


ACER

 Agency for the Cooperation
of Energy Regulators

Questionnaire for the assessment of
the **LNG** and **Storage Systems**
in GRI SSE Countries and Energy
Community Contracting Parties

Regulatory perspectives

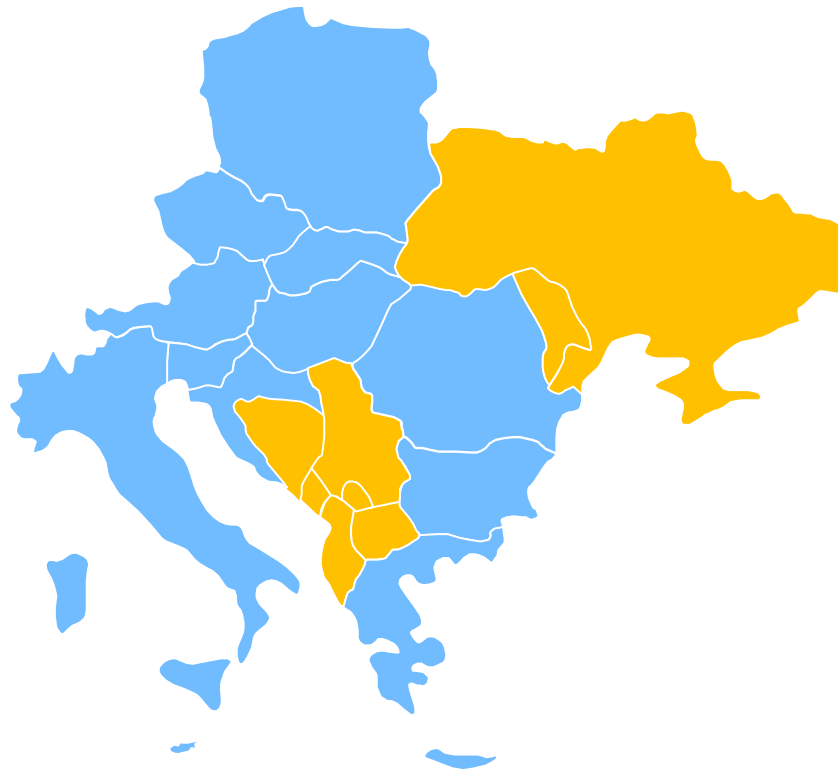


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GRI SSE – Prague 27 November 2019

Territorial scope




- MS GRI SSE
- CPs

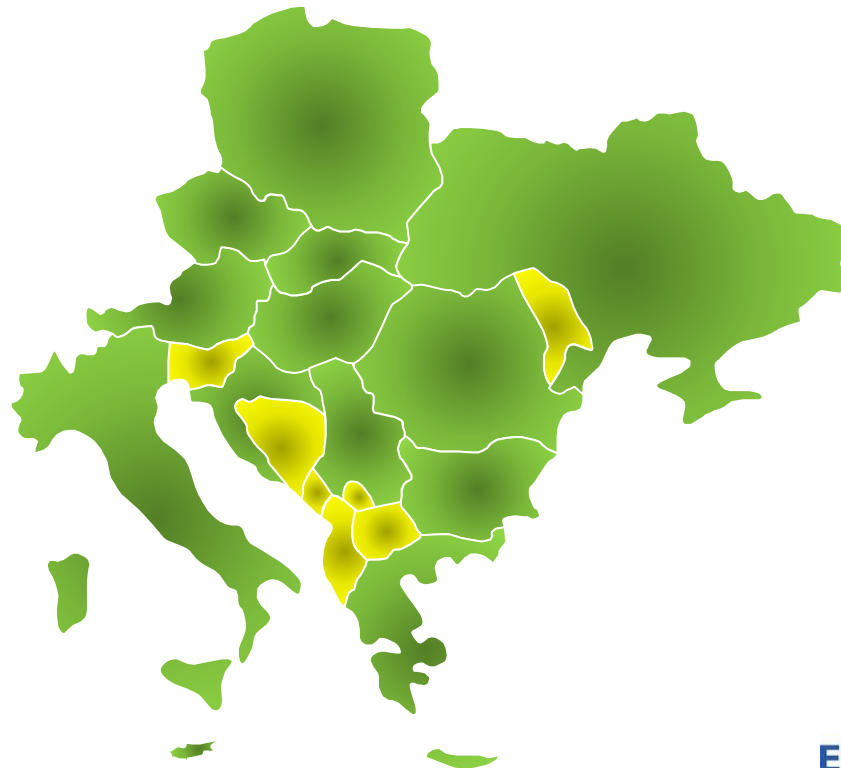


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Replies

Questionnaire participating MSs & CPs 56 questions (1-22 LNG, 23-56 storage)





-  Replies
-  No replies
-  No LNG & No storage

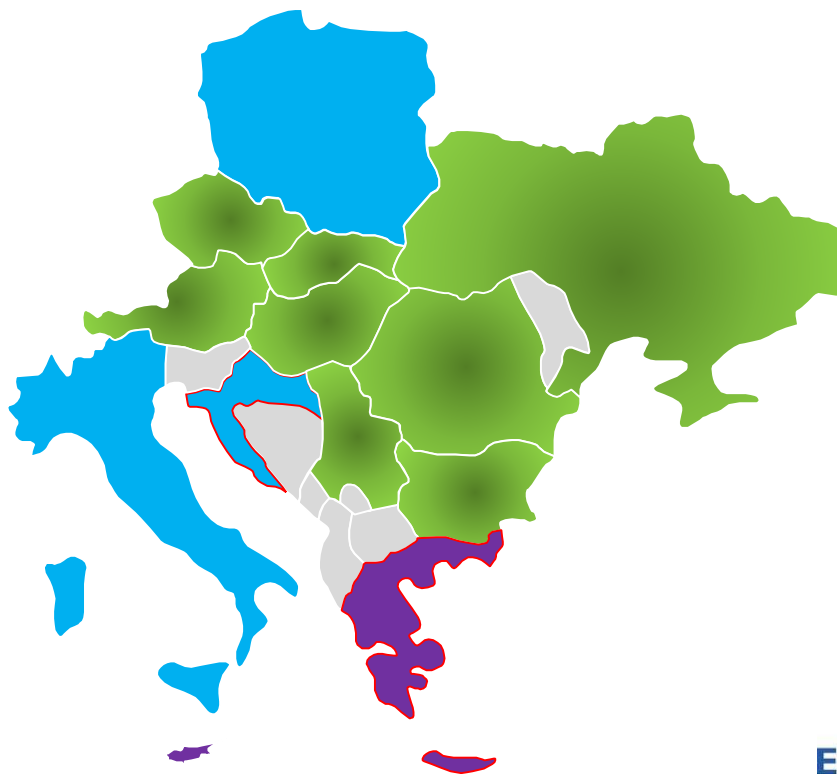


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Replies on topics

Questionnaire participating MSs & CPs 56 questions (1-22 LNG, 23-56 storage)

-  LNG
-  Storage
-  LNG and Storage
-  Future LNG or Storage



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Main topics (LNG & Storage)

- Legal framework and characteristics of the system
- General sector statistics
- Network capacity allocation/booking
- Network system charges
- Specific services
- Average service costs



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LNG infrastructure



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Legal framework



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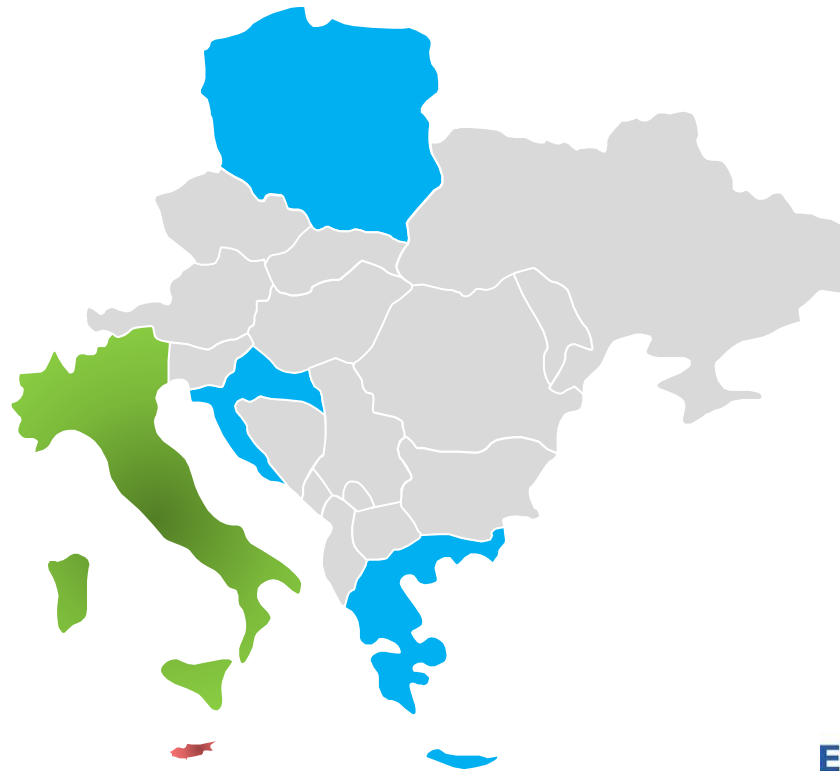
Q2-Q4: Facts to LNG markets

| Country | 2. What is the share of LNG capacities offered under TPA (% of total technical capacity)? | 3. What is the number of LNG operators? | 4. What is the number of LNG terminals? |
|---------|---|---|---|
| Poland | 100% | 1 | 1 |
| Italy | 58% | 3 | 3 |
| Greece | 100% | 1 | 1 |
| Malta | 0% | 1 | 1 |
| Croatia | N/A | 1 | 1 (operable as of 1 January 2021) |



Q6: Is the **access** to LNG regasification terminal **regulated** or at **market condition**?

