

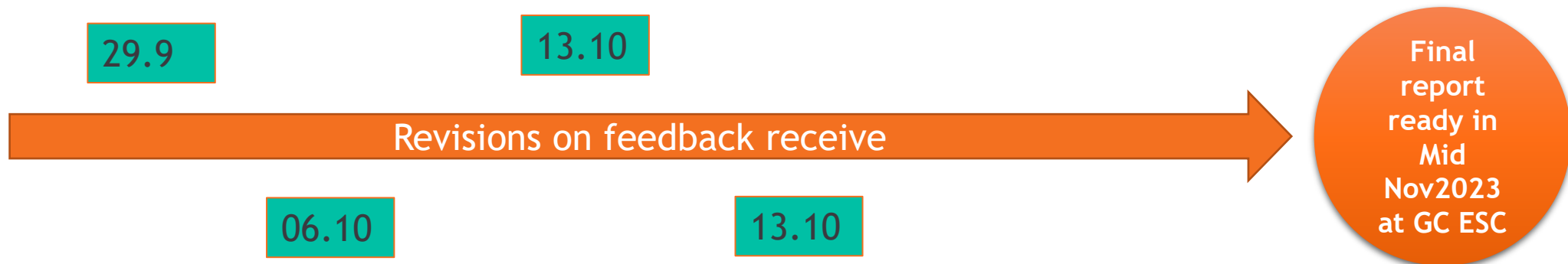
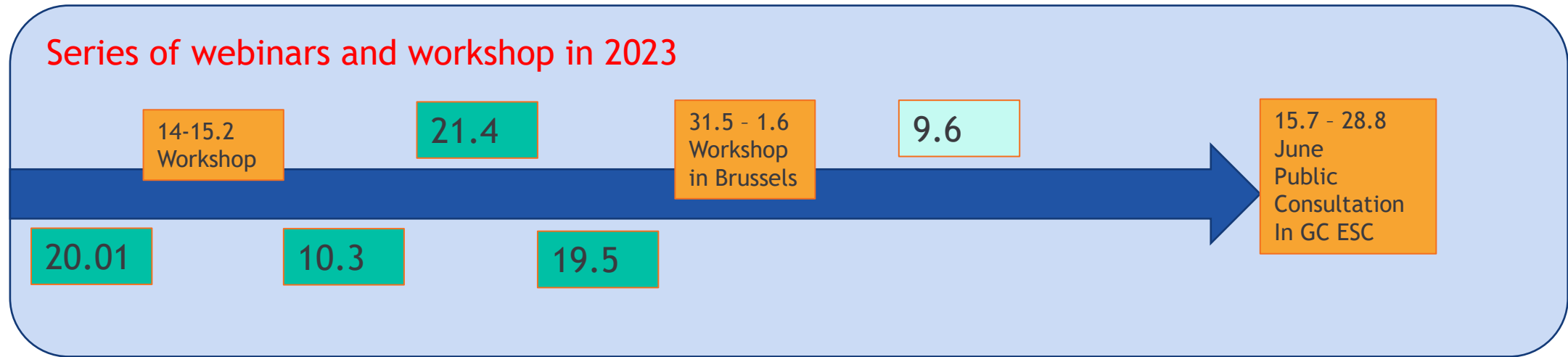
EG CROS Status

28 September 2023



Dr. Mario Ndreko (TenneT TSO, Germany)

