

Position Paper

Obstacles of a European Gas TSO benchmarking

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Directory

1. Background/Conclusion	2
2. Lack of comparability of TSOs operating in different countries.....	3
2.1 General deviations	3
2.2 Deviations of commercial input parameters.....	5
2.3 Lack of comparability of outputs	8
3. Lack of transparency , verifiability and contestability	9

1. Background/Conclusion

CEER is considering to conduct a European Gas TSO benchmarking and has commissioned SUMICSID to perform a respective feasibility study. SUMICSID has come to the conclusion that a European Gas TSO benchmarking is difficult but overall feasible.

We welcome the opportunity to comment on the preliminary results SUMICSID has published or presented so far. Before addressing our severe concerns in detail we want to point out that SUMICSID also was engaged in the pan-European electricity benchmarking called “e3GRID” which was conducted for two times. The involved European grid operators and academics raised comprehensive and extensive objections regarding methodological and scientific faults, which lead to systematic errors in the benchmarking results. Therefore, it is subject to several court proceedings.

The INTERIM REPORT R1 - PROJECTS PE2GAS recommends a benchmarking model that is virtually identical to the model that was used in SUMICSID’s “e3GRID” project. Therefore it is highly likely that the model for benchmarking Gas TSOs will suffer from the same flaws. Therefore, we agree with Tom Weyman-Jones¹ statement that the differences among European Gas TSOs are not adequately recognized by SUMICSID: “They differ substantially in three principal ways in addition to their geographical and population environments. These are the *ownership structures*, the *regulatory environment* and the relation to local and global *capital markets*.”

Furthermore, some significant European NRAs are obviously hesitating to participate in this benchmarking analysis.

The result of our analysis is that due to

- the **lack of comparability** which essentially results from the fact that the considered TSOs operate in different countries
- the **lack of transparency** for the TSOs associated with the benchmarking

will not produce valid, reliable, verifiable and contestable benchmarking results that may be justifiably and legitimately used to determine the allowed revenues of the addressed Gas TSOs.

As follows we examine in more detail which obstacles appear in a European Gas TSO benchmarking distorting the comparability of the considered TSOs as well as which consequences result from the lack of transparency of the process.

¹ Commentary on *An approach for benchmarking European gas transmission system operators* INTERIM REPORT R1, PROJECT PE2GAS, dated 2014-11-09, SUMICSID for the Council of European Energy Regulators, CEER,

2. Lack of comparability of TSOs operating in different countries

Up to now SUMICSID has not sufficiently examined the differences resulting from the fact that the compared TSOs operate in different countries.

A lot of predominantly country specific differences distort the comparability of the input (costs) and the outputs. The reasons of the differences are manifold. Especially the following relevant issues are not at all or not adequately taken into account by SUMICSID:

2.1 General deviations

Differences of included TSO's value chain

The TSO landscape is highly differentiated concerning the corresponding supply tasks that are established in their business model as well as the depth of their covered value chain. Some grids only consist of highest pressure pipelines whereas others also include low pressure pipelines (comparable to DSO grids). Some TSOs also inextricably operate storages or LNG Infrastructure. A commonly accepted method to calculate and separate the costs of these different segments consistently and comparably is not given.

Additionally unbundling levels and general structures of national TSO markets differ significantly. So obviously, cost structure and efficiency had to be evaluated very specifically.

Differences in economic wealth and different economic frameworks

Price levels for constructing and operating networks can differ from country to country to a great extent depending on the development of the considered economies and the achieved economic wealth of the respective country. Especially different salary levels reflecting the level of each economy cause different network costs in the considered countries. This fact distorts the comparison not only of Opex but also of Capex because Capex consists of material cost and labour cost. We consider it very difficult if not impossible to elaborate for all considered TSOs what share of Capex is assigned to labour costs and what share is assigned to material costs. In this respect besides the different salary levels the different costs of fringe benefits have to be taken into account.

In addition, different taxes, levies and duties imposed on certain types of costs (e.g. gas tax in Germany) distort the comparison.

