INFORMATION DAY ON THE SERBIAN-HUNGARIAN INTERCONNECTOR PROJECT

FGSZ ZRT.

29.11.2019

FGSZ

MEMBER OF MOL GROUP

Agenda

- **FGSZ presentation**
  - Technical content
  - Regulatory environment
  - Open Season procedure
  - Tariffication
- **Q&A**

Technical content

Demand, history

- Changes of demand & supply in the European natural gas transmission systems
- Fall in the European indigenous production
- Invitation for non-binding capacity demand for the SRB-HU bidirectional interconnection point in 2017 in association with the respective Serbian TSO
- Non-binding capacity demand assessment
  - Demand up to 10 bcma for the direction of SRB→HU
- Binding Open Season procedure for unbundled SRB→HU exit capacity by the Serbian TSO, GASTRANS in March 2018
- FGSZ developed and submitted its Ten-Year Network Development Plan (TYNDP) to the Hungarian NRA at the end of 2018 assessing supply security issues, non-binding demand assessments and new pipeline routes

Corridor route

TURKISH SECTION

- Pipe capacity 15.75 bcma
- 69 km pipeline
- Construction completed
- Planned date of commercial operation in full capacity: 01.01.2020.

BULGARIAN SECTION

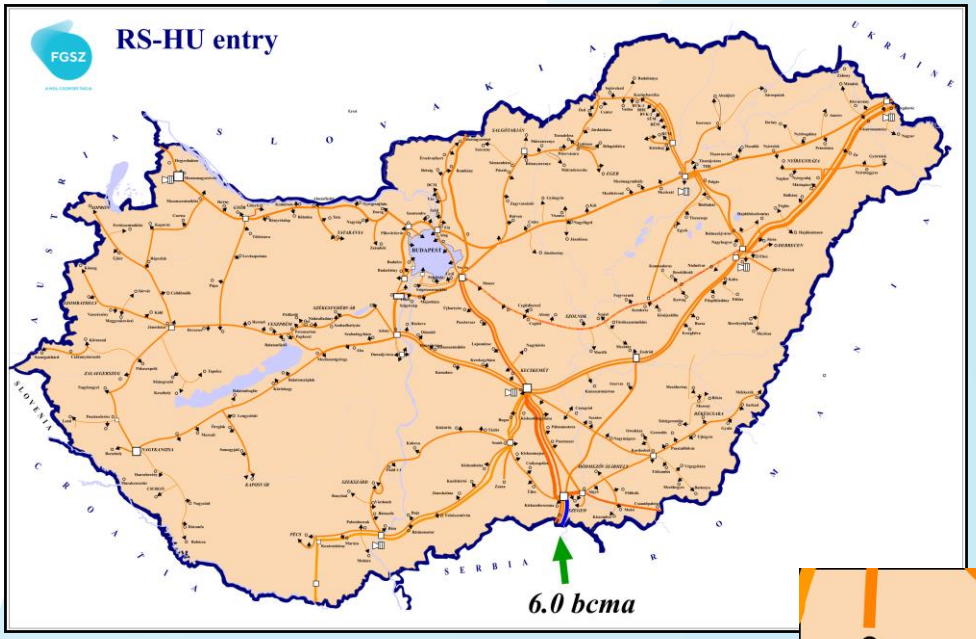
- Pipe capacity is 19.9 bcma at the TR-BG border
- 11 km pipeline + 1 CS from the TR-BG border completed in October 2019
- 474 km pipeline from the existing Bulgarian network to the BG-SRB border, 2 new CS
- Construction started: 2019 October
- Planned date of commercial operation in full capacity: 01.10.2021.

SERBIAN SECTION

- Pipe capacity is 12.88 bcma at the BG-SRB border and 8.6 bcma at the SRB-HU border
- 402 km pipeline from the BG-SRB border to the SRB-HU border, 1 new CS
- Construction started: 2019 April
- Planned date of commercial operation in full capacity: 01.10.2021.

