

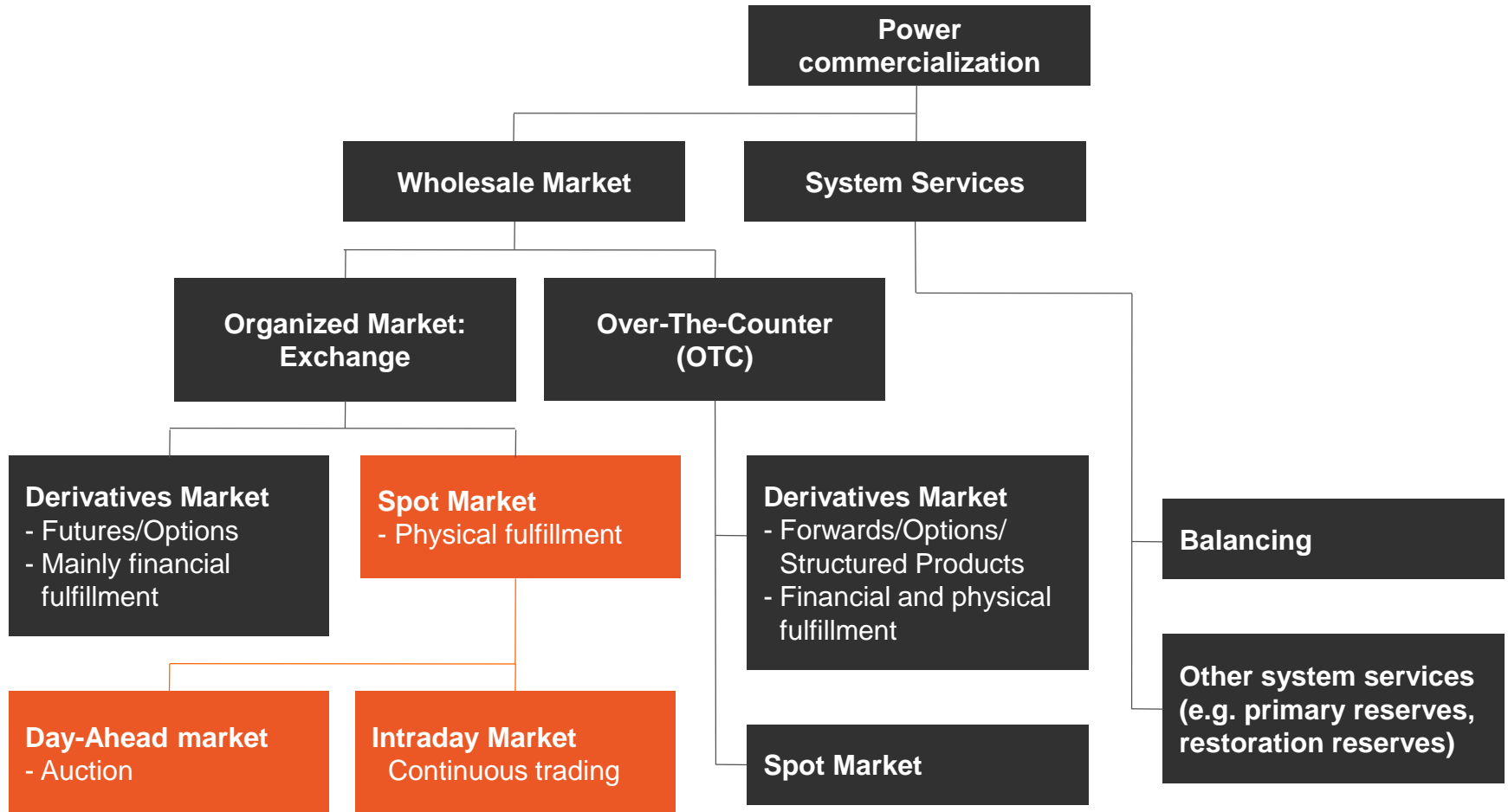
# L'intégration du solaire au marché spot

