



Operation of Belarus NPP and energy flows: data analysis

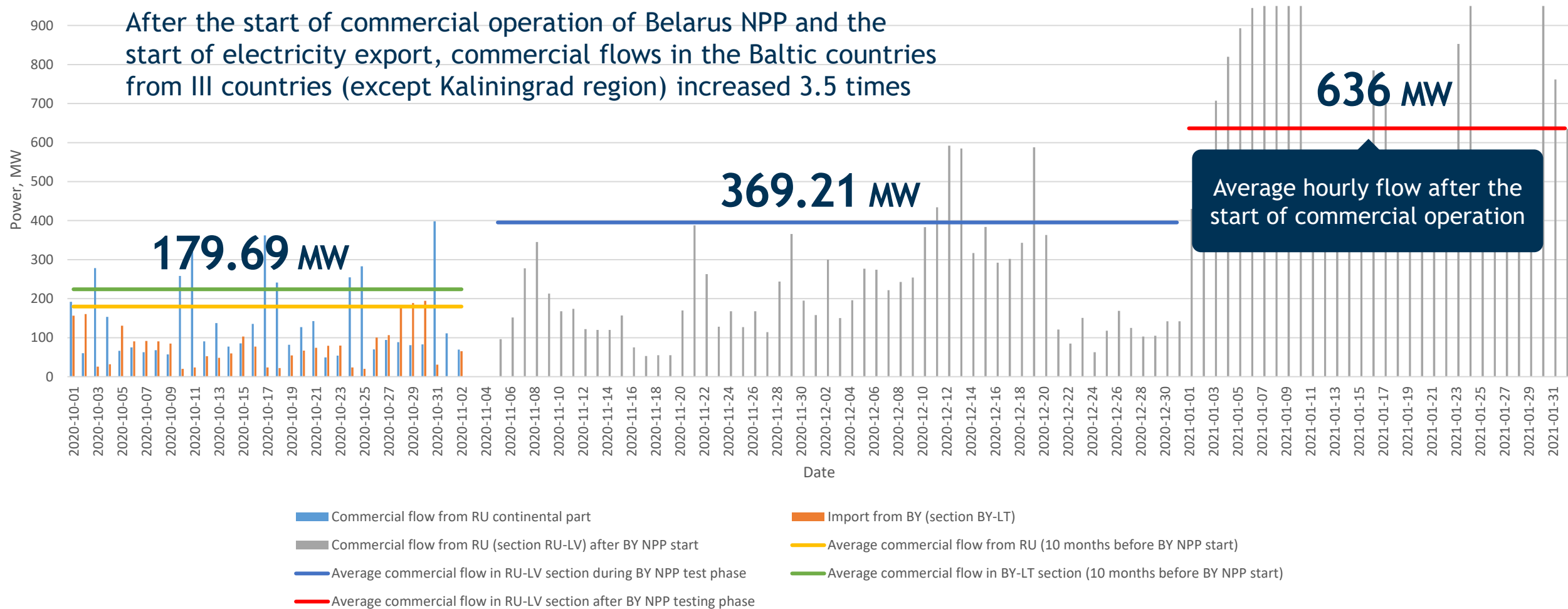
10/2/2021

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Commercial flows with Russia increased by factor of 3.5

