of the parent company were EUR 128.9 (145.1) million, of which EUR 103.9 (111.9) million were allocated to the OL3 project.

Carbon dioxide emission rights have been relinquished to the Energy Market authority worth EUR 10.2 (0.7) million. During the period under review, emission rights were acquired worth EUR 4.1 (3.7) 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

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.

Personnel

The total number of personnel in the Group at the end of the period under review was 996 (December 31, 2018: 878, June 30, 2018: 917). The number of permanent employees in the Group at the end of the period under review was 881 (December 31, 2018: 863, June 30, 2018: 807).

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.

Extraordinary General Meeting

TVO's Extraordinary General Meeting on May 17, 2019, decided to delegate the Board of Directors to give instructions needed to TVO's representative, who participated in Posiva's extraordinary general meeting held on May 23, 2019. In Posiva's extraordinary general meeting it was decided to delegate Posiva's Board of Directors to implement the spent fuel handling facilities (the final disposal facility and the encapsulation plant) according to the production plan.

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 remarkable 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). Suppression of pressurizer surge line's vibration detected in hot functional testing (HFT) is in progress and will be completed before 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.

The construction of Posiva's production facility for handling of spent nuclear fuel will be continued.

Events after the Period under Review

After the interim report period TVO published stock exchange release on July 17, 2019 announcing that Areva-Siemens Consortium has updated the rebaseline schedule for the final phases of the OL3 EPR plant unit. According to the plant supplier, nuclear fuel will be loaded into the reactor in January 2020, the first connection to the grid will take place in April 2020, and the start of regular electricity production of the OL3 EPR nuclear power plant unit will take place in July 2020.

July 17, 2019

Teollisuuden Voima Oyj
Board of Directors

Key Figures of TVO Group

TVO GROUP (IFRS) (M€)	Q2 2019	Q2 2018	2018
Turnover	125	167	350
Profit/loss for the period	28	-11	-18
Investments ¹⁾	178	148	181
Equity	1 756	1 656	1 745
Subordinated shareholder loans (hybrid equity) (included in the former) ³⁾	679	579	679
Non-current and current interest-bearing liabilities (excluding loan from VYR) ²⁾	4 202	4 065	4 141
Loan from VYR ²⁾	591	666	666
Provision related to nuclear waste management	989	966	952
Obligatory provisions	0	100	0
Balance sheet total	7 654	7 591	7 662
Equity ratio % ⁴⁾	28,9	27,8	28,9
Average number of personnel	939	865	872

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

²⁾ The Finnish State Nuclear Waste Management Fund (VYR)

³⁾ Subordinated loans

⁴⁾ 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€)	Q2 2019	Q2 2018	2018
Parent company's interim financial statement has been made in accordance with the Finnish Accounting Standards (FAS).			
Turnover	123	165	346
Profit/loss before appropriations	-16	-10	1
Fuel costs	33	34	72
Nuclear waste management costs	0	32	58
Capital expenditure (depreciation and financial income and expenses)	19	26	53
Investments ¹⁾	129	145	177
Equity	857	863	857
Appropriations	171	175	187
Obligatory provisions	0	100	0
Non-current and current interest-bearing liabilities (excluding loan from VYR and shareholder loans) ²⁾	4 107	3 983	4 070
Loans from equity holders of the company ³⁾	679	579	679
Loan from VYR ²⁾	591	666	666
Balance sheet total	6 524	6 505	6 619
Equity ratio % ⁴⁾	28,8	27,7	29,0
Average number of personnel	938	864	871

¹⁾ Acquisitions of tangible and intangible assets and shares are based on gross investments.

