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## **Market Based Balancing Case Study Austria**

**ECRB Workshop on Gas Market Models  
11 November 2010, Vienna**

# Agenda

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- Austrian Balancing Energy Market – Introduction and Key Facts
- Practical Experience in January 2009

# 3 Control Areas in Austria



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- TAG** Trans-Austria-Gasleitung (DN900-1050)
- WAG** West-Austria-Gasleitung (DN800)
- SOL** Süd-Ost-Leitung (DN500)
- HAG** Hungaria-Austria-Gasleitung (DN700)
- PW** Penta West (DN700)
- MAB** March-Baumgarten-Leitung
- KIP** Kittsee-Pipeline
- ABG** Austria-Bavaria-Gasline

- Erdgasleitung — in Betrieb — geplant oder in Bau
- Erdgasfeld
- MoBstation (international)    ▣ Abzweigstation
- ▣ Verdichterstation    ▣ Untertage-Erdgasspeiche
- 0 - 340 m
- 340 - 1000 m
- 1000 - 2400 m
- 2400 - 3750 m
- Gletscher

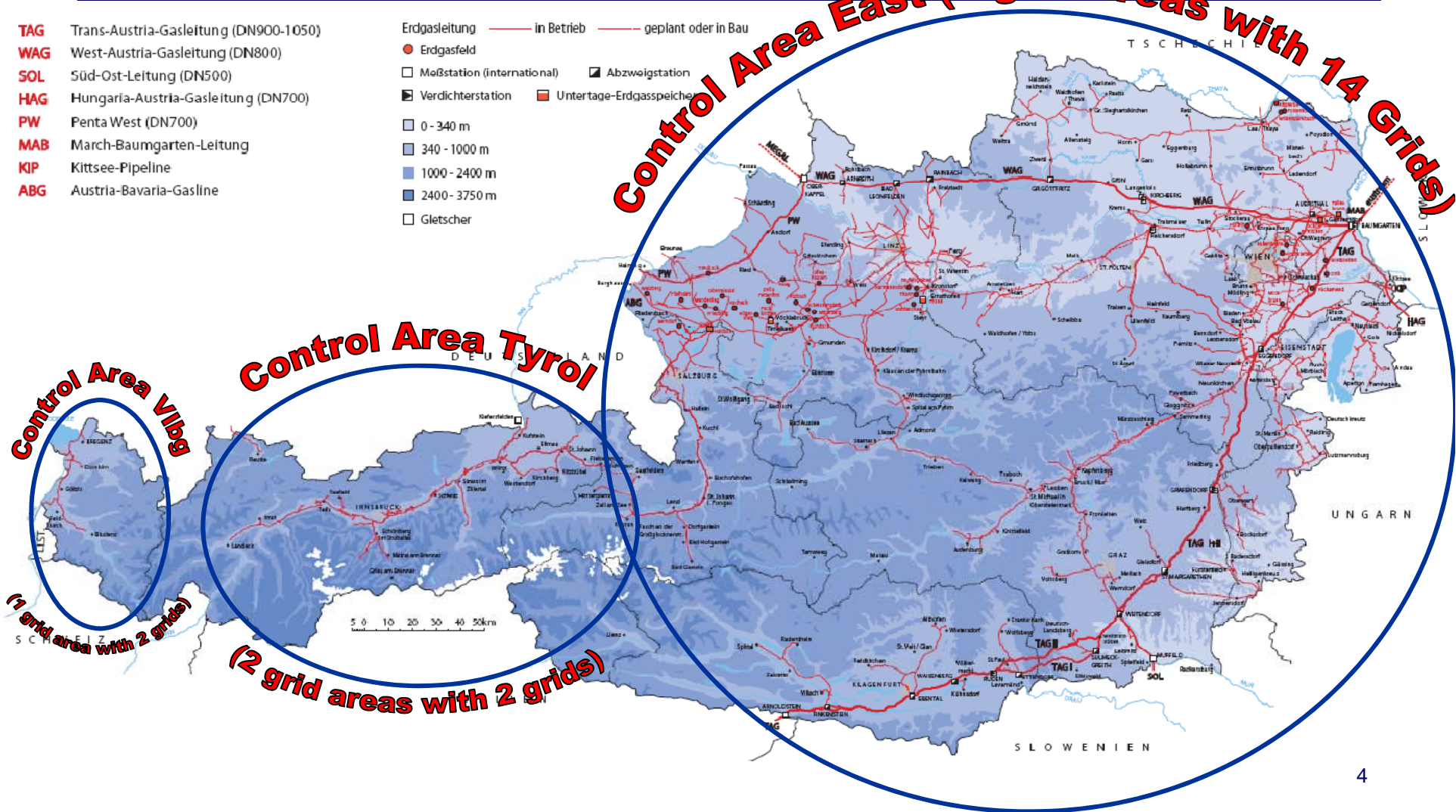
**Control Area East (7 grid areas with 14 Grids)**