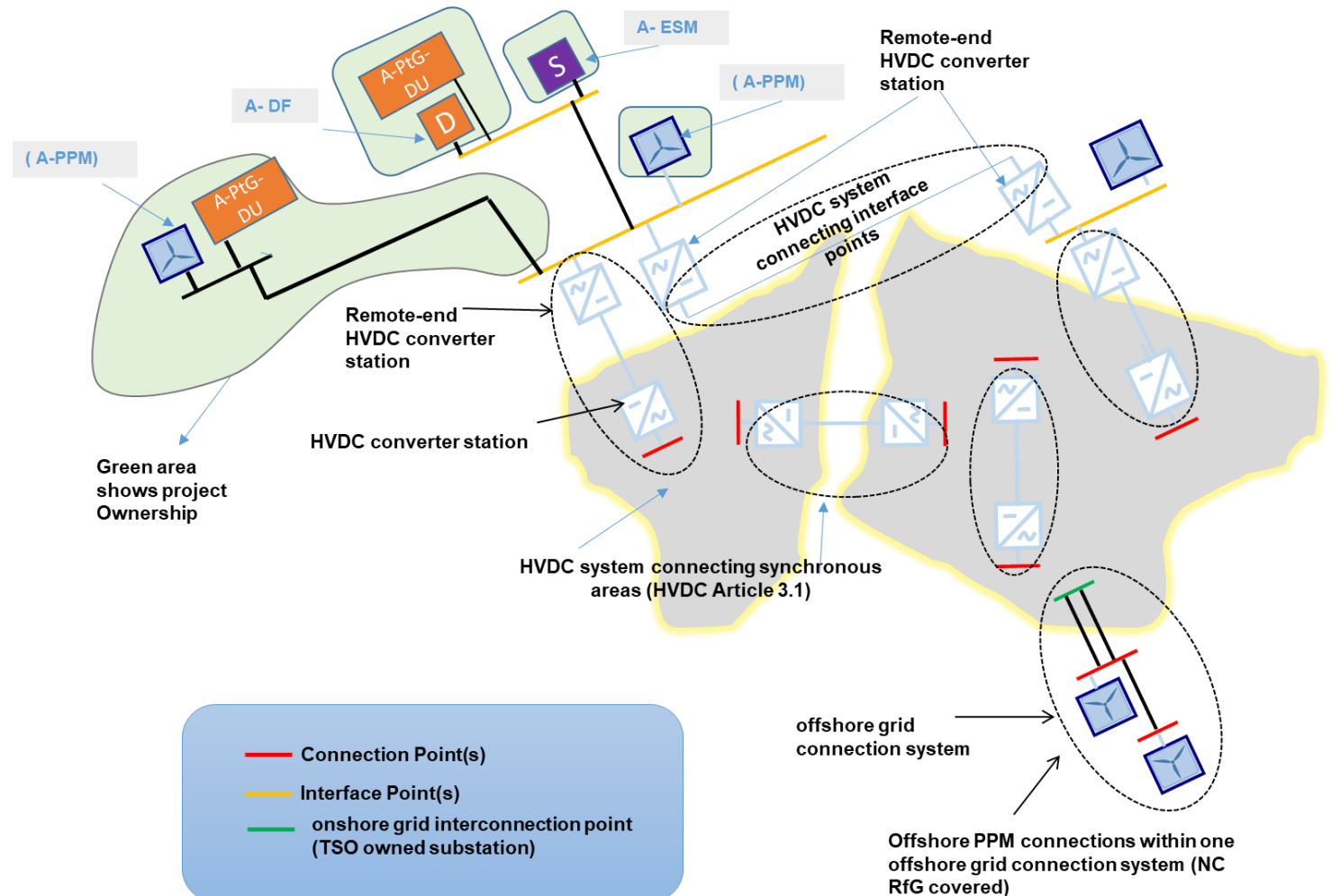
Timeline of the EG CROS Phase II



Amendment of NC HVDC: Expert Group on Connection Requirements for Offshore system (EG CROS)

Phase II report: Proposes NC HVDC amendment proposals

- Grid forming technical requirements for HVDC systems and DC connected PPMs;
- Requirements for DC connected PtG;
- New requirements for parallel offshore HVDC systems;
- RoCoF requirements;



Amendment of NC HVDC

Expert Group on Connection Requirements for Offshore system (EG CROS)

Phase II: NC HVDC Amendment Proposals

Amendment 1: Article 3 (scope of NC HVDC)

Amendment 2: Article 4 (Application to existing HVDC systems)

Amendment 3: Article 12 (RoCoF withstand capability)

Amendment 4: Article 14 (Grid forming capability)

Amendment 5: Article 16 (Frequency control)

Amendment 6: Article 19 (short circuit contribution during faults)

Amendment 7: Article 35 (Priority ranking of protection and control)

Amendment 8: Article 36 (Changes to protection and control schemes and settings)

Amendment 9: Title III (increase of scope)

Amendment 10: Article 38 (scope)

Amendment 11: Article 39 (Frequency stability requirements)

Amendment 12: Article 40 (Reactive power and voltage requirements)

Amendment 13: FRT Capability of power to gas demand units

Amendment 14: Article 41 (Control requirements)

Amendment 15: Article 42 (Network characteristics)

Amendment 16: Article 43 (Protection requirements)

Amendment 17: Article 44 (power quality)

Amendment 18: Article 45 (General system management requirements)

Amendment 19: NEW Article X (Grid forming capability)

Amendment 20: Article 37 (black start)

Amendment 21: Article 44 (power quality)

Amendment 22: Article 47 (Frequency stability requirements for remote-end HVDC)

Amendment 23: Article 48 (voltage ranges, remote end HVDC station)

Thank you very much for your attention

Our values define who we are, what we stand for and how we behave.
We all play a part in bringing them to life.



EXCELLENCE

We deliver to the highest standards.
We provide an environment in which people can develop to their full potential.



TRUST

We trust each other, we are transparent and we empower people.
We respect diversity.



INTEGRITY

We act in the interest of
ENTSO-E



TEAM

We care about people. We work transversal and we support each other.
We celebrate success.



FUTURE THINKING

We are a learning organisation.
We explore new paths and solutions.

We are ENTSO-E