

# Energy Trading

**Central & South Eastern Europe 2016**

**Bucharest, June 15-16, 2016**



## Industrial Customer Behavior in 2016 & Competitiveness



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**IEF/Linde Group**

## Agenda

# Industrial Customer Behavior in 2016 & Competitiveness



## I. Energy Market

- **Energy market in EU –Energy Union**
- **Power market in CEE - (Ger, Pl, Cz & Hu) End-user price – Competitiveness**
  - **Physical power -market distortion**
    - CAL Futures
    - DAM
  - **Additional cost elements**
    - **Support/finance of renewables**
    - **Cogeneration/support of heats**
    - **New market design –capacity market (CRM), DSR**
    - **Cross financing (energy-, ecology-, excise-, other taxes)**
    - **CO2/emission reduction**
    - **Efficiency & R&D financing support ?**

## II. Power purchase strategies (energy intensive industrial customers):

- **Long-Short term, OTC – Energy Exchange**
- **Influence of local currency changes to the purchase strategy**
- **Price forecast (end user) for the sub-regions**

## III. New technique for End-user cost/price reduction (red. of balancing energy)

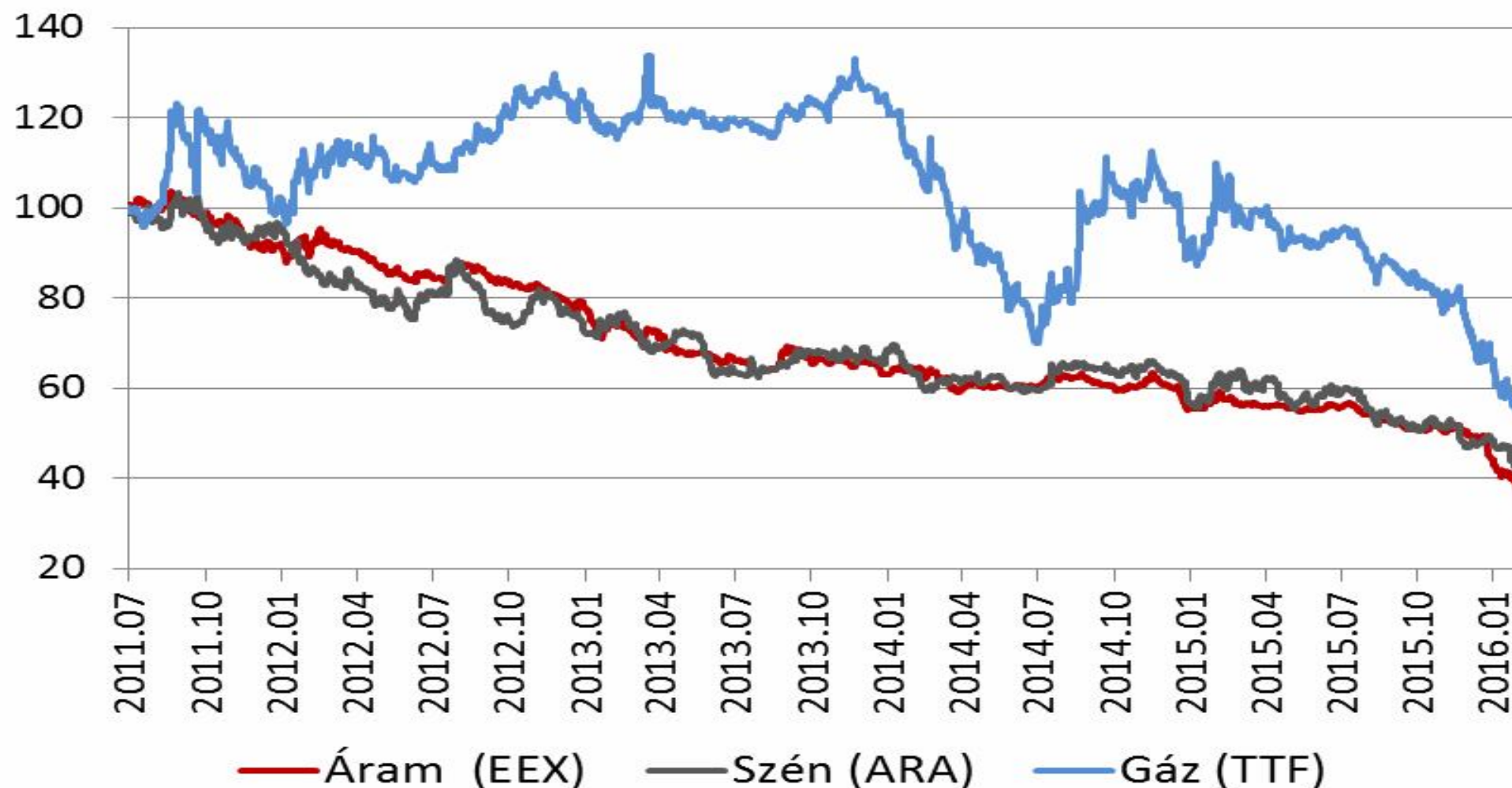
- **Load management**
- **Capacity management**
- **Capacity market**



# Price trends of energies 2011-2016



**Price of Natural Gas (TTF), Power (EEX) and Coal (ARA); 2011=100**

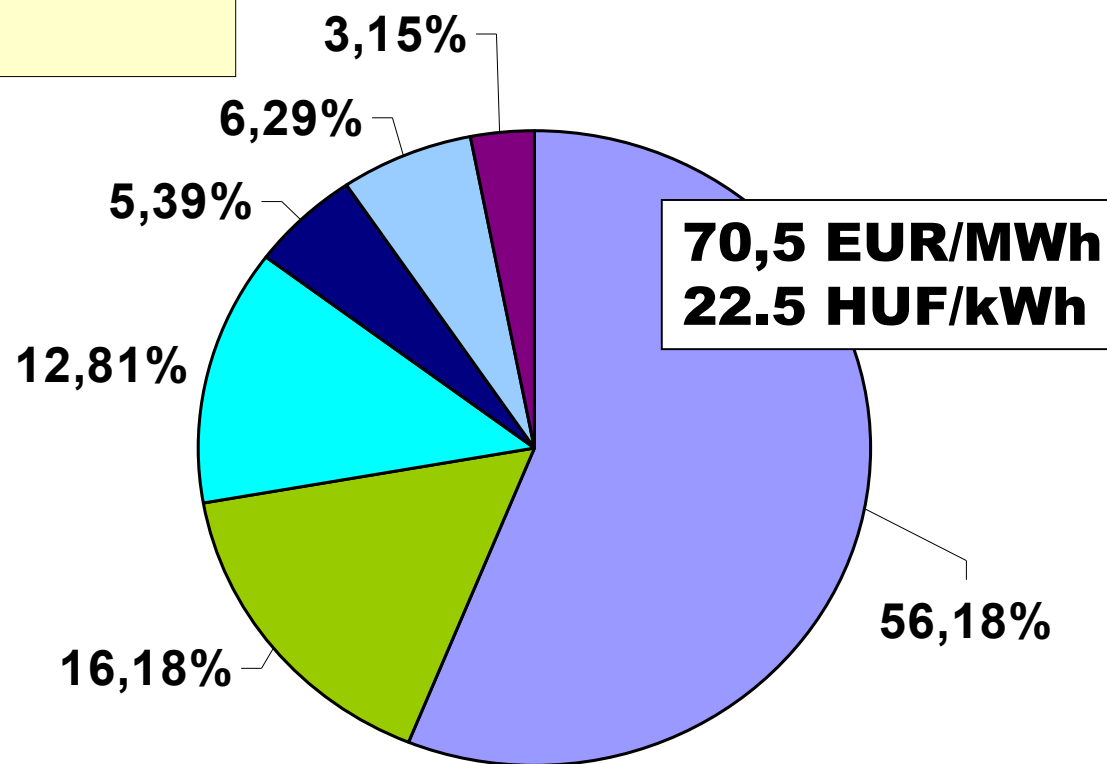


# Typical End-User Power Price Structure for Industry in Hungary in 2016

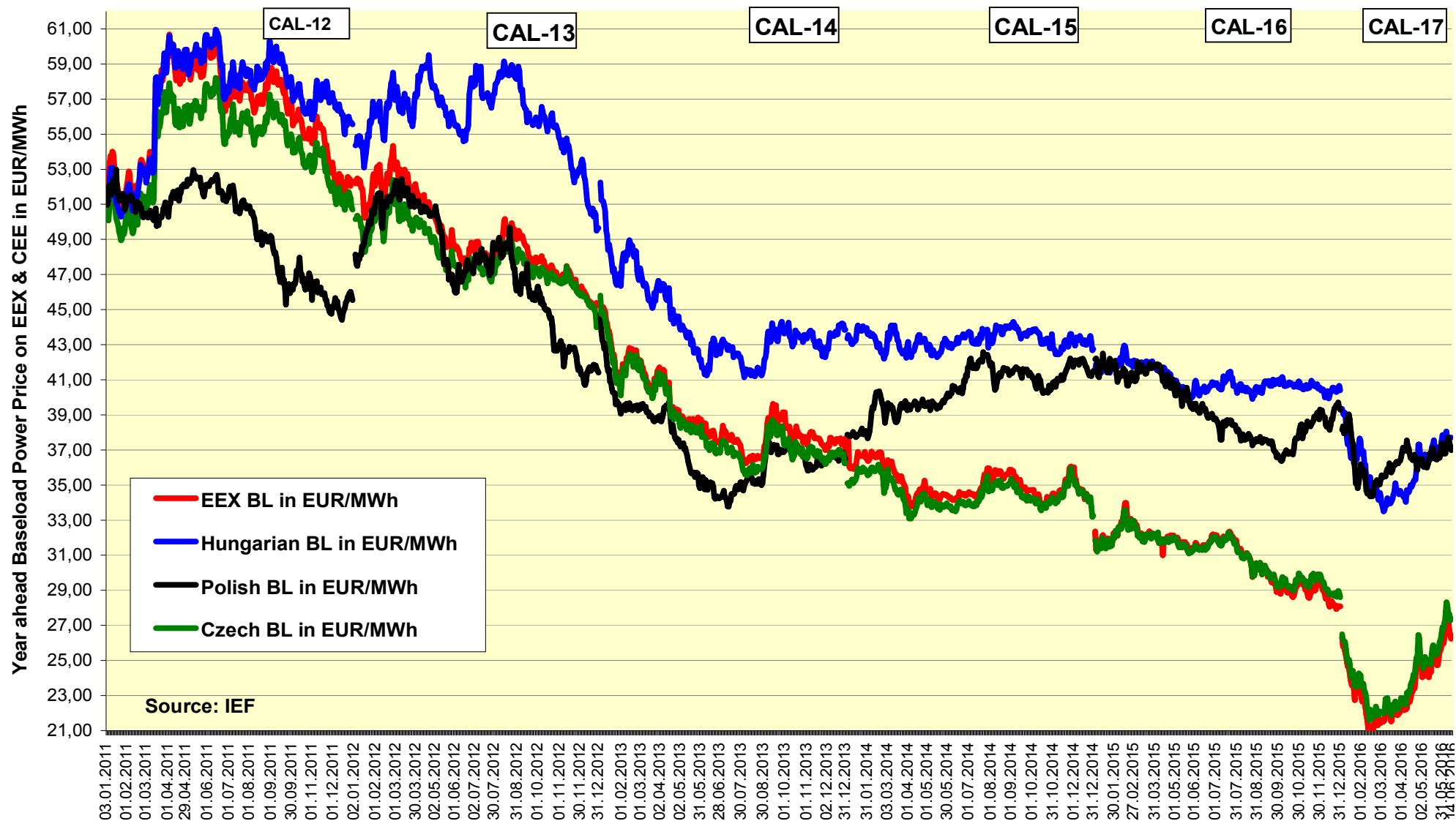


- 1. Energy + Balancing
- 2. Support of Renewables (+Cogen)
- 3. a Transm.+Distribution (TSO+DSO)
- 3. b Capacity cost
- 3. c Local distribution/transf. to MV
- 4. Direct Taxes (w/o VAT)

