

Issues and Topics in Natural Gas Storage

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Energy Regulatory Partnership Program
October 4, 2007.

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1.0. Legislation and regulatory framework

**Directive 2003/55 EC
Energy Law, 2004.
Licencing Code**



2.0. Licensing procedures

- According to the Energy Law, the Ministry of Mining and Energy issues the License Code (defining the procedures and conditions for issuance, suspension, and revocation of licenses)
- The Agency issues licenses for :
 - Storing of natural gas
 - Natural gas storage operation

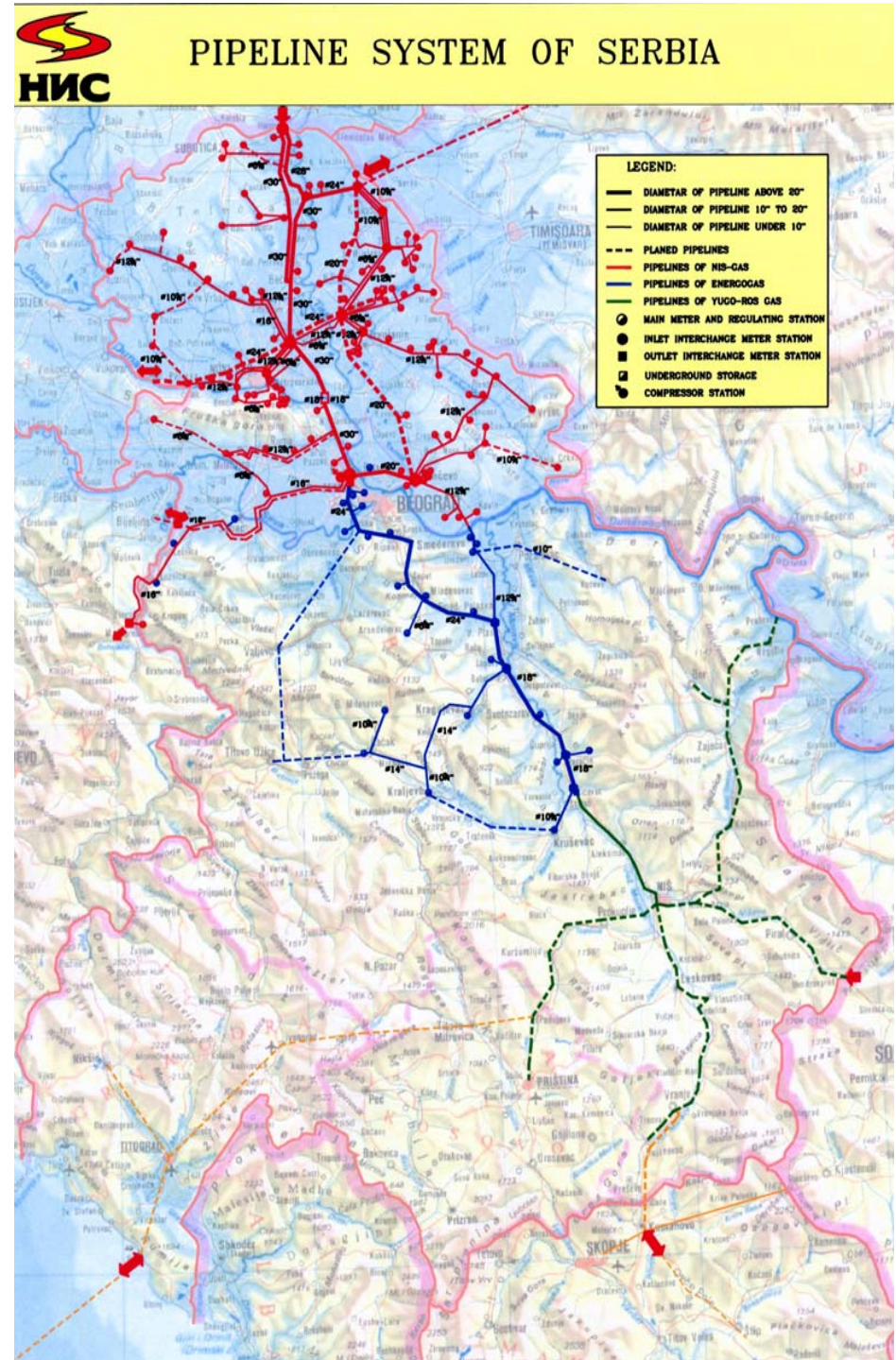


3.0. Storage facilities: storage system operations and services

- **Serbia currently does not have any gas storage and line – pack volume in the transmission pipelines is rather low. Underground gas storage Banatski Dvor is under construction.**
- **The most important capital investment in gas infrastructure is the construction of underground gas storage and connection with the gas pipeline system in the region.**

