



Baltic Electricity Market Development

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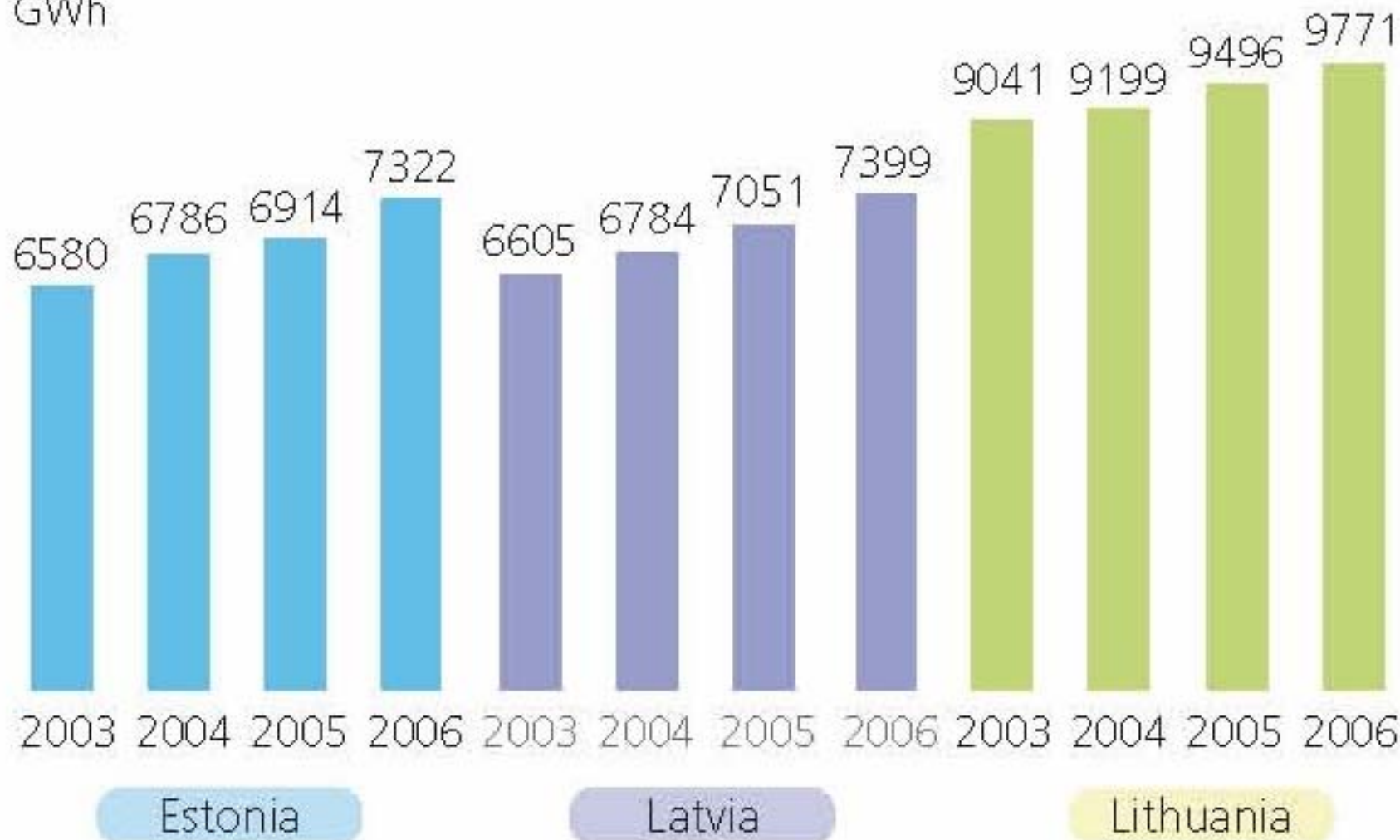


