

**Reply to**  
**ERGEG consultation**  
**“Calculation of Available Capacities: Understanding and Issues”**

**Introduction**

This consultation document concentrates on increasing the understanding of issues with regard to the calculation of available (firm) capacities the existing transmission system can offer. A question that is often raised is how much firm capacity the existing transmission system can optimally offer. Especially at interconnections where congestion is experienced, the capacity assessment process is crucial.

The aim is not to calculate the available capacity on individual pipelines (the calculation would be merely based on hydraulics), but the available capacity of interconnected and meshed systems, as the European networks taking into account the full interaction of the flow patterns and operations (the calculation is based on network scenarios). The focus is on assumptions of flow patterns and operational constraints composing network scenarios (input) chosen by TSOs to calculate available capacity (output).

The current capacity calculation practice can be summarised as follows: “Available capacities are calculated according to several network scenarios per operational control area (access-area) identified by the TSO. Each network scenario generates another level of available capacity. The TSO selects a scenario and presents the simulated figure as available capacity. This selection is based on the TSO’s judgements and policy. Who selects the scenario, bears the liabilities.”

Various EU Member States apply various models with various assumptions, judgements and policies, for instance with regard to peak day (cold winter day) and peak hour. These assumptions determine the capacity available to the gas market. Transparency is lacking. Risks are discrimination and trade barriers.

Such current status is not appropriate to support and base the development of more and better competition in the EU gas market.

**IFIEC Europe’s general view on energy markets**

IFIEC Europe represents the interests of industrial energy users in Europe for whom energy is a significant component of production costs and a key factor of competitiveness in their activities in Europe and throughout the world.

With regard to EU legislation related to energy supply and use, the common objectives of IFIEC Europe are as follows:

- Ensure an open, transparent and competitive market for electricity and natural gas, based on well-balanced and secured supply, with choice and flexibility for industrial energy users to negotiate competitive conditions adapted to their differentiated consumer profiles in terms of supply load, continuity, flexibility, duration and price.
- Ensure regulated third party access to electricity and natural gas infrastructures under non-discriminatory and transparent conditions.
- Stimulate improved efficiency in the use of energy resources through cost-efficient opportunities and measures
- Contribute to the reduction of CO<sub>2</sub> and other greenhouse gases within a framework that preserves industrial competitiveness

End users require robust and efficient networks in order to guarantee sufficient transport capacity and security of supplies. IFIEC believes that the network operator is the crucial link between the supplier / producer and end user, and that network owners maintain and take full responsibility for the integrity of their networks. The regulator also supervises quality standards in network operation, and these activities are of the utmost importance to safeguard the gas supply quality and to protect the end user.

### **Relevant consultation questions and IFIEC's view**

1. *(7) What is your understanding of transparency and how should greater transparency be achieved?*

A competitive market will only function efficiently and economically if all interested market participants have access to information concerning all aspects of the supply chain on an equitable basis. Increased transparency will benefit both customers and market participants, as it will increase competition, efficiency, price signals and the efficient use of gas networks. The lack of transparency and an asymmetric access to information distorts the market. Increased access to information should allow the market to generate prices based on supply/demand fundamentals. A market requires timely, unilateral access to relevant information in order to generate prices based on market fundamentals. This will ensure more accurate price signals, and greater transparency benefits the economic use of resources. Limited access to market information could also act as a barrier to entry. By lowering this barrier it is likely that more competition would occur that would, again, increase efficiency.

IFIEC Europe requests that regulation must ensure the timely release of data to all market participants on an equitable basis. Furthermore, storage system operators should all implement the Guidelines for Good TPA Practise for Storage System Operators (GGPSSO).

For transport capacity in particular the TSO should always, at any time and on an actual basis publish information about the technical available capacity, the contractual available firm capacity and the contractual available interruptible capacity. Besides it should publish historical data on utilisation.

2. *(9) What is your understanding of capacity calculation and how should greater consistency be achieved?*

It is preferred to have one basic model for the EU, or at the least for the Northwest European region. The prerequisite for a model is the timely and uniform implementation of European regulation into national laws. This means for example, national transmission constraints are not projected on national borders. And for example, input parameters with regard to security of supply are defined in a uniform way.

As much as possible capacity should be made available to the market. When calculating the available capacity, the TSO at least should take into account flows that can be netted against each other. Therefore, there is also a need for harmonising rules on nominating non physical reverse flows. Allowing non physical reverse flow nominations will directly result in additional capacity. This might be a quick win with a serious positive impact on available capacity.

