

Delay in the adoption of the Connection Network Codes jeopardises system stability

Originally scheduled for adoption in summer 2025, the Connection Network Codes (Requirements for Generators, Demand Connection and High Voltage Direct Current Connections) have been postponed indefinitely, according to the European Commission [1]. This delay hinders the urgently needed development of a resilient and climate-friendly European energy system. Updating the European Network Codes is essential for the successful grid integration of new plants and for ensuring system stability. The recent de-prioritisation of the Connection Network Codes constitutes a significant setback not only for the transition to a sustainable electricity supply, but also for industry, which relies on a consistent and harmonised regulatory framework for technological development.

VDE FNN urges the European Commission to resume the process as a matter of high priority and to adopt the CNC 2.0 as soon as possible:

- **Updating the European Connection Network Codes is essential to achieving EU climate targets**
- **Adoption of new requirements is urgently needed to maintain system stability**
- **Harmonisation across Member States is critical to support technological development**

About the Forum Network Technology & Network Operation in the VDE (VDE FNN)

The Forum Network Technology & Network Operation at VDE (VDE FNN) develops requirements for the operation of the power grid. Our main goal is to always ensure secure system operation with 80 % penetration of renewable energies.

Updating the European Connection Network Codes is essential to achieving EU climate targets

Context

The Connection Network Codes (CNC) define uniform technical requirements for grid connection of plants as well as their capability to actively support system stability. These requirements are essential to ensure a climate-friendly and stable European electricity supply. In order for renewable energies to fully replace the capabilities of conventional power plants in the future, the CNC 2.0 must define the relevant requirements now to provide those capabilities. The rapid deployment of emerging technologies in the grid such as battery storage, electric vehicles, electrolyzers and heat pumps relies on the further development of the CNC.

Impact

Delays in the adoption of the CNC 2.0 will lead to significant regulatory uncertainty. Without a swift adoption of the CNC 2.0, Europe will be left without a harmonised regulatory framework essential for meeting the demands of the energy transition. As long as technical requirements remain outdated, the necessary capabilities for an efficient and consistent integration of new plants cannot be ensured. These requirements are the foundation for a resilient and climate-friendly European electricity supply, built on harmonized technical standards and fair competitive conditions.

Demand

The adoption of the European Connection Network Codes 2.0 is urgently needed for a climate-friendly and cost-efficient transformation of the European electricity supply.

Adoption of new requirements is urgently needed to maintain system stability

Context

Converter-based systems (e.g. PV systems, wind turbines and storage systems) are expected to largely replace conventional power plants as part of the energy transition. As a result, converter-based systems must take on the grid-forming capabilities and provision of instantaneous reserve previously provided solely by conventional power plants. Requirements for grid-forming capabilities of converters are specified for the first time at European level in the CNC 2.0.

Impact

Without binding CNC, there is no basis for further harmonised requirements to support system stability across Europe. In this regulatory gap, newly installed plants will lack grid-forming capabilities when connecting to the grid, unless these can be procured through a market on inertia. New plants may connect to the grid without grid-forming capabilities needed to actively maintain system stability. This increases the risk of critical grid situations, including blackouts.

Demand

A swift adoption of the CNC 2.0 is urgently needed to ensure that new plants provide the necessary capabilities to support system stability as soon as possible.

Harmonisation across Member States is critical to support technological development

Context

The CNC 2.0 further develops regulatory framework, harmonising technical requirements for plants connecting to the Continental European synchronous grid. Without this common European basis, Member States will be forced to develop their own rules to achieve their climate targets.

Impact

National implementations that are not based on harmonised European standards pose a serious challenge to the grid integration of new plants across Europe. Different national requirements create unnecessary barriers to technological development, drive up costs for businesses and hinder cross-border solutions. A delay in the adoption of CNC 2.0 will not only lead to regulatory fragmentation and inefficiencies but will also jeopardises the economic viability of the energy transition throughout Europe.

Demand

The swift adoption of the CNC 2.0 is urgently needed to create reliable and harmonised framework conditions for technological development and to avoid disadvantages for companies and consumers.

Reference

- [1] Minutes of the 38th meeting of the Grid Connection European Stakeholders Committee (GC ESC), 5 June 2025, [Website](#)

Version: September 2025

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