Today's situation

Energy consumption in Baltics

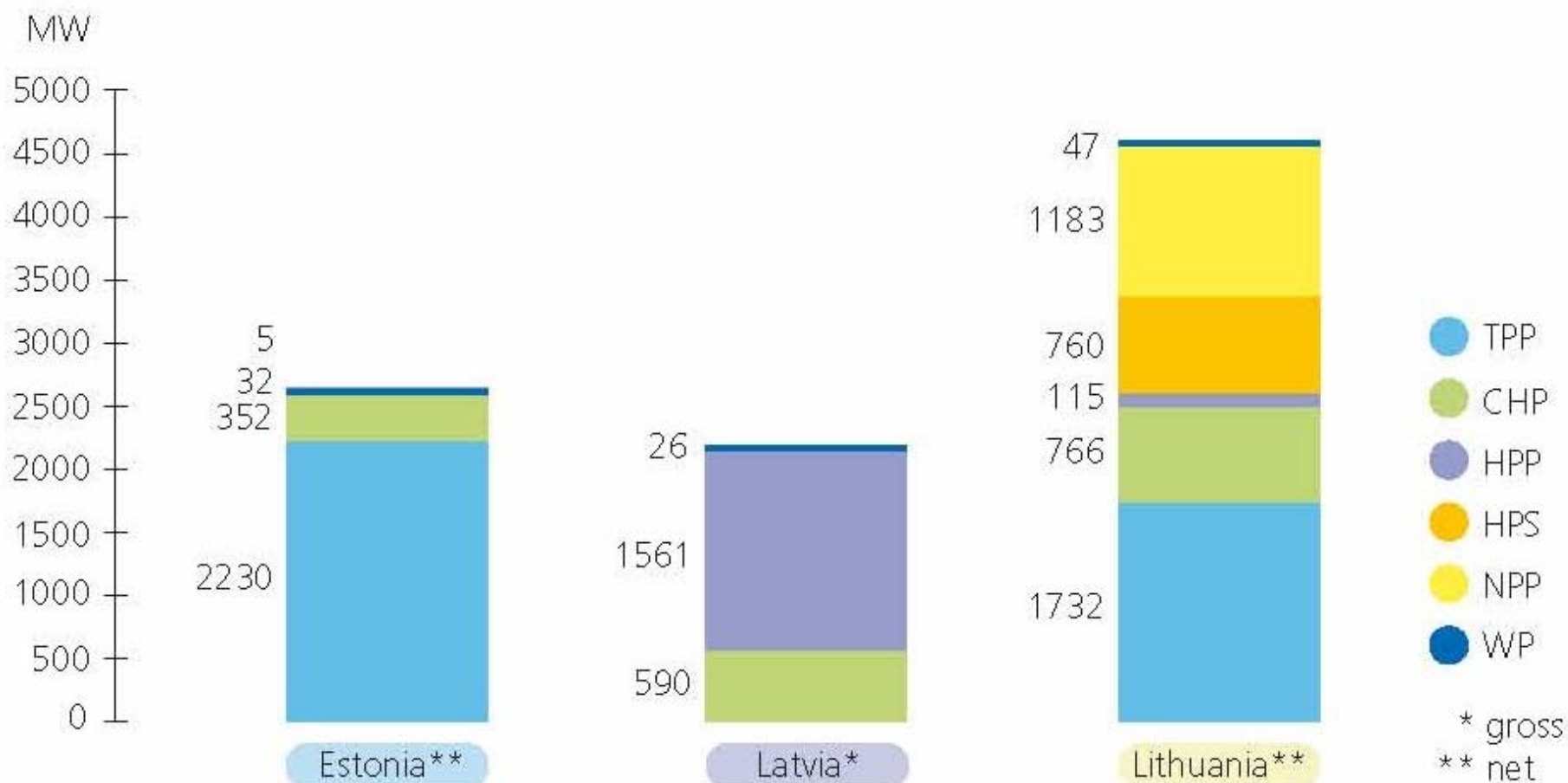
TREND OF POWER CONSUMPTION (2003 – 2006)

