

ERRA Survey on Potential Regulatory Incentives aiming to reduce electricity network losses

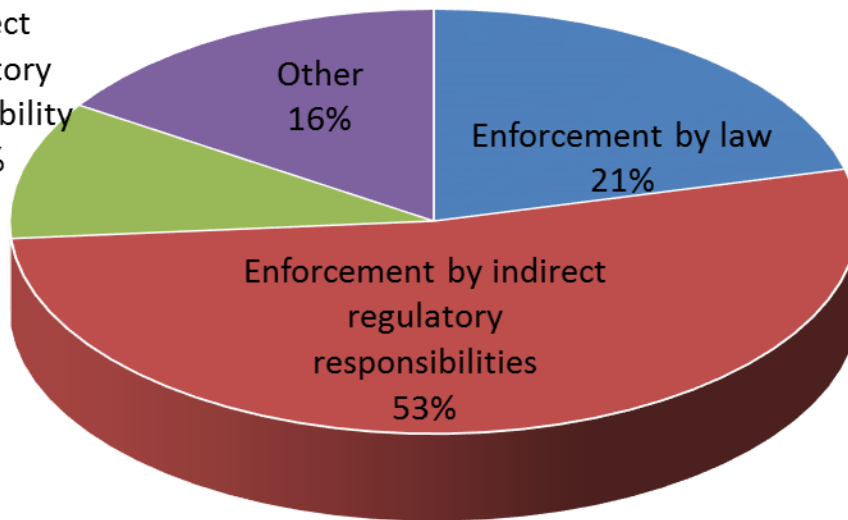
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Member ERRA Presidium
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- Collecting information on regulatory methods, which give incentive to the network operators (TSO, DSO) and suppliers to reduce network losses.
- Losses are important:
 - losses have direct impact on carbon emission (environmental consideration)
 - losses have influence on the necessary generation capacity (generation adequacy issue)
 - losses have to be paid for by users of the network (tariff consequences)
- Network companies should have *economic incentives* within the tariff system to work on the reduction of losses.

- Terminology:
 - *Technical network loss* (active power loss)
 - *Commercial network loss* (non- technical loss)
- The following countries filled the survey: Armenia, Azerbaijan, Estonia, Hungary, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Saudi Arabia, Serbia, Slovakia, Turkey, Ukraine, UNMIK
- Based on the evaluation of the answers and the additional comments we generate some general understanding and assessment on the situation of these countries

1. Regulatory authority responsibility for incentivizing TSOs, DSOs and suppliers to reduce network losses

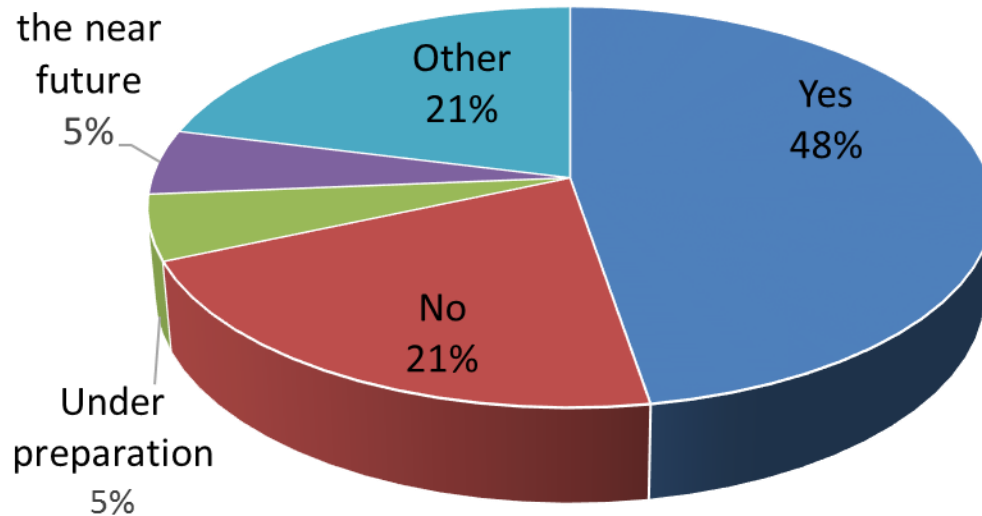
We do not have responsibility specified by law or by any other indirect regulatory responsibility 10%



- In most of the cases there are direct or indirect responsibilities of NRAs to create incentives reducing network losses
- Legal basis could be found based on the „minimum cost” principle or „efficient operation” criteria of pricing
- Other: through justified cost at price setting

