Quantification of Methane Emissions (Planned and Unplanned Interruption)

Roundtable Discussion input by Austria

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Natural Gas System

Overall Information about Natural Gas System

1. **Length**: Transmission ~1.700 km, Distribution ~44.000 km
2. **Assets Age**: Broad range, network developed since 1967 and regularly updated (depreciation period usually between 20-40 years).
3. **Utilization Rate**: DSO still high although metering points decreasing (-30.000 from ~ 1,2m in 2023), TSO less transit due to changing gas flow pattern in Europe.
4. **Future Trends**: Gas consumption decreasing since 2021 (96,3 TWh)
5. **Yearly consumption**: 75,6 TWh (2023) and 2024 expected <70 TWh
6. **Storage capacity**: 101,6 TWh

System Loss

- Measurement difference <1% and own consumption <1% regularly checked (https://www.e-control.at/statistik/g-statistic).
- **EU regulation on methane emissions reduction in the energy sector (EU 2024/1787)**
  - Improve measurement, reporting and verification of energy sector methane emissions.
  - Immediate reduction in emissions through mandatory leak detection and repair and a ban on venting and flaring practices.
  - Methane transparency requirement on imports, collecting information on whether and how exporter countries/companies are measuring, reporting and abating methane emissions.

System Loss

Article 12: Monitoring and Reporting

- Report of source-level methane emissions using at least generic emissions factors for all sources by 5 August 2025.
- Report of source-level methane emissions for operated assets by 5 February 2026.
- Report of source-level methane emissions for non-operated assets by 5 February 2027.
- Report of quantified methane emissions at source and site level
  - for operated assets, by 5 February 2027 and by 31 May every year thereafter
  - for non-operated assets by 5 August 2028 and by 31 May every year thereafter

System Loss

LDAR-program at competent authority

- 5 Mai 2025 for existing sites
- 6 months from the date of start of operations for new sites

Verification

-Type 1: time interval between 3 – 24 months

-Type 2: time interval between 6 – 36 months

Threshold for repair or replacement of the components

-Type 1: 7.000ppm or 17g/h

-Type 2: 500ppm or 1g/h (aboveground comp.); 1.000ppm or 5g/h (2nd step underground comp.) & 7.000ppm or 17g/h (offshore comp. below sea level or below sea bed)

Repair & Remeasurements

-Repair to be attempted within 5 days or completed after 30 days at the latest

-Remeasurements after repair no later than 45 days & below threshold no later than 3 months

System Loss

Article 15: Restrictions on venting and flaring

- Probably the biggest cost driver of the new regulation
- Venting or flaring: Permitted in an emergency, in the event of a malfunction or in specific situations

Article 16: Reporting of venting events and flaring events

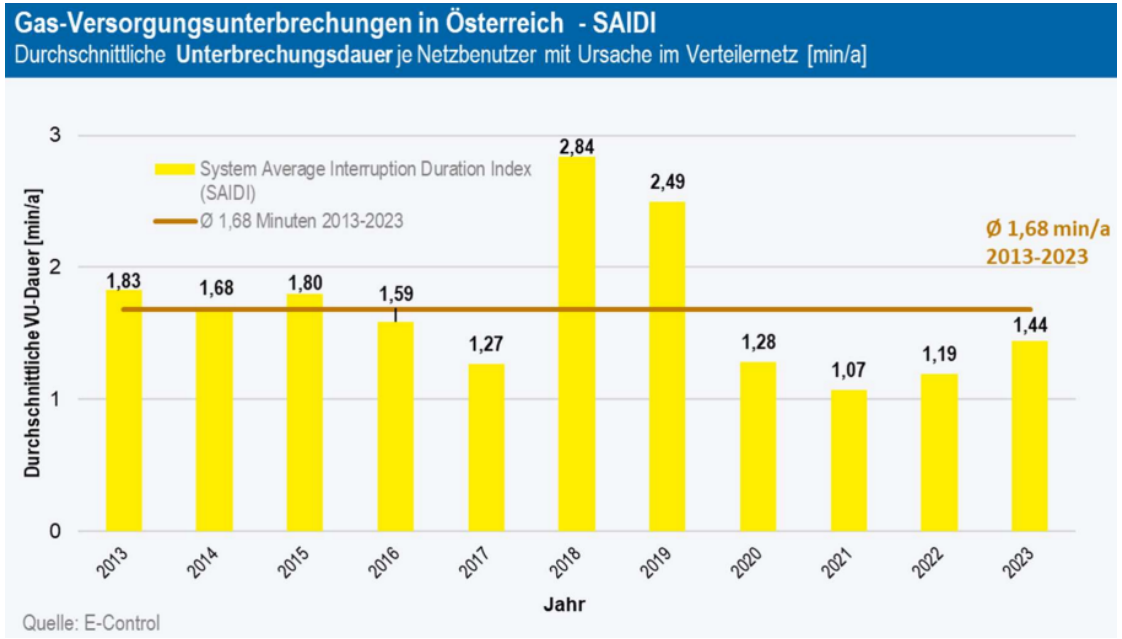
- Annual reporting of venting and flaring events

