

TC8X WG03 Activity Report

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PRESENTED TO 41ST GRID CONNECTION EUROPEAN STAKEHOLDER COMMITTEE
MEETING (GC ESC), 4 MARCH 2026

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Overall Standardization activities overview

EN 50549-10	Requirements for generating plants to be connected in parallel with distribution networks - Part 10: Tests for conformity assessment of generating units	No additional updates with reference to 09/12/2025 ESC meeting. New ED Mid 2026, further update after RfG 2.0 publication
EN 50549-1/A1	Requirements for generating plants to be connected in parallel with distribution networks - Part 1: Connection to a LV distribution network - Generating plants up to and including Type B	No additional updates with reference to 09/12/2025 ESC meeting. New ED/AMD to include received comments, further update after RfG 2.0 publication
EN 50549-2/A1	Requirements for generating plants to be connected in parallel with distribution networks - Part 2: Connection to a MV distribution network - Generating plants up to and including Type B	
prTS 50744-1	Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks - definitions and tests of units	No additional updates with reference to 09/12/2025 ESC meeting, only exception is RTE active participation (MORE NFOS IN DEDICATED SLIDE)
prTS 50XXX	Requirements for dispatchable loads to be connected in parallel with public electrical grid - Part 1: Self-Regulation of Dispatchable Loads	No additional updates with reference to 09/12/2025 ESC meeting.

Overall Standardization activities overview

prTS 50YYY	Requirements for generating plants to be connected in parallel with public electrical grid - Part 1: Type C Generating plants	No additional updates with reference to 09/12/2025 ESC meeting
prTS 50ZZZ	Requirements for generating plants to be connected in parallel with public electrical grid - Part 2: Type D Generating plants	
prTS 50WWW	Requirements for generating plants to be connected in parallel with public electrical grid - Part 11: Tests for conformity assessment of Type C and D generating units	
prEN 50744- XXX	Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks – functional requirements	NWIP from WG03 MORE INFOS IN DEDICATED SLIDES

prTS 50744-1 Status

Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks - definitions and tests of units

- In order to finalise the first draft, a “Call for experts for CLC TC8X WG03 and TS 50744 series on grid forming related topic” was sent in January 2026
- RTE proposed Dr. Yorgo Laba as CO-PL. The proposal has been accepted
- Ongoing organization inside WG3 to accelerate the editing
- New functionalities to be added with “optional” approach are:
 - activation/deactivation of GF capabilities (included in TG GFC Final report Appendix D),
 - black start (required by many RSOs),
 - long term stable islanding (required the same from some RSOs).
- Target : to finalize a first draft by end March 2026 to be proposed to IEC, starting from TC120 to be evaluated in TS 629333-3-2 and related. TS 629333-3-2 will be converted in standard, with the addition of chapter 9 on GFMs. Compliance test allocation (WG 3 ? WG4? WG6?) and definition to be defined.

