

The Future of Balancing Markets

CIGRE-C0 mini-symposium at TenneT, 16 June 2023



cigre

For power system expertise



tennet

A moment for safety

Together we provide a safe working environment. We learn from mistakes and sharing ideas, concerns and asking questions are a matter of course.



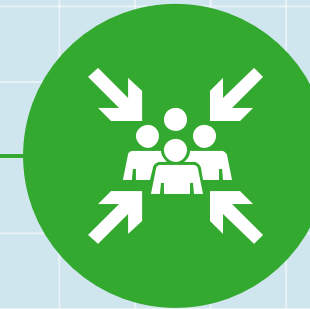
We also draw attention to the following safety measures in case of evacuation of the premises



Follow the escape route as indicated



Use the stairs instead of the lift



Go to the assembly point



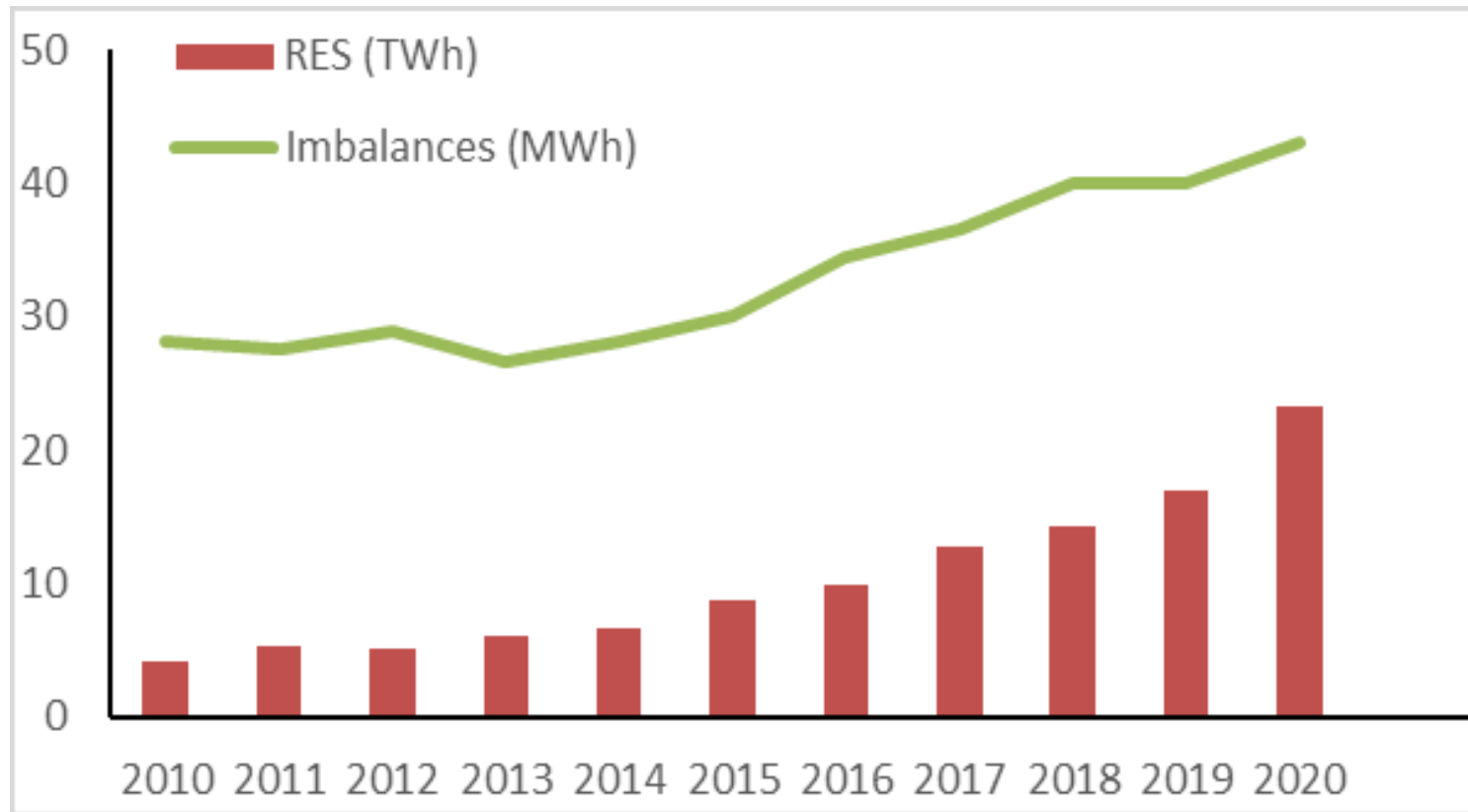
Follow the instructions of the in-company emergency responder

Agenda

- ❑ **13:00** Welcome and Setting the Scene
Susana Barros de Almeida de Graaff (TenneT)
- ❑ **13:30** How to integrate distribution grid constraints in balancing services
Hans de Heer (DNV)
- 13:50** DSO's shouldn't (have to) worry about balancing
Evert de Haan (Liander)
- 14:10** Let's talk about energy
Frank Nobel (TenneT)
- ❑ **14:30** Coffee break
- ❑ **15:00** Reconciling the zonal model with maximum grid utilization in the balancing phase
Gerard Doorman (Statnett & NTNU)
- 15:20** The absence of a common EU view on balancing is a shame
Paul Giesbertz (Energie-Nederland)
- 15:40** The future of European balancing markets: current state of play and possible future evolutions
Mathieu Fransen (ACER)
- ❑ **16:00** Round-table led by *Mart van der Meijden* (TenneT)
- ❑ **17:00** Wrap-up & concluding remarks *Susana Barros de Almeida de Graaff* (TenneT)
- ❑ **17:30** Networking/drinks

Setting the Scene

Why balancing markets?

