



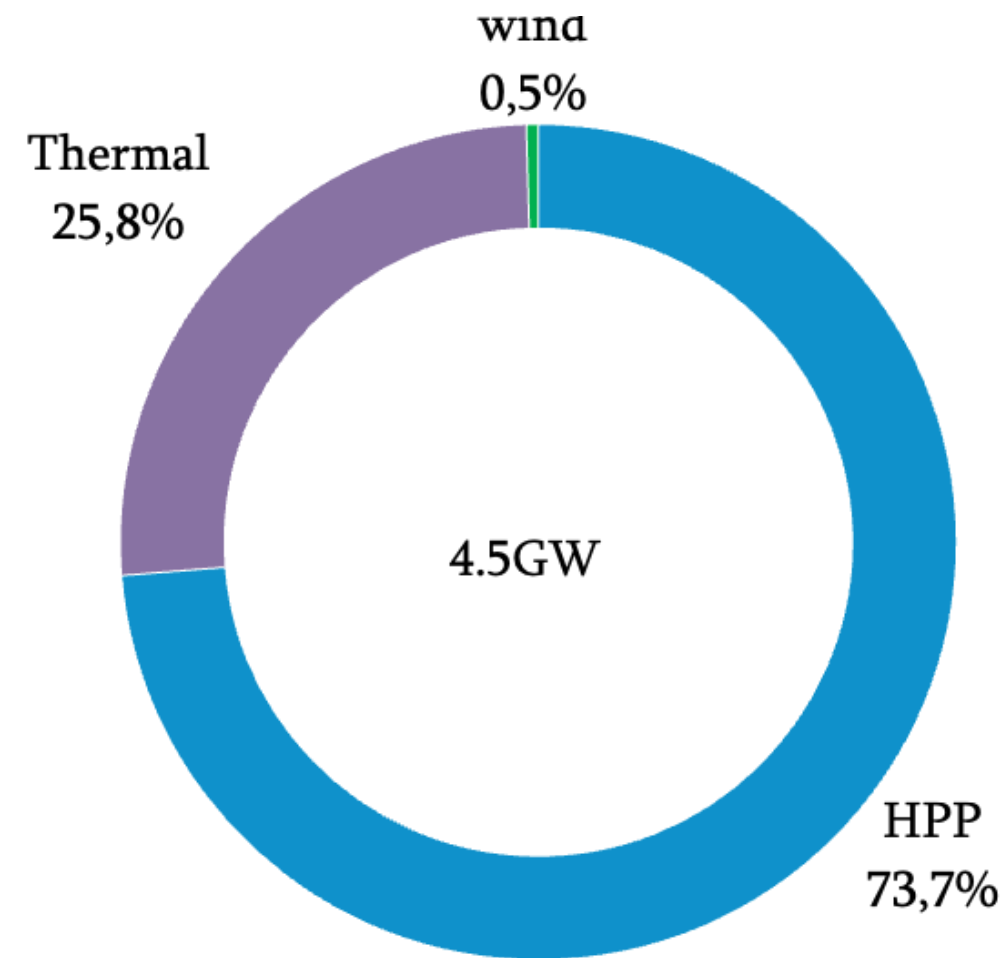
Georgia and its Role in Regional Energy Cooperation

