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Transit Report

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Executive Summary

1. The transit of natural gas is a fundamental aspect of the European gas market, which is required to underpin Security of Supply and to create a competitive European gas market.
2. Three categories of transit should be distinguished and handled appropriately: (1) “regular” transit; (2) transit under existing contracts, which should not be questioned according to the principle of sanctity of contract; and (3) transit on new infrastructures exempted from regulation according to art. 22 of the 2nd IGM Directive.
3. The main aspects to be considered are:
 - The specific situation varies significantly from country to country, therefore it is not possible to have a “one size fits all” approach.
 - In most cases, transit routes of natural gas are competing with alternative transit routes and LNG supply sources in other countries, therefore the ability to apply market price is of primary importance.
 - An appropriate regime should be applied to ensure that existing investments are protected and new investments are stimulated. Due to the size of the investments involved, the use of long term contracts to secure the investments will remain an essential element of existing and future pipeline projects.
 - In cases where, taking into account the specific conditions in a Member State, the cross-subsidization is clearly identifiable and produces unacceptable distortions, the application of specific tariffs for transit could be more appropriate.

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1. Background

GTE identified four shortcomings of the entry-exit system and presented them at the Madrid Forum VII in September 2003:

- 1) Short distance transmission prices are generally too high;
- 2) Long distance prices are normally not cost reflective;
- 3) Internal capacity congestion is difficult to manage due to uncertainty of combinations between entry and exit points;
- 4) The system is difficult to adapt to countries where multiple Transmission System Operators (TSOs) and competing networks are involved.

During the Madrid Forum VIII in July 2004, GTE repeated that these shortcomings persist and in relation to transit especially 1) and 2) should be considered.

Point 16 of the conclusions of the Madrid Forum VIII states:

“With respect to the issue of compatibility of transit and transportation tariffs in some markets, the Forum suggested to deal with this issue in more detail. The Commission and network users invited ERGEG, in accordance with the usual consultation procedure to present a report outlining how to deal with transit under a regulated access regime.”

GTE is pleased to provide its first contribution to this discussion with the present report and would like to discuss its views with all involved parties (authorities, network users and interested organisations).

2. Definition, identification and categories of transit

2.1. Definition of transit

The 2nd IGM Directive does not provide a definition of transit. The definition of the Transit Directive 91/296/EC - no longer in force - is:

“Every transaction for the transport of natural gas under the following conditions shall constitute transit of natural gas in grids, for the purpose of this Directive, without prejudice to any special agreements concluded between the Community and third countries:

- a) transmission is carried out by the entity or entities responsible in each Member States for high-pressure natural gas grids, with the exception of distribution*



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grids, in a Member State's territory which contribute to the efficient operation of European high-pressure interconnections;

- b) the grid of origin or destination is situated in the Community;*
- c) this transport involves the crossing of at least one intra-Community frontier.”*

The above definition is currently unsuited because it considers only integrated undertakings and refers to a list of companies.

A definition of transit based on the crossing of one border-point may not be sufficient, as it may not take into account the specific situation of gas producing countries.

As will be shown, the situation in different European countries indicates that transit is a very complex issue and can have many different characteristics. Therefore, transit should be defined by each Member State, taking into account the specific characteristics.

2.2. Identification of transit

The ability to identify transit mainly depends on the applicable access and booking conditions for transmission and the physical transmission situation.

If a TSO has an integrated transmission network, i.e. that transit, transport and (if applicable) production simultaneously make use of the same gas transmission infrastructure, identification of transit depends on the services offered.

Identification of transit becomes more complex in case a TSO with an integrated network operates a disconnected entry-exit system with a virtual trading facility.