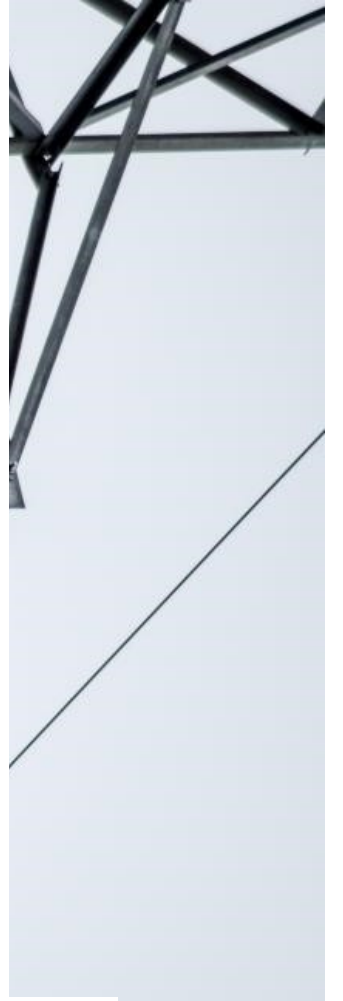


Increasing imbalances and production of RES in the Netherlands

Source: M. Farrokhseresht, F. Nobel, “*The impact of RES integration on balancing markets*”, European Energy Market conference, 2022

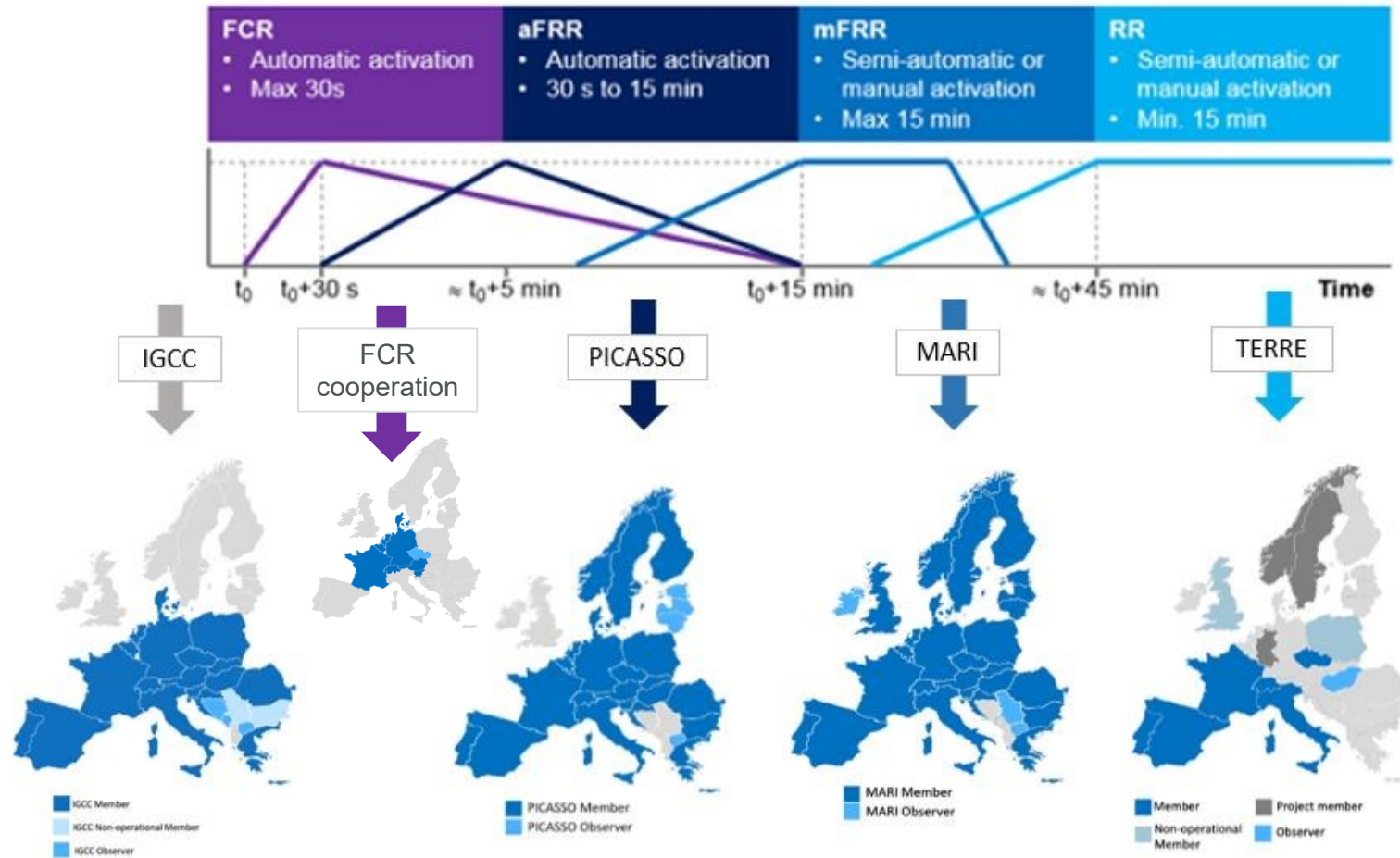
What drives changes for balancing markets?

