

Answers to the Questions for Consultation

Question 1

Are there additional major problem areas or further policy issues that should be addressed within the Grid Connection Framework Guideline?

Response from ENERCON

There are some topics that should be please addressed:

- The connection process
 - The connection process from the application to the commissioning should be clearly defined.
 - Timely response by TSOs / DSO to an applicant during the application and planning phase of the grid connection process has to be secured.
- Liability issues
 - General question: Who is liable to which party reg. grid connection for what?
 - E.g. is the TSO liable for any information provided to the generator and vice versa?
 - These issues should be clearly defined.
- Topics related to costs
 - It should be clearly stated, that the costs for investments to make a plant compliant with the minimum technical requirements have to be paid by the generator; but that TSOs and DSOs have to pay for the usage of any ancillary service (reserve power, reactive power, etc.)

Question 2

What timescale is needed to implement the provisions after the network code is adopted? Is 12 months appropriate or should it be shorter or longer?

Response from ENERCON

12 months is to short in most cases. This should be at least 24 Months. More time might be necessary, depending on the necessary changes in the technology.

Question 3

Should harmonisation of identified issues be across the EU or, perhaps as an interim, by synchronous area?

Response from ENERCON

A structural harmonisation should be implemented at short notice across the EU. Specific values for parameters may vary from synchronous zone to zone if reasonably justified.

Question 4

Should the requirements apply to existing grid users? How should it be decided? To which existing users should the requirements apply? How should timelines for transitional periods be set? Who should bear any costs of compliance?

Response from ENERCON

Requirements should not apply to existing grid users. If this can't be avoided, schemes like the voluntary retrofitting according to the German EEG and SDLWindV-ordnance is regarded as appropriate.

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Question 5

The framework guideline identifies intermittent generation, distributed generation and responsive demand as requiring specific grid connection guidelines. Is it appropriate to target these different grid users? How should the requirements for intermittent generation, distributed generation and responsive demand differ from the minimum requirements? Is there a need for more detailed definition / differentiation of grid users?

Response from ENERCON

We regard it as necessary to target different grid users. Instead of intermitted generation it should be distinguished here between the primary energy sources: Wind, solar PV, hydro, etc. Intermitted generation can be found on both levels: Distributed generation and bulk, transmission system conncted generation.

Question 6

Is it necessary to be more specific regarding verification, compliance and reinforcement?

Response from ENERCON

Yes it is. E.g. the actual process implemented in Germany to avoid compliance testing (by type certification of generating units, model validation, and certified planning reports) is not covered but must be covered.

Question 7

What are the key benefits and types of costs (possibly with quantification from your view) of compliance with these requirements?

Response from ENERCON

Key benefits are

- Standardized products for the EU market
- Clear conditions avoiding case-by-case interpretation of the rules by TSOs and/or DSOs for generating projects. This allows a timely planning and installation of new projects in a cost-effective way.

Question 8

How should significant generation and consumption units be defined?

Response from ENERCON

It should be related to a percentage of the minimum load in a synchronous zone or in a part of a synchronous if the TSO can justify this criterion in a transparent way.

Question 9

For what real-time information is it essential to improve provisioning between grid users and system operators? Do you envisage any problems such greater transparency? What are the costs (or types of costs) and benefits you would see associated with this?

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Response from ENERCON

Proposal for a list of essential real-time information for Wind Power Plants may look like this:

- Measurements at Point of Connection (PoC)
 - Active power
 - Reactive power
 - Voltages
 - Currents
- Status
 - Circuit breakers' status at PoC
 - Disconnectors' status PoC
 - Status of On-Load-Tap-Changers
 - Available installed capacity
 - Available power, if plant is operated in an unconstrained way
 - Wind speed
 - Wind direction
- Set points
 - Voltage resp. Reactive Power resp. Power Factor
 - Maximum active power

We do not see any major problems reg. transparency or costs. TSO and generating system shall pay their costs to exchange real-time information at the connection point.

Comments to the Framework Guidelines

Clause	Response from ENERCON
1.2	Please add: The requirements must determine the explicit performances at a well defined reference point. They must be as detailed as possible to give a clear and complete guidance for the developers and designers; but they must not specify things in a way that specific technologies are excluded.
1.7	Please replace <i>generating unit</i> by <i>generating system</i> (a set of generating units connected to the grid at one point of connection)
1.11	Germany is actually following a different concept: Type Certification of generating unit types, validation of models and certified planning reports. This makes compliance testing obsolete. This process saves time and costs for the installation of smaller generating systems.
1.16	Such requirements must not burden huge costs on smaller DGs and generating systems.
2.2	It must also include a time that TSO must meet to provide the information to the applicant.
3.1.3	Artefact?
3.1.4	Such requirements must clearly distinguish between normal system conditions and emergency situation / disturbances. It makes fully sense from a power system security point of view, that intermitted generation may be forced to contribute to power system security in case of a large disturbance and provide frequency control services. But intermitted and any other generation must not be forced to provide ancillary services for free to the TSO and DSO. In Germany the wind power industry is frequently noticing the request resp. comment from TSOs to force renewables to contribute to balancing and frequency control; but these TSOs do not seem to have in mind the established and working markets for ancillary services (primary reserve, secondary reserve, etc.) It is unclear if TSO expect a short or collapsing market for these services in the future or which (commercial?) interests are driving such positions.

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