GWh



Generation capacity in Baltics

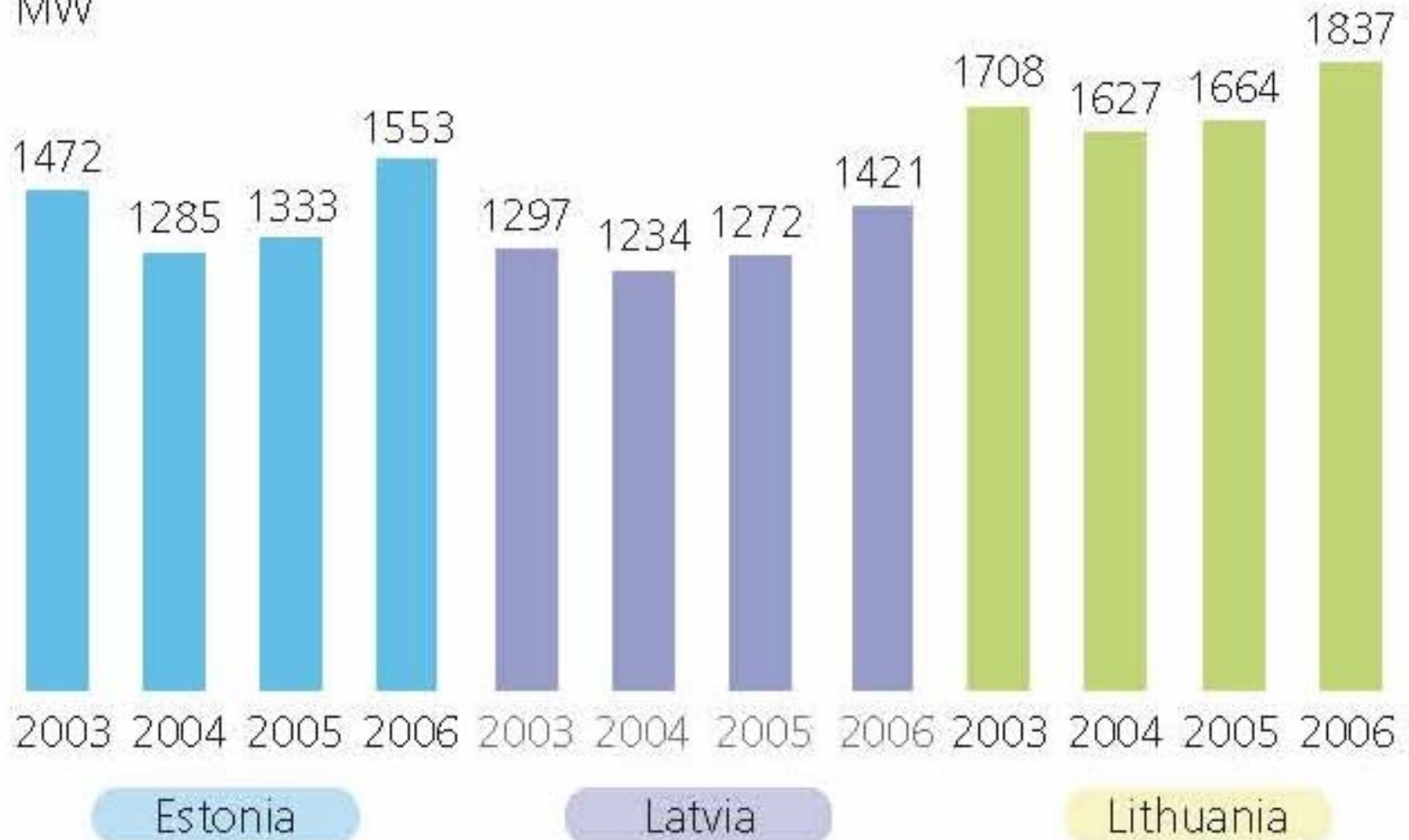
CAPACITY OF DIFFERENT TYPES OF PLANTS AS AT 01.01.2007



Peak load in Baltics

TREND OF ANNUAL PEAK LOAD (2003 – 2006)

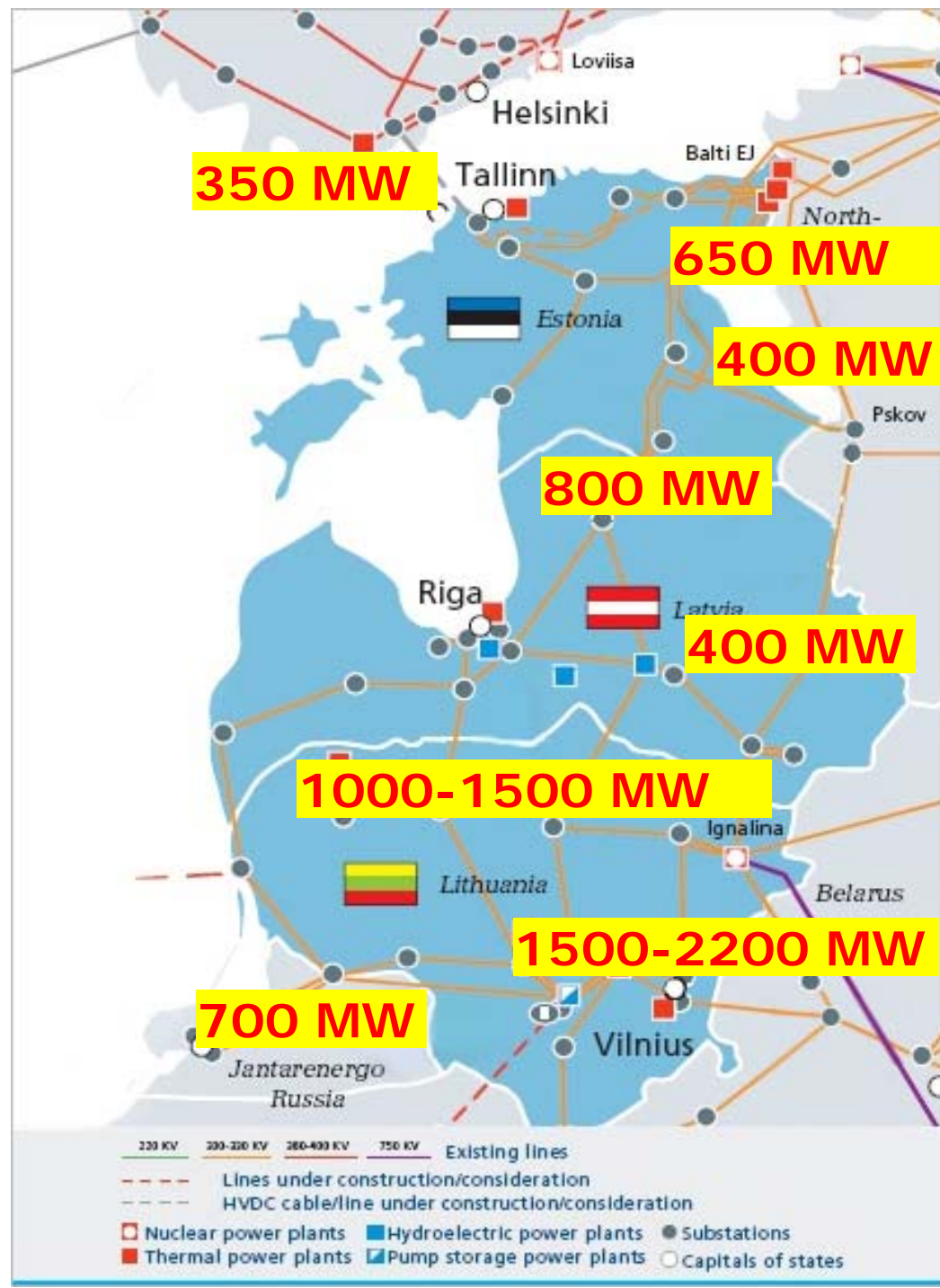
MW



Today's market structure in Baltics

- In Baltics wholesale market practically doesn't exist
 - Only bilateral trades between large utilities - Eesti Energia, Latvenergo and Lietuvos Energija + small producers
- Total market volume is 25 TWh and 95% of this is sold by 4 national players (VST, RST from Lithuania)
- According to the Estonian Electricity Market Law the market in Estonia will be opened by 1.1.2013 (today ca 15%, 40 GWh)
- Latvian and Lithuanian market are opened from 1.07.2007

