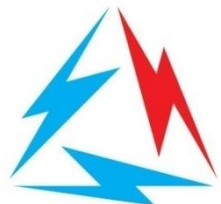


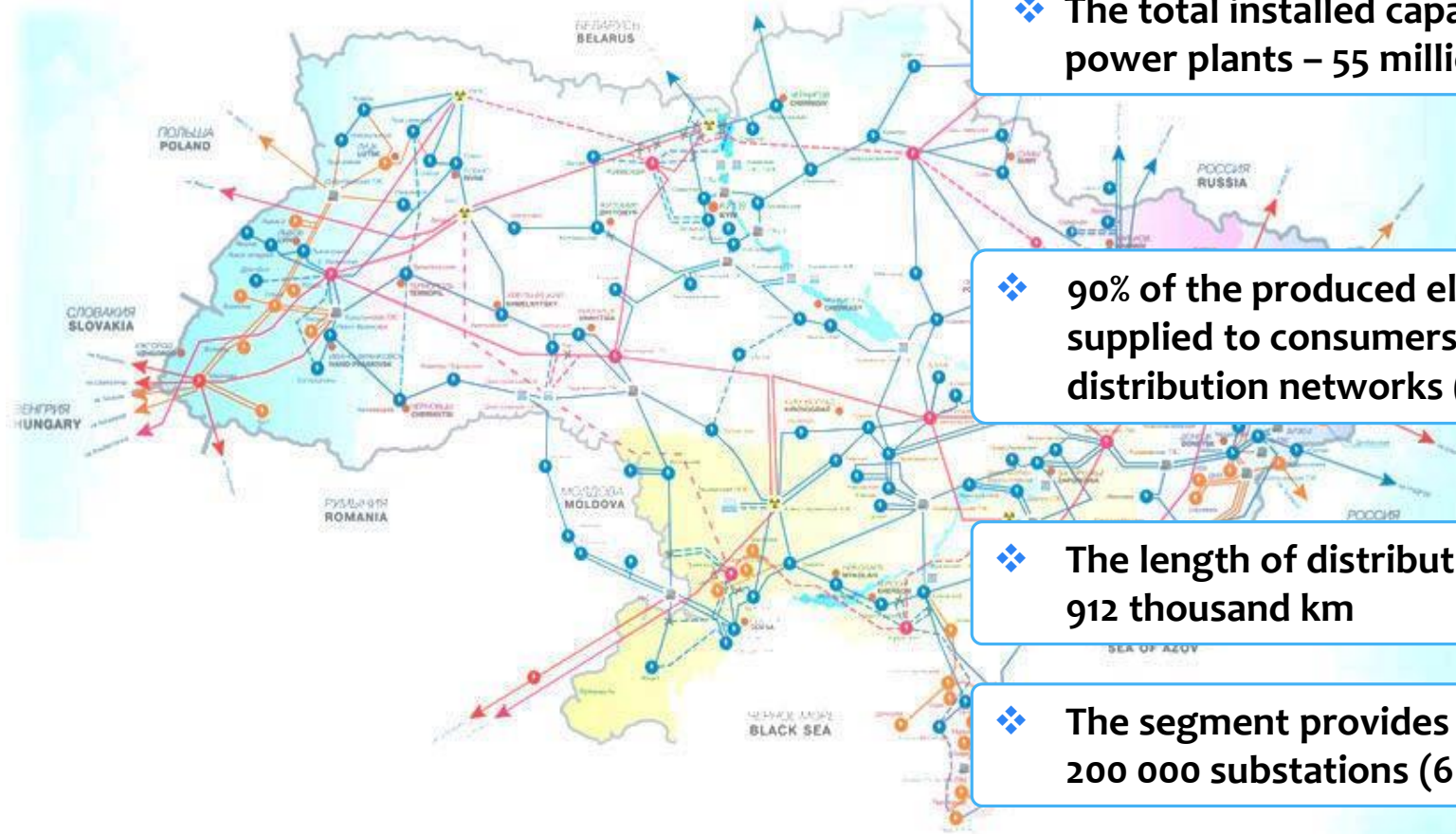
The energy supply of consumers in the context of functional problems of the Ukrainian distribution system