²⁾ The Finnish State Nuclear Waste Management Fund (VYR)

³⁾ Subordinated loans

⁴⁾ Equity ratio %

$$=100 \times \frac{\text{equity + appropriations + loans from equity holders of the company}}{\text{balance sheet total - loan from the Finnish State Nuclear Waste Management Fund}}$$

ELECTRICITY DELIVERED TO EQUITY HOLDERS OF THE COMPANY (GWh)

	Q2 2019	Q2 2018	2018
Nuclear power	6 896	6 445	14 063
Coal-fired power	139	369	660
Total	7 035	6 814	14 723

TVO GROUP

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

EUR 1 000	Q2 2019	Q2 2018	2018
Turnover	124 588	166 742	350 271
Work performed for own purposes	10 077	8 167	14 941
Other income	6 660	6 042	11 762
Materials and services	10 455	-55 109	-140 260
Personnel expenses	-35 822	-34 002	-63 480
Depreciation and impairment charges	-21 605	-27 213	-55 181
Other expenses	-57 371	-54 156	-103 401
Operating profit/loss	36 982	10 471	14 652
Finance income	5 737	6 007	13 170
Finance expenses	-15 686	-27 699	-47 435
Total finance income and expenses	-9 949	-21 692	-34 265
Share of the profit/loss of joint ventures	553	393	1 387
Profit/loss before income tax	27 586	-10 828	-18 226
Profit/loss for the period	27 586	-10 828	-18 226

Profit/loss for the period attributable to:

Equity holders of the company	27 586	-10 828	-18 226
-------------------------------	--------	---------	---------

Consolidated Statement of Comprehensive Income

EUR 1 000	Q2 2019	Q2 2018	2018
Profit/loss for the period	27 586	-10 828	-18 226
Other comprehensive items			
Items that may be reclassified to profit or loss in subsequent periods:			
Cash flow hedges	-14 578	1 826	7 125
Total other comprehensive profit/loss items for the period	-14 578	1 826	7 125
Total comprehensive profit/loss for the period	13 008	-9 002	-11 101

Total comprehensive profit/loss for the period attributable to:

Equity holders of the company	13 008	-9 002	-11 101
-------------------------------	--------	--------	---------

TVO GROUP

Consolidated Statement of Financial Position

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
Assets			
Non-current assets			
Property, plant and equipment	5 506 059	5 376 383	5 353 160
Intangible assets	2 422	6 985	11 333
Loans and other receivables	594 495	791 402	669 295
Investments in joint ventures	6 542	4 995	5 989
Investments in shares	1 934	1 934	1 934
Derivative financial instruments	35 424	27 713	31 999
Share in the Finnish State Nuclear Waste Management Fund	989 255	966 286	952 020
Total non-current assets	7 136 131	7 175 698	7 025 730
Current assets			
Inventories	266 637	257 580	260 594
Trade and other receivables	119 685	37 383	149 640
Derivative financial instruments	5 040	18 303	5 240
Cash and cash equivalents	126 847	102 470	221 166
Total current assets	518 209	415 736	636 640
Total assets	7 654 340	7 591 434	7 662 370
Equity and liabilities			
Capital and reserves attributable to equity holders of the company			
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	-11 928	-2 649	2 650
Subordinated shareholder loans (hybrid equity)	679 300	579 300	679 300
Retained earnings	245 573	230 345	220 556
Total equity	1 755 696	1 655 572	1 745 257
Liabilities			
Non-current liabilities			
Provision related to nuclear waste management	989 255	966 286	952 020
Obligatory provisions	0	100 000	0
Loan from the Finnish State Nuclear Waste Management Fund	591 441	666 242	666 242
Bonds	2 464 010	2 408 884	2 582 556
Other financial liabilities	1 053 477	930 944	1 067 941
Derivative financial instruments	39 449	33 010	30 252
Total non-current liabilities	5 137 632	5 105 366	5 299 011
Current liabilities			
Current financial liabilities	623 667	647 502	459 513
Derivative financial instruments	21 025	44 928	706
Advance payments received	20 508	40 404	20 398
Trade payables	18 145	10 422	7 184
Other current liabilities	77 667	87 240	130 301
Total current liabilities	761 012	830 496	618 102
Total liabilities	5 898 644	5 935 862	5 917 113
Total equity and liabilities	7 654 340	7 591 434	7 662 370