1. European integration of balancing markets
2. Increasing renewable energy sources at transmission and distribution levels
3. Technological changes by introducing storage and digitalization

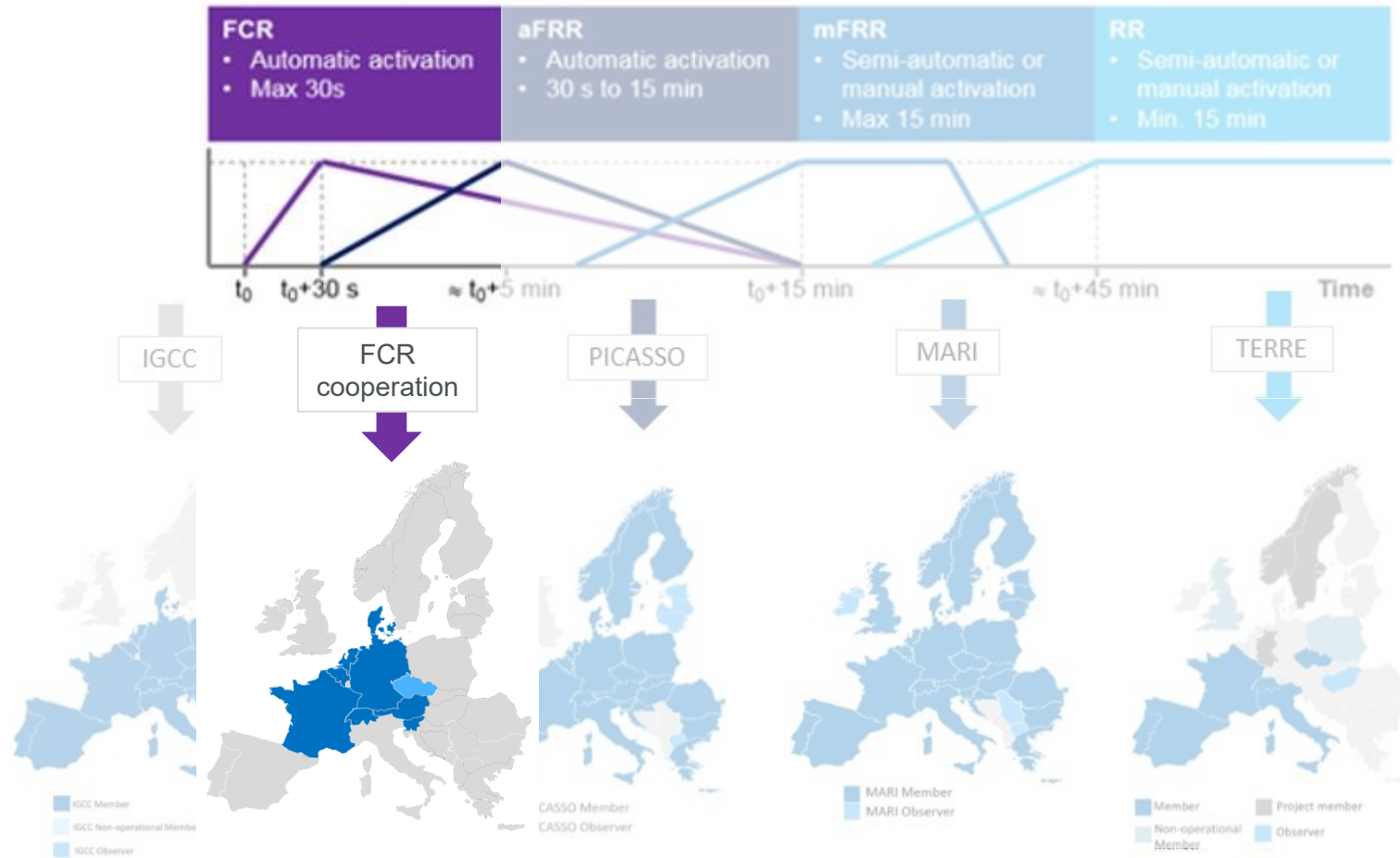