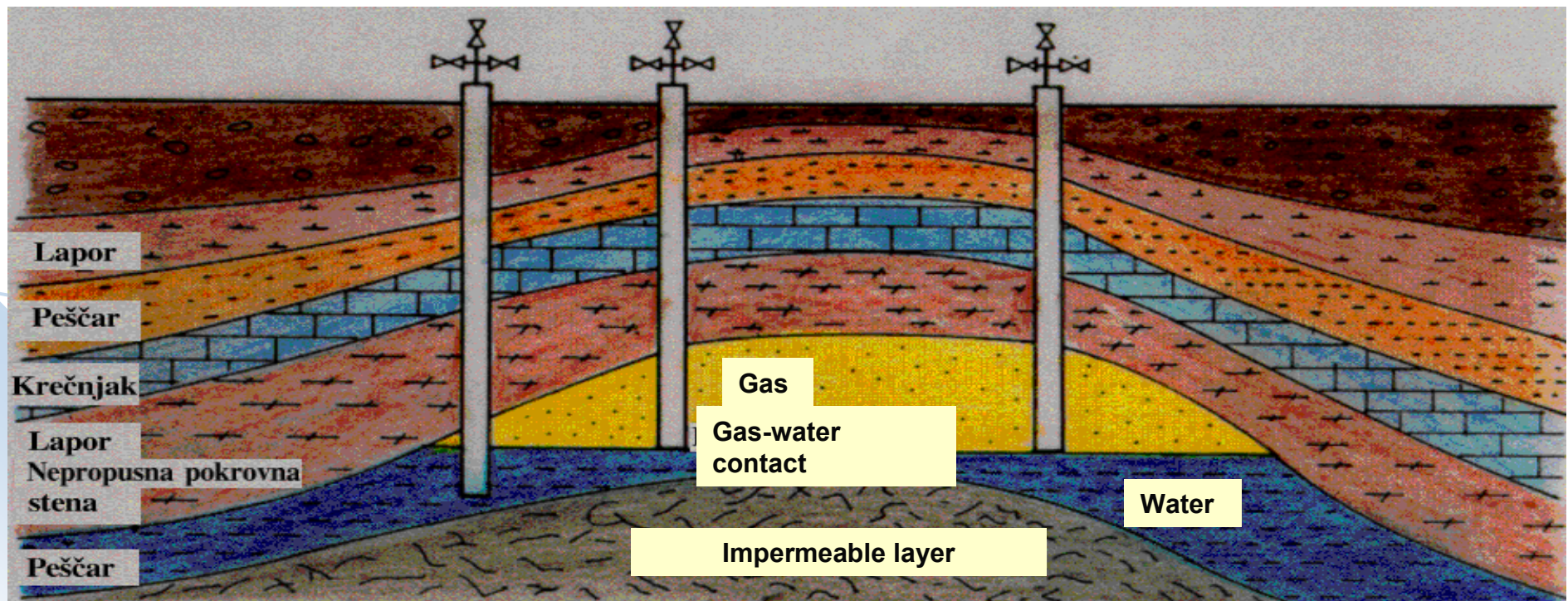
LOCATION, AND TECHNICAL FEATURES OF UNDERGROUND GAS STORAGE

- **CAPACITY :**
 - MAX 800 million m³
 - I phase 300 million m³
- **INJECTION CAPACITY:**
 - max. 7 million m³/day
 - min. 1.3 million m³/day
- **PRODUCTION CAPACITY:**
 - max. 10 million m³/day
 - min. 1.6 million m³/day
- **WELL PRODUCTIVITY:**
 - max. 0,55 million m³/day
 - min. 0,3 million m³/day