COMPARISON OF COMMERCIAL FLOWS

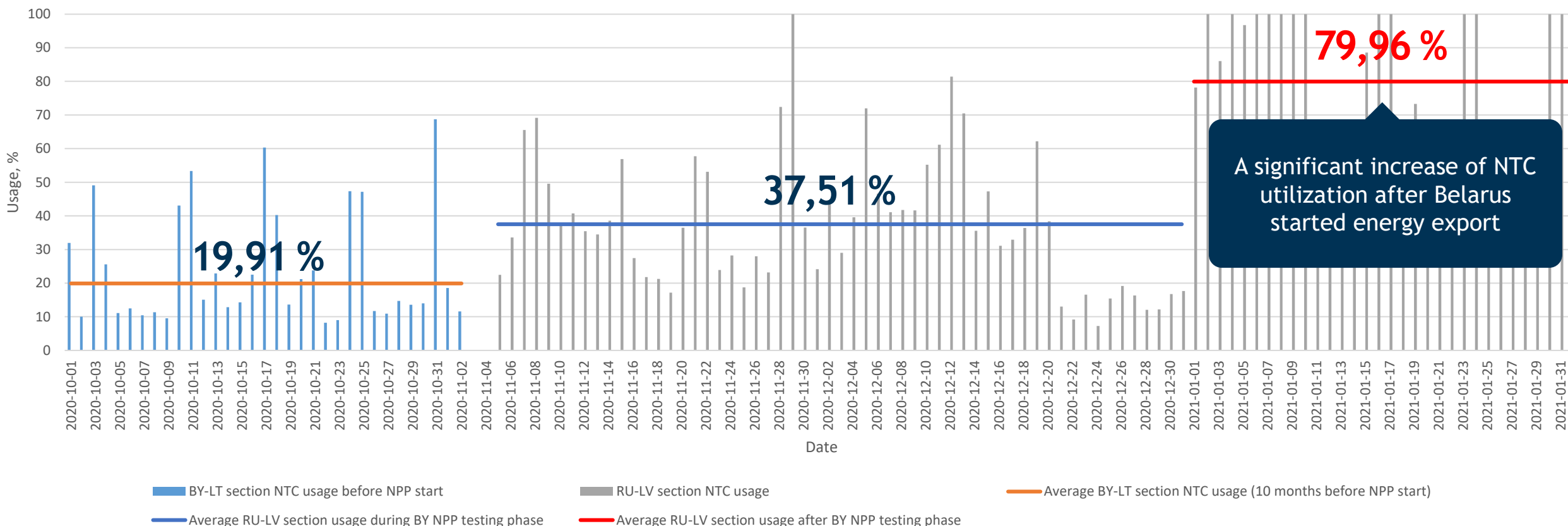
After the start of commercial operation of Belarus NPP and the start of electricity export, commercial flows in the Baltic countries from III countries (except Kaliningrad region) increased 3.5 times



NTC usage for commercial operation increased by a factor of 4

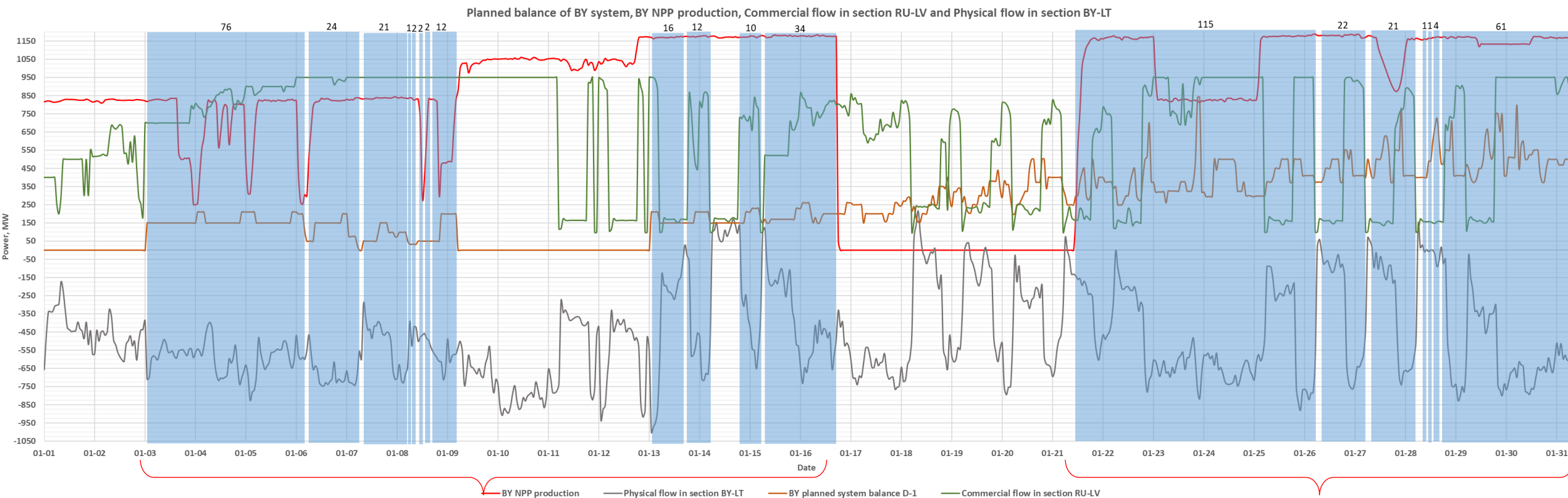
An increase of Net Transmission Capacity (NTC) utilization in cross-border between Latvia and Russia indicates the direct interrelation with the start of trial commercial operation of Belarus NPP. If this situation continues, it is predicted that the import from III countries (except Kaliningrad region) could reach 7,1 TWh per year. For comparison, the demand of Lithuanian power system reached 13,1 TWh in year 2020.