-  Regulated
-  Market Conditions
-  Both
-  Other



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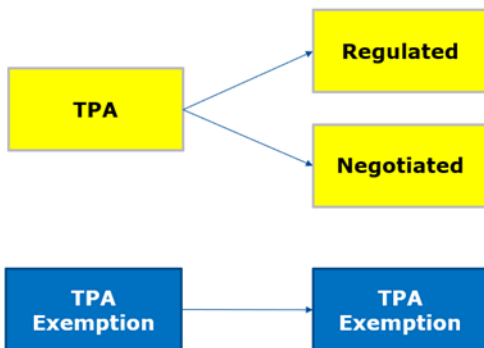
General sector statistic & network capacity allocation



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Q7 + Q8: Regasification capacities

| Country | 7. a) Total regasification capacity in case of regulated access (please give a number in MWh/y): | 7. b) Total regasification capacity in case of negotiated access (please give a number in MWh/y): | 7. c) Total regasification capacity in case of TPA exempted (please give a number in MWh/y): | 8. Total (i.e. sum of all terminals) maximal regasification capacity per day in MWh, please give a number: |
|---------|---|--|---|---|
| Poland | 63,004,198 MWh/y | - | 0 | 152,901 MWh/d |
| Italy | 97,150,008 MWh/y | - | 69,443,316 MWh/y | 513,548 MWh/d |
| Greece | 74,635,565 MWh/y | - | 0 | 204,481 MWh/d |
| Malta | - | - | 7,594,056 MWh/y | 20,807 MWh/d |
| Croatia | 25,228,800 MWh/y | - | - | 69,120 MWh/d |






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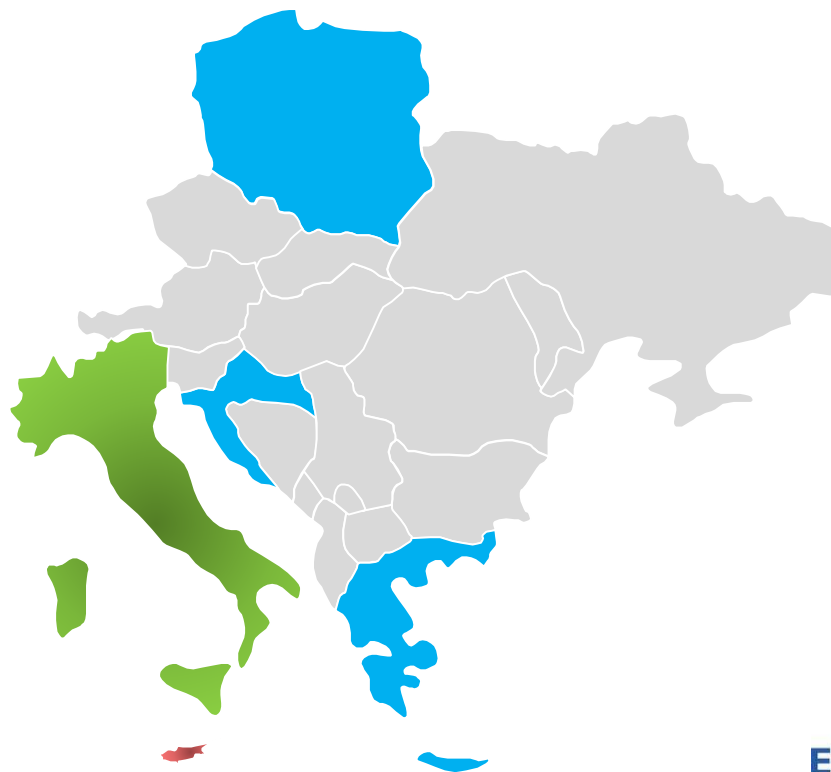
Q9a+b+c: Share of utilization (% of the annual technical LNG regasification capacity)

| Country: | 9. a) Share of utilization in 2016 (% of the annual technical LNG regasification capacity) for | | | 9. b) Share of utilization in 2017 (% of the annual technical LNG regasification capacity) for | | | 9. c) Share of utilization in 2018 (% of the annual technical LNG regasification capacity) for | | |
|----------|--|--------------|---|--|--------------|---|--|--------------|---|
| | 2016 | | | 2017 | | | 2018 | | |
| | % regulated | % negotiated | % exempted | % regulated | % negotiated | % exempted | % regulated | % negotiated | % exempted |
| Poland | 100% (where 25 % of that was used). | - | - | 100% (where 29 % of that was used). | - | - | 100% (where 47 % of that was used) | - | - |
| Italy | 9,5 % is the average value for the other two regulated terminals OLT is 13% and Panigaglia 6% | - | 72% is LNG Caverzere (this terminal is exempted 80% of the capacity and 20% is regulated) | 21 % is the average value for the other two regulated terminals OLT is 24% and Panigaglia 18% | - | 86% is LNG Caverzere (this terminal is exempted 80% of the capacity and 20% is regulated) | 27% is the average value for the other two regulated terminals OLT is 29% and Panigaglia 25% | - | 84% is LNG Caverzere (this terminal is exempted 80% of the capacity and 20% is regulated) |
| Greece | 16.3% | - | - | 29.2% | - | - | 39% | - | - |
| Malta | - | - | - | - | - | 39% | - | - | 48% |
| Croatia | n.a. as terminal will be operable as of 1 January 2021 | | | n.a. as terminal will be operable as of 1 January 2021 | | | n.a. as terminal will be operable as of 1 January 2021 | | |



Q10: By whom is the *entry capacity* into the main (TSO) network system directly **bookable?**

-  by Shippers
-  by LNG operators
-  No transmission network



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Network system charges



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Q11: How high is the **TSO entry charge into the main network system** set in €/kWh/h/y.

| | |
|----------------|--|
| | 11. TSO entry charge into the main network system, please indicate the charge (€/kWh/h/y): |
| Poland | terminal in Świnoujście 100% discount |
| Italy | - Panigaglia 0,606 €/kWh/h/y - LNG 1,263 €/kWh/h/y - OLT 0,7598 €/kWh/h/y |
| Greece | Greek LNG tariff consists in 2019 of two components (Capacity and commodity charge) -) Capacity charge =3.868845 €/kWh/h/y -) Commodity charge= 0.0001495 €/kWh 2020 (New Tariff Code) only Capacity charge= 6.4214893 €/kWh/h/y |
| Malta | There is no gas transmission network in Malta. |
| Croatia | Final entry tariff from LNG to the transmission system is not yet determined. For the purpose of conducting Open Season procedure for LNG capacities and during NC TAR consultation, indicative transmission tariffs were determined and published within NC TAR consultation process. It is expected that final tariffs will be reached during 2020. |

Q12a: In your country, who is responsible for **approving** the methodology to calculate the entry tariffs from the LNG into the transmission system?

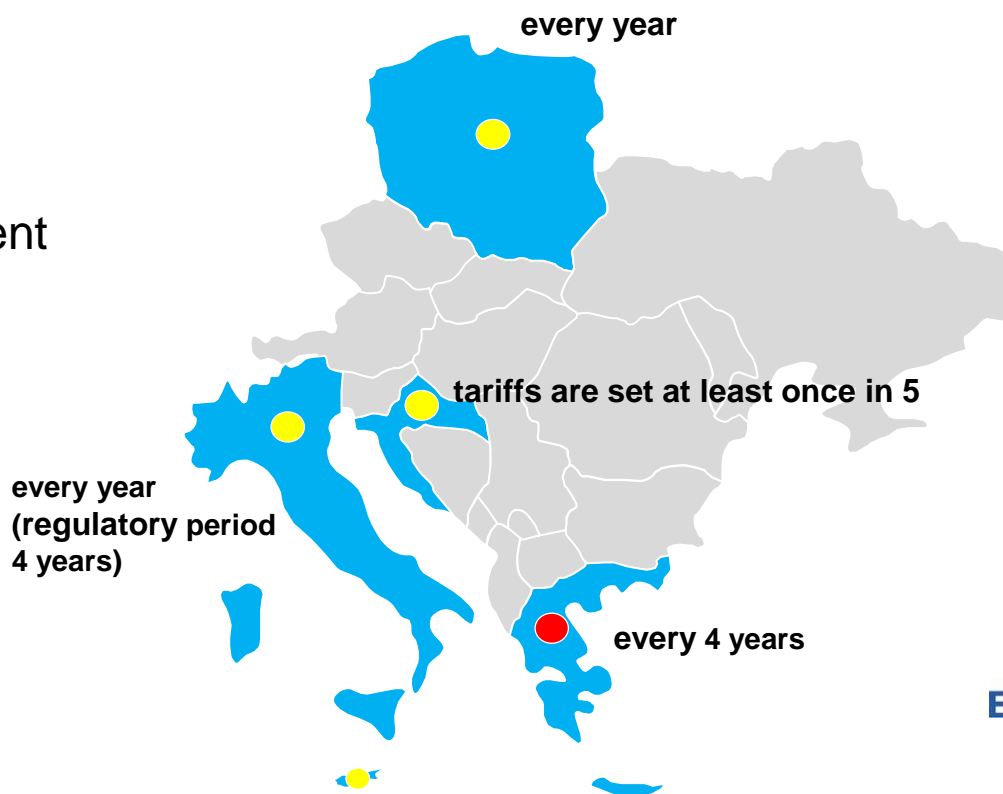
Q12b: In your country, who is responsible for **publishing** the methodology to calculate the entry tariffs from the LNG into the transmission system? ● NRA & LNG operator ● NRA

Q13: How often are entry tariffs into the network system updated?