2. Regulatory incentives for network operators and /or suppliers to reduce network losses

We plan to do so in the near future
5%



-In the majority of the cases there are introduced incentives

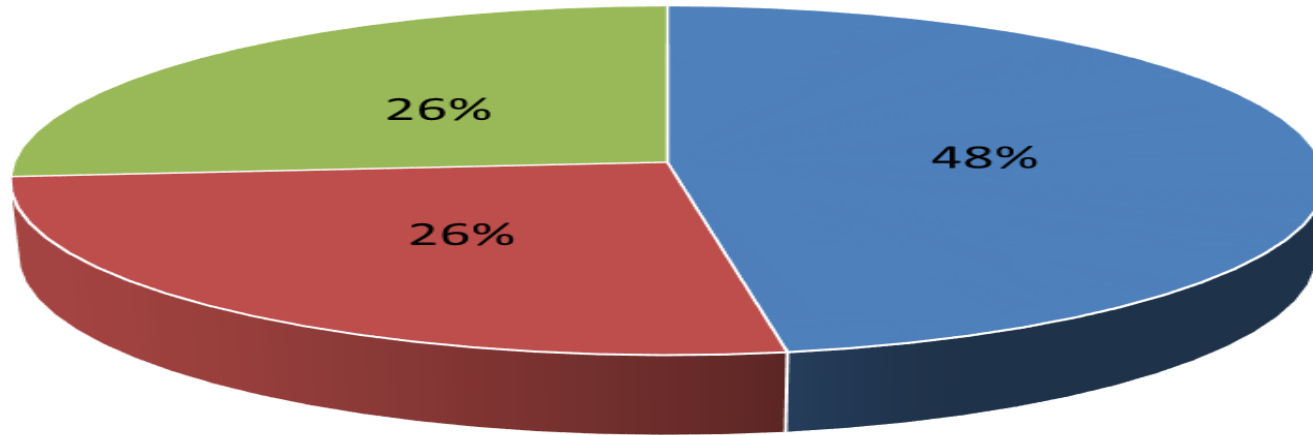
-Other:

-Incentives through justified cost at price setting

-Government requirement set in privatization contract

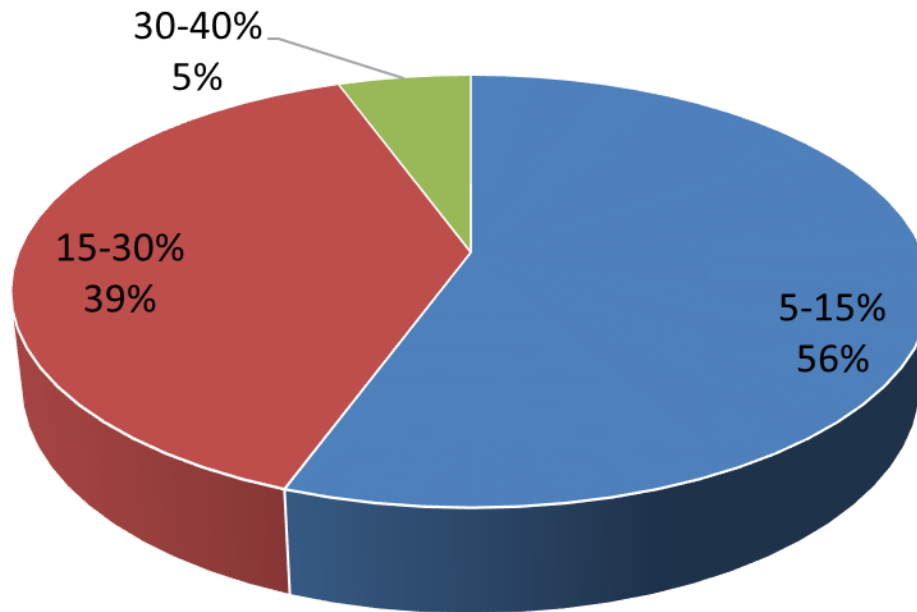
-DSO yes, TSO not

3. Regulatory authority practice (or any advisor hired by your authority) to calculate network losses



- Network loss data are delivered by the network companies
- Network loss calculation is based on physical and technical parameters of the network elements given by network companies
- Other
both a) and b) only ex ante; network losses calculation is based on data provided by other entity; other entity calculates network losses