1. European integration

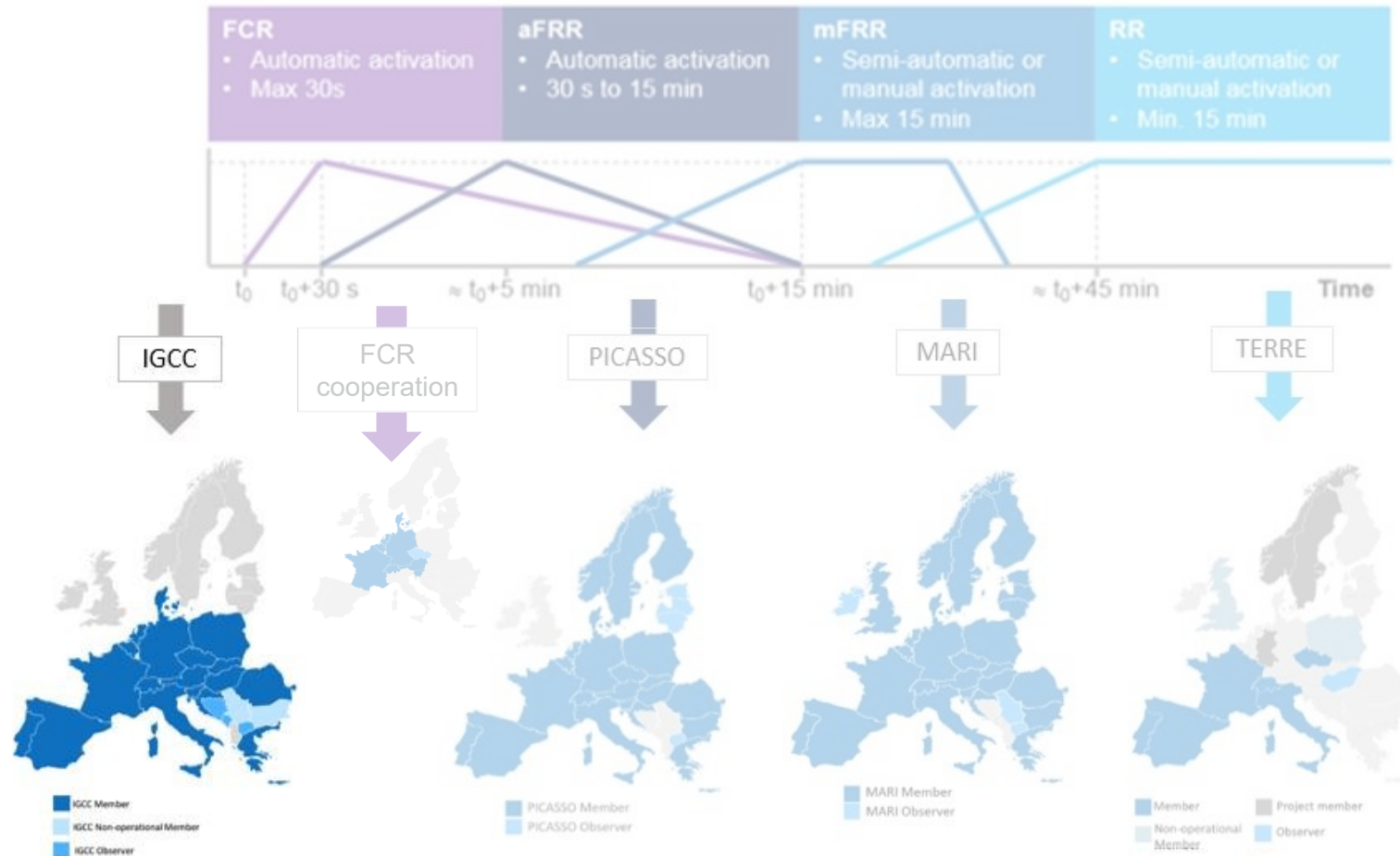
Balancing platforms



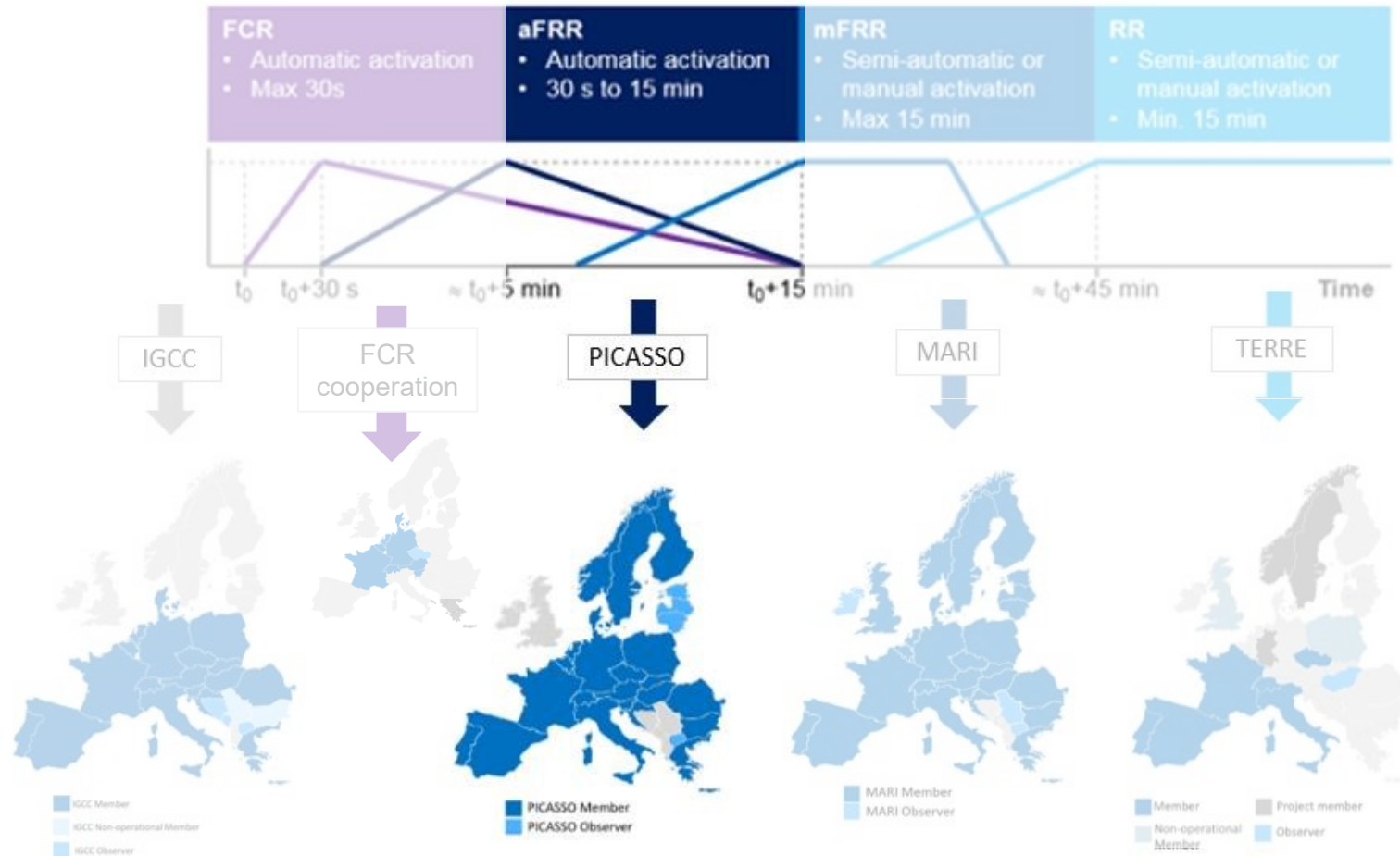
1. European integration FCR cooperation



1. European integration IGCC