Georgian Renewable Energy Development Association
GREDA

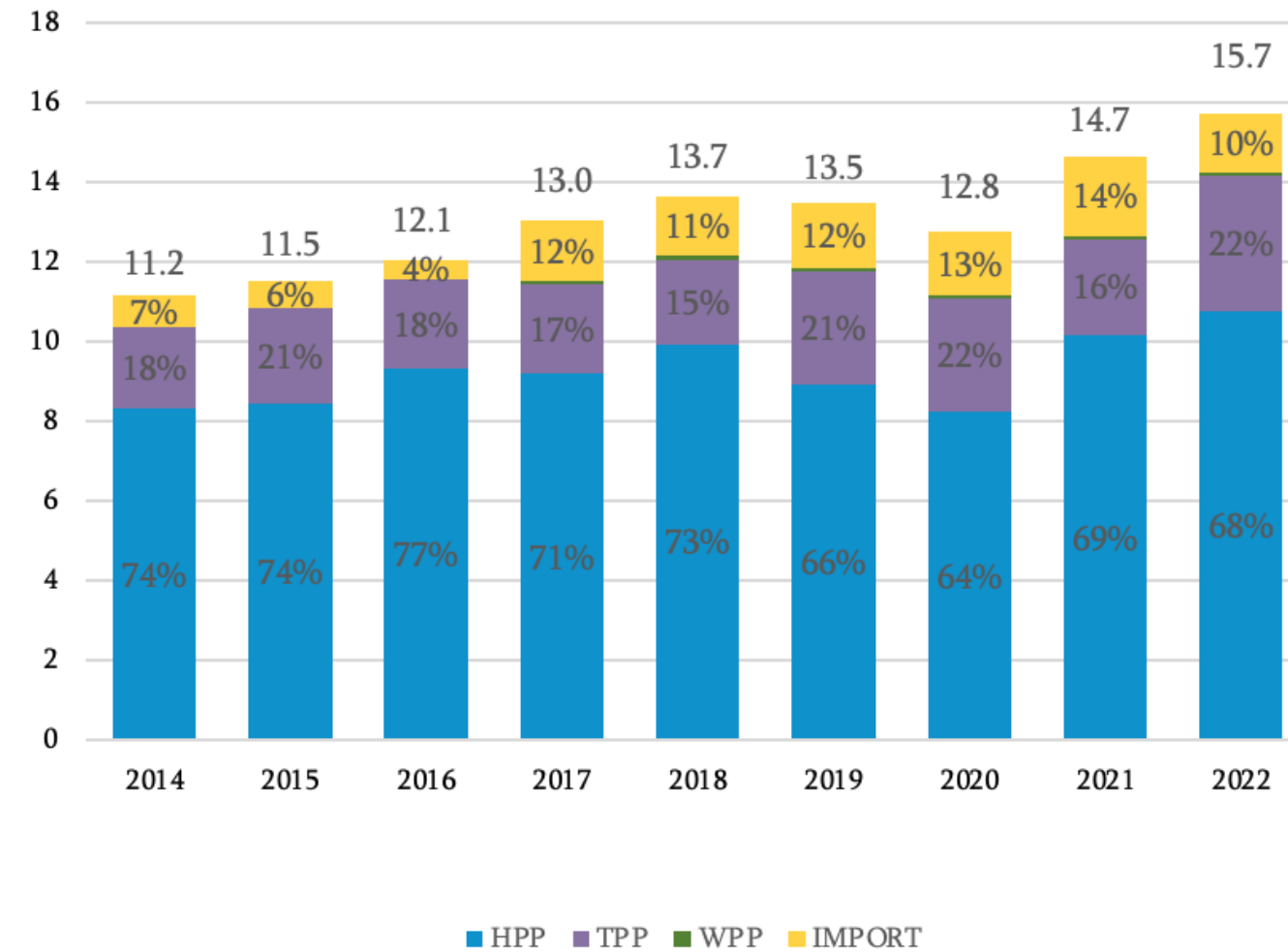
28.11.2023

