



Mid-term European Gas Adequacy Assessment

Concept Framework for Mid-Term Analysis

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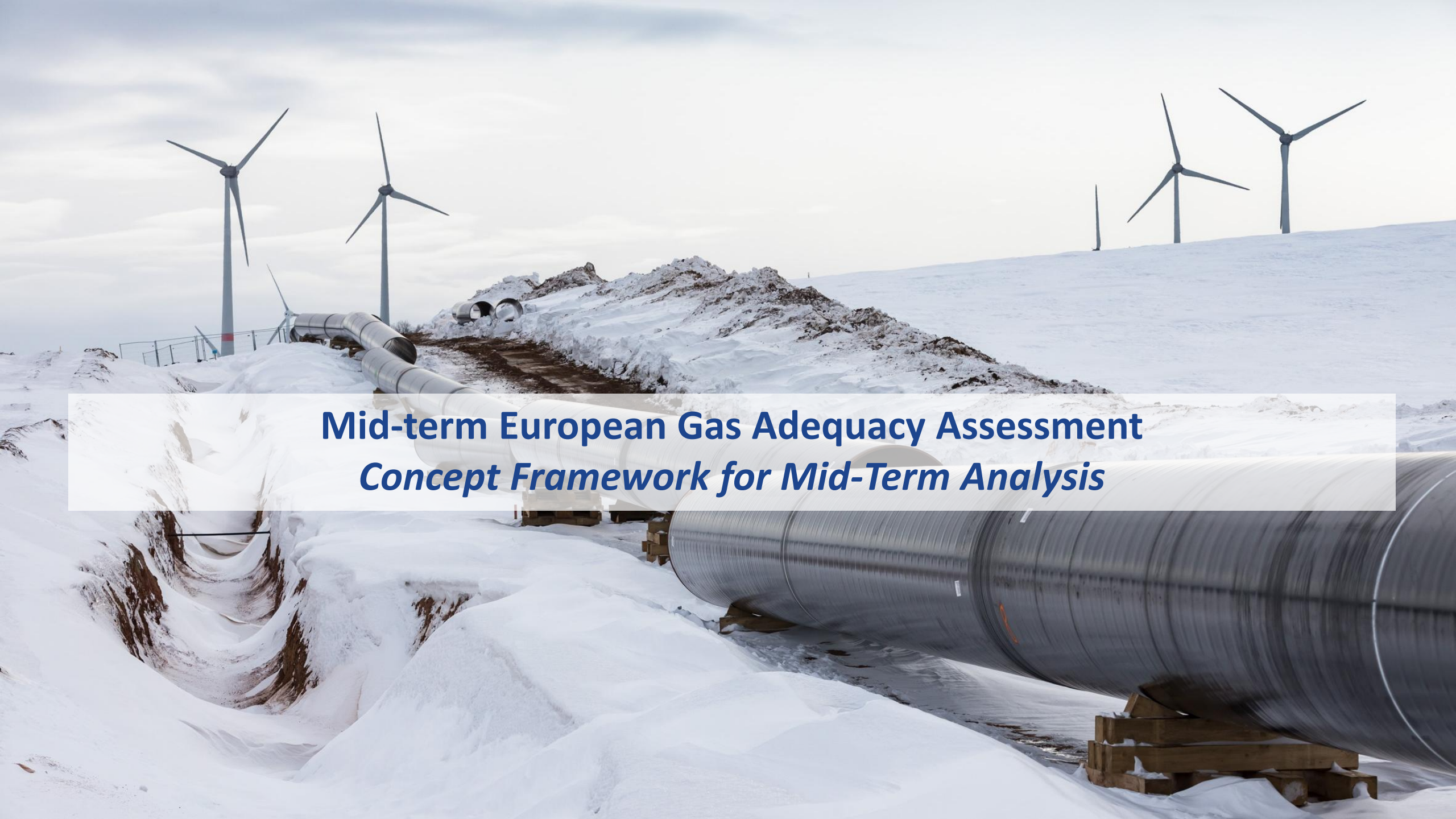
Proposal of new analysis under reviewed SOS Regulation



The European energy system is currently undergoing a profound transformation, propelled by decarbonisation objectives, increasing electrification, and shifting demand patterns. In this context, ensuring the **security of gas supply** remains essential for maintaining energy system stability and supporting the energy transition.