- Baltics may be considered as one area
- Export/import capacity of the country is different than the transmission capacity on the border-lines i.e. depends on transit



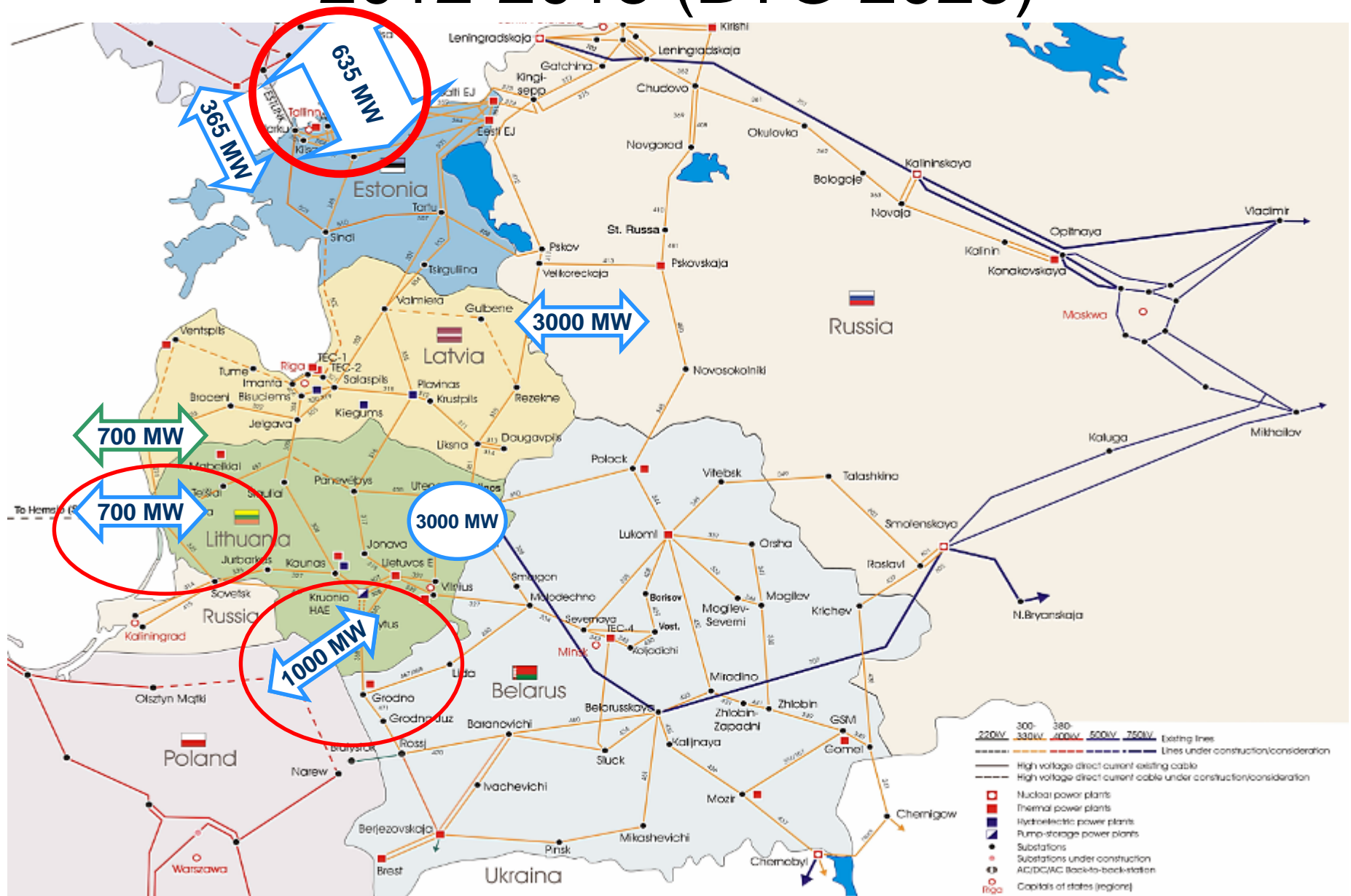


How will the future look like?

