



## EUROPEAN NETWORK CODE IMPLEMENTATION PROJECTS: GUIDELINE ON ELECTRICITY BALANCING

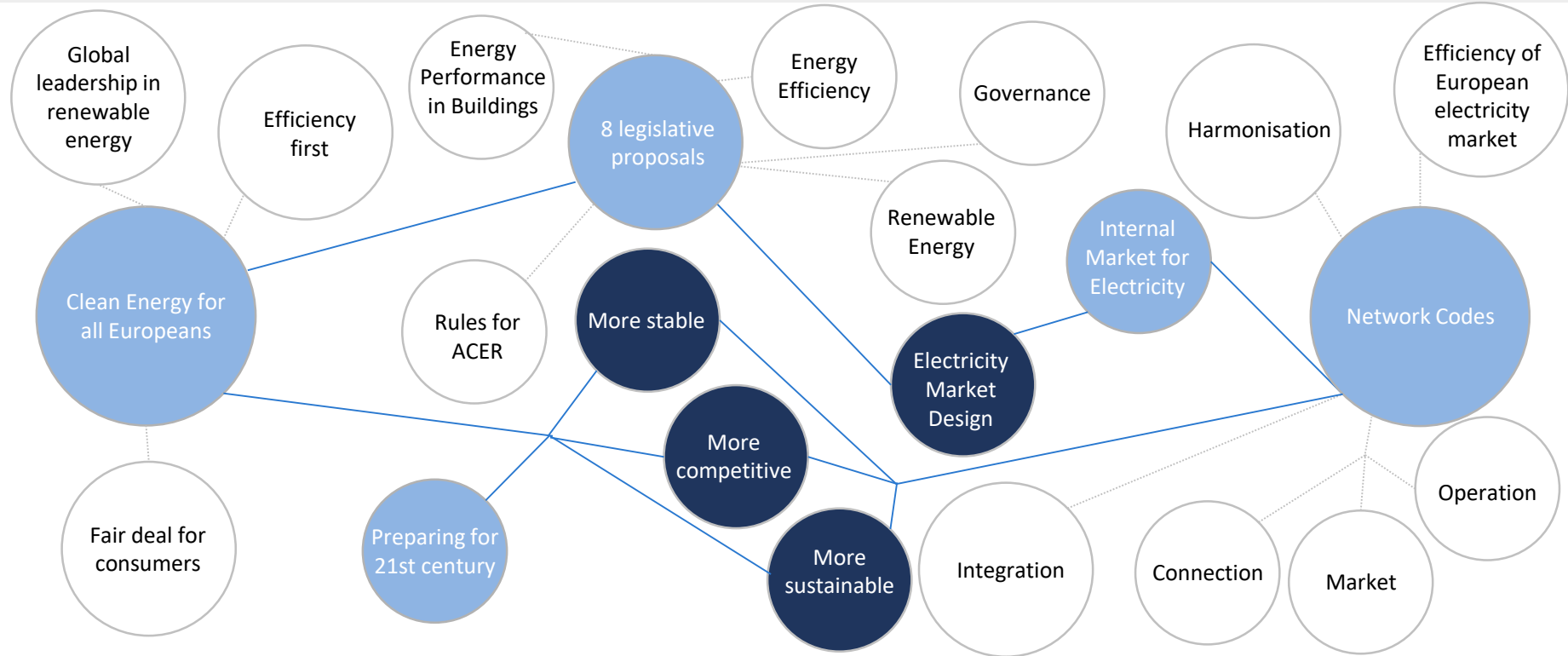
Strommarkttreffen

Berlin, 09.03.2018

## Agenda

- 1 Clean Energy for all Europeans matches Network Codes**
- 2 Network Codes**
- 3 The Guideline for Electricity Balancing**
- 4 Implementation process in the PICASSO project**
- 5 Impact on the European balancing markets**

