

Entry-Exit Model for gas TSO

The basic principles

21st October 2013

Agenda

Why is the E/X model introduced

What should be achieved with E/X model

What is E/X model

How to create E/X model

Next step

Why to implement Entry-Exit tariff system?

*EC Regulation
715/2009
introduces new
principles to gas
TSOs*

Regulation 715/2009 of the European parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks introduces following principles:

1. Gas should be **traded independently** of its location in the system, i.e. give network users the freedom to book entry and exit capacity independently
2. Ensure **optimal management** of the gas transmission network in the Community
3. Tariffs should be **cost-reflective**, non-discriminatory and provide efficient (scarcity) signals

As a result:

- Entry-exit tariff should replace tariffs calculated on the basis of contract paths
- Costs should correspond to those of an efficient and structurally comparable network operator and are transparent, whilst including an appropriate return on investments

How Entry-Exit tariffs helps to achieve EC's objectives?

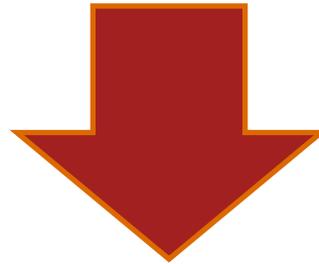
Promote competition and efficient gas trade

In Entry-Exit model, the input and off-take of gas is separated and the transport of the gas between these entry and exit points is not bound to the physical contracted path.

- It **promotes competition** since it decreases the entry barriers for new players on the market
- The separation of entry and exit points for capacity allocation results into **improved gas tradability** – gas is traded independently of its physical flow or location
- Entry-exit tariffs are **cost reflective** in the meshed and complex gas transit networks
- Entry-exit tariffs are capable of **accommodating the local characteristics** of different networks.

Issues with complex mesh networks

Point-to-point system	Entry-exit system
Systems where only long pipelines with unidirectional flows exist.	Complex and meshed networks



In case physical flows deviate from contractual, distance based tariff system does not provide cost reflective charges and may be potentially discriminatory.

Key definitions in Entry-Exit model

Entry points and Exit points, Virtual point/virtual hub

- **Entry points**

Points where the gas enters the gas transmission network, such as border points, underground gas storages, LNG terminals

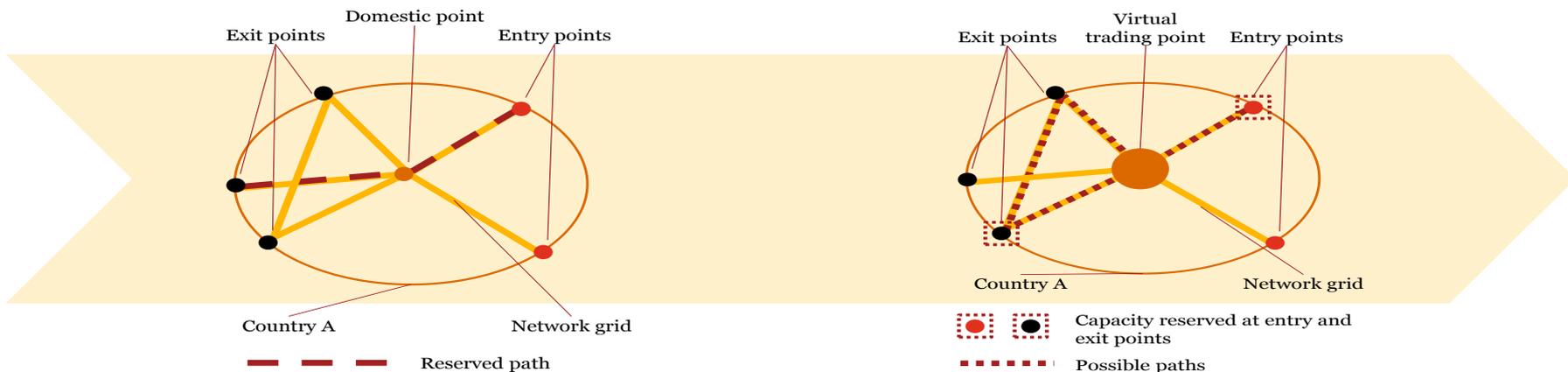
- **Exit points**

Points where the gas leaves the gas transmission network, such as border points, underground gas storages, big consumers or distribution grids