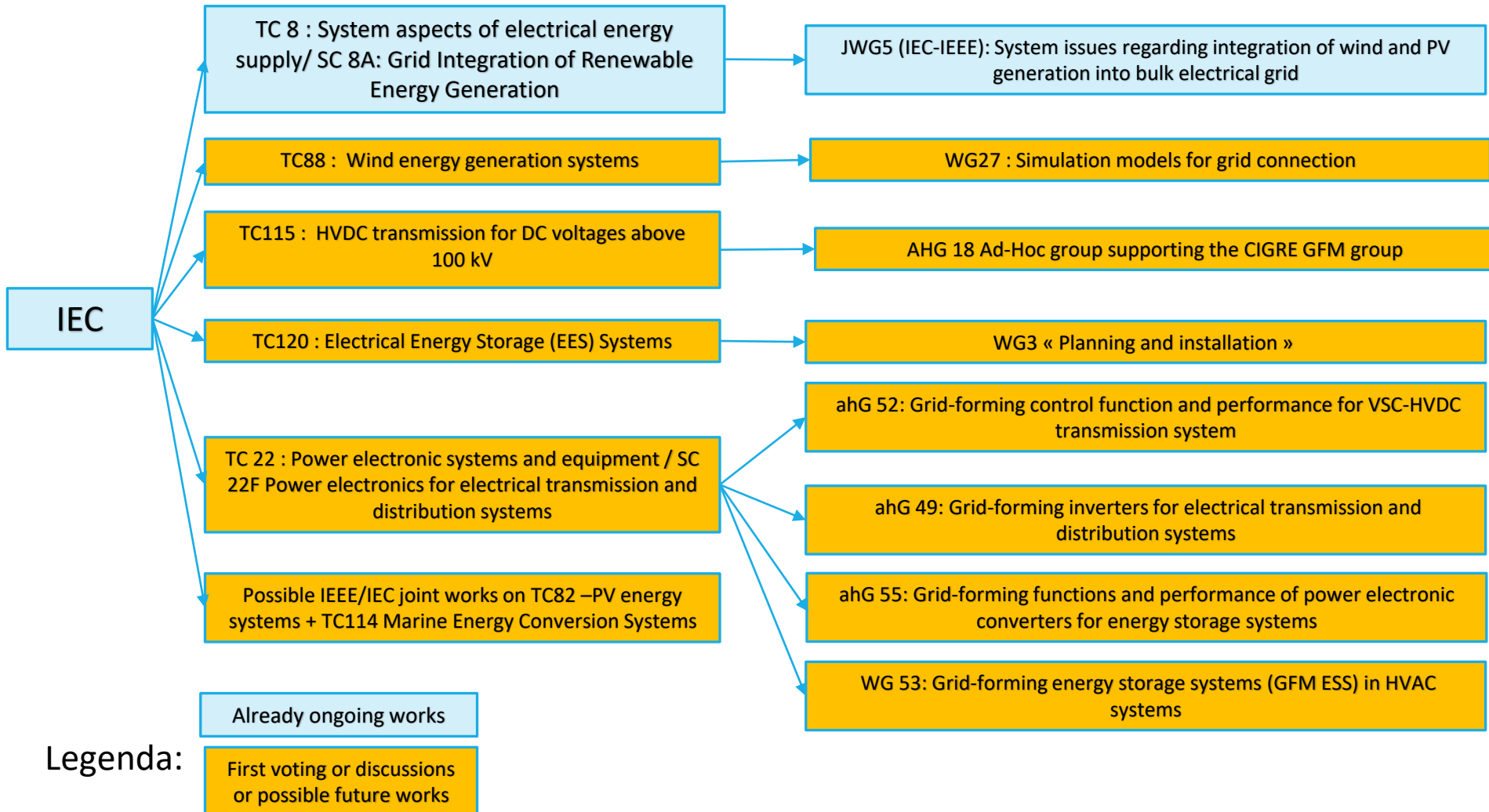
NWIP on functional requirements of grid-forming generating and storage plants

“Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks – functional requirements”

- The purpose of this document is to give a detailed description of the grid-forming functions to be implemented in generating units of non-synchronous generating technology.
- Will strictly comply with RfG, aligned with the TG GFC Report and fully coordinated with TS 50477-1
- NWIP sent to NCs in January. The deadline for voting is 27-03-2026. At least 5 NCs must support the project for its approval and Experts to be involved will have to be indicated.
- RTE expressed its interest in supporting this project answering the “Call for expert”. Dr. Yorgo Laba was proposed as CO-PL. PL Eng. Thomas Schaupp.