Geological profil

Bd - N Bd - 101

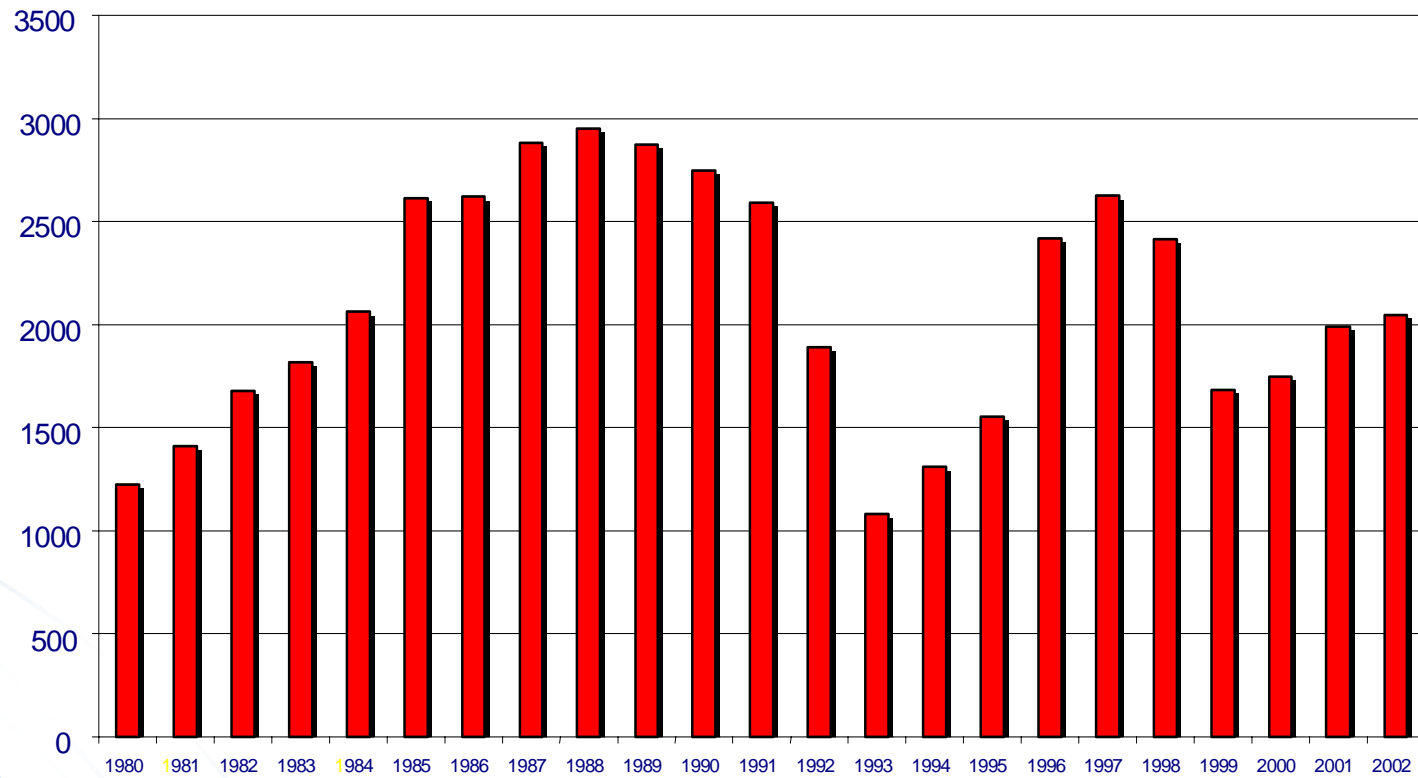


BASIC PARAMETERS FOR UNDERGROUND GAS STORAGE CONSTRUCTION

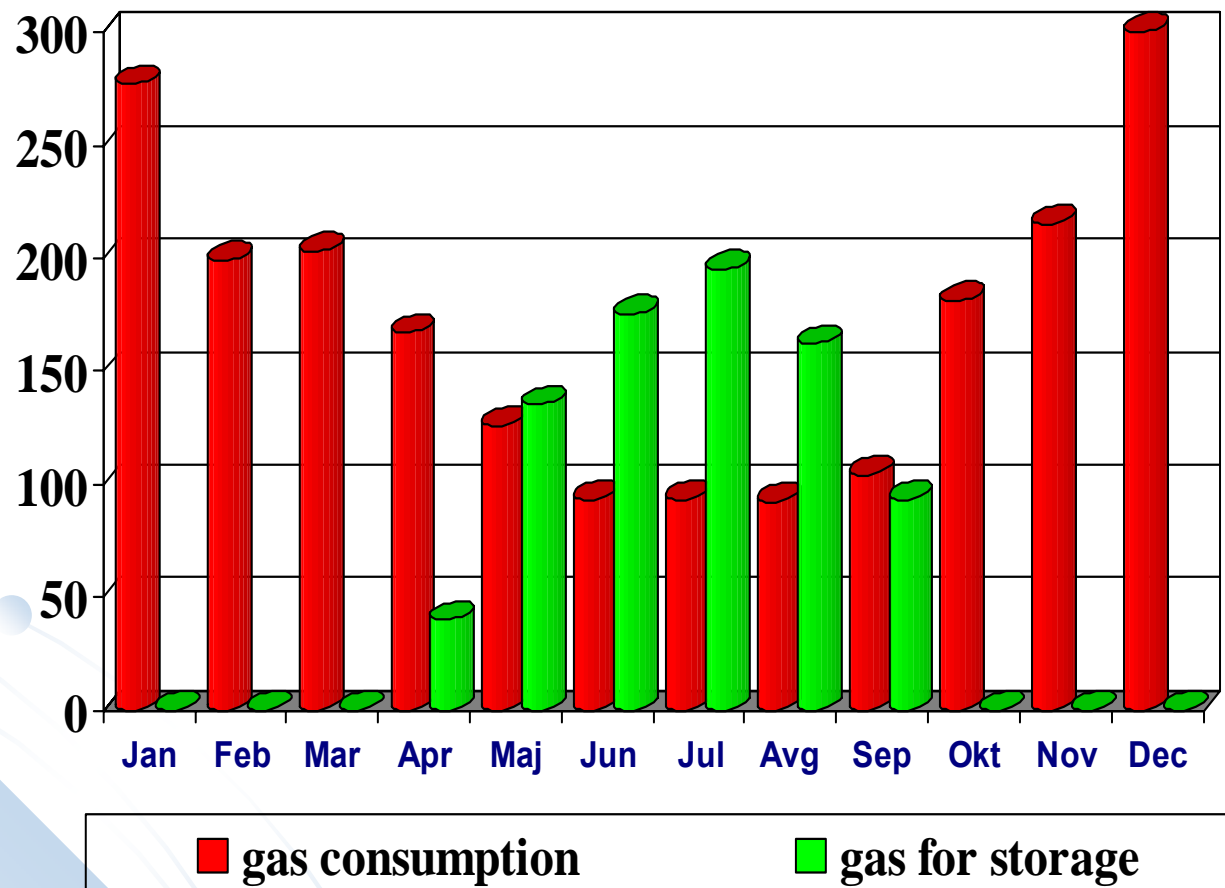
- **Gas consumption in 2006, 2.3 billion m³**
- **Estimated gas consumption until 2010, 3.3 billion m³**
- **Domestic gas production 200 million m³**
- **Dominant importation of Russian gas**
- **Uneven gas consumption dynamic**
- **Even gas importation dynamic**
- **Required gas storage for 25-30% annual consumption**
- **Regular operation of storage requires injecting a part of cushion gas (cca 300 million m³)**

Gas consumption in Serbia

mil. m3



Monthly gas consumption



Purpose of underground gas storage

- **Storage of surplus imported gas from gas pipeline system during summer season**
- **Provide of continual and even gas production from own reservoirs**
- **Elimination of seasonally discordance of gas production and consumption**
- **Optimal usage of transition and transporting gas pipeline system**
- **Compensation of peak gas consumption during winter season**

Compressor aggregate



- ***Production line: Existent collecting gas station to be of use like production gas line for capacity gas at 1 million m³/day.***



Storage system services

- Publishing nominal and free capacity of the storage facility
- Receiving orders for capacity
- Capacity allocation
- Capacity sales (entering into agreement)
- Releasing and reselling unused storage capacities
- Releasing and receiving nominalization
- Receiving natural gas at receiver stations
- Receiving natural gas at transferring natural gas at transfer stations.
- Safeguarding natural gas provided by system users
- Controlling storage turnover
- Preparing balance sheet
- Accounting
- Operating 24 – hour dispatcher services
- Operating customer services

Supplementary services rendered by the storage