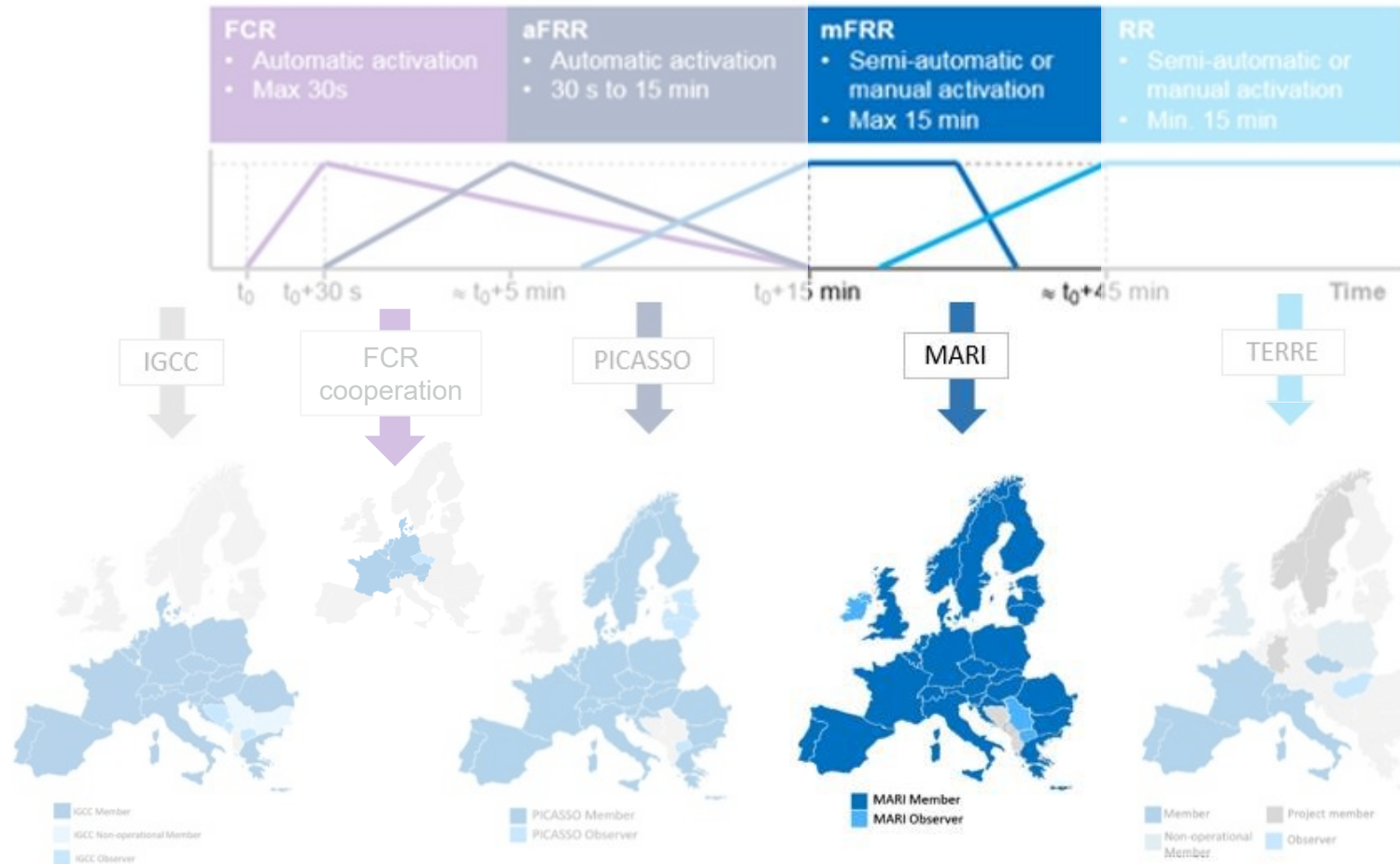


1. European integration PICASSO

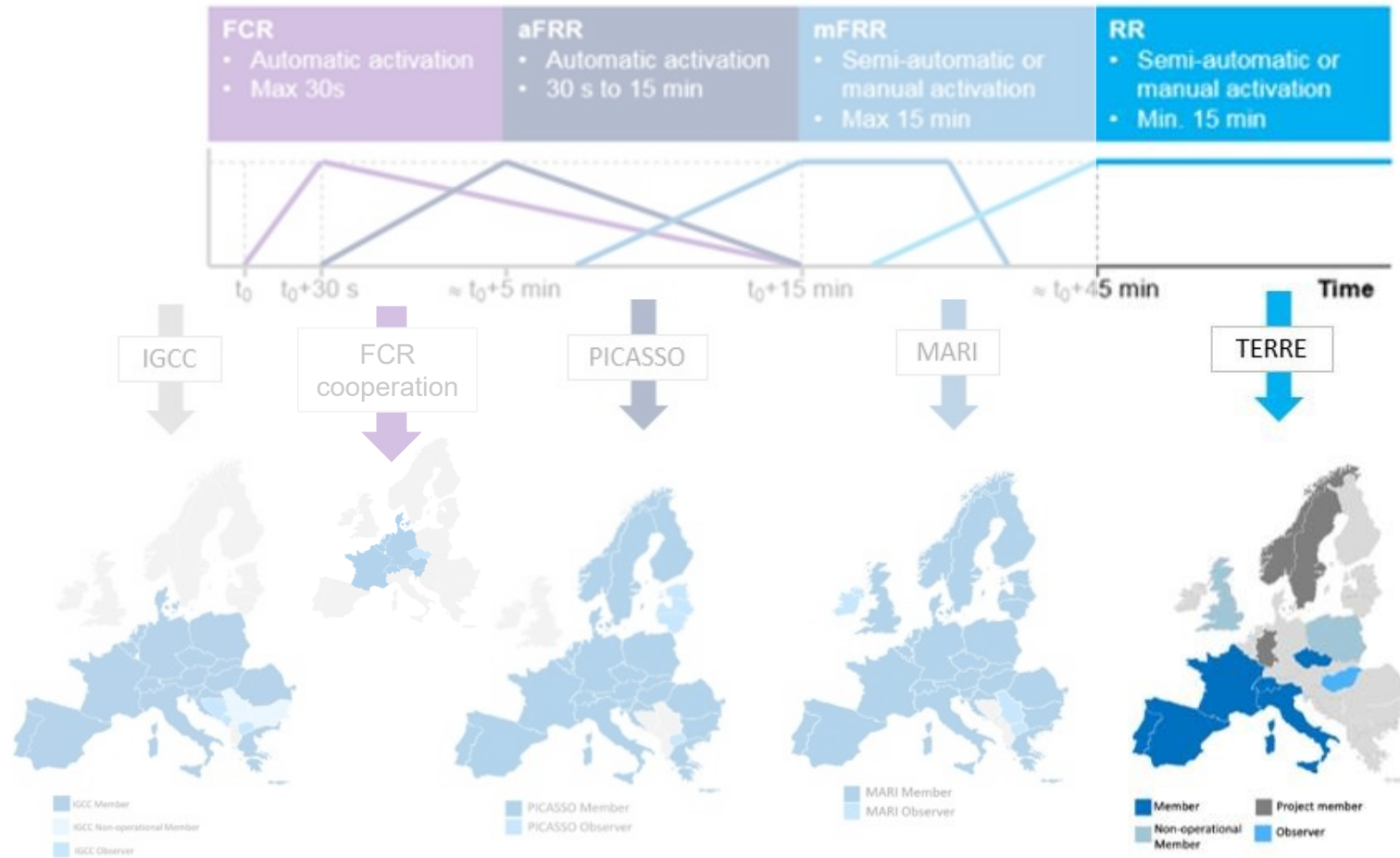


1. European integration

MARI



1. European integration TERRE



1. European integration Interconnectors