Association DSO (E) – Ukraine



Асоціація ОРЕМ-Україна

The main indicators of the distribution system



❖ The total installed capacity of Ukrainian power plants – 55 million kW

❖ 90% of the produced electricity is supplied to consumers through distribution networks (0,38 – 150 kV)

❖ The length of distribution networks – 912 thousand km

❖ The segment provides service to nearly 200 000 substations (6 – 150 kV)

The law of Ukraine «On the electricity market of Ukraine»

This Law defines the legal, economic and organizational principles of functioning of the electricity market and regulates relations connected with the production, transmission, distribution, buying and selling, supply of electric energy **aimed to ensure reliable, safe and uninterrupted supply of electricity to consumers**, taking into account consumer interests, the development of market relations, minimizing the costs of electricity supply and minimizing the negative impact on the environment.

Distribution networks status (general)

The overall indicator of infrastructure deterioration – above 70%
Age of infrastructure objects – more than 30 years
Annual electricity losses – up to 15 billion kWh

51% of distribution networks require overhaul repairs

17% of network transformers require an urgent replacement

Cost of construction of 1 km of low-voltage networks is nearby \$ 40 thousand

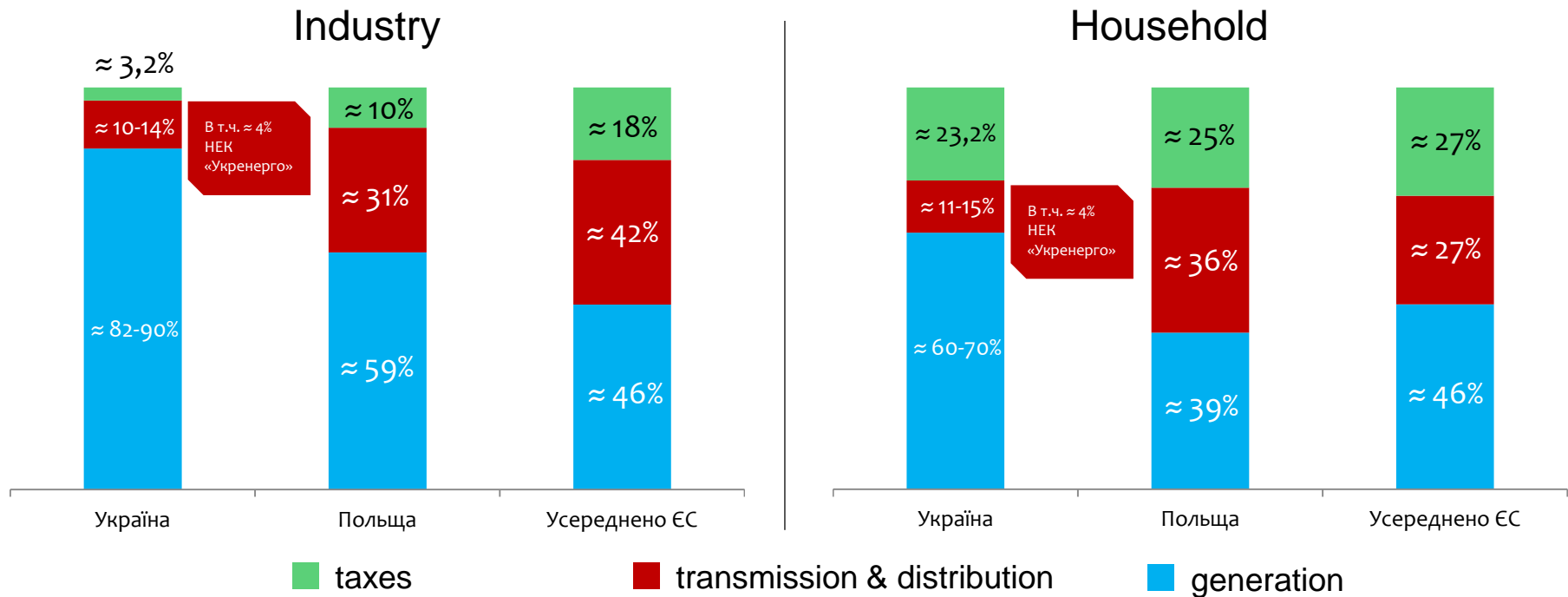
The minimum critical need of the electricity distribution sector in investments is about \$ 40 billion (for the next 10 years)