NTC USAGE MONITORING



Periods, when energy from Belarus reaches Lithuania

- 1) Belarus power system is in surplus
- 2) Physical flow is in direction to Lithuania
- 3) Belarus NPP is in operation
- 4) There is an import of energy from Russia to Latvia



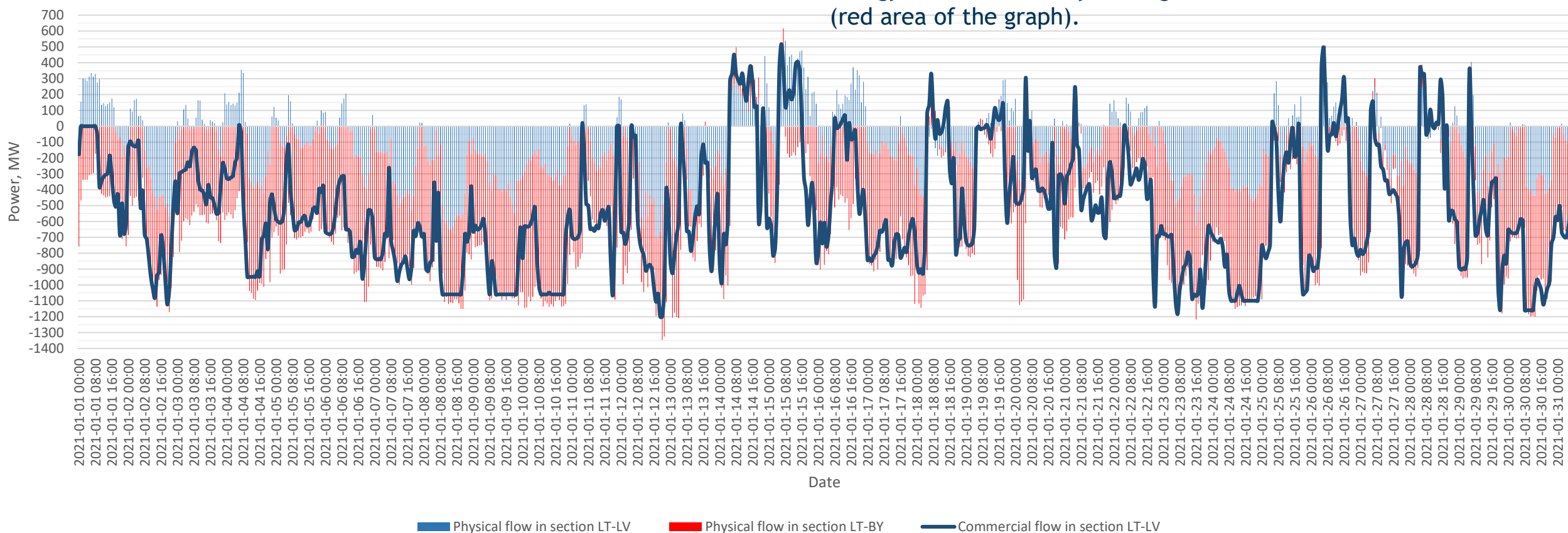
32,7 GWh of electricity entered directly Lithuanian power system during 212 hours of total identified period

71,1 GWh of electricity entered directly Lithuanian power system during 225 hours of total identified period

Commercial flow corresponds to the path of physical flows from Belarus

Commercial energy exchange on Latvia-Lithuania cross-border (dark blue line) matches the sum of physical flows on Latvia-Lithuania and Lithuania-Belarus cross-border (light blue and red areas). A direct dependence between commercial flow and the amount of electricity entering Lithuania is observed.