**Control Area Tyrol**

**Control Area Vbg**

**(1 grid area with 2 grids)**

**(2 grid areas with 2 grids)**



# Control Area East



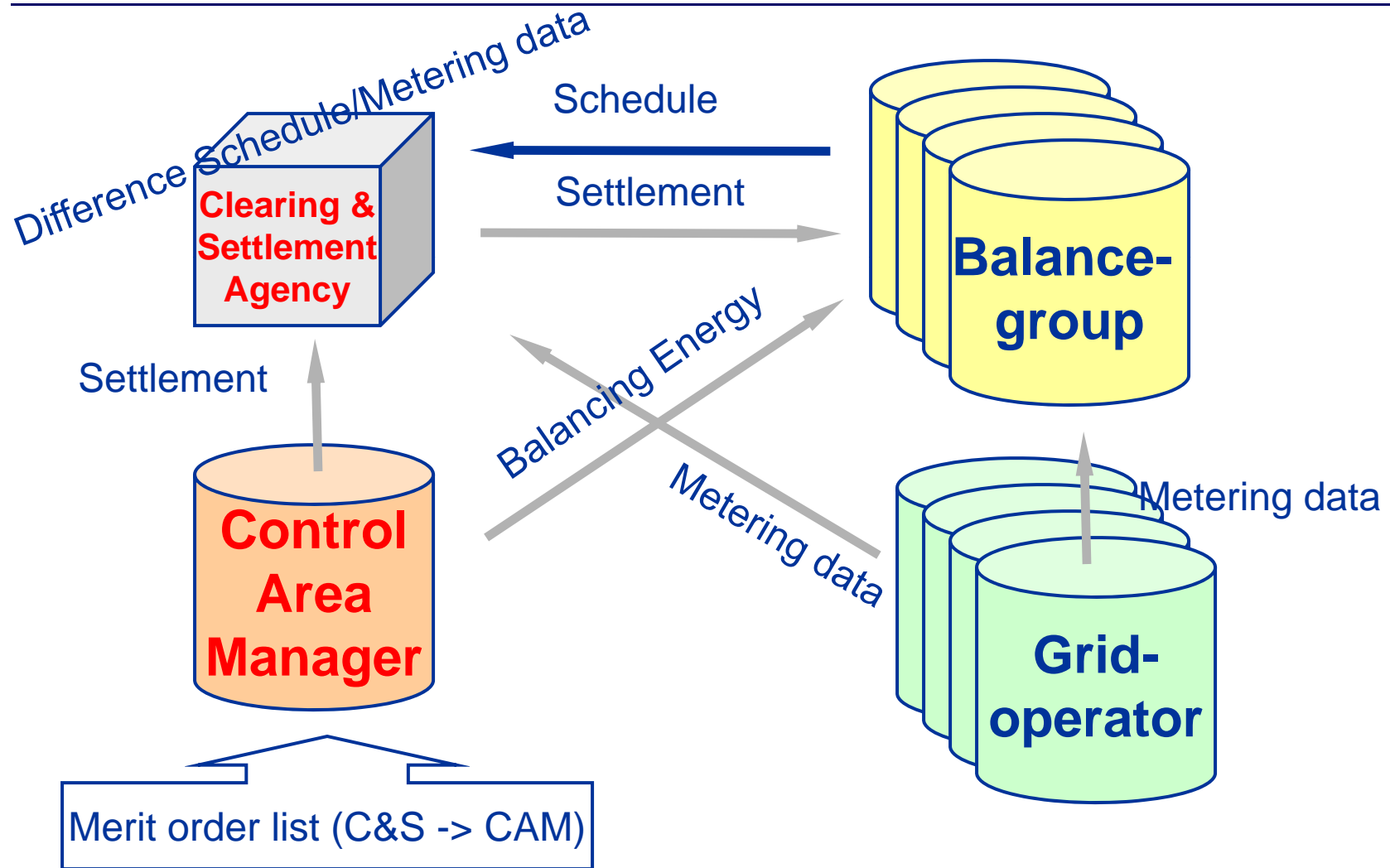
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- Networks of 14 Grid Operators have been combined into one balancing zone - Control Area East
  - Control Area Manager (CAM) AGGM as separate and independent entity responsible for: (in extracts)
    - performance and pressure control; pressure maintenance
    - control of the transmission lines by issuing instructions to TSOs
    - prepare forecasts for summation loads for early detection of imbalances and bottlenecks
    - ensure optimum utilisation of the line capacities in the control area (linepack!)
    - physical balancing of the Control Area – call off gas from the merit order list to obtain (physical) balancing energy
    - publication of data (system utilisation, etc.)

