# Traction current
# Invoicing on metered consumption

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# Policy priorities for rail : White Paper

- Decarbonisation of transport -More lines to be electrified
- Competitiveness of rail -> lower costs for traction current

# What is at stake?

- choice of supplier
- Eco-efficient driving
- No charges for regenerated braking energy
- Incentive for more energy efficient EMUs

# Conditions necessary and sufficient:

- on-board meters with time and location
- transmission of consumption data based on UIS/CENELEC
- DSO independent from supplier
- Provider of settlement services
- Short imbalance settlement periods of 15 mins, max 1 h.

Single Europaen Railway Area

# Key elements of the recast

## Minimum access package

- Traction current

## Service facilities

- Electric supply equipment
- Settlement services
- transparency

## Invoicing and collecting charges

- Traction current and use of supply equipment to be shown separately

## Directive 2009/72/EC on common rules for the internal market in electricity

- ✓ transmission system operator / distribution system operator (Art. 2 Definitions)
- ✓ DSO as balancing responsible Art. 25(6)
- ✓ Choice of supplier ('Third party access' - Art. 32)
- ✓ regulatory body - approval of terms of balancing services Art. 37(6)b
- ✓ compliance officer for third party access and balancing (Art. 21(6))

# Technical Specifications for interoperability

- As of 1/1/15 : TSI LOC&PASS: Mandatory fitment of new or upgraded EMUs with meters running on equipped lines
- Open point on data exchange interface between vehicle and track side (TSI ENE and Loc&Pass) for 2 years
- 2 years after closure of OPs for implementing the on–ground system and the settlement system
- Vote in RISC in January 2018 – implementation in two years, ie January 2020

**Commission vs Deutsche Bahn –**
**early termination of successful commitment scheme**

**margin squeeze (Art. 102 TFEU)– as a result of vertical integration between grid provider and electricity supplier –**

**price of current and market access of suppliers**

**within 18 months of the scheme, several suppliers entered the market**

**Share of traction current supplied to non-DB operators rose to > 50% !**

**Calender:**
**March 2011: unannounced inspections**
**June 2012: initiating formal proceedings**
**Dec 2013 DB accepts legally binding commitments**
**March 2016: early termination because commitments were fulfilled**

# Electricity is cheaper than Diesel!

| Verbrauchsberechnung für Halt und Wiederanfahren bei einer Fahrplangeschwindigkeit von 100 km/h | | | | Energiekosten pro Zug | |
|---|---|---|---|---|---|
| Masse des Zuges inkl. Tfz (t) | Fahrplan-geschwin-digkeit (km/h) | Strom (kWh) | Diesel (l) | E-Traktion | Diesel-Traktion |
| 1500 | 100 | 196,5 | 58,9 | 23,73 € | 53,07 € |
| 1600 | 100 | 209,6 | 62,9 | 25,32 € | 56,68 € |
| 2000 | 100 | 262 | 78,6 | 31,65 € | 70,82 € |
| 4000 | 100 | 523,9 | 157,2 | 63,28 € | 141,64 € |

## Conclusions - 1

- Settlement system and data communication: TSI requirements not yet applicable
- Settlement systems not everywhere – progress is slow

## Conclusions - 2

- On-board metering – no obligations to retrofit. Lack of awareness or lack of incentives?
- Discounts for traction current vs abuse of dominant position or price discrimination
- Charging for the use of electric supply equipment – only pay what you use
- Choice of supplier not possible everywhere.

# Market Design Communication - Content

- **"Consultative Communication"**
- **Main aim:**
  - *Preserve / adapt **integrated energy market***
  - *Avoid fall-back to fragmented/subsidies-driven system*

***IEM = best tool to…***

⇒ *Stimulate investments*
⇒ *Steer investment decisions efficiently*
⇒ *Provide for security of supply*
⇒ *Integrate volatile renewables*