4. Range of network losses (technical and non-technical together)



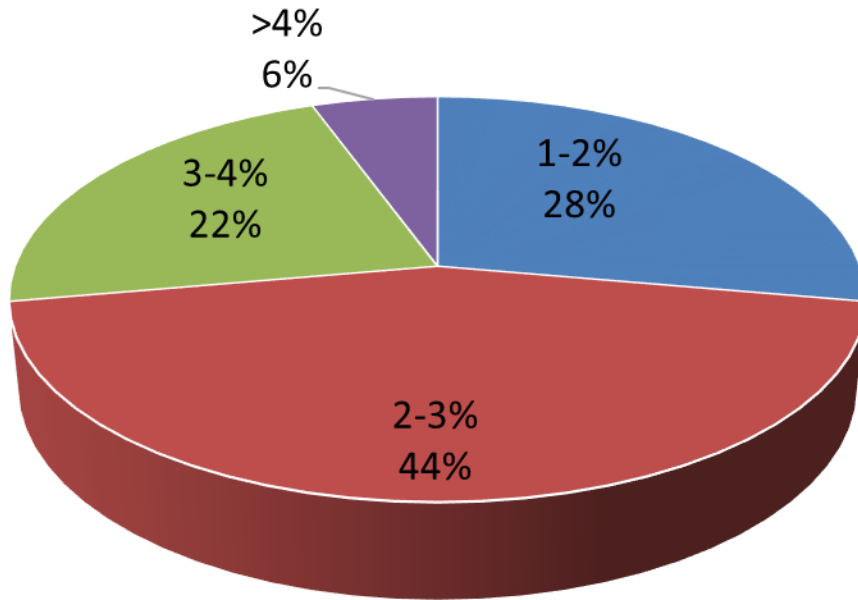
- In 7 cases (out of 18) the whole network losses are in the range of 15-30%

- In 10 cases (out of 18) the whole network losses are in the range of 5-15%

- In 1 case (out of 18) the whole network losses are in the range of 30-40%



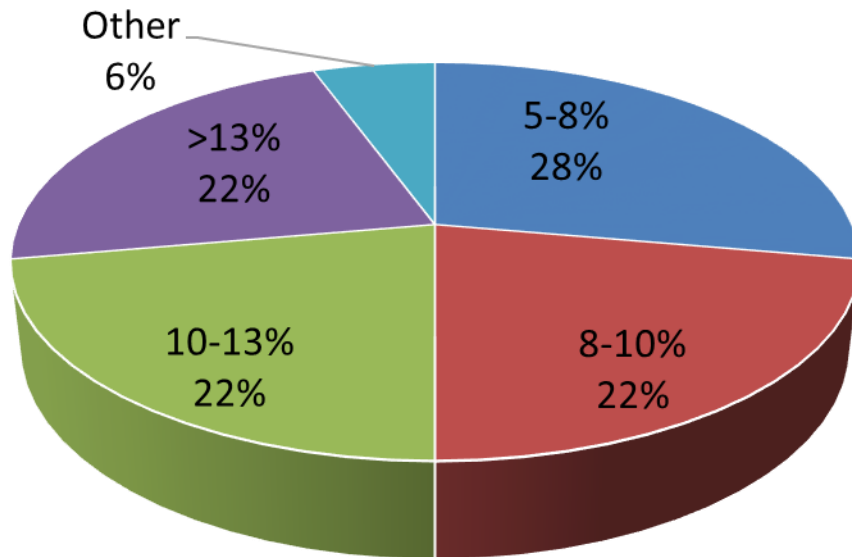
5. Range of technical losses -TSO Voltage range: 110 (35) – 400 (750) kV



-In 13 cases (out of 18) the technical network losses at TSO level are **less than 3%**

-In 5 cases (out of 18) the technical network losses at TSO level are **less than 2%**