Missing comparability can also occur caused by differing ownership structures of the TSOs: State-owned enterprises may be required by governments to pursue other objectives than realisation of profits and may be more heavily subsidised than private companies. E.g. the Danish regulation does not aim at realising profits as stated in the Annual Report of Energinet.dk: „[...] Energinet.dk is not supposed to generate a profit for its owner – the Danish state [...]”². Furthermore publically owned companies and privately owned operators differ regarding the sources and condition for raising funds for financing investments.

Different regulatory history / different approaches of NRAs to allow for regulated costs

Regulatory environments and philosophies of the considered countries differ due to developments in the past: e.g. Germany decided that the supra regional gas transport should be organised by private entities in the 1930ies. Therefore in Germany no regulation was foreseen for Gas TSOs/DSOs until 2005 and cost regulated tariffs were calculated for Gas TSOs from 2008 onwards.

² Energinet.dk_Annual Report 2013, dated 2014-05-06, page 6

In other countries state owned monopolists are performing the gas transport from the very beginning of the gas supply. These countries often have a long regulatory tradition.

Moreover there are additional differences concerning the intensity as to how the applied costs are verified by NRAs. Such deviations lead to distortions of inputs which cannot be quantified.

In addition the results do not reflect the efficiency of the TSOs but rather the differences of procedures NRA applied in the different countries.

A fair and adequate European benchmarking might only be possible if TSOs were exposed to the same regulatory legislation and the same regulator. Otherwise to an unknown extent also regulation regimes are subject of the comparison.

Differences in quality of supply (e.g. shortfalls)

The network cost of a TSO cannot be compared without considering the delivered quality of supply. In order to avoid shortfalls a TSO has to reinforce its network. That causes additional costs.

We cannot see that SUMICSID is considering to account for respective differences, but we consider it to be necessary to account for those differences. The evaluation of the differences is very arbitrary. That generates another reason why the intended European Gas TSO benchmarking will not provide any meaningful results.

Different technical standards

Depending on the level of the technical standard (i.e. different safety standards) in a country the costs (Opex and Capex) may differ. Because of the long physical life of gas infrastructure the history of technical standards had to be taken into account for the Capex of each TSO, too. In order to account for such deviations the different standards have to be analysed and evaluated in terms of cost differences. Such an evaluation is always arbitrary and therefore causes distortions further decreasing the degree of reliance of the benchmarking.

Different network complexity

At least Western European TSOs have types of transport costs not corresponding directly with possible outputs like the amount of steel, supplied area, pipeline volumes and/or compressor capacity: In an entry-exit system with third party access TSOs have a wide range of tasks involved with the transport of natural gas, e.g. TSOs have to coordinate and maintain a balancing regime being accompanied by a high degree of data exchange requiring special software and causing high IT costs. An uncorrected comparison of costs of TSOs with different network complexity (e.g. "one-pipeline" TSO vs. TSO with a meshed network) would lead to inadequate results. But even if these differences were transparent a quantification would be difficult and arbitrary and hence distort comparability.

"Hidden" country specific differences

Besides the differences being identified and accounted for in the benchmarking approach, there is a high risk of "hidden" country specific differences not being detected by the provider of the benchmarking and therefore not being accounted for in the benchmarking (e.g. subsidies to a TSO granted by the State). Only if the benchmarking was performed by a provider having full knowledge of all regulatory regimes of the considered countries and their "hidden" differences, deviations could be identified and – if possible – accounted for in the model. We are convinced that this precision cannot be achieved. Therefore, "hidden" differences cannot be ruled out but rather can adversely affect the benchmarking results and eventually result in wrong efficiency targets set by national regulators.

