



Nuclear Power Financing in Finland – Past experiences and future challenges

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Agenda

- **The experience of financing OL3**
- **Financing of new plants in Finland**
- **Case Lithuania – Visaginas NPP**

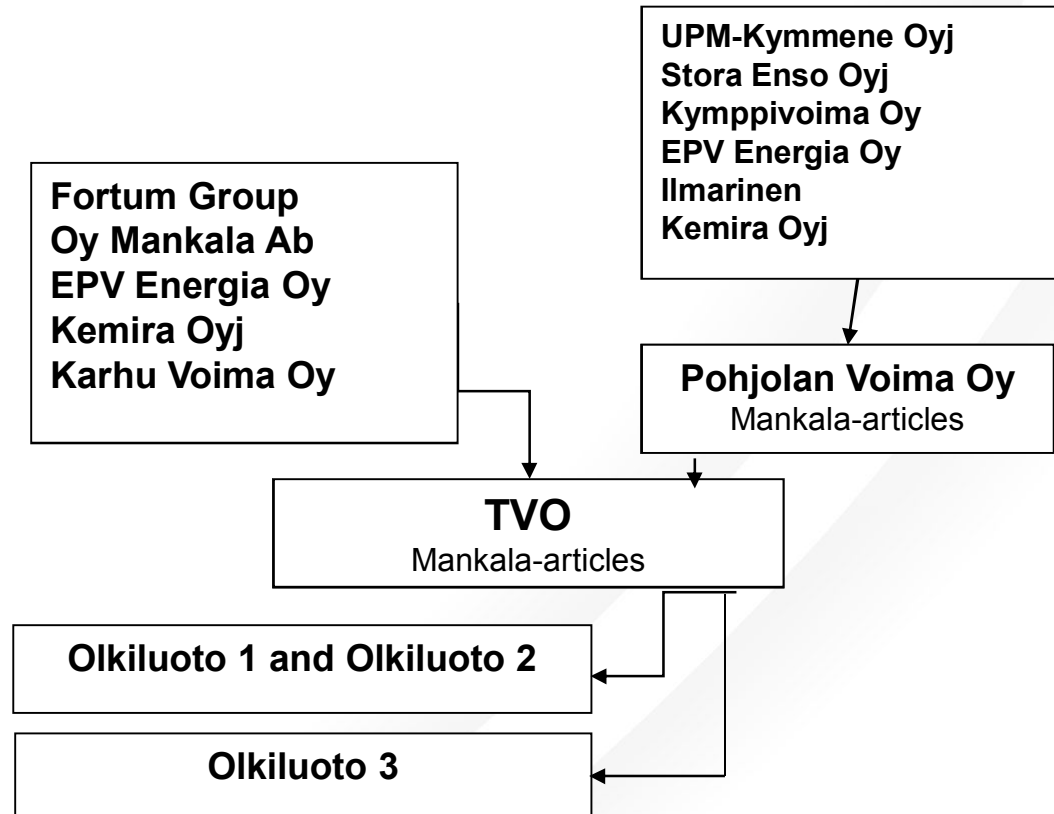
The experience of financing OL3

- What made it a special case
- How was it financed
- Status today

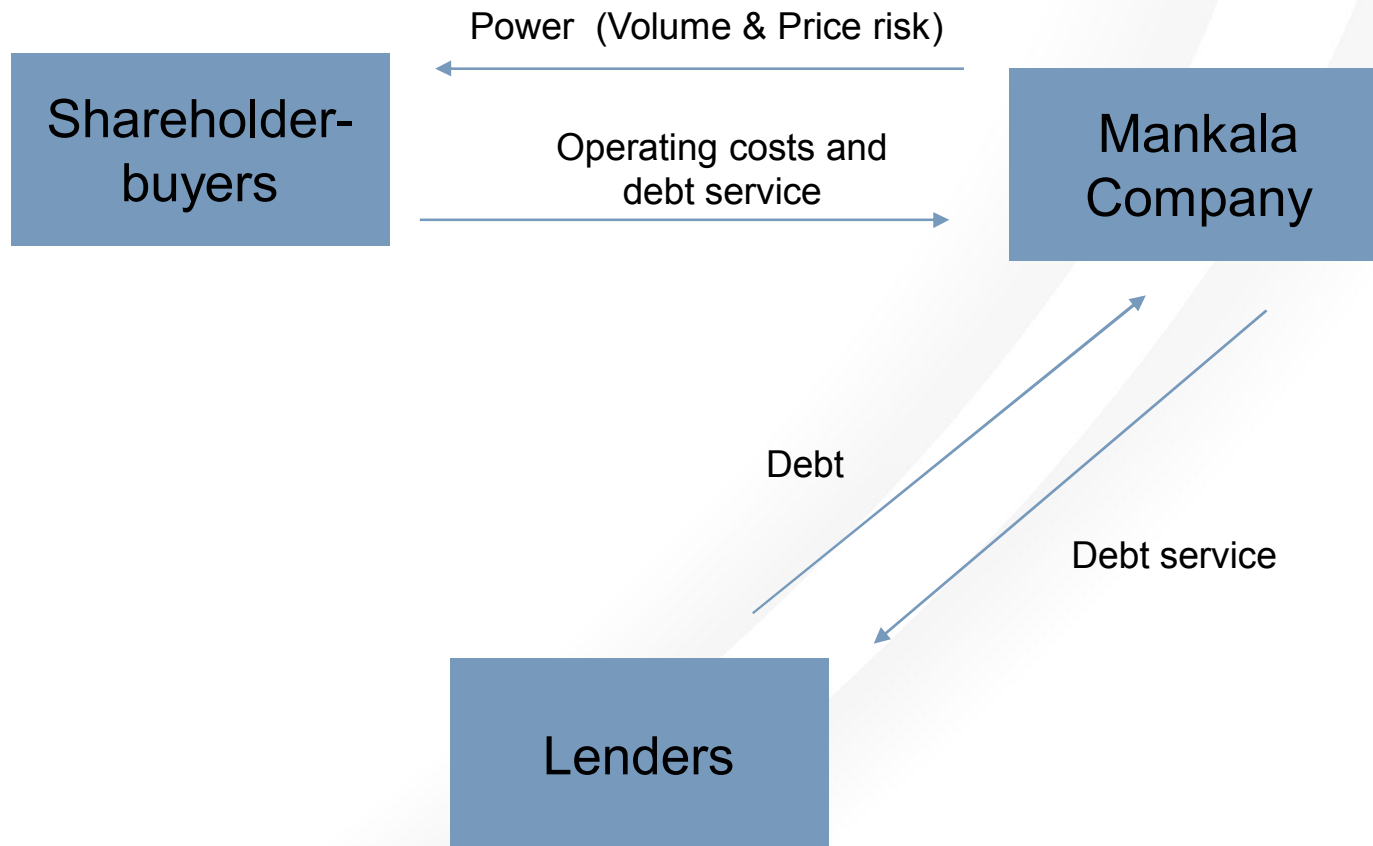
OL3 – What made it a special case

- **Private ownership**
- **Mankala structure**
- **Existing nuclear operations**
- **1st nuclear project in Europe for a long time**
- **New technology**
- **Turnkey construction contract**

TVO – Ownership structure



The Finnish Mankala business model



OL3 – How was it financed

- **Fully funded**
- **COFACE Export Credit**
- **Vendor loans**
- **Revolving Credit Facility**
- **Bilateral loans**

OL3 – Status today

- **Delayed by 4 years**
- **Large costs overruns**

Mitigated by:

- **Strong turnkey construction contract**
- **Committed shareholders under a Mankala structure**
- **Existing nuclear operations**