- Option for using interruptible capacities

OTHER ACTIVITIES PERFORMED BY THE STORAGE

- Determining storage capacities
- Business administration of storage capacities
- Operating storage facilities
- Assets management
- Maintaining storage facilities
- Assistance in balancing

4.0. Storage operators: function, obligations, rights

- *The role of underground natural gas storage facilities is essential in meeting such peak demand during the winter period and in establishing and maintaining reasonable supply security.*

- *An energy entity performin the activity of natural gas storing :*

- 1) is obliged to provide conditions for secure storing, functioning and maintenance of natural gas storage*

- 2) is obliged to determine schedule for construction of new and rehabilitation of existing capacities for natural gas storing*

- 3) is liable for the implementations of the development plan beforehand referred.*

The activities of natural gas storage operations

The natural gas storage operator is liable for:

- pressure and quantity control in both working cycles,
- operating the natural gas storage,
- coordination of field operation with the transportation system operator,
- monitoring and ensuring for functional availability of surface and underground parts of the storage,
- passing the operation code and rules on third party access to the storage capacities.

5.0. Storage access: Regulated, negotiated

- The Storage shall always observe Gas Directive 2003/55/EC issued by the European Union, provisions of ANGS and related decrees, as well as those set forth in EU Guidelines concerning the access to storage facilities (Guidelines for Good TPA Practice for Storage System Operators.
- Regulations providing transparent access without discrimination to the storage facilities for each user

Thank you for your attention!

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