2.3. Categories of transit

Three categories of transit should be distinguished:

1. “Regular” transit (all transits except those falling under cat. 2 and 3):
 - these transits supervised by national regulators;
 - TSOs should offer transparent and non-discriminatory access conditions;
 - the terms and conditions applicable to “regular” transit may be different from those applicable to domestic transportation.
2. Transit under existing contracts (see the additional comment in Appendix 1):



- concluded under the Transit Directive: art. 32 of the 2nd IGM Directive explicitly let them valid and to be implemented under its terms;
 - concluded before 1991 or out of the scope of the Transit Directive before 1st July 2004 : these contracts prevail and should not be questioned, according to the principle of sanctity of contracts which is to be respected.
3. Transit on new infrastructures exempted from regulation according to art. 22 of the 2nd IGM Directive.

This document mainly deals with transit of category 1, according to point 16 of conclusions of Madrid Forum VIII.

3. Objectives of transit within the European gas industry

Transit provides:

- physical transport capacity from producing countries to consumption areas;
- physical link between different trading places and as such facilitating the liquidity of markets by connecting those.

Therefore transit is a prerequisite for Security of Supply and facilitates competition.

It is generally accepted (e.g. Security of Natural Gas Supply Directive 2004/67/EC) that long-term commitments have been and will remain the basis of the long-term balance between demand and supply, whereas medium-term and short-term agreements and trading will be used to balance demand and supply on a medium-term and short-term basis.

4. Specific aspects with regard to Transit

4.1. Competing European transit routes

Shippers often have different options to transport gas across countries. Out of the many possibilities, Appendix 2 shows three examples of such competing routes.

Tariffs play an important role in the shipper's decision on which alternative route to use. If a specific transit tariff is low compared to the tariffs of competing routes, the operator of the transit infrastructure may be confronted with capacity congestion; if it is high compared

to the tariffs of competing routes, the operator of the transit infrastructure may be confronted with idle transport capacity.

Competition is present at three levels:

- before a transit pipeline is developed, several projects usually compete;
- once the pipeline is in place, it will have to compete with other transit pipelines; in many cases, different companies compete with each other through pipe-to-pipe competition;
- besides pipe-to-pipe competition, LNG routes also offer flexible alternatives to transit through pipelines.

This leads to the conclusion that transit is generally a competitive activity in Europe.

4.2. Differences among countries

The situation with regard to transit is quite different among the European countries:

- percentage of transit volume : some countries have high transit volumes (Slovakia, Czech Republic, Austria, Belgium...) whereas other countries have a medium or low percentage of transit with respect to domestic transport (France, Italy, Great Britain, Spain...);
- size of the tariff zone : cross-subsidization as described in section 4.6 usually becomes more eminent when the size of the tariff zone increases;
- in some countries, pipelines are dedicated to transit, while in other countries, the same infrastructure may offer transport and transit services (see section 2.2);
- the balancing requirements may be different (see also section 4.3);
- Public Service Obligations for the domestic market, in some countries, could limit the availability of services for transit;
- The situation is also different for transit in Member States where natural gas has been introduced recently.

For these reasons, transit should be considered on a case by case basis.

4.3. Characteristics of transit and services offered

Transit has usually been characterized by high quantities of gas and a high load factor. Gas has been flowing in the same direction, from the producing area to the consumption area.

Characteristics of transit may be different with respect to transmission for the domestic market:

- distances for transit may be longer or shorter than the average transmission distance for the domestic market;
- transit contracts are usually for a longer term than transportation contracts;
- capacity reservations and quantities are often higher for transit with also a higher load factor; this applies especially for transit contracted on a long term basis.

In these cases, the services rendered in a transit contract may be different from the services offered on a domestic transportation contract, for instance:

- balancing regime may be different; a lower balancing tolerance may allow a higher capacity to be offered on the market;
- Public Service Obligations for delivery to residential customers apply to domestic transportation; and may lead to differences between the services offered to transit and to domestic transportation.

See Appendix 3, examples of differences in requirements

Although there may be some differences between transit and domestic transportation, there may also be benefits in treating them in the same manner. For example, shippers may optimise their portfolio of capacity rights and take advantage of economies of scale and scope related to the joint infrastructure and management of transit and domestic transportation.

