



3.6.2020

# Finland's Transmission System Operator

**FINGRID**





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# Executive summary



# Fingrid is the sole transmission system operator (TSO) in Finland

Fingrid transmits  
in its own network  
approximately

**75%**

of electricity transmitted  
in Finland

Fingrid manages  
cross-border  
connections  
between **Finland  
and Sweden,  
Estonia, Russia  
and Norway**

Fingrid continuously  
**ensures power  
system production  
and consumption  
balance** in Finland

# Fingrid's network covers entire Finland



14 100 km  
of power lines  
300 km  
of submarine cable



over  
48 000 towers



115 substations



10 reserve power  
plants  
> 953 MW reserve



# Fingrid has achieved its targets in 2011 - 2019

|  | 2011                          | 2019                          |
|--|-------------------------------|-------------------------------|
| <b>Net profit</b>  | MEUR 33                       | MEUR 85                       |
| <b>Return</b>  | Below regulatory allowed      | Below regulatory allowed*     |
| <b>Dividend</b>  | MEUR 7                        | MEUR 148**                    |
| <b>Efficiency</b>  | High benchmark study rankings | High benchmark study rankings |
| <b>Investments</b>   | In schedule and budget        | In schedule and budget        |
| Fingrid has a proven track record of continuously executing its defined strategy |                               |                               |

\*Cumulative deficit MEUR -30 in 2016-2019

7\*\* Total amount proposed by Board of Directors, MEUR 100 paid in March 2020

3.6.2020

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# Key investment considerations

|                                 |  |
|---------------------------------|--|
| <b>Regulation</b>               | Fair, stable and predictable regulatory model                                      |
| <b>Ownership</b>                | The Finnish state owns 53% and Finnish financial institutions 47%                  |
| <b>Strategic importance</b>     | Considered strategically important holding to the Finnish state*                   |
| <b>Operating leverage</b>       | Construction and maintenance of the electricity transmission network is outsourced |
| <b>Efficiency &amp; Quality</b> | Fingrid is one of the most cost efficient and reliable TSOs worldwide              |
| <b>Financials</b>               | Continuous solid operating profitability   |
| <b>Rating</b>                   | Fingrid benefits from AA-/A+ ratings (S&P, Fitch**)                                |

\* Source: Prime Minister's Office, Finland. (2016). *Government resolution on state-ownership policy*. \*\* Senior unsecured rating from Fitch is 'A+' and issuer default rating 'A'

Fingrid provides a solid long-term investment in the power system in Finland





# Company overview

#### MEGATRENDS:



Climate change and transformation of the energy system



Security of energy supply and electricity dependency



Globalisation and responsibility



Digitalisation

#### OUR STRATEGIC GOAL:



We create a platform for a clean electricity system

- We build and maintain the electricity transmission grid with a long-term view for the needs of a clean electricity system
- We monitor the electricity system at all times and handle disturbances efficiently so that society can rely on reliable electricity also in the future
- We reform the electricity market so that production and consumption continue to find balance as efficiently as possible

#### OUR VISION



We are a forerunner for electricity network operations

- We are respected and influential in energy matters in Finland and abroad
- We are known for responsibility, efficiency and expertise
- We are able to renew ourselves and we boldly embrace changes



#### OUR MISSION

We secure reliable electricity for our customers and society and we shape clean, market-oriented power system of the future.



#### OUR VALUES

- Transparent
- Impartial
- Efficient
- Responsible



#### EFFECTIVE IMPLEMENTATION

- Prioritise
- Streamline



TOGETHER TOWARDS A CLEAN ELECTRICITY SYSTEM





## **CUSTOMERS AND SOCIETY**

We secure reliable electricity and a well-functioning electricity market for society.  
We offer affordable services that meet our customers' needs.

## **FINANCE**

We operate cost-effectively and bring value to our owners.

## **INTERNAL PROCESSES**

### **Adequacy of the transmission system**

We carry out investments and maintenance safely and efficiently at the right time.

### **System operation**

We operate the national grid proactively and reliably.

### **Promoting the electricity market**

We actively maintain and develop the electricity market.

## **PERSONNEL AND EXPERTISE**

An open, collaborative, renewing and result-driven work community.

# Corporate level strategic choices



## Focus on core operations

Outstanding execution of our core operations in changing operating environment. We do not seek to expand into new businesses or to participate in competitive businesses.



## Customer oriented

We develop our business operations and operating models actively, in a customer oriented manner and for the benefit of Finland.



## World class efficiency

We utilize innovatively the best available technologies and the possibilities of digitalization. We maintain the required core competences in-house. We cooperate with the best partners.



## Market oriented

We operate in a market-oriented way in all areas, because functioning markets produce the best and most innovative solutions in all operations.



## Integration oriented

We actively promote the integration of European and Baltic sea electricity markets taking into account the interests of Finland.



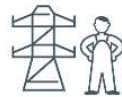
## Security and sustainability

During the transformation of the power system we maintain the current high level of system operation. Sustainability and safety are in focus in everything we do.



# Fingrid operates in a matrix organisation structure

Jukka Ruusunen, President & CEO



**Grid services and planning**

Jussi Jyrinsalo



**Asset management**

Timo Kiiveri



**Power system operations**

Reima Päivinen



**Market**

Asta Sihvonen-Punkka



**Finance and treasury**

Jan Montell



**ICT**

Kari Suominen



**HR and Communications**

Tiina Miettinen



**Legal and administrative services**

Marina Louhija



**Customers**

Jussi Jyrinsalo



**Finance and business development**

Jan Montell



**Adequacy of the transmission system**

Timo Kiiveri

**System operation**

Reima Päivinen

**Promoting the electricity market**

Asta Sihvonen-Punkka



**Personnel and expertise**

Tiina Miettinen

83% of Fingrid's personnel holds an academic degree

Full-time, permanent employees at the end of 2019



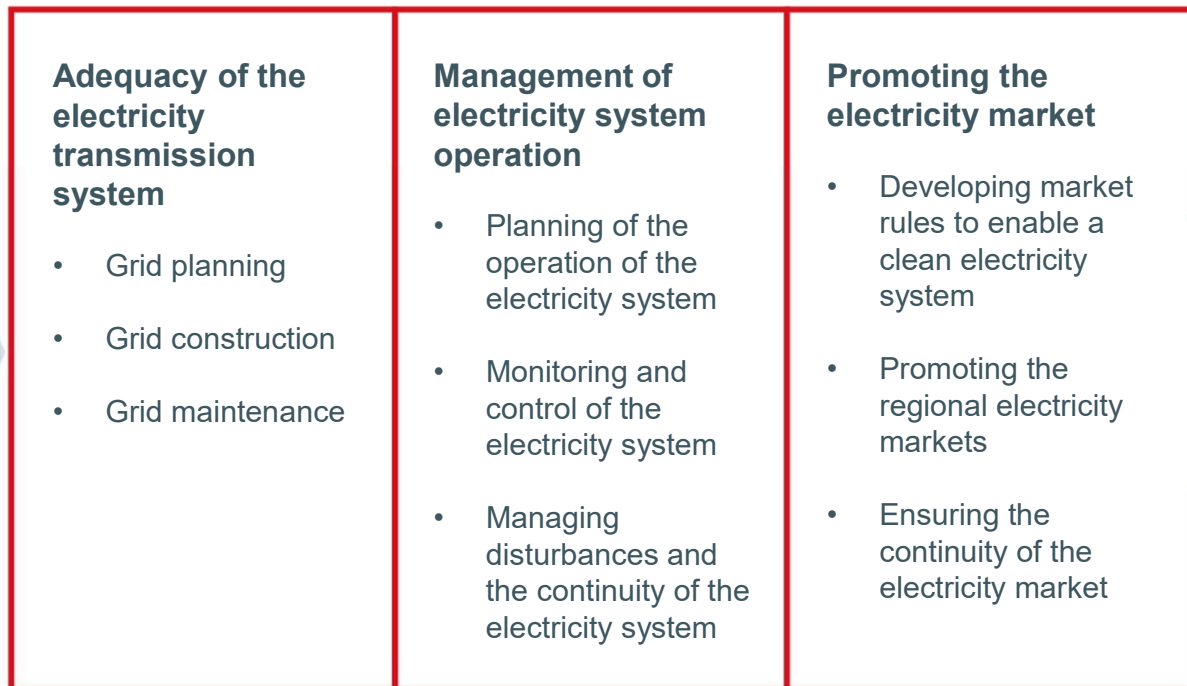
Executive management team is highly regarded in the Finnish business community

# Fingrid's business model

## RESOURCES

- Personnel and expertise
- Suppliers and business partners
- Income and debt financing
- Electricity from power plants and neighbouring countries
- Grid transmission lines, substations and reserve power plants
- Land required for transmission lines; natural resources and materials
- ICT structures
- Knowledge capital on electricity, markets and customers

## BUSINESS PROCESS



## SERVICES FOR CUSTOMERS

Main grid services

Electricity market services

## IMPACTS

- Enabling the transformation of the energy system
- Reliable electricity for society and business
- Promoting Finland's competitiveness
- Developing the electricity sector and competence
- Financial benefits for stakeholders
- Major grid investments and employment
- Local changes in land use and the environment and energy losses in electricity transmission

# Value created by Fingrid in 2019

## IMPACTS

- Enabling the transformation of the energy system
- Reliable electricity for society and business
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- Financial benefits for stakeholders
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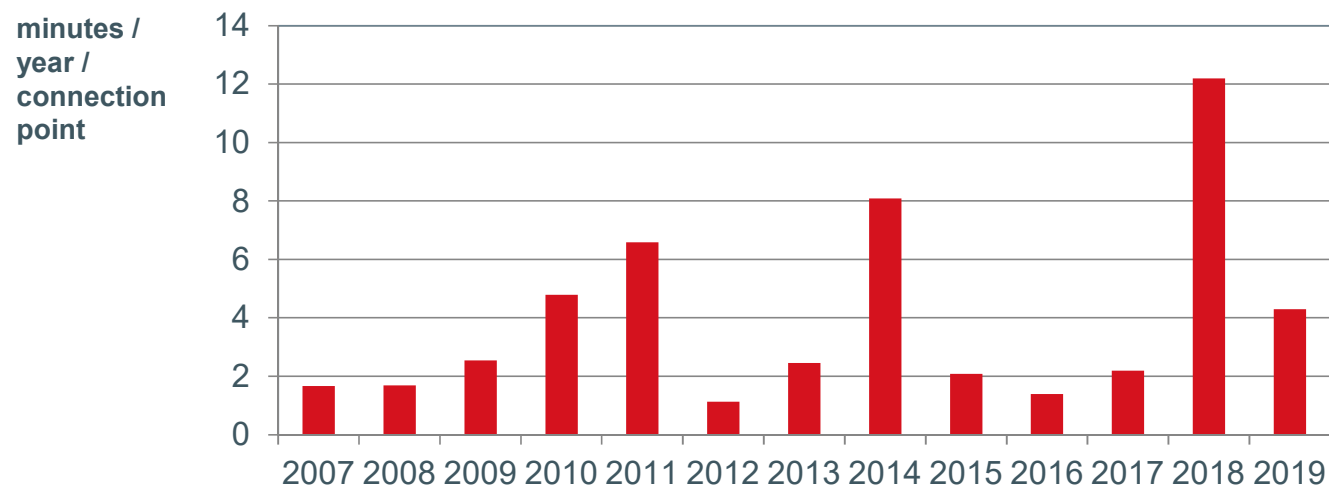
## CREATION OF VALUE

- ▶ Fingrid's nationwide main grid creates a platform for a clean power system. Around 150 kilometres of new grid transmission lines and 12 new or expanded substations.
- ▶ Electricity transmission reliability 99.9998%.
- ▶ Top performer in a cost efficiency study commissioned by European energy regulators. Third cheapest in ENTSO-E's European price comparison. Customers perceive that Fingrid works for the benefit of the whole of society (4.2/5).
- ▶ Employees perceive that Fingrid is a great place to work overall (96%). LTIF 5.5. Absences from work 1%. Number of training days on average 5/employee.
- ▶ One of Finland's largest corporate income tax payers (EUR 35 mill.). Payments to providers of capital EUR 171 mill.
- ▶ Investments in the main grid approx. EUR 107 mill. Fingrid personnel's person-years 336 and service suppliers' person-years 413.
- ▶ Direct CO<sub>2</sub> emissions and indirect emissions due to the company's own electricity consumption and losses 220,000 CO<sub>2</sub> equivalent tonnes. Waste utilisation rate 98% and recycling rate 89%.



# Excellent reliability in the grid

## Economic losses caused by disturbances



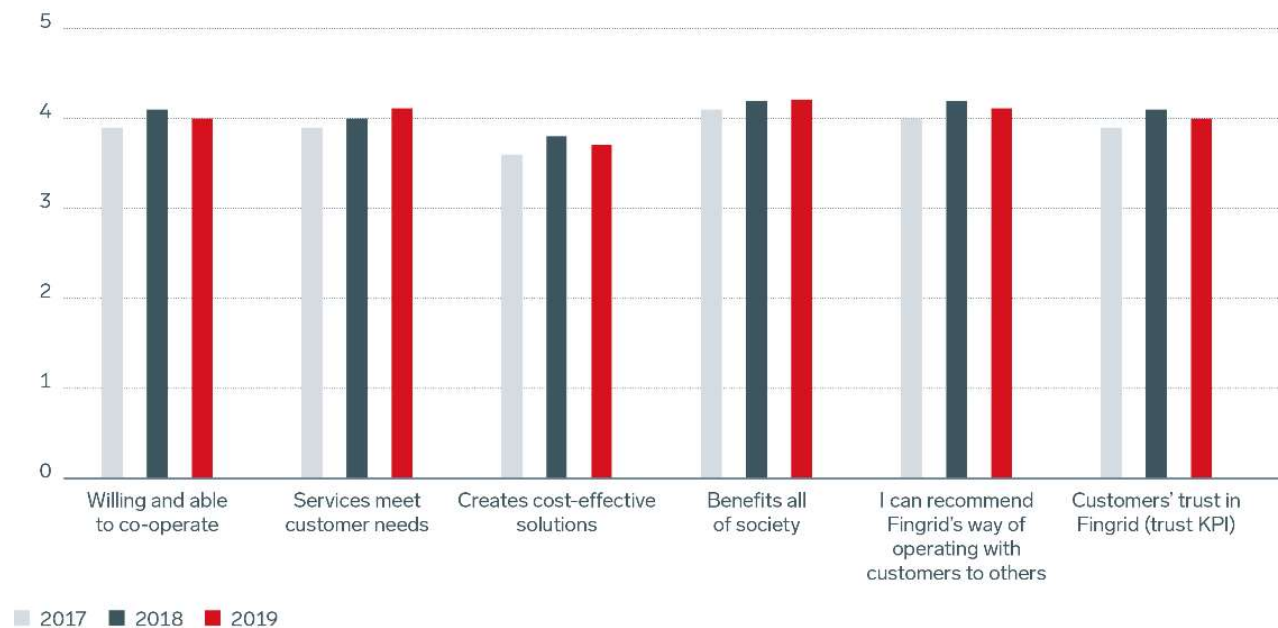
4.3 minutes outage per grid connection point caused by faults in the grid in 2019



# For the benefit of customers and society

## Customer satisfaction: High quality services

Customers' trust in Fingrid

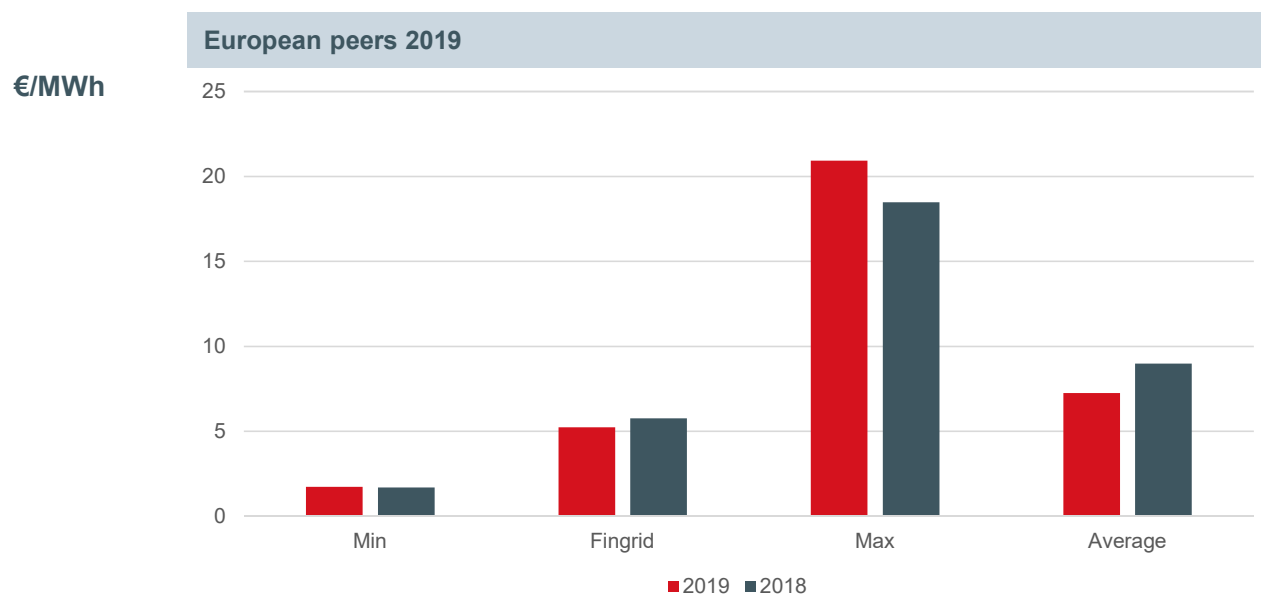


Trust KPI: Average of customer satisfaction survey questions measuring implementation of the customer strategy and customers' confidence. (scale: 1=poor...5=excellent)

The company wide KPI 'customers' trust in Fingrid' was 4,0 (scale 1-5) in 2019

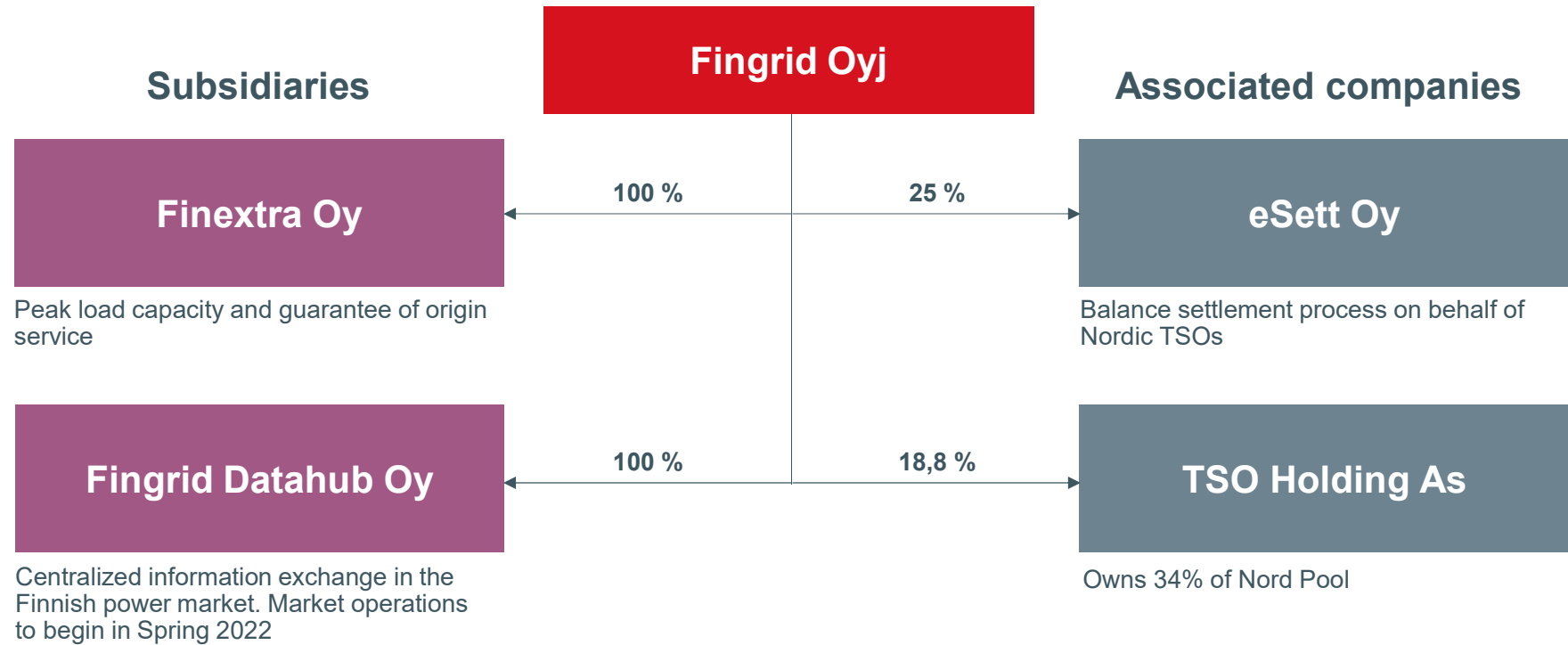
# Affordable fees for grid services

## ENTSO-E comparison on grid service fees

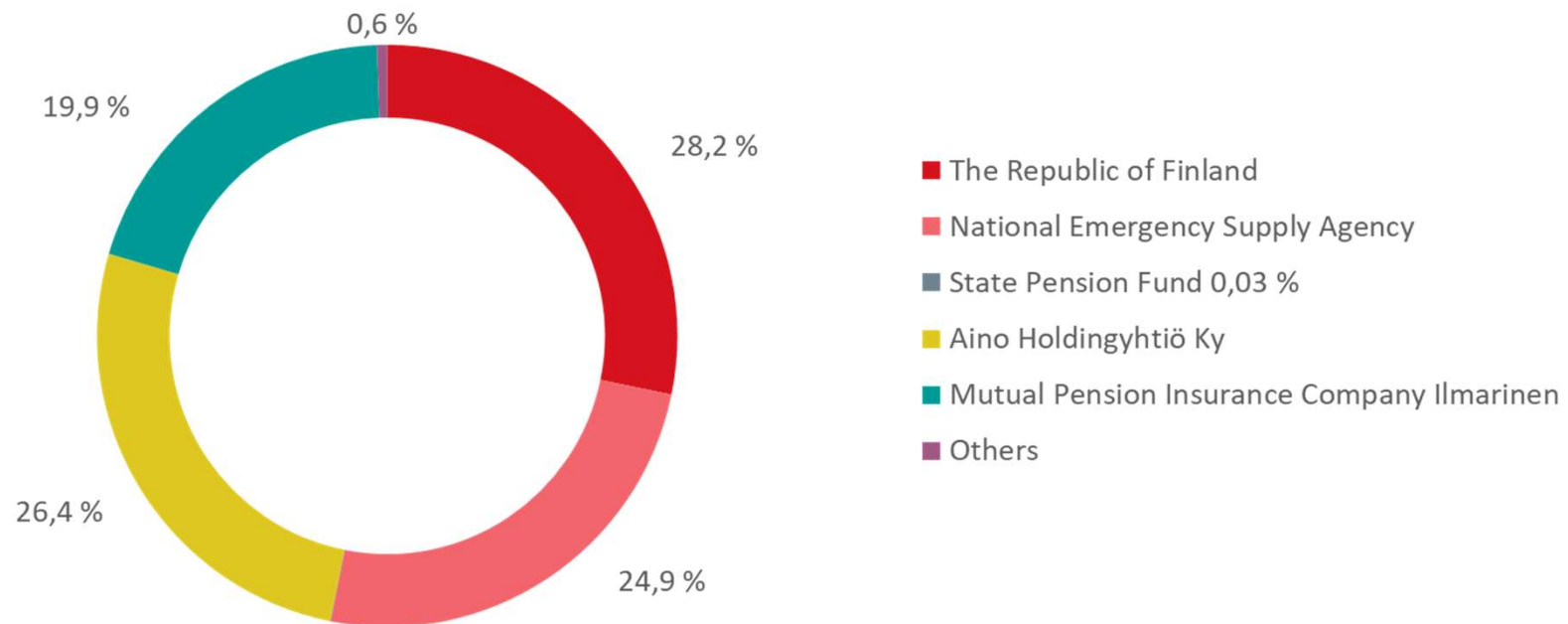


Transmission tariffs for electricity in the Finnish transmission system are the third lowest in Europe

# Legal structure



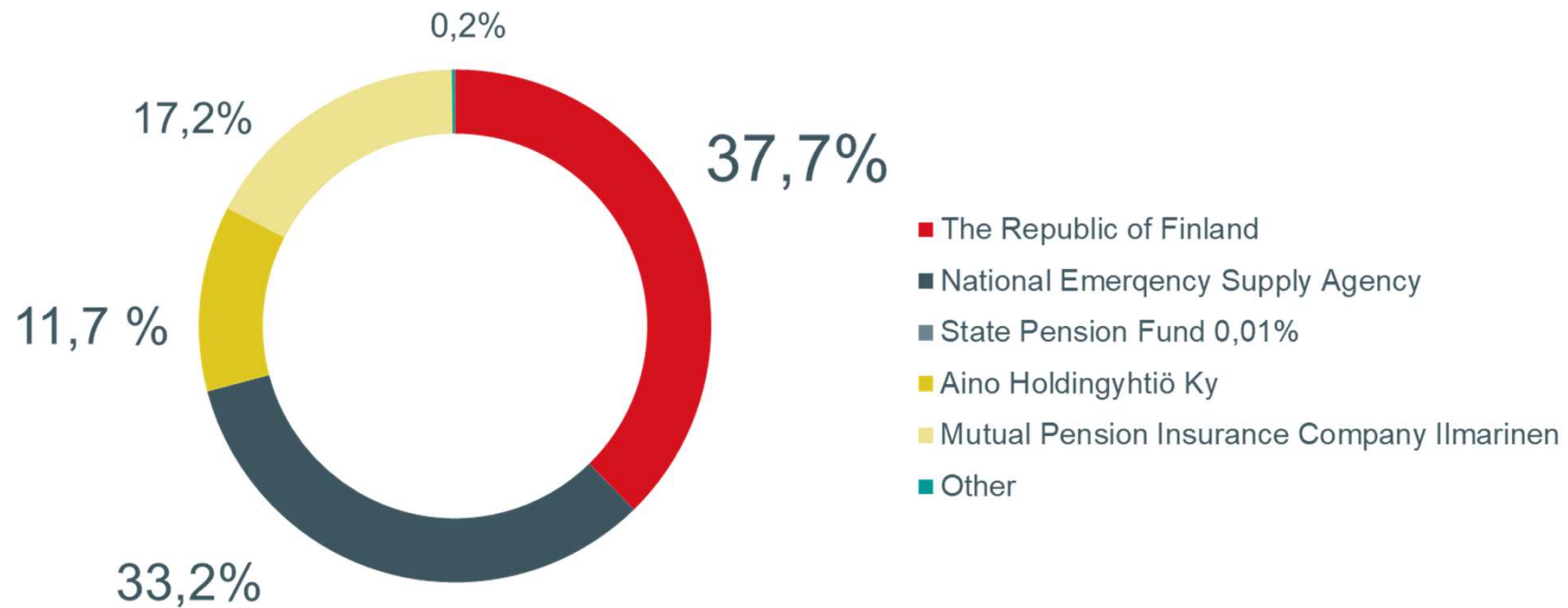
# Shares



The State's minimum shareholding requirement in Fingrid is 50.1%



# Voting rights



Fingrid's shareholder base is a good balance between private and public sector owners

# Sustainability

For us, sustainability means real, concrete actions in taking care of people, the environmental impact of our actions, and good governance.