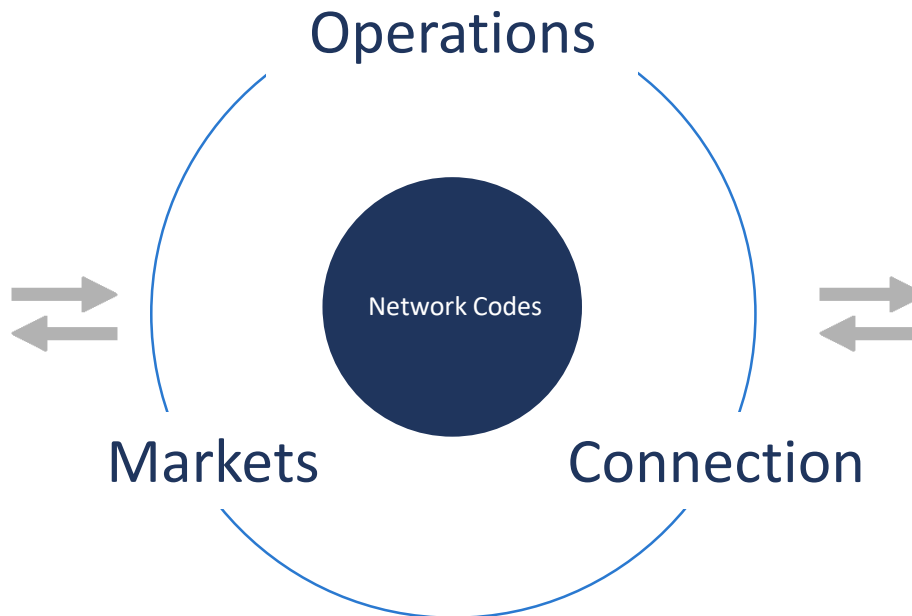
## The Network Codes are part of the strategy Clean Energy for all Europeans



## The Network Codes realise the idea of a harmonised internal European electricity market

### Value proposition

- The NC build the framework for a harmonised market and are the cornerstones for an internal electricity market
- The NC help to ensure system security and stability
- The NC are the sources for European consumer value proposition and increase prosperity
- The NC help to ensure the European pioneer status regarding to the renewable energy integration and an internal electricity market



### European Stakeholder Committees

- The integration of stakeholders is a key factor of a successful and efficient implementation of the NC
- ACER and ENTSO-E co-organized three stakeholder committees
  - Market Stakeholder Committee
    - Balancing Stakeholder Group
  - Grid Connection Stakeholder Committee
  - System Operations Committee

## Each of the three families of the Network Codes addresses different topics



### Markets

Capacity Allocation & Congestion Management

**Electricity Balancing**

Forward Capacity Allocation



### Operations

Emergency and Restoration

System Operations

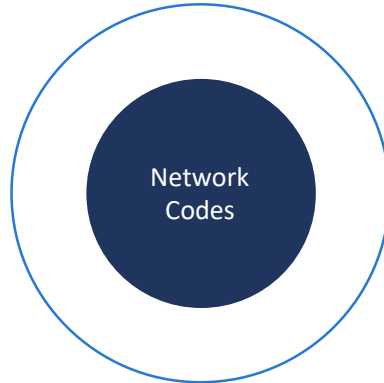


### Connection

High Voltage Direct Current Connections

Requirements for Generators

Demand Connection Code



## The EBGL should help increase security of supply, limit emissions and diminish costs to consumers



Creating a market where countries can share the resources used by their transmission system operators to balance generation and demand



Allowing new players such as demand response and renewables to take part in these markets



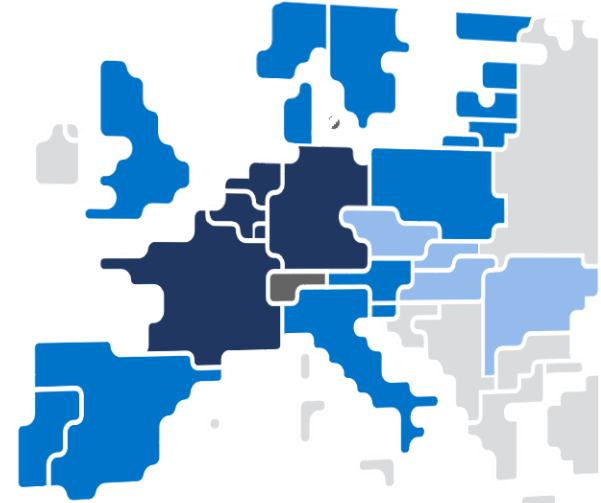
Electricity Balancing is one of the key roles of Transmission System Operators where they act to ensure system frequency