*…keep prices in check*

# 1. Markets adapted to new challenges

***Demand for electricity is not always & everywhere the same***

*=> Prices should reflect scarcity (time/location)*

*=> Remove price caps / price regulation*

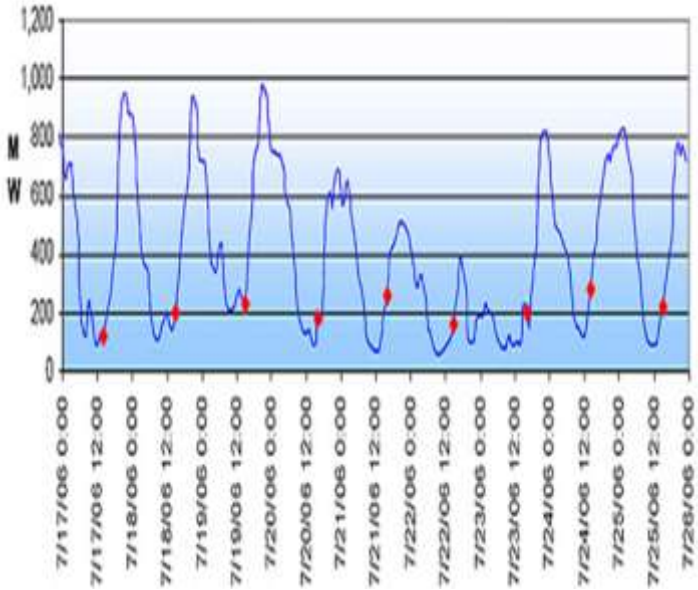
***Need to react closer to real-time***

*=> Push intraday & balancing markets*

*=> Promote European market coupling*

***Activate demand response***

*=> Bring demand response at equal footing with generation – remove barriers (industrial & household DSR)*

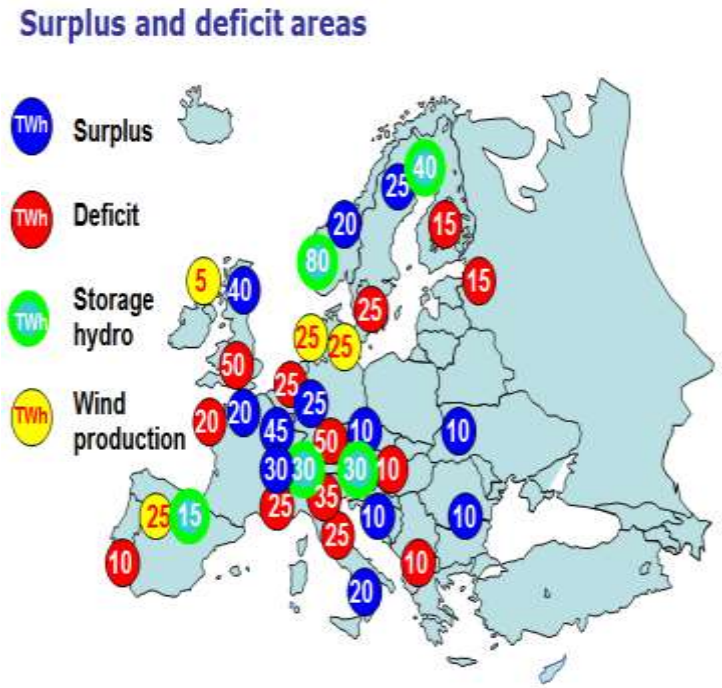


# 2. A European dimension to security of supply

***Fragmented national SOS policies: costly and inefficient***

⇒ Cooperate & reap benefits of complementarity

- *Coordinated adequacy planning*
  *(⇨ investment needs for new capacity)*
- *Coordinated adequacy standards*
- *Framework for IEM compatible capacity mechanisms (with COMP)*



# 3. Promoting regional cooperation

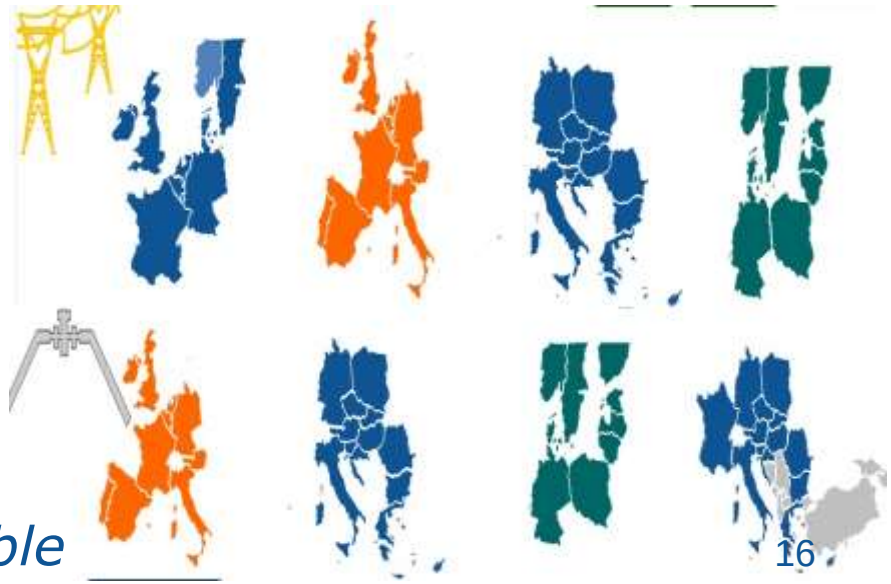
## *Foster TSO cooperation*

- *No "single TSO"*
- *=> Foster role of Regional Security Cooperation Centres*
- *Regional blackout prevention, regional capacity calculation etc.*
- *DSO – TSO cooperation*

## *Regionally aligned RES support schemes*

## *Enhance role of ACER for C/B issues*

- *No "EU regulator"*
- *But: empower ACER where fragmented decisions not possible*



European Commission

# Thank you for your attention