



# Grid expansion

## The regulatory perspective

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# Overview of Planning Tools



EU

**TYNDP**  
Ten Year Network  
Development Plan

**PCI**  
Project of common Interest

EU regions

**GRIP**  
Gas Regional Investment Plan



Transmission  
system

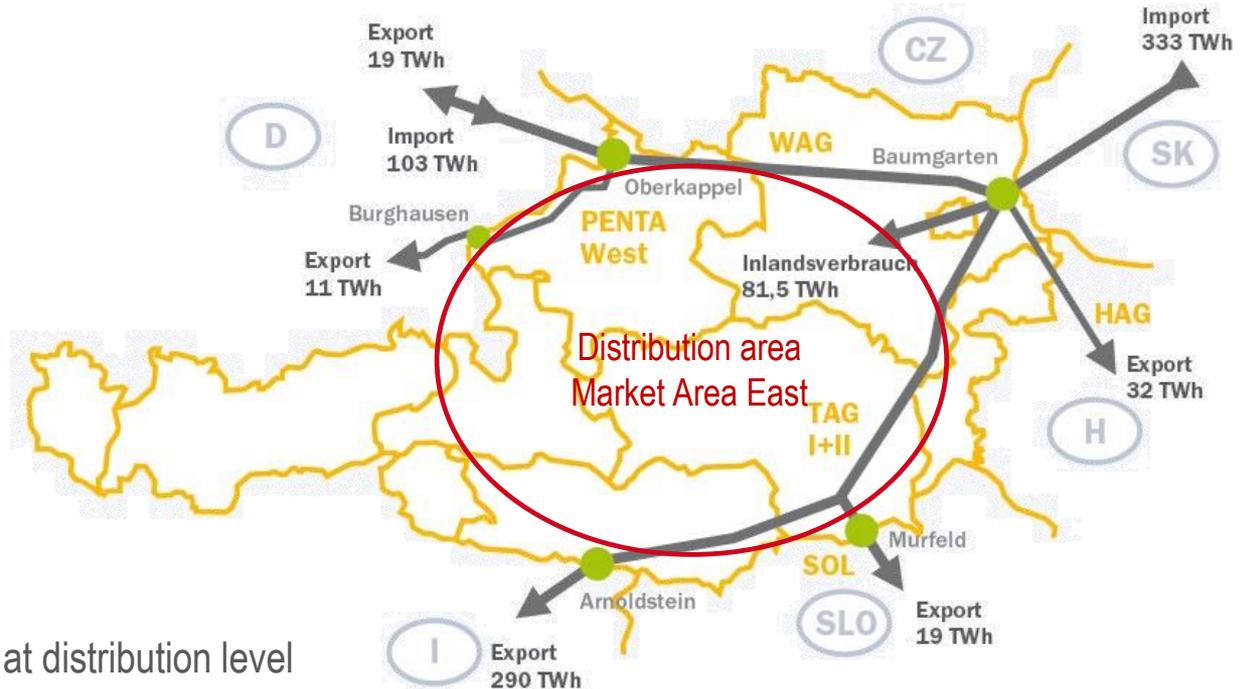
**CNDP**  
Coordinated network  
development plan

Distribution  
system

**LTP**  
Long-term planning

# Overview – Austrian gas infrastructure

- 21 Distribution network operators
- 3 Market Areas
- 2 TSOs (Market Area East)
- Network length
  - ~ 40.000 km Distribution P.
  - ~ 2.000 km Transmission P.
- Max. consumption 2,4106 Nm<sup>3</sup>/h
- Domestic/Transit: 1:4
- Substantial storage volumes
- All final customers are connected at distribution level