- **Virtual point/virtual hub**

A virtual marketplace where gas can be bought and sold irrespective of the physical flows in the network

Entry-Exit tariff model overview



Current Point-to-Point model

- Capacities are booked bound to a particular transportation path
- Costs for the gas transportation depend on the length of the transportation path

New Entry-Exit model

- Separation of the input and off-take of gas
- No defined contract path
- Virtual trading point – purchase and sell gas without booking transportation capacity

Entry-Exit model in context of wider regulation

The tariff setting process consist of **2 main steps**:

1. Setting the **total allowed revenues**
2. **Allocation** of the total allowed revenues to the users of the network

The current tariff setting process is analyzed, including the calculation of the revenue requirement, but the focus is on the allocation of the revenues to user charges:

1. Total allowed revenues – possible approaches

Historical cost

Current cost

Benchmarking

Review

2. Allocation to user charges – possible approaches

Point-to-point

Postage stamp

Entry-Exit

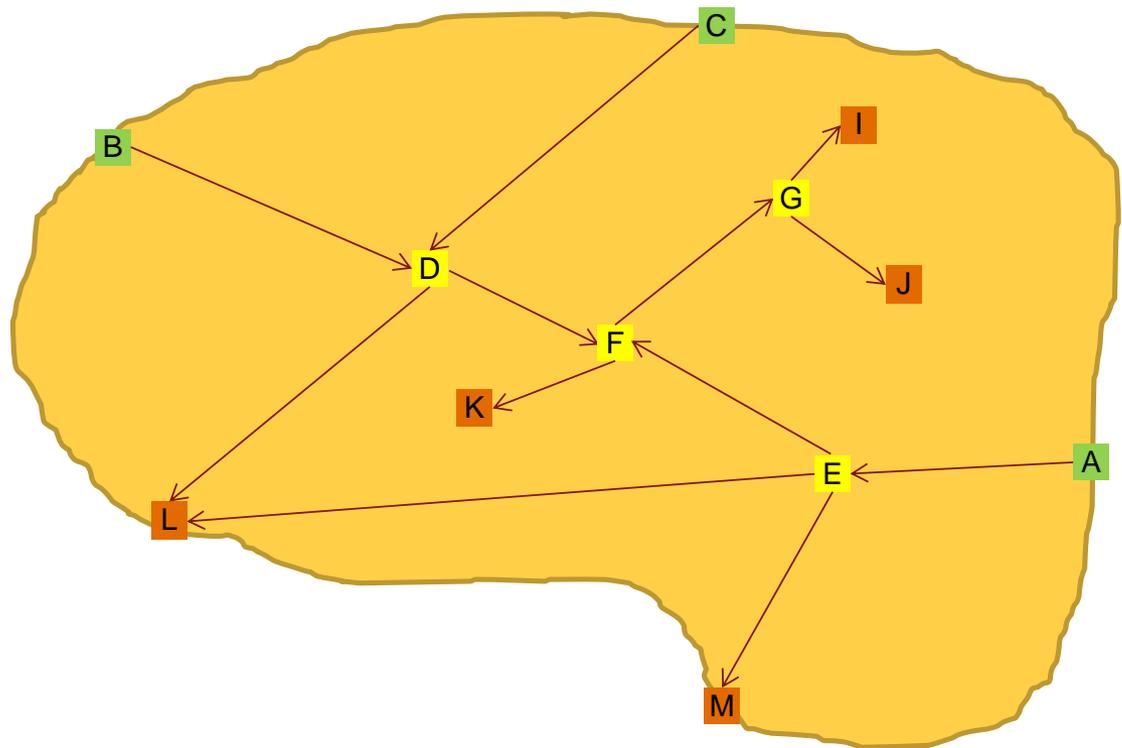
Develop

We will calculate the cost of gas flow through various paths

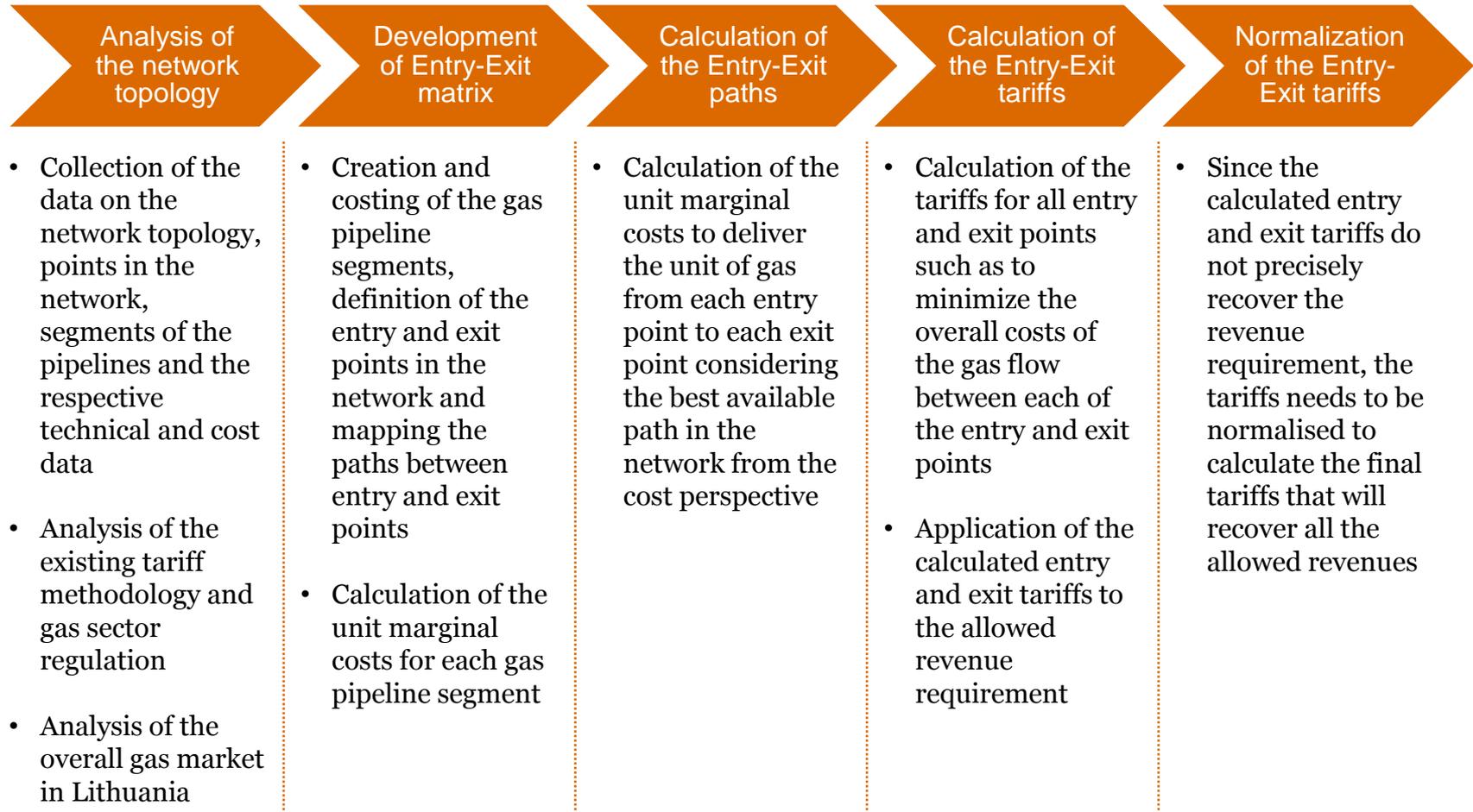
The objective is to calculate the optimal paths through the network

Proposed approach:

- Develop matrix of all entry and exit points in the network
- Collect detailed cost information for each pipeline section
- Calculate the cost of optimal paths between all entry and exit points
- Derive entry exit tariffs



Process of Entry-Exit model development



Q&A

Thank you for your attention!

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