■ NRA

■ LNG operator

■ Ministry / government



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Specific services

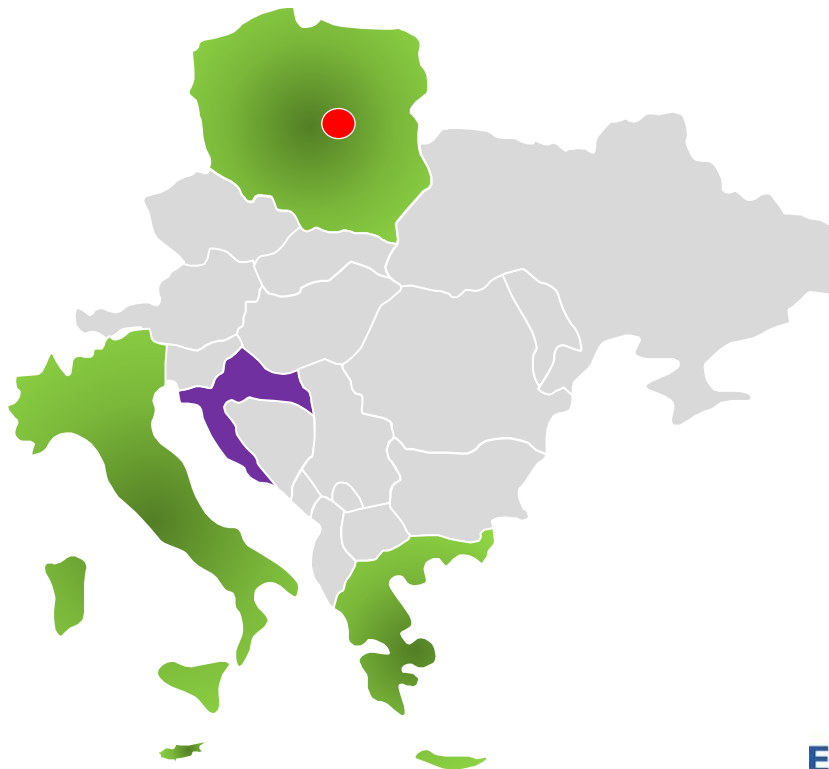


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Q16: *Is the **LNG transshipment service possible** (transfer of a cargo between two ships, or division into several smaller batches where LNG transferred is neither mixed nor stored in the terminal's tanks) in at least one of your LNG facilities?*

Q15: *Is it possible to **load LNG on trucks** from at least one of your LNG facilities?* ● Yes

- Yes
- No
- No answer

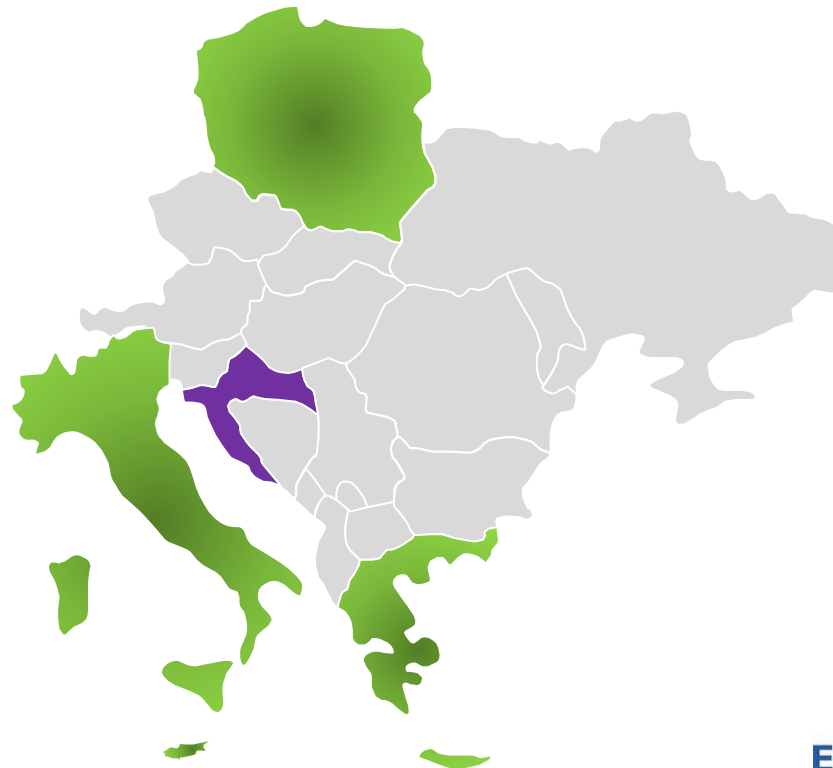


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Q17: Is the **reload service** (to reload LNG that has previously been unloaded in the shore tanks) in at least one of your LNG facilities **possible**?

Q18: Does at least one of your **LNG facility allow bunkering** (LNG Bunkering is the practice of providing liquefied natural gas fuel to a ship for its own consumption)?

- Yes
- No
- No answer



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Average service costs



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Q19: How is the LNG regassification *capacity allocated*?

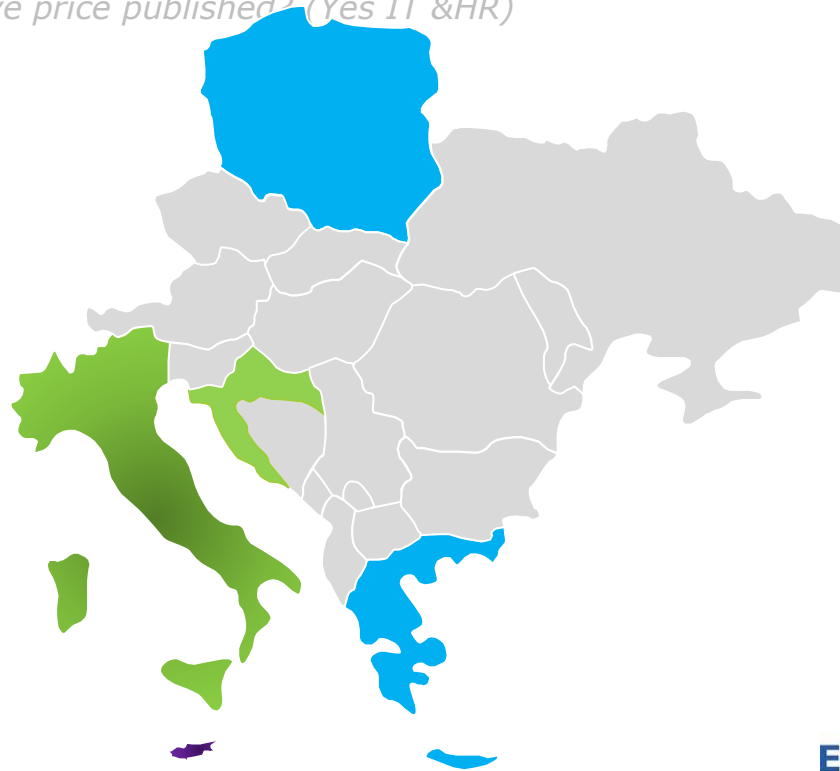
Q19a: In case an auction design is in place, are the results published? (IT & HR yes)

Q19b: If no, does the NRA receive information about the auction results?

Q19c: How is the auction reserve price determined?

Q19d: Is the auction reserve price published? (Yes IT &HR)

- First come first serve
- Auction
- Other

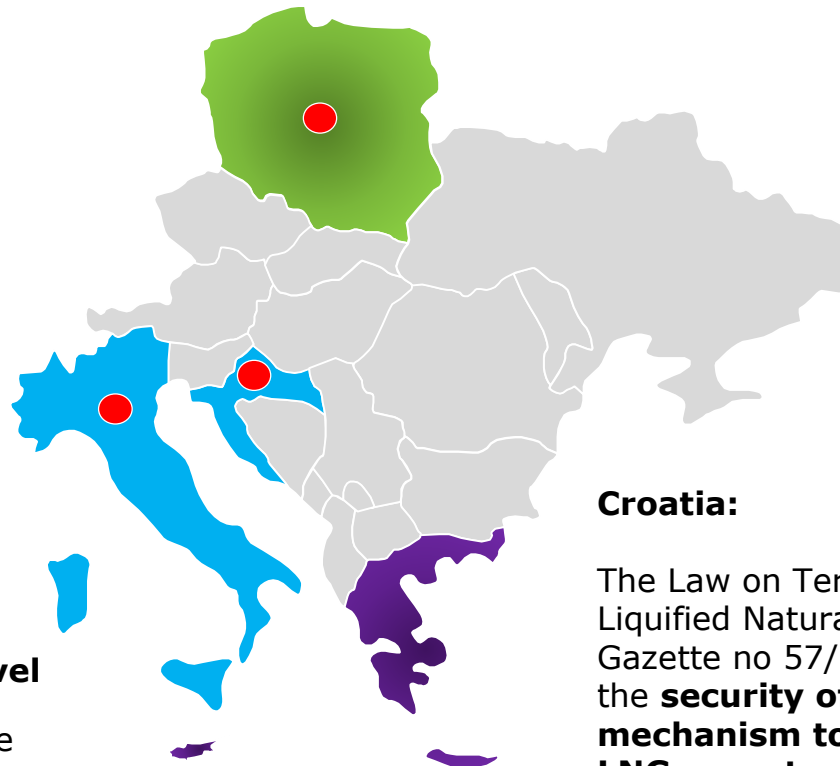


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Q19e+f: Is there a **mechanism** in place **to compensate LNG operators in case market prices do not cover for the regulated costs** (e.g. allocation of losses on transmission tariffs)? Please explain this mechanism.

Q19g: Are the **charges for such regasification services regulated** (by NRA/Ministry) **or freely set** by the LNG operator? ● NRA

- No
- Not answered
- Yes



Italy:

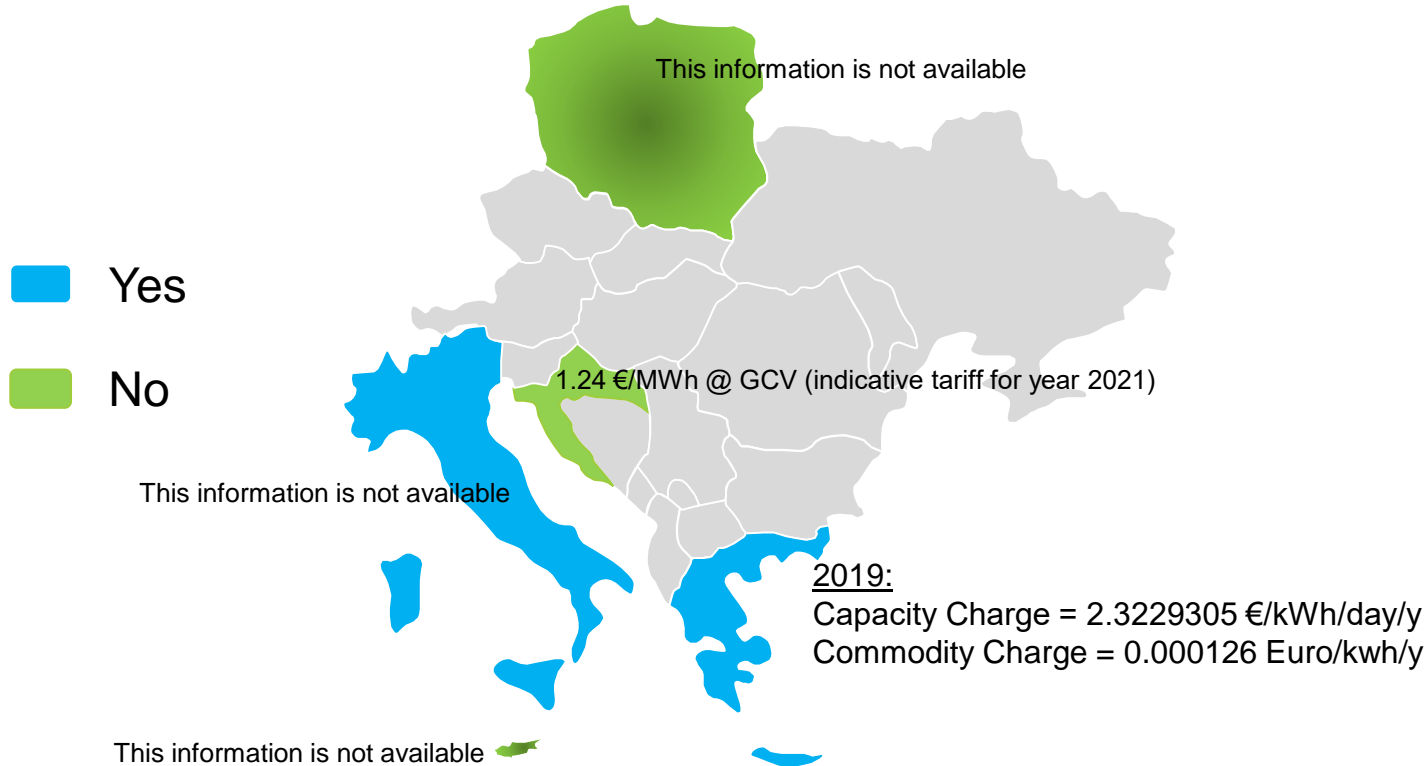
- NRA establishes **ex-ante** a **minimum level** of the revenue for the LNG terminal
- **actual revenue** for the year is **below** the established value
- LNG terminal receives a **compensation up to 64%** of the ex ante established revenue