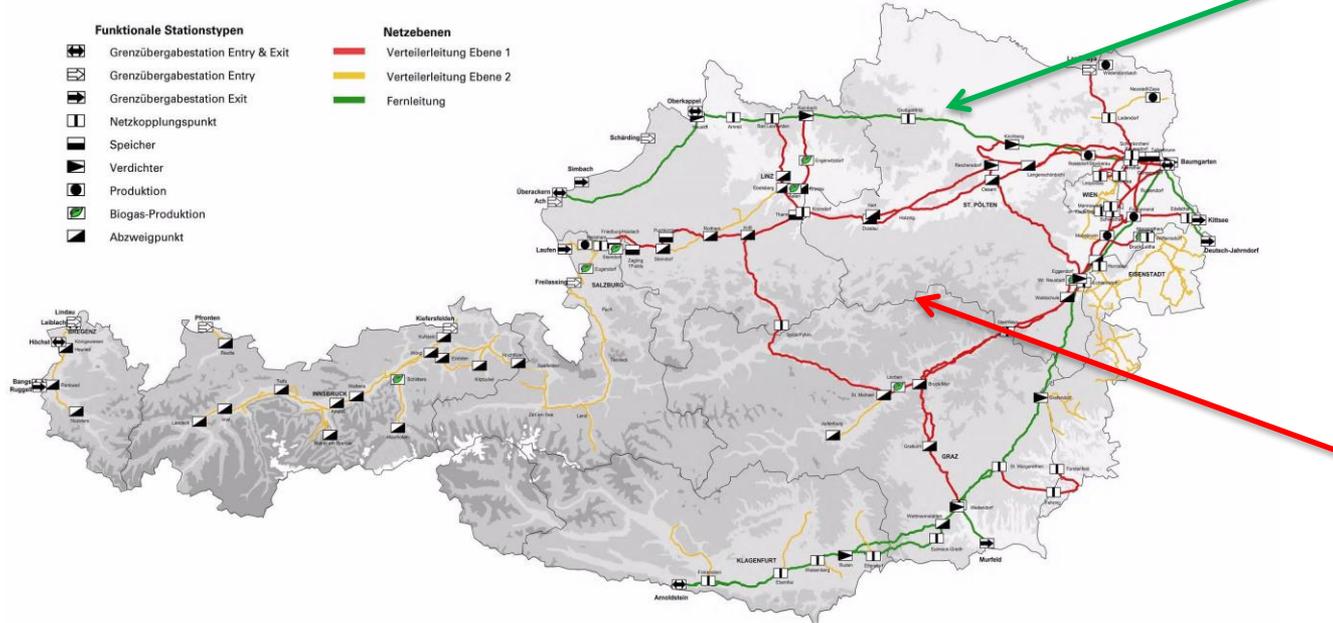


# Infrastructure planning in Austria

Market area manager (AGGM) prepares the plans in cooperation with the TSOs and DSOs

## 2 planning tools in Austria:

- Coordinated network development plan for the transmission system (green lines)
- Long-term planning for the distribution system (red lines)



### Koordinierter Netzentwicklungsplan 2018

für die Erdgas Fernleitungsinfrastruktur in Österreich  
für den Zeitraum 2019 – 2028



AGGM Austrian Gas Grid Management AG

### Langfristige Planung 2018

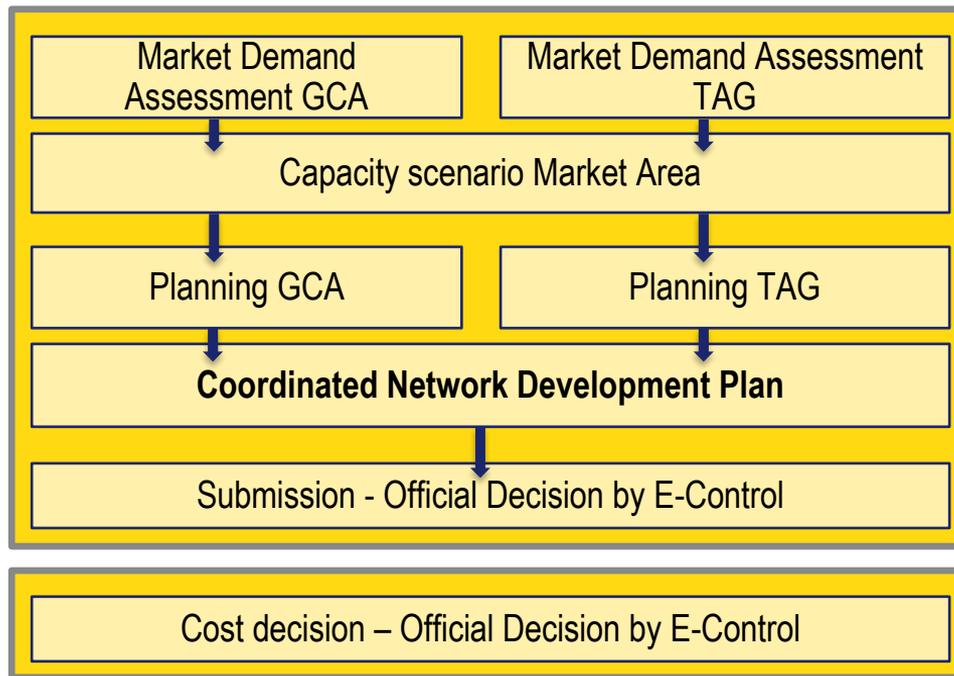
für die Erdgas Verteilernetzinfrastruktur in Österreich  
für den Zeitraum 2019 – 2028