**Hungary  
2016**

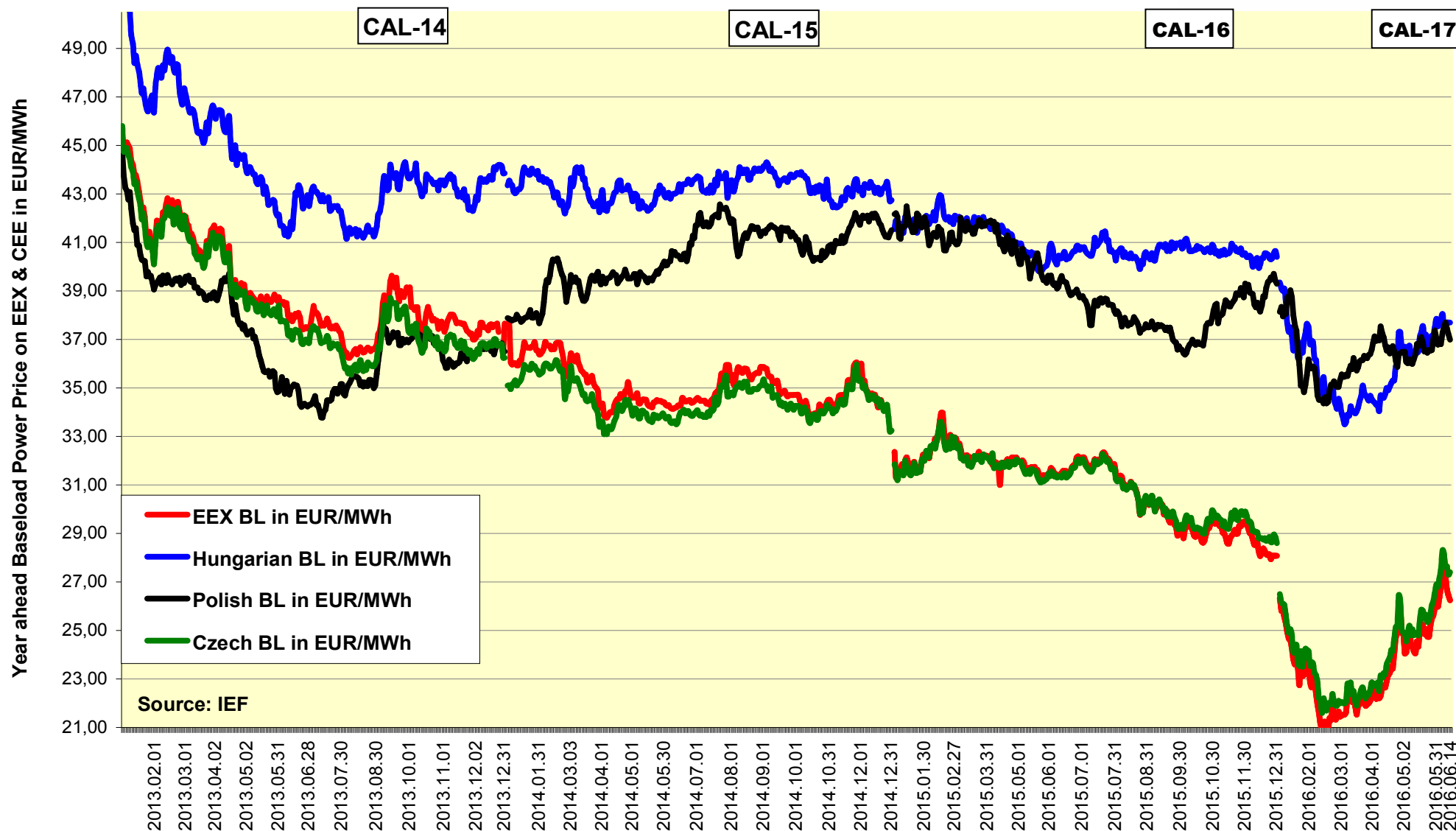


# Year ahead Baseload Power Prices for 2012 - 2017 on the EEX & in Poland, Czech R. and Hungary in 2011 - 2016

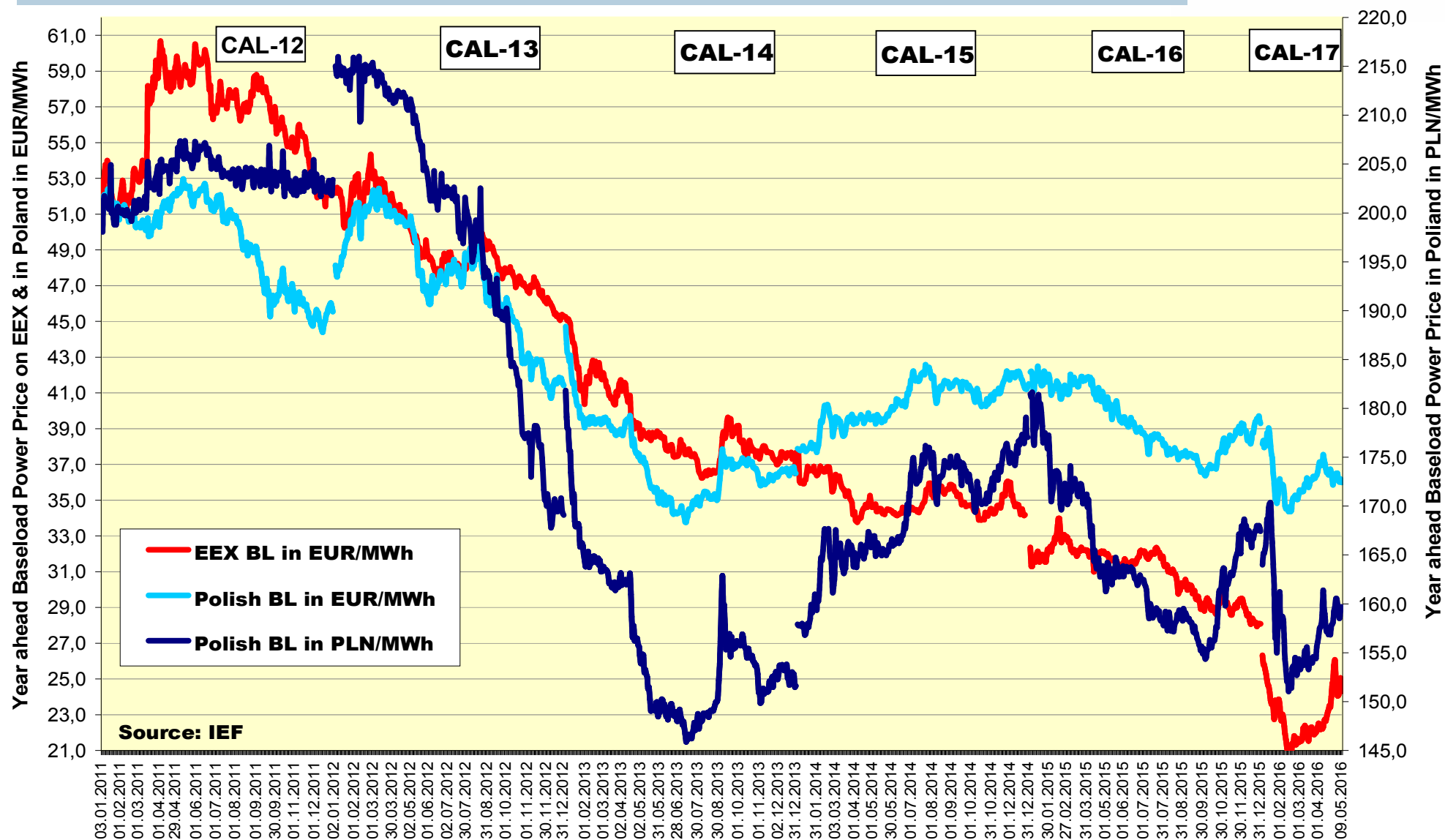


Source: IEF

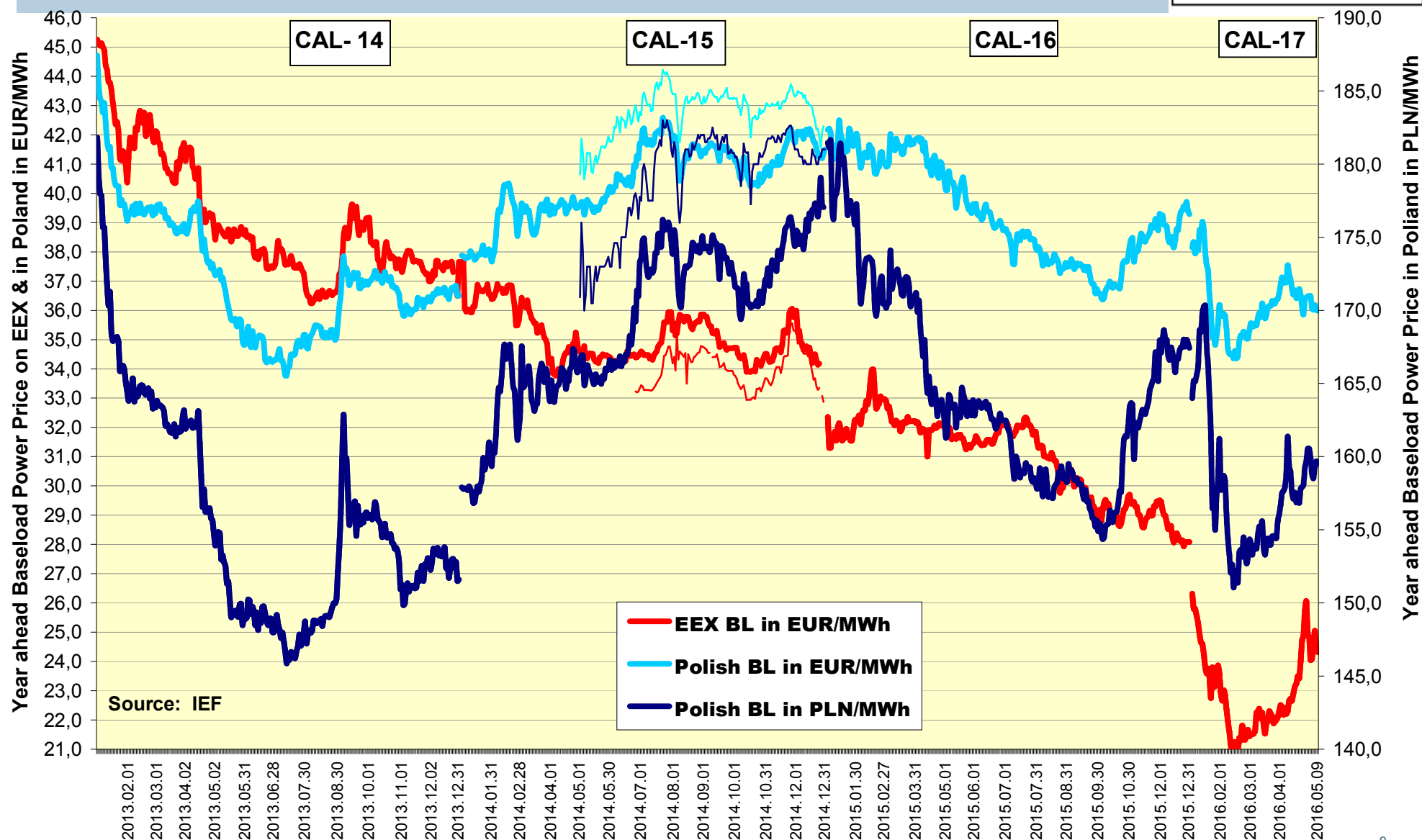
# Year ahead Baseload Power Prices for 2015 - 2017 on the EEX & in Poland, Czech R. and Hungary in 2014 - 2016