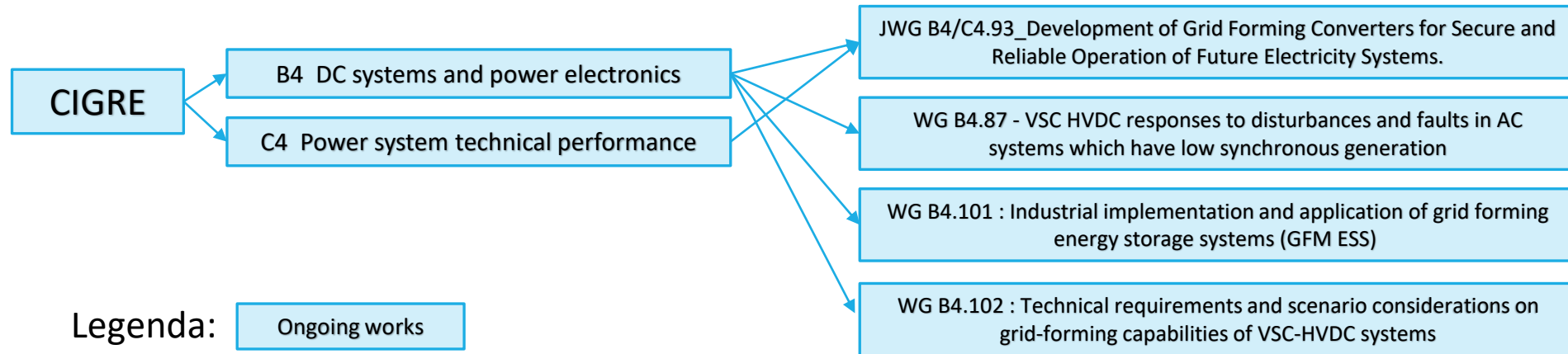
IEC and CIGRE activities on GFCs

- Activities involving GFCs are and will expanding more within CIGRE and IEC, as illustrated in the following maps (**likely non-exhaustive list**)



IEC and CIGRE activities on GFCs

- GFC activities are and will expanding more within CIGRE and IEC, as illustrated in the following maps (**likely non-exhaustive list**)



- CIGRE activities are monitored by IEC TC8 through ACTAD. No link with CENELEC
- IEC TCs activities are not formally coordinated, as the establishment of an horizontal function through ACTAD Advisory Committee on Electricity Transmission and Distribution and SMB Standardization Management Board is not yet defined

The assignment of an environment horizontal function to a Committee has the purpose of:

- ensuring the consistency of IEC publications relating to environmental subjects common to a number of committees by avoiding duplication of work and contradictory requirements;*
- ...

IEC and CIGRE activities on GFCs

- The key risk is a possible divergence between European regulation/standardization and IEC developments, potentially leading to market issues and cost increase.
- Some CENELEC TC8X WG03 Experts are coordinating both internal WG03 and within their Organizations to monitor the activities of the relevant TCs and to support EU positions as clearly more advanced.
- Support of EU positions in IEC therefore rely on WG03. Despite this, resources are clearly non sufficient.
- ENTSO-e was unable to set-up a Category C liaison. Some European TSOs are anyway represented through participation of WG03 Experts (Thomas Schaupp, Transnet and Yorgo Laba, RTE).
- 50744 Standards publication results crucial in obtaining a strategic advantage to achieve this target. RfG 2.0 publication would help too.
- Monitoring of IEC GFM activities—either through direct participation or technical watch—and reporting emerging work items or points of attention is a crucial issue.

IEC and CIGRE activities on GFCs

TC8 SC8A JWG5 meeting in Copenhagen – January 27th-29th

- The meeting was attended by Thomas Schaupp (in person, with presentation of TG GFC Final report) and other WG03 experts.
- The UniFi document was selected as the reference baseline for the development of the future IEC/IEEE grid-forming framework.
- The initial dual-logo document will be technology-agnostic; subsequent work will focus on IEC–IEEE collaboration on technology-specific standards.



- Thomas Schaupp presented TG GFC Final Report, aiming to convince the Task Force to adopt the voltage-source-behind-impedance modeling adopted in TG GFC Report, which is significantly different from UniFi and IEEE framework.

Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

Foreword

Aim of Technical Annex is to establish **EU wide harmonized framework** for the Network Code certification of components and systems of V2G electric vehicles (EV), V2G electric vehicle supply equipment (EVSE), and their bidirectional charging functionalities, subject to the NC RfG 2.0.

The Annex defines procedures and methodologies necessary for demonstrating conformity of V2G electric vehicles (EVs) and V2G electric vehicle supply equipment (EVSE) with the grid connection requirements exhaustively (no variations in national implementation).

Legal Effect

Annex shall be considered an integral part of the NC RfG 2.0 and shall be enforceable under the same legal provisions. Compliance with the Annex shall be mandatory for all interoperable V2G EV and V2G EVSE falling within its scope.

Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

- Potential critical issue:
 - In Annex chapter 4 significant parts of the text are a copy & paste of EN 50549-1:2019+A1:2023 while reference is often made to EN 50549-10:2022, which have been written to support EC 631/2016 and needs updating to be aligned with future RfG 2.0.
 - WG03 working program illustrated before clearly shows that all 50549 family Standards will be evolved. If 50549-1 and -10 will be updated, they will be diverging from the annex to RfG and in consequent might be in conflict with the law.
 - If 50549-1 and -10 will not be updated, no contrast with the Annex will be present, but they will not be aligned to modifications introduced by RfG 2.0 with respect to RfG 1.0, consequently will be in conflict with the law.
 - It seems not clear if CENELEC could be allowed to change 50549-1 and -10 any more

Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

To insert too many details in a law clearly creates critical problems:

- to usual maintenance of the technical content
- to face natural the evolution of the state of art, very fast with reference to some topics like GFCs and electromobility. In Standardization it's common use to deal new topics with high dynamic with TS, to allow easier and faster evolution of the content.

Consolidated best practice in the EU single market is that harmonized standards are used to provide presumption of conformity with EU Directives and Regulations. Close alignment between European Standardisation Organisations and EC, namely DG GROW, ensure support of standards to EU Directives and Regulations.

CENELEC therefore requests again to invite DG GROW as permanent member into the European Stakeholder Committee - Grid Connection.

Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

What is a harmonized standard:

EU Blue Guide provides an introduction, legally defined in (EU) 1025/2012

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj%3AJOC_2022_247_R_0001

Introduced in the “new approach” in 1985 the concept is used for products and services in all economic and technical fields

‘Harmonised standards’ are ‘European standards’ adopted on the basis of a request made by the Commission for the application of Union harmonisation legislation.

Harmonised standards never replace legally binding requirements, but support

A Standard can only function as harmonized once the EU Commission has published it with reference to the relevant union legislation in the Official Journal of the European Union OJEU

Commission must perform checks to verify that standard supports the union legislation before publishing in the OJEU

Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

What is a harmonized standard:

Memberstates and EU parliament may formally object to a harmonized standard

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Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

How does a reference look like:

CHAPTER 3

CONFORMITY OF EQUIPMENT

Article 13

Presumption of conformity of equipment

Equipment which is in conformity with harmonised standards or parts thereof the references of which have been published in the *Official Journal of the European Union* shall be presumed to be in conformity with the essential requirements set out in Annex I covered by those standards or parts thereof.

[Electromagnetic compatibility \(EMC\) Directive 2014/30/EU](#)

Proposed EV/EVSE Technical Annex for NC RfG 2.0 Certification Requirements

How does a reference look like:

ANNEX I

ESSENTIAL REQUIREMENTS

1. **General requirements**

Equipment shall be so designed and manufactured, having regard to the state of the art, as to ensure that:

- (a) the electromagnetic disturbance generated does not exceed the level above which radio and telecommunications equipment or other equipment cannot operate as intended;
- (b) it has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use.

2. **Specific requirements for fixed installations**

Installation and intended use of components

A fixed installation shall be installed applying good engineering practices and respecting the information on the intended use of its components, with a view to meeting the essential requirements set out in point 1.

Discussion

Thank you for your attention.