Croatia:

The Law on Terminal for Liquefied Natural Gas (Official Gazette no 57/18) envisages the **security of supply** fee as a **mechanism to compensate LNG operator in case of under-recovery** of allowed revenue from regulated tariffs.

Q21: Are **bundled products** (gasification capacity + access to the transportation system) **offered**?

Q22: Can you state the **average regasification costs in Euro per MWh** (from the ship up to the IP with the network system)?



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Storage infrastructure

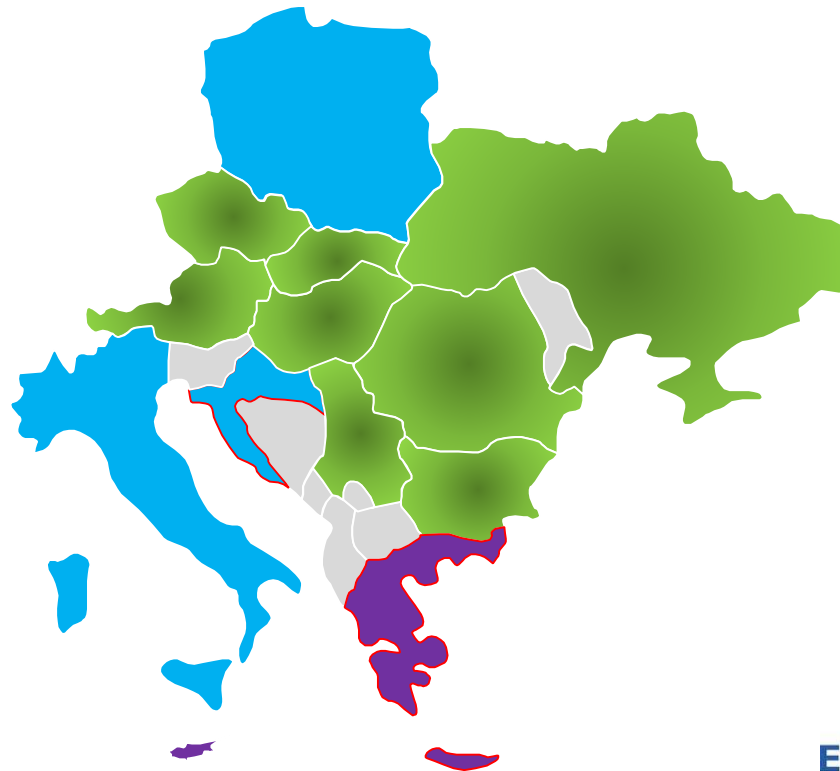


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Replays on topics

Questionnaire participating MSs & CPs 56 questions (1-22 LNG, 23-56 storage)

-  LNG
-  Storage
-  LNG and storage infrastructure
-  Future infrastructures



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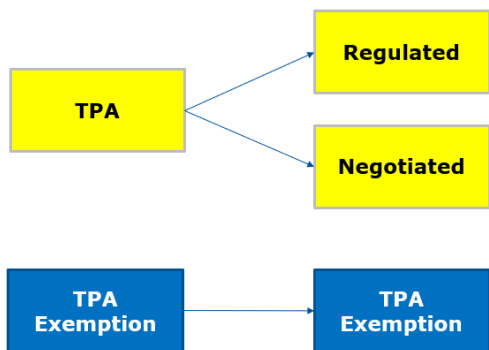
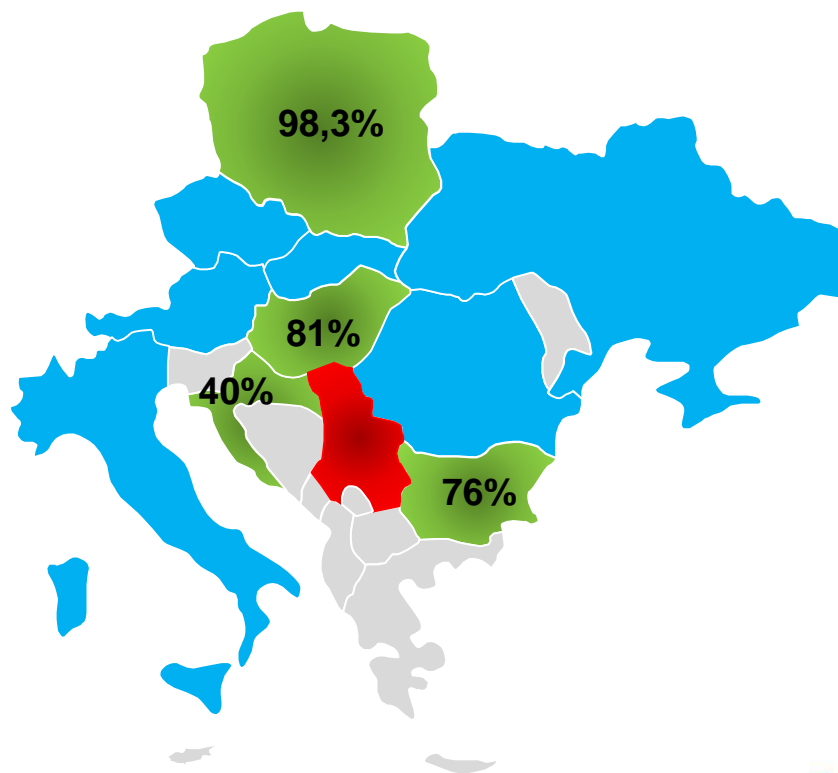
Legal framework



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Q23a: Share of storage capacities offered under TPA (working gas capacity, %):

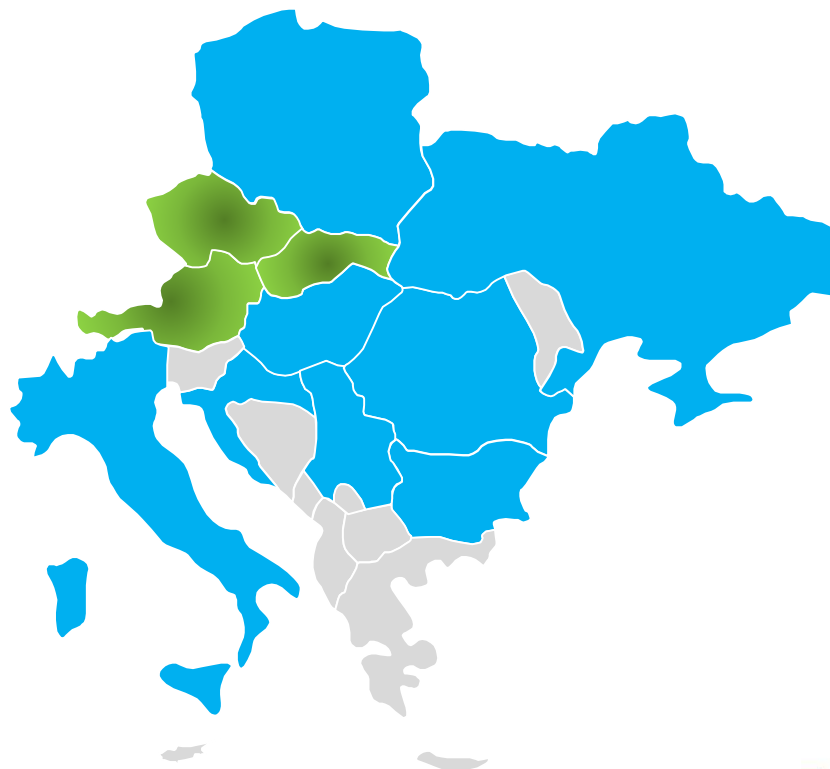
- 100%
- different percentages
- 0% full exemption



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Q24: *Is the storage system **regulated or at market conditions?***

- Regulated access
- Negotiated access



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Q26a-f: Number of storage *companies*, storage *facilities* and storage *types*

| Country | 26. a) How many storage companies do operate in your country? | 26. b) How many storage facilities do you have in your country? | 26. c) How many storage facilities do you have in your country? | | |
|----------------|---|---|---|---------|---------------------|
| | | | [salt]cavities | aquifer | depleted gas fields |
| Austria | 5 | 8 | - | - | 8 |
| Serbia | 1 | 1 | - | - | 1 |
| Czech republic | 3 | 8 | 1 | 1 | 6 |
| Hungary | 2 | 5 | - | - | 5 |
| Poland | 1 | 7 | 2 | - | 5 |
| Italy | 3 | 13 | - | - | 13 |
| Greece | - | - | - | - | - |
| Slovakia | 2 | 2 | - | - | 2 |
| Romania | 2 | 7 | - | - | 7 |
| Bulgaria | 1 | 1 | - | - | 1 |
| Ukraine | 1 | 12 | - | 2 | 10 |
| Malta | - | - | - | - | - |
| Croatien | 1 | 1 | - | - | 1 |



