



energy authority

Regulation and network losses in Finland

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Fair energy



Realized adjusted profit



- **Items returned to operating profit**

- Annual change in refundable connection fees
- Network rents
- Depreciations on goodwill
- Planned depreciations and write-down of network assets
- Loss resulting from the sale of a network section entered under other operating expenses

- **Other profit adjustment items:**

- Reasonable costs of financial assets

- **Incentives:**

- Efficiency incentive
- Investment incentive
- Quality incentive
- Innovation incentive
- Security of supply incentive

Overview of the regulation methods



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ADJUSTMENT OF THE BALANCE SHEET I.E. CALCULATION OF REASONABLE RETURN

ADJUSTED REPLACEMENT VALUE OF THE NETWORK

Lifetimes and average ages of network components

ADJUSTED NET PRESENT VALUE OF THE NETWORK

=

ADJUSTED ELECTRICITY NETWORK ASSETS

+

OTHER ADJUSTED ASSETS IN THE BALANCE SHEET VALUE

=

ADJUSTED ASSETS INVESTED IN ELECTRICITY NETWORK OPERATIONS

liabilities side of the balance sheet is adjusted and its difference with adjusted assets is equalised with an equalisation item

ADJUSTED EQUITY INVESTED IN ELECTRICITY NETWORK OPERATIONS AND INTEREST-BEARING DEBT

×

REASONABLE RATE OF RETURN

=

REASONABLE RETURN

-

=

OPERATING PROFIT (LOSS) OF UNBUNDLED PROFIT AND LOSS ACCOUNT

+

ITEMS TO BE RETURNED IN THE UNBUNDLED PROFIT AND LOSS ACCOUNT
 Net change in refundable connection charges,
 Network rents,
 Depreciation from goodwill,
 Planned depreciation and write-down of network assets,
 Loss of sales resulting from the sale of a network section entered under other operating expenses

-

OTHER PROFIT ADJUSTMENT ITEMS
 Reasonable costs of financial assets

-

INVESTMENT INCENTIVE

-

QUALITY INCENTIVE

-

EFFICIENCY INCENTIVE

-

INNOVATION INCENTIVE

-

SECURITY OF SUPPLY INCENTIVE

=

REALIZED ADJUSTED PROFIT

-

ADJUSTMENT OF THE PROFIT AND LOSS ACCOUNT I.E. CALCULATION OF REALISED ADJUSTED PROFIT

DEFICIT OR SURPLUS

Network losses are pass-through cost in regulation methods

Controllable operational costs

KOPEX = Materials, supplies and goods

- + Increase or decrease in stocks
- + Personnel expenses
- + Operation and maintenance expenses included in network rents and network leasing fees
- + Cost of leasing
- + Other external services
- + Internal expenses
- + Other operating expenses
- + Standard compensations paid (if not included in other costs)
- + Components recorded as expenses (if not included in other items above)
- - **Loss energy purchasing costs**
 - - Production for own use
 - - Cost of building the DSO's own network in a leased network
 - - Costs related to Fingrid's usage right fields