Expérience d'EPEX SPOT dans la commercialisation des renouvelables

Aurore Lantrain, EPEX SPOT

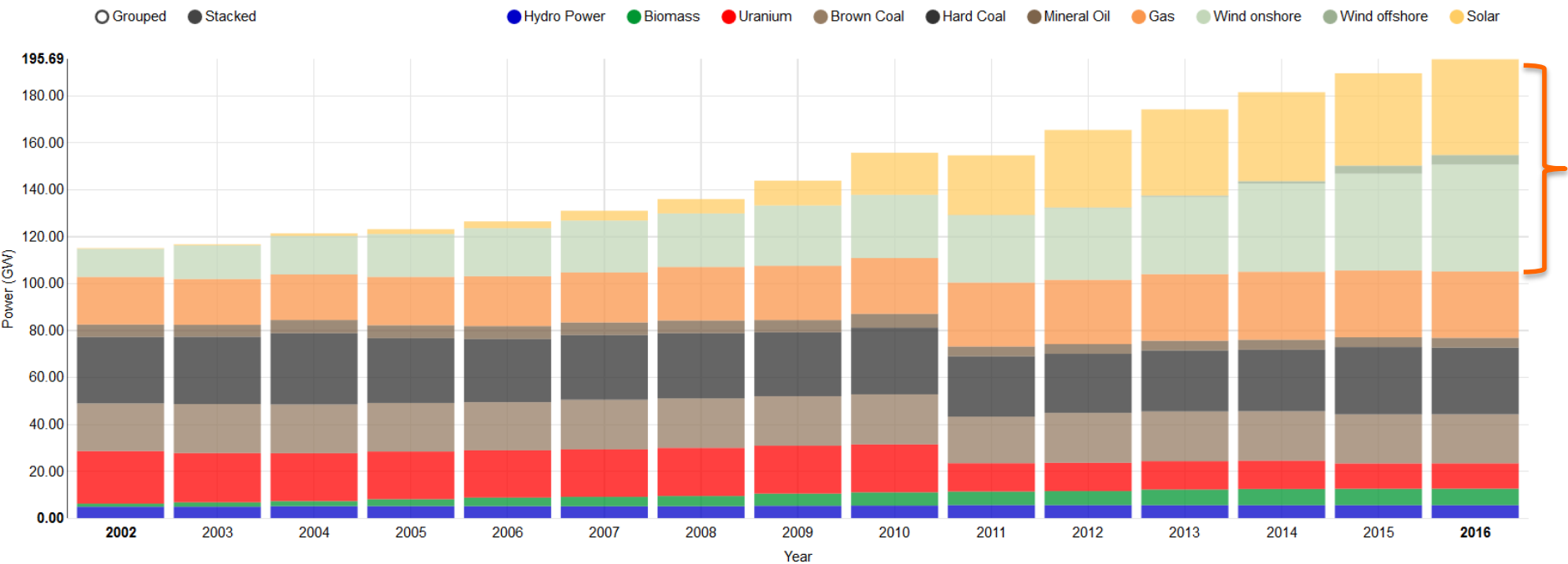
Colloque National Photovoltaïque, 09/03/2017

# Ways of trading power on European Wholesale markets



# RES development has boosted need to balance on the Intraday market

Solar and Wind Installed Capacity in Germany: 97GW

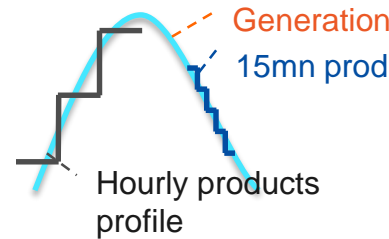


Datasource: AGEE, BMWi, Bundesnetzagentur  
Last update: 02 Feb 2017 23:13

# Balancing needs exacerbated by forecast errors

- **Generation ramps** handled with quarters
- **Forecast deviations** : Wind/solar forecasts can vary significantly from Day-ahead forecast to last Intraday Forecast