# Balance Group Model – Summary



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# Balancing Energy Market – Framework (Control Area East)



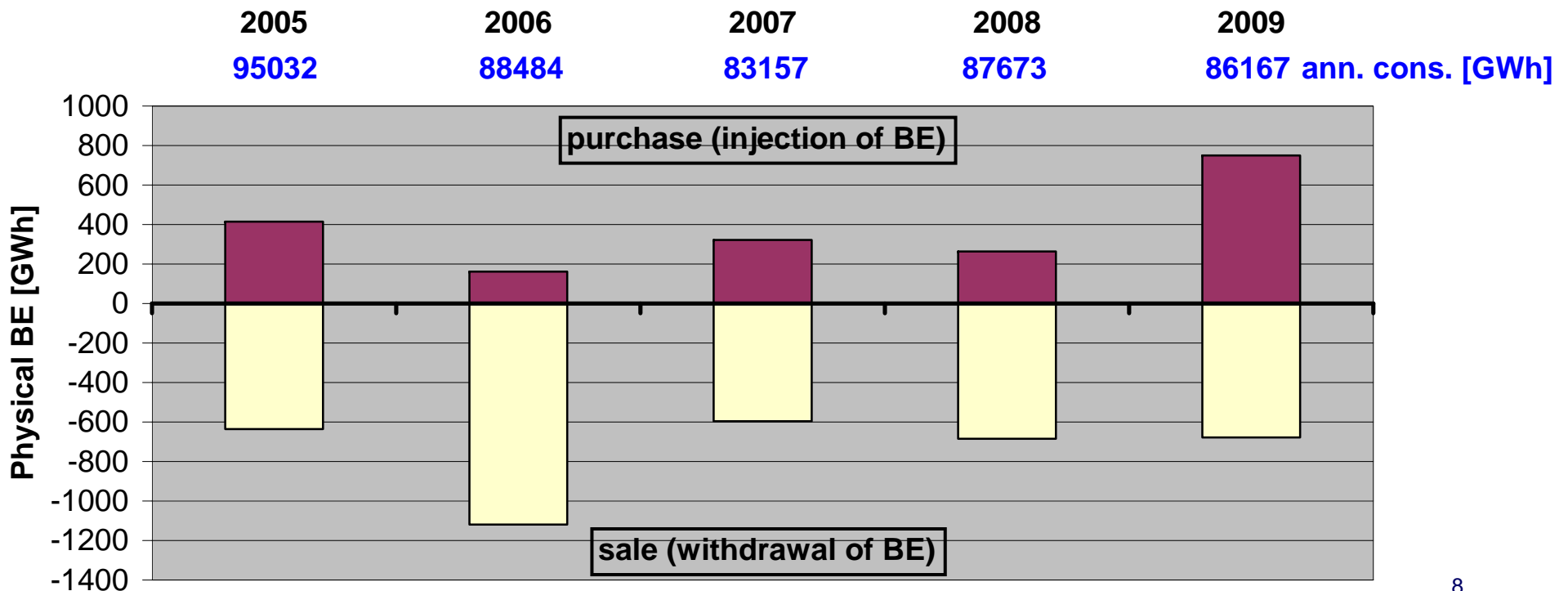
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- **market-based** system (day-ahead market) for procurement of balancing gas since October 2002
- **hourly** balancing period
- Balancing Energy Market organised by Clearing & Settlement Agency (= Balance Group Coordinator ... BGC):
  - internet-based market platform
  - registered balancing energy providers submit bids (volume + bid price) for selling and/or purchasing balancing energy (BE) for each hour of the following day
  - BGC draws up 2 merit order lists (MOL), ranking the bids according to predetermined criteria (primarily price)
  - CAM has to use MOL for calling off (physical) BE, if needed (30 min leadtime!)
  - Market price for balancing energy providers: pay-as-bid
  - clearing price results from weighted balancing energy price
  - separate formation of balancing energy volume and price!