The strategic goal of the Baltics

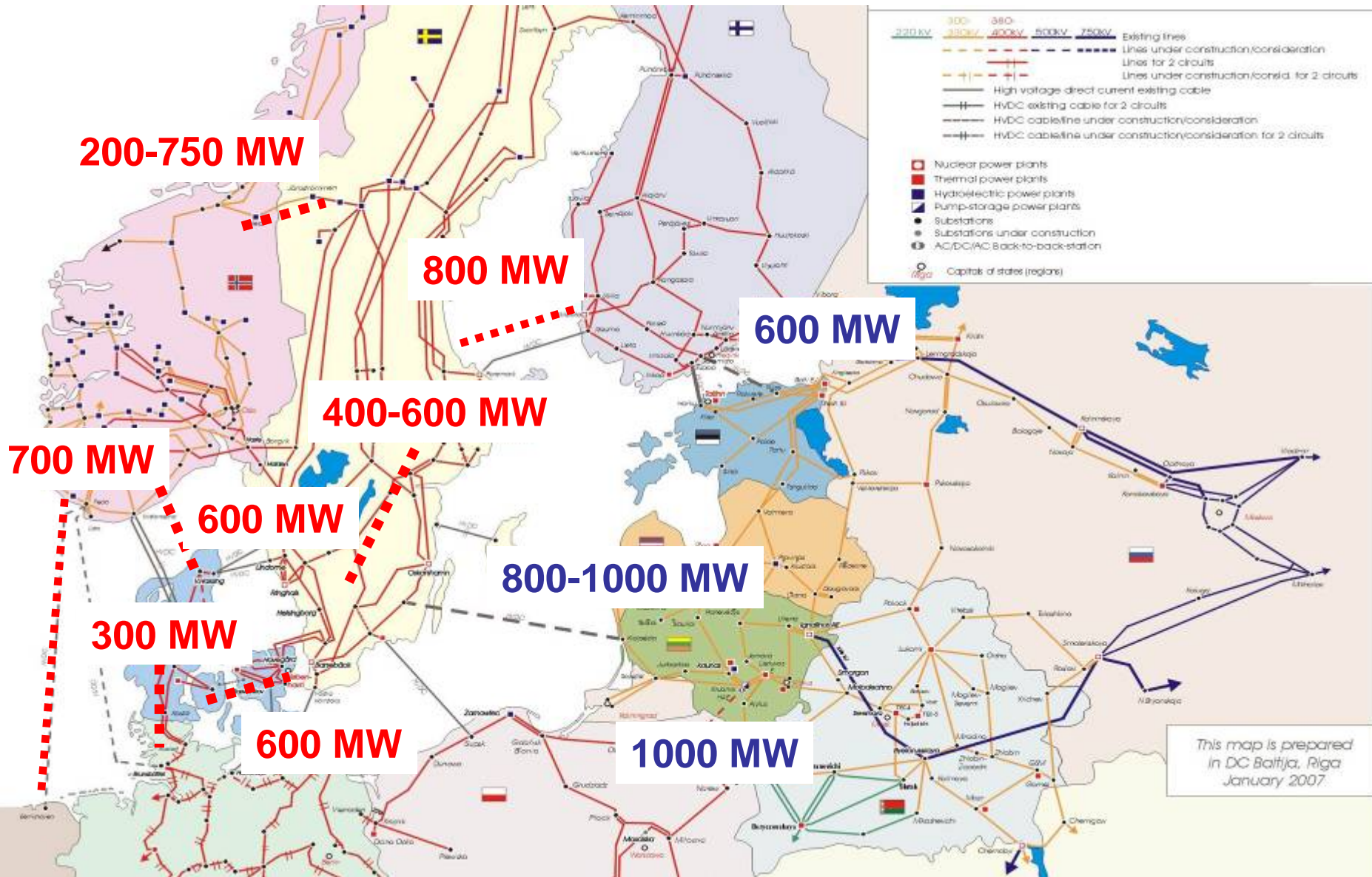
- The main goal is to integrate the Baltic power system to the Scandinavian and West-European power systems
- Better utilisation of existing and new generation
- The development of electricity markets in the Baltics together with Baltic Sea region
- Improve long-term security of supply incl. Nordic market
- NO INTERCONNECTORS = NO COMPETITION ⇒ HIGHER PRICES

Three strategic connections of Baltics 2012-2018 (BTG 2025)



Strategic connections in Baltics and Nordel

2012-2018





**How will the generation future
look like in Baltics?**

Estonian power generation 2016

- New CFB 400 MW
- Iru CHP and smaller PP 150 MW
- Old PC with DeSO_x 4x200=800 MW?
- New CFB 2 x up to 400 = 800 MW ?



Latvian power generation 2016

- HPP 1500 MW but depend on water and available capacity 500 MW
- New Riga CHP1 150 MW
- New Riga CHP2 2008 400 MW
- Smaller plants ca 100 MW
- Old Riga CHP2 up to 2013 220 MW?
- New Riga CHP 3 400 MW ?
- Ventspils (or Liepaja) coal plant 400 MW?
- TOTAL: $500 \text{ (HPP)} + 150 + 400 + 220 + 100 = 1370 \text{ MW}$