Regulation methods and network losses

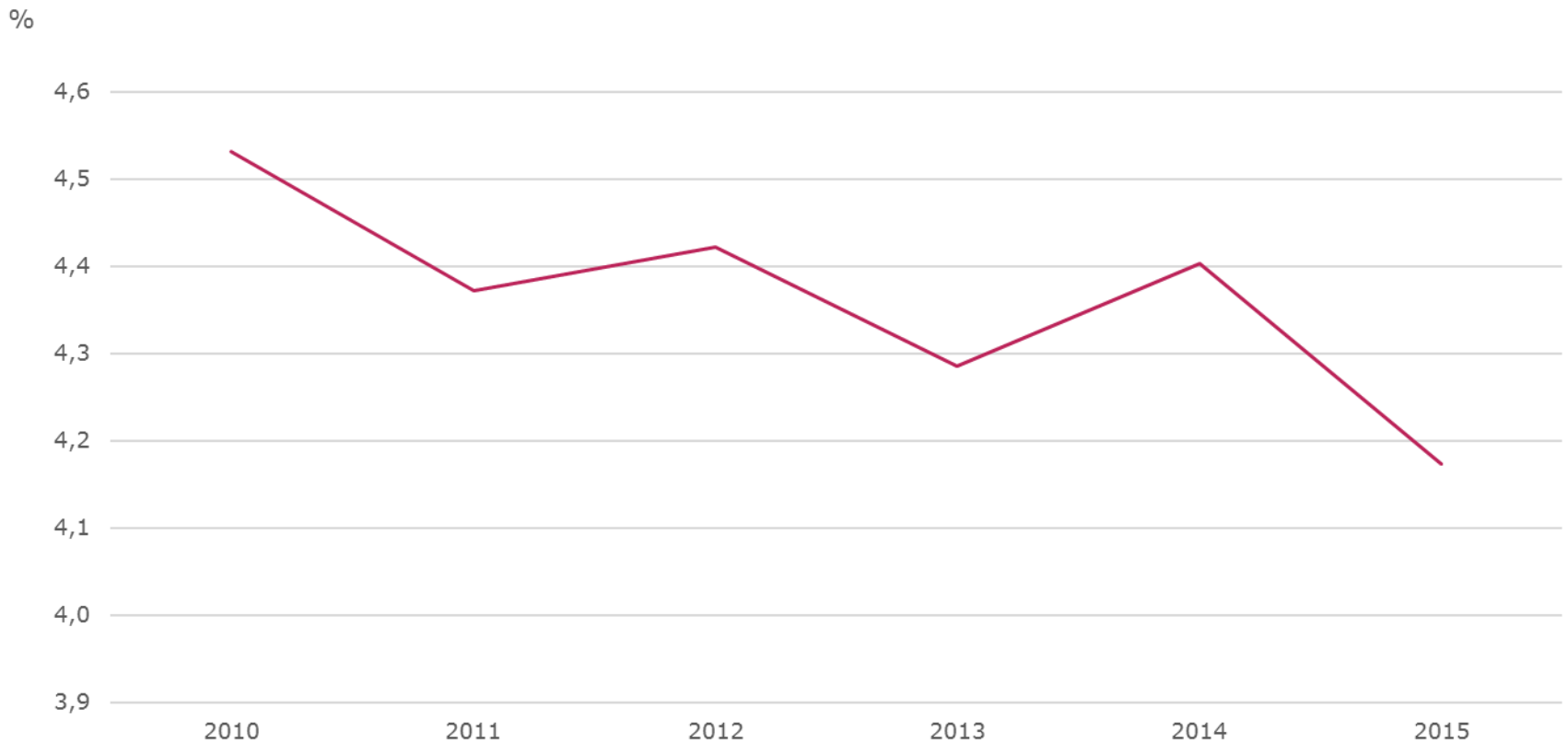
- There are no incentives in regulation methods to reduce network losses at the moment
- Electricity Market Act : “Network operators must procure the energy they use to cover network losses according to transparent, nondiscriminatory and market-based procedures”
- Innovation incentive
 - R&D expenditure deducted in the calculation of adjusted profit: Max 1,0 % of annual turnover (0,5% in the regulatory period 2012 – 2015)