# We are creating a platform for a clean power system

- Renewable electricity plays a key role in the fight against climate change
- In the future, electricity production will be increasingly decentralised and the quantities produced and production periods will depend on weather conditions. The electrification of society contributes to reducing emissions from transport and heating



# Corporate responsibility is an important and natural element of the company's way of operating

- Fingrid's values: In all our operations we are **transparent, impartial, efficient** and **responsible**
- Corporate responsibility management is founded on the company's strategy and guided by the company's Code of Conduct, which is based on the UN Global Compact and the Guiding Principles on Business and Human Rights
- We require responsible business practices from our contractual partners
- Engagement of the personnel and suppliers
- By operating responsibly in all areas of sustainability we can best bring value to our stakeholders and ensure the acceptance of our projects by society

*“We are one of the key players in Finland’s energy and climate policy, as the transmission grid under Fingrid’s responsibility must be sufficient to enable Finland to reach its climate goals. We must succeed in connecting clean power to the main grid and also ensure its secure transmission from electricity producers to consumers.”*

Marina Louhija,  
General Counsel

We are committed to taking care of people and the environmental impacts of our operations, and complying with good corporate governance practices

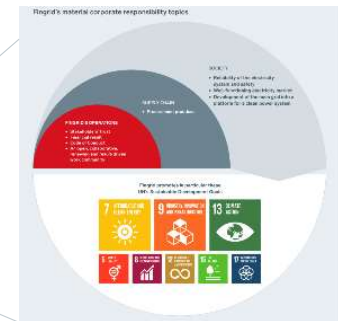
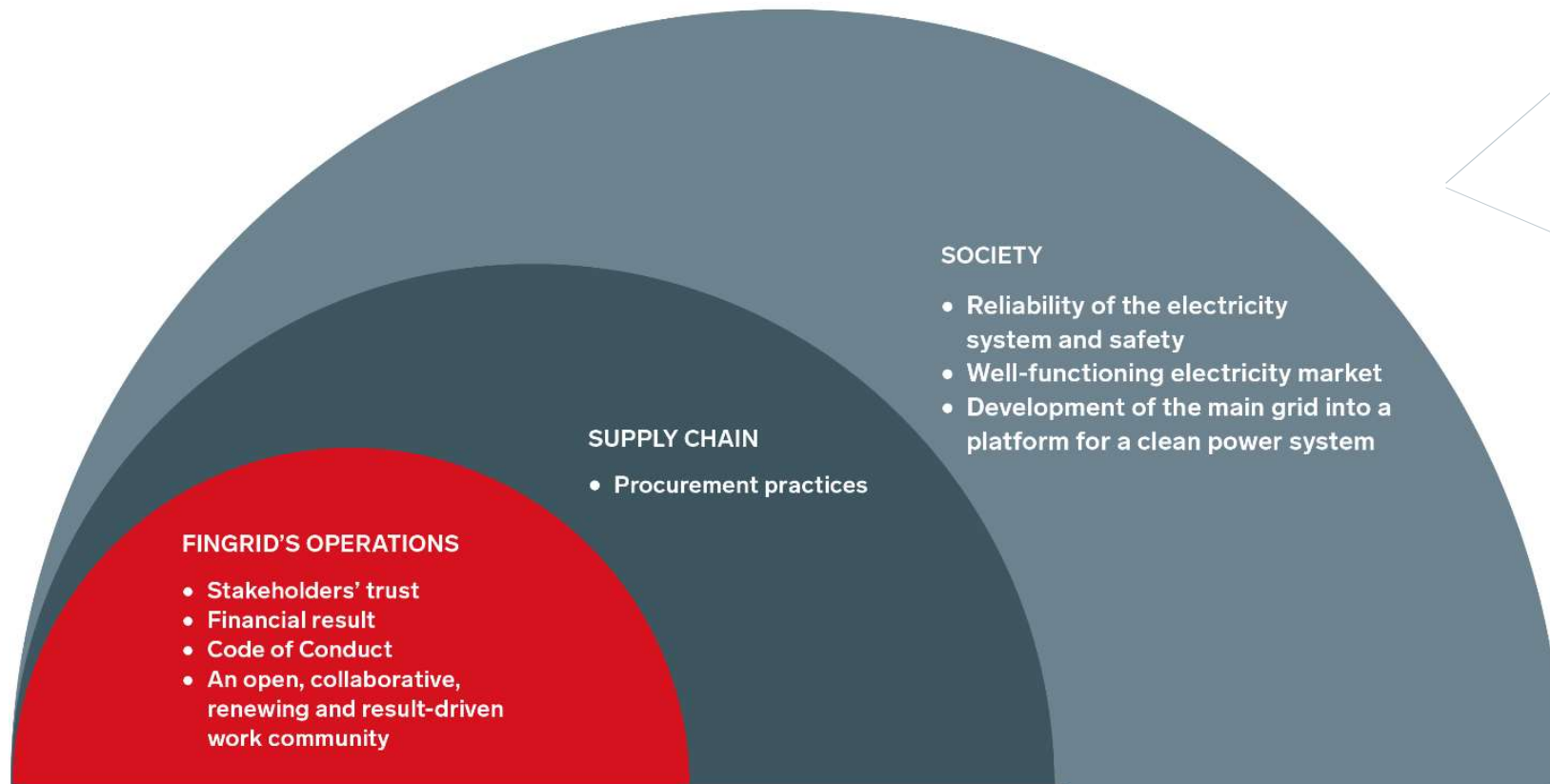


# Fingrid's material corporate responsibility topics and related SGD

- We have recognised the key topics in terms of accomplishing Fingrid's strategy and functioning daily business and set goals for them
- We promote through our operations particularly the UN's global Sustainable Development Goals (SDGs) related to climate actions, energy and infrastructure
- We report on climate-related business risks and opportunities based on TCFD Recommendations (Task Force on Climate-related Financial Disclosures). We disclose how climate-related impacts are integrated into account in Fingrid's strategy, governance and risk management and what are our climate-related goals



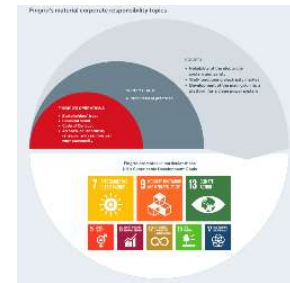
# Fingrid's material corporate responsibility



# Fingrid's targets and indicators

- We have identified topics that are material to Fingrid's business and corporate social responsibility, and we have assured sufficient management practices, targets and indicators for them

|   | Our target in 2019  | How did we do?   | What is our aim in the short and long term?   | UN Sustainable Development Goals                                 |   |  |   |       |
|---|---|--|---|--|---|--|---|-------|
| <b>CUSTOMERS &amp; SOCIETY</b>                            |   |  |   |  |   |  |   |       |
| Impact of disturbances on the macro economy and customers | Economic disadvantage of disturbances in the transmission grid to customers less than EUR 7.5 million | The economic disadvantage to customers was EUR 5.2 million.<br>●●●●● | Economic disadvantage of disturbances in the transmission grid to customers less than EUR 5.0 million | ●●●●●  | Continuation of the investment programme concerning transmission grid to strengthen the Finnish and energy security; investment programme on schedule within budget | The capex projects proceeded on schedule and within budget.<br>●●●●●                                       | Continuous target   | ●●●●● |
| Customers' trust in Fingrid                               | Trust KPI in the customer survey: 4.0 (scale of 1–5)  | The achieved grade was 4.0.<br>●●●●●                                 | cNPS score: 45 (scale of -100...100)  | ●●●●●  | Continuation of the investment programme concerning transmission grid to strengthen the Finnish and energy security; investment programme on schedule within budget | The achieved grade was 4.0.<br>●●●●●   | Continuous target   | ●●●●● |
| Tariff level  | ENTSO-E Overview of Transmission Tariffs in Europe: top three in the benchmark group of 16 countries  | Fingrid ranked 3 <sup>rd</sup> .<br>●●●●●                            | Continuous target   | ●●●●●  | Continuation of the investment programme concerning transmission grid to strengthen the Finnish and energy security; investment programme on schedule within budget | The achieved grade was 4.0.<br>●●●●●   | Continuous target   | ●●●●● |
| <b>FINANCE</b>  |   |  |   |  |   |  |   |       |
| Credit rating   | To maintain Fingrid's credit rating at least at the A- level  | The minimum credit rating level was exceeded.                        | Continuous target   | ●●●●●  | Continuation of the investment programme concerning transmission grid to strengthen the Finnish and energy security; investment programme on schedule within budget | No significant deviations or problems in contractor obligation or employment relationship matters<br>●●●●● | Continuous target   | ●●●●● |
| <b>PERSONNEL &amp; EXPERTISE</b>                          |   |  |   |  |   |  |   |       |
| Dividend payout capacity                                  | Dividend income in line with shareholders' targets  | Workplace atmosphere   | Top grade in the personnel survey   | Innovation and work community culture 88% (0–100 GPTW)<br>●●●●●  | Continuous target   | ●●●●●  | LTIF of less than 5 by the end of 2020. The long-term goal is zero accidents. | ●●●●● |
| Cost-effectiveness  | To maintain the current solid cost-effectiveness and to continuously improve productivity             |  |   | Overall, this is a very good workplace 96% (0–100 GPTW)<br>●●●●● | ●●●●●   | ●●●●●  | LTIF of less than 5 by the end of 2020. The long-term goal is zero accidents. | ●●●●● |
|   |   | Leadership   | Great Place to Work Finland survey, general category: among the top 10 (survey every two years)       | Came in the 7 <sup>th</sup> place.<br>●●●●●                      | Continuous target   | ●●●●●  | LTIF of less than 5 by the end of 2020. The long-term goal is zero accidents. | ●●●●● |
|   |   |  |   | eNPS score: 60 (scale of -100...100)                             | ●●●●●   | ●●●●●  | LTIF of less than 5 by the end of 2020. The long-term goal is zero accidents. | ●●●●● |
|   |   | Responsible operating methods  | Grade 'good' for responsible operating methods in the personnel survey                                | The grade was 90% (0–100 GPTW)<br>●●●●●                          | Continuous target   | ●●●●●  | LTIF of less than 5 by the end of 2020. The long-term goal is zero accidents. | ●●●●● |



# Sustainable procurement practices

- Fingrid's Supplier Code of Conduct for service and goods suppliers  
<https://www.fingrid.fi/en/pages/company/responsibility/principles/>
- Commitment to the Supplier Code of Conduct as a requirement for supplier registers used in recurring substation and power line procurements
- An evaluation process of new suppliers is done annually. Only qualified suppliers in Fingrid's supplier register are invited to bid for outsourced works
- Fulfilment of the requirements is monitored on a risk basis

*"We thoroughly assess the environmental impacts of our operations and pay special attention to controlling environmental risks. In addition to our personnel, we also engage our contractors and service suppliers participating in grid construction and maintenance in environmental sustainability with the help of contractual terms, auditing and environmental training."*

Source: [http://www.fingrid.fi/en/grid\\_projects/environment/Pages/default.aspx](http://www.fingrid.fi/en/grid_projects/environment/Pages/default.aspx)

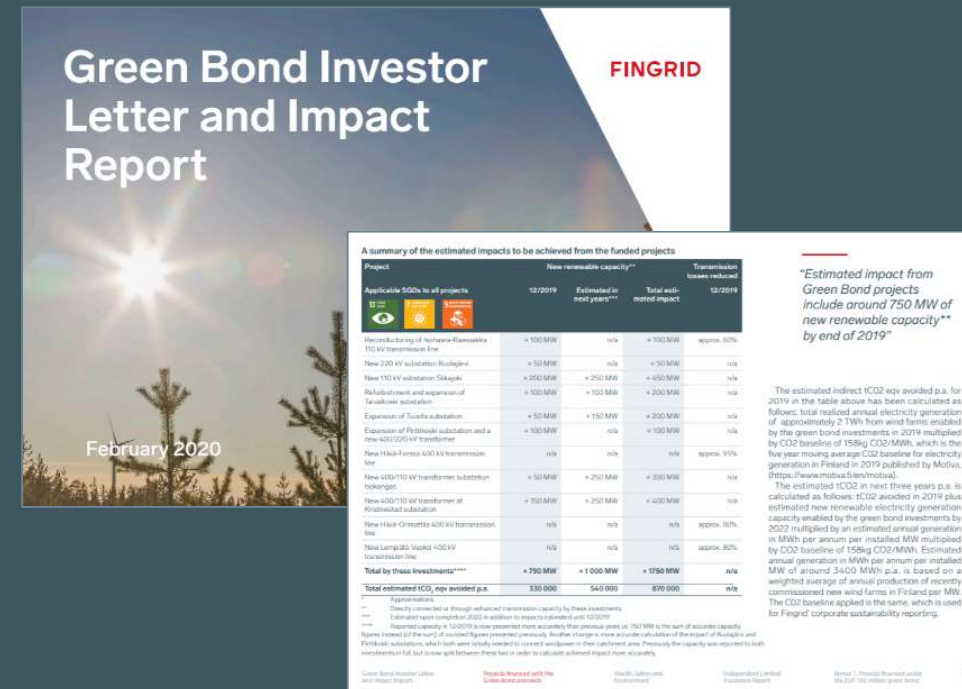




# Fingrid to continue using Green Financing

- In 2017 Fingrid established a framework enabling green financing for eligible investment projects and issued inaugural EUR 100 million Green Bond
- Fingrid's capex program covers next 10 years on a rolling basis. Green financing eligible investments are regularly screened from the capex program
- In 2017 green financing eligible investments accounted for 15% of total. It is estimated that the share of eligible investments will increase in the future on the back of increasing investments in wind power generation in Finland

<https://www.fingrid.fi/en/pages/investors/financing/green-financing/>



Since 2019 Fingrid reports as Green Bond impacts also the amount of estimated CO<sub>2</sub> emissions avoided on investments related to renewable power generation. These impacts are estimated at 330 000 CO<sub>2</sub>t equivalent in 2019. The impacts have been verified by an independent external verifier Mitopro Oy.

# Fingrid's societal responsibility as the foundation for risk management

Fingrid's societal responsibility as the foundation for risk management

Risk management



Keeping  
society powered



Sustainability



Electricity Market Act  
and system responsibility

- Corporate responsibility and compliance management is integrated with Fingrid's management system and risk management practices

<https://www.fingrid.fi/en/pages/company/corporate-governance/internal-control-risk-management-and-internal-audit/foremost-risks-and-factors-of-uncertainty-for-fingrid-and-society/>

# Comprehensive and transparent reporting

- Global Reporting Initiative (GRI) framework since 2011
- Communication on Progress (COP) report in compliance with the UN Global Compact initiative
- Assurance in accordance with AA1000 and ISAE 3000 of Annual Report and GRI disclosures in 2019
- Environmental Impact Assessment (EIA) materials on investment projects are available on the corporate website

ANNUAL REPORT 2016 • GRI index

## GRI index

### CORPORATE RESPONSIBILITY GRI INDICATORS

### GENERAL STANDARD DISCLOSURES

| Designation                   | GRI content  | Location                                    |
|-------------------------------|--|---|
| <b>Strategy and analysis</b>  |  |   |
| G4-1                          | Statement by the President & CEO   | Review by Strategy and Operating Governance |
| G4-2                          | Description of key impacts, risks, and opportunities   |   |
| <b>Organisational profile</b> |  |   |
| G4-3                          | Name of the reporting organisation   |   |
| G4-4                          | Primary brands, products and services  |   |
| G4-5                          | Location of the organisation's headquarters  |   |
| G4-6                          | Number of countries where the organisation operates or that are specifically relevant to the sus |   |
| G4-7                          | Nature of ownership and legal form of the organisation   |   |
| G4-8                          | Markets served   |   |
| G4-9                          | Scale of the organisation  |   |
| G4-10                         | Number of employees by employment type and emp   |   |



COMMUNICATION ON PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

## Current projects

The needs of customers and electricity market constitute the foundation of grid planning and stakeholders efforts by Fingrid Oyj. The mission of Fingrid is to develop the power system both internationally and in Finland. Whenever line routes are being planned and in conjunction with transmission line maintenance work, Fingrid gives landowners, neighbors and other concerned parties an opportunity to express their views, to discuss the project and to co-operate in issues related to the project plan and its execution.

The international projects by Fingrid can be found from the navigation on the left on this site. The current, ongoing domestic grid building projects and EIA procedures are presented both in [Finnish](#) and [Swedish](#). Archives are presented in Finnish.

### Projects on map

Fingrid has launched a map, developed in co-operation with Logica Suomi Oy, which shows Fingrid's projects. A new window for the map service can be opened by [clicking here](#). The site is in Finnish.

**Näytä ohje**

☒ **Meneillään olevat YVA-menettelyt**  
Pyhänselkä - Nuojua 400+110 kV, YVA-menettely

☐ **Päättyneet YVA-menettelyt**

☒ **Voimajoitohankkeet**  
Vuoksi - Onnela 110 kV rakentaminen  
Hikä - Orimattila 400/110 kV voimajohto  
Hikä - Forssa 400/110 kV rakentaminen  
Koria - Ylikkälä 110 kV rakentaminen  
Vanaja - Tikinmaa 110 kV voimajohto  
Harakkaperä - Isokangas 110 kV rakentaminen  
Lieto - Forssa 400/110 kV voimajohto  
Selnäjoen johtojärjestelyt

# Fingrid's TCFD reporting

- We report on climate-related business risks and opportunities based on TCFD Recommendations (Task Force on Climate-related Financial Disclosures)
- We disclose how climate-related impacts are integrated into account in Fingrid's strategy, governance and risk management and what are our climate-related goals

## Fingrid's role in tackling climate change

Fingrid's main grid creates a platform for a clean power system, which is a key part of Finland's energy and climate strategy. Fingrid's mission is to build a reliable transmission system and a functional electricity market.

## Fingrid's strategy, governance and risk management

- Fingrid is committed to operating in accordance with international climate goals and limiting the global temperature increase to 1.5 degrees.
- Fingrid's investment programme will implement the strong electricity transmission connections needed for a clean power system both within Finland and between neighbouring countries, transferring clean electricity, in particular, to southern centres of consumption.
- Fingrid is preparing for the change in the electricity production structure by increasing automation and digitalisation, thus also reducing the carbon footprint of its own operations.
- Fingrid guarantees a reliable supply of electricity and the balance of the power system even as the electricity production structure changes.
- Fingrid develops the rules of the electricity market to enable the energy transformation and facilitates market access especially for decentralised production, reserves and demand-side management.
- Fingrid is preparing for the physical risks of more frequent and stronger extreme weather phenomena in the construction and operation of the main grid.
- Fingrid is preparing for the transition risk, i.e., transition to a clean power system, by building the main grid fast enough to meet the climate goals. This means proactive assessment of environmental impacts, well-functioning stakeholder interaction, rapid project authorisation and effective project management.
- Fingrid's Board of Directors is responsible for Fingrid's strategy for creating a clean power system and managing the risks related to climate change.



## Fingrid's climate goals

Fingrid aims to support the achievement of international climate goals and reduce its own carbon footprint.

- Securing a strong transmission network and functional cross-border transmission links.
- Developing the flexibility of the power system to increase variable, renewable electricity production in the main grid, which will also reduce the carbon footprint of transmission losses.
- Making energy-efficient main grid investments and equipment procurements.

## Fingrid's climate reporting in 2019

In 2019, altogether 132 megawatts of wind power were connected to Fingrid's main grid, which will indirectly avoid emissions worth around 72,000 carbon dioxide equivalent tonnes in the coming years. In addition, Fingrid concluded during the year agreements on connecting a total of approximately 2,000 megawatts of wind power production to the electricity grid. Once realised, this will lead to a substantial positive climate impact, indirectly avoiding emissions worth around 1.1 million carbon dioxide equivalent tonnes.

| Greenhouse gas emissions                         | 2019    | 2018    | 2017    |
|--|---------|---------|---------|
| Transmission losses (scope 2)                    | 211 000 | 200 000 | 221 000 |
| Reserve power plants (scope 1 ja 2)              | 7 700   | 10 700  | 9 000   |
| Sulphur hexafluoride of substations (scope 1)    | 1 100   | 500     | 500     |
| Electricity and district heating of own premises | 600     | 700     | 700     |
| Total (scope 1 ja 2) tCO <sub>2</sub> -ekv       | 220 000 | 213 000 | 232 000 |

\* Fingrid's reserve power plants are not in commercial use and are used only in the event of severe disruptions in the power system to secure the supply of electricity

Energy efficiency 12.9 % Energy savings target in Energy Efficiency Agreement for Industries 2017–2025

## Contacts



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**FINGRID**  
Delivers. Responsibly.

<https://www.fingrid.fi/en/pages/company/responsibility/combating-climate-change/>

3.6.2020

**FINGRID**



# Fingrid's carbon handprint and footprint 2019

## Fingrid's carbon handprint

Carbon handprint means the positive climate impacts, i.e. the emission reduction potential of activities.

In 2019, altogether 132 megawatts of wind power were connected to Fingrid's main grid. During the year, Fingrid concluded agreements on connecting a total of approximately 2,000 megawatts of wind power

production to the electricity grid, including the wind power connected through the distribution network companies. Once realised, this will lead to a substantial positive climate impact.



This equals the annual carbon footprint of some 110,000 Finns.  
A Finn's carbon footprint is approximately 10 CO<sub>2</sub> equivalent tonnes on average.