3. *(10) What is your understanding of transportation capacity maximisation and how should greater network efficiency be achieved?*

The current allocation principles of use-it-or-lose-it (UIOLI) and first-come-first-served (FCFS) should be improved in such a way that available primary and secondary capacity is used in an optimal manner, accessible for market players, including end users. Strong UIOLI requirements should be placed on both infrastructure owners and infrastructure capacity owners. End users should have the right to purchase transport capacity relating to their premises with possible subsequent transfer to their shipper without the need to have a full shipper status by their own.

There should be an incentive mechanism in place that encourages TSOs to operate transmission grids on a European scale in the most effective and efficient way meaning enhancing of supply options for end users. National differences in regulation that hinder the development of a European market should be removed. Only if all TSOs have the same incentives and operate in the same regulatory and statutory framework, a maximisation of capacity can be achieved.

See also under 2. (9) for IFIEC's view on netting.

4. *(23) Is there a need to validate these network models by an independent organisation? What should be the role of the National Regulatory Authorities? What about any responsibilities and liabilities?*

In general, IFIEC Europe supports a strong pan European regulation with competencies in all issues which can help to ensure that market opening is not hindered by cross border or interoperability issues. Access rules should be harmonised throughout the EU. National regulators should determine the conditions and tariffs access and use of networks in consultation with the entire gas market including customers in order to improve the efficient operation and integrity of networks. IFIEC believes that as long as a clear incentive mechanism for TSOs to maximise cross border capacity is not fully implemented and operational, the network models – including input variables and parameters – need to be validated by an independent organisation on a European level.

5. *(28) Would capacity buy-back be an option that TSO may apply in order to guarantee the effective availability of capacity when requested?*

In order to maximise the efficiency of the transmission system, IFIEC does not believe the most conservative network model should be used. This means that if certain constraints exceed the maximum expected values, the TSO should have to act to ensure the system integrity by market based mechanisms, such as capacity buy back, interruptible contracts and/or re-dispatch of gas flows. If capacity constraints hinder the market development, the TSO should invest in new, additional capacity.

6. *(31) Should each TSO make its OM values and calculation methodology available to the NRA? Should the OM be reviewed by the NRA and should appropriate updates be made? What about any responsibilities of the NRA? What type of reviewing process is feasible and reasonable? Is it right to stipulate that the NRAs investigate when there is a refusal of capacity request or a complaint but does not approve network scenarios nor calculation methods? Is it right to stipulate that adequate calculation of available capacities must remain one of the core responsibilities of TSOs?*

The TSO is – or should be - an independent, monopolistic, market facilitating organisation. Hence, the NRA should review the TSO's OM values and calculation methodology. The OM values should be harmonised for adjacent TSOs and validated by the relevant NRA. The question, however, is to what extent the NRA has sufficient knowledge and expertise. IFIEC suggests the TSOs to make the capacity calculation method public, in order to allow market parties to make their own judgement. The NRA must then have the legal instruments to oblige the TSO to alter the calculation method if appropriate.

7. *(33) Network scenarios for calculating available firm capacity must meet at least EU security of supply criteria. This implies that legislative standards as the "1 in 20 winters" rule for households have to be translated in practical criteria. Any more critical constraints for network scenarios for calculation firm capacity than for which EU legislation exists, have to be reviewed by the NRA and communicated to the market? What about any responsibilities of the NRA? What type of reviewing process is feasible and reasonable? Is it right to put that NRAs investigate when there is a refusal of capacity request or a complaint but do not approve network scenarios nor calculation methods? Is it right to put that adequate calculation of available capacities must remain one of the core responsibilities of*

TSOs?

IFIEC believes the calculation methods should be as transparent as possible and in line with the relevant regulation. TSOs are responsible for calculating the AC. However, the NRAs should have the legal instruments to intervene if capacity constraints continuously hamper market integration.

8. (34) *The co-existence of different capacity models may not jeopardise the proper and consistent calculation of AC across networks. Are there any likely bottlenecks to guarantee consistency? How could any bottleneck be remedied?*

It is preferred to have one basic model for the EU. However, the regional model is a reasonable way to move towards this way. As long as this is not achieved, at least the parameters and values used to 'fill' the models should be harmonised. Any inconsistencies and bottlenecks should then be evaluated by an independent authority (the two involved NRAs; if no agreement: ERGEG).