Distribution networks status (companies)

Nº	NAME OF THE COMPANY	OUTPUT (E), billion kW h	LOSSES (E), %	ASECA, %	DETERIORATION, %
1.	Vinnytsyaoblenergo	2,8	13,8	3	46
2.	Donetskoblenergo	3,2	15,1	1	77
3.	Zhytomyroblenergo	2,3	13,8	4	52
4.	Zacarpattiaoblenergo	1,8	17,7	1	46
5.	Kiyvoblenergo	5,4	16,9	5	60
6.	Odessaoblenergo	5,8	13,8	4	51
7.	Rivneoblenergo	2,1	13,9	0	62
8.	Sumyoblenergo	2,1	10,5	2	74
9.	Kharkivoblenergo	6,2	12,1	1	69
10.	Khersonoblenergo	2,2	15,8	1	85

The tariff structure

The structure of electricity tariff in the EU and Ukraine



Financing crisis – the result of imbalances in the distorted structure of the Ukrainian electricity tariff (only 8 % are related as the rate for distribution companies)

In developed countries, coverage of the costs for electricity distribution network operators in the retail tariff – not less than 20%

Double-rate tariff

Up to 70% of the total connected contract capacity is not used (consumers do not reimburse the costs of its provision!)

Example: the plant «CHEZARA» (city of Chernihiv)

- ❖ Connected capacity – 28 MW
- ❖ Used capacity – 5 MW
- ❖ Unused capacity – 23 MW



Consequences:

- ❖ Cost expenditures of distribution companies for the maintenance of unused capacities
- ❖ Lost profits of distribution companies
- ❖ Significant rise in price and increase in terms of connecting new customers

Problem issues in the work of distribution companies

- * **High degree of deterioration of main equipment (power lines, transformers, etc.)**
- * **High level of power losses in electric networks**
- * **Large amount of unused connected contract capacity**
- * **Discriminatory tariff structure**
- * **Inefficient system of tariff setting «costs +»**
- * **Insufficient and residual financing of companies**
- * **Lack of necessary investments in network modernization**

Ways to solve problematic issues

* Technical:

- Modernization of distribution networks;
- Gradual transfer of distribution networks from a three-tier system (110-35-10 kV) to a two-tier system (110-20 kV);
- Transition to the use of electrical heating (instead of natural gas)

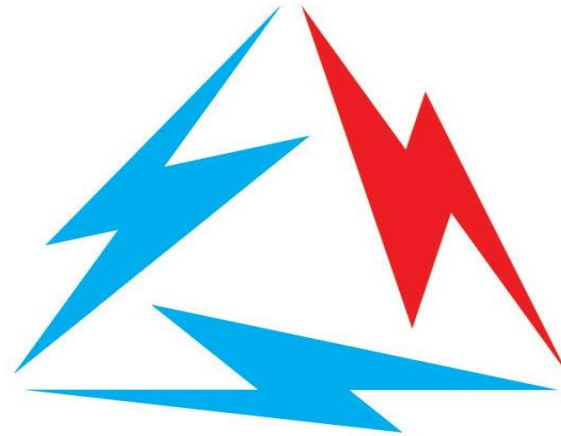
* Economical:

- Transition of distribution companies to a system of RAB-regulation;
- Introduction of subscription charge for the use of connected capacity

* Strategical:

- Appropriate changes to the Energy Strategy of Ukraine until 2035

Thank you for your attention!



Асоціація ОРЕМ-Україна

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