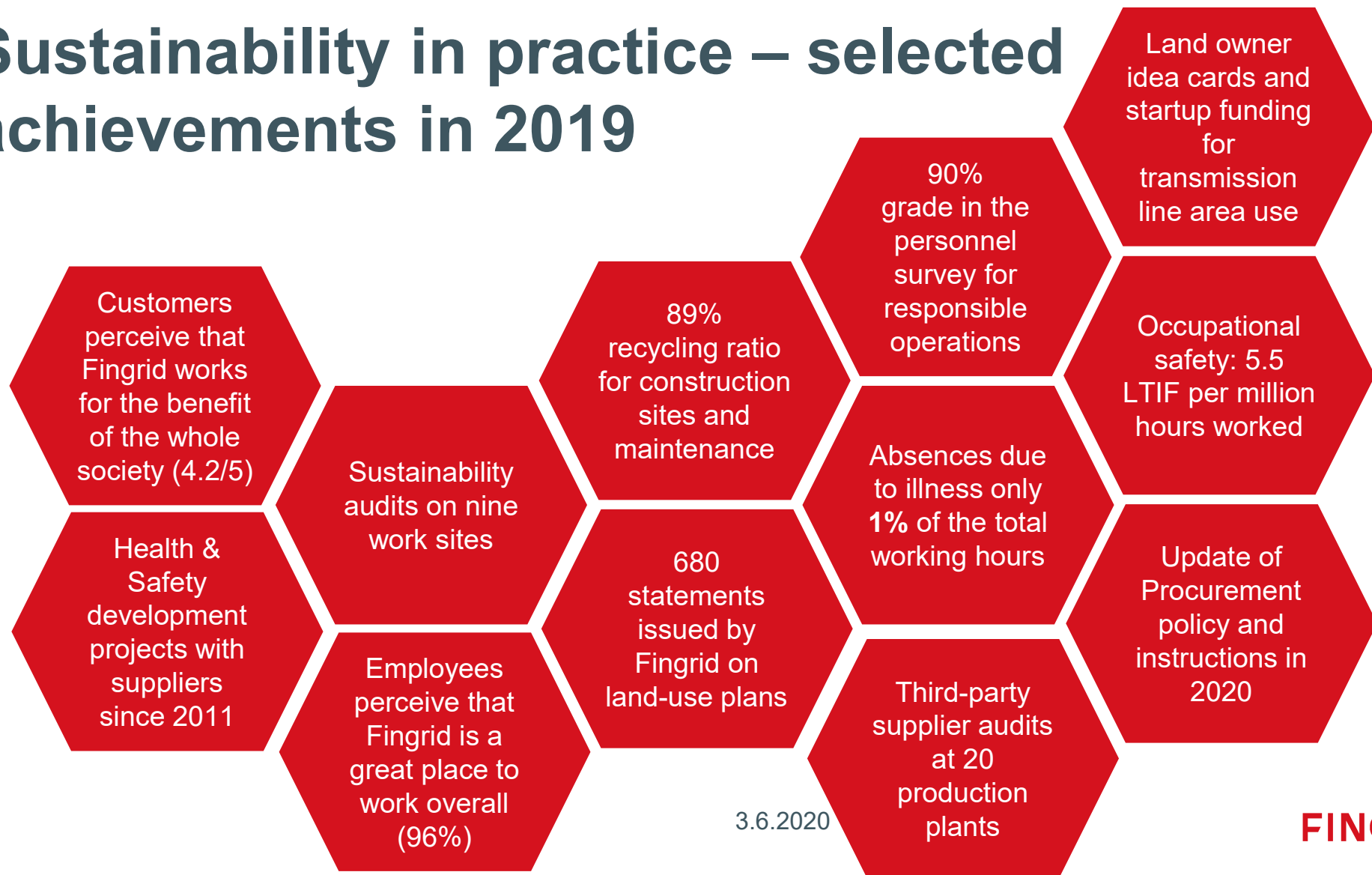
## Greenhouse gas emissions, tCO<sub>2</sub>eq



<https://annualreport2019.fingrid.fi/en/sustainability/environment.html>



# Sustainability in practice – selected achievements in 2019



A large, lattice-structured metal pylon for high-voltage power lines stands in a grassy field. Several workers in high-visibility yellow gear are positioned on the upper cross-arms of the pylon, working on the insulators. In the background, other smaller pylons and a line of trees are visible under a clear blue sky. On the ground, there is a white van on the left, a white car in the center, and a blue truck on the right. A few more workers are standing near the truck. The scene is framed by two white diagonal lines crossing from the corners towards the center.

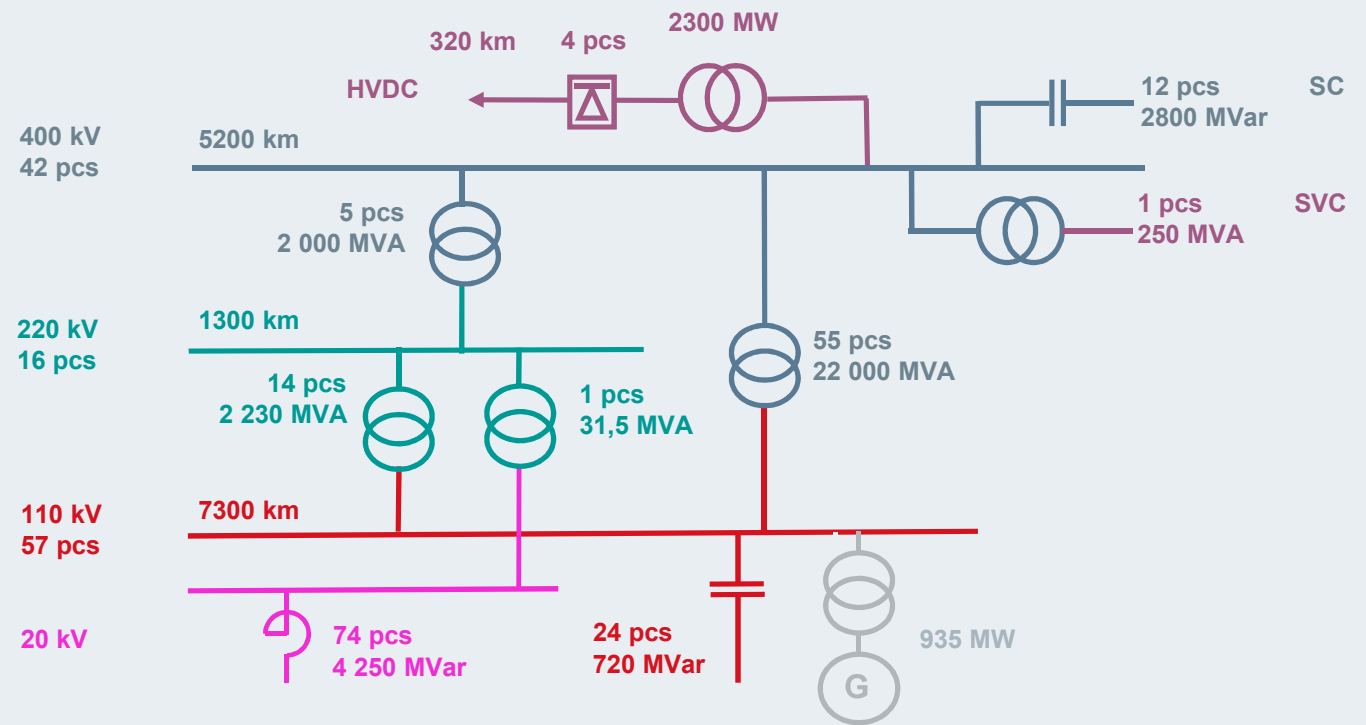
# Operations

Description of operations

# Fingrid owns and operates the transmission network in Finland

Fingrid transmits in its own network approximately **75 %** of electricity transmitted in Finland

Fingrid is a part of ENTSO-E, European Network of Transmission System Operators for Electricity.

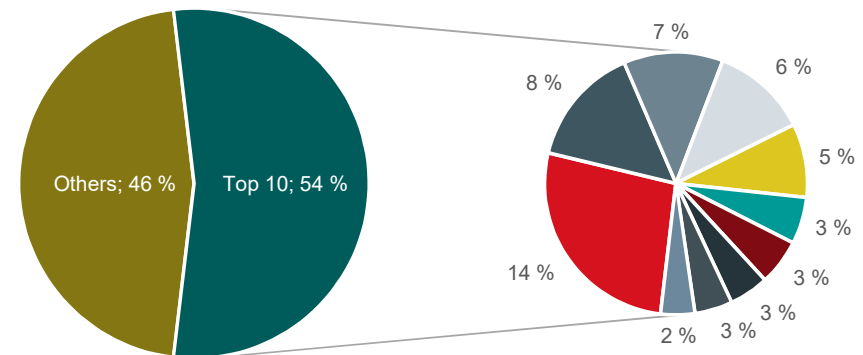


Fingrid's 400 kV power lines form the backbone of the electricity transmission network in Finland

# Grid service customer base consists of around 130 entities

- Customers comprise mainly of electricity producers, process industry and electricity distribution companies
- Fingrid is obligated to provide its customers a network connection point
- Ten largest customers account for 54 percent of grid service income

Top 10 customers 2019\*



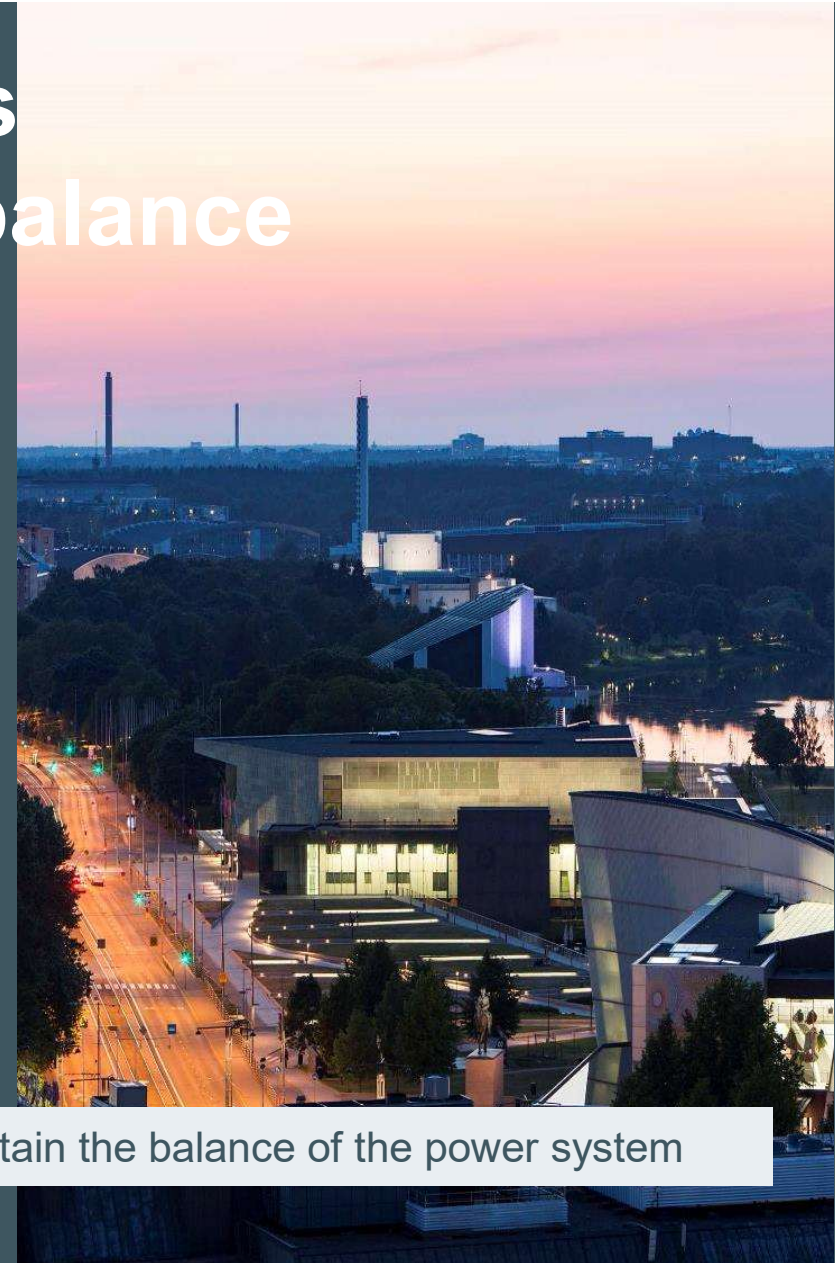
\* based on grid service income

Credit quality of customer base is solid

# Fingrid continuously maintains production and consumption balance

- Fingrid fulfils responsibility to maintain real-time balance in all market conditions
- Holders of electricity production and loads can submit bids to the balancing market concerning their capacity
- Fingrid has created a common Nordic balancing market together with other TSOs in the region
- Fingrid's core task is to ensure network functionality with automatic and manual reserves in imbalance situations

Fingrid procures the needed amount of reserve capacity to maintain the balance of the power system

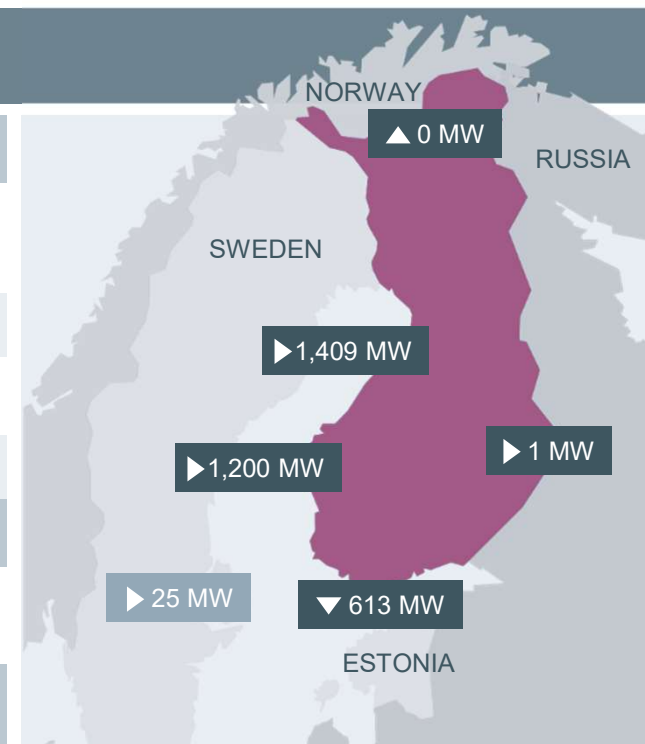




# Fingrid continuously maintains production and consumption balance

## State of the power system – *illustrative example*

| Consumption and production in Finland Info |                 | Power balance                            | Info          |
|--|-----------------|--|---------------|
| Consumption                                | 11,172 MW       | Production surplus/deficit in Finland    | 91 MW         |
| Production                                 | 9,210 MW        | Surplus/deficit, cumulative              | 153 MWh       |
| • Hydro power                              | 2,382 MW        | Instantaneous freq. measurement          | 49,89 Hz      |
| • Nuclear Power                            | 2,774 MW        | Time deviation                           | 11,60 s       |
| • Condensing power                         | 10 MW           | <b>Electricity price in Finland</b> Info |               |
| • Cogeneration district heating            | 2,113 MW        | Elspot area price                        | 31,48 EUR/MWh |
| • Cogeneration industry                    | 1,455 MW        | <b>Normal power balance</b> Info         |               |
| • Wind power (partly estimated)            | 406 MW          |  |               |
| • Other production (estimate)              | 70 MW           |  |               |
| • Peak load power                          | 0 MW            |  |               |
| <b>Net import/export</b>                   | <b>1,962 MW</b> |  |               |

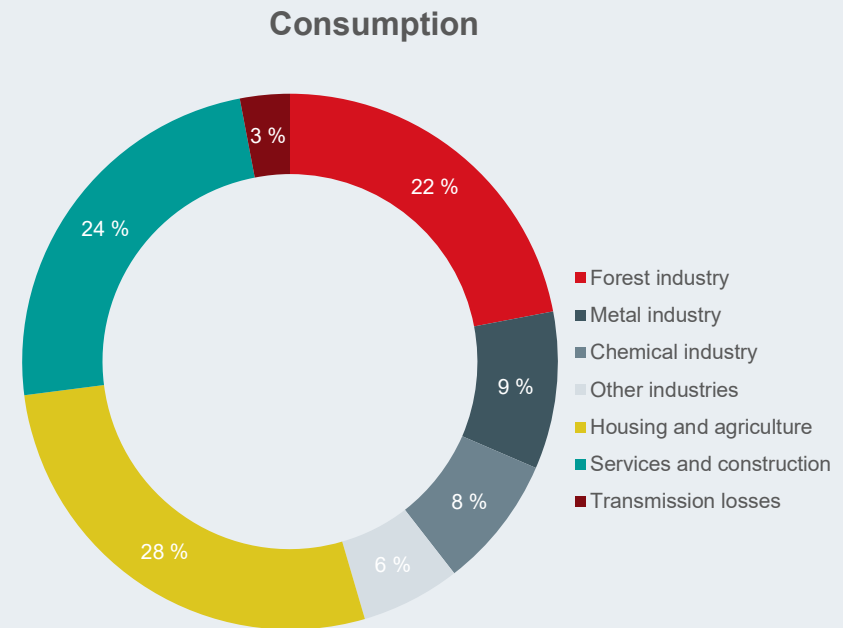


Fingrid procures the needed amount of reserve capacity to maintain the balance of the power system

# Electricity consumption in Finland

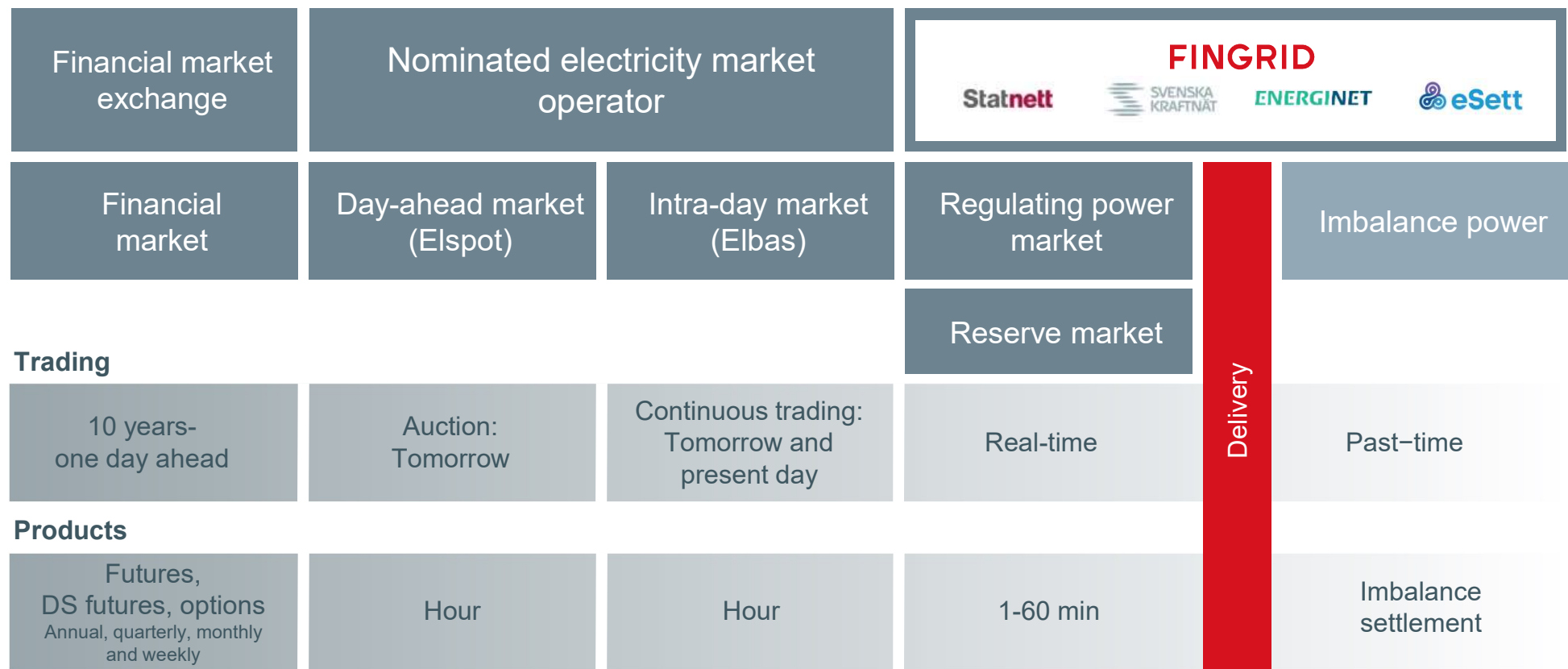
Fingrid continuously maintains production and consumption balance

Electricity consumption was 86 TWh in Finland in 2019. Electricity imports accounted for 19,8 TWh or 23 % of total consumption



Energy-intensive industry is a major consumer in Finland accounting for 46 % of consumption in 2019

# Advanced markets for all time frames



# Fingrid is responsible for the imbalance power settlement after delivery

- Each party operating in the electricity market is financially responsible for an hourly power balance between its electricity production and consumption
- Fingrid acts as an open supplier, which balances the power balances of these parties after the actual power production and consumption has taken place
- A service company eSett is responsible for the financial settlement of imbalances on behalf of Fingrid
- eSett is equally owned by TSOs in Finland, Sweden, Norway and Denmark\*

## Energinet to join Nordic imbalance settlement

*"eSett is proud to announce that today, May 14<sup>th</sup> an agreement was signed between the Danish transmission system operator Energinet and eSett's current owners, stating that Denmark will join Nordic imbalance settlement and Energinet will become eSett's new shareholder.*

*The newly signed agreement is a significant step towards further integration and development of Nordic electricity market in which eSett has a central role at. eSett is very excited about the new expansion of operations to Denmark and truly Nordic Imbalance Settlement."...*

*..."Preparations for Energinet joining eSett operations has started with positive co-operation between eSett and all new four owners"*

<https://www.esett.com/news/>

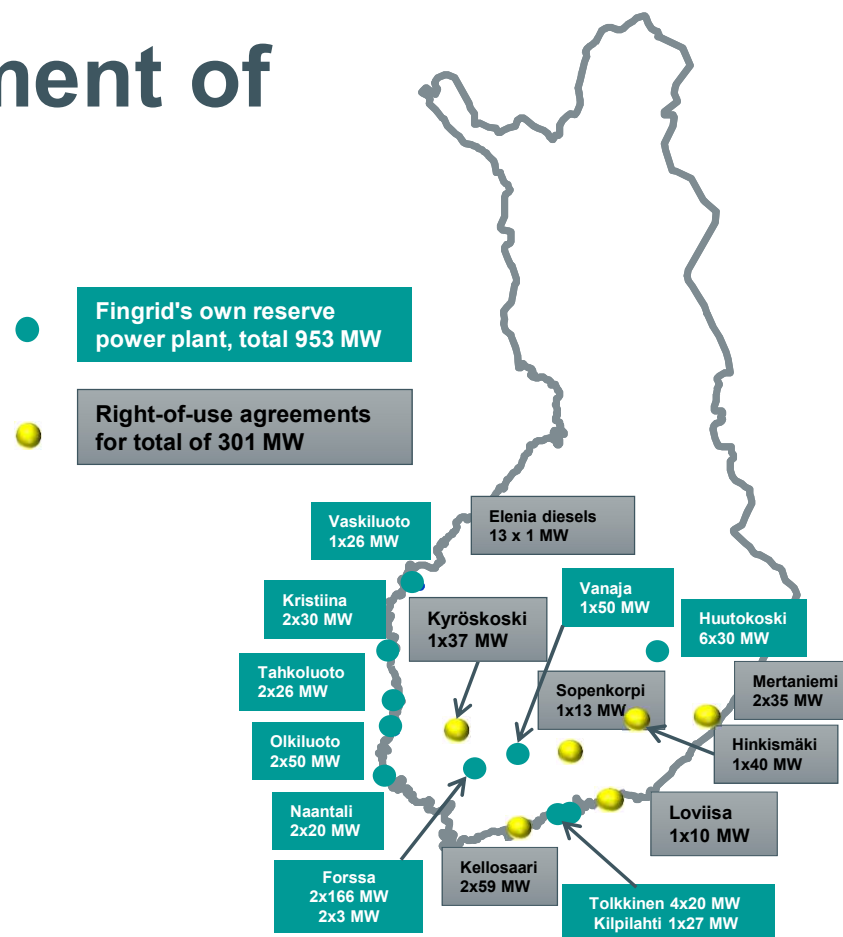
Imbalance settlement in Finland, Sweden and Norway has been performed by eSett since 1<sup>st</sup> May 2017