2.2 Deviations of commercial input parameters

There is no common understanding between NRAs how allowed costs (input) are calculated. The regulatory regimes of considered TSOs apply various methods to assess the allowed costs of a TSO. The following aspects may not be comprehensive but give a good idea of concrete country specific differences to be accounted for in a European TSO efficiency benchmarking:

Calculation of cost of capital

- A harmonised definition and common understanding regarding the **regulated asset base** (RAB) does not exist within the EU. European regulatory frameworks display a wide variety of RAB conceptions distorting the comparability. Some examples are:
Operating Capability Maintenance (OCM, e.g. in Germany) vs. Financial Capital Maintenance (FCM, e.g. The Netherlands)
- Partially in some central and eastern European countries step up re-evaluations on several accounting standard (local GAAP, IFRS etc.) took place
 - Differences in evaluating line pack
 - Different treatment of subsidies
 - Different Assessment of the RAB e.g. based on historical cost, on a negotiation base, on replacement cost or including forecast cost etc.
 - Differences concerning inclusion of capital free of interest in the RAB
 - Calculation of Return on Capital:
 - WACC vs. ROE concept with different remuneration of cost of debt (theoretical cost vs. actual incurred cost)
 - Regulations among Europe are mainly based on CAPM but with significantly different CAPM Parameters, (e.g. Gearing: 40% equity vs: 60% equity, different approaches for calculating the market risk premium and/or beta factor, etc.)
 - Different reference period for calculating the risk free interest rate
 - Cost of debt not comparable: partly yearly adjustment of CoD (UK, Norway), partly constant for 5 years (Germany)
 - Different depreciation periods
 - Different income taxes

Different -controllability of costs

Personnel costs are partially driven by legal or industry standards which cannot be controlled by the TSO, e.g. pensions and insurances. Regulatory frameworks include different evaluations which types of costs are controllable, temporarily non-controllable or permanently non-controllable. The cost definition and the derived treatment differ among considered countries.

Different accounting standards

National accounting standards are different in the considered countries, e.g.:

- Different capitalisation rules including different historical changes over the last 50 years: Maintenance cost are accounted as Opex in some considered countries. Under other accounting regimes they are capitalised.
- Different accounting rules for appraisal of provisions lead to different Opex levels.

These different standards influence the level of costs of the respective TSOs and results in a non-comparability of total network cost.

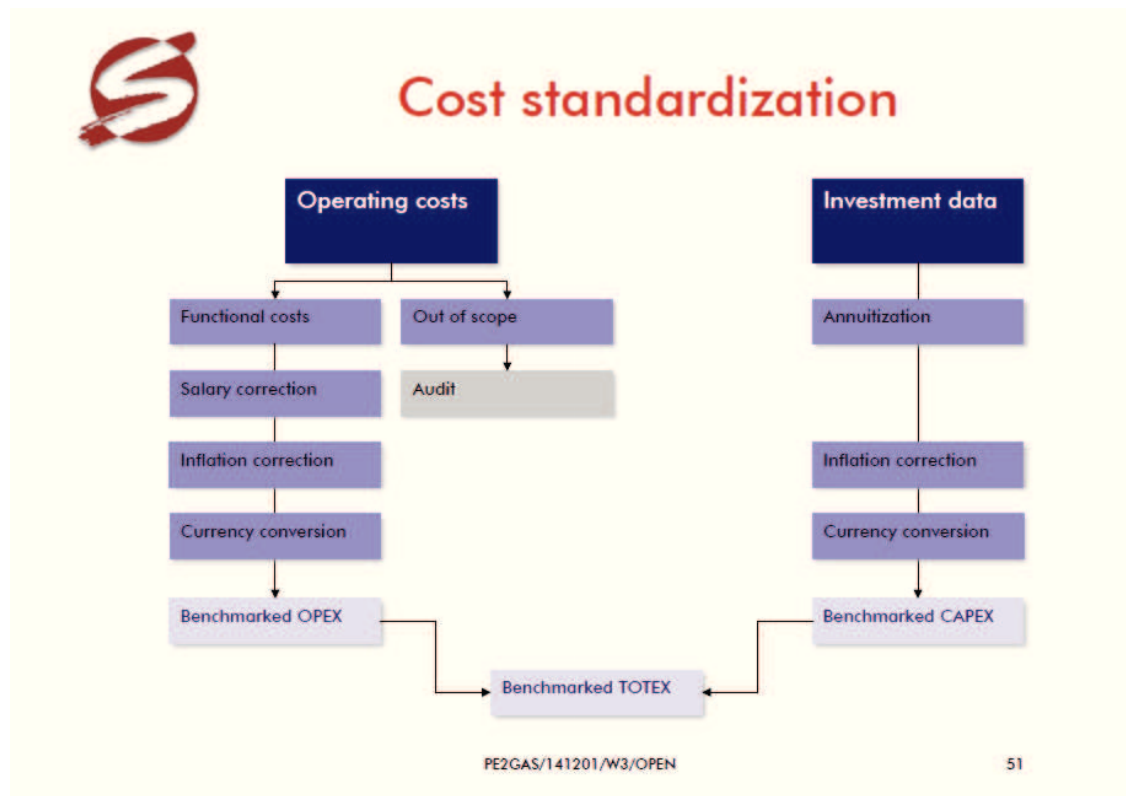
Different reference period year and availability of requested input data