9. (35) *Should each TSO make its linepack values and calculation methodology available to the NRA? Should the flexibility requirements be reviewed by the NRA and must appropriate updates be made? What about any responsibilities of the NRA? What type of reviewing process is feasible and reasonable? Is it right to stipulate that the NRAs investigate when there is a refusal of flexibility services request or a complaint but do not approve the calculation method of linepack and flexibility needs? Is it right to stipulate that adequate calculation of linepack and flexibility needs must remain one of the core responsibilities of TSOs?*

Undoubtedly the answer to both questions is: yes! However, information should not only be made available to the NRA but also to market parties. For example, see the information provided on the National Grid website ([www.nationalgrid.com/UK](http://www.nationalgrid.com/UK)).

Flexibility tools for daily and hourly balancing should be made available by the TSO, as long as a proper flexibility market is lacking, e.g. when a dominant player is hampering the development of such a market.

10. (36) *Should each TSO make its reliability values and calculation methodology available to the NRA? Should the reliability requirements be reviewed by the NRA and must appropriate updates be made? What about any responsibilities of the NRA? What type of reviewing process is feasible and reasonable? Is it right to put that NRAs investigate when there is a refusal of capacity request or a complaint but do not approve the reliability requirements nor calculation methods? Is it right to stipulate that adequate calculation of available capacities must remain one of the core responsibilities of TSOs?*

See the answer under point 9.

11. (41) *ERGEG seeks views whether there are elements which can be agreed within the EU for enhancing the consistency of risk management and liabilities.*

If a TSO has the authority and market based tools to manage its risks (capacity buy back, re-dispatch, interruptible contracts, etc.) IFIEC believes a common ground can be agreed upon to enhance the consistency of the models used by the TSOs.

12. (43) *Is there a need for more evidence and consistency of incident management?*

Yes, IFIEC supports the n+1 investment principle in order to guarantee a minimum level of security of supply.

13. (44) *Is there a need for more evidence and consistency of 'Force Majeure' clauses? What about*

*any contractual clauses going beyond the standard legal definition of force majeure? How to deal with e.g. planned maintenance? Should TSOs provide back-up capacity for firm contracts and guarantee that the network users can reorganise themselves without bearing extra costs or are contracts still considered firm if contracts may be interrupted for maintenance as specified in the contract? What about the reasonable durations for maintenance? What about incidences due to negligence of the TSO, including lack of investment?*

In principle, a standard and balanced definition of 'Force Majeure' and the related liabilities – both with respecting a reciprocal approach with regard to the operator's and user's interests - should be used in order to create the harmonisation in the models used.

*14. (45) May financial commitments improve network efficiency? Firm should be firm but what might happen if firm capacity sold cannot be honoured for some reason?*

Financial commitments provide an incentive to use the capacity bought. However, it is not a guarantee it will be used! First, it depends on contractual terms and periods whether a financial commitment improves network efficiency. For example, if it is difficult and/or expensive to contract short term capacity, you have to contract for maximum usage under a long term contract. This maximum is only needed in a limited period of time, so partially the capacity bought won't be used. Second, hoarding capacity might be beneficial for certain players. Also in that case a financial commitment will not be a sufficient guarantee. So, apart from financial commitments there should always be an adequate UIOLI principle in place.

In case of a 'Force Majeure', the TSO is not to blame. However, if firm capacity is sold as firm, and the TSO is not able to honour the capacity sold (not because of 'Force Majeure'), he should financially compensate the capacity holder.

*15. (46) How should guidance on this hedging behaviour of TSO's look like? How can an appropriate equilibrium between liabilities and levels of AC be found? How should failures of commitments to nominate on TSO's request be dealt with? How should the circumstances where a shipper cannot provide anticipated gas flow that have been relied upon in capacity calculations by the TSO be dealt with? Is there a possibility to release TSOs responsibility?*

The interesting question here is: What is the risk managers' answer to this question?

There will always be a (residual) risk for the TSO. IFIEC believes it is important for the TSO to be able to manage these situations. As we responded before this can be done by instruments such as re-dispatch, capacity buy-back, but also 'contracted shut down'. For example, by contract an industrial co-generation (CHP) plant might shut down in case of emergency or a contract with a gas storage operator that will inject some more gas in case of emergency, against an agreed upon economic value of the shut down. This kind of contracts enable a TSO to calculate less risk adverse and will result in a higher level of AC. In the electricity market this phenomenon is common practice.

However, these instruments can only function properly in a well functioning market which, most likely, will not be achieved in an environment with only constraints. In our view, a TSO operating in a very constrained environment should have more risk appetite in order to enhance market development. Next to that, the TSO should make available to the NRA an investment plan, with a rolling time horizon of 5 – 10 years, to reduce the constraints.