- 6. Range of technical losses at DSO level: 0,4 – 35 (110) kV

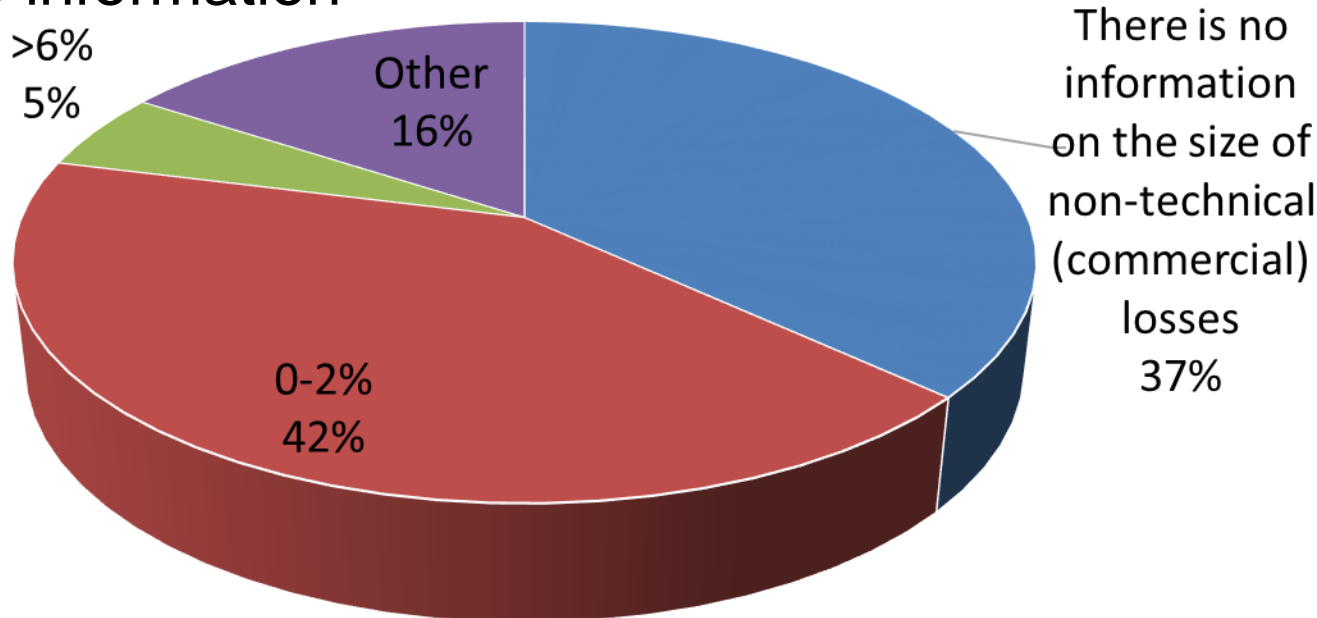


- In 13 cases (out of 18) the technical network losses at DSO level are **less than 13%**
- In 5 cases (out of 18) the technical network losses at DSO level are in the range of **5 - 8%**
- Other: different range **4-20%**

7. Range of non-technical (commercial) losses at TSO level

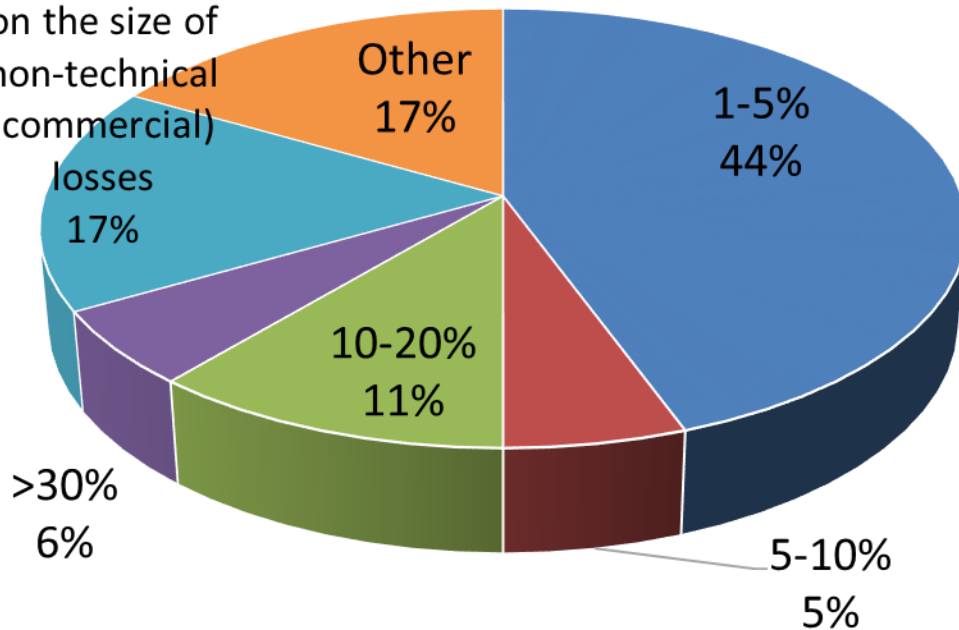
In 8 cases (out of 19) the non-technical (commercial) losses at TSO level are **less than 2%**;

In several cases there are **no information** on non-technical (commercial) losses at TSO level. Other: not realizable or not available information



