

Distribution Network Losses and their management – Case Study session

**Case study by Hungarian Energy and Public Utility Regulatory
Authority (MEKH)**

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Basic information about DSO(s) and network losses

1. *What is the total number of Distribution System Operators (DSOs) in country?*

There are 11 natural gas distribution companies in our country:

- 5 „Large” (i.e. regional) DSO (tariffs based on their own data)

- MVM Égáz-Dégáz Földgázhálózati Zrt. (MVM Group, indirect state ownership),
- E.ON Dél-dunántúli Gázhálózati Zrt. (indirect E.ON interest) , E.ON Közép-dunántúli Gázhálózati Zrt. (indirect E.ON interest)
- MVM Főgáz Földgázhálózati Kft. (MVM Group, indirect state ownership),
- OPUS-TIGÁZ Földgázelosztó Zrt. (OPUS Holding AG interest),

- 6 „Small” (i.e. local) DSO

(each has tariff equal to the most similar ‚big’ DSO)

Csepel Power Plant Kft.,

- ISD POWER Energiatermelő és Szolgáltató Kft.,
- Magyar Gázszolgáltató Kft.,
- E.GAS Gázelosztó Kft.,
- NATURAL GAS SERVICE Ipari és Szolgáltató Kft.,
- OERG Kft.



Basic information about DSO(s) and network losses

2. The structure – each DSO's natural distributed gas quantity and number of consumers?

- (2021 data)

Large DSO	Distributed Gas Quantity (Mm3)	Number of Consumers
E.ON-Ddgáz	820	305 868
E.ON-Kögáz	1 822	309 455
MVM Égáz-Dégáz	1 908	801 648
MVM Főgáz	665	799 959
OPUS – Tigáz	2 840	1 248 657

3. Share of smart meters in system?

- MEKH's meter inventory report shows the certified and non-certified meters registered during the period, broken down by capacity, with a separate category for conventional, electronic and prepayment meters. For natural gas, a **total of 3,085,433 meters** were installed, 99% of which were within the validation period, **0.96% were smart or remote reading meters** and 0.42% were prepayment meters.

Basic information about DSO(s) and network losses

4. *At what level and through what legislative documents is the component of losses in the distribution network covered in your country (government decree, technical normative acts, regulator's decision or other similar acts)?*

- Regulation by the NRA level (MEKH decree)

5. *What are the principles that define the methodologies which are used to determine the gas losses in distribution networks (national normative acts, methodologies, pipeline construction technical norms, other technical studies or analytical studies)?*

- In relation to the methodology, MEKH invites external experts to examine the identification of losses in the current system and propose an updated methodology based on cost-benefit analyses, which will be reviewed every 4 years.

Large DSO	Volume of loss (Mm3)	Proportion to total distributed volume
E.ON-Ddgáz	13	1,6 %
E.ON-Kögáz	10	0,6 %
MVM Égáz-Dégáz	35	1,8 %
MVM Főgáz	15	2,3 %
OPUS – Tigáz	44	1,6 %

Distribution Network Losses and their management

6. *What is the volume/proportion of losses that are taken into account for tariff purposes. What are the various countries approach to this aspect of network losses recovery through tariffs?*

- Both volume and proportion of losses are taken into account in tariffs only in the case of large DSO's.

Natural gas losses percentage last three years (losses/distributed amount)?

- 1) *Technical losses: Some of the technological losses are caused by the use of low-pressure uncalibrated meters at medium pressure and by non-continuous meter reading.*
- 2) *Comercial losses: By theft and improper purchase)*

Mm3	2019	2020	2021
Technical losses	56,2	56,2	56,2
Commercial losses	48,3	47,9	48,2
	104,5	104,1	104,4

What actions taken to reduce losses in system?

DSOs prosecute theft and irregular purchases. In addition, DSOs try to review technological losses at pipe joints, make condition repairs, and replace worn-out elements or meters with the latest technology. Unfortunately, in Hungary smart meters have not yet been rolled out, only pilot projects have been carried out in some cities (Szedeo, Bugyi).