TVO GROUP

Consolidated Statement of Changes in Equity

EUR 1 000	Share capital	Share premium reserve and statutory reserve	Reserve for invested non-restricted equity	Fair value and other reserves	Subordinated shareholder loans (hybrid equity)	Retained earnings	Attributable to equity holders of the company	Total equity
Equity 1 Jan 2019	600 365	242 383	3	2 650	679 300	220 556	1 745 257	1 745 257
Profit/loss for the period	0	0	0	0	0	27 586	27 586	27 586
Other comprehensive items:								
Cash flow hedges	0	0	0	-14 578	0	0	-14 578	-14 578
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-2 569	-2 569	-2 569
Equity 30 June 2019	600 365	242 383	3	-11 928	679 300	245 573	1 755 696	1 755 696

EUR 1 000	Share capital	Share premium reserve and statutory reserve	Reserve for invested non-restricted equity	Fair value and other reserves	Subordinated shareholder loans (hybrid equity)	Retained earnings	Attributable to equity holders of the company	Total equity
Equity 1 Jan 2018	606 193	242 383	0	-4 475	579 300	243 293	1 666 694	1 666 694
Profit/loss for the period	0	0	0	0	0	-10 828	-10 828	-10 828
Other comprehensive items:								
Cash flow hedges	0	0	0	1 826	0	0	1 826	1 826
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-2 120	-2 120	-2 120
Equity 30 June 2018	606 193	242 383	0	-2 649	579 300	230 345	1 655 572	1 655 572

TVO GROUP

Consolidated Statement of Cash Flows

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
Operating activities			
Profit/loss for the period	27 586	-10 828	-18 226
Adjustments:			
Finance income and expenses	9 949	21 692	34 265
Depreciation and impairment charges	21 605	27 213	55 181
Share of the profit/loss of joint ventures	-553	-393	-1 387
Other non-cash flow income and expenses	-54 618	-22 150	-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	27 664	1 903	-6 204
Increase (-) or decrease (+) in inventories	-5 958	-489	-3 503
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	-11 709	-11 236	2 284
Interest paid and other finance expenses	-1 881	-1 905	-3 624
Interest received	3 455	3 855	3 878
Cash flow from operating activities	15 540	7 662	47 517
Investing activities			
Acquisition of property, plant and equipment	-142 912	-520 841	-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	-68	-19	-155
Loan receivables granted	-9 205	-10 725	-10 867
Repayments of loans granted	84 006	0	240
Cash flow from investing activities	-68 179	-203 585	-303 245
Financing activities			
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	410 725	804 993
Repayment of long-term loans	-384 475	-372 612	-719 644
Interest paid of subordinated shareholder loans (hybrid equity)	-2 548	-1 907	-4 285
Increase (+) or decrease (-) in current financial liabilities	245 343	121 948	161 416
Cash flow from financing activities	-41 680	158 154	336 655
Change in cash and cash equivalents	-94 319	-37 769	80 927
Cash and cash equivalents at the beginning of period	221 166	140 239	140 239
Cash and cash equivalents at the end of period	126 847	102 470	221 166

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.

COMPARABILITY OF THE INCOME STATEMENT

The total cost estimate based on a new nuclear waste management technical plan and schedule was updated in June 2019. The costs for spent fuel disposal are expensed during the operating time of the plant, based on fuel usage, and the impact of any changes to the plan and schedules will be recognized immediately in the income statement based on fuel used by the end of each accounting period. Updated cost estimate increased the provision related to the nuclear waste management and decreased the amount of materials and services and finance expenses. The overall effect on profit for the period is positive because the amount of the share in the Finnish State Nuclear Waste Management Fund and the provision related to nuclear waste management are equal and the difference is entered as an adjustment to materials and services. The positive profit impact of the updates and changes is mainly non-recurring. See note Assets and provisions related to nuclear waste management obligation.