Q27-Q30: Interconnection of storages with other countries and TSO/DSO network

| Country | 27. What is the number of the storage facilities in your country directly interconnected (with dedicated pipeline) with other countries? | 28. What is the number of facilities of other countries directly interconnect (with dedicated pipeline) with your country? | 29. What is the number of facilities directly interconnected with the TSO(s) network? | 30. What is the number of facilities directly interconnected with the DSO(s) network? |
|----------------|--|--|---|---|
| Austria | 2 | 1 | 1 | 8 |
| Serbia | - | - | 1 | - |
| Czech republic | 1 | 1 | 8 | 5 |
| Hungary | - | - | 5 | - |
| Poland | - | - | 7 | - |
| Italy | - | - | 13 | - |
| Greece | - | - | - | - |
| Slovakia | 2 | 1 | 2 | 2 |
| Romania | - | - | 7 | - |
| Bulgaria | - | - | 1 | - |
| Ukraine | - | - | 12 | - |
| Malta | - | - | - | - |
| Croatia | 1 | - | 1 | - |



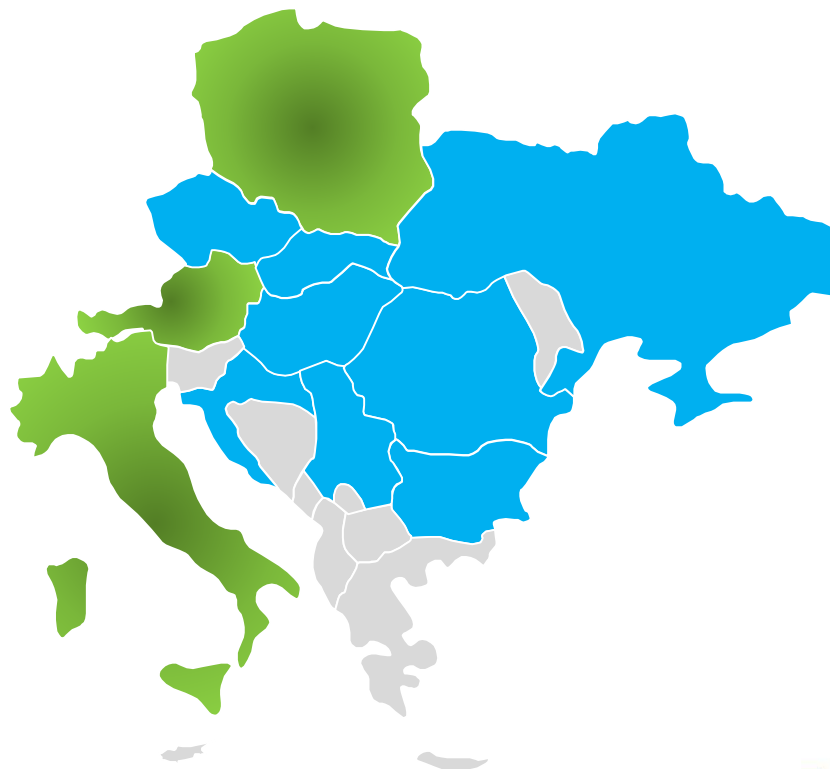
Network capacity allocation and network system charges



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Q35: Who books the transport capacity to or from the storage facilities?

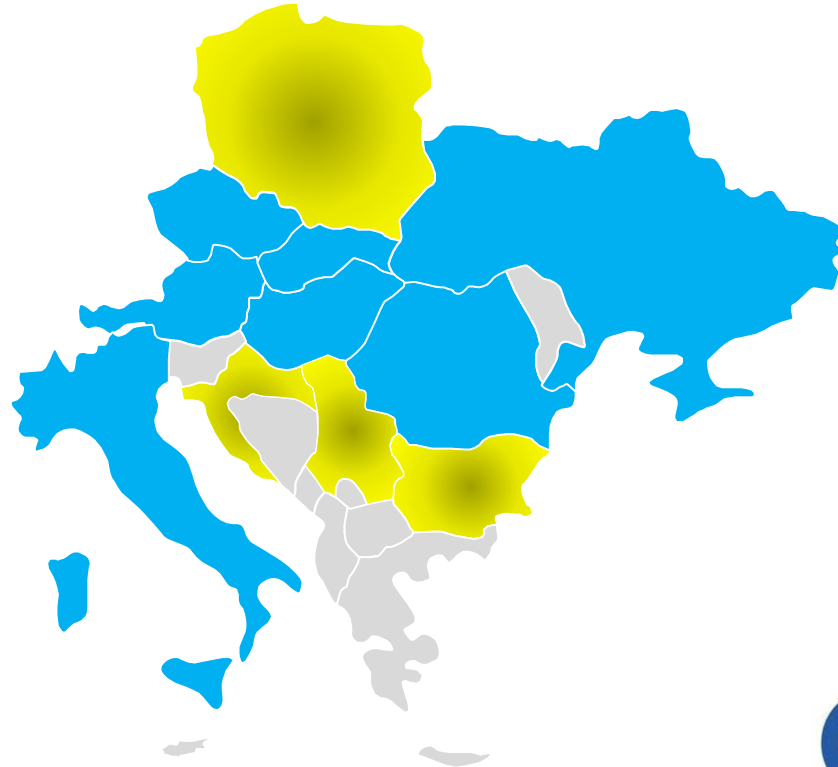
- Shippers
- Storage operator
- Both
- Third entity books



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Q36: Is the **entry/exit charge the same for all** the storage system operators (if more than 1):

- Yes
- No
- not applicable (only 1 SSO)



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Q37: Do you apply **entry fee** (from the storage into the transmission/distribution system) or/and **exit fee** (from the transmission/distribution system the into storage)?

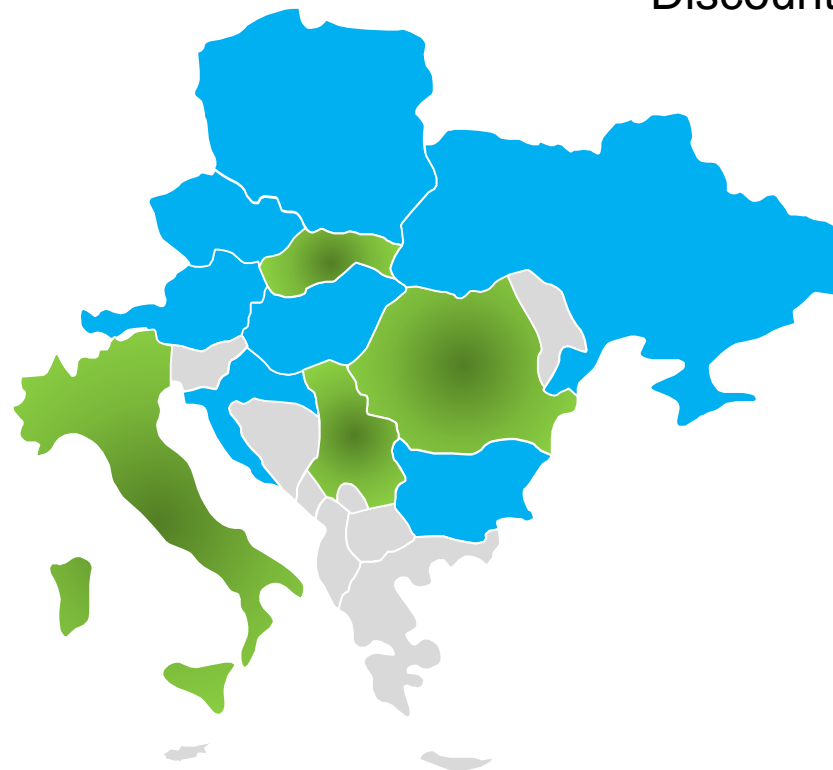
-  Entry fee
-  Exit fee
-  Entry & Exit fee



Q39: Are the entry/exit tariffs into the network system **discounted** towards the real entry/exit tariffs calculated according to your entry/exit methodology?

Discount from 50% to 90%

- Yes
- No



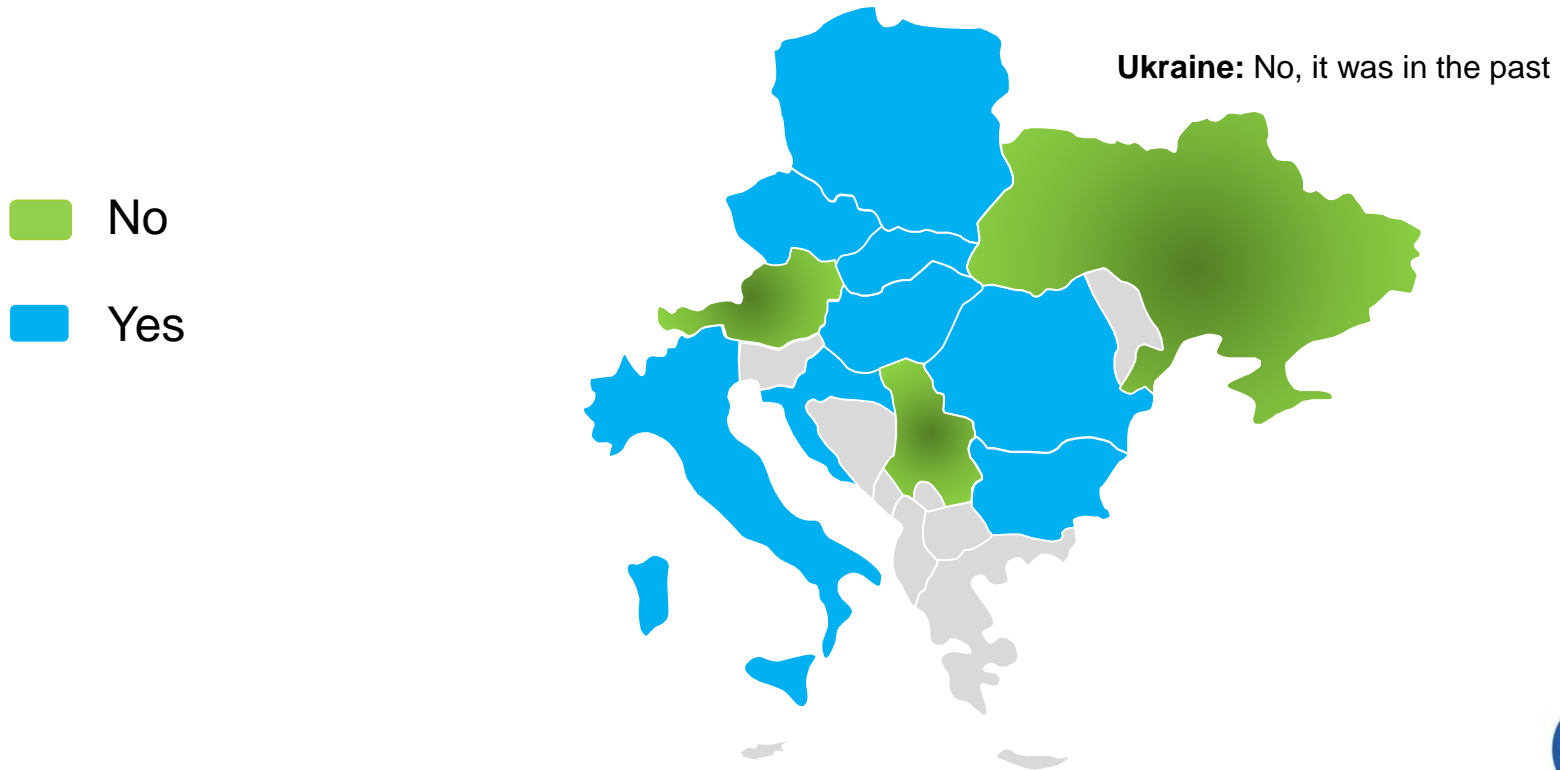
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Specific services