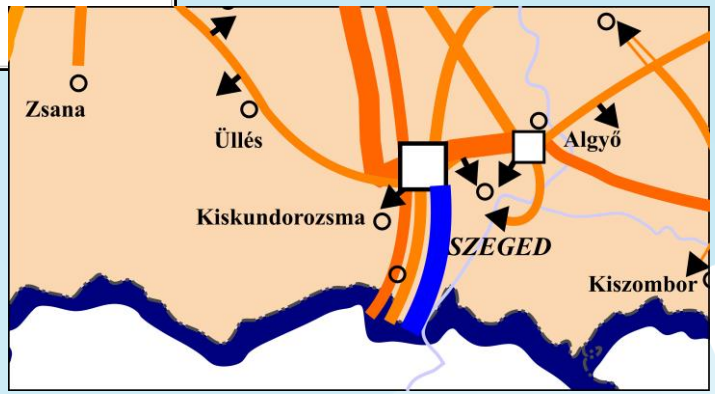
Hungarian project
Option 1 - 6 bcm annual capacity

PIPELINE ROUTE



PLANNED TECHNICAL DESIGN

- Gastrans (RS) connects to FGSZ' (HU) system at Kiskundorozsma, Hungary
- Pipeline DN1200, PN75: from SRB/HU border to Kiskundorozsma 2 MS, 15 km
- New Kiskundorozsma 2 Metering Station (bidirectional)
- Node modifications
- Required border pressure is 66 barg
- Planned start of commercial operation: 01.10.2021



Hungarian project
Option 2 - 8.5 bcm annual capacity

PIPELINE ROUTE

PLANNED TECHNICAL DESIGN

- Gastrans (RS) connects to FGSZ' (HU) system at Kiskundorozsma, Hungary
- Pipeline DN1200, PN75: from SRB/HU border to Kiskundorozsma MS, 15 km
- Pipeline DN1000, PN75: Kiskundorozsma MS to Városföld CS, 67 km
- New Kiskundorozsma 2 Metering Station (bidirectional)
- Node modifications
- Required borer pressure: 66 barg
- Planned start of commercial operation:

Up to 6 bcma → 01.10.2021.

Up to 8.5 bcma → 01.10.2022.

Regulatory environment

Regulatory environment I.

Comission Regulation (EU) 2017/459 (CAM NC)

Deviation Article 2 (1) CAM NC: Decree No. **8/2019. (VII. 12.) of the Hungarian Energy and Public Utility Regulatory Authority (MEKH)**

- Scope: interconnection points between Hungary and 3rd countries
- **Chapter V. (incremental capacity process) of CAM NC is <u>not applicable</u>**
- Allocation mechanism
- The Rulebook shall be approved by MEKH
- Public consultation (30 days) before approval (FGSZ provides 45 days in favor of Network Users)

Regulatory environment II.

Decision No. H805/2019. and No. H2703/2019. by MEKH on FGSZ' TYNDP

Provisions concerning to the Serbian-Hungarian bidirectional interconnector:

- concluded EPC (Engineering-Procurement-Construction) Contracts both on Bulgarian and Serbian side ✓
- Joint Development Agreement (JDA) between FGSZ and Gastrans d.o.o. Novi Sad ✓
- Interconnection Agreement (IA) between FGSZ and Gastrans
- Intergovernmental Agreement between Serbia and Hungary (IGA) ✓
- start of the process (consultation phase): 31 October 2019 ✓
- latest deadline for the submission of binding Bids: 28 February 2020
- latest commercial operation target date: 1 October 2022
- allocation mechanism regardless to Chapter V. of CAM NC
- submission of the Rulebook for MEKH-approval
- domestic security of supply shall prevail
- consideration of Energy Community's opinion

Regulatory environment III.

Rulebook

- To be approved by MEKH
- provisions of the capacity allocation mechanism and contractual conditions

Annexes of the Rulebook:

- Capacity Booking Contract of FGSZ (including the respective General Terms and Conditions)
- Bid form

After Rulebook is approved by MEKH, FGSZ's owner's decision on the potential investment will follow.