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

EUR 1 000	Q2 2019	Q2 2018	2018
Nuclear power	113 162	149 242	305 842
Coal-fired power	11 426	17 500	44 429
Total	124 588	166 742	350 271

PROFIT/LOSS FOR THE PERIOD BY SEGMENTS

EUR 1 000	Q2 2019	Q2 2018	2018
Nuclear power	-15 626	-9 794	6 155
Coal-fired power	0	-211	-4 240
Profit/loss before appropriations (FAS)	-15 626	-10 005	1 915
The impact of the nuclear waste management obligation	41 880	-1 647	-22 564
The impact of financial instruments	455	58	335
Other IFRS adjustments	324	373	701
Share of the profit/loss of joint ventures	553	393	1 387
Total (IFRS)	27 586	-10 828	-18 226

ASSETS BY SEGMENTS

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
Nuclear power	6 520 803	6 505 854	6 606 883
Coal-fired power	3 309	76	12 525
Total (FAS)	6 524 112	6 505 930	6 619 408
The impact of the nuclear waste management obligation	1 085 284	1 041 352	1 006 169
The impact of financial instruments	12 137	7 498	2 070
The impact of finance leases	52 293	54 028	53 166
Other IFRS adjustments	-25 017	-21 358	-23 421
Share of the profit/loss of joint ventures	5 531	3 984	4 978
Total (IFRS)	7 654 340	7 591 434	7 662 370

TVO GROUP

CHANGES IN PROPERTY, PLANT AND EQUIPMENT

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
Opening net book amount ¹⁾	5 353 922	5 261 866	5 261 866
Increase	176 196	143 865	172 174
Decrease	-2 654	-2 919	-198 956
Depreciation and impairment charges	-21 405	-26 492	-53 540
Accumulated depreciation from deduction	0	63	171 616
Closing net book amount	5 506 059	5 376 383	5 353 160

CHANGES IN INTANGIBLE ASSETS

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
Opening net book amount	11 333	4 662	4 662
Increase	1 505	3 721	8 989
Decrease	-10 216	-677	-18 516
Depreciation and impairment charges	-200	-721	-1 641
Accumulated depreciation from deduction	0	0	17 839
Closing net book amount	2 422	6 985	11 333

¹⁾ 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 ¹⁾

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
Interest rate swaps	2 196 071	2 449 518	2 196 071
Forward foreign exchange contracts and swaps ¹⁾	110 949	126 002	121 628
Cross-currency swaps	554 720	642 418	554 697
Total	2 861 741	3 217 938	2 872 397

¹⁾ 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 *	30 June 2019			30 June 2018			31 Dec 2018		
	Positive	Negative	Total	Positive	Negative	Total	Positive	Negative	Total
EUR 1 000									
Interest rate swaps									
Cash flow hedges		-25 385	-25 385		-12 937	-12 937		-12 199	-12 199
Fair value hedges	17 246		17 246	15 370	-379	14 991	13 016		13 016
Non-hedges		-7 977	-7 977	172	-2 425	-2 253		-3 105	-3 105
Forward foreign exchange contracts and swaps									
Cash flow hedges	13 340	-115	13 225	11 177	-1 261	9 916	15 242	-544	14 698
Non-hedges	1 119	-86	1 033	478	-113	365	758	-112	646
Cross-currency swaps									
Non-hedges	8 760	-26 912	-18 152	18 820	-60 824	-42 004	8 222	-14 998	-6 775
Total	40 464	-60 474	-20 010	46 016	-77 937	-31 921	37 239	-30 958	6 281

* Cross-currency swaps related to Private Placements included.