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Q40: Do you have **regulatory requirements concerning minimum storage level** (e.g. strategic reserves)?



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Q41+ 41a: Do you have any of the following **options?** Please indicate the **quantity dedicated in MWh.**

| Country | Strategic Reserve | Supplier booking obligation | Traders and importers booking obligation | TSO booking obligation | N/A | Quantity dedicated in MWh |
|----------------|-------------------|-----------------------------|--|------------------------|-----|--|
| Austria | | | | | X | |
| Serbia | | | | | X | |
| Czech Republic | | X | | | | Supplier is obliged to keep 30 % of its security of supply quantity in UGS. However, all UGS in the EU may be used. |
| Hungary | X | X | | | | Strategic reserve: 12 723 644 MWh Universal service providers' storage obligation: 22 442 874 MWh |
| Poland | X | | | | | Importers are obliged to keep gas reserves - 30 times average daily net import (import minus export) - 12 874 012 MWh for gas year 2018/19. |
| Italy | X | | | | | 48.846.000 MWh |
| Slovakia | | X | | | | Auxiliary gas supplies from outside Slovakia – third party deals, option contracts, hub-sourced gas (0-50% of SoS). |
| Romania | | X | X | X | | 245.000 for TSO 23.497.181,018 for suppliers and traders |
| Bulgaria | X | X | | | | strategic reserve-1216700 booking obligation- from 10% till 20% from year consumptions of protected customers |
| Ukraine | | | | | X | |
| Croatia | | X | | | | There is requirement prescribed that suppliers with PSO have to book storage capacity in proportion enabling sufficient supply of household final customers using PSO service. |

Q42a+b: Are there any **regulatory/legal restrictions on injection and withdraw** over the year, or **obligations to hold certain amounts** of gas in store at certain times? If yes, please explain.

 No

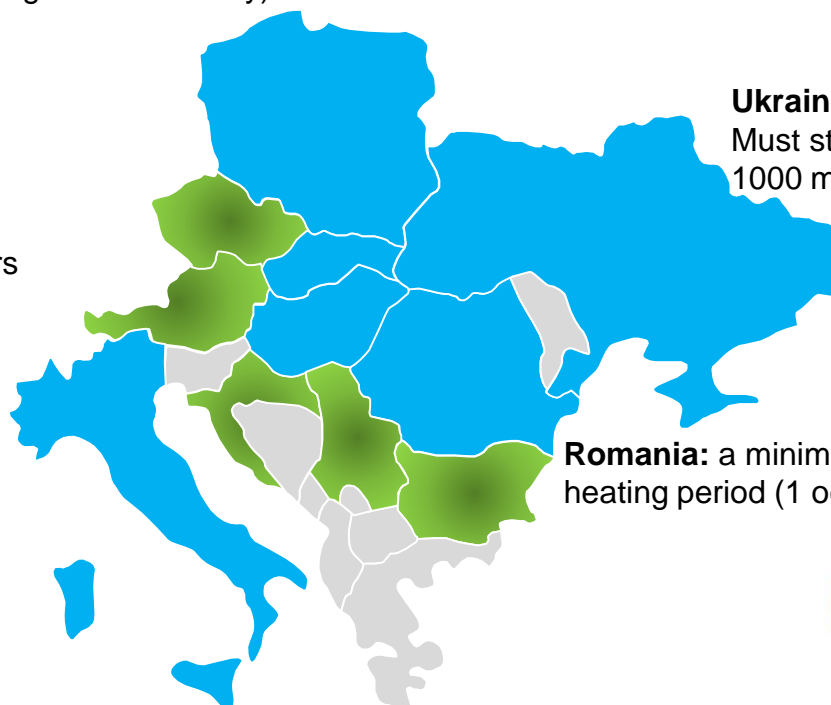
 Yes

Poland: Compulsory gas reserves are equal 30 times average daily net import (import minus export) – shippers are not entitled to withdraw gas during gas year. The right to withdraw this gas has TSO and only in case of emergency situation (the decision of Ministry of Energy to allow TSO to withdraw the gas is necessary)

Slovakia: In the event of a state of emergency in the gas sector, the SSO shall be obliged at the decision of the Ministry, to interrupt the withdrawal of gas from the storage facility for those gas market participants who store gas for consumers located outside the defined territory, to ensure the technical safety of a network in the defined territory

Hungary: Universal service providers are required to have natural gas stocked in underground storage facilities. The level of the stocks in storage on October 1 should be at least 60% of the level of the highest winter consumption in the past ten years of their customers.

Italy: there are no obligations on users but the Ministry decide to set aside an amount of gas of the SSO as strategic reserve



Ukraine: Storage users Must store not less then 1000 m3 gas in storages

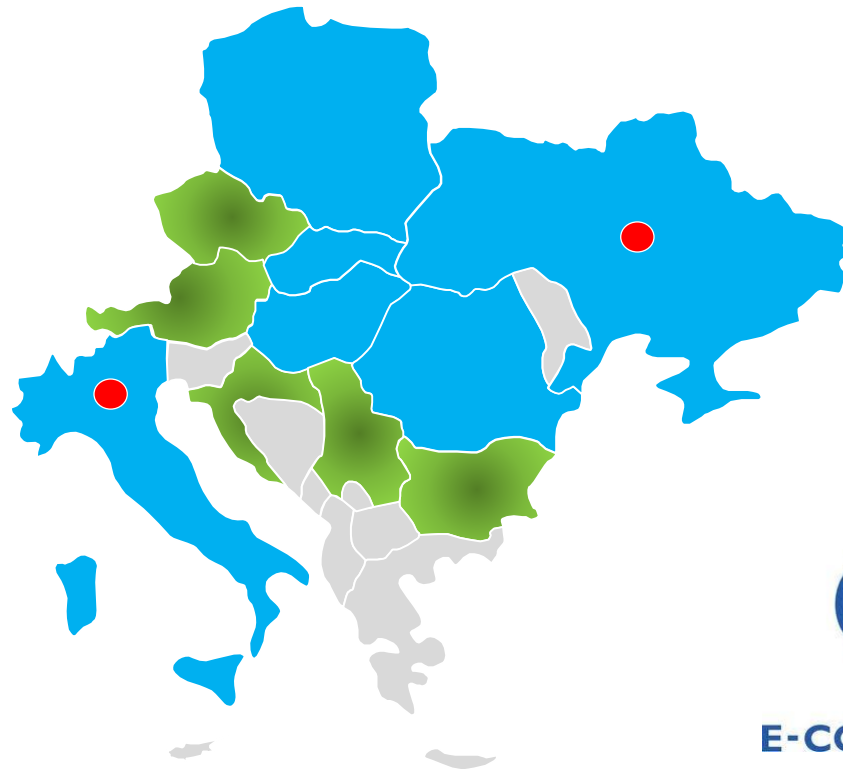
Romania: a minimum level in the heating period (1 oct-31 march)



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Q43: If **obligatory storage levels** apply, are they subject to any **cost-benefit analysis**? ● Yes

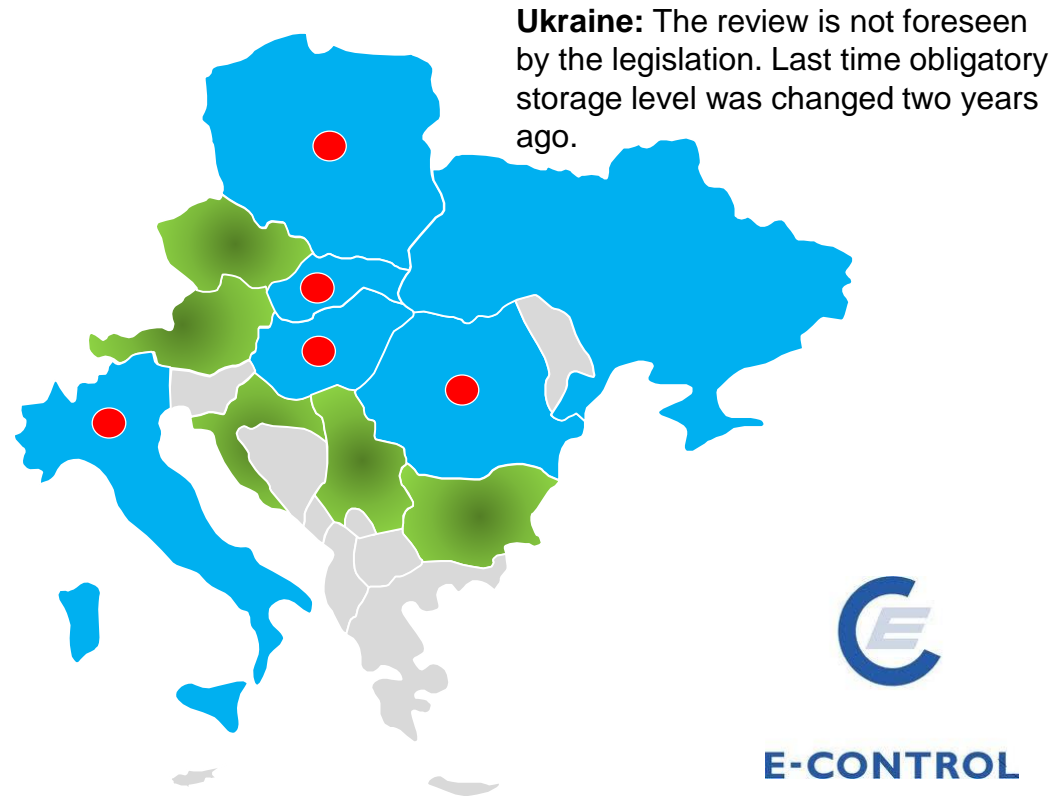
- Obligatory storage levels (according to Q42a)
- No obligatory storage levels (according to Q42a)