# Year ahead Baseload Power Prices for 2012-2017 on the EEX & in Poland in EUR and PLZ in 2011- 2016

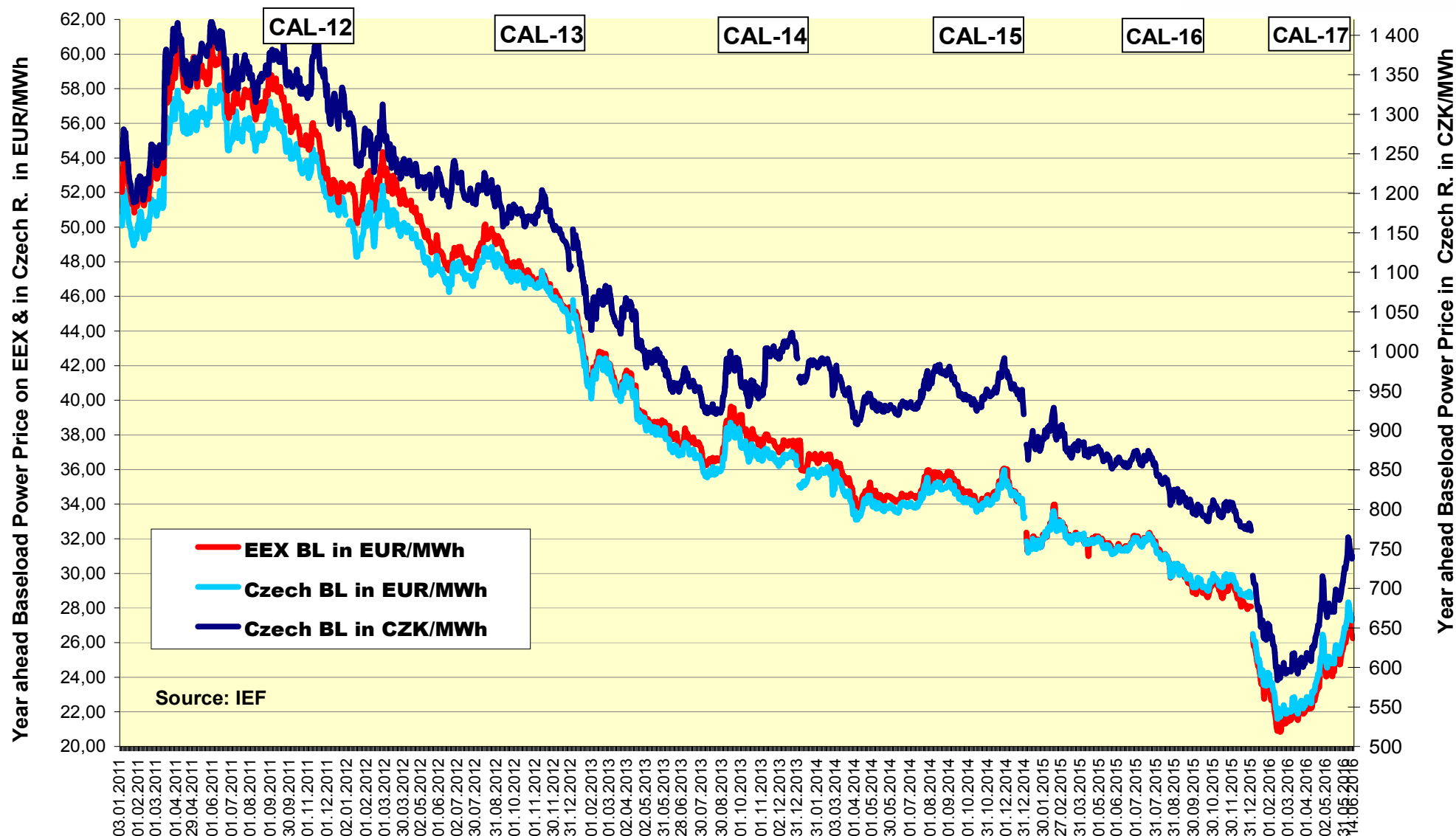


# Year ahead Baseload Power Prices for 2014-2017 on the EEX & in Poland in EUR and PLZ in 2013- 2016

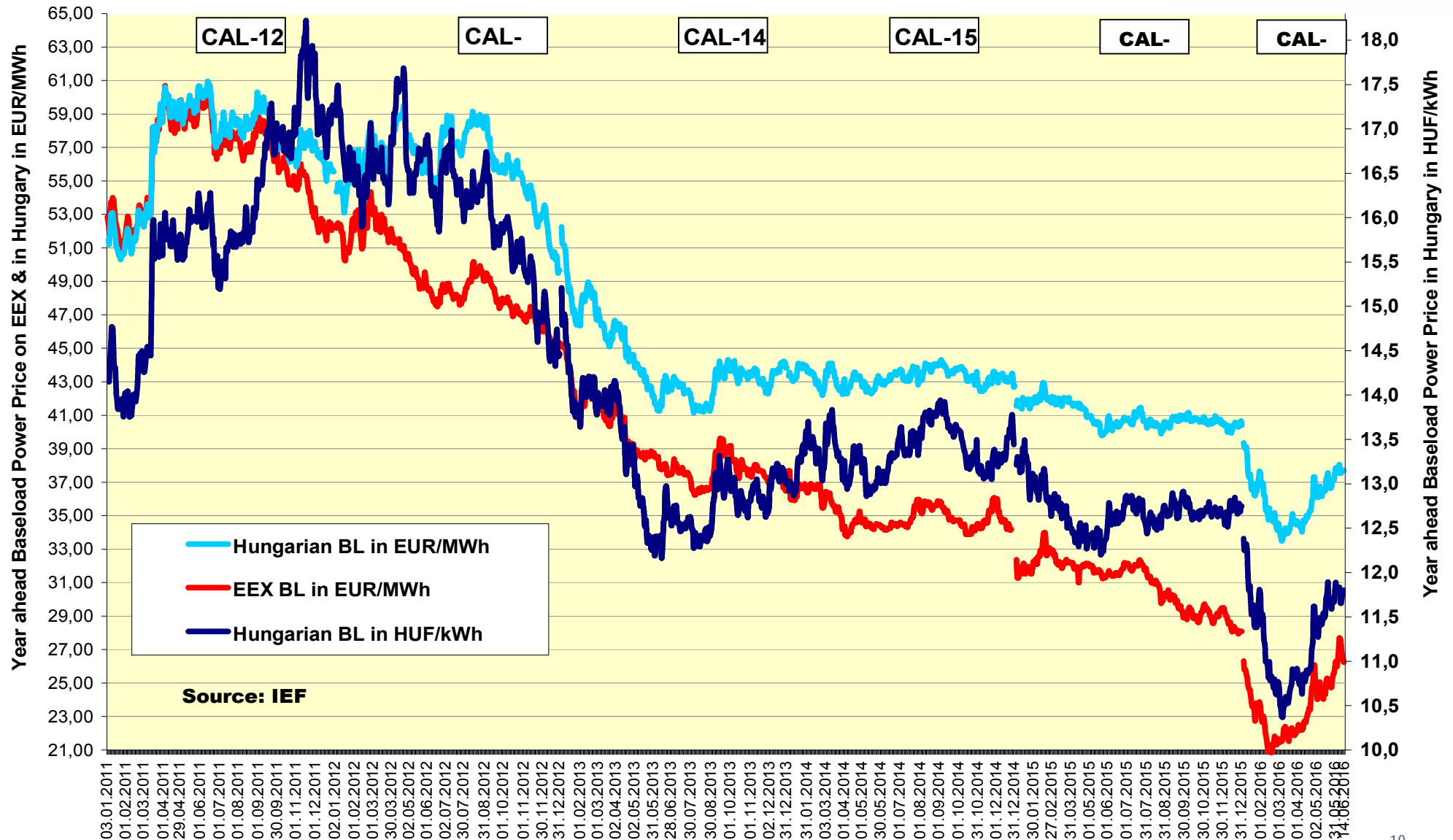




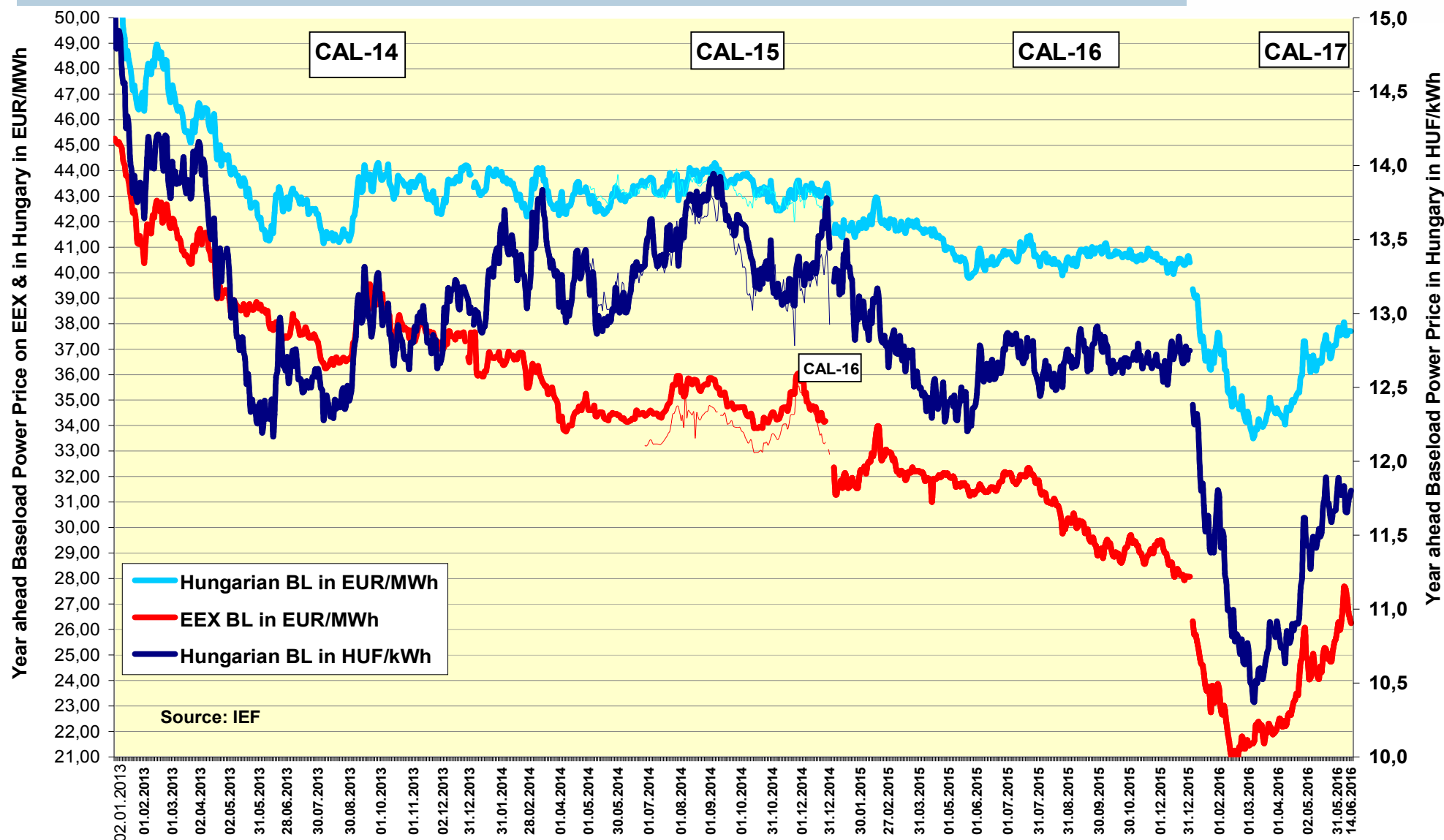
# Year ahead Baseload Power Prices for 2012-2017 on the EEX & in Czech R. in EUR & CZK in 2011- 2016



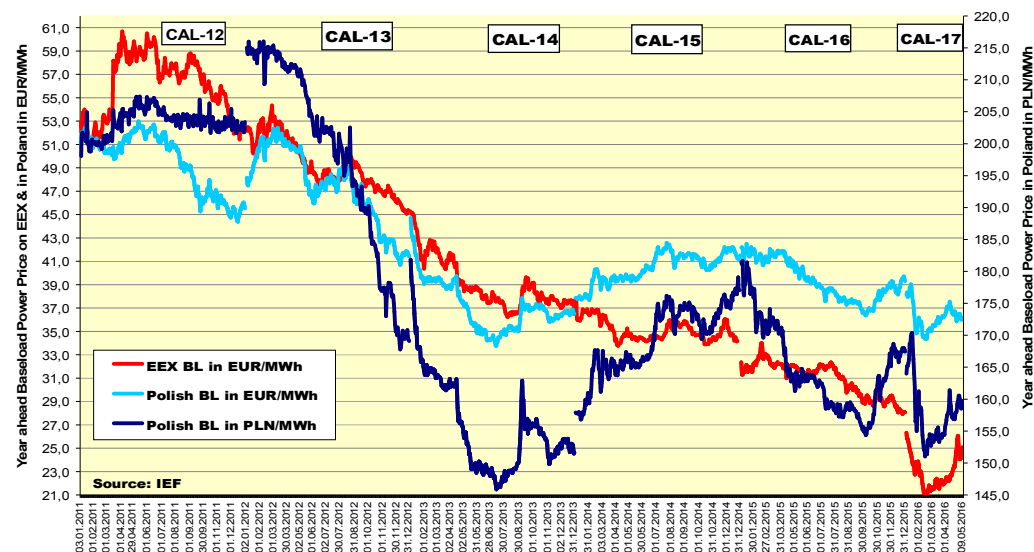
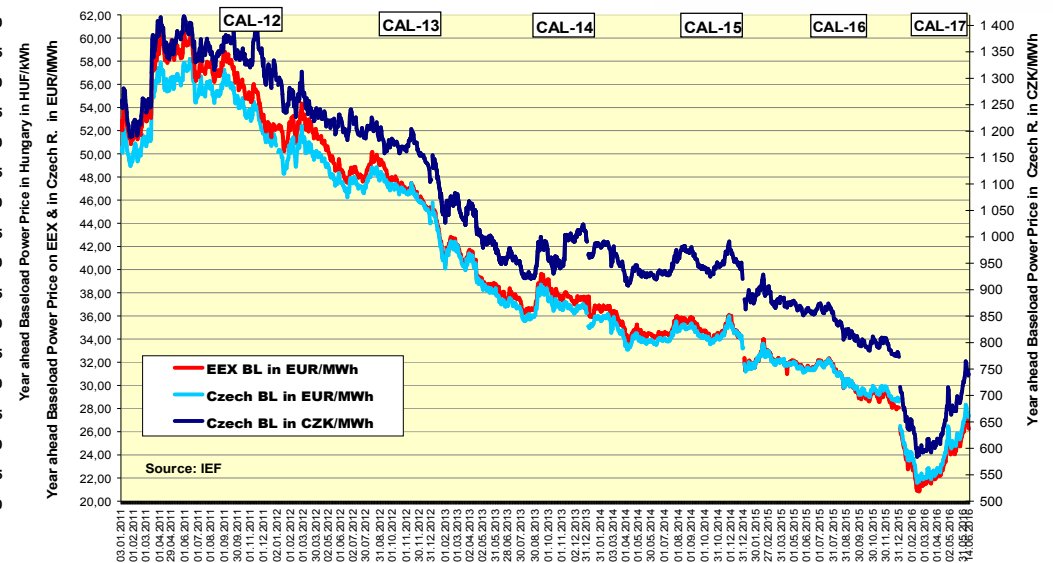
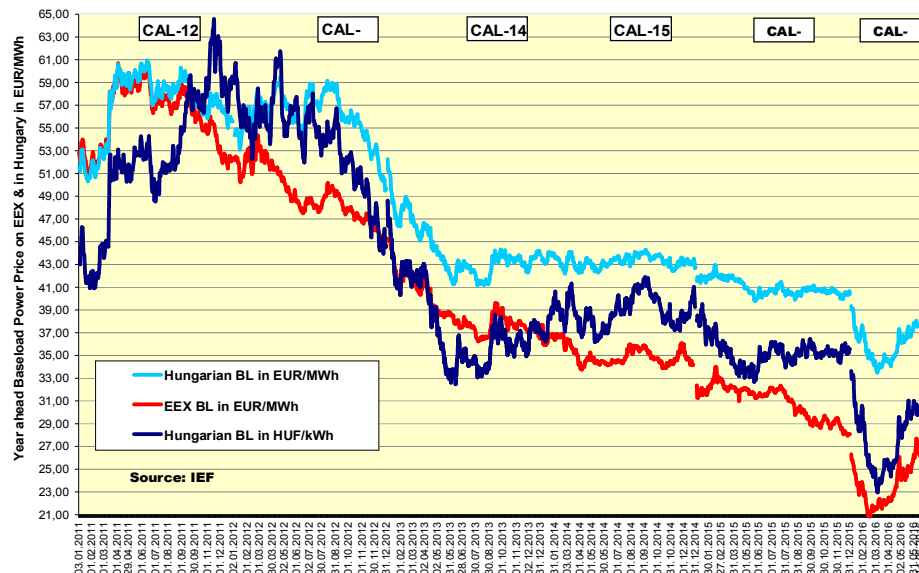
# Year ahead Baseload Power Prices for 2012-2017 on the EEX & in Hungary in EUR & HUF in 2011- 2016