Analysis is designed as a **scenario-based adequacy assessment grounded in National Energy and Climate Plans (NECPs) and scrutinised by TSOs to reflect the actual level of energy transition**. It aims to provide a realistic and transparent view of system resilience, highlighting potential risks where planned developments may not materialise as expected.

The proposed assessment introduces a dedicated **mid-term analytical framework covering the next-ten-years horizon**, addressing a critical gap between short-term operational outlooks and long-term infrastructure planning.

A photograph of a snowy landscape featuring several wind turbines in the background and large, dark, corrugated metal gas pipes in the foreground. The pipes are laid out on the snow, with some sections supported by wooden pallets. The scene is set against a cloudy sky.

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Mid-term horizon presents an opportunity to further enhance the currently robust analytical framework covering both short-term system outlooks and long-term infrastructure planning

The evolving energy landscape is characterised by:

- Increasing penetration of renewable energy sources
- Growing interdependencies between gas and electricity systems
- Electrification of end users
- Uptake of biomethane
- Changing patterns of industrial demand

These developments introduce **new dimensions of risk, including variability of supply, higher flexibility for electricity generation provided by gas, cross-sector dependencies, and uncertainty regarding the pace of transition.**

Mid-term European Gas Adequacy Assessment aims to

- Assess **security of gas supply** in the following 10 years horizon
- Identify **system vulnerabilities under stress conditions**
- Provide **transparent and realistic insights** based on existing policy frameworks and current stage of energy transition
- **Support decision-making** related to infrastructure, policy, and system resilience
- Geographical scope: European level (EU27+), with country granularity where relevant
- Analytical focus:
 - Supply adequacy
 - Demand evolution and flexibility needs
 - System **resilience under stress**; Current infrastructure and storage, projects including **repurposing**



Mid-term European Gas Adequacy Assessment aims to

It would be prepared as a **scenario-based adequacy framework** that reflects the energy system *as exist and as planned*. By grounding the analysis in NECPs, verified under the angle of actual implementation and without adjustments aimed at closing gaps, the framework enables the identification of **potential gaps between policy objectives and system realities**.

The approach is guided by the following principles:

- **Policy realism:** reliance on existing national plans
- **Transparency:** clear communication of assumptions and limitations
- **System integration:** consideration of gas–electricity interactions
- **Resilience focus:** emphasis on energy system behaviour under stress

This includes:

- Modelling gas demand for power generation over investigated period
- Assessing simultaneous stress across electricity and gas systems
- Providing complementary insights from a gas system perspective

Concept overview



Addressing potential gaps between policy objectives and system realities

The framework is particularly suited for mid-term strategic analysis and scenario exploration.

- **Risk Assessment and Mitigation:** Systematic identification and reduction of supply and infrastructure vulnerabilities to strengthen security of supply.
- **Performance Monitoring:** Continuous evaluation of supply security, market integration, competition, and sustainability achievements.
- **Policy & Regulatory Support:** Providing structured insights to inform policy formulation and regulatory decision-making.



Stakeholder feedback

During workshop on 11 March, stakeholders actively engaged with targeted questions with possibility to provide additional feedback after workshop:

- ✓ emphasising need for more realistic, market-based data, integrated modelling of methane and electricity interdependencies
 - ✓ incorporation of stress tests and shocks
- ✓ importance of considering actual infrastructure and supply realities beyond 2030 targets
- ✓ addressing data collection challenges for biomethane and CO2 projects
 - ✓ advocating for enhanced modelling features
 - ✓ integrating short-term market risks and transitional dynamics to improve forecasting and resilience
- ✓ analysis should be grounded in observable market signals and stakeholder input including DSOs
- ✓ advocates for transparent and coordinated infrastructure data reflecting transmission and distribution levels

Multiple choice ▾
27 votes

Why should ENTSG undertake a mid-term (10 years) security of supply analysis?

To provide a more thorough investigation of adequacy of gas grid for supply and demand.

To provide more information for gas storage needs, reserves, demand aggregation, etc.

To supplement assessments being undertaken by the electricity infrastructure operators.

All of the above



Thank you for your attention

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