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Q44: Is the **need for** having such obligation (**obligatory storage**) **reviewed** on a regular basis? ● Yes

- Obligatory storage levels (according to Q42a)
- No obligatory storage levels (according to Q42a)

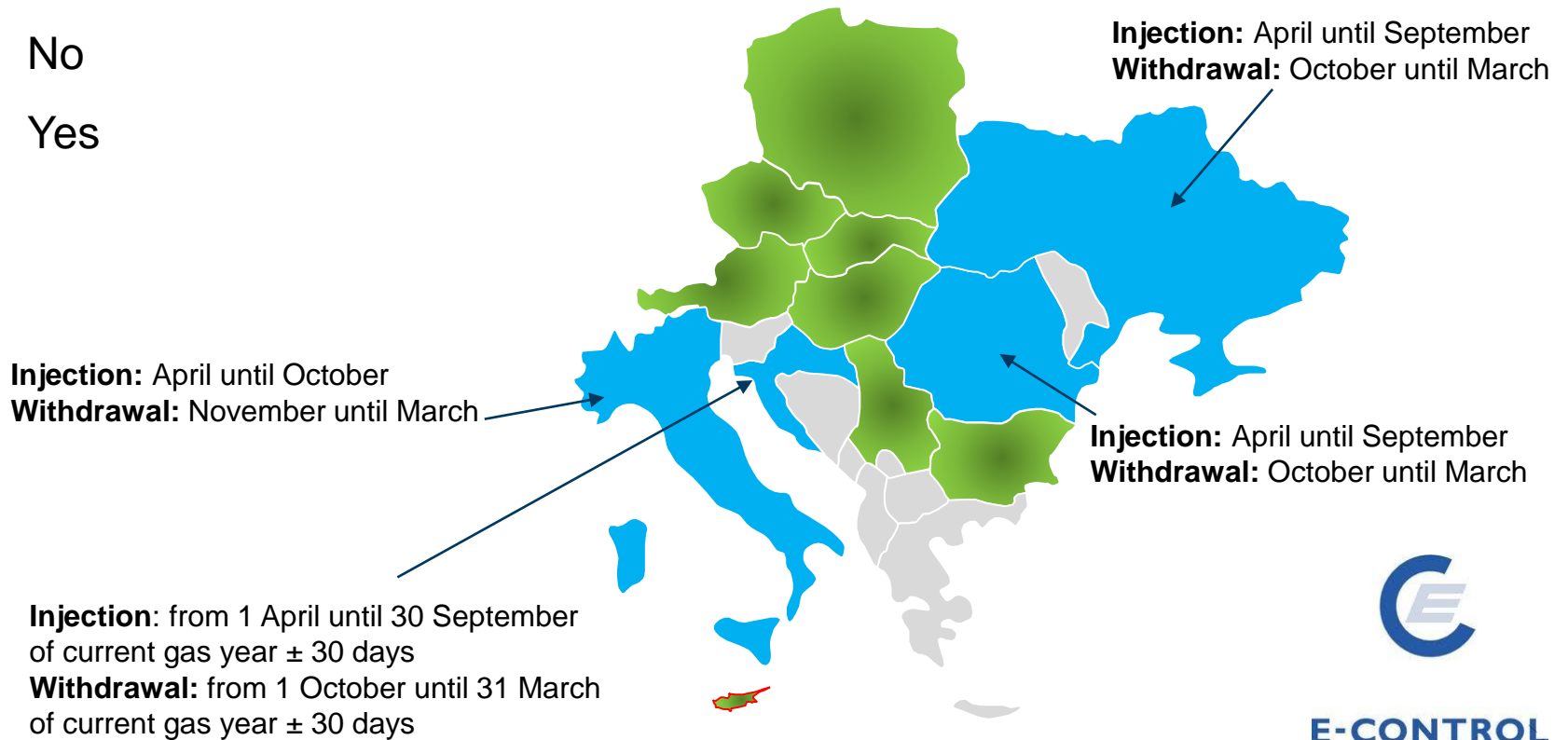


Q45: Are *injection and withdrawal times fixed by law* during the storage year?

Q45a: If yes, please indicate for the **injection period**: the **beginning** (date) and the **end** (date)

Q45b: If yes, please indicate for the **withdrawal period**: the **beginning** (date) and the **end** (date)

- No
- Yes



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Specific service costs



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Q47+47a: Can you state the **average storage costs per MWh calculated** on the basis of the above-mentioned bundle product (use please the storage charge and the entry/exit tariffs to the network system to evaluate the cost) or if it is not possible, can you state a reference value? Please indicate the number (€/MWh working gas volume):

| Country | 46. a) If yes, please indicate firm working gas volume for booking capacity in MWh (e.g. 20.000 MWh): | 46. b) If yes, please indicate an injection period in days (e.g. 171 days): | 46. c) If yes, please indicate an injection capacity in kWh/h (e.g. 5.600 kWh/h): | 46. d) If yes, please indicate a withdrawal period in days (e.g. 150 days): | 46. e) If yes, please indicate a withdrawal capacity kWh/h (e.g. 10.000 kWh/h): | 47. a) Please indicate the number (€/MWh WGV): |
|---------|---|---|---|---|---|---|
| Austria | 20.160 MWh | 125 days | 6.720 kWh/h | 93 days | 8.960 kWh/h | 4,90 |
| Hungary | 1.000 MWh | 133 days | 7.500 kWh/h | 70 days | 14.223 kWh/h | 8,46 |
| Poland | 200 MWh | not specified | Kawerna: 149 kWh/h Sanok: 87 kWh/h Wierzchowice: 83 kWh/h | The withdrawal period isn't specified for this products. | Kawerna: 343 kWh/h Sanok: 248 kWh/h Wierzchowice: 227 kWh/h | 5,63 |
| Croatia | 50,000 MWh | 210 days | | 144 days | | http://www.psp.hr/5-1-prices |



Q48: Which **methodology** is used for capacity storage charges/prices?

■ No answer

Czech Republic: Auction mechanism is used. Results of the auctions are publicly available

Austria: As **storage prices are not regulated**, we do not have any information on the price policy of the SSOs. In case of an auction there is no minimum price published, but the SSOs have a price limit on their own, below which they do not allocate the capacity.

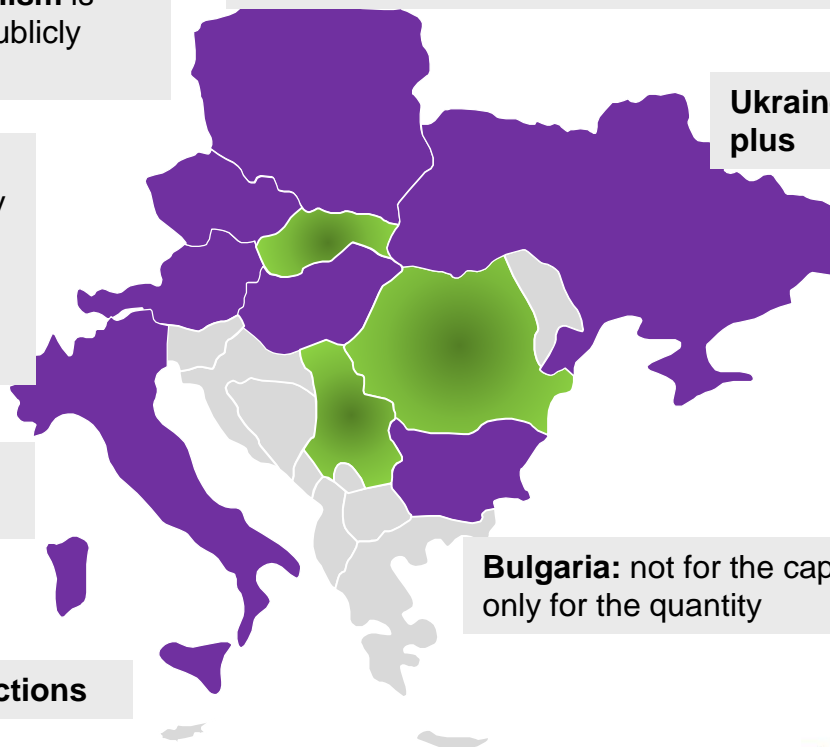
Hungary: Regulated access with a **hybrid price cap/revenue cap tariff regulation**.

Italy: storage prices are determined by **auctions**

Poland: **Regulated access.** Storage services tariff is approved and published by NRA.

Ukraine: **cost plus**

Bulgaria: not for the capacity only for the quantity



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Q48a: Under a **negotiated access**, is the **price** of the storage capacity **published**? ● Yes

Q48b+c: Under a **regulated regime** which methodology is used? Please explain if other.