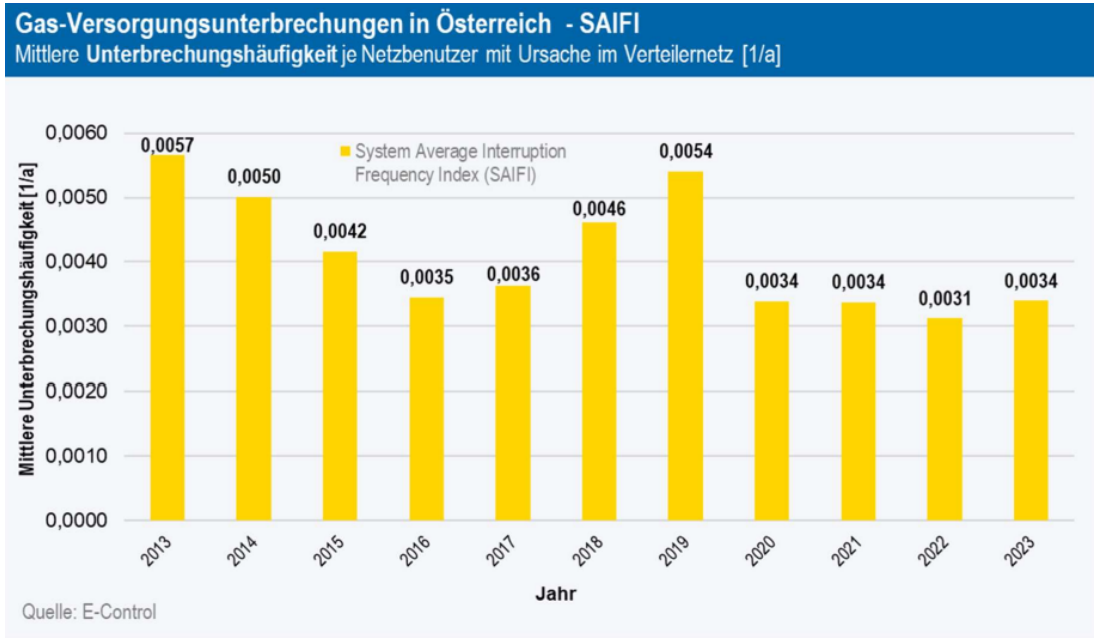
Article 17: Flaring efficiency requirements

- Gas flares or combustion devices with auto-ignition or continuous ignition burners must have a destruction and separation efficiency of at least 99% by 5 February 2026
- Regularly used gas flares must be inspected every 15 days: Possibility of remote monitoring system

Indicators

- **SAIDI** (System Average Interruption Duration Index) and **SAIFI** (System Average Interruption Frequency Index indicators) on low level.
- Published every year by E-Control in *contingency and disturbance statistics report* (https://www.e-control.at/ausfall-und-stoerungsstatistik)





Emissions tracking and quantifying

- **Rules based on ÖVGW Directive G B350**
  - Above-ground inspection (suction method)
  - Testing the soil gas (drilling method)
- **Oil and gas Methane Partnership (OGMP) 2.0** of the UNEP
  - Helps companies in the gas sector to reduce their methane emissions following a 5 level reporting approach (Austrian members are OMV and both TSOs).
- **EU regulation 2024/1787**
  - Requirements for Leak Detection and Repair (LDAR) programs will follow once the competent monitoring authority will be mandated next year.
  - Implementing act (detection limits and threshold for the first step for underground components) and delegated act (technical standards) by EC will provide further details for reporting methane emissions.
  - Challenges for the operator: Interpretation of the legal framework, high increase in operational work, quick repair and replacement necessary, meeting deadlines

THANK YOU FOR YOUR ATTENTION!

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