*16. (48+49) Could periodical recalculations be an option? In the case of periodical recalculations, there may be room to harmonise the period and therefore the dates of AC recalculation (network simulation) throughout the EU. What time period would be reasonable and practical feasible? Annual, quarterly, monthly recalculations? No matter whether there are automatic or periodical AC recalculations, should network scenarios be set according to the moment of the year, for instance different sets of network scenarios in summer than in winter; in spring than in autumn for instance?*

Calculating cross border ACs involves at least two TSOs, so in order to harmonise the calculation of ACs IFIEC believes a periodical re-calculation throughout the region should be implemented. To

achieve maximum AC this should be done on a monthly basis. On the other hand one single contract might have such an impact on the whole system that a re-calculation of ACs is required. Such an incidental re-calculation should be an additional possibility.

17. (50) *In a capacity calculation regime where AC are not indicative, how can a situation be avoided where the TSOs chooses the very worst network scenario that may lead to a dramatic drop in the level of AC? Could guidance on parameter values in the critical scenario be an adequate option? For instance, parameters in the network scenario for which (national) legislation, directives, rules, guidelines, etc. exist are set equal to these values and may not have more critical values (for the calculation of available firm capacity). Secondly, parameter values for network scenarios should be consistent with values in other areas such as network planning, congestion management, security of supply, etc.. This parameter setting may avoid that more critical values are used than for which rules exist.*

As we stated under question 4, IFIEC Europe supports a strong pan European regulation as well as a national regulator in each member state.

IFIEC believes TSOs should be given guidance on parameter values in order to avoid that more critical values are used than for which rules exist. By using these values, the maximum AC can be calculated without violating any existing rules and regulation.

Capacity is never 100% firm, because of unexpected breakdowns or because of changing circumstances. Having the NRA to investigate every dropdown in AC therefore is not appropriate. However, the NRA does have an important role when it comes to new investments. First, the NRA should seriously assess capacity plans and should intervene if it is uncertain whether the investments will be sufficient to meet demand. Second, the NRA should investigate a refusal of capacity request.

18. (55) *Is it feasible to consider the published AC for each point as binding to the TSO? Or should the published AC for individual point be considered as binding but not necessarily the sum of all AC at all points? How should we deal with the risk that under a binding regime of published AC, TSOs may choose the most critical network scenarios which lead to a dramatic drop of AC?*

IFIEC believes that each published AC should be binding for the TSOs. However, if the capacity at one point influences another point, this should be made transparent to the market, and the AC can then be changed accordingly after capacity has been sold.

19. (70) *How to achieve consistency of AC calculation across networks? How can co-ordinated network planning and operation solve network inefficiencies like under-utilisation of facilities? How can co-ordinated network operation lead to a 'network service concept' that crosses borders with maximum assistance between TSOs?*

As stated under question 4, IFIEC Europe supports a strong pan European regulation as well as a national regulator in each member state (see point 4.).

20. (76) *How to deal with the potential of shippers themselves to provide capacity by means of signing contracts of the 'operational options' type?*

"Operational options" is an option for the TSO to guarantee transport capacity and can be considered as one of the instruments for the TSO to enhance the AC (next to capacity buy-back, re-dispatch, interruptible contracts, etc.)

21. (86) *Shall such a scheme be subject to review by the NRA? What about any responsibilities of the NRA? What type of reviewing process is feasible and reasonable?*



The NRA is responsible for national issues, a pan-European regulatory organization (potentially an ERGEG plus solution) should oversee the cross-border issues and the proper use of parameters in the models so a coherent approach to risks is adopted. Calculating ACs by the TSOs should be a matter of trust for market participants, and trust can only be achieved if full transparency is guaranteed.

*22. (90) Is there a need for such kind of web based simulator? Should it be designed for the whole EU grid? Is such a tool feasible and practical? Should GTE be requested in particular to put forward such a tool to calculate available capacities on a case-by-case basis? Who is liable for this capacity? Which information does the published AC provide if shippers can calculate different values? Is the system blocked while one shipper calculates?*

IFIEC believes that a simulator would enhance transparency, on the other hand we also think that the outcome of the model cannot be binding for the TSOs involved. Merely, the outcome is a starting point for discussions. The model can in our opinion only generate indicative values.

*23. (107) How can consistency be achieved between network design criteria, the capacity calculation method and the definition of congestion? How should network scenarios deal with the 1-in-20-winters rule or an even more stringent 1-in-40 winters rule?*

See the answer to question 4.