Open Season procedure

for the gas transmission capacity from Serbia to Hungary

About the Open Season procedure

- **Two different capacity levels:**
  1. for an annual firm, unbundled technical capacity up to 7,291,435 kWh/hour/y (5.59 bcma (0 °C); 6 bcma (20 °C)) for the gas years from 1 October 2021 to 30 September 2036
  2. for an annual firm, unbundled technical capacity up to 10,329,341 kWh/hour/y (7.92 bcma (0 °C); 8.5 bcma (20 °C)) for the gas years from 1 October 2022 to 30 September 2036, as depending on the long-term quota
- All valid bids are legally binding
- 10% of the appropriate technical capacity for the entire booking period is not offered → short-term bookings

Milestones

Milestone	Date
End of Open Season consultation	13.12.2019
Submission of bids	28.01.2020- 11.02.2020
Economic Test I	12.02.2020
Publication of the overall allocation result	12.02.2020
Deadline for withdrawal of bids	14.04.2020
FGSZ right of withdrawal from the binding OS procedure	15.04.2020
Economic Test II	15.04.2020
Publication of the overall allocation result	22.04.2020
Notification of bidders of the respective individual allocation results and contracting	22.04.2020- 20.05.2020

Principles of capacity allocation I.

- Capacity allocation only takes place after the expiry of the withdrawal deadline of the Bids, until then only the aggregated demand is published
- Capacities shall be allocated **separately for each gas year**
- Formal requirements (Bid Form, Annex 2 to the Rulebook):
  - capacity quantity expressed in kWh/h/y
  - for the offered capacities, Bidders are allowed to submit maximum one bid for each gas year in relation to both capacity levels
  - Bids exceeding the offered capacity are excluded
- Predefined acceptance conditions by Bidders may be:
  - accepting partial fulfilment of the Bid if the total requested capacity quantity cannot be allocated to the Bidder, and/ or
  - Bids are valid solely for any given number of years combined

Principles of capacity allocation II.

- To avoid foreclosure of downstream supply markets, Bidders are allowed to submit a bid for maximum 50% of the offered capacity
  - Bidder disqualified if exceeded

- Bids of companies belonging to the same final beneficial owner are counted together in the 50%
  - All Bidders of the group are disqualified if exceeded

Methodology of capacity allocation

- In case of underbooking for any of the gas years, all capacities shall be allocated at the reserve price and supplement
- In case of overbooking for any of the gas years, the allocation methodologyfor the relevant gas year →
  1. pro rata principle:

$$\text{Allocated capacity}_{\text{gas year}} = \left(\text{Requested capacity}_{\text{gas year}} / \text{Total requested capacity}_{\text{gas year}}\right) * \text{Offered capacity}_{\text{gas year}}$$

  2. if the Bid cannot be satisfied for the gas year due to the predefined conditions of the Bidder →
  3. unsuccessful Bid, starting from the smallest affected bid(s) →
  4. re-allocation of capacity for the gas year among other Bidders → pro rata principle

Capacity allocation examples I.

Scenario 1 - Mistaken Bids								Allocated capacity	
Bidder No.	Bidder	Affiliation	Bid for Gas Year 1	Min. Q for Gas Year 1	Bid for Gas Year 2	Min. Q for Gas Year 2	Condition	Gas year 1	Gas year 2
1	A1	A	1000	0	1000	0	N/A	0	0
2	A2	A	1000	0	1000	0	N/A	0	0
3	A3	A	1000	0	1000	0	N/A	0	0
4	B1	B	500	0	500	0	N/A	0	0
5	B2	B	600	0	600	0	N/A	0	0
6	C	C	1001	0	100	0	N/A	0	0
7	D	D	750	0	750	0	N/A	750	750
							Total	**750**	**750**

Capacity allocation examples II.