Generation Sources

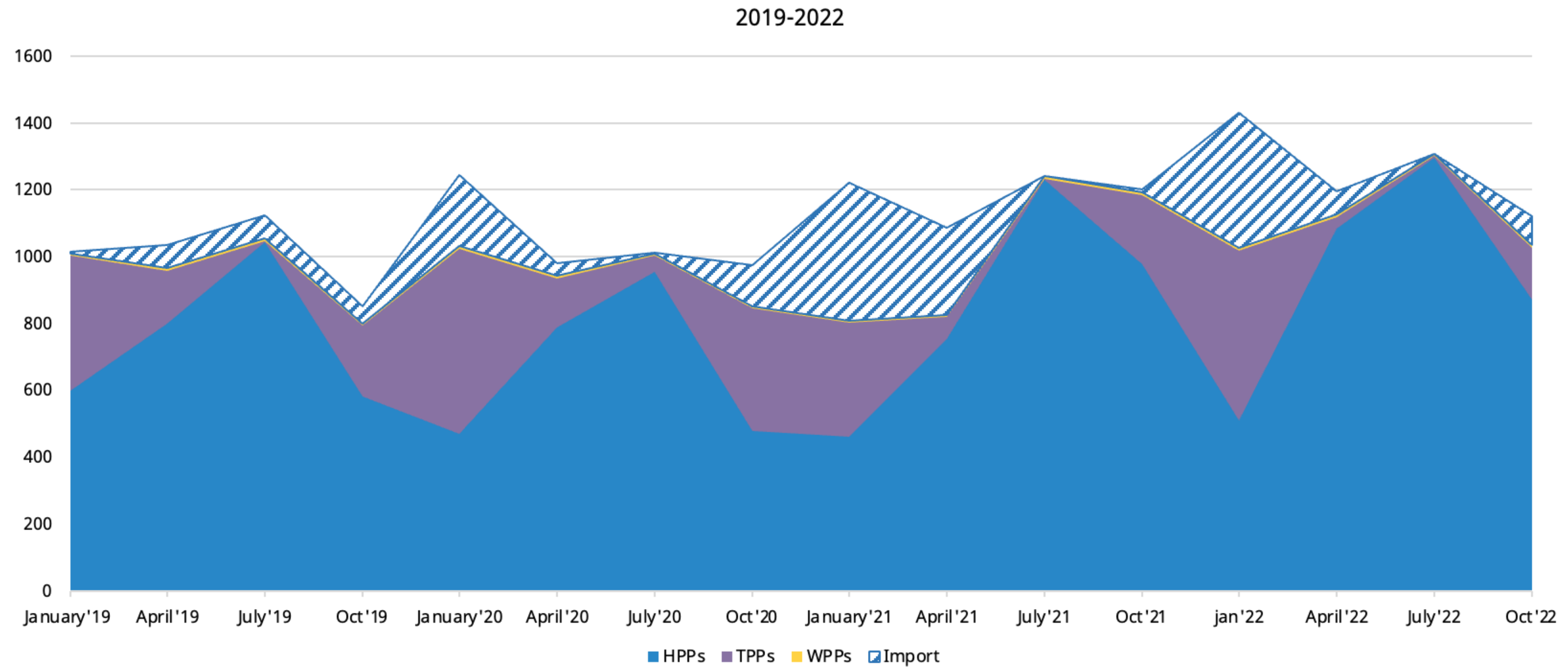
Georgia's Installed Capacity