# Balancing Energy Market – Key Facts (Control Area East)



- currently 11 registered buyers/sellers
- Physical Balancing Energy Volumes:
  - in total about 1 to 1.5% of annual consumption in CA East

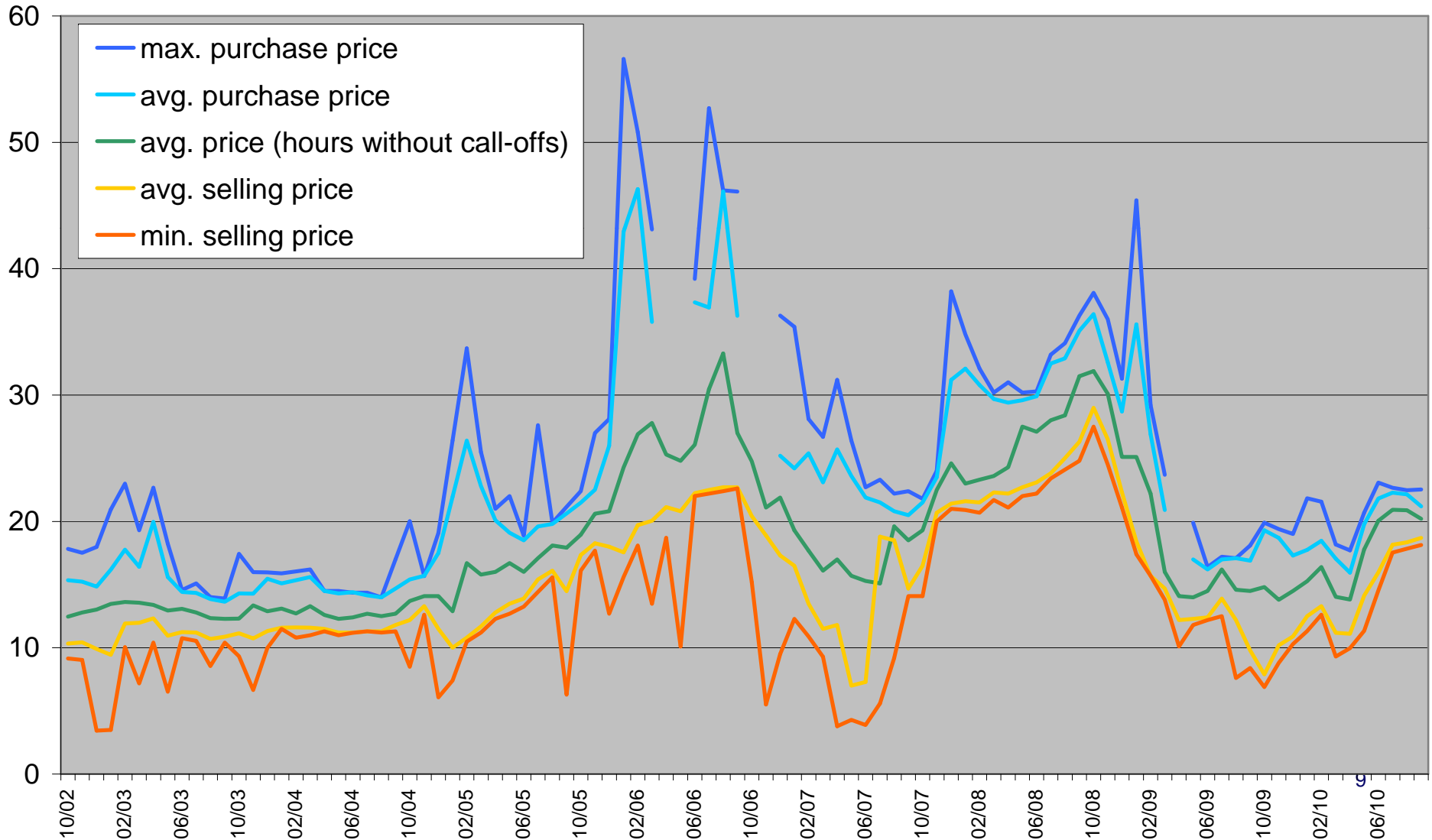


# Balancing Energy Market Price (Control Area East)