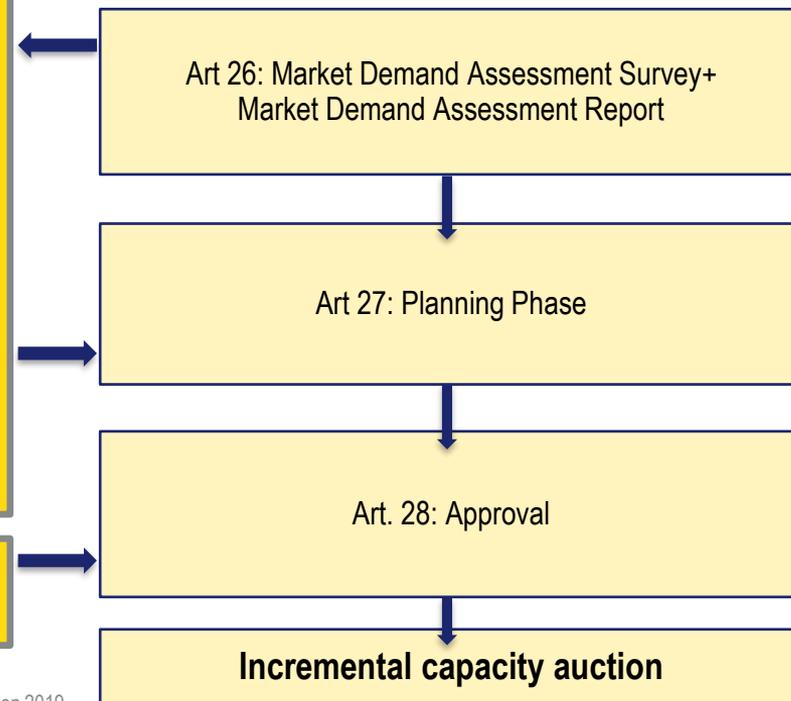
# Procedure for market-based network expansion