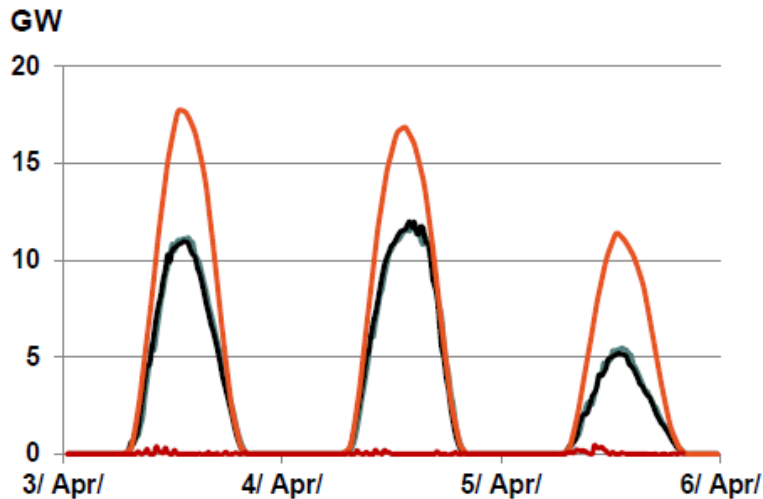
## Generation Ramps



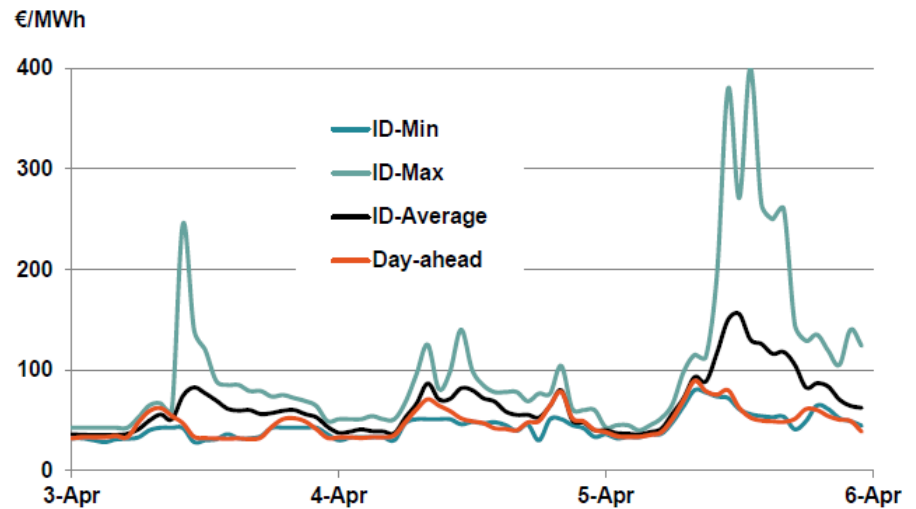
## Forecast Deviations



## Day-ahead PV forecast inaccuracy and Intraday price impact

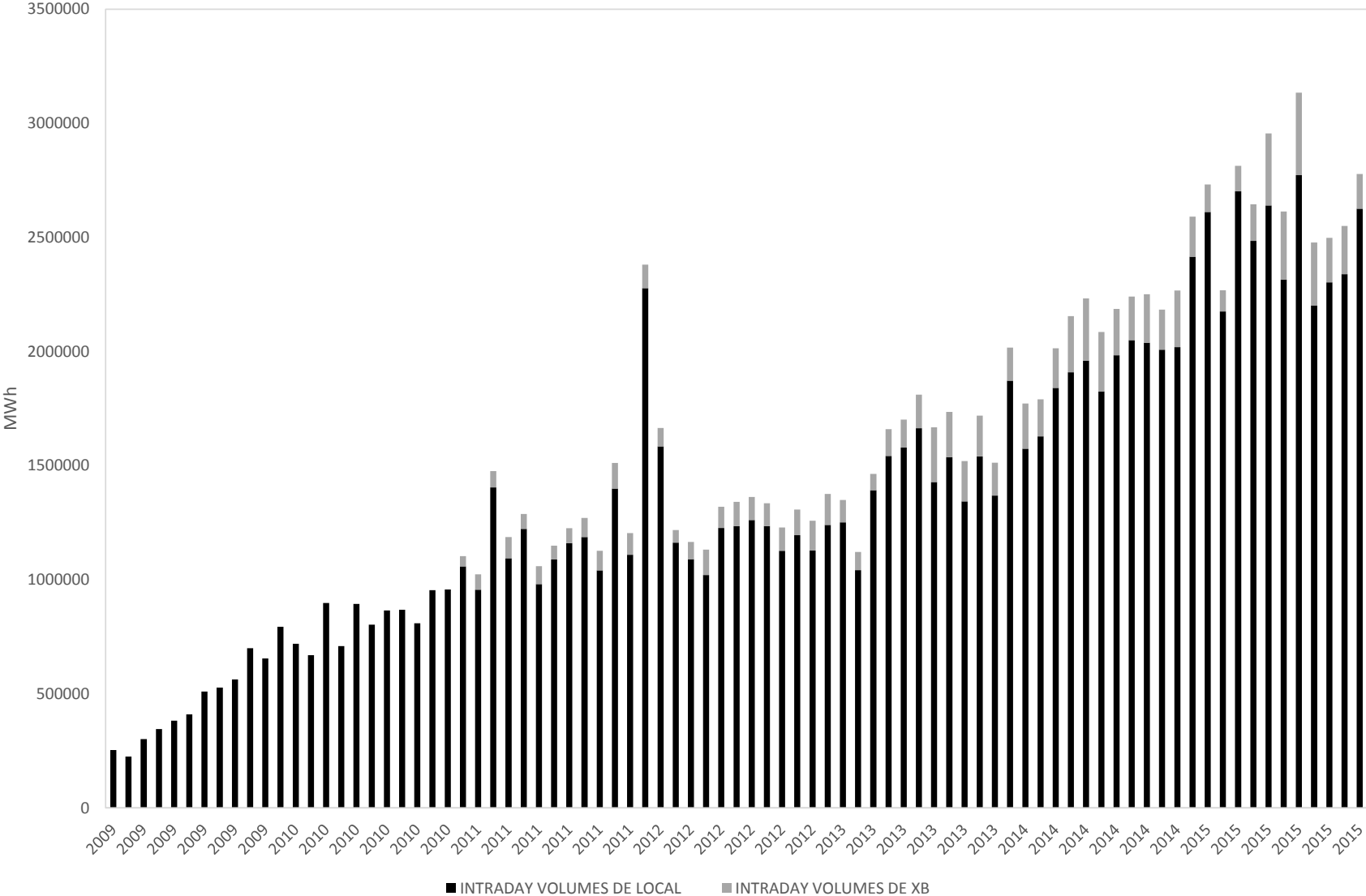


- Day-ahead PV forecast