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€/MWh



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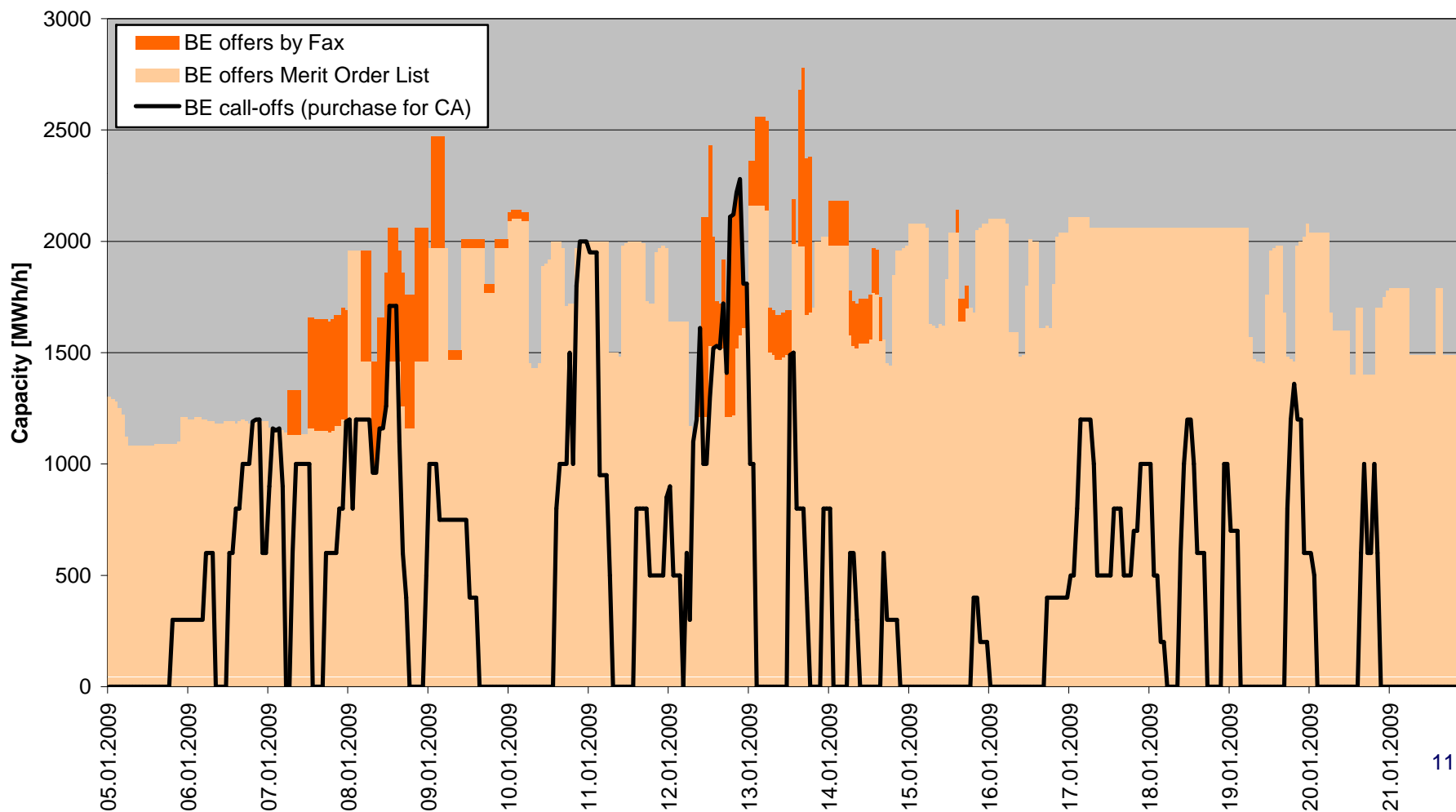
- Austrian Balancing Energy Market – Introduction and Key Facts
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# Balancing Energy: Offers vs. Call-offs