\*Agreement stating that Denmark will join the Nordic imbalance settlement was signed 14 May 2019



# Fingrid owns an assortment of backup power plants

- Fingrid owns and operates 953 MW of backup power plants and has right-of-use agreements for further 301 MW. All plants can be activated within minutes
- Backup power plants are not used to sell energy to market but solely as a reserve for imbalances and disturbances in power system
- Fingrid's own power plants are included in the regulatory asset base
- The total capacity of backup power plants comfortably exceeds the capacity of the largest power plant in the network

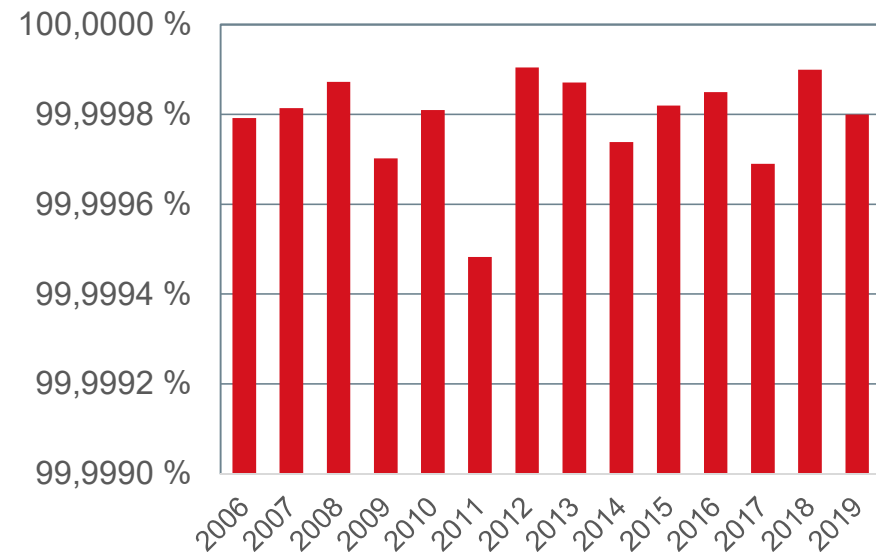


Fingrid's own backup power plants ensure reliable activation of reserves in disturbance situations

# Reliability of the Finnish power system

- The power system has to withstand a fault in any individual component (N-1)
- The main reasons for disturbances have been lightning and other weather related incidents (storms)
- Major part of the disturbances are cleared with automatic reclosure schemes without any manual switching operations
- The average duration of the connection point outages is usually a couple of minutes per year

## Transmission network reliability



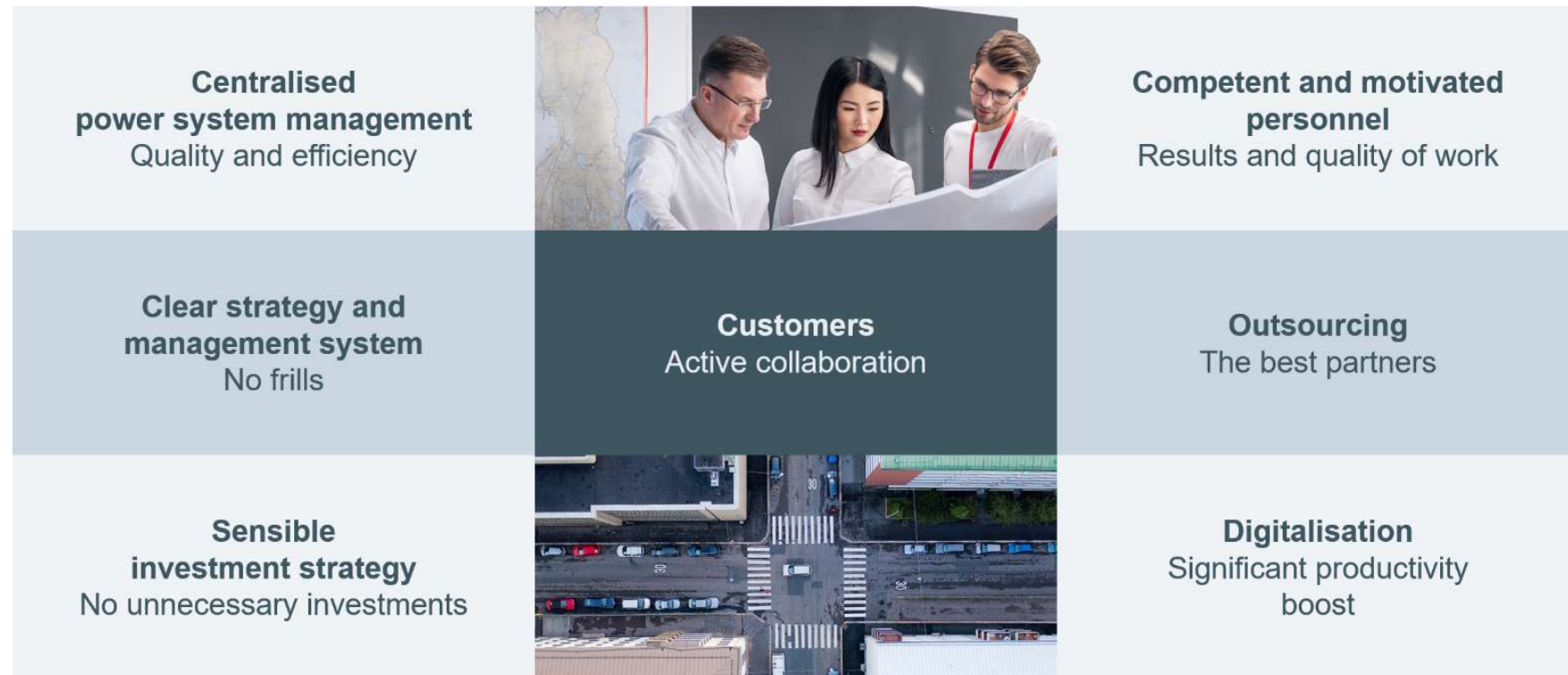
The reliability of the Finnish power system is top class



# Operations

Efficiency of operations

# World-class efficiency



Fingrid's excellence in ITAMS and ITOMS benchmark studies reflect highly efficient operating model



# Outsourced grid construction and maintenance

- Core feature of Fingrid's operating model is outsourcing e.g. grid construction and maintenance are outsourced
- Regional maintenance is tendered among external service providers
- Fingrid has around 60 core suppliers, of which 10 account for around 90 percent of total financial value of procurements
- Grid construction projects are tendered among prequalified contractors (system of qualification of contractors)



Grid maintenance is outsourced

High operational efficiency and flexibility are achieved through timely competitive tendering of works

# Fingrid uses qualified suppliers only

- A defined qualification process\* for equipment suppliers, service providers and contractors
- An evaluation process of new suppliers is done annually
- Only qualified suppliers in Fingrid's supplier register are invited to bid for outsourced works
- Sustainability audits are conducted among suppliers
- Suppliers must comply with Fingrid's Supplier Code of Conduct

\* In accordance with the EU based public procurement legislation for the sector



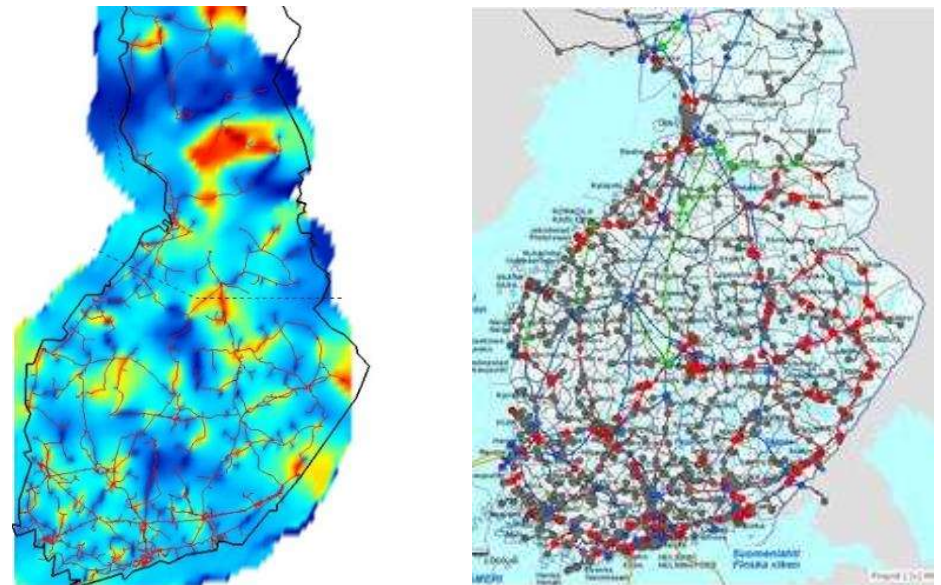
Hyvinkää – Hikiä transmission line construction site

High operational efficiency and flexibility are achieved through comprehensive outsourcing capabilities

# Investing in efficient management of information through digitalisation

- Increasing proactivity in calculations, monitoring and maintenance
- Single source for power system information
  - Improving information access and usability within stakeholders
- Adding cost aspect to operation and power system components
  - Enhanced business planning through cost operational analytics
- System utilisation and further development

For a quick overview of the ELVIS asset management solution see video at: [www.youtube.com](https://www.youtube.com/watch?v=BMM99tIYFBw) key in [BMM99tIYFBw](https://www.youtube.com/watch?v=BMM99tIYFBw)



New ERP provides real-time network condition on map

A single asset management based ERP strengthens Fingrid's operational excellence

# Digital substation pilot under construction

Digital substation is one of Fingrid's key development projects

- Digitalisation is expected to decrease construction and maintenance costs as well as providing more reliable operation
- Conventionally used copper cable is replaced with optical fibre, which saves space up to 60% and decreases the need for copper cable up to 80%
- Digital substations can be set up for self-monitoring and they are also safer and more environmentally friendly than traditional substations
- Digitalised substation in Pernoonkoski is due for completion in 2020



# Fingrid's efficient operations are highly recognized

- In September 2018 Fingrid's Asset Management retained **ISO55001** Certificate
- Fingrid has continuously ranked among the best TSOs in the International Transmission Operations and Maintenance Study (**ITOMS**)\*
- Fingrid has topped the results of the most recent International Asset Management Study (**ITAMS**) in 2019

## ISO55001

ISO 55001 is a framework for an asset management system that will help your business to pro-actively manage the lifecycle of your assets, from acquisition to decommission. This system helps you to manage the risks and costs associated with owning assets, in a structured, efficient manner that supports continual improvement and on-going value creation.

### Benefits of ISO 55001

An asset management system provides a structured, best practice approach to managing the lifecycle of assets.

- Reduced risks associated with ownership of assets – anything from unnecessary maintenance costs and inefficiency to accident prevention
- Improved quality assurance for customers/regulators – where assets play a key role in the provision and quality of products and services
- New business acquisition - stakeholders gain confidence from the knowledge that a strategy is in place to ensure assets meet the necessary safety and performance requirements

Source: <https://www.bsigroup.com/en-GB/Asset-Management/Getting-started-with-ISO-55001/>

Excellent results from international benchmark studies

\* Twenty-eight TSOs from around the world participated in the 2018 study



# Fingrid's overall efficiency is confirmed also by regulators

- Study conducted for the Council of European Energy Regulators (CEER) in 2019
- Comparison of total efficiency: costs of grid construction, maintenance, planning and administration
- Fingrid was ranked a top performer among the 17 European TSOs included in the study
- Fingrid performed well in a similar study prepared for CEER already in 2013

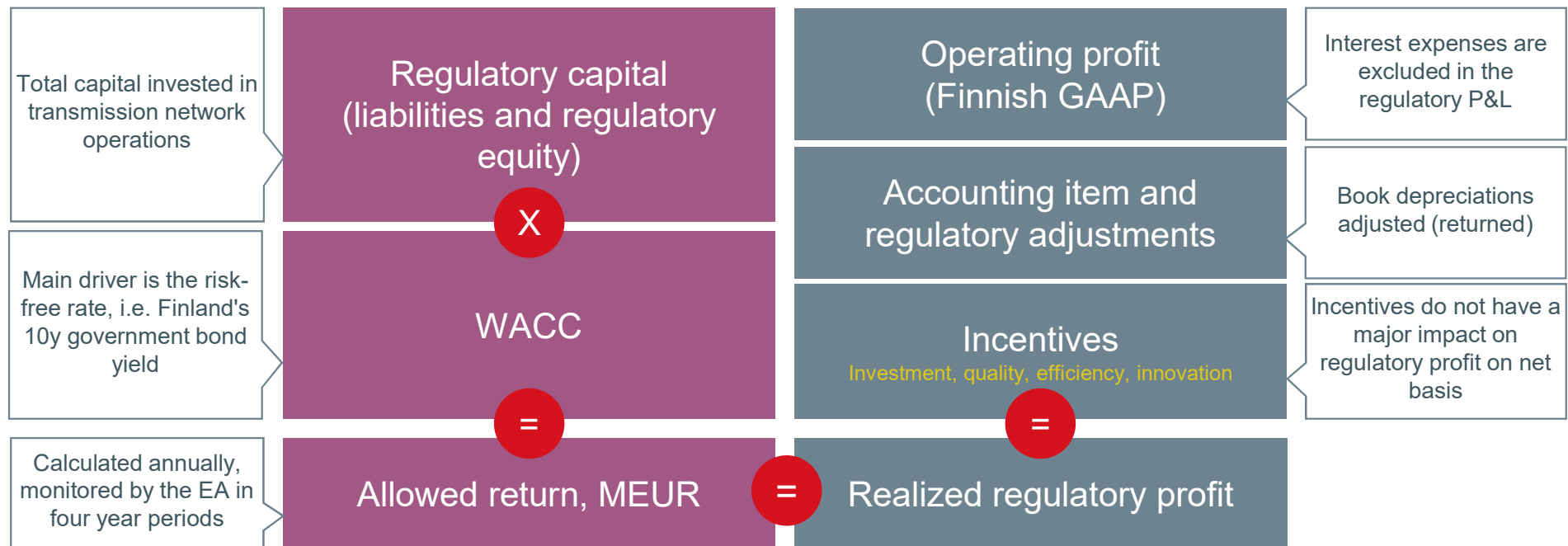


A nighttime aerial view of Helsinki, Finland, featuring illuminated buildings, a large Ferris wheel, and a church with a golden dome. The city is reflected in the water in the background.

# Operations

Earnings model

# Regulatory capital and WACC defined by the Energy Authority set the allowed return



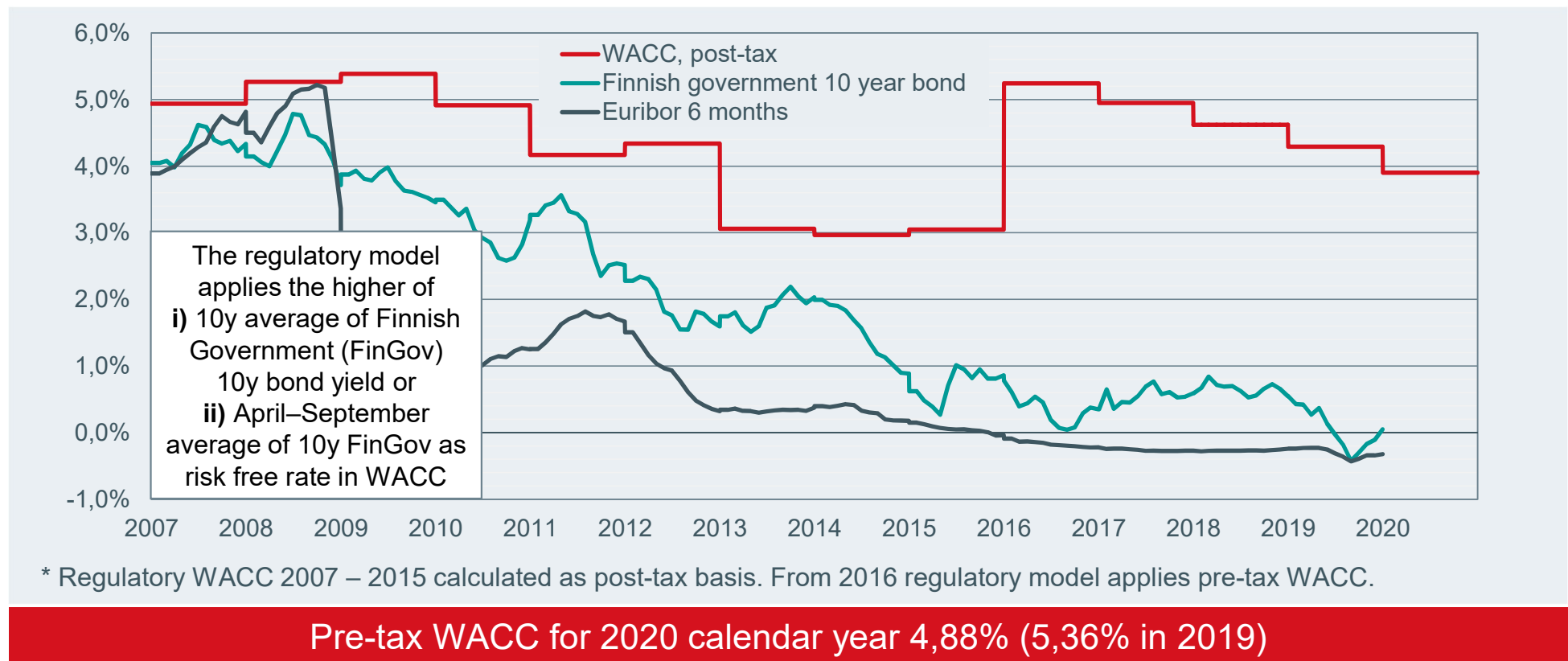
Fingrid aims to match realized regulatory profit and allowed return on an annual basis

# Calculation of WACC in the regulatory model 2016-2023

| Cost of equity   |   |
|--|---|
| $C_E = R_r + \beta_{\text{debt free}} \times (1 + (1 - t) \times D/E) \times (R_m - R_f) + LP$ $C_E = \text{Finnish 10y bond} + 0,4 \times (1 + (1 - 20\%) \times 50/50) \times 5\% + 0,6\%$ $C_E = \text{Finnish 10y bond} + 4,2\%$ |   |
| Cost of debt   |   |
| $C_D = R_r + DP$ $C_D = \text{Finnish 10y bond} + 1,26\%$  |   |
| WACC (pre tax)   |   |
| $WACC_{\text{post-tax}} = C_E \times 50/100 + C_D \times (1 - t) \times 50/100$ $WACC_{\text{post-tax}} = \text{Finnish 10y bond} \times 0,9 + 2,60\%$ $WACC_{\text{pre-tax}} = \text{Finnish 10y bond} \times 1,125 + 3,26\%$       |   |
| Parameter  | Value to be applied   |
| Risk-free rate ( $R_r$ )   | Greater of:<br>a) 10-year average of 10-year Finnish government bond rate<br>b) Average of previous year April-September government bond rate |
| Asset beta ( $\beta_{\text{debt free}}$ )  | 0,4   |
| Market risk premium ( $R_m - R_f$ )  | 5,0%  |
| Liquidity premium (LP)   | 0,6%  |
| Capital structure (D/E)  | 50/50   |
| Risk premium of debt (DP)  | 1,26%   |
| Tax rate (t)   | 20%   |

The core parameter defining yearly WACC is the yield of the Republic of Finland's 10-year bond

# The current regulatory model benefits from relatively stable WACC\* without capping upside





# Calculating the allowed return in euros: WACC x Regulatory capital

- Allowed return in euros is calculated as follows:

$$R_{pre-tax} = WACC_{pre-tax} \times (D+E)$$

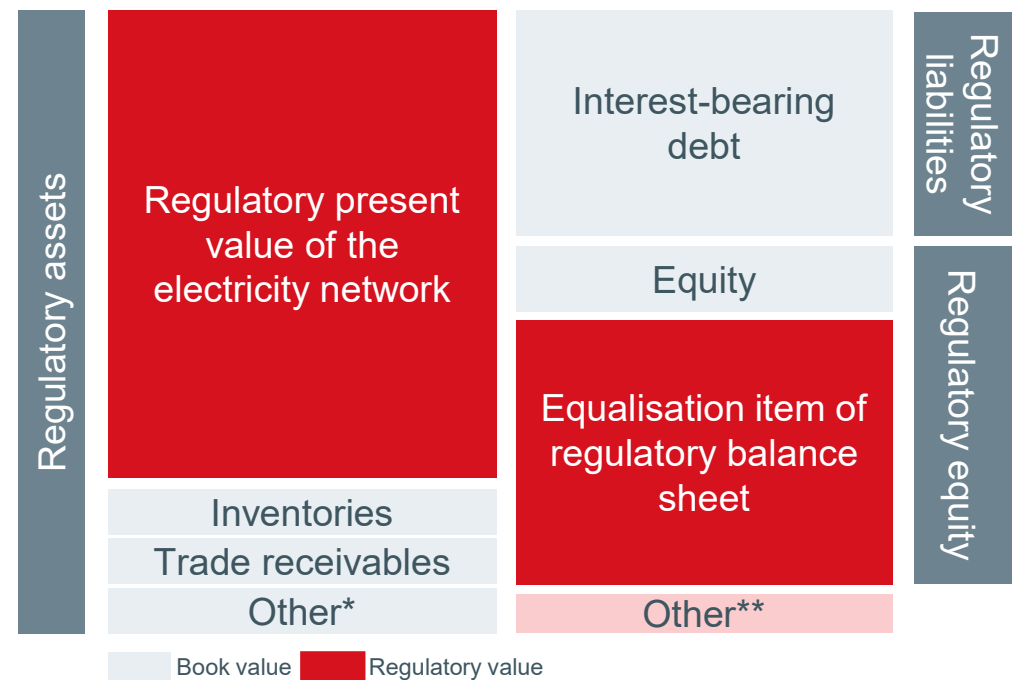
*E = regulatory amount of equity*

*D = regulatory amount of interest-bearing debt*

$$R_{pre-tax\ 2019} = 5,36\% \times \sim 2,900\ M\text{€} = \sim 155\ M\text{€}$$

- Regulatory capital is equal to the sum of regulatory equity and liabilities**
- The equalisation item in the equity section of balance sheet balances regulatory equity and liabilities with regulatory assets

## Calculating regulatory balance sheet

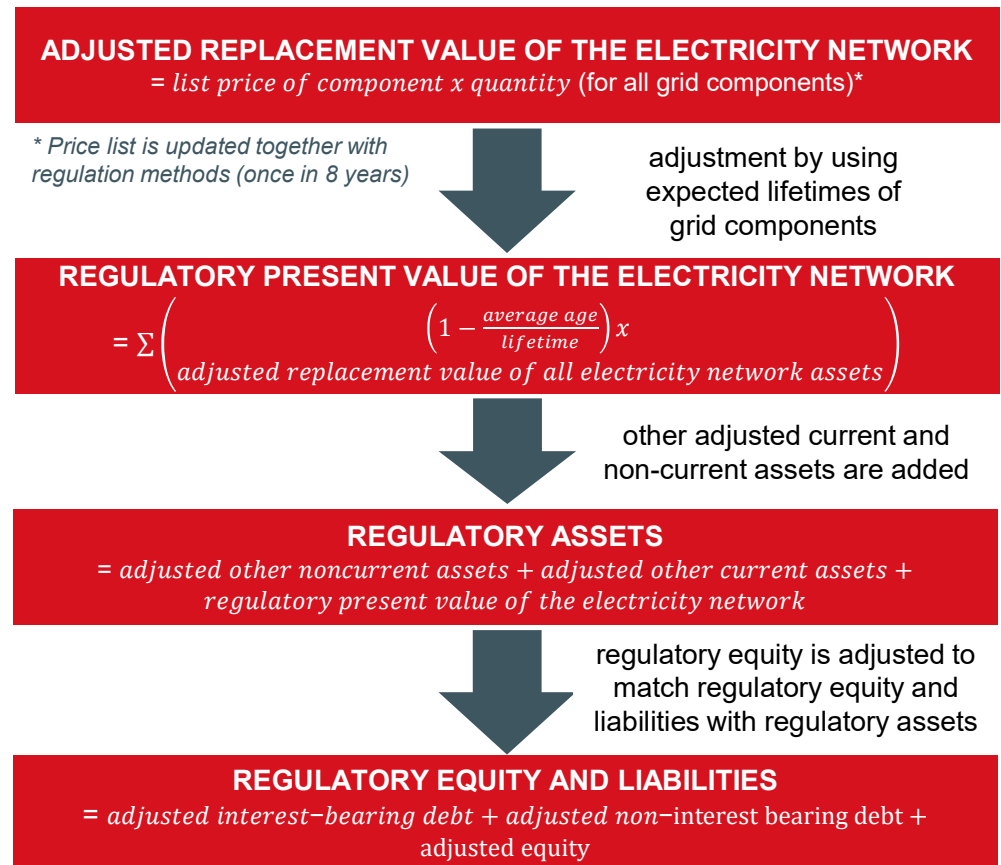


\*Including regulatory cash

\*\*Other is excluded from regulatory capital. Other includes deferred tax liabilities, non-interest bearing debt, provisions for liabilities and charges