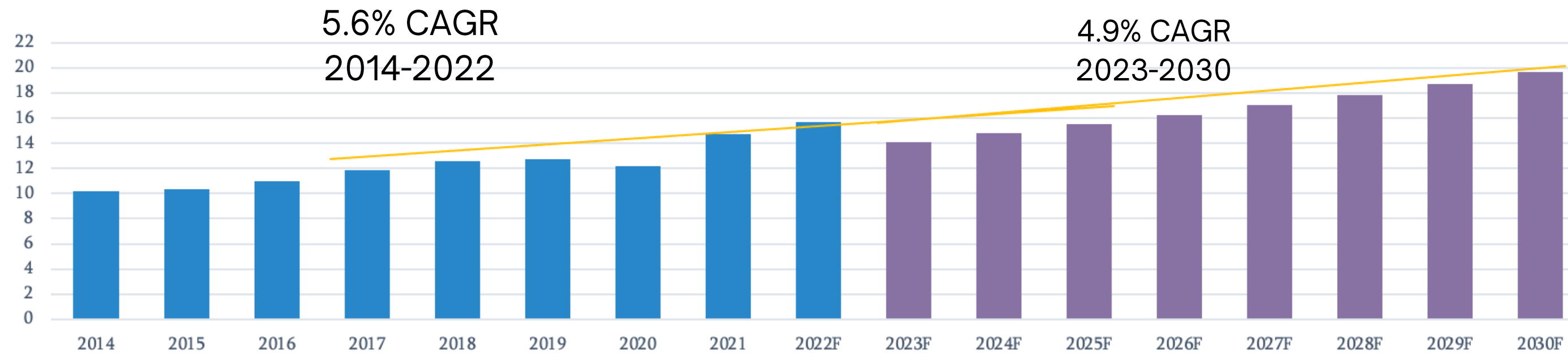
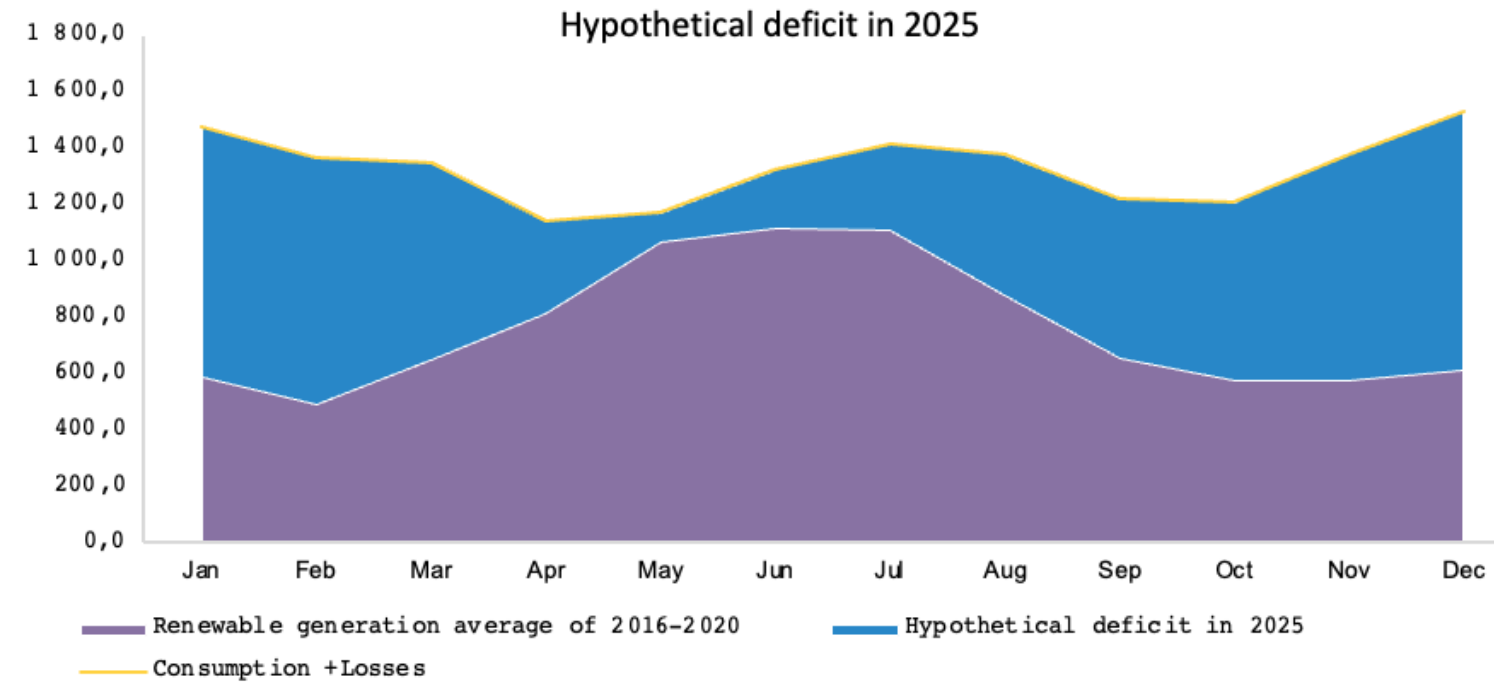
Electricity Generation and Import TWh