Lithuanian power generation 2016

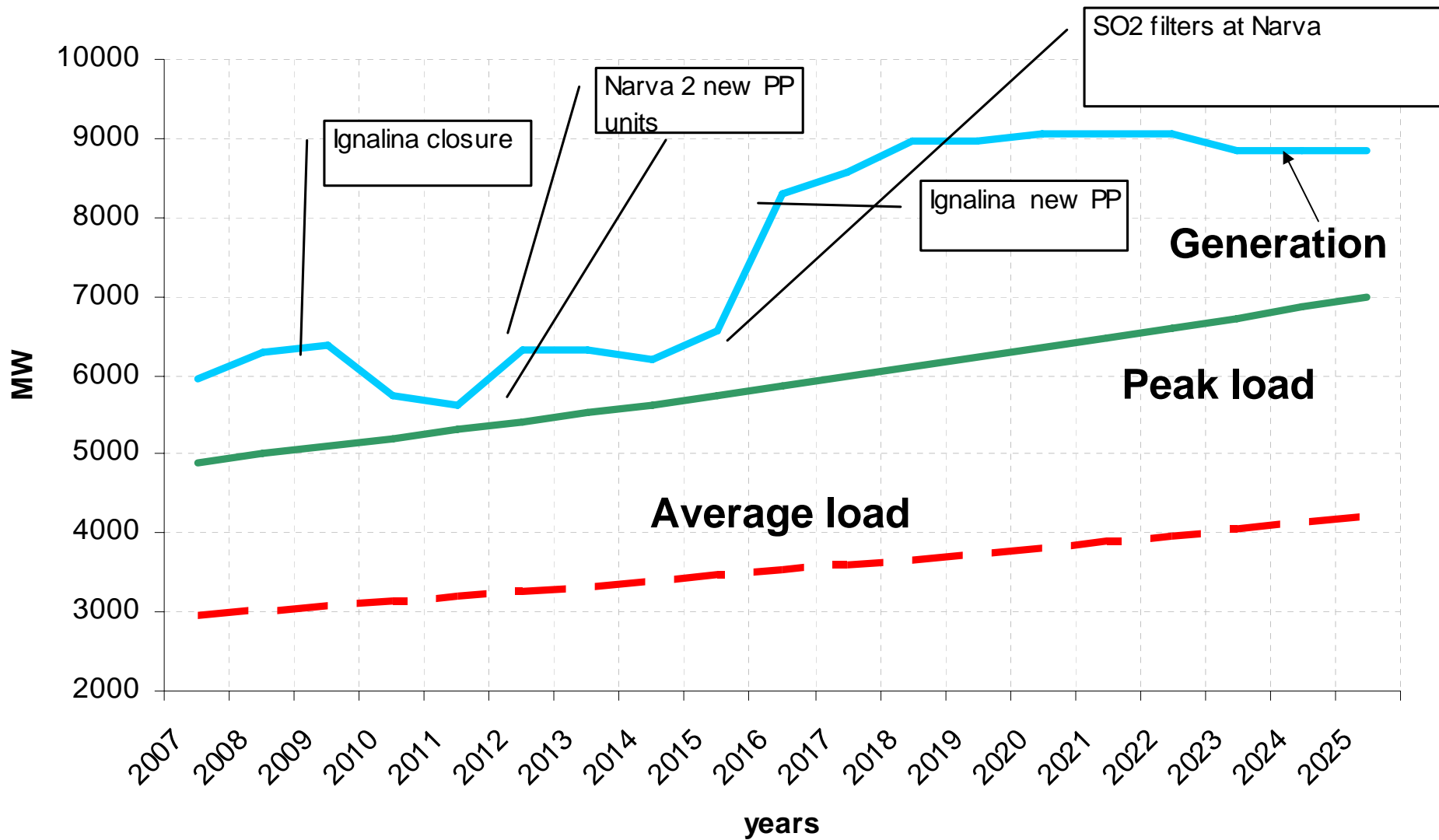
- Kaunas, Vilnius CHP = $170+360 = 530$ MW
- Mazeikiai 140 MW
- Kaunas HPP 100 MW
- Kruonis HPP 900 MW ca 12 h
- Small PP 100 MW
- Elektrenai 1500 MW
- New Elektrenai 400 MW ?
- New Ignalina 3400?
- TOTAL: 2370 MW



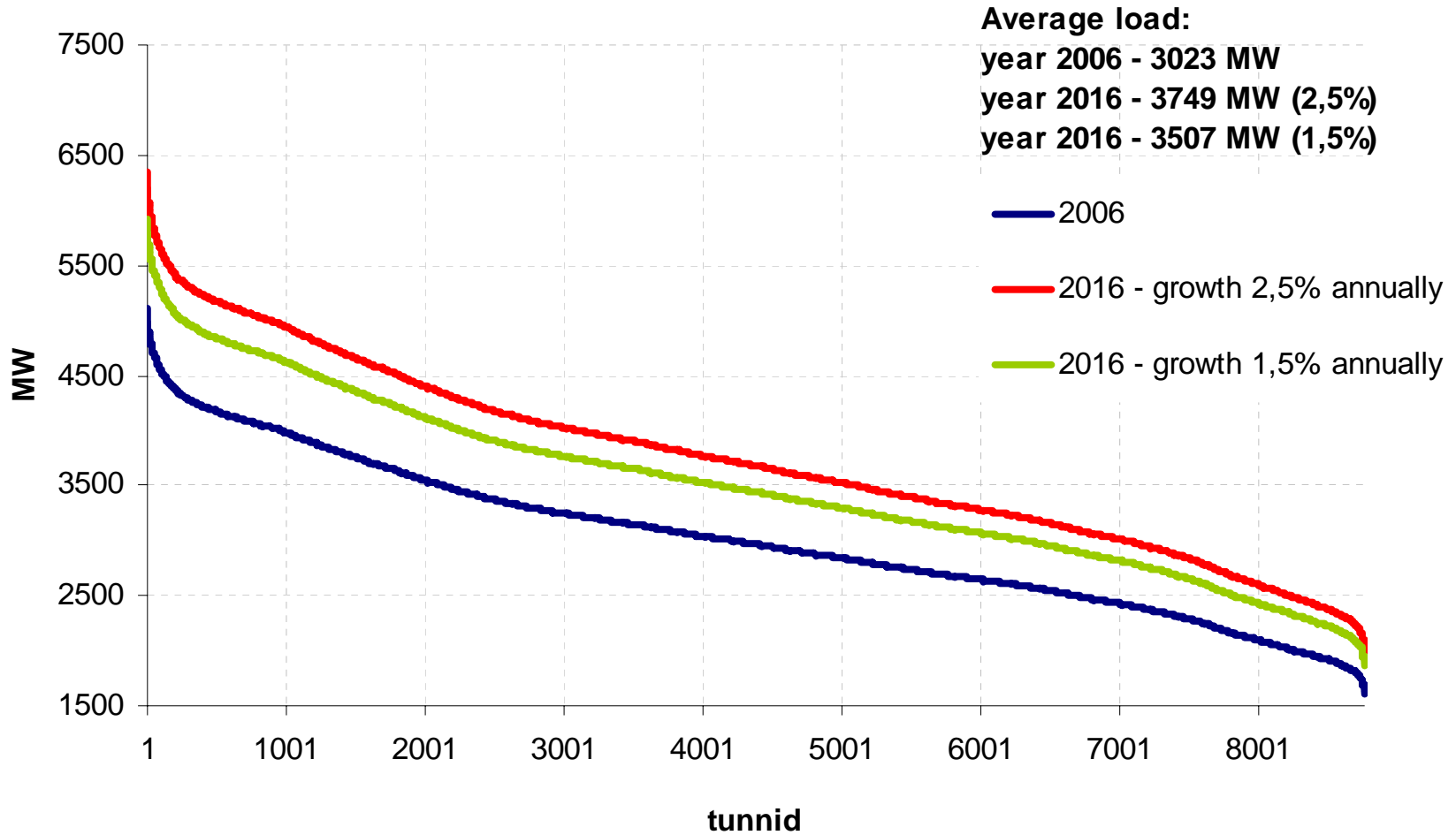
Baltics power generation plans 2016 including windmills