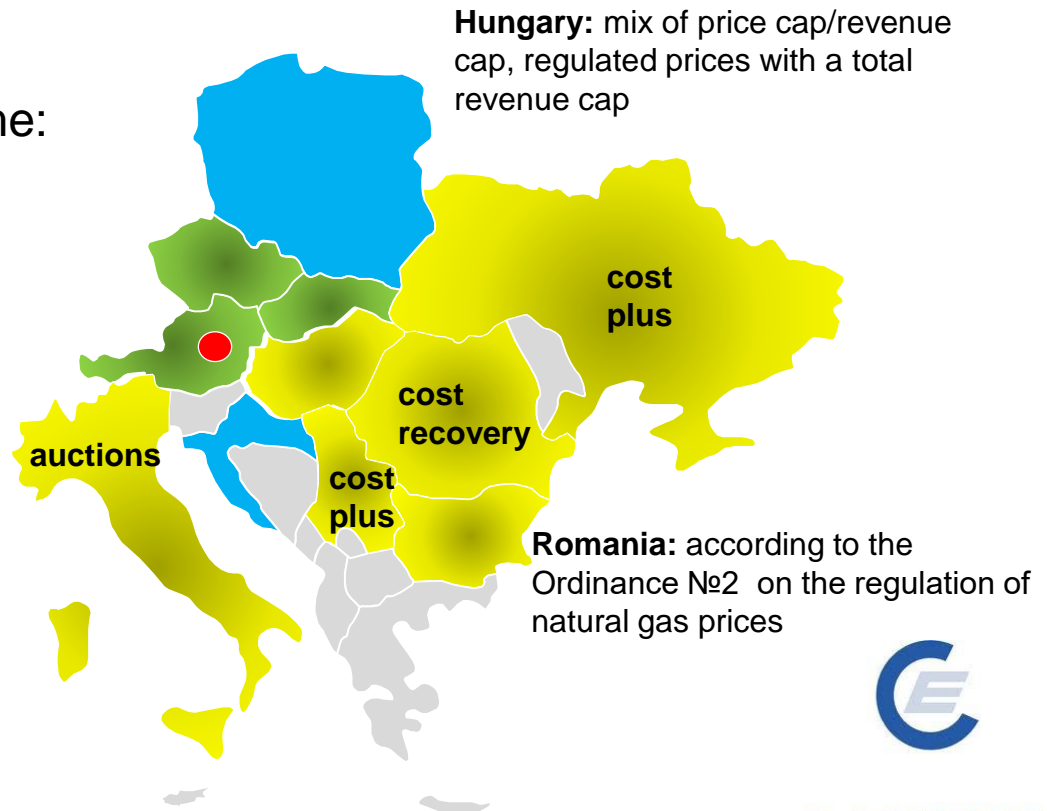
■ Negotiated access

Methods under regulated regime:

■ Revenue Cap

■ Benchmarking

■ Other



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Q50: Who approves the tariff regulation?

Q49: Duration of regulatory period:

Q51: Is there a regime to compensate the SSO in case market prices do not cover the regulated costs: (e.g. allocation of losses on transmission tariffs)? If yes, please explain.

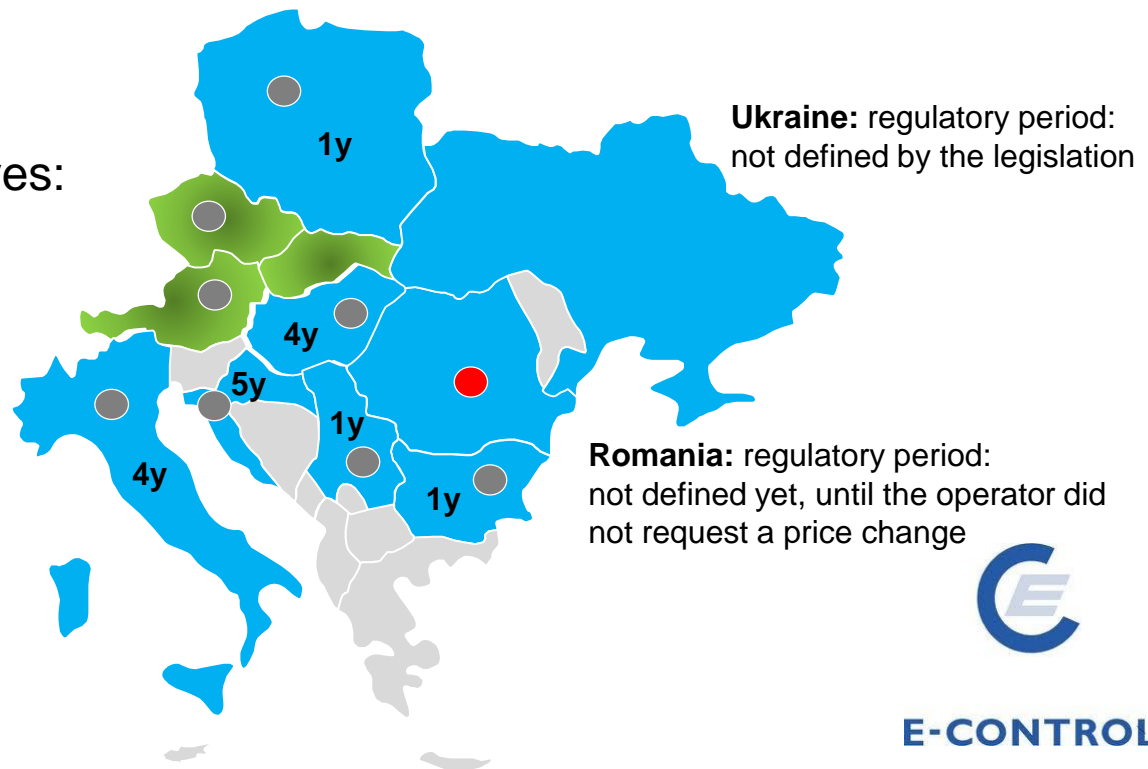
● Yes
● No

■ Negotiated access

Regulated access, approves:

■ NRA

■ Ministries



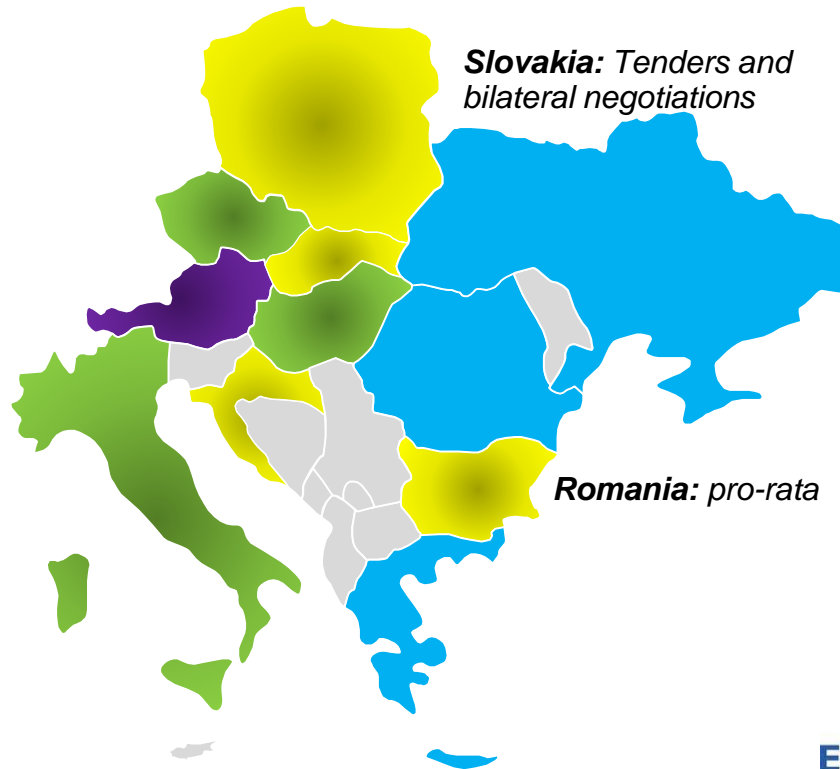
Q52+52a: How is the storage capacity allocated? Please explain if other.

- First come first serve
- Auction
- First come first serve and auction
- Other

Poland: First served entities obliged to store gas for the purpose of security (compulsory gas reserves) Then capacity is allocated for the commercial purposes. pro rata (demand > available capacity)

Slovakia: Tenders and bilateral negotiations

Romania: pro-rata



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Q53: In case an **auction design** is in place, are the **results published**?

Q54: In case if the results are not published, does the **NRA receive information** about the auction results?

● Yes

Q55+56: How is the **auction reserve price determined**? Is the auction reserve price **published**?

■ Yes

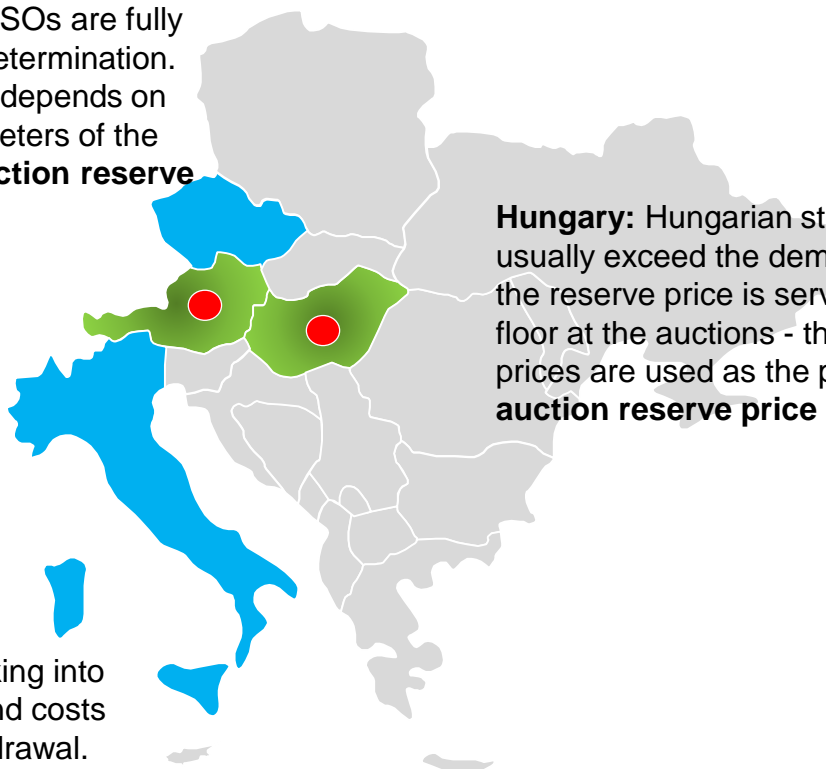
■ No

Czech Republic: SSOs are fully in charge of price determination. The price generally depends on the technical parameters of the offered product. **Auction reserve price is published.**

Austria: no auction reserve price determined and thus not published, NRA gets storage contracts

Italy: Criteria are fixed by NRA taking into account winter /summer spread and costs associated with injection and withdrawal. **No auction reserve price published.**

Hungary: Hungarian storage capacities usually exceed the demands, therefore the reserve price is serving as the price floor at the auctions - the regulated prices are used as the price cap. **No auction reserve price published.**



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