4.4. Security of Supply

Transit pipelines are often built to ensure the transportation of gas across countries and therefore provide an important contribution to the Security of Supply of the importing countries.

In this context, long-term purchase contracts play an important role. To ensure transmission of quantities under long-term purchase contracts, long-term transit contracts are needed. Taking into consideration the increase in European import volumes, huge investments in transit infrastructure will be needed.

The inappropriate application of Use-It-Or-Lose-It (UIOLI) on firm capacities in transit countries may possibly endanger the Security of Supply of supplied countries downstream, if the SOS requirements of these supplied countries are not taken into account in the transit countries.

4.5. Investment risks

Investments linked to transit require proper analysis by the TSO in order to determine an adequate remuneration taking into account the risk. The forecasted cash flows should incorporate the risk associated with each project, and the actualisation rate will take into account the market signals (fulfilment of the expectations of investors) and the structural risks around each project: risks linked to macro-economic factors, such as inflation, interest rates, risks linked to monetary policy, special risks linked to infrastructure crossing several EU countries and/or risks of political changes in supply countries outside EU. This shows that an analysis will have to be performed on a case by case basis.

Because of the huge investments involved and the need to achieve economies of scale, international joint ventures are often needed to get a proper financing for such projects. At the same time, it is usually essential that one or more shippers make long-term commitments. A stable and predictable regulatory framework is a pre-requisite for ensuring the proper long term risk sharing between the shippers and the TSOs. Due to the competition that mostly exists on the market for transit capacity (see paragraph 4.1), transit may have different risks from domestic transportation, which need to be recognized.

There is thus a need for limiting the risks attached to transit, in order to make the financing of the projects possible and in order to contribute, at the end of the chain, to the Security of Supply of European countries.

Possible means for limiting risks are:

- exemption from regulation for new projects; in some cases, such exemptions are the only way to realise the investment and should not be subject to excessively restrictive conditions;
- transportation contracts on a long-term basis provide the basis for recovering the capital costs, the operating costs, meeting the debt service obligations and providing a return to the investors being acceptable from an investor's point of view;
- providing a predictable and stable regulatory framework would increase the confidence of all market players (producers, suppliers, shippers, traders, transmission system operators, other infrastructure operators, financial institutions);
- specific long term agreements on regulatory treatment of the investment.

Concluding this point on risks, depending on the specific situations, there may be a need to treat investments in transit infrastructures differently from investments in domestic transport infrastructures.

4.6. Compatibility of entry-exit tariffs and transit

In its report “Potential Shortcomings of the Entry-Exit System”, dated 15 September 2003, GTE showed that in an entry-exit system short distance transmission prices are generally

too high and long distance transmission prices are generally not cost-reflective. With respect to transit, two main consequences are to be considered (see a theoretical example in Appendix 4):

- If the length of a transit route is large with respect to the size of the entry-exit system, a transit shipper may be charged a non-cost-reflective price, being cross-subsidized by transportation for the domestic market;
- If the length of a transit route is short with respect to the size of the entry-exit system, a transit shipper may be charged too high a price, cross-subsidizing transport for the domestic market.

In cases where, taking into account the specific conditions in a Member State, the cross-subsidization is clearly identifiable and produces unacceptable distortions, the application of specific tariffs for transit could be more appropriate.

5. Conclusion items

5.1. Categories of transit

Three categories of transit should be distinguished and handled appropriately:

- “Regular” transit;
- Transit under existing contracts should not be questioned according to the principle of sanctity of contract;
- Transit on new infrastructures exempted from regulation according to art. 22 of the 2nd IGM Directive.

5.2. “One size does not fit all”

When new transits are not under an exemption regime, they fall under the supervision of the regulation authority of the transit country. The following non-exhaustive list of criteria should be considered by Member States in deciding on the handling of transit:

- percentage of transit volume;
- size of the country;
- dedicated infrastructure;
- simplicity of use by shippers and TSOs;

- tradability of capacity rights;
- balancing requirements / balancing possibilities.