# Calculating regulatory capital

- Regulatory capital (equity and liabilities) of the electricity network is derived from the adjusted replacement value of the electricity network assets
- The adjusted replacement value is calculated by valuing all components with list values provided by the Energy Authority
- All components have expected lifetimes, which are used to adjust the replacement values of the components to come up with the regulatory present value of the electricity network
- Equalisation item of regulatory balance sheet is used to match regulatory equity and liabilities with regulatory assets



# Regulatory assets are mainly based on regulatory present value of the electricity network

## Components in calculation of regulatory assets in regulatory model 2016-2023

|  |  |
|--|--|
| <b>Regulatory present value of the electricity network</b> | Based on the unit prices of components in the beginning of the regulatory period and component age / maximum age in regulation |
| <b>Unit prices of components</b>                           | Prices were updated to replacement value in 2016 based on the unit prices (5Y historical project data)                         |
| <b>Investments under construction</b>                      | Investments under construction are included in the RAB in book value   |
| <b>IT systems</b>  | Value in RAB and regulatory depreciation in book value   |
| <b>Regulatory allowed cash</b>                             | 10 % of regulated turnover   |

# Limited contribution from incentives and adjustments to allowed return

## Incentives in calculation of realized regulatory profit in regulatory model 2016-2023

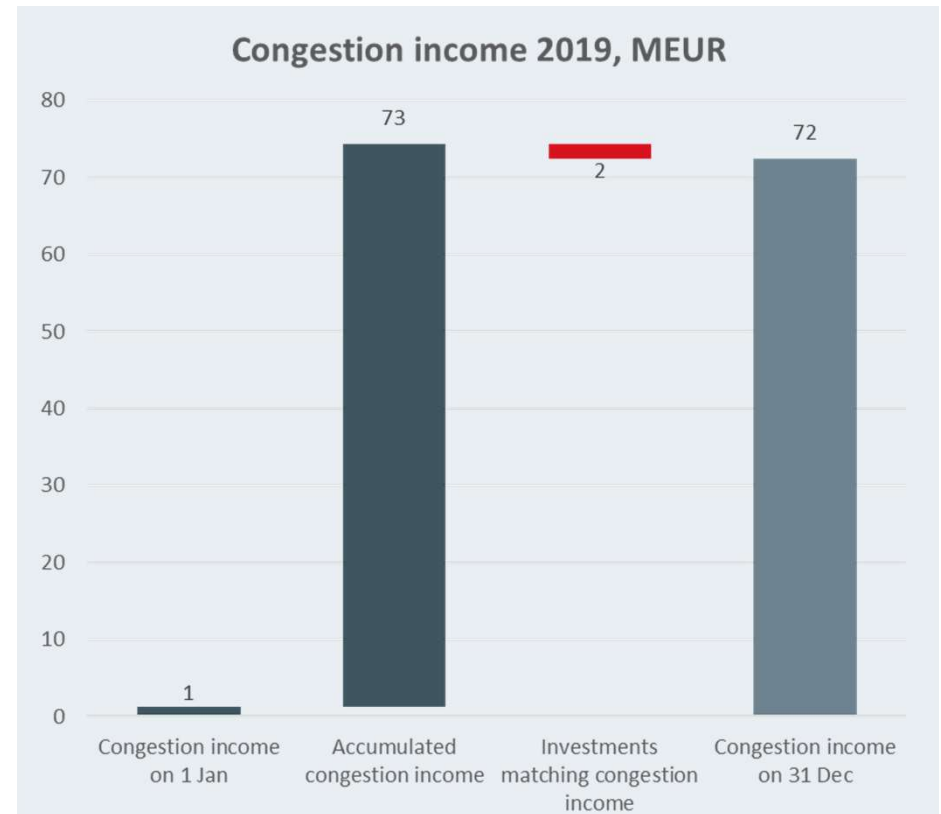
|   |   |
|---|---|
| <b>Investment incentive</b>             | Promotes reasonable and cost-efficient investments by allowing straight-line depreciations based on the replacement value of the transmission network assets. Components are included in depreciation in replacement value as long as they are utilized |
| <b>Quality incentive</b>                | Cost for the society from non-delivered electricity caused by disturbances and fast reclosing operation, max +/- 3 % of allowed return, benchmarked against 8-year historical average   |
| <b>Efficiency improvement incentive</b> | Target: 0%, max +/- 5 % of allowed return, benchmarked against 4-year historical average  |
| <b>Innovation incentive</b>             | Maximum 1,0 % of turnover is reimbursed in allowed return   |

## Adjustments in calculation of realized regulatory profit in regulatory model 2016-2023

|  |  |
|--|--|
| <b>Congestion income</b>                               | Treated separately from the regulatory allowed return but investments financed with congestion income affect realized regulatory profit through regulatory depreciations |
| <b>Inflation adjustment to regulatory depreciation</b> | Indexed annually with CPI to match current replacement value   |

# Congestion income

- Since 1 Jan 2016, congestion income is no longer reported in Fingrid's turnover
- In 2019, MEUR 73 of congestion income was accumulated and MEUR 2 of it was used for Forest Line connection's network investment and for the Alapitkä capacitor investment
- Approval from the Energy Authority received for next MEUR 100 to be allocated for capex
- Realized regulatory profit is positively affected by congestion income because investments financed with congestion income are included in regulatory depreciation but not in book depreciation



Congestion income is used to remove bottlenecks between bidding zones of an electricity exchange

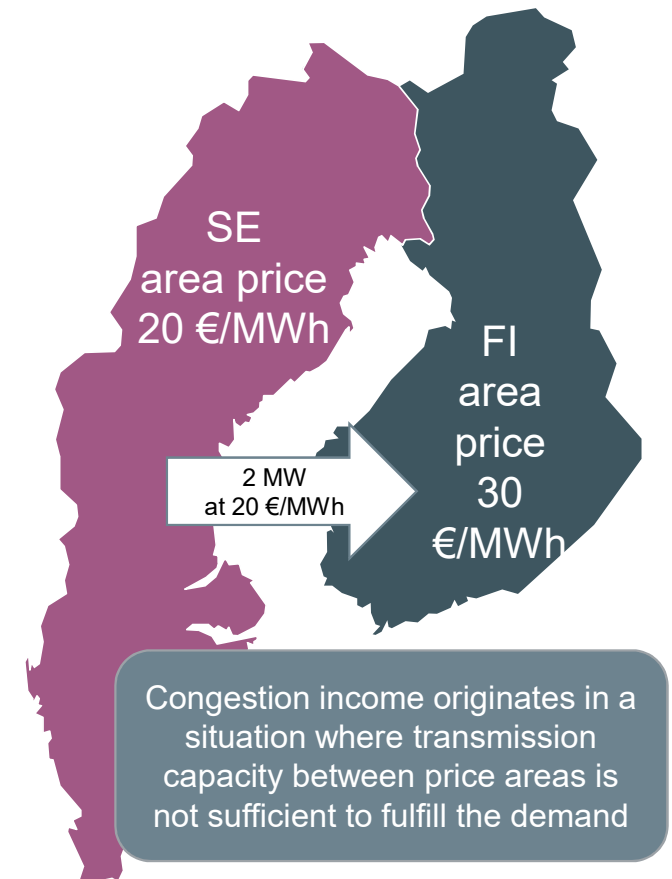


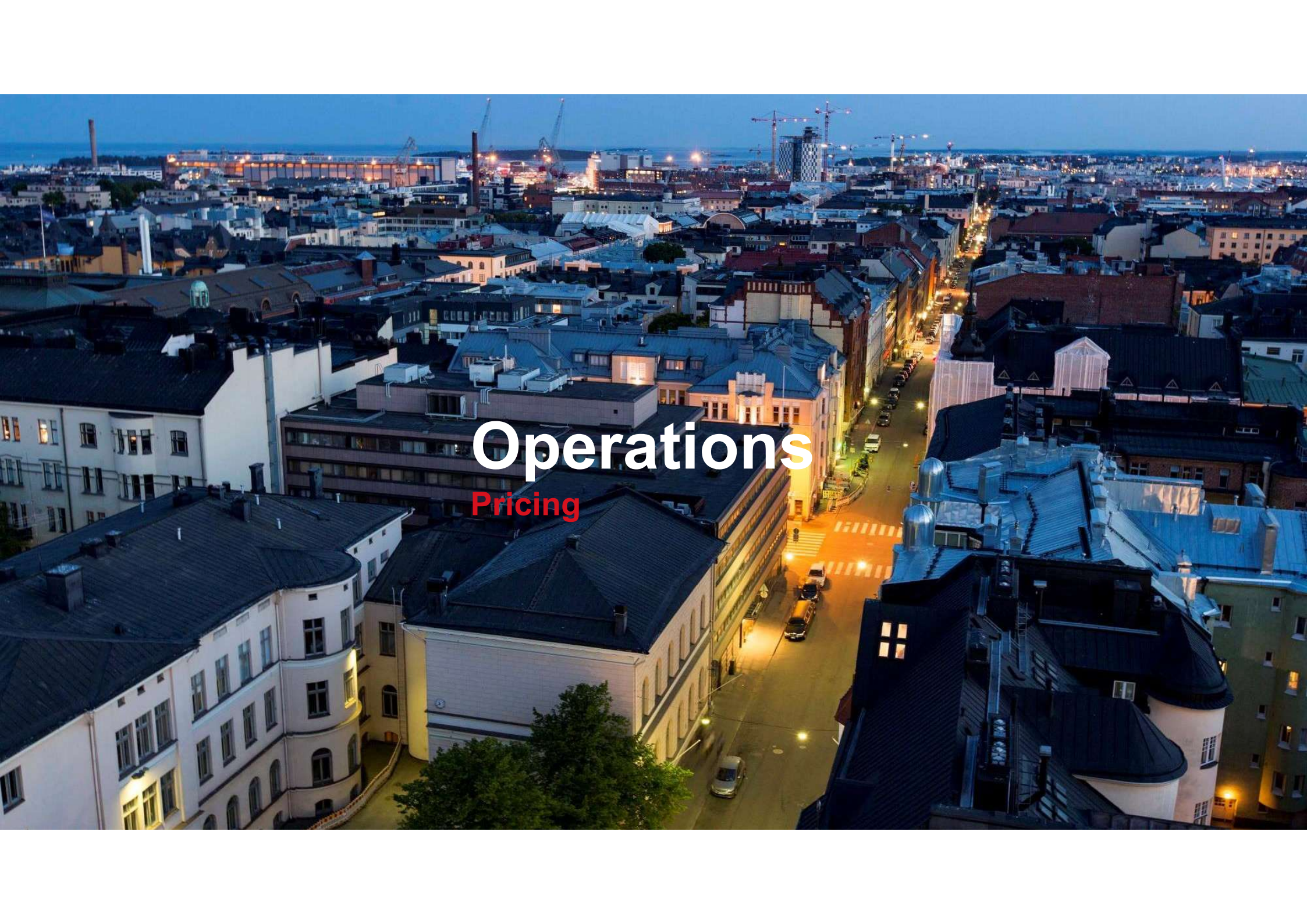
# Congestion income generation

## Illustrative example on how congestion income is generated

- Nordpool Spot determines for the hour 19.00 – 20.00 (a day ahead) area price in Finland at 30 €/MWh and in Sweden at 20 €/MWh
- Cross-border transmission capacity between Finland and Sweden is illustratively limited to 2 MW but the consumption in Finland is greater than that, i.e. there is not enough transmission capacity to fulfill all the demand in Finland with the lower prices in Sweden (congestion)
- 2 MWh is transmitted from Sweden to Finland
  - A producer in Sweden receives  $2\text{ MW} * 20 \text{ €/MWh}$ , i.e. 40 €
  - A consumer in Finland pays  $2\text{ MW} * 30 \text{ €/MWh}$ , i.e. 60 €
- There is extra cash (congestion income) generated at the Nordpool Spot i.e. the difference between paid and received funds, 20 €
  - Fingrid receives 10 € and the Swedish TSO receives 10 €
- All congestion income is used in investments reducing congestions

| MEUR              | 2015 | 2016 | 2017 | 2018 | 2019 |
|-------------------|------|------|------|------|------|
| Congestion income | 90,9 | 39,9 | 25,8 | 29,7 | 73,0 |



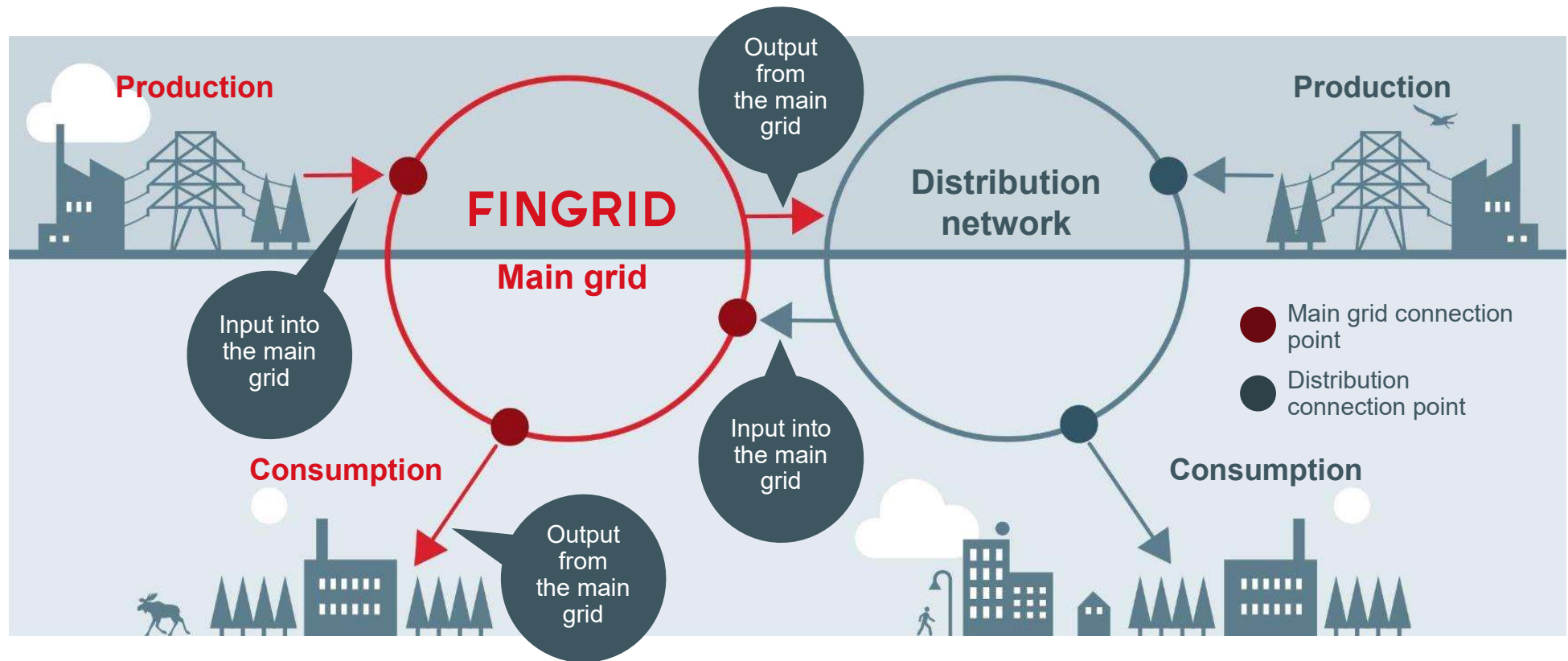


Operations

Pricing



# Grid service pricing is applied on both consumption and production



# Grid service pricing is applied on both consumption and production

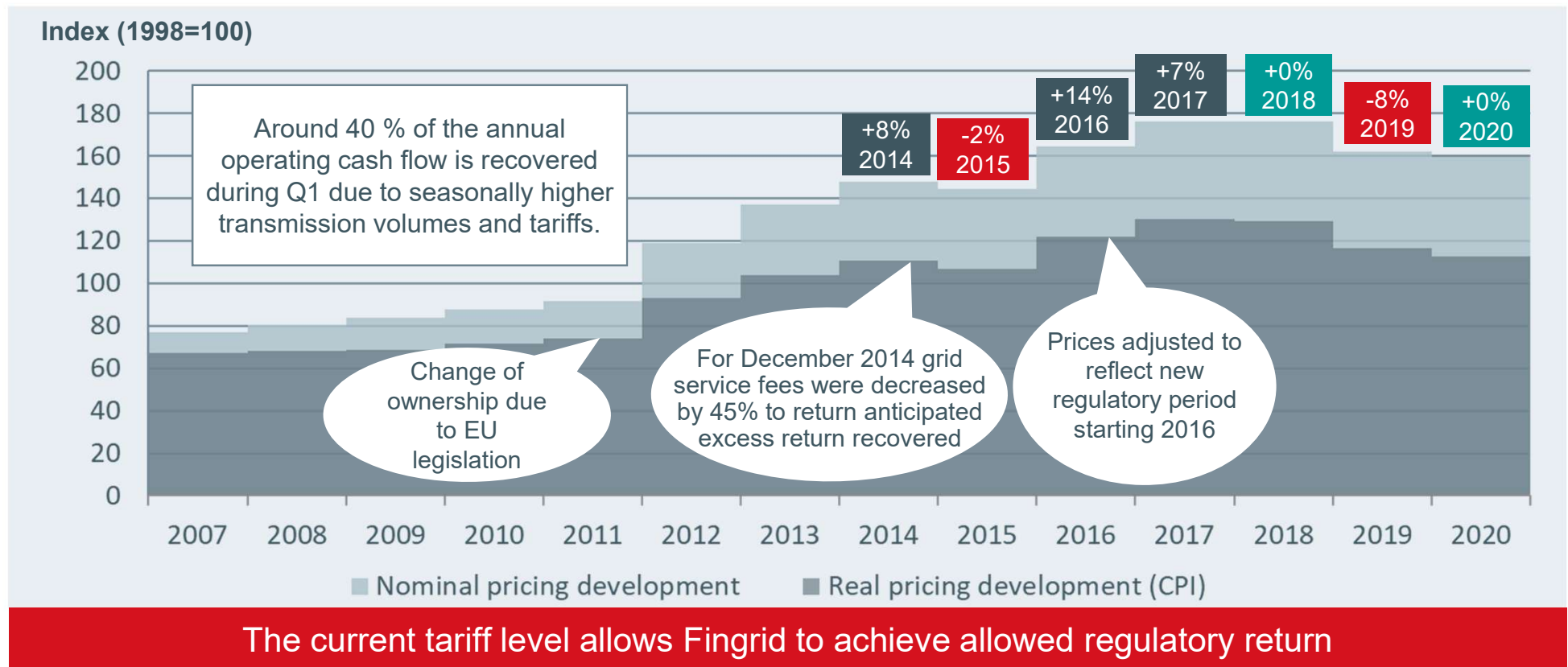
Fingrid defines the grid service pricing structure, which is approved by the Energy Authority

| Pricing EUR/MWh             | 2020          |
|-----------------------------|---------------|
| Consumption, winter period* | 8,80          |
| Consumption, other times    | 2,50          |
| Output from the grid        | 0,90          |
| Input into the grid         | 0,60          |
| Power plant capacity fee    | 1900 €/MW/a   |
| Reactive power fee          | 1000 €/Mvar/m |
| Reactive energy fee         | 5 €/Mvarh     |

\* Winter period: 1.12.-28.2. on Monday – Friday 07.00 – 21.00

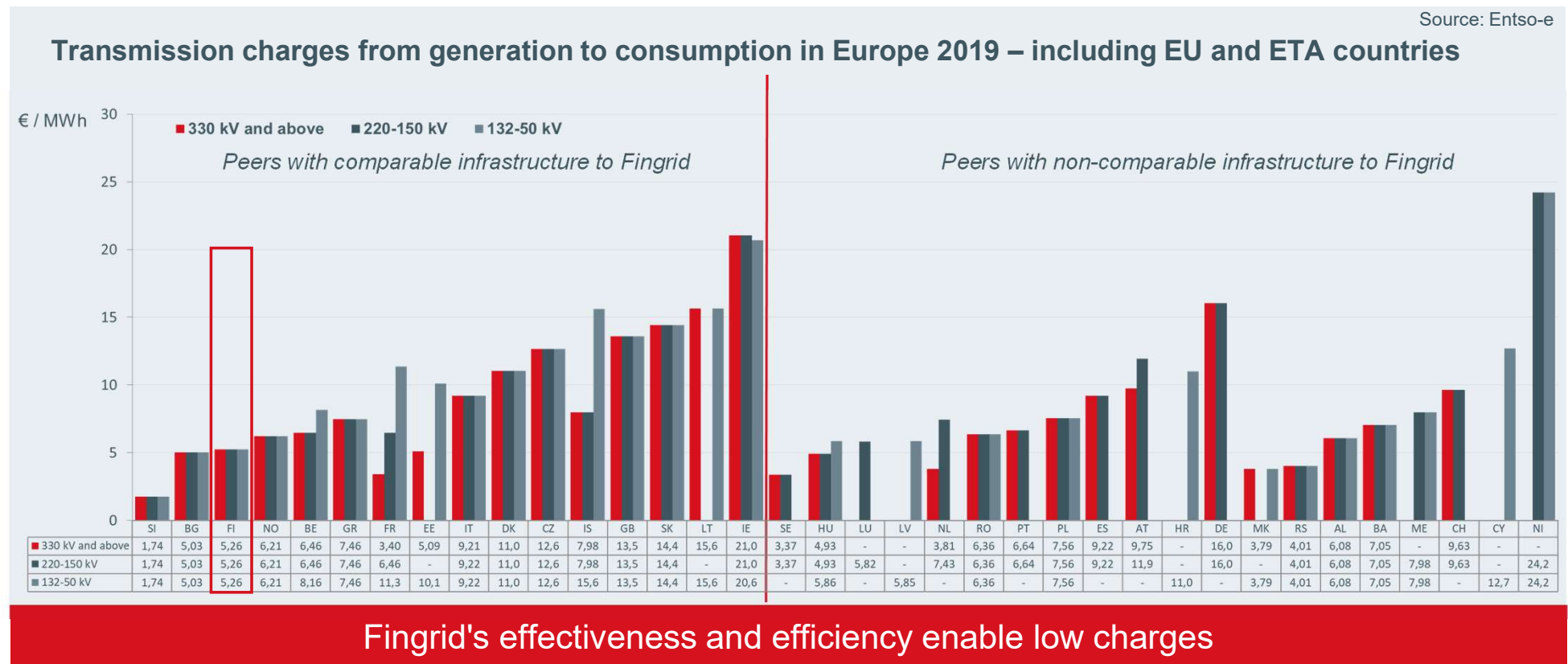
Transmission prices are seasonally adjusted and charged on consumption and use of grid

# Development of announced grid service pricing in 2007–2020

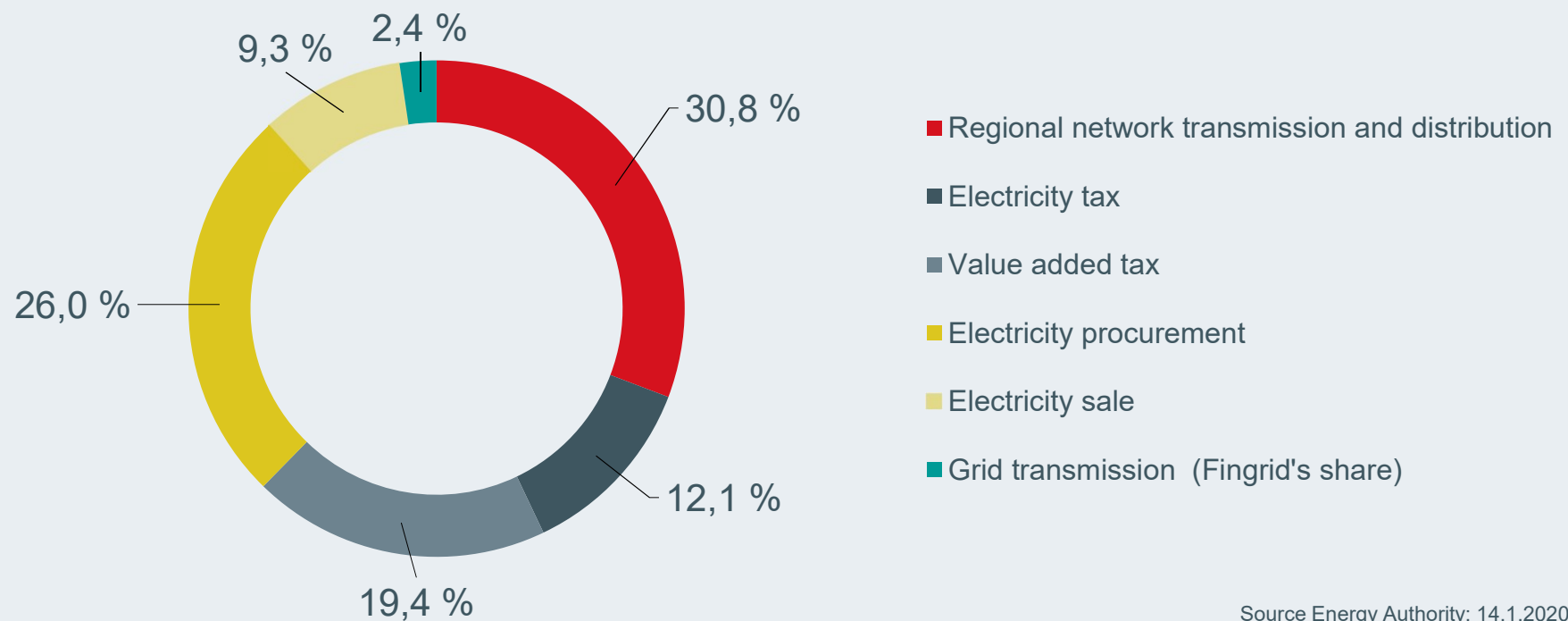




# Transmission charges from generation to consumption



# Breakdown of the electricity price for consumer



Source Energy Authority: 14.1.2020,  
consumption 5 000 kWh/year, electricity total price 18,62 snt/kWh.