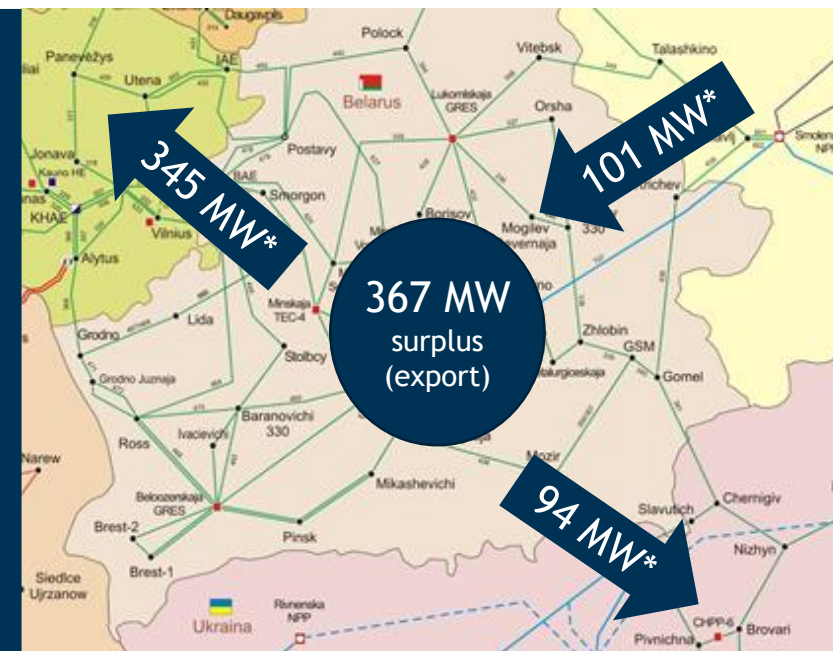
In other words, Russia is selling electricity in Latvian bidding zone at NordPool, while Lithuania imports it and consumes large part of the energy entered directly through the Lithuania-Belarus cross-border (red area of the graph).