Depending on the evaluation of the above-mentioned criteria, Member States may decide to implement one unique network access and/or tariff system for transit and transportation, or to implement different systems. It may be difficult to distinguish transit from the transport for the domestic market.

As the specific situations differ very much across countries, no unique solution can be developed at the European level.

5.3. Need for a stable and attractive investment climate

Transit requires huge investments and provides an important means to ensure Security of Supply. Taking into consideration the increase in European import volumes, there will be an enormous need to secure financing of transit infrastructures. In order to attract sufficient capital for these investments, a stable and predictable regulatory framework is required.

In addition, there are usually higher risks associated with transit lines, e.g. because of competing European transport routes and significant increase of LNG.

In most cases, long-term contracts are needed to alleviate the higher risks associated to transit investments. An appropriate remuneration that takes into account the specific risks is required for investments in transit systems.

5.4. Compatibility of entry-exit tariffs and transit

Transit through an entry-exit system may lead to cross-subsidization between transit and transportation for the domestic market. In cases where, taking into account the specific market conditions in a Member State, the cross-subsidization is clearly identifiable and produces unacceptable distortions, the application of specific tariffs for transit could be more appropriate.

5.5. Conclusion

In conclusion, the transit of natural gas is a fundamental aspect of the European gas market, which is required to underpin Security of Supply and to create a competitive European gas market.

In many cases transit of natural gas is a competitive activity, competing with alternative pipeline routes and LNG supply sources in other countries. In addition, as the characteristics of transit vary from country to country and there may be significant differences between transit and national transportation, for example in the application of PSOs and balancing rules, it is not possible to have a “*one size fits all*” approach.



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The specifics of each transit should be recognised and an appropriate regime applied to ensure that existing investments are protected and new investments are stimulated. Due to the size of the investments involved, the use of long term contracts to secure the investments will remain an essential element of existing and future pipeline projects.

Appendix 1. Existing long term Transit Contracts

The principle of sanctity and the protection of confidence grant an unaffected continuation of these contracts. It is a general principle in national and international law that contracts are not impaired by new legislation – unless explicitly foreseen - and it is very difficult to deviate from this principle. Besides, the transits mentioned under category 2 (“transit under existing contracts”) should not be questioned by the implementation of the 2nd IGM Directive.

In addition, existing long-term transit contracts have been concluded together with long-term purchase contracts or contracts to build new pipelines. As a result, such contracts are interdependent with each other and are necessary to ensure the security of supply.

Therefore, the balanced relationship between long-term purchase and transit contracts should not be disturbed by compulsory tariffs or other rules which would not take into account the individual and complex circumstances of such contracts.