# Operations

Capex

# Investments are based on 5-25 year grid development plans

- Grid development plans are prepared at three levels, i.e. European, regional and national
- Fingrid decides on investments based on customers' needs, transmission system security and network capacity
- Fingrid's network construction is contracted with fixed price contracts
- Before network construction commences all environmental and planning permits are in place

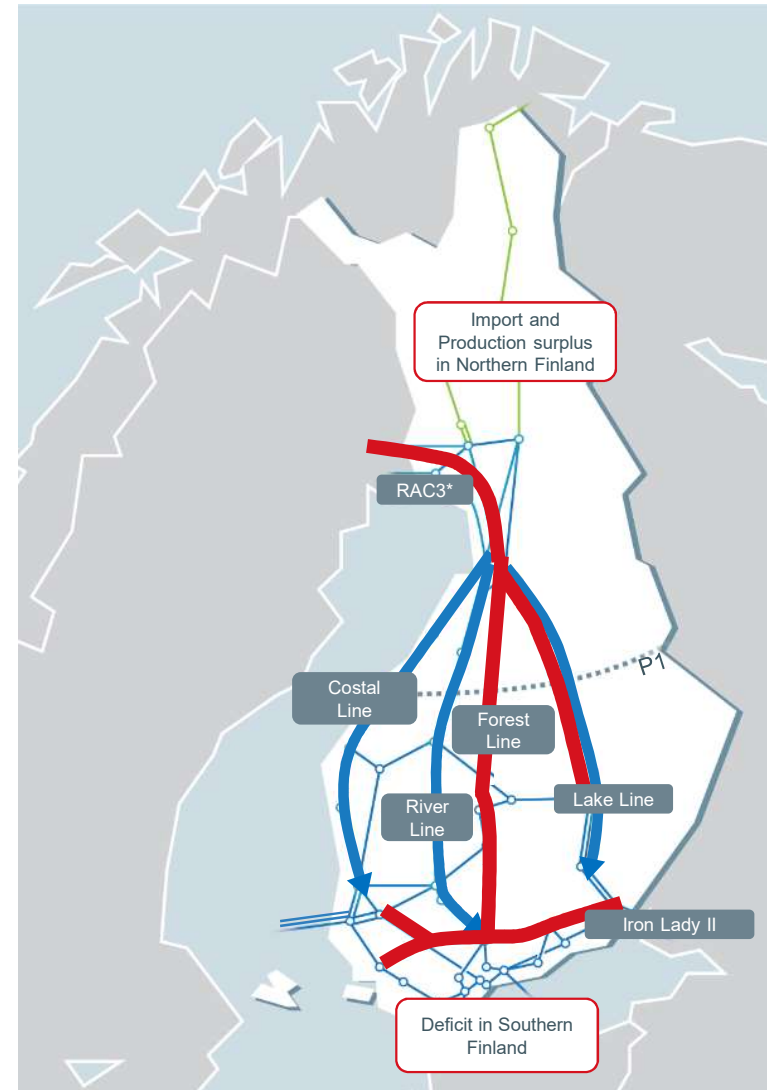


All Fingrid's investment projects have been done in schedule and budget

# Grid vision 2030

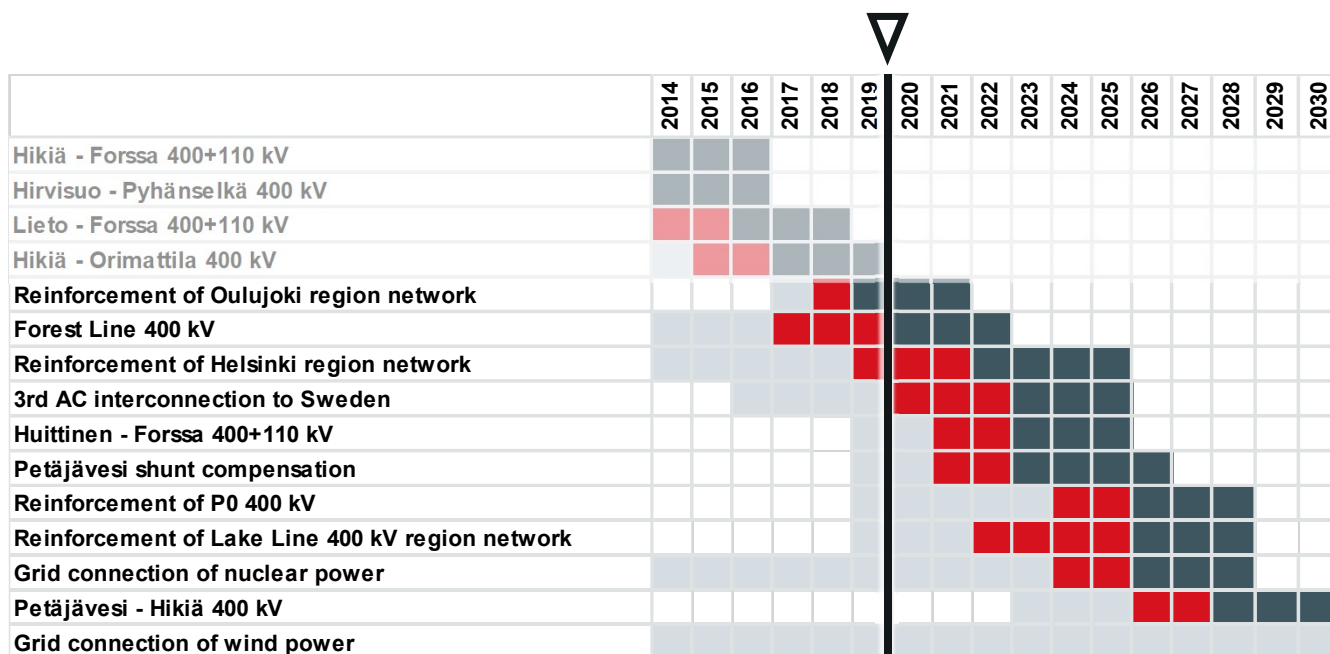
- Total of 15 investment projects to be completed in 2020

|  |  |
|--|--|
| Historical Iron Lady transmission line<br>will be modernized by<br><b>2020</b> | Huittinen – Forssa 400 kV<br><b>2025</b>   |
| Forest Line 400kV<br>Oulu - Petäjävesi<br><b>2022</b>                          | Extension of the Forest Line 400kV<br>Petäjävesi – Hikiä by<br><b>2030</b>                           |
| Third 400 kV AC interconnection<br>between Sweden and Finland<br><b>2025</b>   | Doubling the Lake Line 400kV<br>Nuoja – Huutokoski by<br><b>2028</b>                                 |
| Reinforcement of Helsinki<br>region network<br><b>2025 - 2035</b>              | Petäjäskoski – Nuoja 400 kV<br><b>2030</b><br>Depending on timing and placement of<br>new wind power |





# Flexible and long-term investment strategy



2019– 2030:

1400 km of 400 kV transmission lines

1300 km of 110 kV transmission lines

85 % of new power lines will be constructed along or next to an existing right of way

EIA / Preliminary design

Detailed planning and permissions

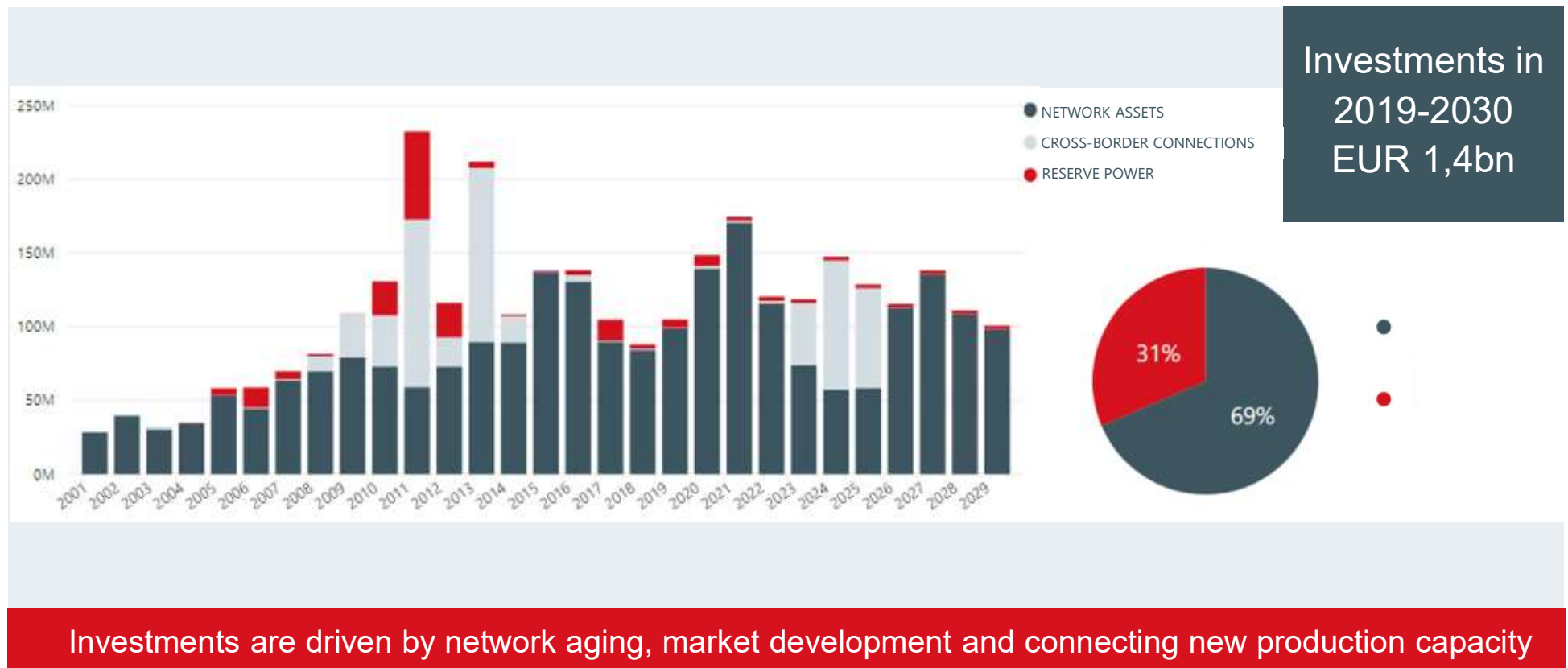
Implementation

— 400 kV main grid  
 - - - 400 kV under construction  
 — Main grid base line scenarios



Fingrid has a long-term planning horizon for investments

# Investments in 2001–2029



# Operating environment

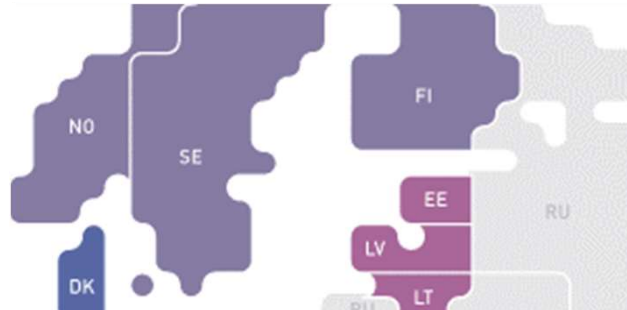


# Fingrid's operating environment in three geographical levels



## Europe

- Vision: integrated electricity market working on one European grid
- Big changes in the generation fleet (nuclear, renewables, gas)
- Electricity market from Helsinki to Lisbon achieved in 2014
- Structural bottlenecks will remain in the grid – investments proceeding slowly



## Baltic Sea region

- Transmission capacity between the Nordic region and Continental Europe will more than double during the next 5 years
- Strong connection between the Nordic region, Baltic states and Poland



## Finland

- Finland's target is to be carbon neutral by 2035
- Share of renewable wind power increases without subsidies
- Decarbonization efforts increase electricity demand when clean electricity replaces fossil fuels
- Role of cross-border connections increases



# Towards a highly developed electricity market in Europe

- Improving efficiency and competitiveness of the power sector
  - efficient market price
  - cross-border trade
  - efficient dispatching via "the invisible hand" of the markets
- Delivering benefits for end-users and trust to market players
- Contributing to the security of supply
- Supporting Green Deal and reaching the 2030 climate targets of the EU



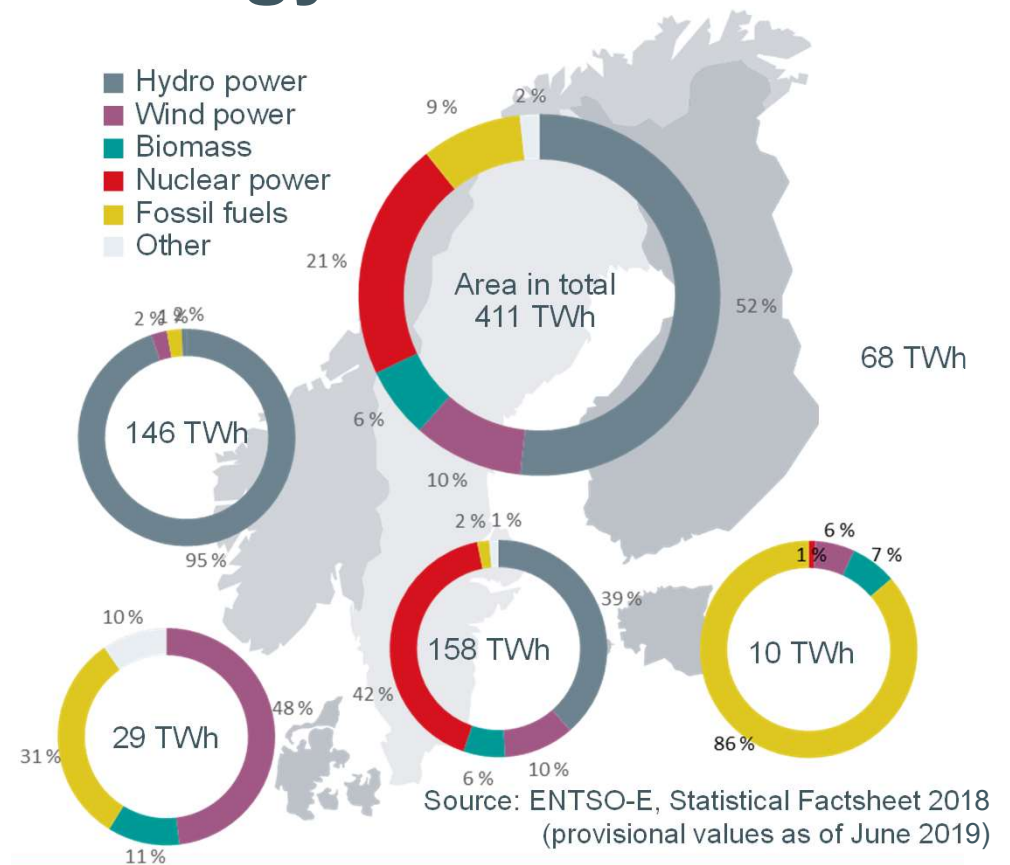
Market coupling

Electricity market from Helsinki to Lisbon since 2014



# Hydro power is the main energy source in the Nordic region

- Significant hydro power generation capacity in Norway and Sweden drive the electricity price in Finland
- Nuclear power generation is an important base load power generation source in Sweden and Finland
- Renewable power generation consist of hydro power, biomass fired cogeneration, wind power and also small amounts of solar power

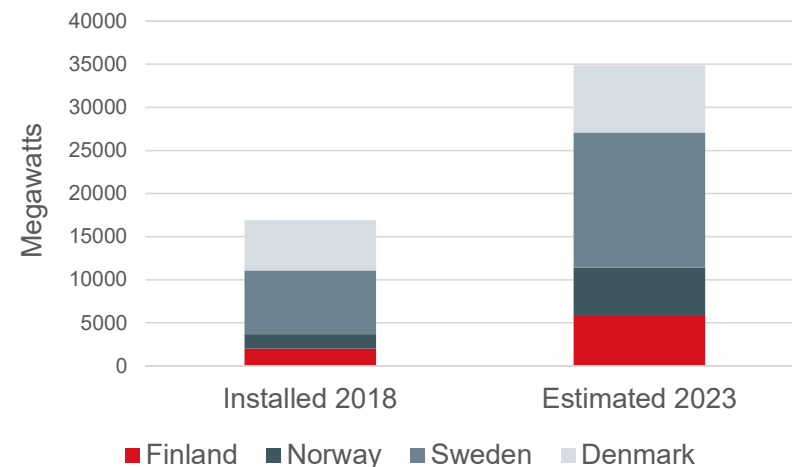


Nordic electricity price is driven by hydrological conditions in Scandinavia

# Wind power competitiveness has clearly improved

- By the end of 2019, ~2300 MW of wind in Finland has been built mainly with incentive from feed-in tariff
- At the end of 2019, a total of over 2000 MW new wind power investments are in construction phase in Finland, including investment decisions in unsubsidized projects, as well as projects selected under the latest feed-in premium auction
- Nordic wind power is expected to double during 2018-2023, with the majority of growth based on investment decisions already taken
- Integration of wind power is one of the key drivers for Fingrid's grid development, with significant investments already completed and more in the pipeline to enable transition towards a climate neutral society

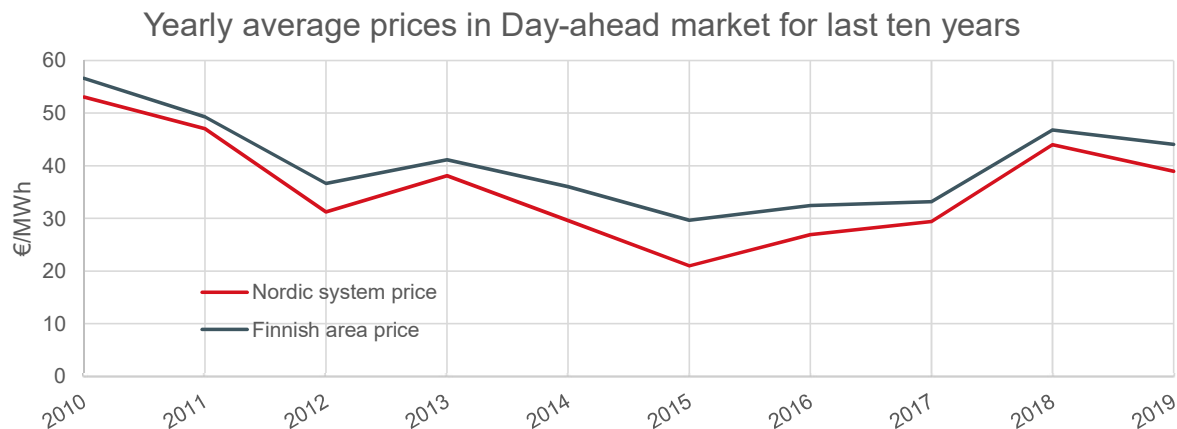
Nordic wind capacity is expected to double during 2018-2023 \*



\* Finland, Sweden, Norway and Denmark. Capacities at the end of the year.

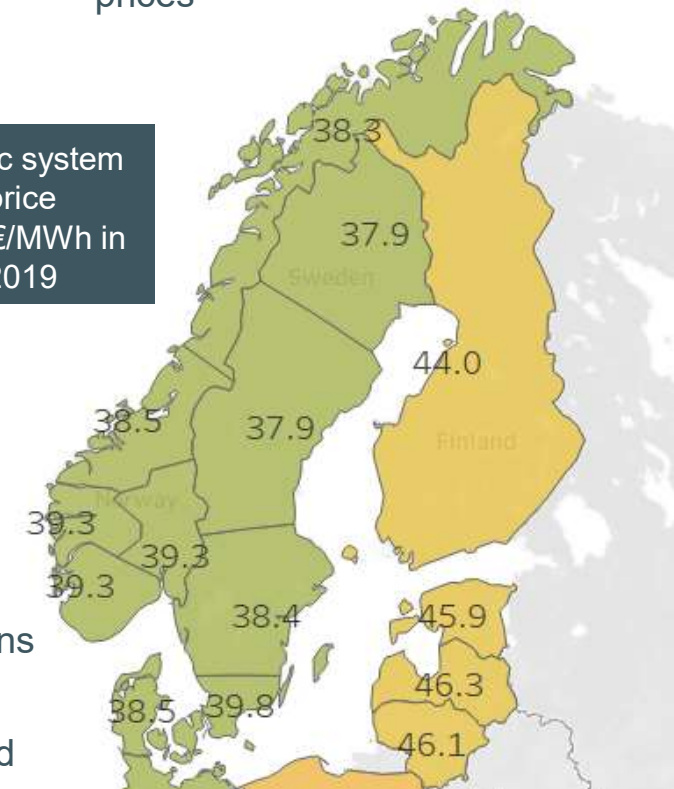
Fingrid promotes the development of market based wind power generation in Finland

# Development of Nordic electricity spot prices



Nordic 2019 average Day-ahead prices

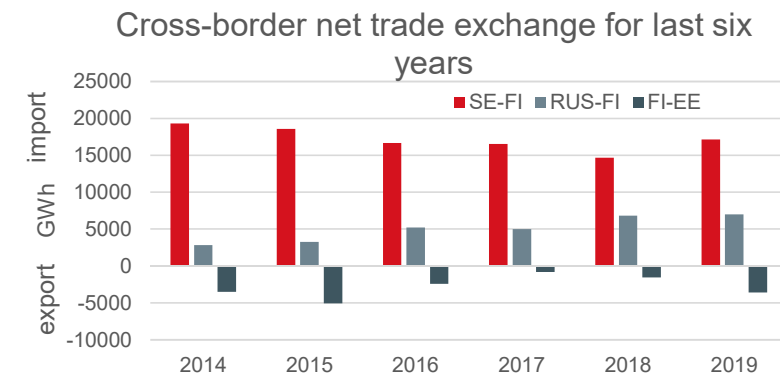
Nordic system price  
38,9 €/MWh in  
2019



- Nordic electricity prices have decreased in year 2019 from levels seen in 2018
  - Hydrological situation returned during year 2019 towards normal levels after a dry year 2018
- Despite the decrease compared to year 2018, the yearly average price for 2019 remains still higher than most of the average price values for the past ten years
- Electricity consumption decreased around 1,5 % in Finland during year 2019 compared to the previous year 2018

# Finland is well-connected in Baltic Sea power market

- Finland is a net importer of electricity mainly from Scandinavia
- Finland is expected to remain as a net importer of electricity even after the 1600 MW nuclear project Olkiluoto 3 is commissioned
  - Olkiluoto 3 will increase Finnish production capacity roughly by 13%
  - Olkiluoto 3 nuclear power plant trial runs are expected to start in late 2020 and regular electricity production is expected to start in 2021.
- Cross-border lines between Finland and Sweden have a crucial role of limiting price differentials between the markets
- Fingrid has a 24/7 service to ensure continuous specialist availability to solve issues in cross-border connections, and is investing in new transmission capacity between the countries.

