

TARIFF FRAMEWORK FOR GAS TRASMISSION IN ITALY

The Regulatory Authority for Electricity and Gas

Wien - November 11, 2010



AGENDA

- **Economic principles**
- **Tariffs Structure**
 - **Capacity**
 - **Allowed Revenue**
 - **Commodity**
 - **Annual Updating**
 - **New Investments**



ECONOMIC PRINCIPLES (I)

- **National pipeline grid (NTG) and regional pipelines (RTG) tariffs based upon:**
 - capacity
 - distance
 - shipped volume
- **Tariffs:**
 - set for a 4 year regulation period (starting from 1 January 2010)
 - subject to price-cap on allowed revenue
 - proposed by TSO according to criteria fixed by the Regulator
 - approved by the Regulator



ECONOMIC PRINCIPLES (II)

- Fair rate of return on capital
- Allowance for new investments
- NTG: entry-exit capacity tariffs with consideration of distance to smooth regional differences
- RTG: exit capacity tariff, distance-related with distance cap [postage stamp, reductions for redelivery points near the transmission grid (up to 15 km)]
- Promotion of competition



TARIFFS STRUCTURE

$$T=(K_e \cdot C_{Pe}) + (K_u \cdot C_{Pu}) + (K_r \cdot C_{Rr}) + (V \cdot CV)$$

where:

- **K_e** : capacity as booked for entry points from NTG
- **C_{Pe}** : capacity tariff for entry points from NTG
- **K_u** : capacity as booked for exit points from NTG
- **C_{Pu}** : capacity tariff for exit points from NTG
- **K_r** : capacity as booked from RTG (redelivery points)
- **C_{Rr}** : capacity tariff from RTG (redelivery points)
- **V** : shipper volume of gas
- **CV** : commodity tariff



CAPACITY (1)

- Capacity booking regime can be annual, semestral, quarterly, monthly
- *Weighting components to be applied to the capacity tariff CPe related to the specific period*

Mese	Coefficienti moltiplicativi del corrispettivo mensile			
	Annuo	Semestrale	Trimestrale	Mensile
Ott	1	1,1	1,2	1,4
Nov	1	1,1	1,2	1,4
Dic	1	1,1	1,2	1,4
Gen	1	1,1	1,2	1,4
Feb	1	1,1	1,2	1,4
Mar	1	1,1	1,2	1,4
Apr	1	1,1	1,2	1,4
Mag	1	1,1	1,2	1,4
Giu	1	1,1	1,2	1,4
Lug	1	1,1	1,2	1,4
Ago	1	1,1	1,2	1,4
Set	1	1,1	1,2	1,4



CAPACITY (2)

- **Interruptible service available**

Cpe is reduced by the main TSO (Snam Rete Gas) in order to take into account the risk of interruptions

Interruptible services are provided in an open, transparent and not discriminatory manner



ALLOWED REVENUE

- **Allowed revenue RT**
 - capital asset base from re-evaluated balance sheets
 - company accounts operating costs from year 2008
 - depreciation
 - cost of balancing

- **Rate of return from Capital Asset Pricing Model (CAPM)**
 - weighted average cost of capital (WACC)
 - target debt/equity ratio and beta from international sample of peers



DEPRECIATION

- Conventional duration of the assets

CATEGORY OF ASSET	YEAR LIVE
Building	40
Pipelines	50
Compressor and Reduction Stations	20
ITS	5
Tangible and Intangible Assets	10



BALANCING

- In Italy it is in force a daily balancing regime

The transmission tariff includes operational balancing – the action taken by the TSO to balance the network that are not due to shipper's balancing: intra-day balancing action (hourly modulation) and the management of linepack

The transmission tariff does not include shipper's balancing. Transmission and mainly storage balancing are charged separately from the transmission tariff.