Scenario 2 - No oversubscription								Allocated capacity	
Bidder No.	Bidder	Affiliation	Bid for Gas Year 1	Min. Q for Gas Year 1	Bid for Gas Year 2	Min. Q for Gas Year 2	Condition	Gas year 1	Gas year 2
1	A1	A	200	0	50	0	N/A	200	50
2	A2	A	200	0	450	0	N/A	200	450
3	A3	A	100	0	0	0	N/A	100	0
4	B1	B	200	0	0	0	N/A	200	0
5	B2	B	0	0	200	0	N/A	0	200
6	C	C	100	0	100	0	N/A	100	100
7	D	D	100	0	100	0	N/A	100	100
							Total	**900**	**900**

Capacity allocation examples III.
Oversubscription with no conditions

Scenario 3 - Oversubscription with no conditions								Allocated capacity	
Bidder No.	Bidder	Affiliation	Bid for Gas Year 1	Min. Q for Gas Year 1	Bid for Gas Year 2	Min. Q for Gas Year 2	Condition	Gas year 1	Gas year 2
1	A1	A	400	0	400	0	N/A	200	200
2	A2	A	50	0	50	0	N/A	25	25
3	A3	A	50	0	50	0	N/A	25	25
4	B1	B	250	0	250	0	N/A	125	125
5	B2	B	250	0	250	0	N/A	125	125
6	C	C	500	0	500	0	N/A	250	250
7	D	D	500	0	500	0	N/A	250	250
							Total	**1000**	**1000**

Capacity allocation examples IV. - Oversubscription

Scenario 4 - Oversubscription with conditions not fulfilled								Allocated capacity	
Bidder No.	Bidder	Affiliation	Bid for Gas Year 1	Min. Q for Gas Year 1	Bid for Gas Year 2	Min. Q for Gas Year 2	Condition	Gas year 1	Gas year 2
1	A1	A	200	150	200	150	Min Q	125	125
2	A2	A	200	150	200	150	Min Q	125	125
3	A3	A	100	100	100	100	Min Q, both GY	63	63
4	B1	B	250	0	200	0	N/A	156	125
5	B2	B	250	0	200	0	N/A	156	125
6	C	C	500	175	500	175	Min Q	313	313
7	D	D	100	100	200	100	Min Q	63	125
							Total	**1001**	**1001**

Capacity allocation examples IV.
Allocation sequence with conditions applied / 1

Preliminarily allocation (without applying conditions)					
Bidder No.	**Bidder**	**Gas year 1**	**Conditions fulfilled?**	**Gas year 2**	**Conditions fulfilled?**
1	A1	125	Min Q not fulfilled	125	Min Q not fulfilled
2	A2	125	Min Q not fulfilled	125	Min Q not fulfilled
3	A3	63	Min Q and GY not fulfilled	63	Min Q and GY not fulfilled
4	B1	156	Fulfilled	125	Fulfilled
5	B2	156	Fulfilled	125	Fulfilled
6	C	313	Fulfilled	313	Fulfilled
7	D	63	Min Q not fulfilled	125	Fulfilled

Capacity allocation examples IV.
Allocation sequence with conditions applied / 2

Preliminarily allocation (first bids with GYs not fulfilled taken out)					
Bidder No.	**Bidder**	**Gas year 1**	**Conditions fulfilled?**	**Gas year 2**	**Conditions fulfilled?**
1	A1	133	Min Q not fulfilled	133	Min Q not fulfilled
2	A2	133	Min Q not fulfilled	133	Min Q not fulfilled
3	A3	0	*Taken out*	0	*Taken out*
4	B1	167	Fulfilled	133	Fulfilled
5	B2	167	Fulfilled	133	Fulfilled
6	C	333	Fulfilled	333	Fulfilled
7	D	67	Min Q not fulfilled	133	Fulfilled

Capacity allocation examples IV.
Allocation sequence with conditions applied / 3

Preliminarily allocation (smallest bid(s) with Min Q not fulfilled taken out)					
Bidder No.	**Bidder**	**Gas year 1**	**Conditions fulfilled?**	**Gas year 2**	**Conditions fulfilled?**
1	A1	143	Min Q not fulfilled	0	*Taken out*
2	A2	143	Min Q not fulfilled	0	*Taken out*
3	A3	0	*Taken out*	0	*Taken out*
4	B1	179	Fulfilled	182	Fulfilled
5	B2	179	Fulfilled	182	Fulfilled
6	C	357	Fulfilled	455	Fulfilled
7	D	0	*Taken out*	182	Fulfilled