Transmission network

## Procedure as per national legislation

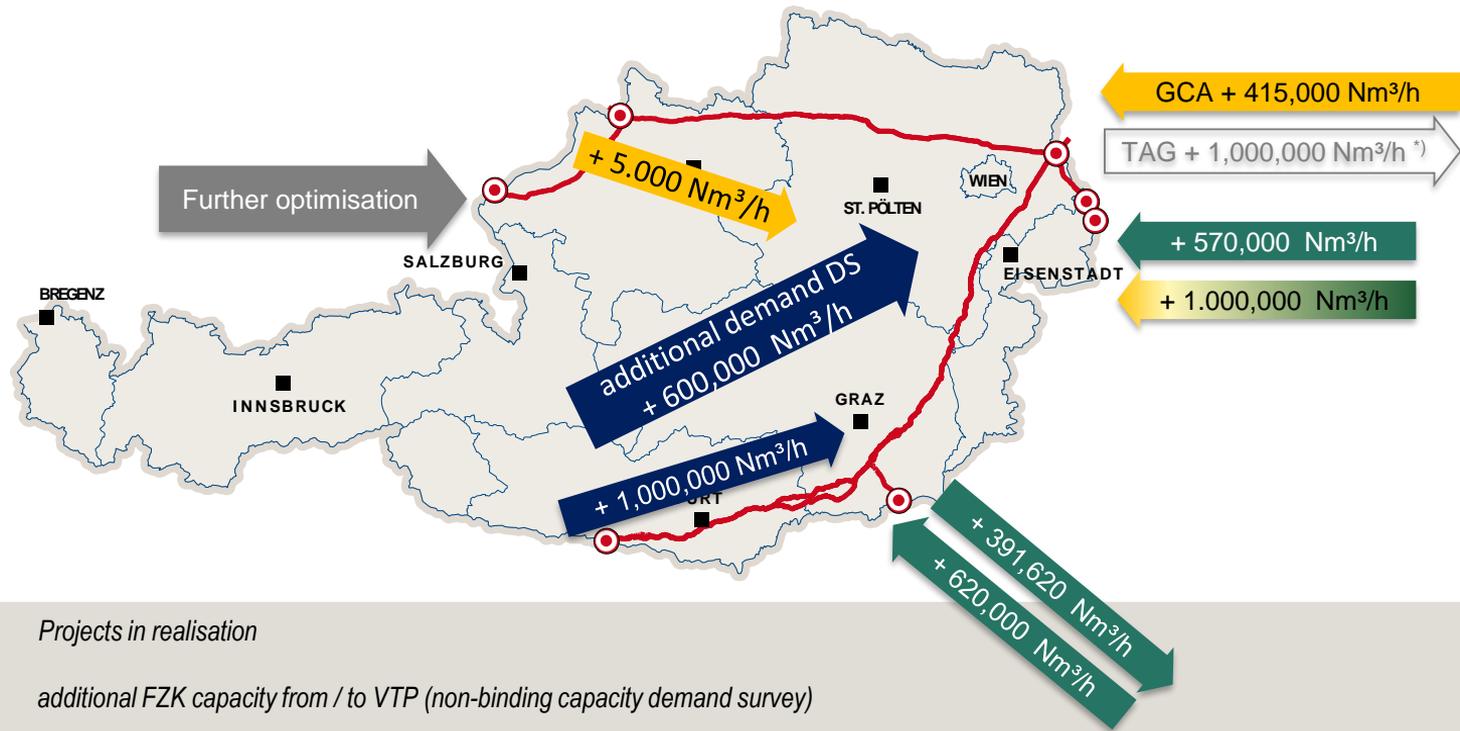


## Procedure as per European NC CAM



# Capacity scenario for the 2018 CNDP

Approved transmission system projects



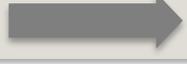
Projects in realisation



additional FZK capacity from / to VTP (non-binding capacity demand survey)



additional FZK capacity from / to VTP (project data collection – PCI projects)



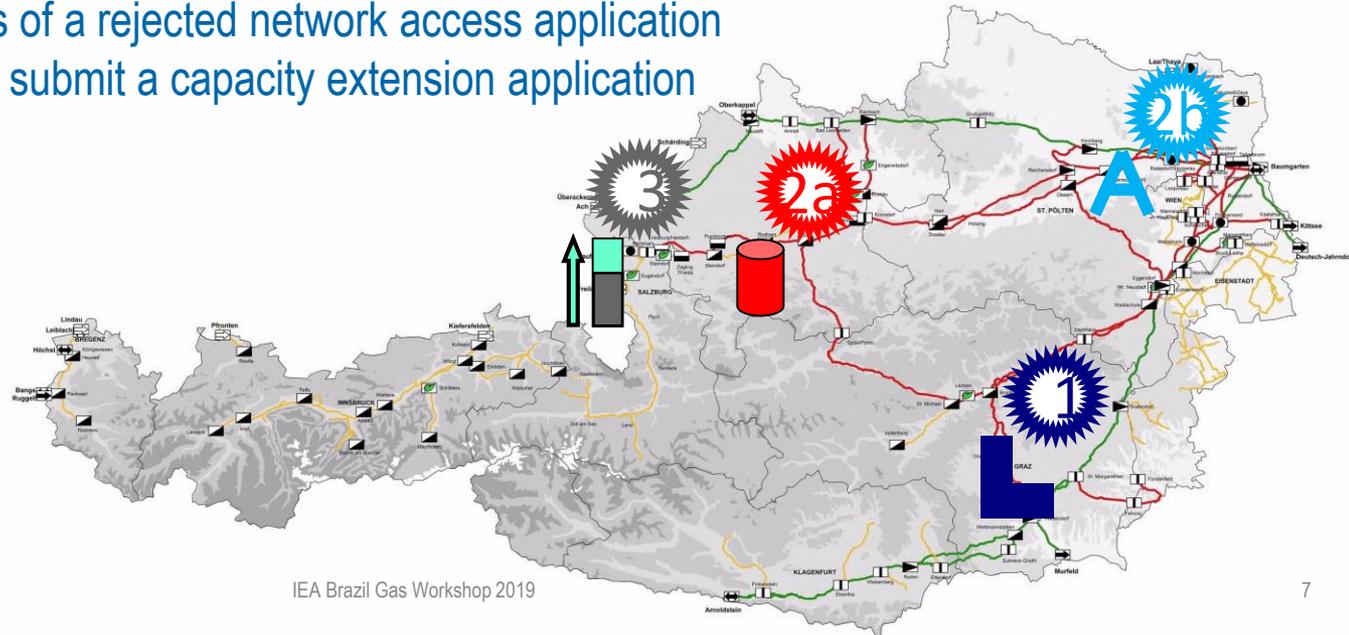
additional FZK capacity from / to VTP (TSO project)