Financing of new plants in Finland

- OL4
- Fennovoima

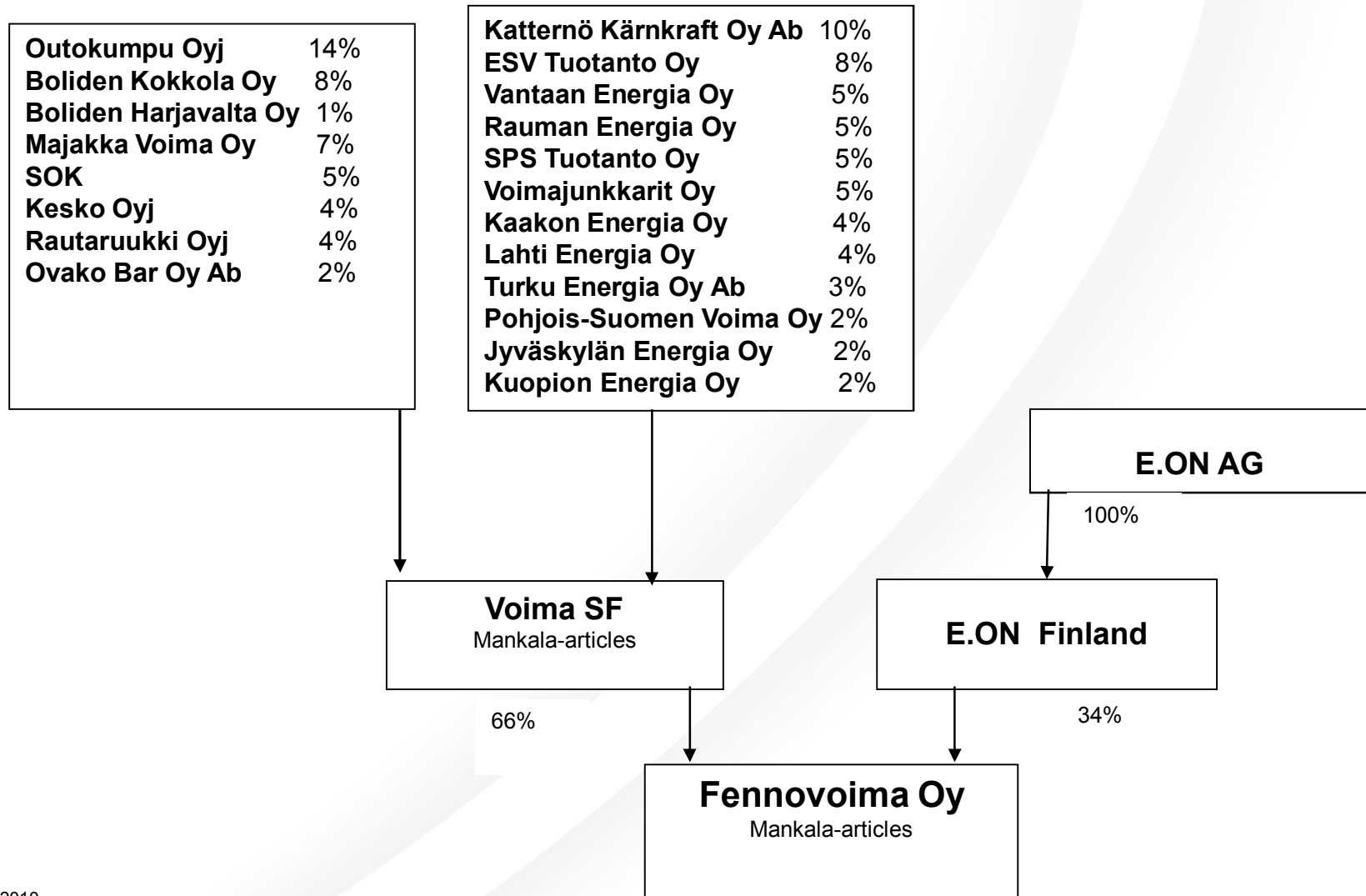
OL4

- **OL4 to be started only after OL3 is in operation**
- **Credit rating allows access to bond markets**
- **Possible funding structure:**
 - **Export credits: 17 years**
 - **Bond issues: 7 – 15 years**
 - **Supranationals: 10 – 15 years**
 - **Bank financing: 3 – 7 years**

Fennovoima

- **Greenfield project**
- **Privately owned**
- **EON as a large and credible partner**
- **Mankala structure**

Fennovoima – Ownership structure



Fennovoima – Issues related to financing

- **Strong shareholders' support during construction**
- **Is it worth to pay for a turn key contract?**
- **Long term bank money will be difficult to obtain (Basel III)**

- **Need to maximize vendor financing**
- **Important role for supranational financial institutions**
- **Refinancing post completion**

Case Lithuania – Visaginas NPP

- **Considerations for financing**
 - Political and regulatory environment
 - Strength of sponsors (and credit rating) versus commitments
 - Complementarity of sponsor group
 - Transferability of ownership
- **During construction**
 - EPC contract
 - Equity commitments / guarantees
- **During operation**
 - Operation & Management
 - Nuclear waste management / Accident Liabilities / Decommissioning

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Co-operative, zero-profit entity

The Finnish Mankala model example

- Mankala is in Finland a widely used business model where a limited liability corporation is run as a zero-profit-making co-operative for the benefit of its shareholders;
- The model had been successfully applied in the electricity sector to allow shareholders to join their resources to acquire access to a generation asset;
- The Mankala model is not based on a specific law, but rather it is established on a case-by-case basis through Articles of Association and Shareholders' Agreement;
 - Shareholders have the right to purchase the electricity produced, at cost, in accordance with their respective share in the company
 - Shareholders in turn are responsible for the fixed costs of the power company, including servicing of debt
- Key points to be regulated in these agreements are:
 - The zero-profit principle and clear cost allocation
 - Capital structure and capital repatriation principles
 - Sanctions that ensure ongoing payments by shareholders
 - Risk allocation between shareholders and the company