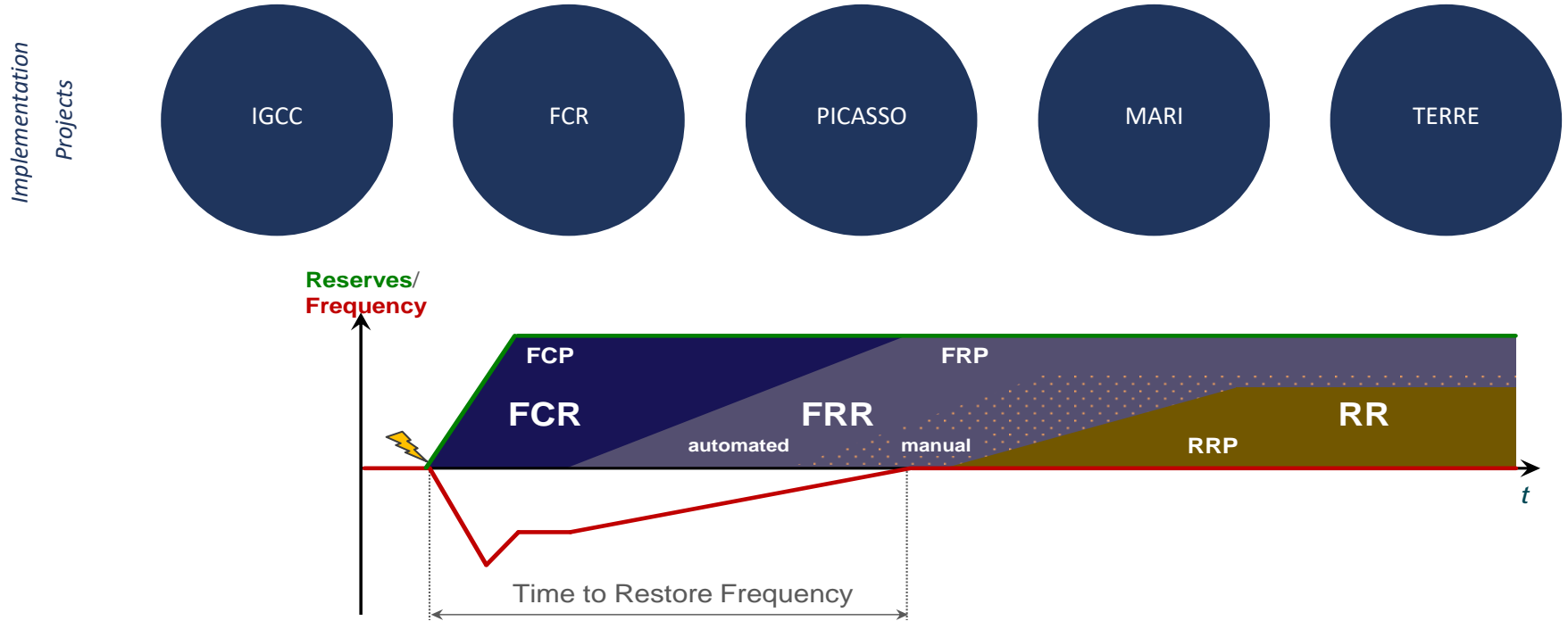
Ensuring security of supply and has an important bearing on costs to customers



The potential for balancing resources to be effectively shared between countries can enhance security of supply and reduce cost, hence there is a strong rationale for developing cross border balancing markets



There are different projects which aims towards an efficient and optimal implementation of the Network Codes