8. Range of non-technical (commercial) losses at DSO level

There is no information on the size of non-technical (commercial) losses

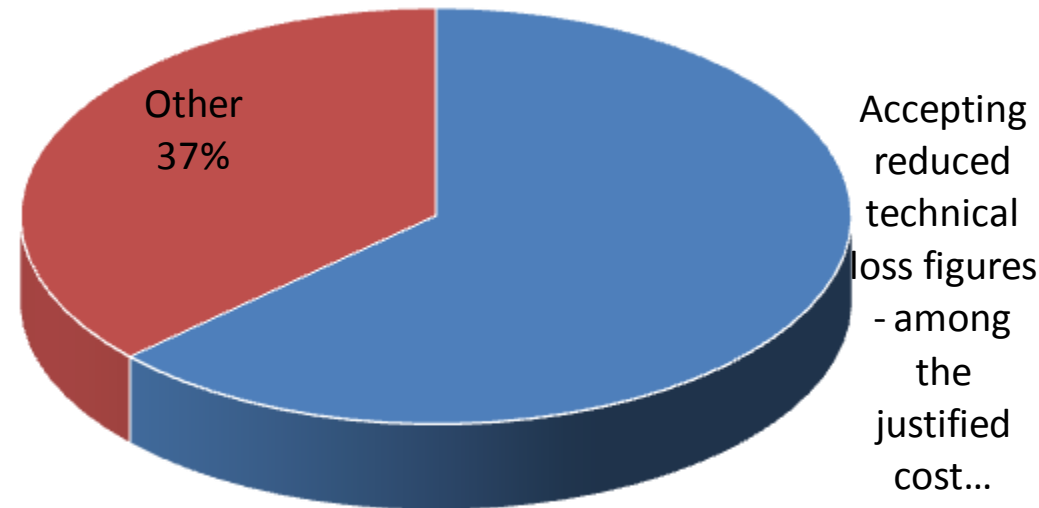


-In 3 cases (out of 19) there is **no accurate information** on non-technical losses at DSO level

-In 8 cases (out of 19) the non-technical losses at DSO level are in **the range of 1 - 5%**

-Other: **not available information**

9. Types of regulatory incentives for the network operators to reduce technical losses

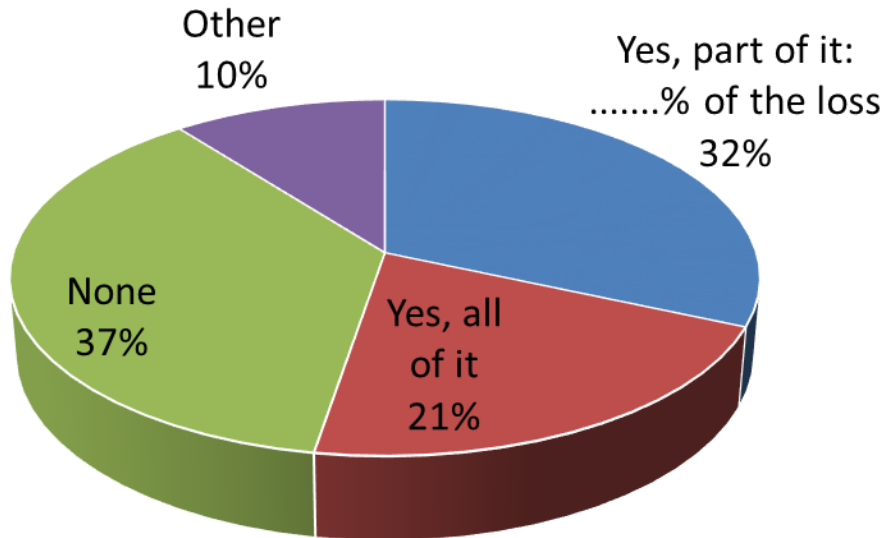


-In 12 cases (out of 19) the NRAs accepting lower figure of technical loss - among the justified cost elements - than the reported fact.

Others:

- All investments reducing technical losses are accepted (as justified cost)
- General tariff incentives (RPI-X) are „enough”
- No need for incentives (accepted level of loss)

10. Regulatory authority practice to accept any non-technical (commercial) losses calculating/setting regulated end-user tariff?



-In 7 cases the NRAs do not accept non-technical loss among the justified cost elements

-In 4 cases the NRAs are accepting all of the non-technical losses among the justified cost elements

-In 6 cases the NRAs are accepting part of the non-technical losses in different ranges: 1-2%, 15%, 2/3

Others:

-Benchmark based acceptance; measuring inaccuracy



Thank you for your kind attention!

Discussion