Example of cross border flows in Belarus

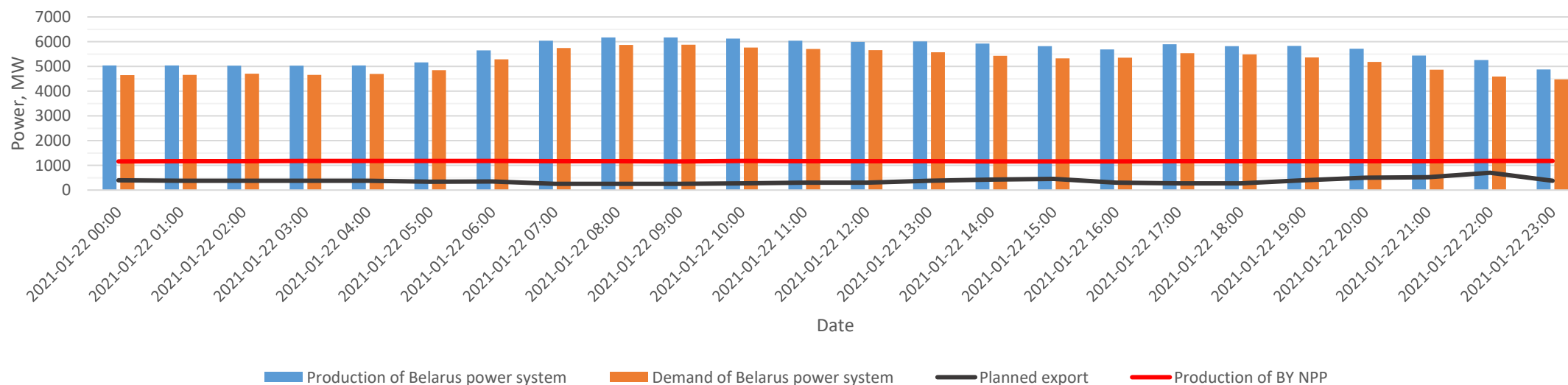
22 of January 2021

Average hourly data:
 Production: 5616,39 MWh
 Consumption: 5221,49 MWh
 BY NPP production: 1168,59 MWh
 BY NPP production / total: 20,81 %



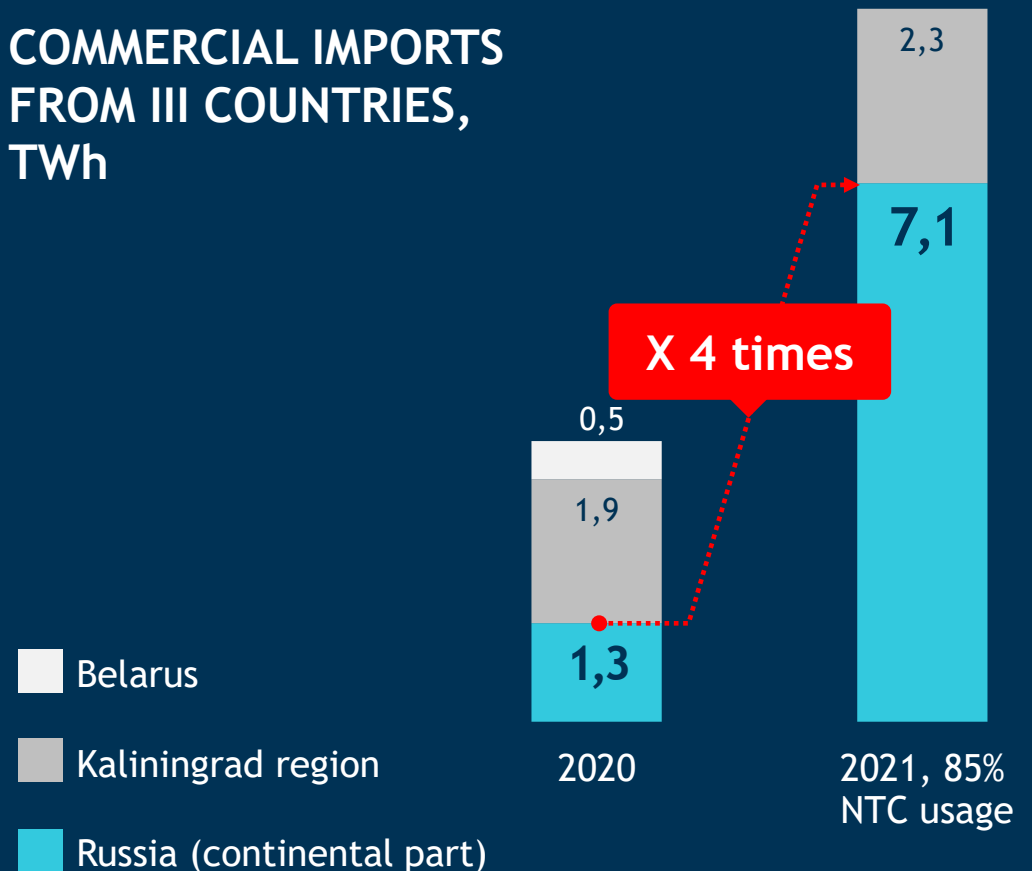
* Average hourly physical flow for 24 h

DATA OF BELARUS POWER SYSTEM



Depending on Latvia-Russia NTC usage after Belarus NPP commercial operation start, import from continental Russia (and Belarus) in 2021 could increase to **7,1 TWh**

COMMERCIAL IMPORTS FROM III COUNTRIES, TWh





Thank you