- Last intraday PV forecast
- PV extrapolation



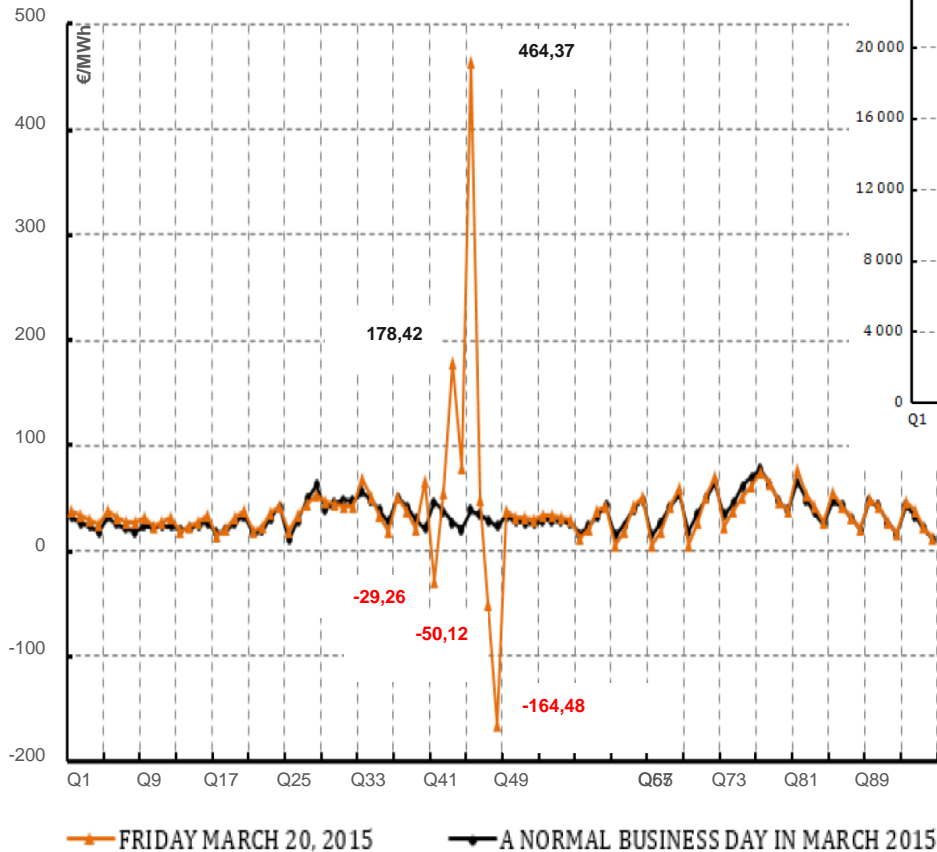
Source: 50 Hertz, EPEX SPOT

# The German IDM liquidity has been boosted by iRES penetration

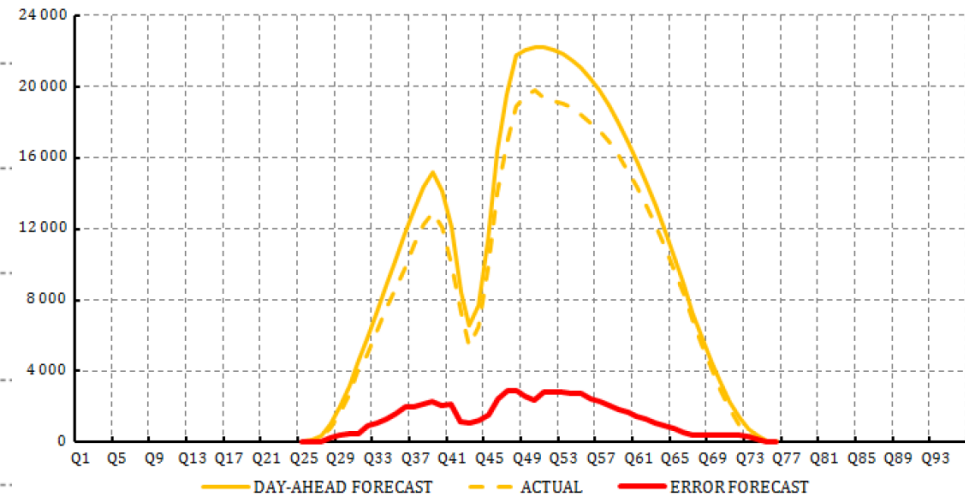