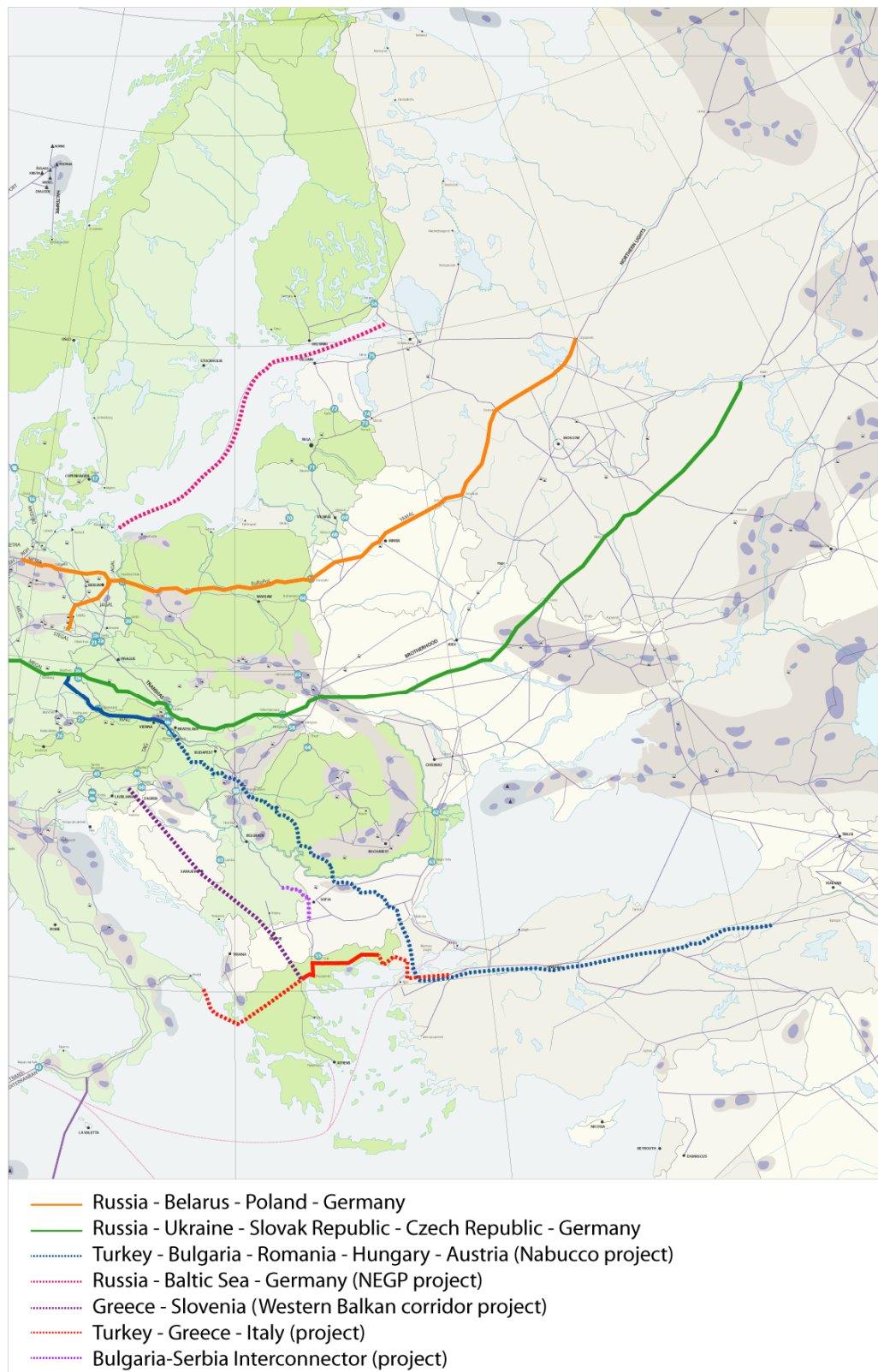
The above principles should in particular be respected as long-term transit contracts deal with high investments on both the transporter's and the shipper's side.