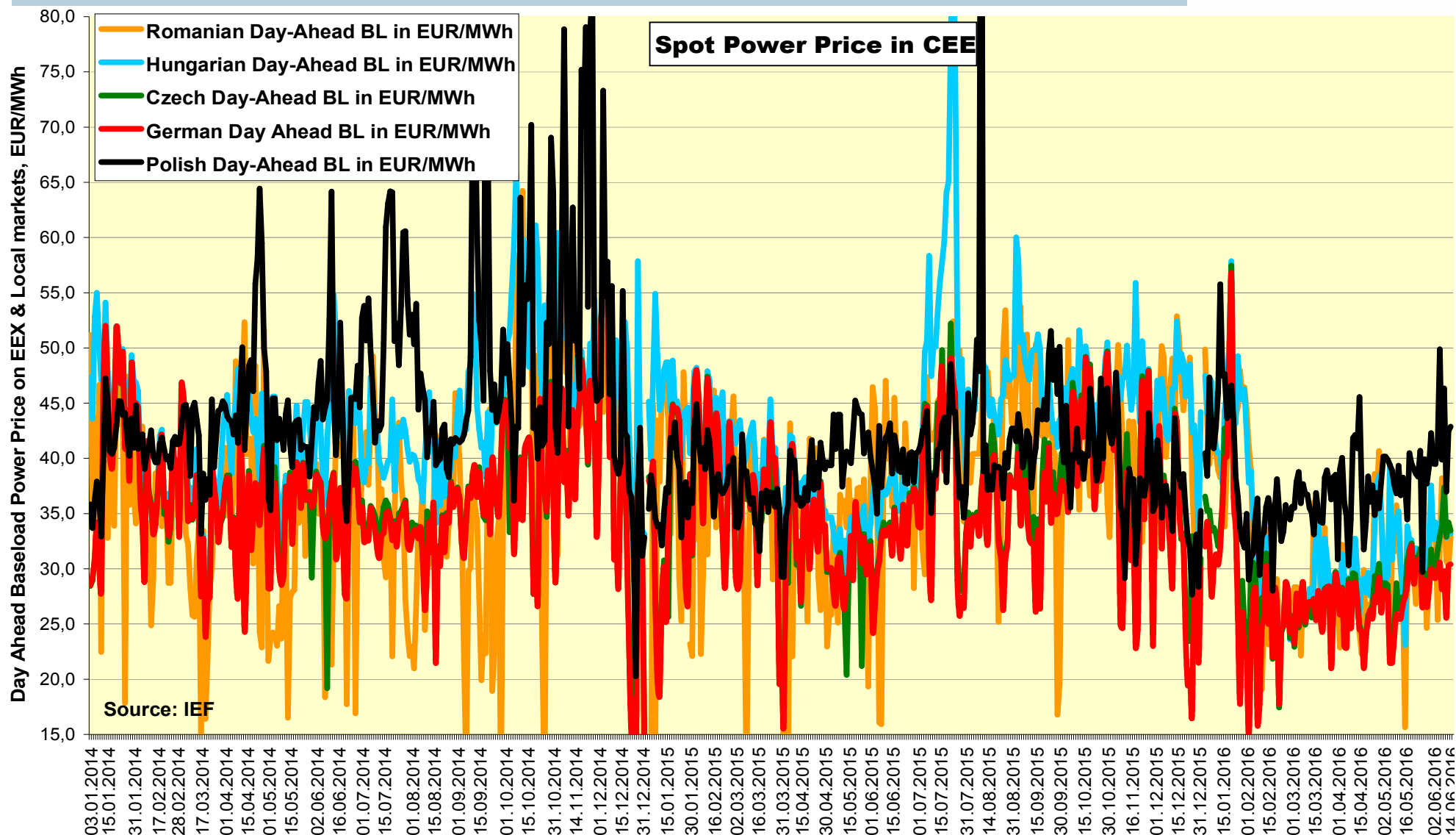
# Year ahead Baseload Power Prices for 2014-2017 on the EEX & in Hungary in EUR and HUF in 2013- 2016



# Comparison Year ahead Baseload Power Prices for 2012-2017 on the EEX & in Hungary, Czech R. and Poland in EUR & local currencies in 2011- 2016