AVERAGE LEVEL

$$WACC (pre\ tax) = \frac{\left[1 + \left(\frac{K_e}{(1-T)} * \frac{E}{(E+D)} + K_d * \frac{(1-tc)}{(1-T)} * \frac{D}{(E+D)} \right) \right] - 1}{1 + rpi}$$

- K_e is the cost of equity
- K_d is the cost of debt
- D is debt
- tc is the debt tax shield
- T is the corporate tax rate
- rpi is the inflation rate



RATE OF RETURN ON ASSETS

■ $r_i = r_f + \text{MRP} * \beta_{\text{levered}}$

where:

- r_f risk-free rate (4,40%)
- MPR market risk premium (4 %)
- β_{levered} risk index (0,575%)
- K_D : 4,85 (real)
- D/E ratio: 0.8
- Hence: WACC = 6,4 % (real before tax)



CAPACITY TARIFFS

- CPe, CPu and CRr cover depreciation and remuneration of invested capital
- Capacity tariffs CPe, CPu for NTG :
$$\min \sum_{ij} (TE_i + TU_j - COST_{ij})^2$$

where $COST_{ij}$ is the *average* cost of transmission from entry point i to exit zone j
- Capacity tariff CRr for RTG:
 - national postage stamp
 - distance-based (tariff reduction) for short distances from NTG



COMMODITY TARIFFS

- **CV covers operating cost except fuel costs and losses that are allowed in kind**
- **The same tariff is applied to all entry points**



ANNUAL UPDATING(1)

- Commodity revenue – price cap formula-

$$CV_t = CV_{t-1} (1 + I_{t-1} - RP_c + Y + Q + W),$$

where

- I_{t-1} is the inflation rate,
- RP_c is the rate of productivity. It is different for each company.
- Y , Q and W are additional parameters which take into accounts unpredictable events, recovery of costs deriving from quality standards and demand control policies



ANNUAL UPDATING(2)

- **Capacity tariffs:**

CPe, CPu, CRr determined each year in order to take into account new investments and the updating of transmission capacity

Every year capacity revenue is guaranteed through an error correction mechanism fixed tariff



TRANSMISSION TARIFF: NEW INV.

For new investments is awarded an additional remuneration rate r_t^{NI} that is different for each category of the investment

- T=1 investments (I) of substitution: 0%
- T=2 I that don't involve the realization of new capacity of transmission (nct): 1% for 10 years;
- T=3 I destined to the realization of nct of RTG: 2% for 7 years;
- T=4 I destined to the realization of nct of NTG: 2% for 10 years;
- T=5 I destined to the realization of nct of functional to the capacity of importation: 3% for 10 years;
- T=6 I destined to increase capacity of entry at the frontiers, also with the purpose to introduce quantitative of Gnl: 3% for 15 years.



Thank you for your attention

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CAPACITY ALLOCATION MECHANISMS IN ITALY

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Capacity allocation mechanisms

- **The Authority for Electricity and Gas (decision n. 137/02) defines a system of guarantees for third party access to gas transmission network**
- **Major provisions are:**
 - **right of priority for the transmission capacity allocation at the entry points of national network for TOP contracts first and, subsequently for other contracts**
 - **priority right to transmission capacity for investors in new pipelines**
 - **the introduction of a secondary transmission capacity market and a gas trading market on system**



Capacity allocation mechanisms (1)

Based on a merit order

Transmission import points and Lng terminals

- 1. parties in long-term import contracts underwritten before August 1998, for the average daily quantity corresponding to the ACQ (annual contractual quantity) or minimum volumes delivered for LNG contracts**
- 2. parties in long-term import contracts underwritten after August 1998, for the average daily quantity corresponding to the ACQ**



Capacity allocation mechanisms (2)

3. parties in yearly import contracts, and parties in item 1 and 2 for the allowable capacity not satisfied, up to DCQ
4. parties in other import contracts.



Capacity allocation mechanisms (3)

- allocation method pro-rata when capacity is inadequate with respect to demand
- The division for quota happens respecting priority right at the entry points of the national network.



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