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Physical Balancing Energy (BE): Offers to sell BE vs. physical call-offs by CAM (5 to 21 Jan. 2009)

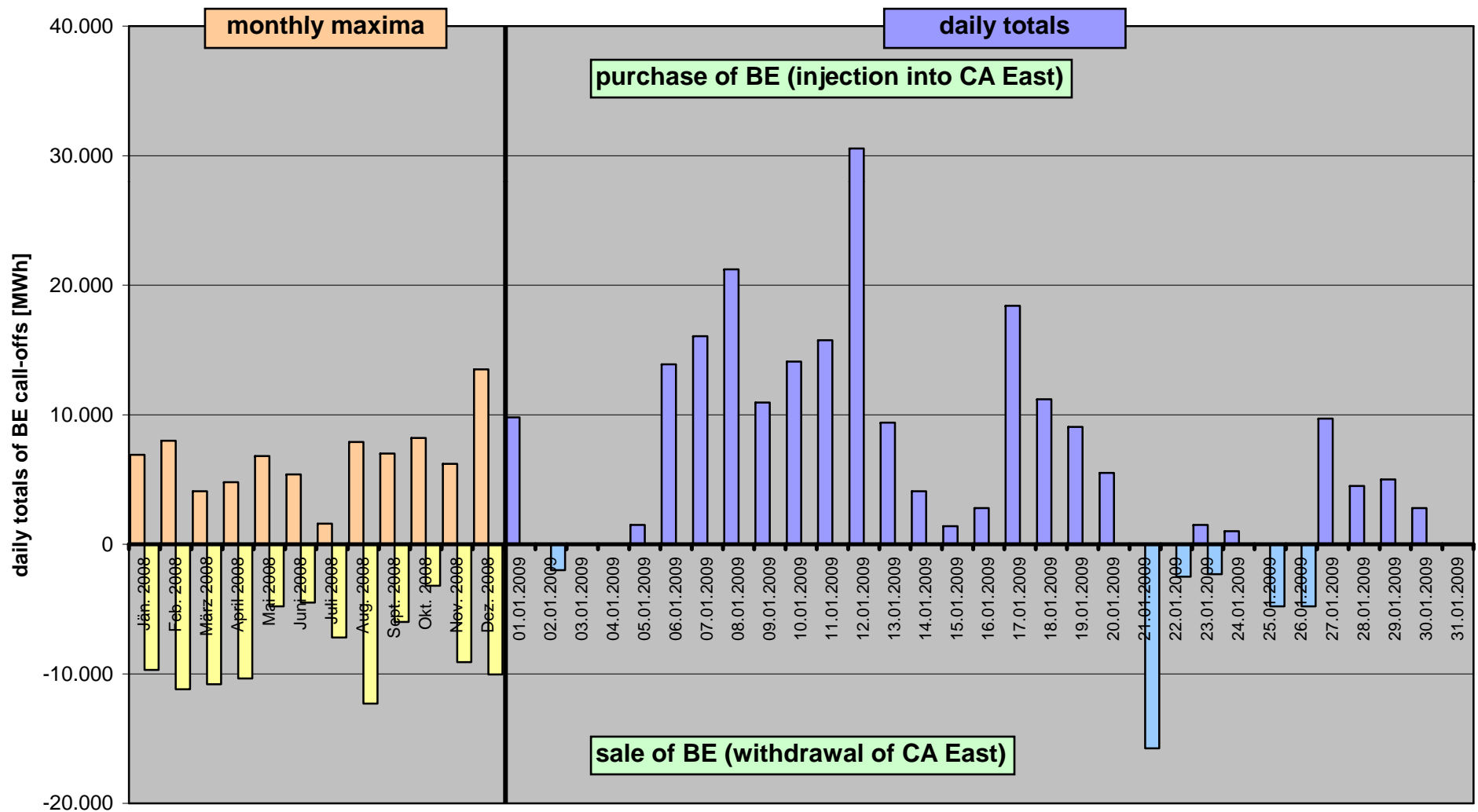


# Balancing Energy Call-offs



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Daily physical Balancing Energy (BE) call-offs by CAM