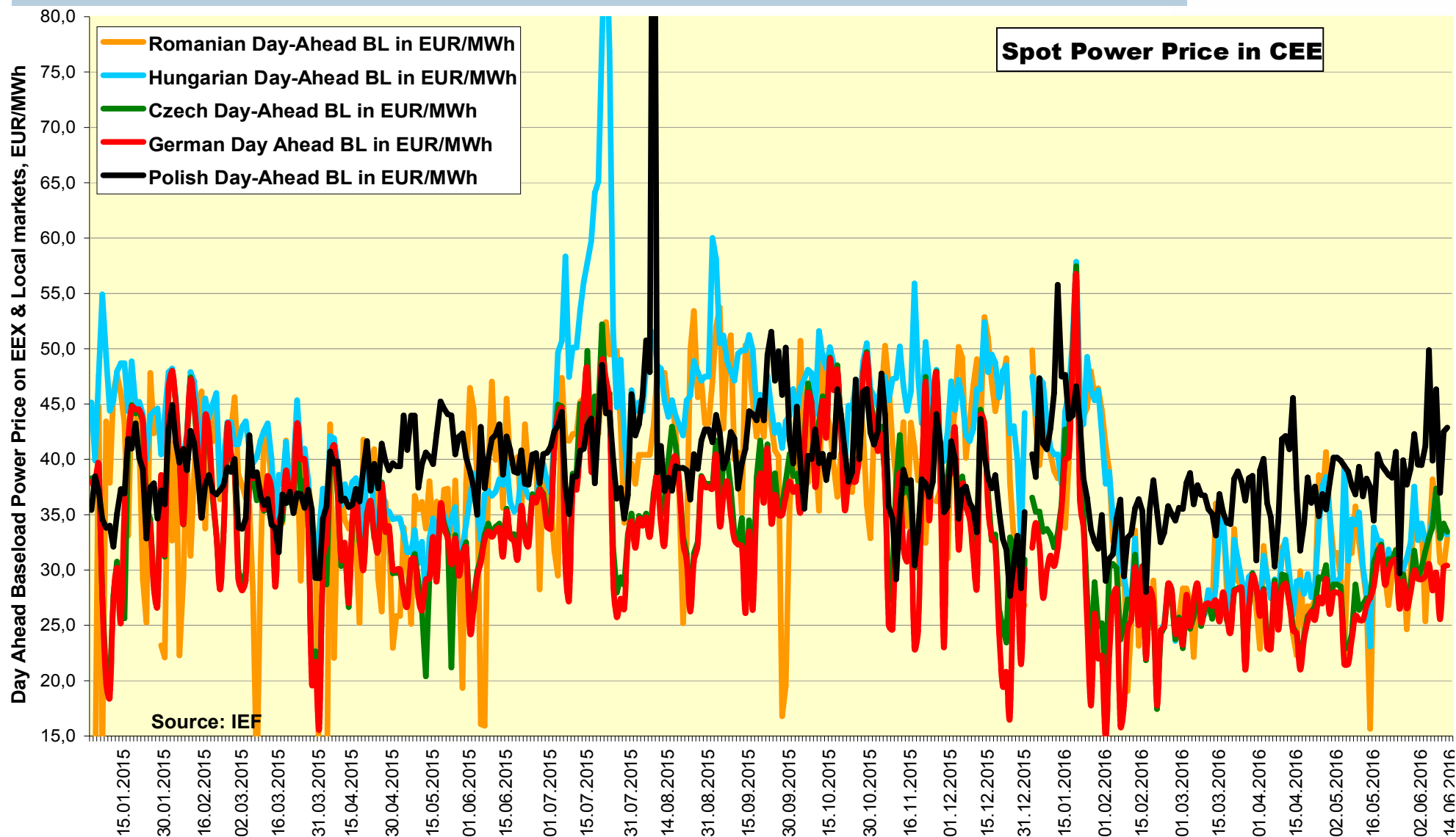


# Day-ahead Base Load Power Prices on the CEE & German Market in EUR in 2014 - 2016

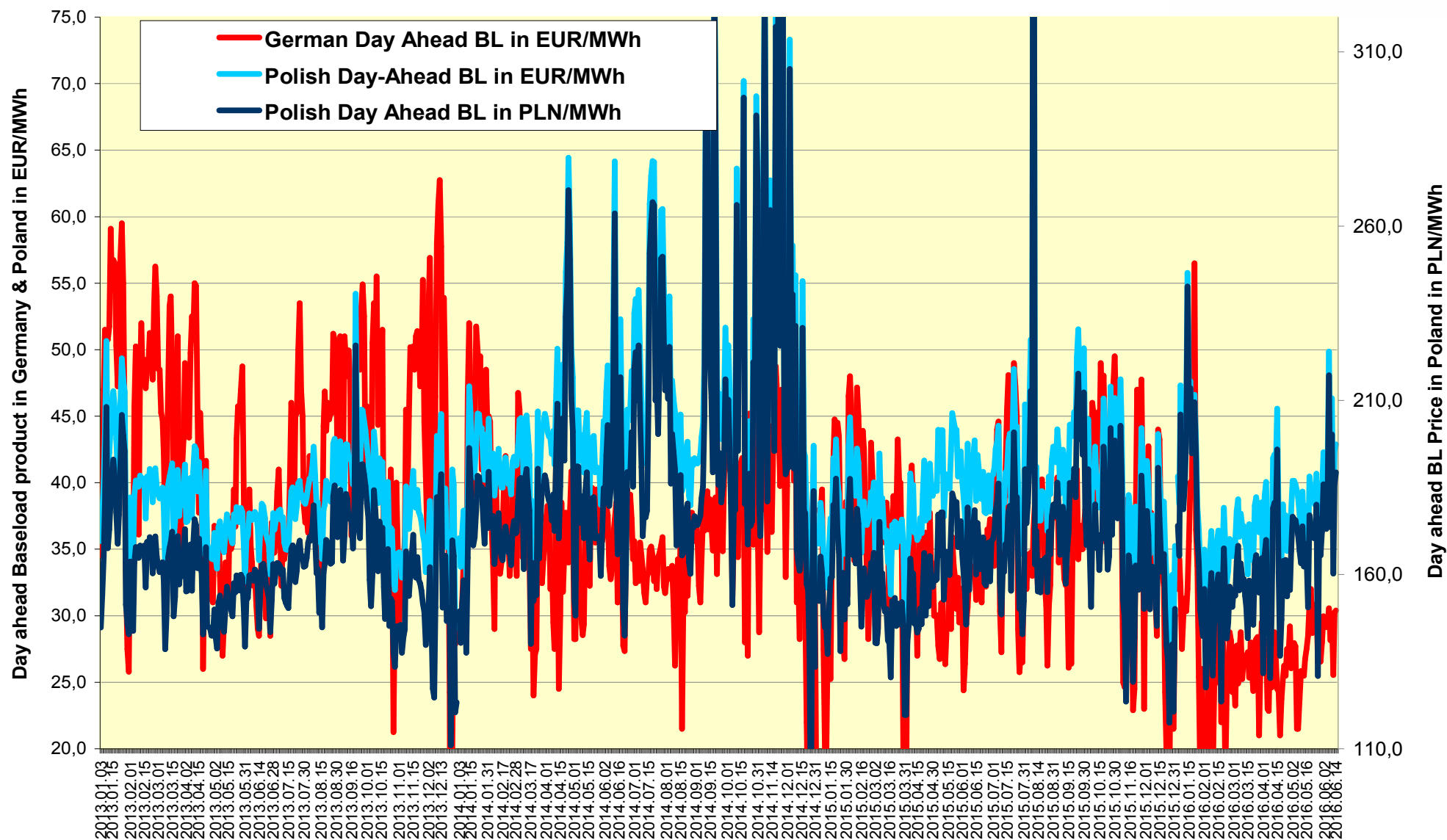




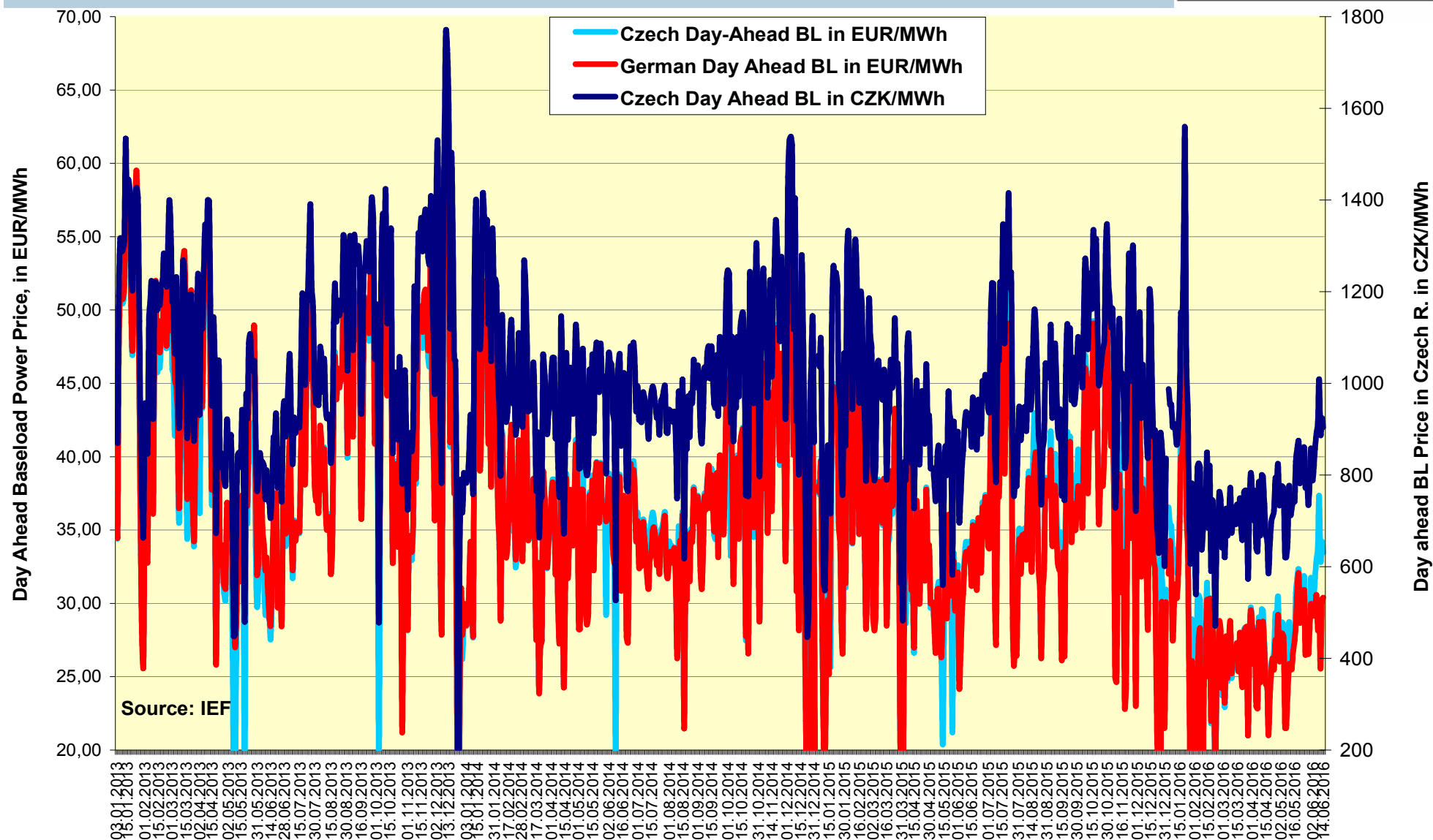
# Day-ahead Base Load Power Prices on the CEE & German Market in EUR in 2015 - 2016



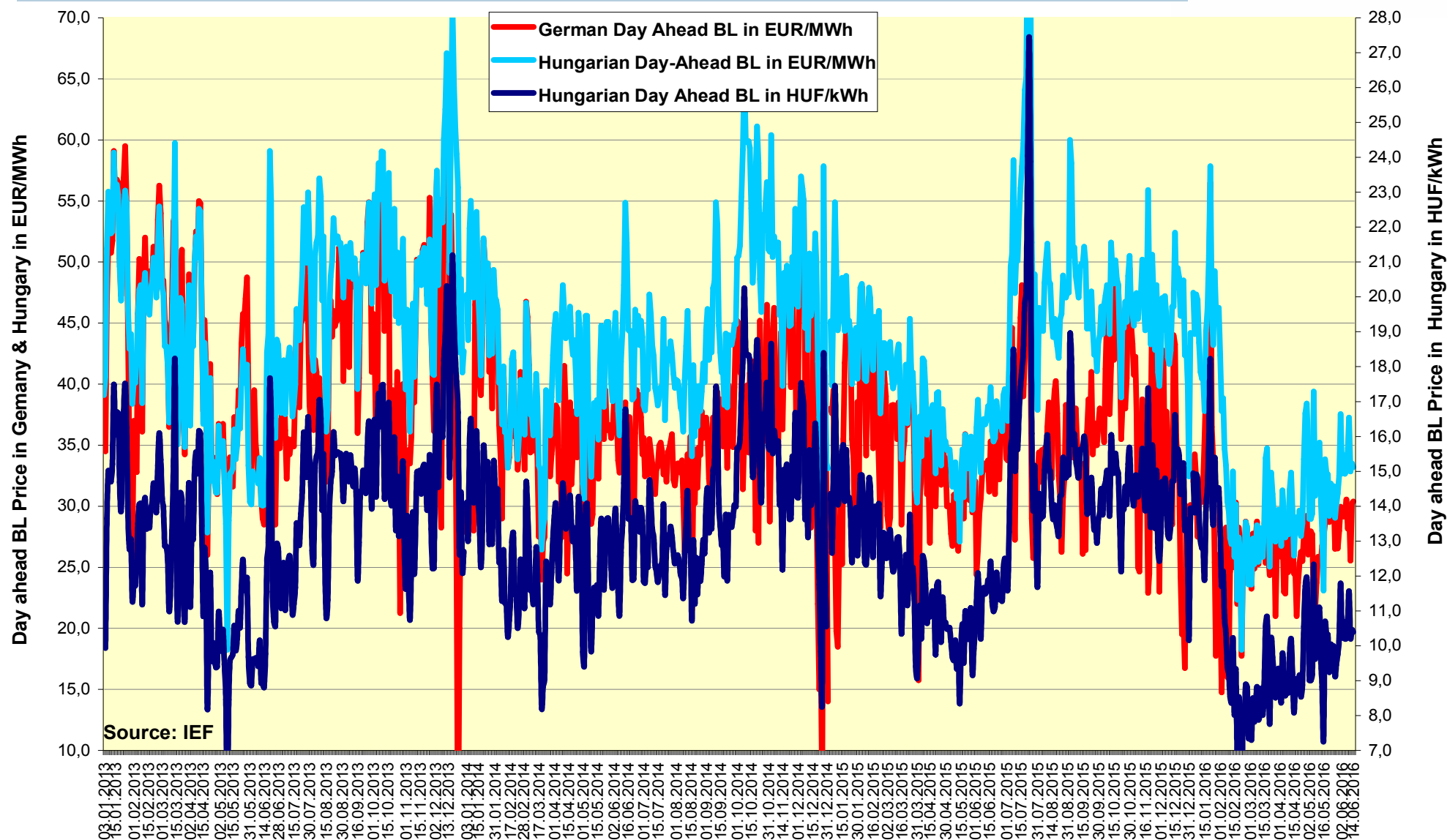
# Day ahead Base Load Power Price on the Polish & German market in EUR & PLN in 2013-16



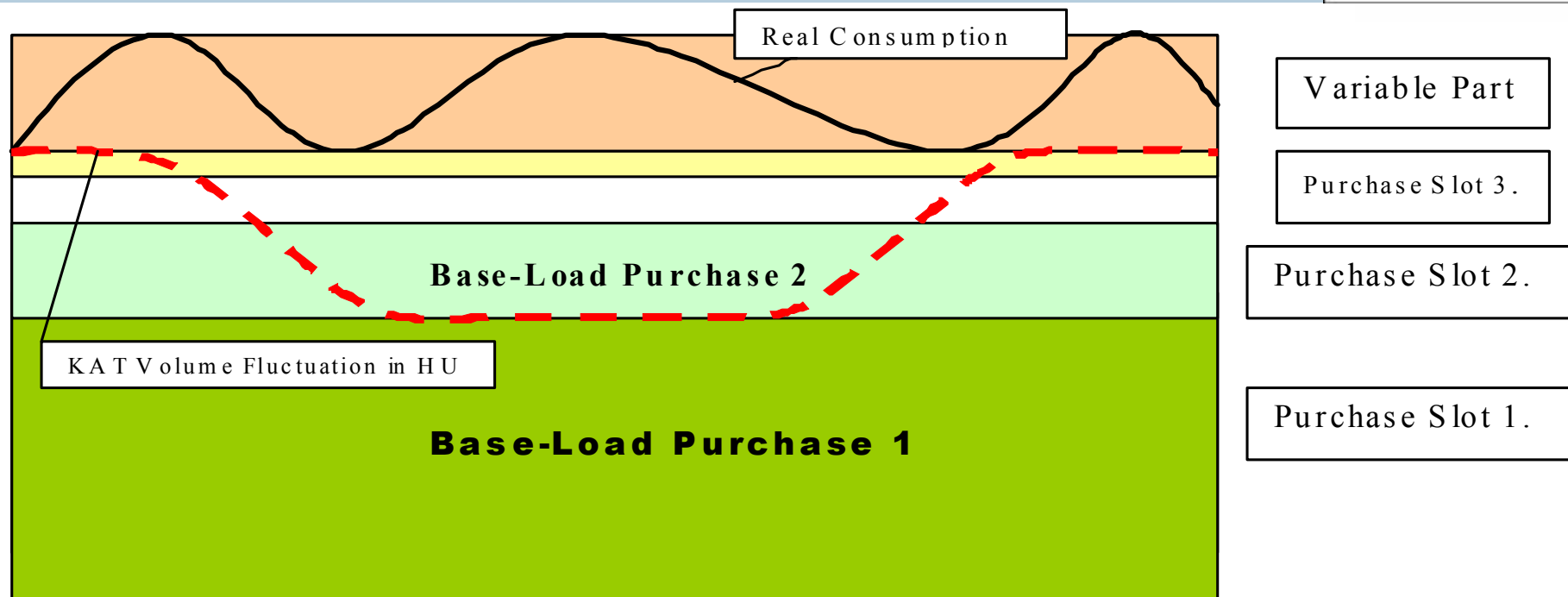
# Day ahead Base Load Power Price on the Czech & German market in EUR & CZK in 2013-16