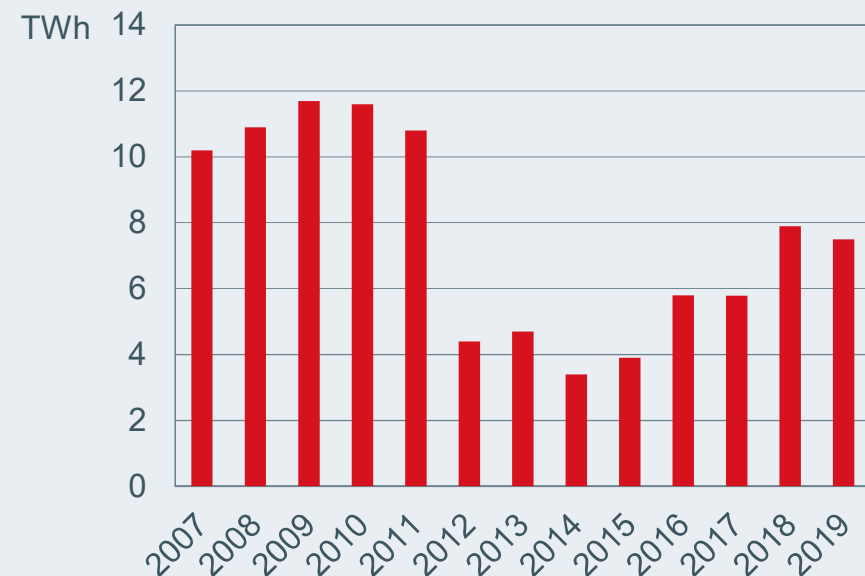


Finland is a net importer of electricity mainly from Scandinavia

# Cross-border transmission between Finland and Russia

- Imports from Russia increased substantially in 2018 due to higher Nordic wholesale prices, that trend continued also most of the 2019
- During the latest months, imports from Russia have decreased significantly, mainly due to very low Nordic wholesale prices that in turn are a result of strong hydrological situation in hydro power generation as well as lower power demand due to extremely mild winter
- Russia now has capacity payment of around 30-60 EUR/MWh on exports to Finland which limits the trade below levels seen in 2011 and earlier

Annual electricity export from Russia to Finland

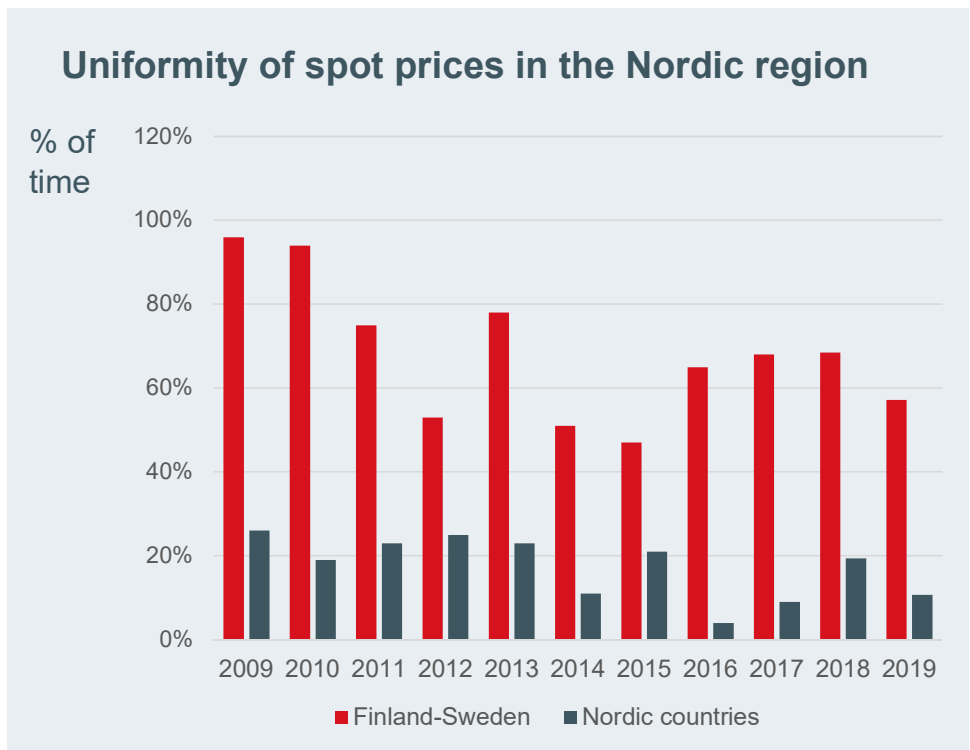


Finland's cross-border transmission with Russia is driven by power market development in EU and Russia



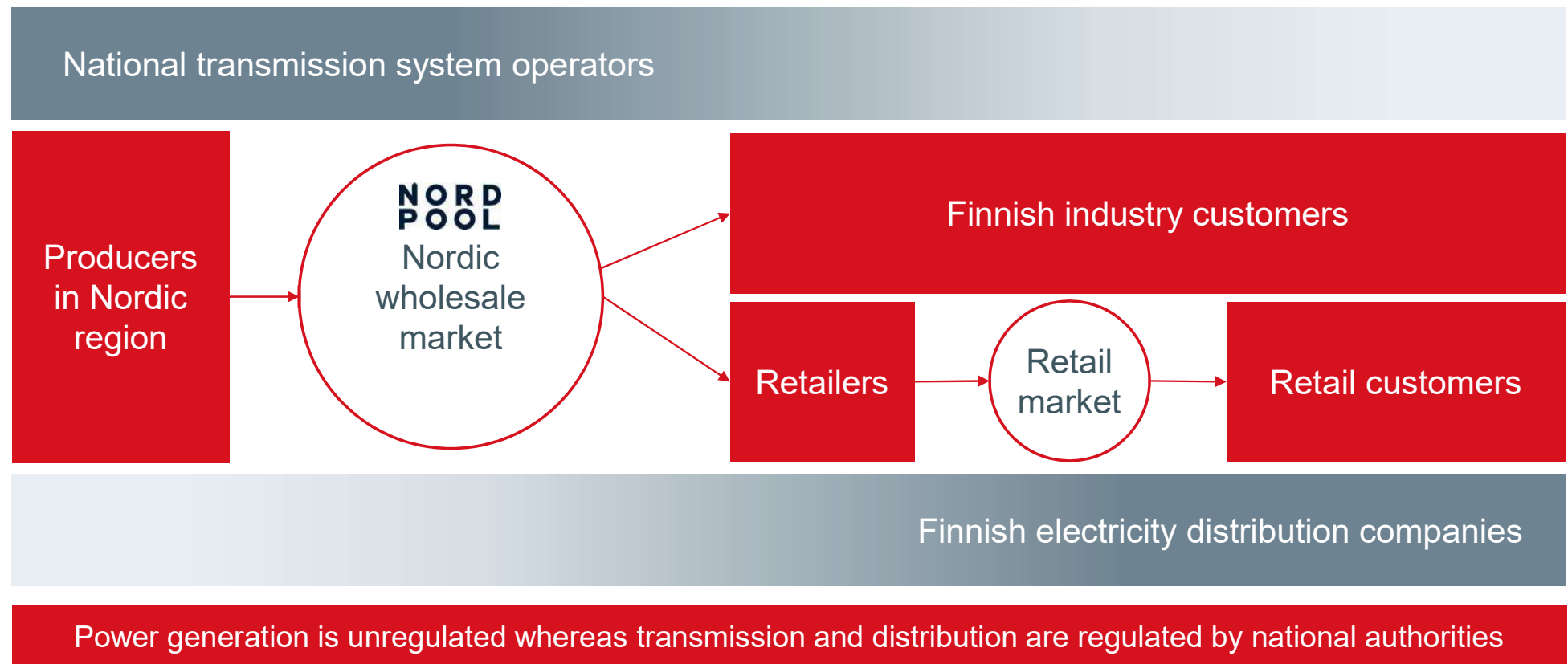
# The Baltic Sea region\* forms a well-developed regional market

- In 2019 a single price area between Finland and Sweden existed 57 percent of the time and 11 percent of the time between all the Nordic countries
- Price uniformity is impacted by hydrological situation, in addition to interconnector availability



\* Finland, Sweden, Norway, Denmark, Poland, Estonia, Latvia, Lithuania

# Market structure and business areas in the Baltic Sea area

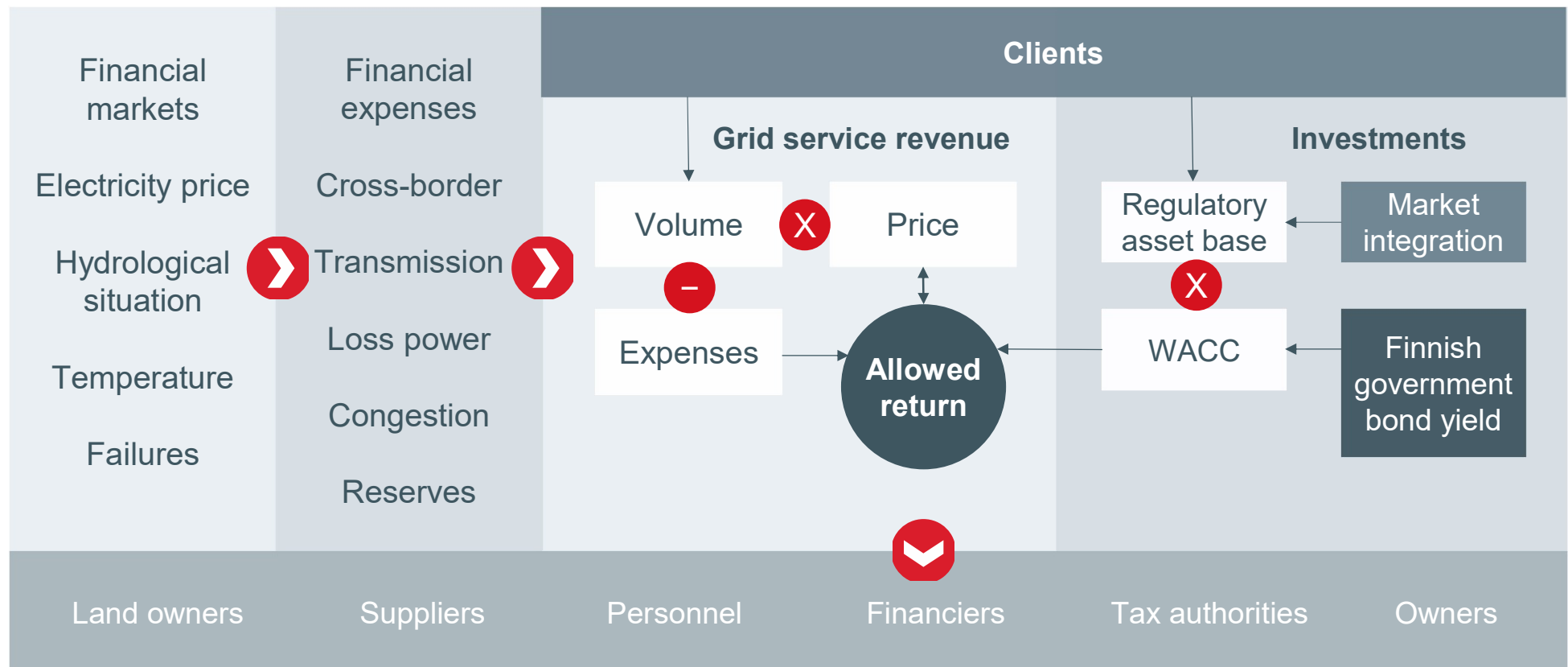


A photograph of a modern glass skyscraper facade, featuring a grid of dark metal frames and large glass panels. The glass reflects the sky and surrounding environment, with some interior lights visible through the windows. The overall color palette is dominated by blue and grey tones.

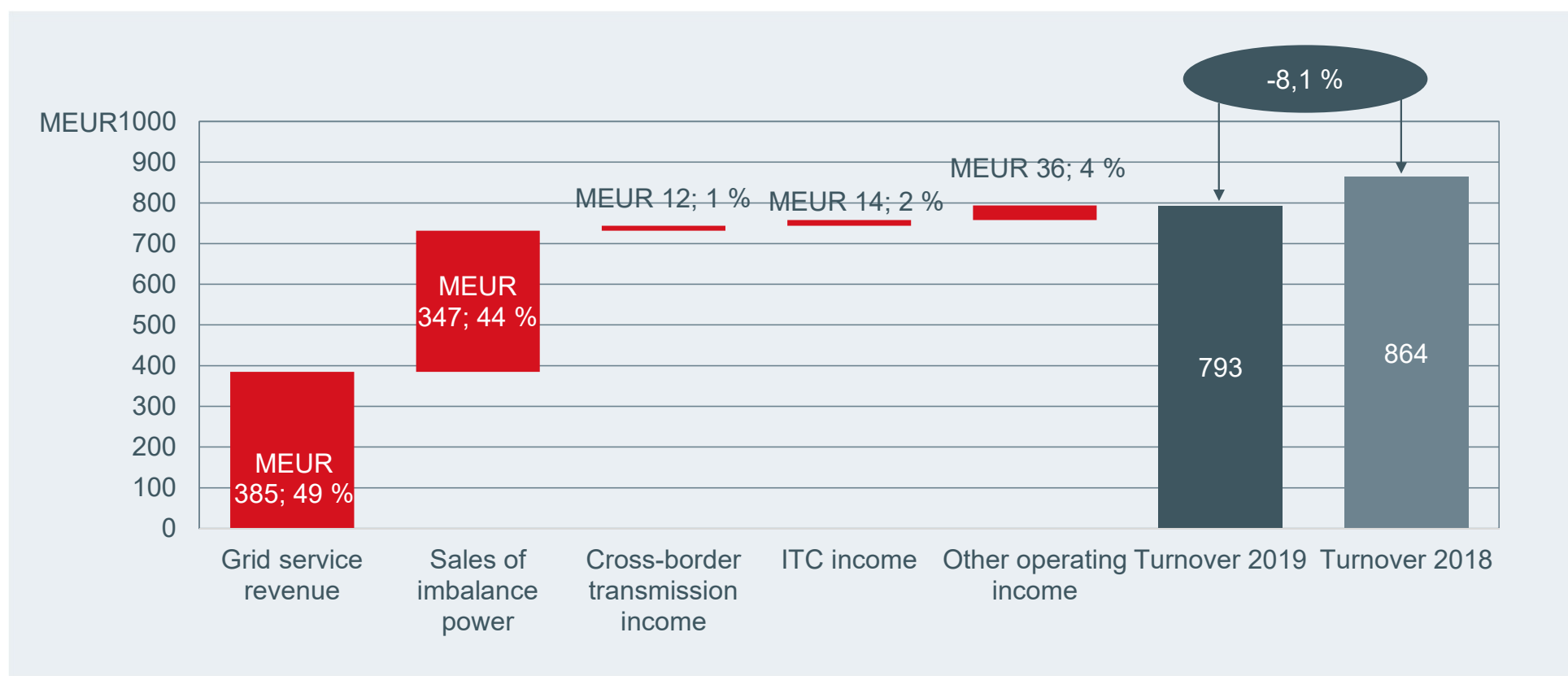
# Financials

Financial performance

# Main economic drivers of transmission network operations



# IFRS Turnover breakdown in 2019





# Breakdown of main sources of turnover

## Grid service revenue

- Grid service revenue consists mainly of the unit price for electricity transmission multiplied by electricity consumption and production

## Sales of imbalance power

- Fingrid sells and purchases imbalance power in order to stabilise the hourly power balance of the balance responsible parties
- The net of imbalance power sales and purchases is slightly positive and used to cover reserve costs
- Imbalance power boosts turnover as well as costs

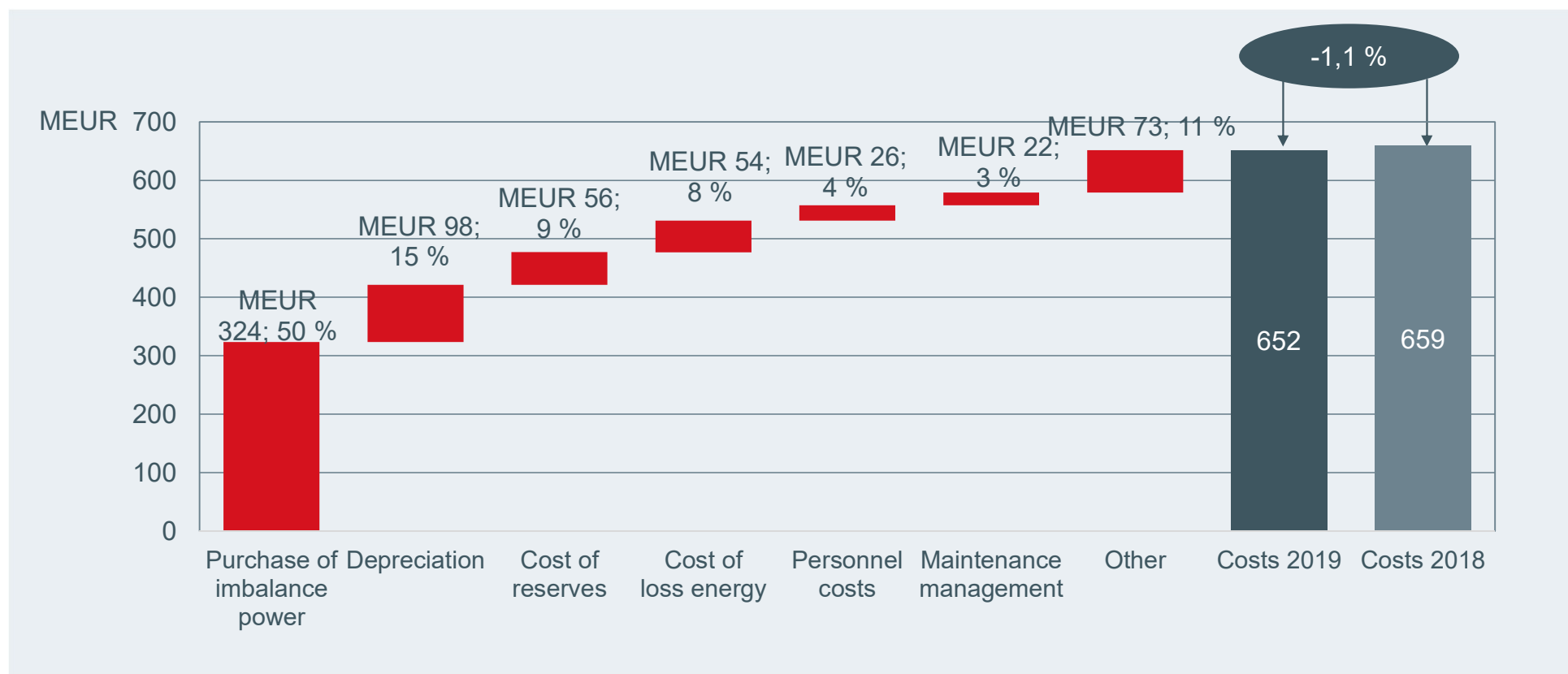
## Cross-border transmission income

- Fingrid offers transmission services on the cross-border connections with Russia available to all electricity market parties. The contractual terms are equal and public.

## ITC income (Inter TSO Compensation)

- Income received for the use of Fingrid's grid by other European TSOs

# IFRS Cost breakdown 2019



# Breakdown of main costs

## Purchase of imbalance power

- Fingrid sells and purchases imbalance power in order to stabilise the hourly power balance of the balance responsible parties
- The net of imbalance power sales and purchases is slightly positive and used to cover reserve costs
- Imbalance power boosts turnover as well as costs

## Depreciation

- The level of yearly depreciations are stable thanks to continuous and stable investments

## Cost of reserves

- Fingrid maintains reserve power to balance the frequency of the electricity grid
- The cost of reserves is recovered in grid network tariff and payments collected in balance services

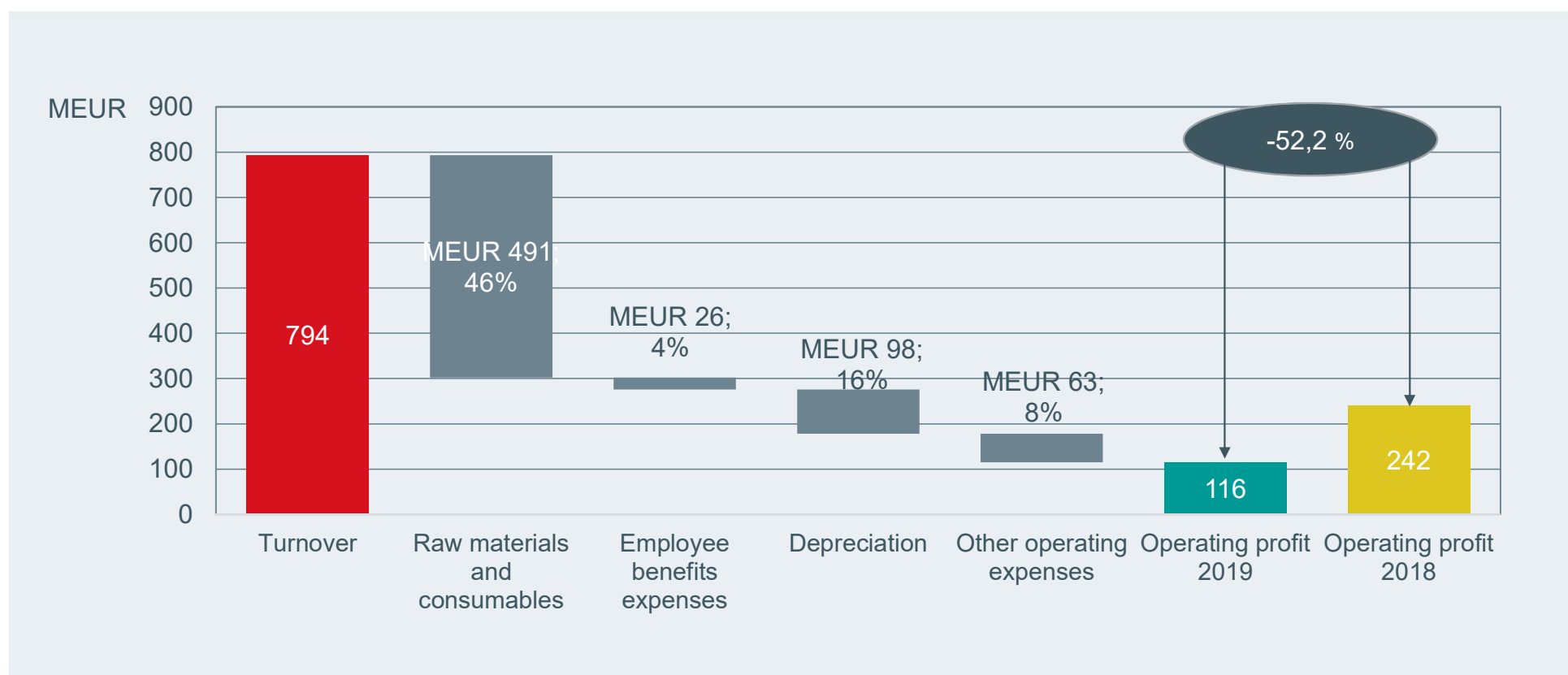
## Cost of loss energy

- Loss energy is hedged up to four years in advance to ensure stable tariff

## Personnel costs

- Fingrid's personnel costs are moderate thanks to outsourcing model used in most operations

# IFRS Operating profit in 2019



# Fingrid Oyj consolidated profit and loss (IFRS)

- Turnover decreased because of reduced grid service prices and lowered cross-border transmission tariff
- Since 2016, congestion income is no longer presented as turnover in profit and loss statement
- Employee expenses remain at notably low level due to outsourced operating model

| IFRS profit and loss 2013 – 2019 in MEUR |             |             |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|  | 2019        | 2018        | 2017        | 2016        | 2015        | 2014        | 2013        |
| <b>TURNOVER</b>                          | <b>794</b>  | <b>864</b>  | <b>675</b>  | <b>599</b>  | <b>605</b>  | <b>572</b>  | <b>547</b>  |
| Raw materials and consumables used       | -491        | -483        | -302        | -248        | -241        | -264        | -270        |
| Employee benefits expenses               | -26         | -32         | -29         | -29         | -26         | -25         | -23         |
| Depreciation                             | -98         | -100        | -97         | -99         | -94         | -92         | -82         |
| Other operating expenses                 | -63         | -7          | -62         | -30         | -82         | -48         | -58         |
| <b>OPERATING PROFIT (EBIT)</b>           | <b>116</b>  | <b>242</b>  | <b>185</b>  | <b>192</b>  | <b>163</b>  | <b>143</b>  | <b>115</b>  |
| <i>EBIT-%</i>                            | <i>14 %</i> | <i>28 %</i> | <i>27 %</i> | <i>32 %</i> | <i>27 %</i> | <i>25 %</i> | <i>21 %</i> |
| Finance income and costs                 | -11         | -15         | -23         | -19         | -34         | -11         | -29         |
| <b>PROFIT BEFORE TAXES*</b>              | <b>106</b>  | <b>229</b>  | <b>164</b>  | <b>174</b>  | <b>129</b>  | <b>133</b>  | <b>87</b>   |
| Income taxes                             | -21         | -46         | -33         | -35         | -26         | -26         | 3           |
| <b>PROFIT FOR THE PERIOD</b>             | <b>85</b>   | <b>183</b>  | <b>131</b>  | <b>139</b>  | <b>104</b>  | <b>106</b>  | <b>91</b>   |
| Other comprehensive income**             | 0           | 0           | -1          | 6           | 5           | 0           | -5          |
| <b>TOTAL COMPREHENSIVE INCOME</b>        | <b>85</b>   | <b>183</b>  | <b>130</b>  | <b>145</b>  | <b>109</b>  | <b>106</b>  | <b>86</b>   |

\* Includes share of profit of associated companies

\*\* Other comprehensive income consists of cash flow hedges, translation reserves and available-for-sale financial assets.