# Signal for capacity bottlenecks

## Distribution network

- Information from gas flow control
- Results from hydraulic simulations (planning)
- A network customer makes a network access application, which must be rejected because of lack of capacity. On the basis of a rejected network access application a network customer can submit a capacity extension application

1. Endconsumer
2. a) storage system operator  
b) production
3. Network user at cross border interconnection point

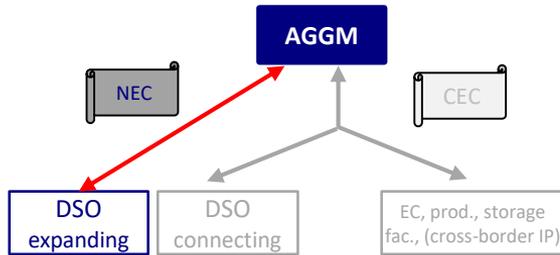


- **Objective**
  - Implementation of measures identified in the long-term plan
  - Security for system operators and consumers based on mutual obligations
- **Advantage**
  - Applicant: security of implementation of measure with prospect of a certain date
  - DSO connecting: security that customer will pay (at least some part)
  - DSO expanding: clear specification of expansion
- **Implementation**
  - All contracts are mutually contingent
  - As soon as the expansion threshold of a project is reached

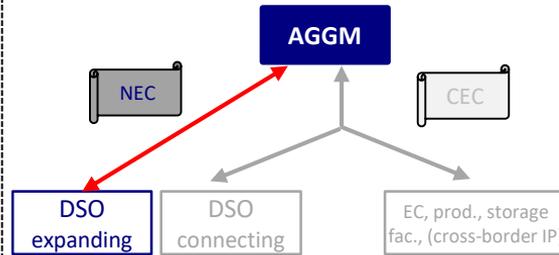
# Structure of network expansion contracts

Distribution system

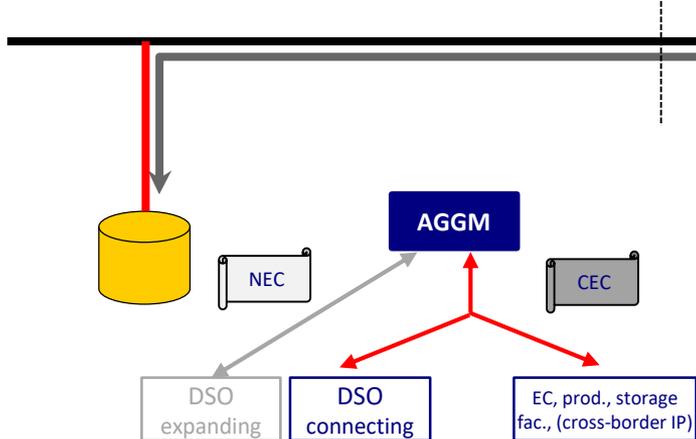
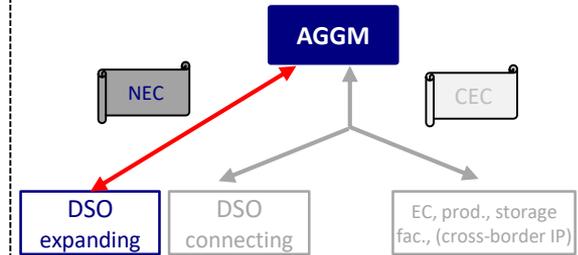
## System operator A



## System operator B



## System operator C



Requirements:

- high degree of standardisation
- all contract terms must be identical in the entire chain of contracts



Network expansion contract

Capacity expansion contract

- Clear definition of responsibilities of the market area manager and TSOs
  - Market area manager needs detailed data from TSOs to be able to fulfill its tasks
- Clear definition of the types of projects to be included in the plans
  - Projects creating additional capacities (economic test Y/N)
  - Re-investment projects
- Clear definition of the data to be provided to E-Control
  - Contents of project data sheets (confidential data vs. publication)
- E-Control published guidelines for the implementation of the CNDP  
<https://www.e-control.at/en/marktteilnehmer/gas/netzentwicklungsplanung>