Capacity allocation examples IV.
Allocation sequence with conditions applied / 4

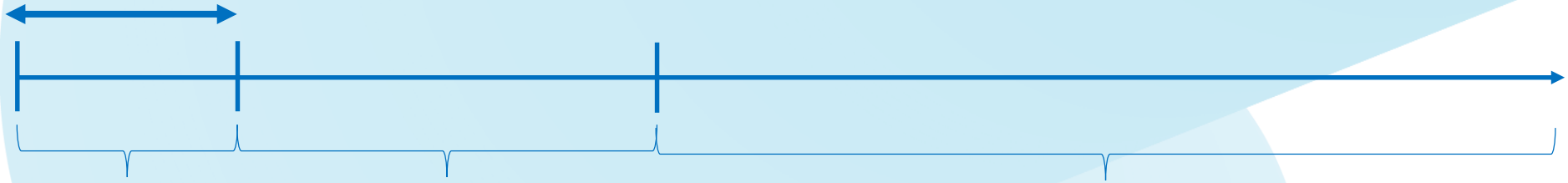
Preliminarily allocation (next smallest bid(s) with Min Q not fulfilled taken out)					
Bidder No.	**Bidder**	**Gas year 1**	**Conditions fulfilled?**	**Gas year 2**	**Conditions fulfilled?**
1	A1	0	*Taken out*	0	*Taken out*
2	A2	0	*Taken out*	0	*Taken out*
3	A3	0	*Taken out*	0	*Taken out*
4	B1	250	Fulfilled	182	Fulfilled
5	B2	250	Fulfilled	182	Fulfilled
6	C	500	Fulfilled	455	Fulfilled
7	D	0	*Taken out*	182	Fulfilled

Overview of financial securities

Transmission service security (FGSZ's GTCs)
1/12 of the given year's booking value
based on the **tariff**

Contract performance security (OS Rulebook & Contract)
Value of 5 years of the highest booked year
based on the **supplement**

Bid security (OS Rulebook)
0.033% of the bid value
based on the **tariff + supplement**



Bidding period **Construction period** **Capacity usage period**

Financial guarantee related to the bidding

- **Deadline:**
  - Submission together with the Bids as a condition of valid bidding
- **Amount:**
  - 0.033% of the value of the total Bid
- **Validity:**
  - at least until the submission of the financial security of the performance of the Contract (based on current timeline 30.04.2020)
- **Earnest money**:
  - in case of withdrawal of Bids
  - deadline: until 16:00 CET on 14 April 2020
  - 0.033% of value of the total Bid
- **Release of the security within 15 days after…**
  - the Bid is declared as unsuccessful
  - the financial security of the performance of the Contract is submitted
  - Bids are withdrawn

Financial guarantee to the Contract

- **Deadline**:
  - within 8 days following the announcement of the successful implementation of the OS procedure, based on the current timeline 30.04.2020
- **Amount**:
  - capacities booked for five years or more → five times the highest annual capacity amount multiplied by the supplement
  - capacities booked for less than 5 years or if less than 5 years remain from the contractual period → the total amount of the annual capacity fees
- **Validity**:
  - whole term of the contract + 90 days
  - Extension deadline: until the 30th day preceding the expiry of the prevailing financial security