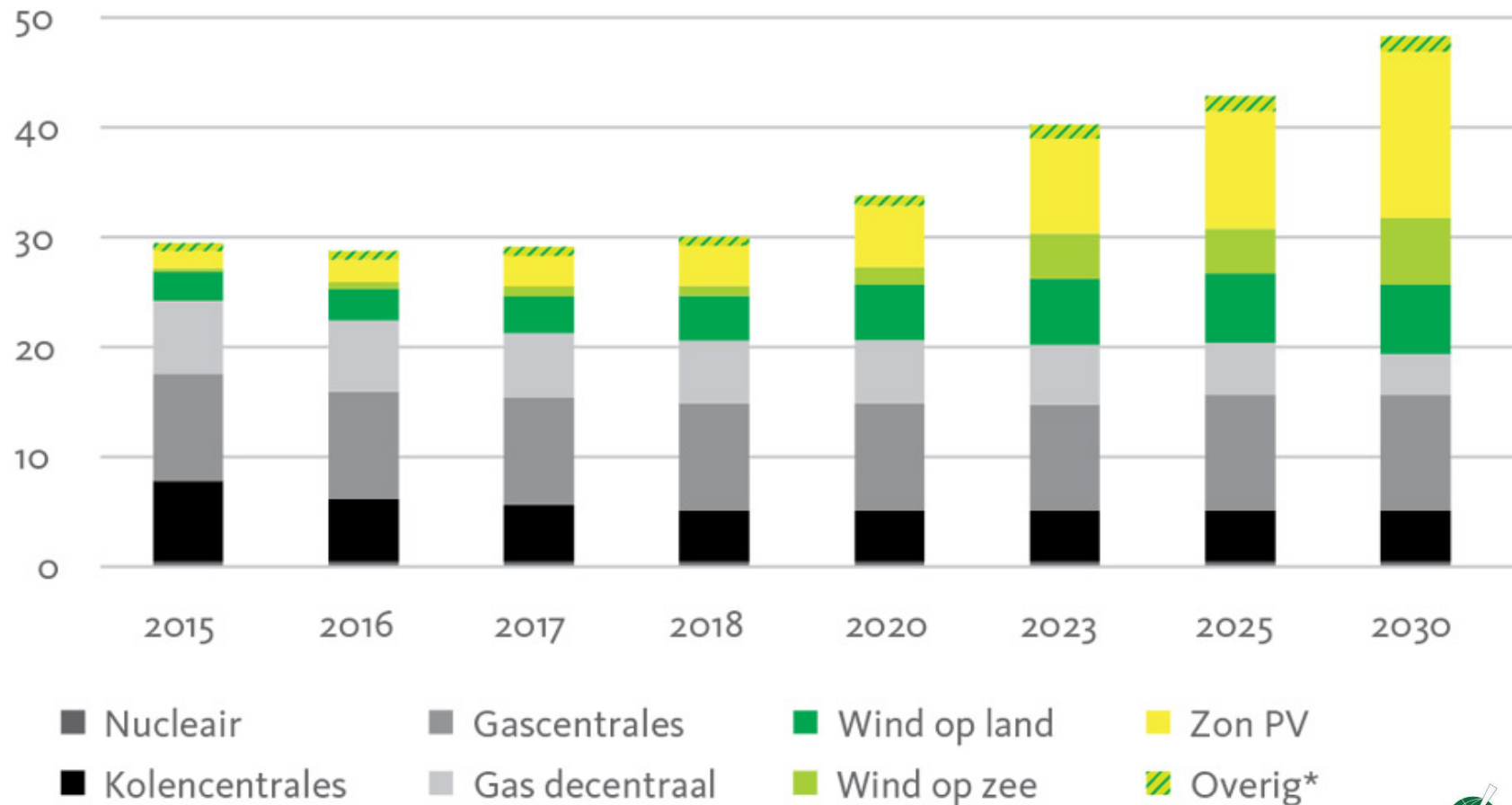


2010

Would balancing market become a single European market?

2. Increasing large and small renewable based sources at transmission and distribution levels

Opgesteld vermogen
(gigawatt)



Source: Netbeheer Nederland

2. Small renewable energy sources at distribution level



Would increasing small RES at distribution systems have a prominent role in balancing markets?