TVO GROUP DEBT STRUCTURE BY MATURITY

30 June 2019	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028-	Total
EUR 1 000											
Loans from financial institutes	29 206	44 413	149 498	519 698	44 698	27 286	27 286	27 286	27 286	13 000	909 657
Public bonds	58 267	131 954	500 000	250 561	500 000	551 707	500 000		75 000	88 000	2 655 489
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	396 778	9 981									406 759
Total	485 115	267 197	651 242	828 128	546 459	580 763	570 830	27 286	102 286	101 000	4 160 307

TVO GROUP CREDIT COMMITMENT BY MATURITY

30 June 2019	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028-	Total
EUR 1 000											
Syndicated revolving credit facility				300 000	1 000 000						1 300 000
Bilateral revolving credit facility											
Bilateral bank loan				100 000							100 000
Total				400 000	1 000 000						1 400 000

Both syndicated and bilateral facilities are undrawn.

The average interest rate on loans and derivatives on 30 June 2019 was 1.71 % (2018: 1.81 %).

On 30 June 2019, the Group had undrawn credit facilities amounting to EUR 1,400 million (2018: EUR 1,400 million). In addition, the Group had subordinated shareholder loan (hybrid equity) commitments totaling EUR 250 million (2018: EUR 250 million) and cash and cash equivalents amounting to EUR 127 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	30 June 2019			31 Dec 2018		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial assets at fair value						
Derivative financial instruments, no hedge accounting		9 878			8 981	
Derivative financial instruments designated as cash flow hedges		13 340			15 242	
Derivative financial instruments designated as fair value hedges		17 246			13 016	
Fund units						
Investments in other shares ¹⁾			1 934			1 934
Total		40 464	1 934		37 239	1 934
Financial liabilities at fair value						
Derivative financial instruments, no hedge accounting		34 974			18 215	
Derivative financial instruments designated as cash flow hedges		25 500			12 743	
Derivative financial instruments designated as fair value hedges						
Total		60 474			30 958	

1) On 30 June 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	30 June 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*	3 517 487	3 517 487	3 693 352	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**

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	989 255	966 286	952 020
Provision related to nuclear waste management (non-current liabilities)	989 255	966 286	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

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
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.

The total cost estimate based on a new nuclear waste management technical plan and schedule was updated in June 2019. The costs for spent fuel disposal are expensed during the operating time of the plant, based on fuel usage, and the impact of any changes to the plan and schedules will be recognized immediately in the income statement based on fuel used by the end of each accounting period.

The provision on balance sheet compared to the value at the end of the previous year was increased by EUR 37.2 million. The effect of revised cost estimate to the consolidated income statement compared to the previous estimate were EUR 32.2 million decrease in materials and services and EUR 11.9 million decrease in finance expenses. The overall effect on profit for the period is positive because the amount of the share in the Finnish State Nuclear Waste Management Fund and the provision related to nuclear waste management are equal and the difference is entered as an adjustment to materials and services.

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. The estimated nuclear waste management liability of TVO is lower in the end of 2019 than in the previous year based on the decrease of nuclear waste management's total cost estimate updated every three years. Thus, assets will be refunded from the Nuclear Waste Management Fund to TVO in respect of 2019 according to the rules of the Fund. The nuclear waste management liability for 2019 as well as the final refunded amount of the nuclear waste management fee of 2019 will be confirmed in March 2020.

TVO's share in the Finnish State Nuclear Waste Management Fund on June 30, 2019 is EUR 1,505.8 million. The carrying amount in the balance sheet is EUR 989.3 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. As long as the Fund is overfunded from an IFRS perspective, the effects to operating profit from this adjustment will be positive if the provision increases more than the Fund, and negative if actual value of the fund increases more than the provision.

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**

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
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	77 980	135 970	135 970

Investment commitments

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

EUR 1 000	30 June 2019	30 June 2018	31 Dec 2018
OL1 and OL2	73 900	99 000	88 500
OL3	369 700	363 000	351 300
Total	443 600	462 000	439 800

Pending Court Cases and Disputes

Pending Court Cases and Disputes are to be found on page 7.