Tariffication

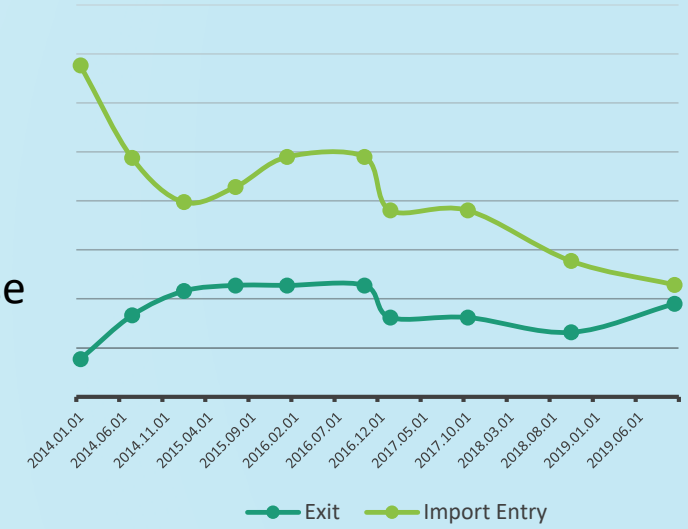
Regulatory environment

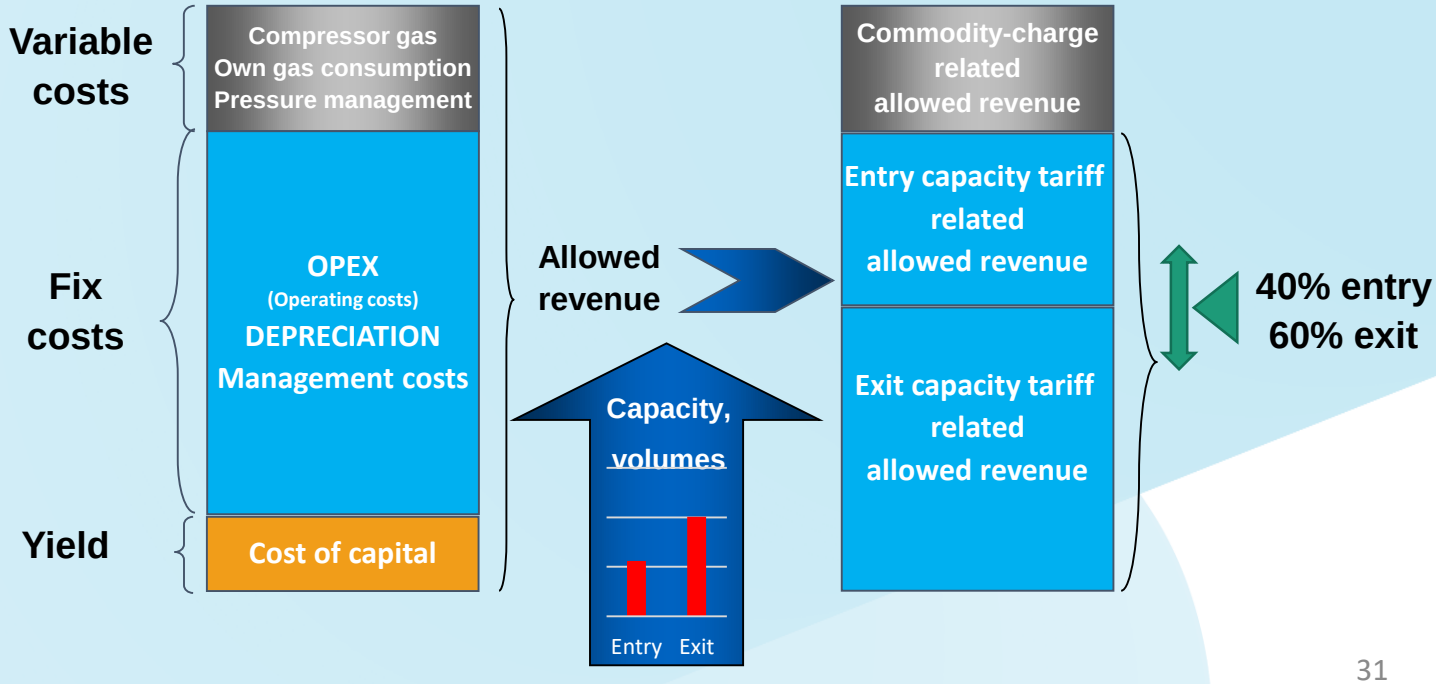
- Commission Regulation (EU) 2017/460 **(TAR NC)** establishing a network code on harmonised transmission tariff structures for gas
- Commission Regulation (EU) 2017/459 **(CAM NC)** establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation
- **MEKH Decree No 8/2016. (X. 13.)** on the framework rules of determining natural gas system use charges, separate charges and connection charges („Framework Decree")
- **MEKH Decree No 11/2016 (XII.14.)** on the rules of application of natural gas system use charges, separate charges and connection charges („Price application Decree")
- **MEKH Decree No 13/2016. (XII. 20.)** on the rate of natural gas system use charges, separate charges and connection charges („Tariff Decree")