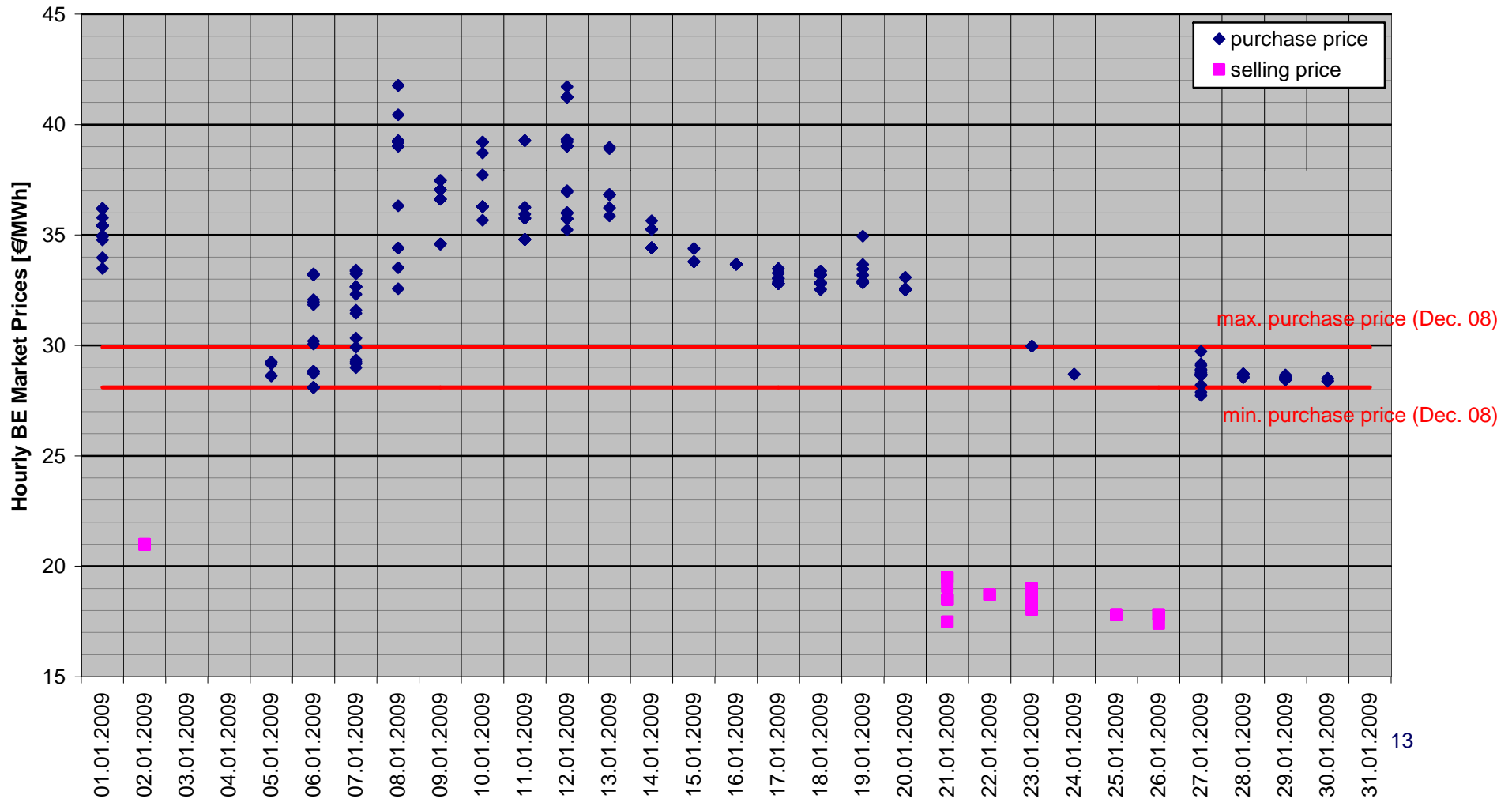


# Balancing Energy Market Price



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Daily price spreads of purchases and sales of physical Balancing Energy (BE)  
from the Merit-Order-List for the Control Area East in January 2009





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- **Market-based approach** for procurement of balancing gas works well.
  - Organised day-ahead market provides **sufficient number of balancing energy providers** and **sufficient liquidity**.
  - **Efficient measures in case of shortages** of balancing energy are in place.  
(cf. January 2009!)
  - **Monitoring** of the Balancing Energy Market by E-Control (publication of monthly reports).



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## Contact

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