The data collection process should ensure an identical reference period for every considered country state. This is hardly possible due to disparate regulatory frameworks.

Irrespectively of the establishment of identical reference periods a high and identical level of data quality cannot be ensured. It is not probable that the requested data – even if precisely defined– are available in all considered countries in the necessary and comparable quality. Furthermore, not all requested data, in particular historical data are available in all considered countries. Therefore a reliable comparison of those data is not feasible.

Cost standardisation

SUMICSID presented at the workshop how they intend to include different inflation rates and currencies while calculating standardised cost in the following chart:



- Standardisation of cost of capital

The age of the compared assets can differ to a great extent between the TSOs. This complicates a fair benchmarking. In order to appropriately compare the network costs and to avoid distortions for every considered TSO, capital costs have to be calculated on a current costs basis (e.g. in Germany acc. to § 14 ARegV: standardized costs). To avoid these distortions asset specific price indexations

would be needed as well as a register of all assets in operation with specific data e.g. year of installation and historical investment costs (which differ as mentioned before). However, the aforementioned data are not available at all or not available in the required quality.

The idea presented by SUMICSID during the workshop on 1st December 2014 to apply the CPI as a “second best” solution is not appropriate because it does not reflect the specific price development in the gas transport sector or (more relevant) of the company specific assets. The potential error by using that solution may distort the benchmarking results considerably.

- Opex standardisation

Old assets normally generate higher Opex than new assets as e.g. demand of maintenance increases. Hence, a method has to be created not only to standardise capital costs (see above), but also to standardise operating costs regarding the age structure of the considered TSOs: Otherwise the comparison would be inappropriate.

The aforementioned analysis lead to the conclusion that cost standardisation in sufficient quality is not feasible. Designing a respective method would be very arbitrary weakening the validity of the results.

Different allocation rules for overhead cost

At least several Gas TSOs are part of a corporate group. In those cases overhead costs are often spread differently to regulated TSO business and to other business units, which distorts the benchmarking.

Different costs due to different climate

Some types of costs (e.g. fuel costs, maintenance costs) are dependent to a certain extent on the general climate of the supplied area the respective TSO is operating in. For example fuel gas costs will be comparably high in a country with cold and long winter periods.

In addition it is necessary to compare costs of the same period of time. Otherwise distortions would result from different hard cold and long winter periods over time. As the influence of the climate on costs cannot precisely be calculated the respective corrections will be arbitrary which weakens the validity of the benchmarking.

Different gas qualities

Different gas qualities (L=low and H= high calorific gas) create additional challenges of necessary conversion or change-over costs when a restructuring of L-gas towards H-gas grids will have to be carried out.

Different balancing regimes

We identify significant differences when comparing the balancing regimes: In some countries balancing costs belong to the obligatory TSO costs, in others these tasks are transferred to centralized market area managing companies. In these cases the corresponding costs are not part of the regulatory revenue setting but are included in another cost object accounting.