# DAM Base Load Power Price on the Hungarian & German market in EUR & HUF in 2013-16



# One of the Most Preferable Purchase Methods in Recession for Big Industrial Customers



## Version I

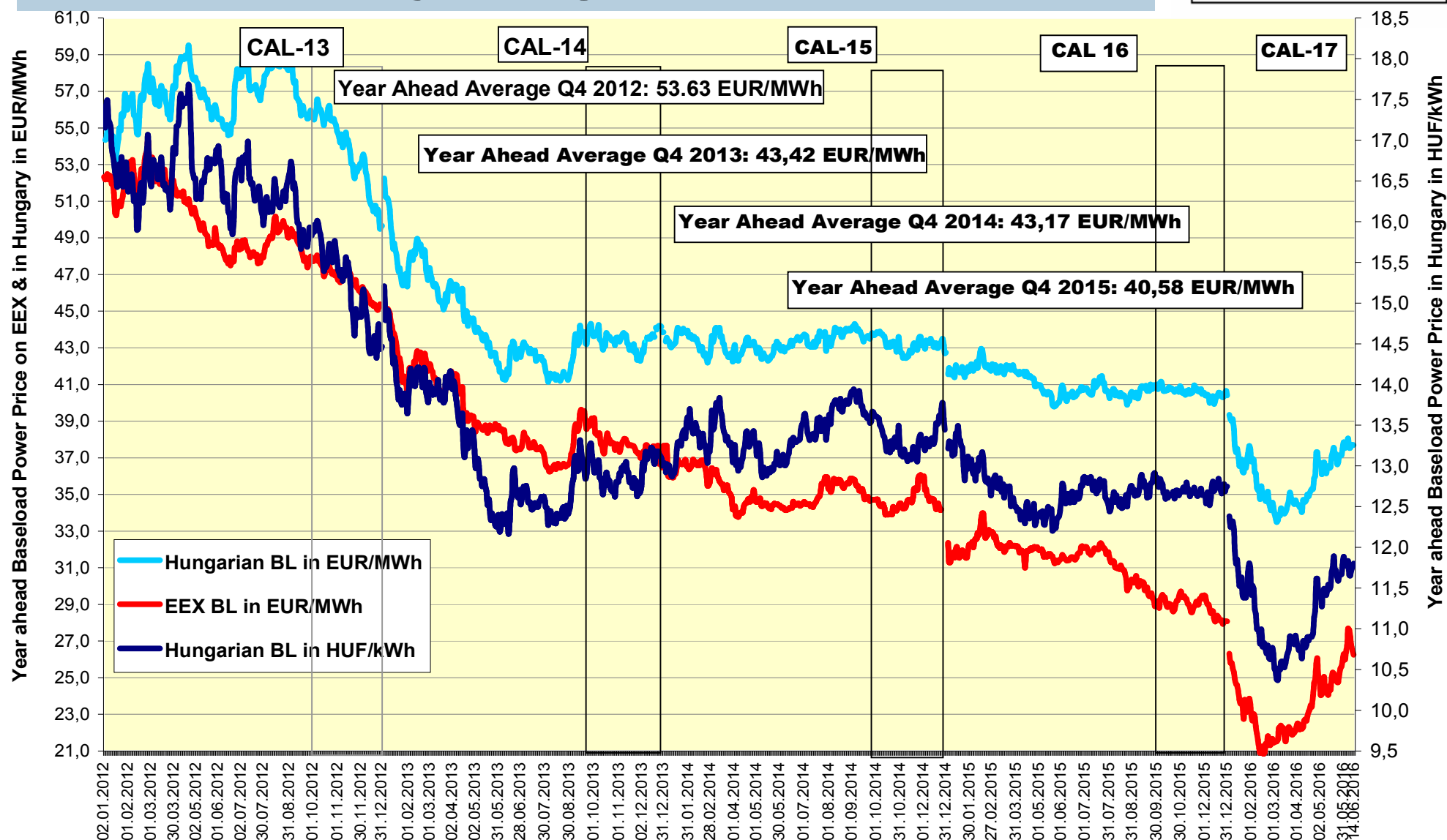
**One trader offer for the full demand**

## Version II

**Diversification of purchase by base-load slots in different time of year**

**Trader offer for Variable part & for some slots**

# Year ahead Baseload Power Prices for 2012-2016 on the EEX & in Hungary in EUR & HUF in 2011-2015 and Quaterly Average Prices

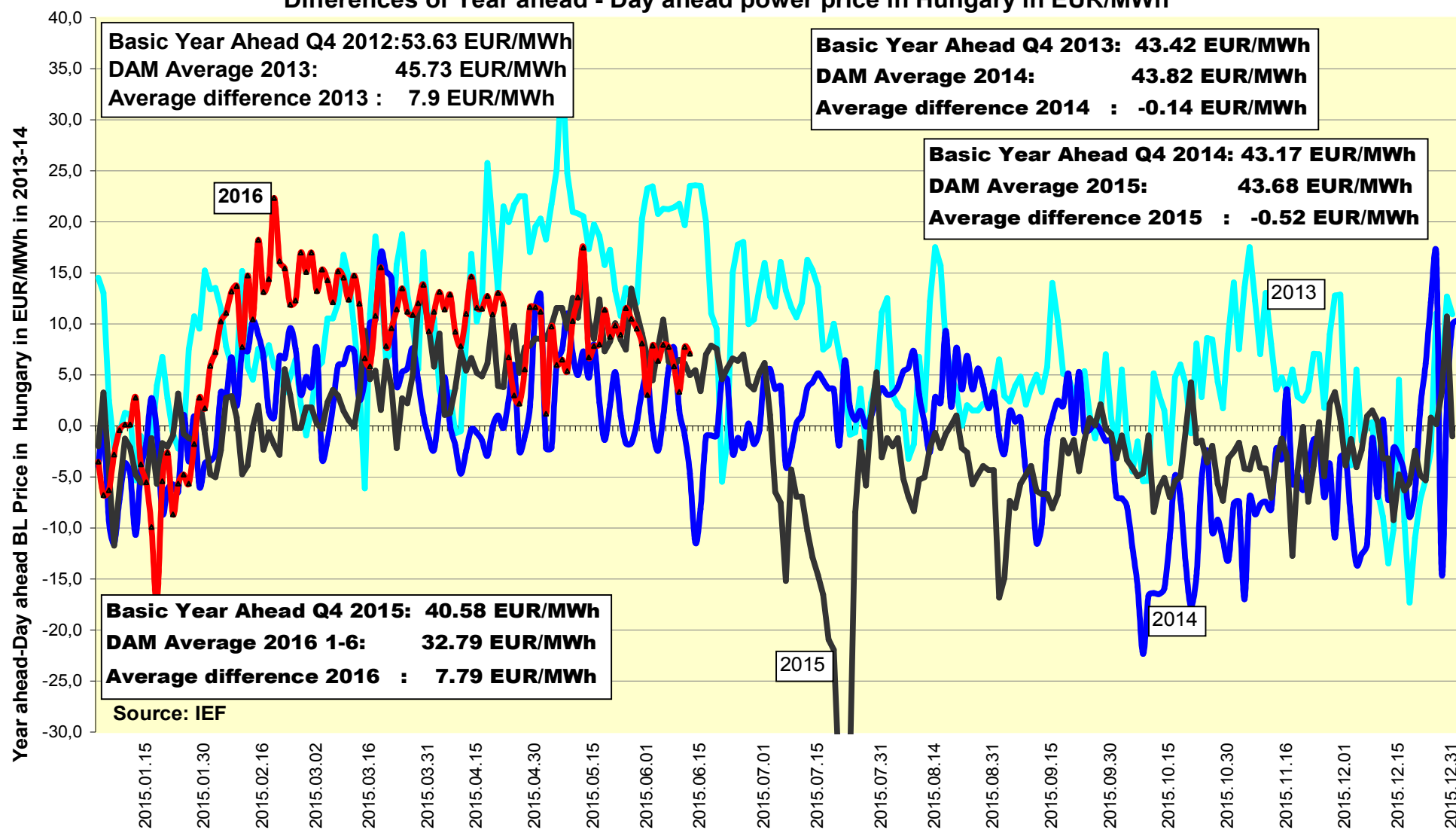




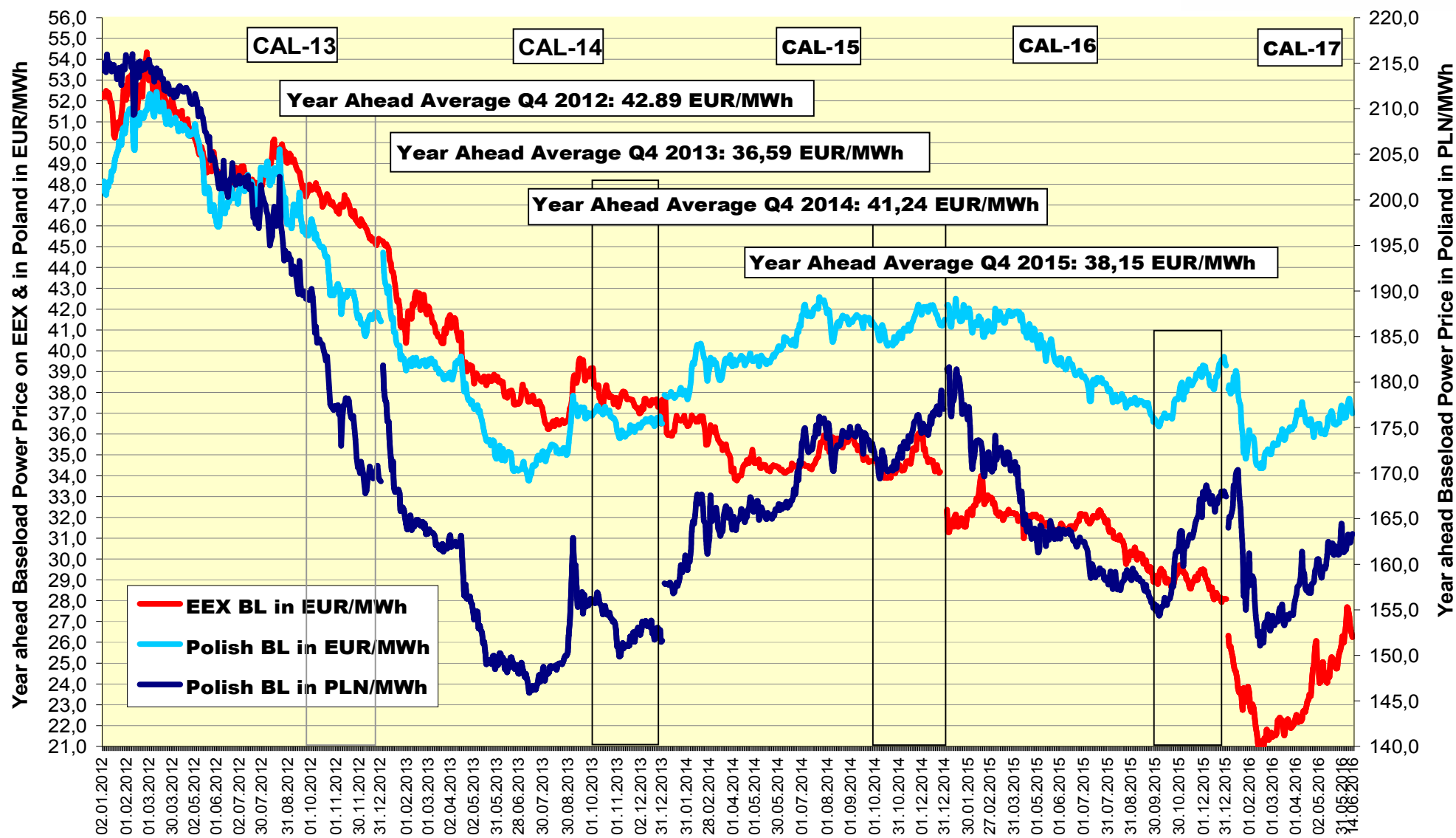
# Change of energy (power) price differences Year ahead and Day ahead products in Hungary in EUR/MWh in 2013-2015