2. Coordination (vertical and horizontal)



EUROPEAN



NATIONAL

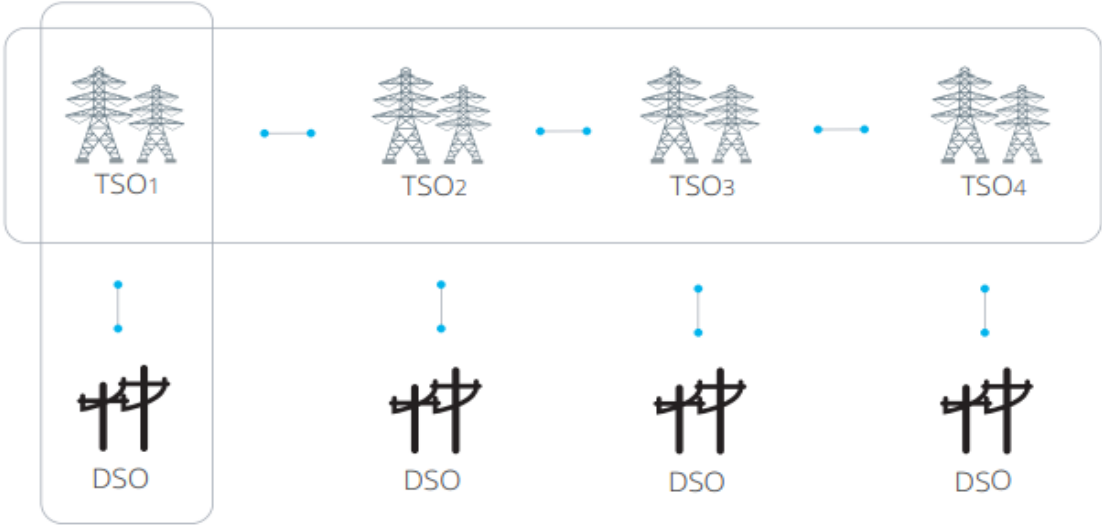


LOCAL



REGIONAL COORDINATION CENTERS

TSO-TSO COOPERATION



2. Combining wind offshore with interconnectors



Would offshore winds become an important player in balancing markets?

2. Large renewable energy sources at transmission level

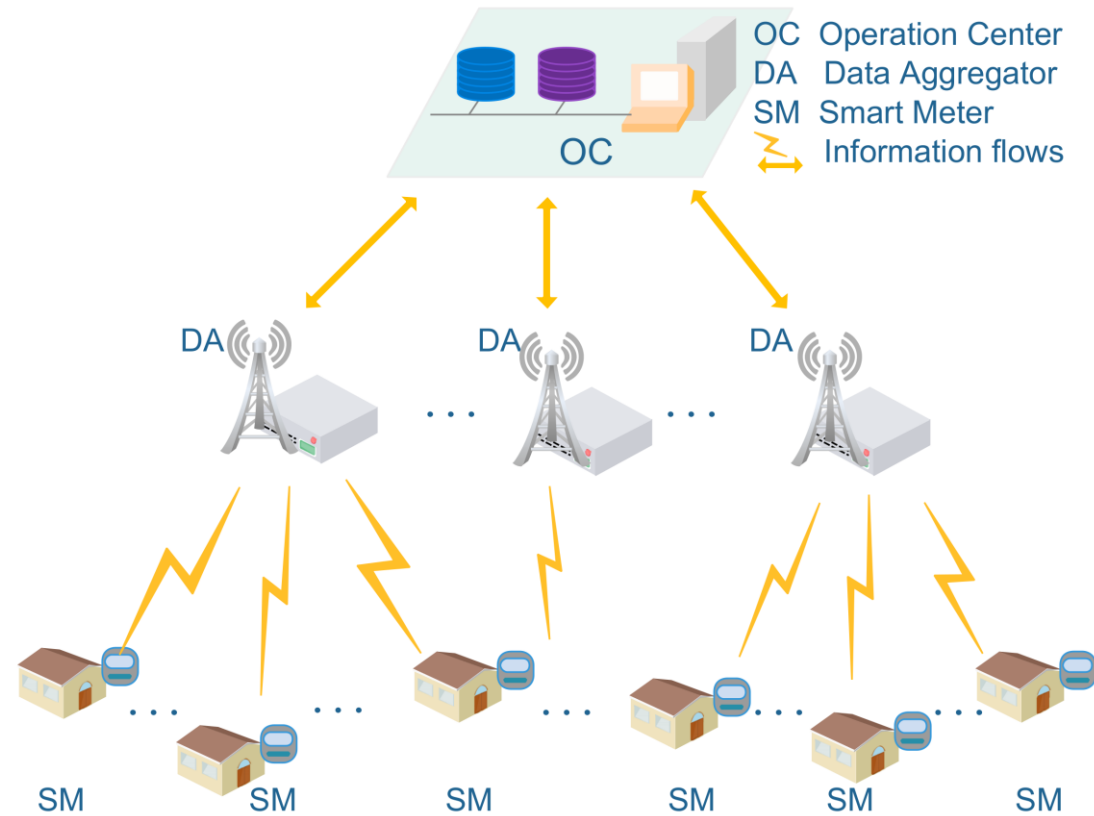


3. Technological changes Storage



Would technological changes contribute with
MW volume required for balancing?

3. Technological changes Digitalization



Would technological changes facilitate a greater small flex participation in balancing markets?

Balancing markets of the future