# European power exchange as a component of security of supply during the solar eclipse

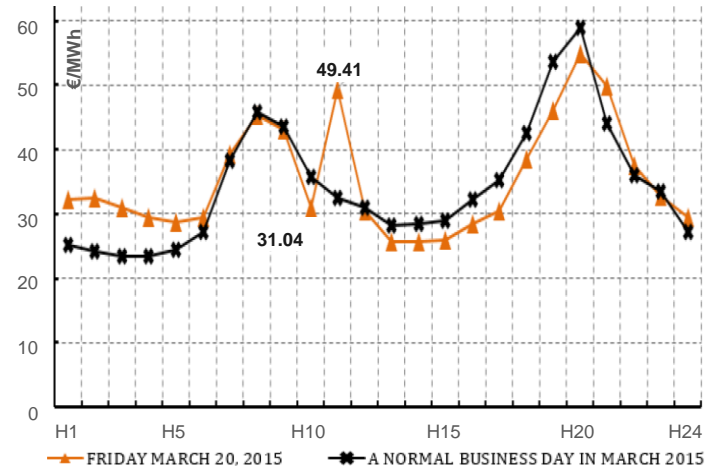
## INTRADAY PRICES



## SOLAR FORECAST



## DAY-AHEAD PRICES



Source: EPEX SPOT, TSOs



EUROPEAN  
POWER  
EXCHANGE

EPEXSPOT