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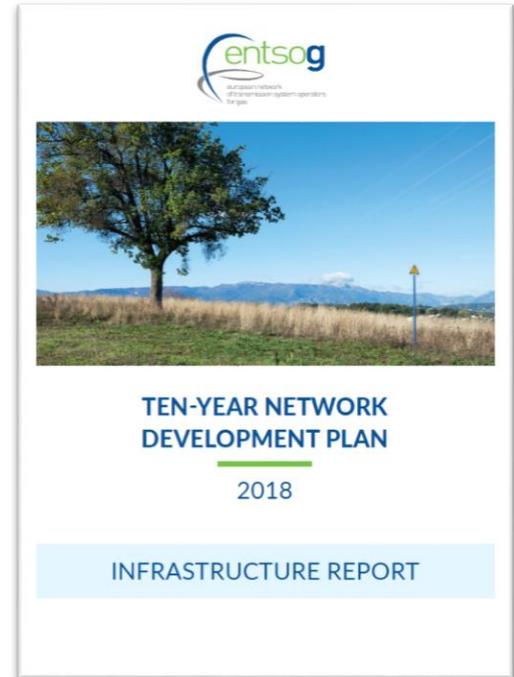
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- **Community-wide network development plan (TYNDP)**
  - Preparation basically every 2 years
  - 10-year planning period
  - Prepared by ENTSOG
  - ACER opinion
  - Not legally binding
- **Content TYNDP 2018**
  - 3 European consumption scenarios
  - Outlook for the supply sources
  - List of Infrastructure projects
    - With final investment decision
    - Without final investment decision (advanced, less advanced)
  - Analysis of security of supply



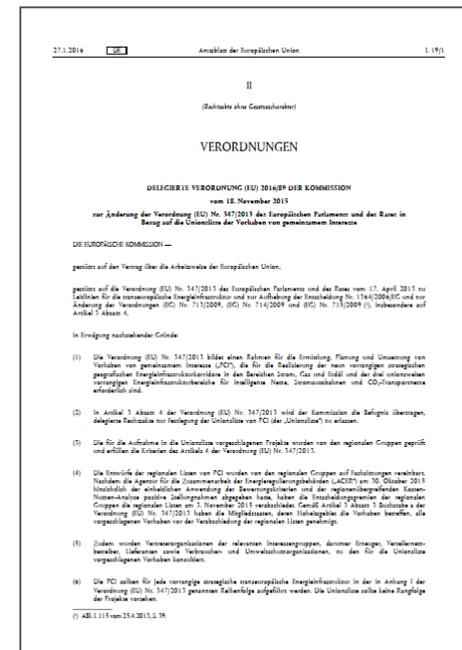
- Regional investment plans (GRIP)
  - Preparation basically every 2 years
  - 10-year planning period
  - Prepared by TSO from several countries
  - Not legally binding
  - AT represented in 2 GRIPs
    - Central Eastern Europe
    - Southern Corridor
- Content
  - Analysis of security of supply
  - Regional N-1 analysis



# PCI – project of common interest

Regulation (EU) 347/2013 and Regulation (EU) 2016/89

- One of the priorities of the European 2020 Strategy is sustainable growth, which should be achieved by promoting a more resource efficient, sustainable and competitive economy.
- Energy infrastructure is the main focus
- Projects become fixed
- Advantage:
  - Fast and efficient approval procedure
  - Financial support
- Admission criteria
  - Considerable benefit for at least two EU countries
  - Promote market integration and competition increasing
  - Security of supply, reducing CO2 emissions
- Update every 2 years



# Coordinated network development plan

## Transmission system

- Scope of application: transmission system
- Prepared by market area manager (AGGM) in cooperation with TSOs
  - AGGM creates the common capacity scenario
  - TSOs create the network development plan for their network
  - AGGM prepares the coordinated network development plan
- Once a year - at least 10-year planning period
- Consultation with stakeholders
- Objectives
  - Covering consumer demand
  - High level of availability - security of supply
  - Covering transport capacity needs
  - Fulfillment of the infrastructure standard



- Scope of application: level 1 pipelines of the distribution network
- Prepared by distribution area manager (AGGM)
- Once a year - at least 10-year planning period
- Consultation with stakeholders
- Objectives
  - Covering consumer demand
  - High level of availability - security of supply
  - Covering capacity needs to/from transmission system and storage facilities