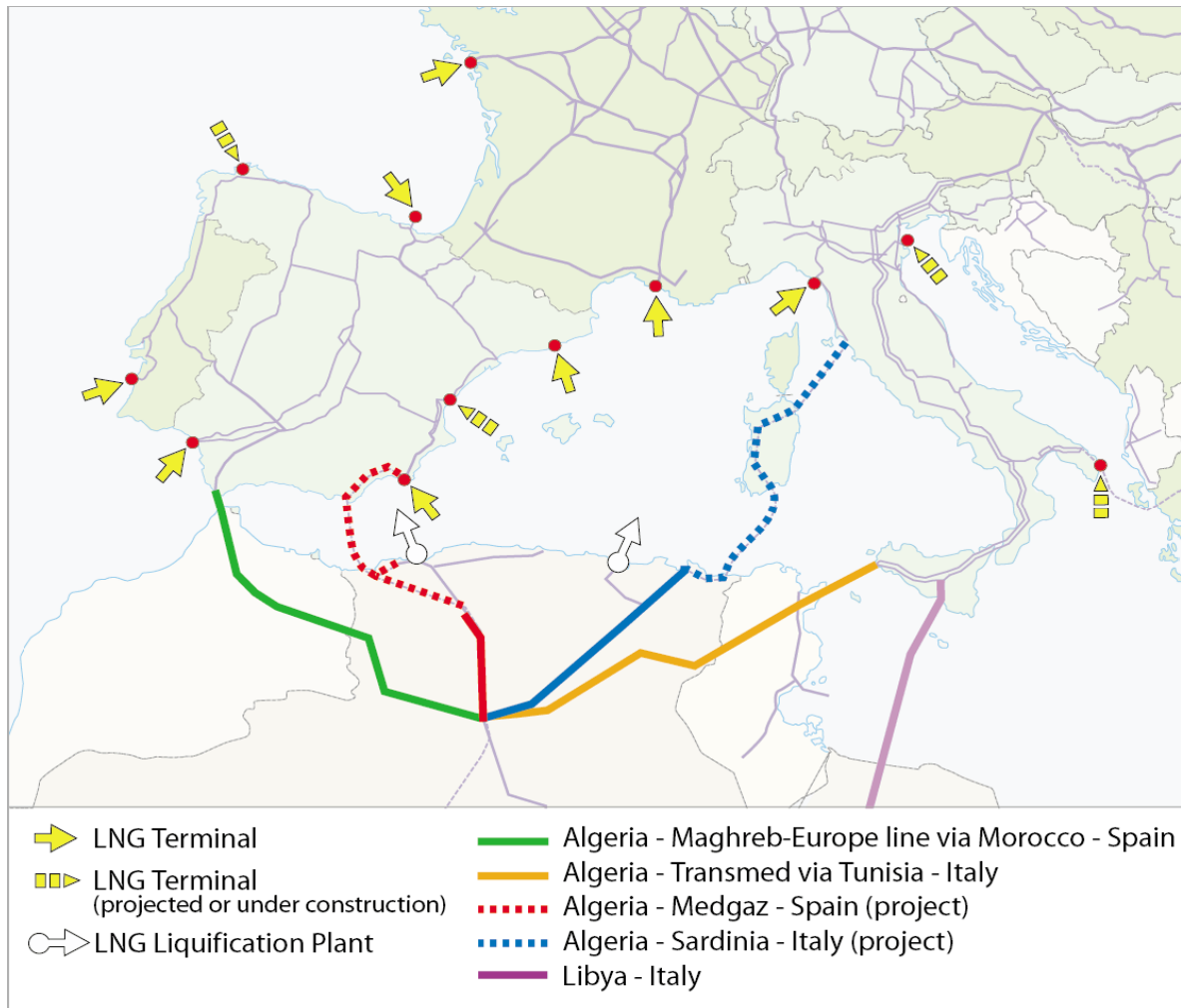
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Appendix 2. Examples of competing European transit routes