- Estonia up to 2150 MW
- Latvia up to 2170 MW
- Lithuania up to 6170 MW
- TOTAL PLANS (without windmills): 10490 MW
- **WINDMILLS IN BALTICS:**
 - Estonia 465 MW, ca 1,3 TWh
 - Latvia 440 MW, ca 1,3 TWh
 - Lithuania 635 MW, ca 1,8 TWh
 - TOTAL: 1540 MW, ca 4,4 TWh

Example capacity scenario for Baltics



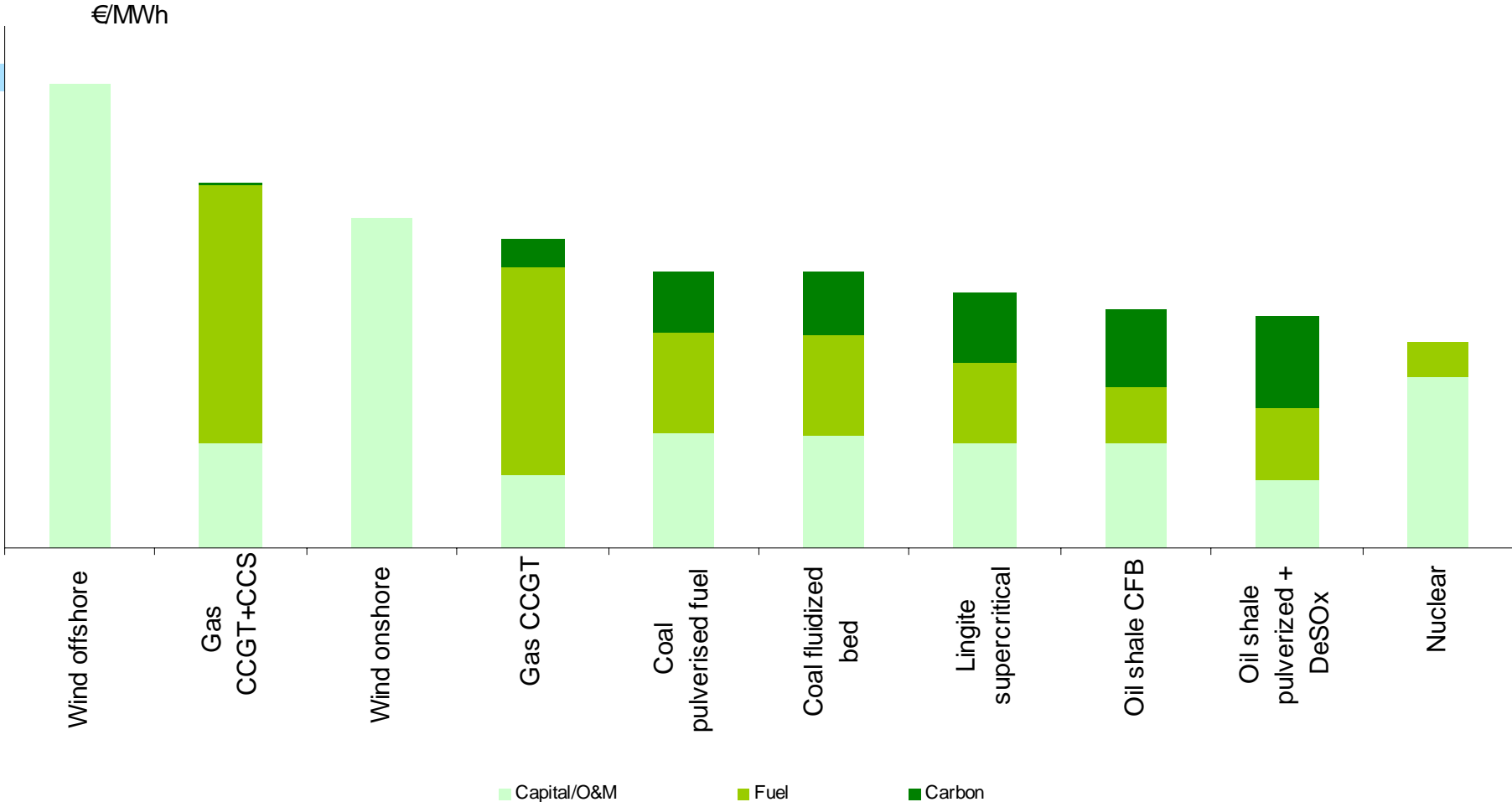
Load curve for the Baltics 2006 & 2016



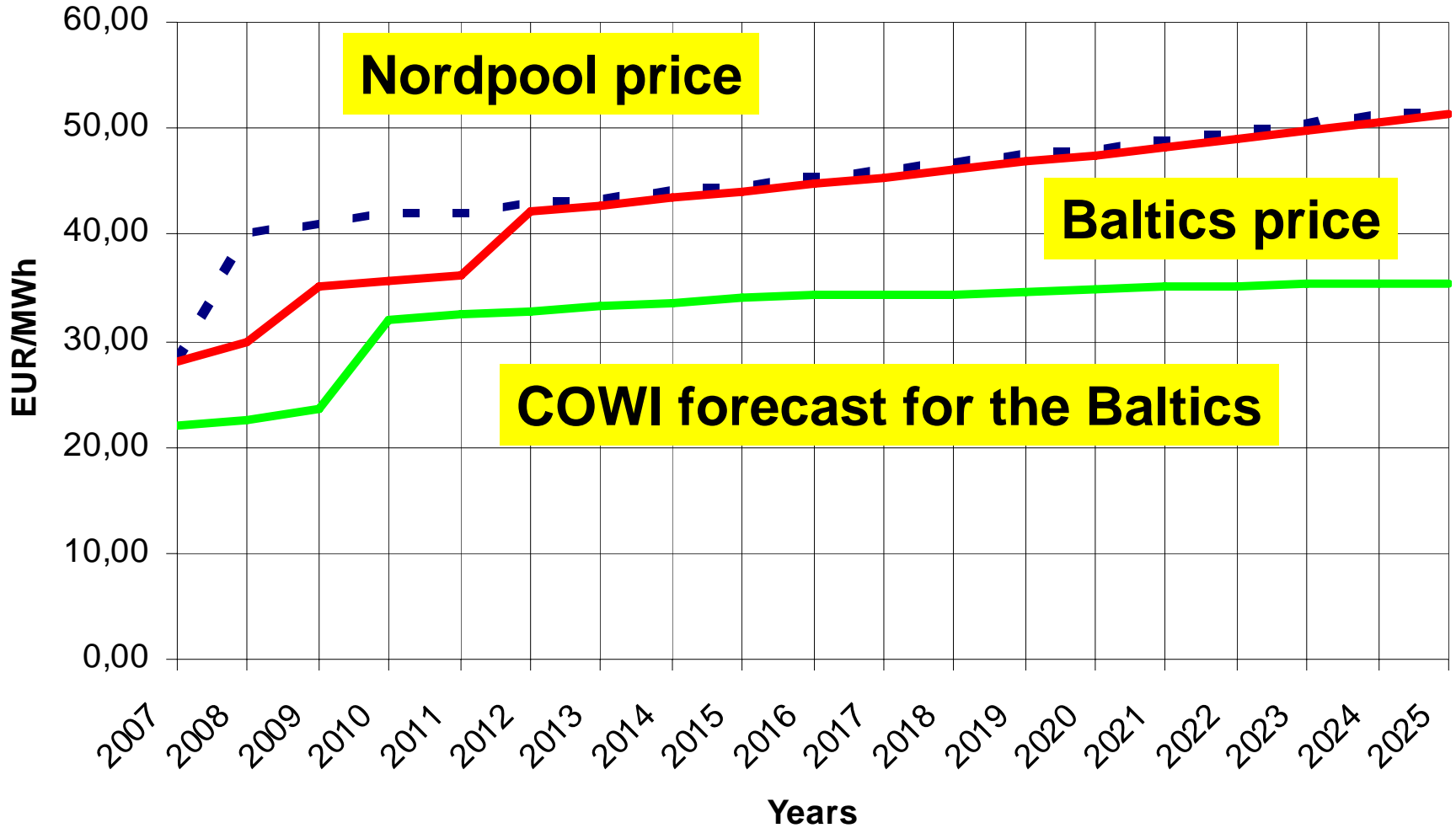
Baltics power generation plans 2016

- Baltic region has enough serious plans to ensure generation adequacy for the future
 - Thanks to wind mills the energy balance will be easier to cover but balancing of windmills needs additional fast reserve
- When making new generation investment one must think about:
 - open electricity market (no guaranteed revenues, competition)
 - market rules for countries outside EU

Why are we interested in nuclear power?



Nordic and Baltic price forecast



Electricity market development

- Without interconnectors prices will be different also in the future
- Interconnectors will increase the security of supply because the market volume is higher
- Interconnectors can be used as emergency reserves
- More clear future about energy prices and energy availability
- The interconnectors will enable more economical use of the existing and new energy resources in the Nordic and Baltics



What else is happening in the
Baltic power sector?

Synchronous operation with UCTE

- Communiqué was commonly signed on 11 June, 2007 by the Prime Ministers of Estonia, Latvia and Lithuania.
- The strategic objective of the Baltic power grids is the synchronization to UCTE area
- Already in 1996-1998 first Baltic Ring Study (BRS) between 18 companies was carried out
- New study being launched

Summary

- During next years i.e. 2008-2009 national electricity markets are more or less closed (formally opened but not like in Scandinavia)
- Baltic electricity market needs reference price and common market rules/area
- New interconnectors between Baltics and Scandinavia are the most important strategic projects



THANK YOU!