# The Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation



Design, implement and operate an aFRR Platform compliant with the approved versions of the GLEB, SO GL and CACM, as well as other regulations



Enhancing economic and technical efficiency within the limits of system security



Integrating the European aFRR markets while respecting the TSO-TSO model

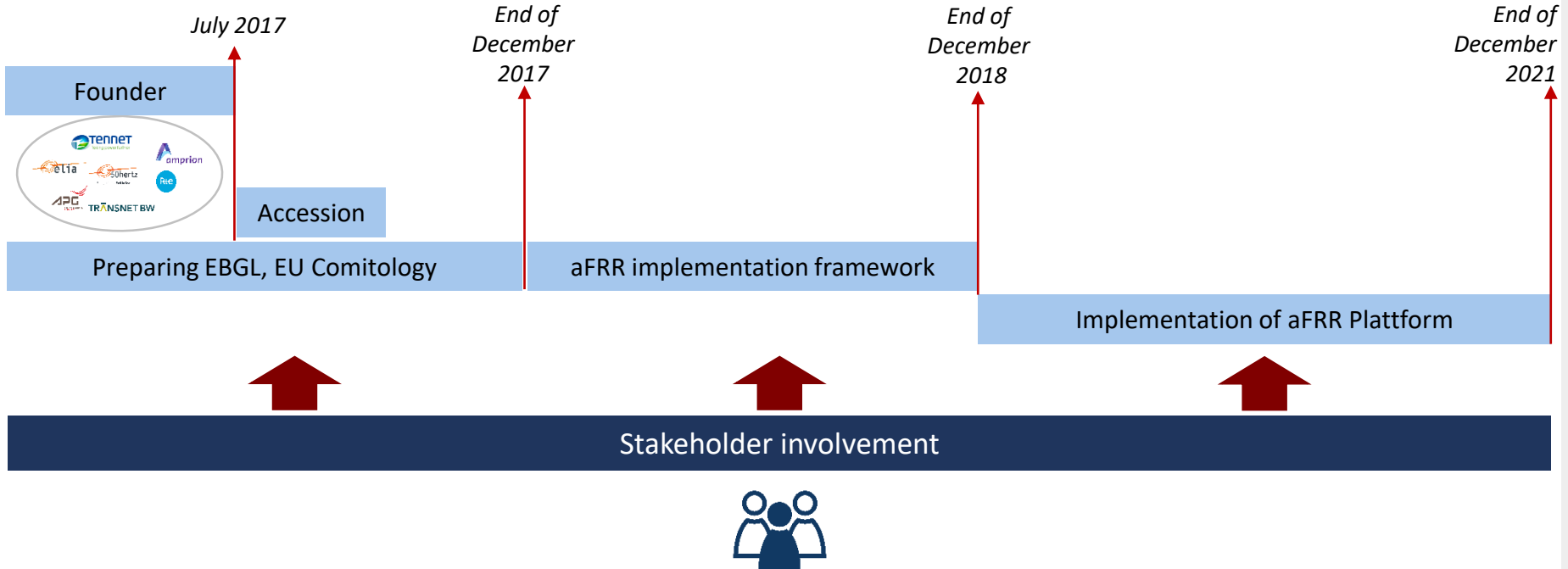


Common European market with harmonised market design





# The design of the aFRR platform can be influenced and improved by all Stakeholder



*..be part of it!*

## Changes and implications on the European electricity market by the EBGL and PICASSO

### Changes

Definition and implementation of a standard product

The bidding process and balancing energy gate closure time is going to be adjusted

The balancing Energy Pricing Period is going to be harmonised

Entry of new market players and technologies

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### Implication

Possible increase of the efficiency of the European electricity market

We might expect an increase in social welfare by the degree of market integration

There might be an increase of the system security

Impact on price level expected

Could increase the competition, impact business models and emphasize Europe's state of a pioneer



**Thank you for your attention!**



**Markus Besser | Senior Consultant**

Mobil: +49 151 527 38 714

Fax: +49 241 943 74 30

Email: [Markus.Besser@p3-group.com](mailto:Markus.Besser@p3-group.com)