Example 1: From the East to the West

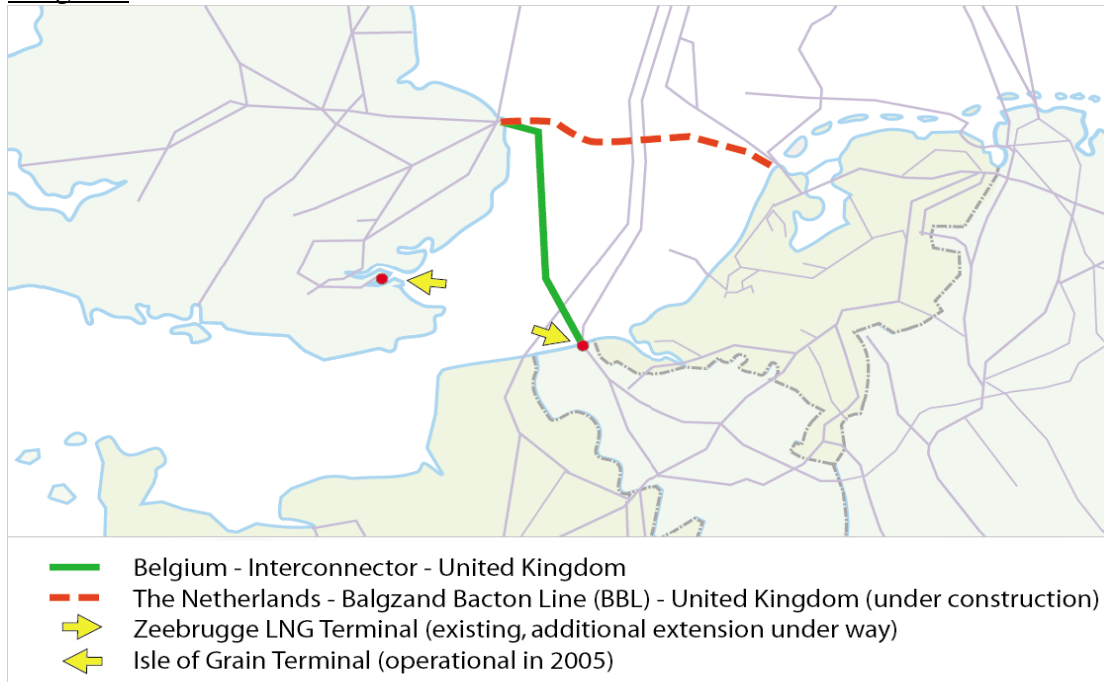


Example 2: From Algeria/Libya to South West Europe





Example 3: Between the Continent and the United Kingdom



Appendix 3. Examples of differences in service requirements

The first example puts in evidence the need, in case of relatively high transit volumes, to differentiate transit with regard to the balancing regime.

Let us assume a hypothetical TSO operating in a country S with 80 bcm/y in transit and another 8 bcm/y as a transport for domestic market. There is no liquid gas market available in the neighbourhood. The TSO is offering tolerance of 5 % to domestic transport, and only very small tolerance for transit customers, since there are no reasonable market rules to accomplish balancing service in a similar scale also for transit customers. Equal treatment will lead to either:

- offer 5 % balancing tolerance also to transit customers, which leads to the need of storing the gas for this purpose; this may be impossible when there is no large underground storage in country S connected directly to the transit system;
- stop to provide the balancing service to domestic transport because of the need of equal treatment.

Result: Equal treatment will probably complicate the situation.

The second example puts in evidence the need, in some cases, to differentiate transit with regard to the Public Service Obligations.

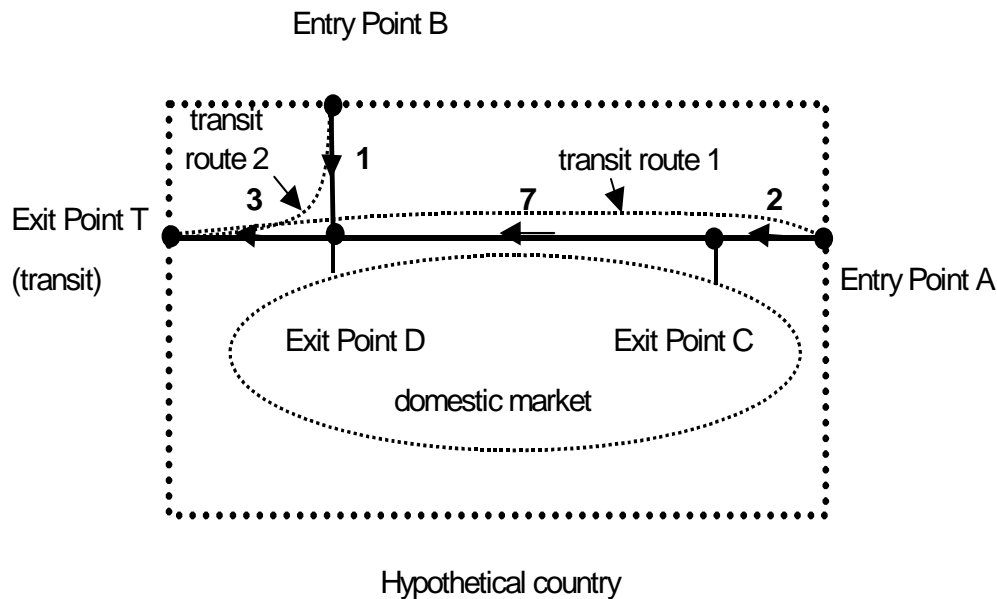
Let us assume a hypothetical TSO which is obliged under PSO to be able to balance for shortages affecting the domestic market during a period of at least 60 days of non-delivery. This leads to extra-costs, which are passed on customers within the country. In case of obligation of equal treatment between transit and transmission for the internal market, there are two possibilities:

- balance the transit in the same way as transport; this leads to enormous costs at the detriment of the competitiveness of the transit route;
- stop the PSO for internal market transport, which will worsen the situation of domestic shippers or customers.

Result: Equal treatment will significantly worsen the situation of either transport or transit, which does not make sense as transit customers do not require the balancing service linked to PSO.

Appendix 4. Compatibility of entry-exit tariffs and transit

This theoretical example shows the problems linked to the implementation of the entry-exit tariff model to transit.



Let us consider a country having two entry points (A and B), two domestic exit points (C and D) and one transit exit point (T) geographically arranged as featured in the figure above. The unit costs on each of the pipe sections (between bold points) are also displayed above.

The resulting costs for the domestic market are then:

From the entry point A to the exit point C	2
From the entry point A to the exit point D	9
From the entry point B to the exit point D	1

The transit routes costs are:

Route 1 : from the entry point A to the transit exit point T	12
Route 2 : from the entry point B to the transit exit point T	4

For the domestic market, an adjustment of the entry-exit prices to the costs would lead to the following results.

The entry price at entry point A, noted E_A is undetermined , but lower than **2**, otherwise the price from entry point A to the exit point C would be higher than **2**. Let us say for instance: $E_A = 1$.

The exit price at exit point D, noted W_D should be equal to **8**, in order to adjust the cost from the entry point A to the exit point D ($E_A + W_D = 9$), but should also be lower than **1**, in order to adjust the cost from the entry point B (where the entry price is E_B) to the exit point D ($E_B + W_D = 1$). These two conditions ($W_D = 8$ and $W_D < 1$) are contradictory.

One solution to deal with this contradiction is, for instance, to make the best possible adjustment according to a least square minimization¹.

The solution to this problem is:

$$E_A = 4, E_B = 0, W_C = 0 \text{ and } W_D = 3.$$

If an unified entry-exit system is applied, the exit price at the transit exit point T, noted W_T , is impossible to find because it should be in the order of magnitude of **8**, according to the market value of the transit route 1, $E_A + W_T = 12$. It should also be in the order of magnitude of **4**, in order to preserve the competitiveness of the transit route 2 against possible other transit routes passing through other countries.

Once again the “compromise solution” is to charge **6** (mean average between **4** and **8**) at the transit exit point T. But in that case, as mentioned in the section 4.6:

- for the longer transit route (route 1), the transit shipper is cross-subsidized by transportation for the domestic market, as the corresponding price is $E_A + W_T = 4 + 6 = 10$, when the cost is 12.
- for the shorter transit route (route 2), the transit shipper cross-subsidizes the domestic market as its the corresponding price is $E_B + W_T = 0 + 6 = 6$, when the cost is **4**; this shipper may decide to choose an other transit route at the detriment of every party involved.

¹ i.e., find the minimum of: $(E_A + W_C - 2)^2 + (E_A + W_D - 9)^2 + (E_B + W_D - 1)^2$ with E_A, E_B, W_C, W_D are greater or equal to 0.