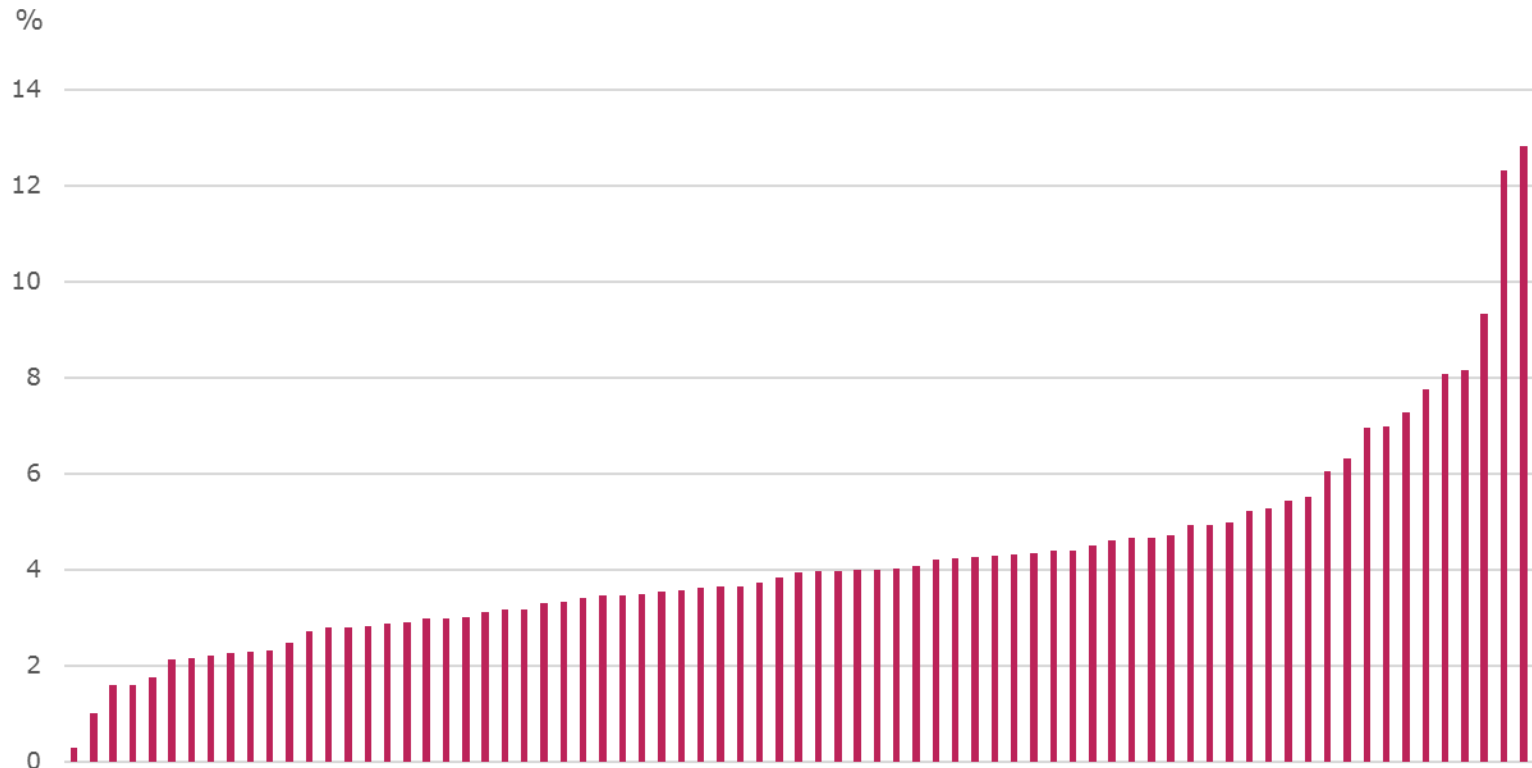
Loss of energy in Finland

- Finnish TSO's (Fingrid) annual loss energy costs range between approximately 60 and 70 million euros.
 - The annual losses in the transmission grid are a little over 1 TWh in total which accounts for about 1.5 percent of the entire electricity consumption in Finland.
- The annual losses in the distribution networks are approximately 1,7 - 2 TWh (Includes DSOs and high-voltage DSOs).
 - Largest DSOs (Caruna) annual losses are approximately 400 GWh.

Network losses (DSOs, % of the distributed electricity)



Network losses (DSOs, % of the distributed electricity)



Survey for DSOs about the purchase of loss energy

- Electricity Market Act: Network operators must procure the energy they use to cover network losses according to transparent, nondiscriminatory and market-based procedures
- Total 93 DSOs responded to the survey
 - Open tendering 20 DSOs
 - Targeted tendering 27 DSOs
 - Purchases the loss energy in the electricity market 34 DSOs
 - Unclear 12 DSOs
- Finnish Energy Authority will monitor development of network losses and especially purchase of loss energy.

Thank you!

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