Different scope of services

It has to be ensured that different scopes of services are considered. For example, in the Netherlands the TSO usually is owner and operator of gas receiving stations, in Germany usually DSOs are in charge of that task. The evaluation of respective differences is arbitrary and hence distorts the benchmarking results.

2.3 Lack of comparability of outputs

Identification of relevant output parameters

In order to achieve a fair and justified efficiency assessment of the peer group an adequate and comparable sample of output parameters is of crucial importance. In a supranational comparison among the European Gas Infrastructure businesses several different types of gas supply regimes and therefore with varying challenges to meet customer's demands can be recognised already at a first glance. These deviations have to be taken consistently into account when appropriate output parameters for a pan-European benchmarking approach are derived. This requires a systematically useful relationship of cost drivers and key output parameters. Most often statistical analysis showed that this relationship failed to be proven as statistically significant.

As shown in SUMICSID's "Interim Report R1", displayed table 1 'Gas operators in Europe 2014 1(2)' and table 2 'Gas operators in Europe 2014 2(2)' the European Gas TSOs differ extremely regarding their structural tasks across the overall energy supply value chain. But not only characteristics as e.g. the length of the grid or differences in the purpose of transport services (indigenous transport or transit) become transparent. There are significant deviations when looking at the historical developments of national Gas TSOs. Some Gas TSOs were established at the very beginning of the natural gas supply markets shortly after the 1960s, some already in the 1920s when only coke oven gas was distributed to customers, some were only established in the current millennium having the chance to build their grid under modern construction conditions and already knowing about most probable market perspectives. These different network histories of course imply varying performance and structural output differences that cannot be corrected consistently for analysis purposes and consequently decrease the validity of benchmarking results.

Concerning output parameters the respective regulatory framework has definitely a major impact, when it comes to deviations of types of capacities or to approve nationally specific measures like contractual flow commitments or specific legal regulations (e.g. which part of the line-pack has to be provided free of charge for grid control needs). Furthermore, different guidelines for customer contracts and network access regulations may hamper Gas TSOs in operating the grid in the most efficient manner and hence distort the benchmarking of costs.

Different qualities of capacity products

If exogenous outputs are applied in the benchmarking model (e.g. provided capacities), it is important to account for different types of capacity products offered by the TSOs. The spectrum ranges from firm freely allocable capacities to interruptible capacities. An appropriate benchmarking has to take into account the different qualities of the capacity products. By now SUMICSID has not developed any concept which allows to account for those differences. Accounting for those differences is arbitrary because of the wide range of evaluation approaches.

3. Lack of transparency , verifiability and contestability

Transparency and verifiability are key challenges for the feasibility of an international benchmarking. As already mentioned during the workshop in December 2014 the entire data set provided by TSOs to CEER and the consultants should be treated as confidential data. But TSOs must be able to replicate the model specifications and derivations as well as the calculations and have the opportunity to “defend” themselves against the TSO identified as peer company(ies). Without full transparency there is no possibility for TSOs to verify the quality of data used and the consultant’s assumptions and calculations of the efficiency rate. For example, a TSO with an efficiency score below 100% as a possible result of this benchmarking could not verify the outcome due to the fact that the information of other TSOs is confidential. Furthermore, it cannot be assumed that the TSOs were able (as proposed during the workshop) to identify all relevant differences that may cause distortions in the benchmarking results. In other words: the results are in no way contestable.

In this context we would like to refer to the "e3GRID" project in the electricity sector: This project is a good example which illustrates the limitations of international benchmarking of TSOs. It was clearly shown that serious errors in calculations can and will occur and that they significantly affect the outcomes of such benchmarkings.

Summing up confidentiality concerning the data must be guaranteed. Anyhow, the TSOs must have the ability to verify both the quality of the data and the results of the benchmarking. The conflict of the requirement of confidentiality of data and the need of verifiability is irresolvable.