Hungarian gas transmission tariff system

Methodology for tariff setting

- Tariffs are set by MEKH
- Determination of the initial level of the allowed cost base
- Determination of RAB
- Determination of the rate of WACC
- Determination of forecasted capacity
- Yearly review
- Consultation





Hungarian gas transmission tariff system

$$\text{Commodity charge} = \frac{\text{Commodity-charge related allowed revenue}}{\text{Volumes taken into consideration during price setting}}$$

$$\text{Entry/Exit tariff} = \frac{\text{Capacity tariff related allowed revenue}}{\text{Forecasted booked capacity}} = \frac{\text{Yield+OPEX+Depreciation}}{\text{Forecasted booked capacity}}$$

Entry/Exit tariff

- Yearly tariff
- Tariffs for non-yearly cap.products

$$\text{Yield} = \text{RAB} * \text{WACC}$$

- Floating payable price means a price calculated in accordance with Article 24(a) TAR NC where the reserve price is subject to adjustments such as revenue reconciliation, adjustment of the allowed revenue or adjustment of the forecasted contracted capacity

Regulatory environment – CAM NC

Methodology and definitions are defined in CAM NC

- Economic test – parameters:
  - the present value of binding commitments of network users for contracting capacity (PV_{UC}) – to be committed by network users
  - the present value of the estimated increase in the allowed revenue of the TSO associated with the incremental capacity included in the respective offer level (PV_{AR}) –to be approved by MEKH
  - f-factor: the share of PV_{AR} of the TSO associated with the incremental capacity included in the respective offer level to be covered by the present value of binding commitments of network users for contracting capacity (f) - to be approved by MEKH

- Economic test – outcome:
  - Positive: $PV_{UC} \geq f * PV_{AR}$
  - Negative: $PV_{UC} < f * PV_{AR}$

Regulatory environment – TAR NC

Article 33 - Tariff principles for incremental capacity

- the reserve price shall be **based on projected investment and operating costs**
- mandatory minimum premium may be applied: In case the allocation of all incremental capacity at the reference price would not generate sufficient revenues for a positive economic test outcome
- the level of the mandatory minimum premium **shall enable a positive economic test outcome**
- the range of the level for the mandatory minimum premium **shall be submitted to** the relevant national **regulatory authority for approval**
- a mandatory minimum premium **shall be added to the reference price** for the bundled capacity products at the respective interconnection point and shall exclusively be attributed to the TSOs for which the mandatory minimum premium was approved

SR-HU economic test parameters

Calculation of a supplement fee:

- supplement fee should cover the return on the CAPEX need of the incremental capacity
- the future asset will generate expenses
  - Operating costs
  - Depreciation
  - Cost of capital
- calculated supplement fee to be calculated: to ensure revenues that cover the above expenses
- discounted Cash Flow methodology: to measure the forecasted expenses and expected revenues on the same basis (Discounted revenues = Discounted expenses)
- f factor: to be determined by MEKH

Parameters	1. Capacity level	2. Capacity level
Discount factor	7.9%	7.9%
„f" factor	1.0	1.0
Offered capacity	6 562 292 kWh/h	9 296 407 kWh/h
PV_{AR}	16 372 BnHUF	55 828 BnHUF
Supplement fee	316.59 HUF/kWh/h/y	829.88 HUF/kWh/h/y

Thank you