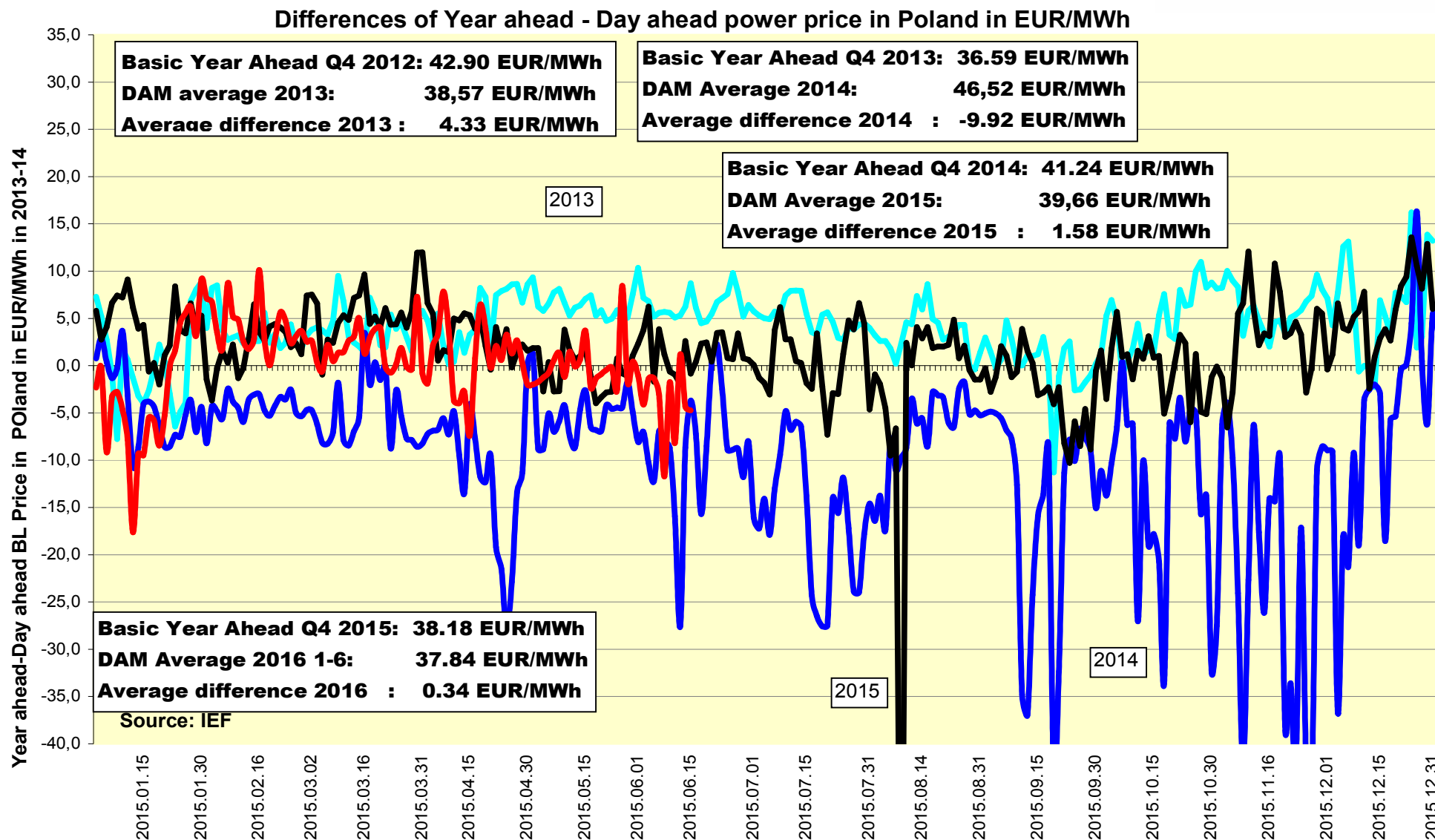
Differences of Year ahead - Day ahead power price in Hungary in EUR/MWh



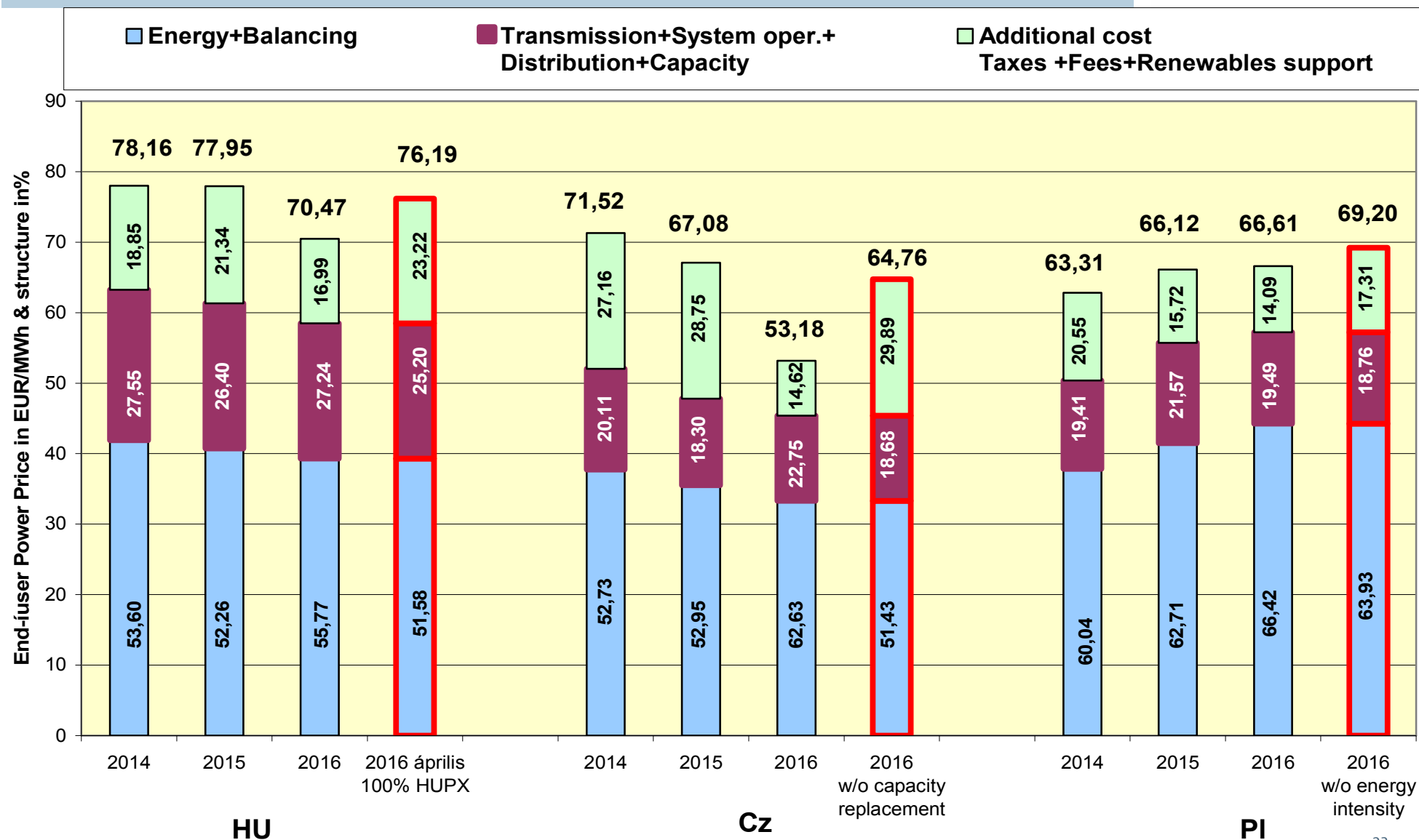
# Year ahead Baseload Power Prices for 2012-2016 on the EEX & in Poland in EUR & PLN in 2011- 2015 and Quaterly Average Prices



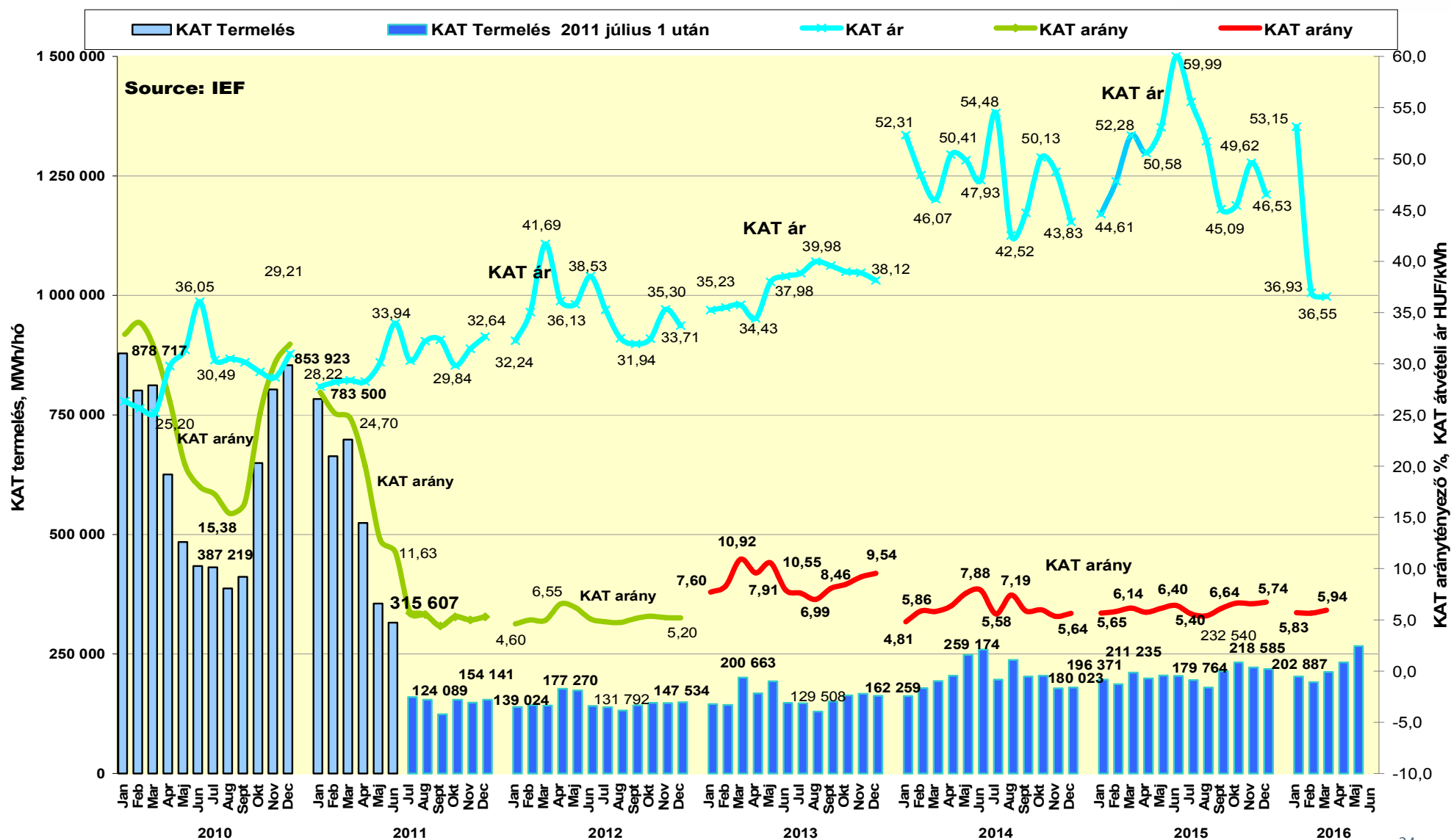
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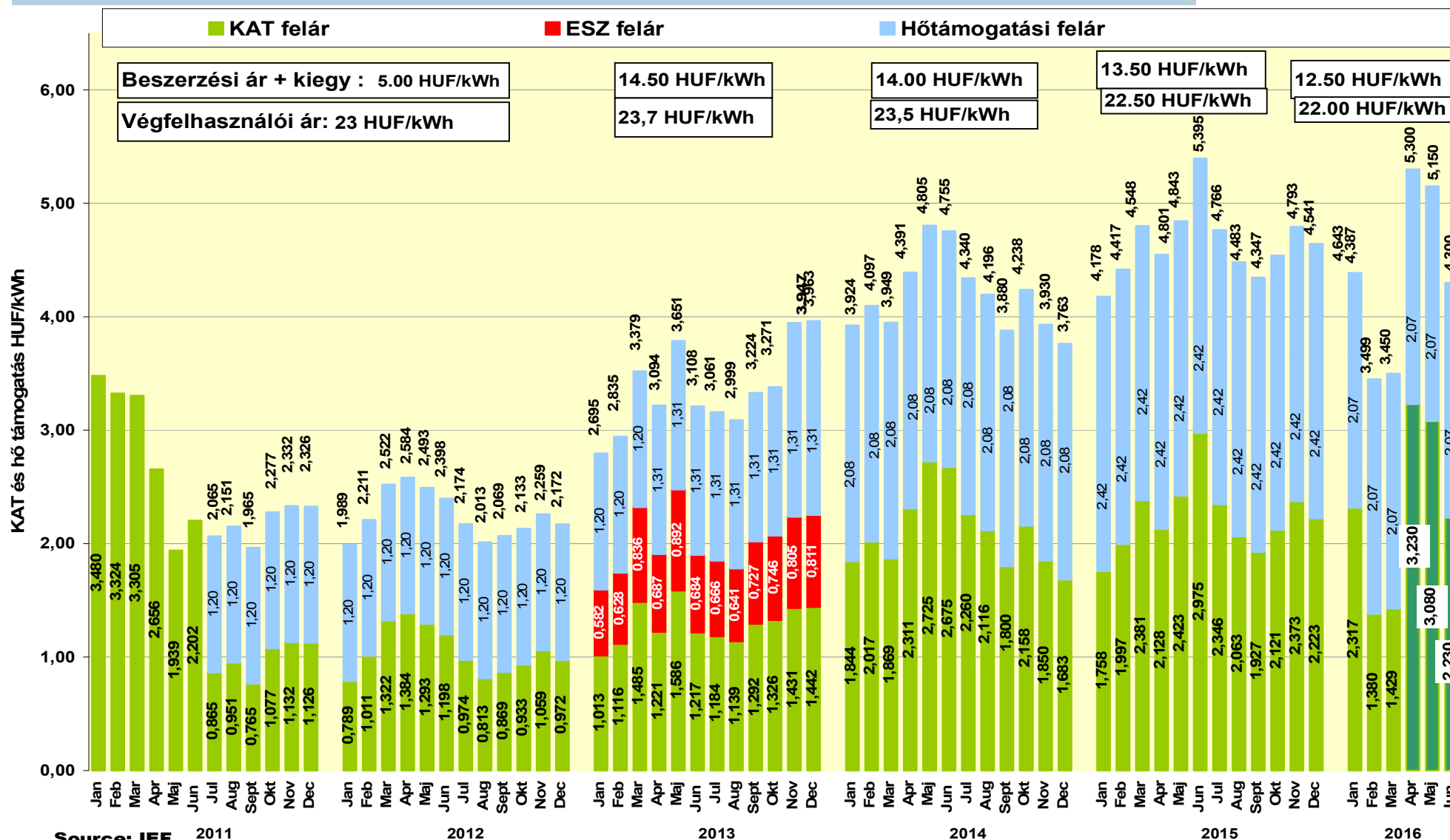
# Average end-user power prices and structures for industry in CEE regions in 2014-2016 (with correction)