Operating profit stabilized on a solid level



# Fingrid Oyj consolidated assets (IFRS)

- Tangible assets stabilized because of stabilized investments in grid assets
- Tangible assets were on average 78 % of total assets
- Current assets on average 10 % of total assets

| IFRS assets 2013 – 2019 in MEUR                               |             |              |              |              |              |              |              |
|---|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
|   | 2019        | 2018         | 2017         | 2016         | 2015         | 2014         | 2013         |
| Intangible assets   | 212         | 190          | 188          | 185          | 183          | 183          | 181          |
| Tangible assets   | 1643        | 1 634        | 1 676        | 1 690        | 1 677        | 1 640        | 1 623        |
| Right-of-use-assets   | 33          |              |              |              |              |              |              |
| Investments (associated companies and available for sale)     | 11          | 12           | 10           | 10           | 10           | 11           | 11           |
| Receivables   | 52          | 58           | 46           | 40           | 51           | 55           | 60           |
| <b>NON-CURRENT ASSETS</b>                                     | <b>1951</b> | <b>1894</b>  | <b>1 920</b> | <b>1 925</b> | <b>1 922</b> | <b>1 889</b> | <b>1 875</b> |
| Inventories   | 12          | 12           | 14           | 12           | 13           | 13           | 11           |
| Derivative instruments  | 4           | 19           | 0            | 3            | 3            | 11           | 2            |
| Trade receivables and other receivables                       | 95          | 100          | 96           | 82           | 70           | 57           | 76           |
| Financial assets recognised in income statement at fair value | 67          | 71           | 73           | 58           | 93           | 116          | 195          |
| Cash and cash equivalents                                     | 16          | 14           | 10           | 22           | 23           | 63           | 22           |
| <b>CURRENT ASSETS</b>   | <b>193</b>  | <b>216</b>   | <b>193</b>   | <b>177</b>   | <b>203</b>   | <b>261</b>   | <b>307</b>   |
| <b>TOTAL ASSETS</b>   | <b>2145</b> | <b>2 110</b> | <b>2 113</b> | <b>2 102</b> | <b>2 124</b> | <b>2 151</b> | <b>2 182</b> |

Tangible assets on a stable level thanks to a defined long-term investment plan

# Fingrid Oyj consolidated liabilities (IFRS)

- Current liabilities on average total 18 % of total equity and liabilities
- Trade payables on average 27 % of current liabilities
- Borrowings (current and non-current) totalled on average 54 % of total equity and liabilities
- Decrease in book equity has resulted from increased dividend payments in recent years

| IFRS liabilities 2013 – 2019 in MEUR |             |              |              |              |              |              |              |
|--------------------------------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                      | 2019        | 2018         | 2017         | 2016         | 2015         | 2014         | 2013         |
| Share capital and premium            | 112         | 112          | 112          | 112          | 112          | 112          | 112          |
| Retained earnings                    | 575         | 662          | 687          | 654          | 606          | 567          | 542          |
| Other equity                         | -1          | -1           | 0            | 0            | -6           | -12          | -12          |
| <b>EQUITY</b>                        | <b>686</b>  | <b>772</b>   | <b>798</b>   | <b>766</b>   | <b>711</b>   | <b>667</b>   | <b>643</b>   |
| Borrowings                           | 854         | 772          | 813          | 843          | 907          | 962          | 975          |
| Other non-current liabilities        | 147         | 131          | 141          | 146          | 174          | 170          | 160          |
| <b>NON-CURRENT LIABILITIES</b>       | <b>1001</b> | <b>903</b>   | <b>954</b>   | <b>989</b>   | <b>1 081</b> | <b>1 132</b> | <b>1 136</b> |
| Borrowings                           | 233         | 288          | 269          | 265          | 236          | 263          | 319          |
| Derivative instruments               | 0           | 4            | 8            | 8            | 30           | 17           | 16           |
| Trade payables and other liabilities | 222         | 142          | 84           | 75           | 66           | 72           | 70           |
| <b>CURRENT LIABILITIES</b>           | <b>458</b>  | <b>434</b>   | <b>361</b>   | <b>347</b>   | <b>332</b>   | <b>352</b>   | <b>404</b>   |
| <b>TOTAL EQUITY AND LIABILITIES</b>  | <b>2145</b> | <b>2 110</b> | <b>2 113</b> | <b>2 102</b> | <b>2 124</b> | <b>2 151</b> | <b>2 182</b> |

Balance sheet has remained stable in 2013-2019

# Fingrid Oyj consolidated cash flow (IFRS)

- Strong operating cash flow
- Peak investment years behind and now stabilized
- Cash and cash equivalents reduced to achieve more appropriate capital structure

| IFRS cash flow 2013 – 2019 in MEUR             |             |             |             |             |             |             |            |
|--|-------------|-------------|-------------|-------------|-------------|-------------|------------|
|  | 2019        | 2018        | 2017        | 2016        | 2015        | 2014        | 2013       |
| Cash flow from operations                      | 240         | 303         | 273         | 252         | 279         | 227         | 202        |
| Change in working capital                      | 25          | -18         | -40         | -20         | -63         | -21         | -43        |
| <b>Net cash flow from operations</b>           | <b>265</b>  | <b>285</b>  | <b>233</b>  | <b>232</b>  | <b>216</b>  | <b>206</b>  | <b>159</b> |
| Net cash flow from investments                 | -117        | -82         | -107        | -139        | -135        | -111        | -226       |
| <b>Net cash flow after investments</b>         | <b>148</b>  | <b>204</b>  | <b>126</b>  | <b>94</b>   | <b>80</b>   | <b>95</b>   | <b>-68</b> |
| Net borrowings                                 | 21          | -29         | -24         | -40         | -78         | -51         | 84         |
| Dividends paid                                 | -171        | -174        | -98         | -90         | -65         | -82         | -13        |
| <b>Net cash flow from financing activities</b> | <b>-150</b> | <b>-202</b> | <b>-122</b> | <b>-130</b> | <b>-143</b> | <b>-133</b> | <b>71</b>  |
| <b>Net change in cash and cash eqv.</b>        | <b>-2</b>   | <b>2</b>    | <b>4</b>    | <b>-37</b>  | <b>-62</b>  | <b>-38</b>  | <b>3</b>   |
| Cash and cash equivalents 1 Jan                | 85          | 84          | 80          | 117         | 179         | 217         | 214        |
| Cash and cash equivalents at the end of period | 83          | 85          | 84          | 80          | 117         | 179         | 217        |

Strong and improving net cash flow after investments



# Financials

## Financing

# Financial risk management principles

## Liquidity risk

- Cash, cash equivalents and committed credit facilities cover at least 110 percent of short-term debt
- Undrawn MEUR 300 revolving credit facility (RCF) until 2022
- Continuous cash flow forecasting

## Refinancing risk

- Refinancing in any given year less than 30 % of total debt
- Even maturity profile
- Diversified funding sources
- Strong credit rating from at least two major rating agencies

## Credit and counterparty risk

- Prequalification of suppliers based on predetermined financial criteria
- Continuous credit risk analysis and monitoring
- Counterparty credit rating requirements and limits
- ISDAs in force for derivatives

## Market price risk

- Derivatives only for hedging purposes
- Interest rate risk hedging of debt; convergence towards 12 months' average interest re-fixing time
- Material currency and commodity risk fully hedged
- Loss power hedging horizon up to 4 years, deliveries of each forthcoming year fully hedged in advance

Fingrid applies a conservative financial policy



# Fingrid debt programme overview

- Long presence in the capital and money markets since 1998 with debt programmes:
  - EMTN Programme, MEUR 1,500 since 1998
  - ECP Programme, MEUR 600 since 1998
  - CP Programme, MEUR 150 since 1998
- MEUR 300 Revolving Credit Facility (RCF) until December 2022 is provided by the dealers. The facility supports the company's liquidity reserve and is undrawn
- Long-term bilateral loans provided by the European Investment Bank (EIB) and Nordic Investment Bank (NIB)

Fingrid's core relationship banks are the dealers of the EMTN Programme



Fingrid is a well-established issuer on international private and public debt capital markets

# Fingrid to continue using Green Financing

- In 2017 Fingrid established a framework enabling green financing for eligible investment projects and issued inaugural EUR 100 million Green Bond
- Fingrid's capex program covers next 10 years on a rolling basis. Green financing eligible investments are regularly screened from the capex program
- In 2017 green financing eligible investments accounted for 15% of total. It is estimated that the share of eligible investments will increase in the future on the back of increasing investments in wind power generation in Finland

<https://www.fingrid.fi/en/pages/investors/financing/green-financing/>



*Since 2019 Fingrid reports as Green Bond impacts also the amount of estimated CO2 emissions avoided on investments related to renewable power generation*

*These impacts are estimated at 330 000 CO2t equivalent in 2019. The impacts have been verified by an independent external verifier Mitopro Oy.*

**A summary of the estimated impacts to be achieved from the funded projects**

| Project   | Applicable SO2s to all projects | 12/2019           | Estimated in next years*** | Total estimated impact | 12/2019 |
|---|---------------------------------|-------------------|----------------------------|------------------------|---------|
| Reconstruction of transformer substations 110 kV transmission line  | + 120 MW                        | n/a               | + 120 MW                   | approx. 100%           |         |
| New 220 kV substation Ruusijoki                                     | + 50 MW                         | n/a               | + 50 MW                    | n/a                    |         |
| New 110 kV substation Säkylä  | + 250 MW                        | + 250 MW          | + 450 MW                   | n/a                    |         |
| Rehabilitation and expansion of Savolampi substation                | + 100 MW                        | + 100 MW          | + 200 MW                   | n/a                    |         |
| Expansion of Tuusula substation                                     | + 50 MW                         | + 150 MW          | + 250 MW                   | n/a                    |         |
| Expansion of Pöytälahti substation and a new 420/220 kV transformer | + 100 MW                        | n/a               | + 100 MW                   | n/a                    |         |
| New 110kV-Finno 420 kV transmission line                            | n/a                             | n/a               | n/a                        | approx. 90%            |         |
| New 420/110 kV transformer substation Ikonen                        | + 50 MW                         | + 250 MW          | + 350 MW                   | n/a                    |         |
| New 420/110 kV transformer at Kivimäki substation                   | + 150 MW                        | + 250 MW          | + 450 MW                   | n/a                    |         |
| New 110kV-Osmo 420 kV transmission line                             | n/a                             | n/a               | n/a                        | approx. 10%            |         |
| New Lampi 220/110 kV transmission line                              | n/a                             | n/a               | n/a                        | approx. 80%            |         |
| <b>Total by these investments****</b>                               | <b>+ 750 MW</b>                 | <b>+ 1 000 MW</b> | <b>+ 1 750 MW</b>          | <b>n/a</b>             |         |
| <b>Total estimated CO2, eqv avoided p.a.</b>                        | <b>330 000</b>                  | <b>540 000</b>    | <b>670 000</b>             | <b>n/a</b>             |         |

Legend:  
+ = Approximate capacity increase through new transmission capacity by these investments  
\*\*\* = Estimated upon completion 2022 in addition to impacts estimated until 12/2019  
\*\*\*\* = Reported capacity in 12/2019 is now presented more accurately than previous years (i.e. 750 MW is the sum of accurate capacity figures instead of the sum of rounded figures presented previously). Another change is more accurate calculation of the impact of Ruusijoki and Pöytälahti substations, which both were equally needed for current development in their catchment area. Previously the capacity was reported to both substations in full, but it is now split between them in order to calculate achieved impact more accurately.

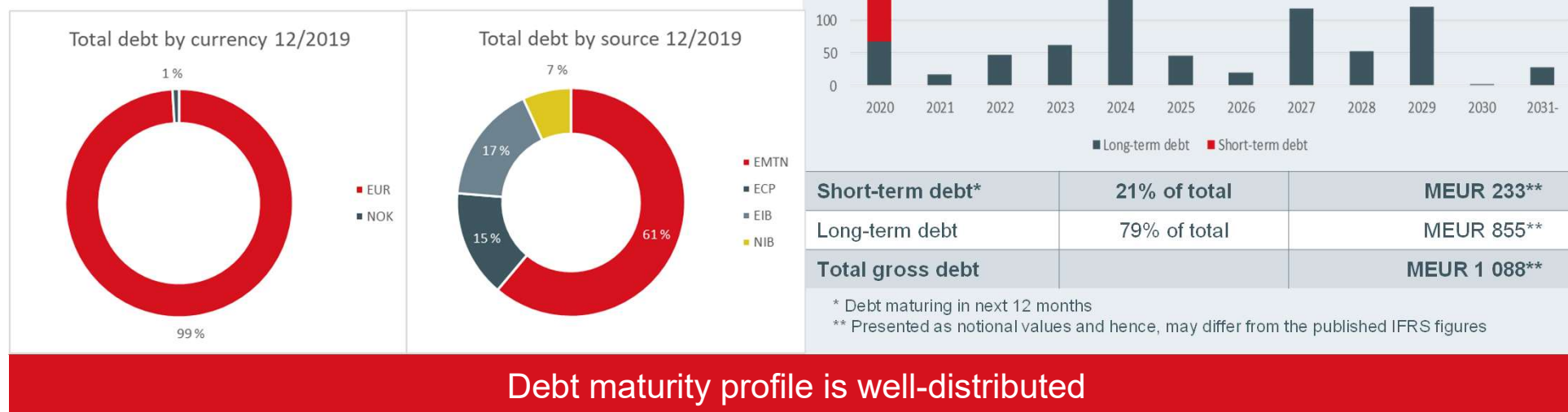
**Estimated impact from Green Bond projects include around 750 MW of new renewable capacity\*\* by end of 2019\***

The estimated indirect CO2 eqv avoided p.a. for 2019 in the table above has been calculated as follows: total realized annual electricity generation of approximately 2 TWh from wind farms enabled by the green bond investments in 2019 multiplied by CO2 baseline of 158kg CO2/MWh, which is the five year moving average CO2 baseline for electricity generation in Finland in 2019 published by Motus. (<https://www.motus.fi/en/motus/>)  
The estimated CO2 in next three years p.a. is calculated as follows: CO2 avoided in 2019 plus estimated new renewable electricity generation capacity enabled by the green bond investments by 2022 multiplied by an estimated annual generation in MWh per annum per installed MW multiplied by CO2 baseline of 158kg CO2/MWh. Estimated annual generation in MWh per annum per installed MW of around 3400 MWh p.a. is based on a weighted average of annual production of recently commissioned new wind farms in Finland per MW. The CO2 baseline applied is the same, which is used for Fingrid corporate sustainability reporting.

Green Bond Investor Letter and Impact Report | Impact to Renewable with the Green Bond proceeds | Health, Safety and Environment | Independent Limited Assurance Report | Annex 1: Projects financed under the EUR 100 million green bond

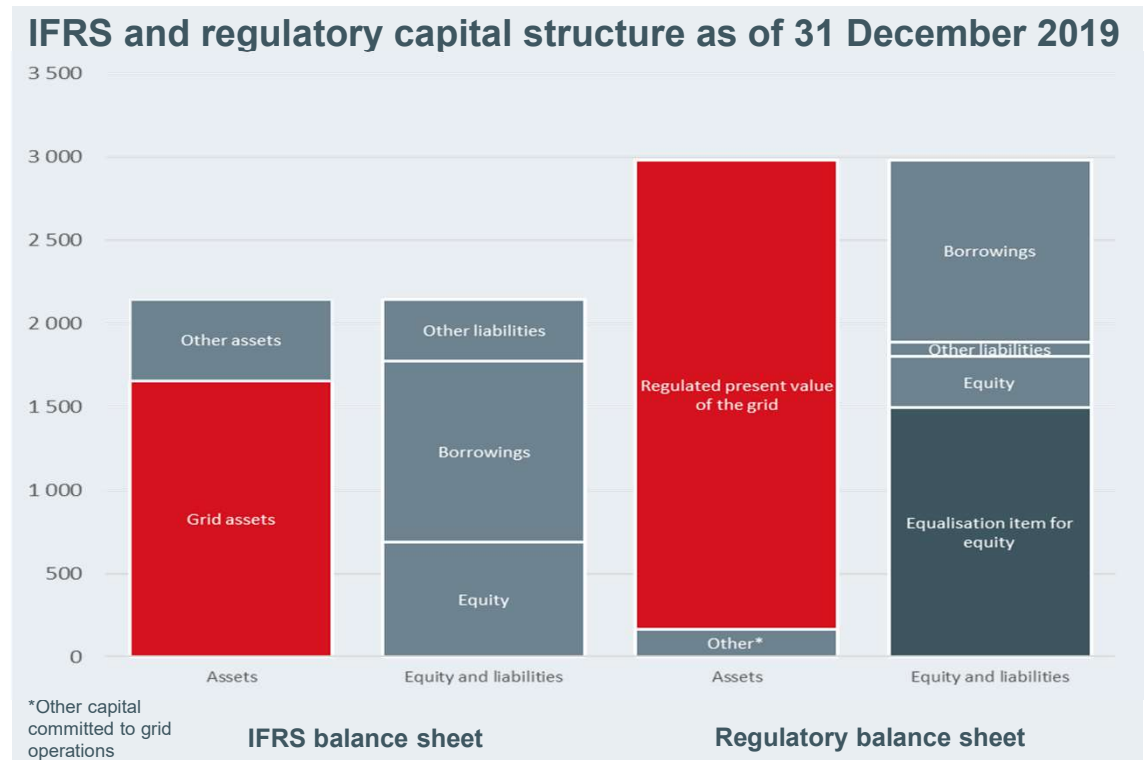
# Weighted average debt maturity was 5,8 years at the end of December 2019

- Fingrid aims to maintain a well-distributed debt maturity profile
- Debt portfolio consists mostly of private placements and a couple of public bonds



# Strong capital structure

- Total shareholders' equity and liabilities amount to MEUR 2,145
- Regulatory balance sheet amount to around MEUR 3,000 of which approximately MEUR 2,900 is used as adjusted capital in calculation of allowed financial result
- Grid assets are recognised at fair value for the purposes of the company's regulatory balance sheet

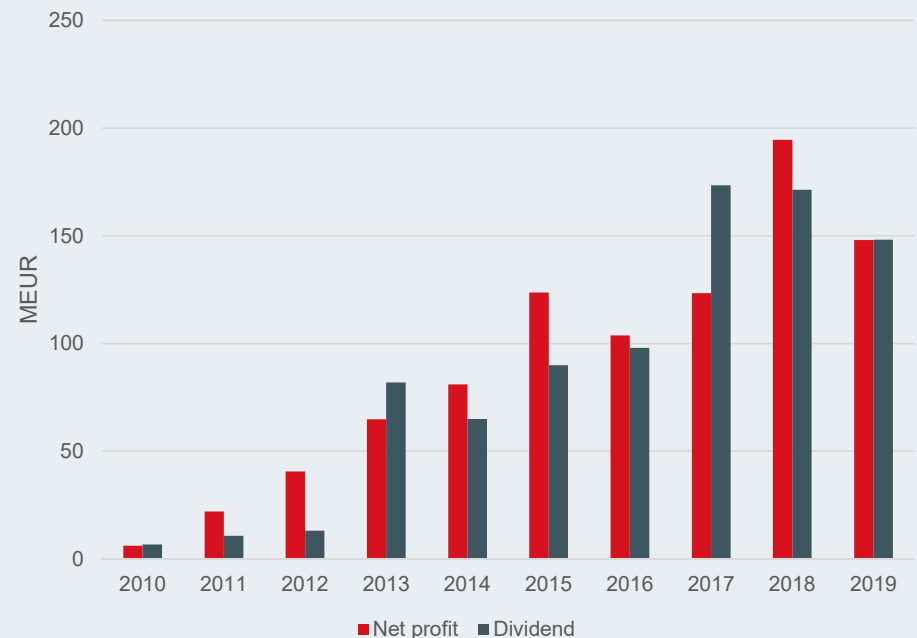


Equity to total assets ratio is 32 % (IFRS) and 61% (regulatory)

# Fingrid targets to distribute substantially all of parent company profit as dividend

- The guiding principle is to distribute substantially all of the parent company profit as dividend
- MEUR 148 proposed dividend of 2019 parent company FAS net profit
- Prevailing conditions and investment needs are always considered before taking decision on dividend to be paid
- This will enable long-term implementation of the strategy while allowing operative flexibility

Net profit and paid dividends in 2010-2019



Dividend policy aims to ensure reasonable return and take company's financial targets into account



# Ratings



# Fingrid aims to maintain high credit ratings

**S&P**  
**A-1+/AA-**  
**Stable**

Short-term/  
Issuer Rating

*"The upgrade primarily stems from the positive impact on Fingrid's earnings from modifications in the regulatory model for TSOs in Finland. These changes have increased Fingrid's allowed regulatory return, and made it more stable. Thanks to these changes, alongside previous tariff increases and the company's modest capital spending program, Fingrid has seen an improvement in its credit measures, which we believe should be sustainable."*

*S&P Global, 28 October 2016*

**Fitch**  
**F1/A+**  
**Stable**

Short-term/  
Senior  
Unsecured

*"Fingrid Oyj's ratings reflect good earnings and cash flow visibility until 2023 and the supportive features of the Finnish regulatory framework. The ratings further incorporate the group's conservative financial structure, but also Fitch Ratings' expectation of dividend distributions in excess of the stated dividend policy."*

*Fitch Ratings, 23 December 2019*

Fingrid is committed to maintain credit rating at least at 'A-' level in all circumstances

# Key rating factors according to the rating agencies

## S&P Global

- 1** Fingrid's business risk profile is underpinned by a strong, stable and predictable regulatory framework. Fingrid's financial risk profile benefits from low cash flow volatility
- 2** The Stable Outlook reflects our assumption that Fingrid will remain strategically important to the Finnish government as Finland's monopoly TSO, with stable and predictable underlying earnings supported by a favourable regulatory framework

## Fitch

- 1** The company benefits from a benign regulatory framework, which includes the possibility of setting its own tariffs in the context of the allowed profits
- 2** Fingrid benefits from the ability to pass on its operational costs to tariffs. The company has been consistently ranked among the most efficient TSOs in global peer studies, demonstrating strong operational efficiency

Fingrid's low business risk profile and supportive regulatory framework are key credit strengths





# Thank You!

**Fingrid Oyj**

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**FINGRID**