# Volume, ratio and Feed in Tariff of renewables in Hungary in 2010-2016

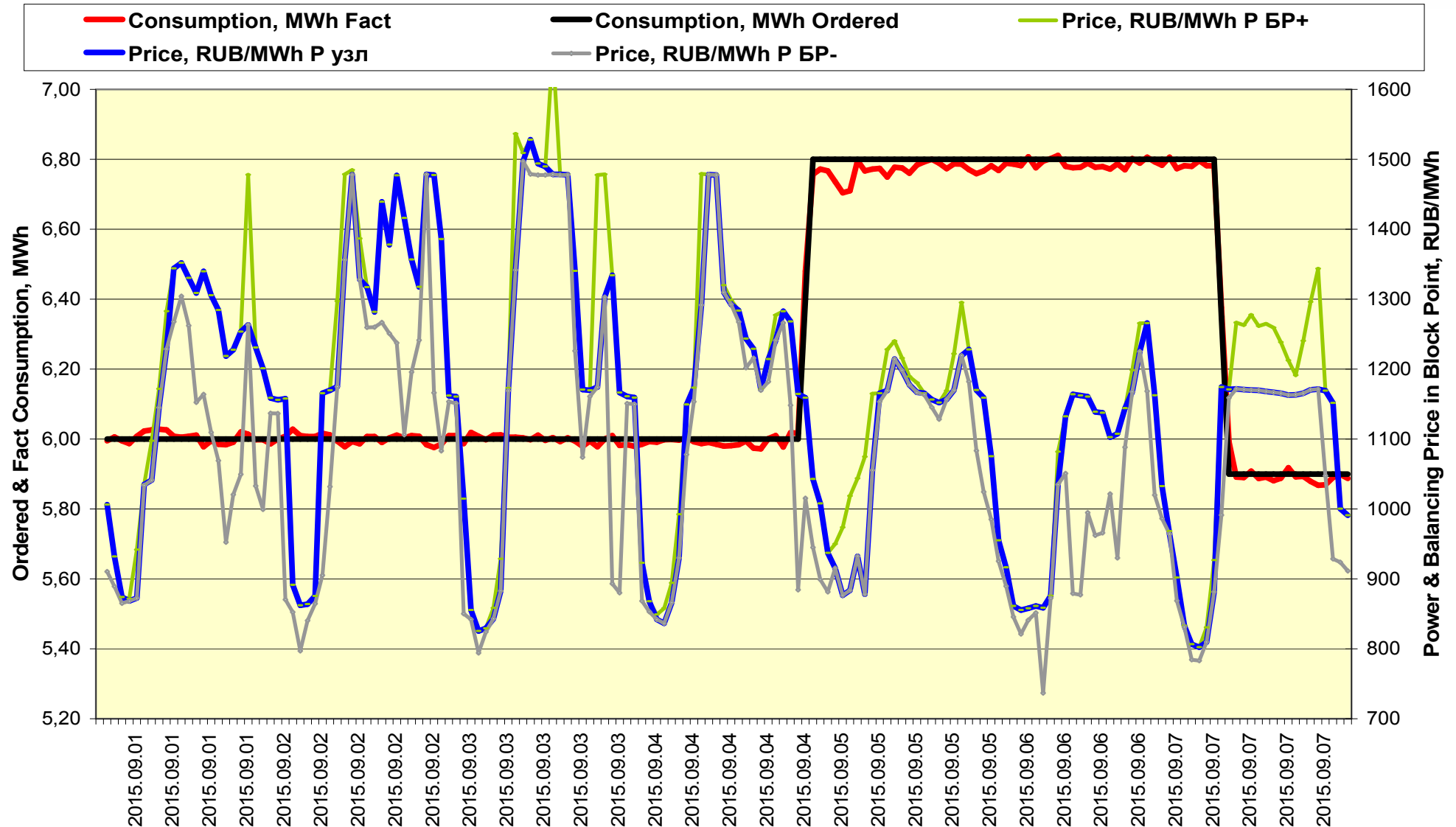


# Cost of renewables and heat support in Hungary in 2011-16

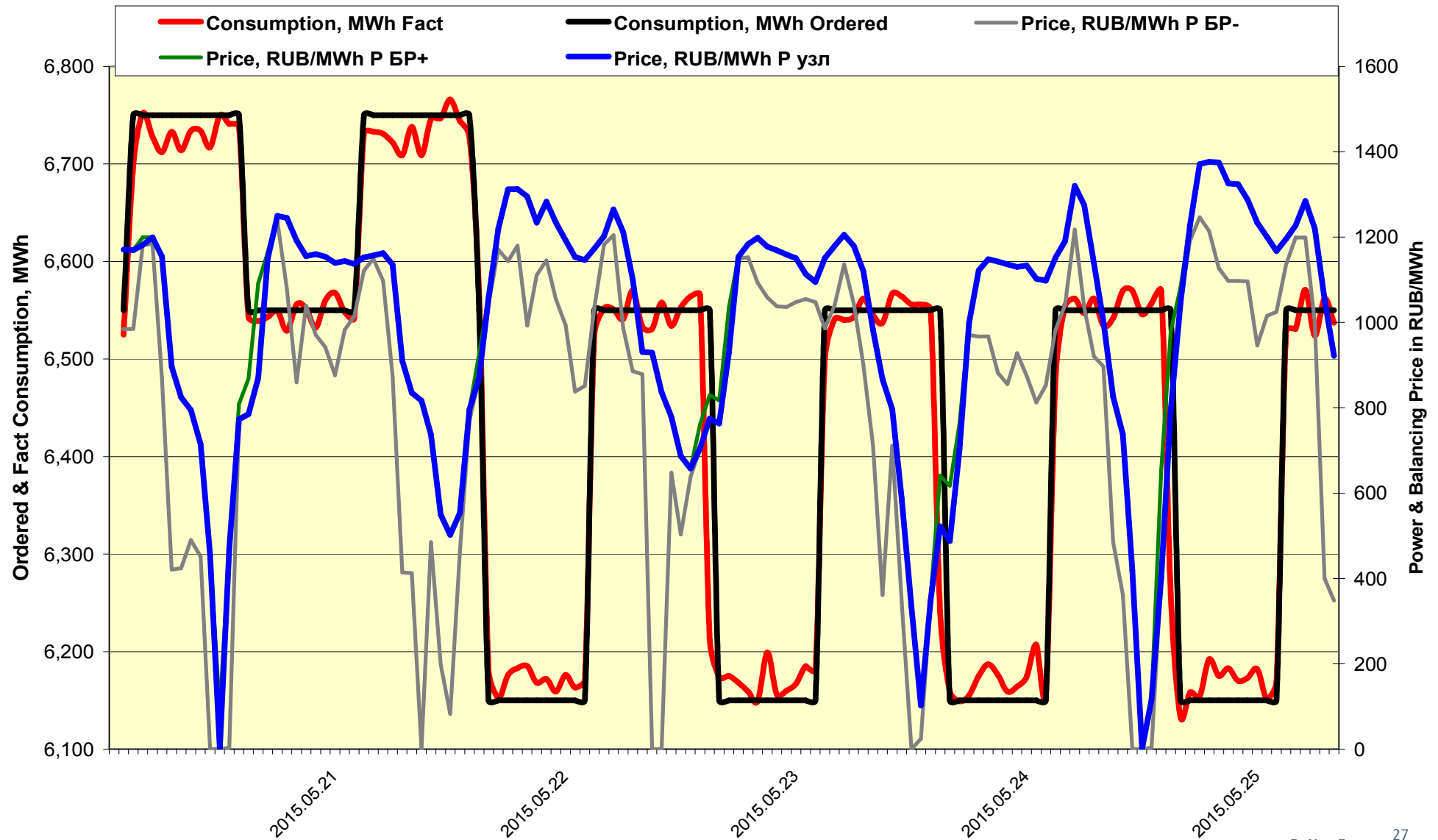




# Analysis of balancing energy price up and down for the cost reduction management



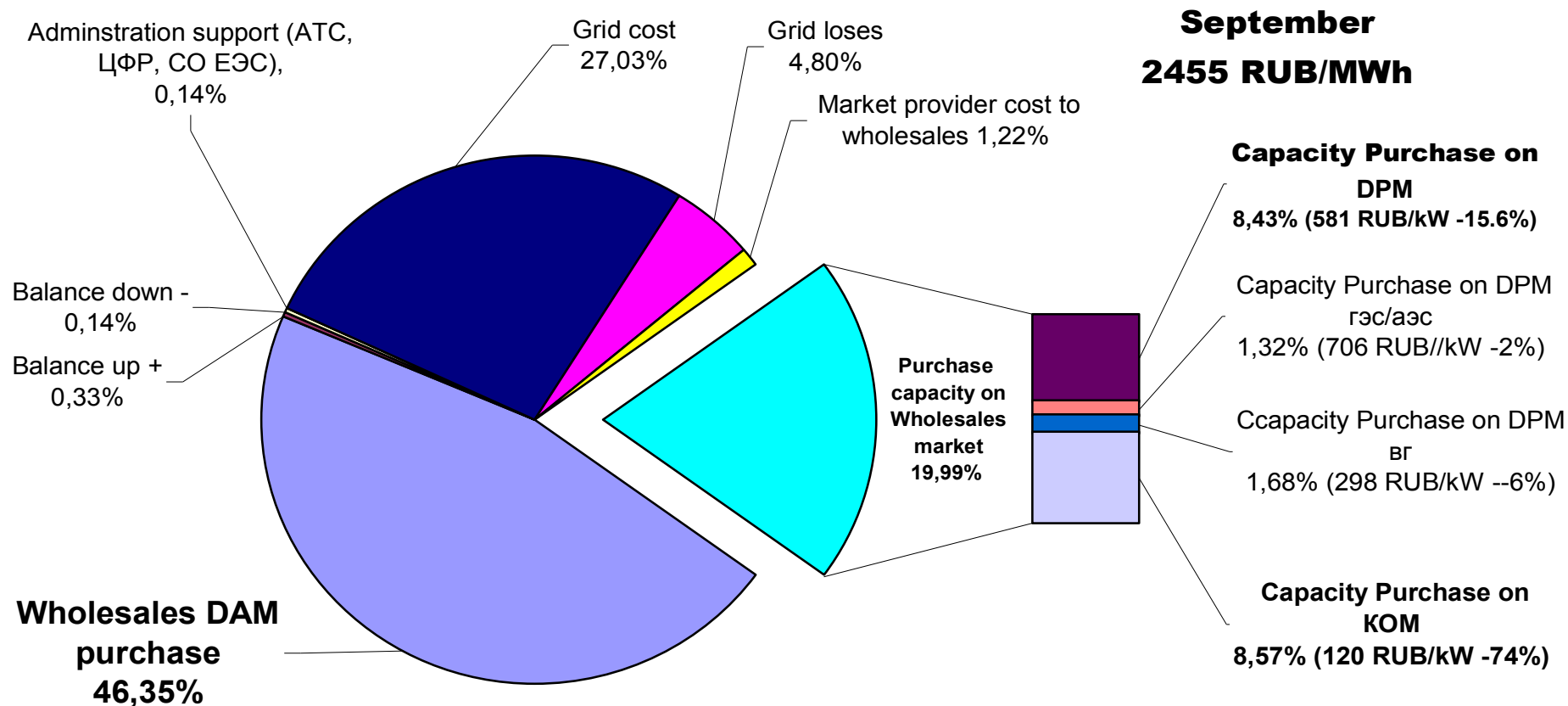
# Analysis of load management on the daily basis regulation



# Typical end user power price structure on the Russian wholesales market (DAM) including capacity market



- |                                            |                                    |                                  |
|--------------------------------------------|------------------------------------|----------------------------------|
| Wholesales DAM purchase                    | Balance up +                       | Balance down -                   |
| Administration support (ATC, ЦФР, СО ЕЭС), | Purchase capacity on DPM           | Purchase capacity on DPM рэс/аэс |
| Purchase capacity on DPM бр                | Purchase capacity on KOM           | Grid cost                        |
| Grid losses                                | Market provider cost to wholesales |                                  |



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# **Thank you for your attention**

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