Operational balance of electricity

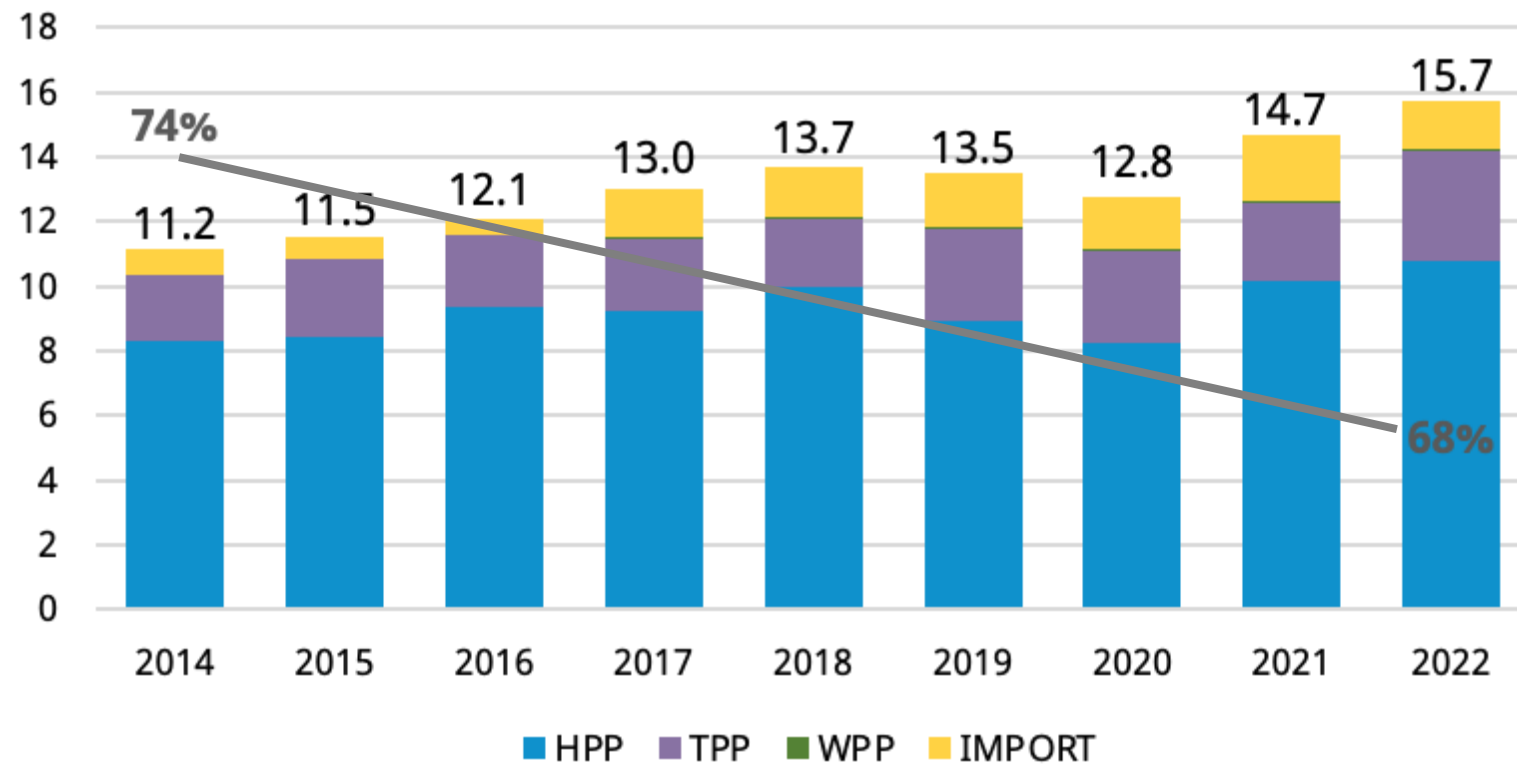


Electricity Consumption Forecast



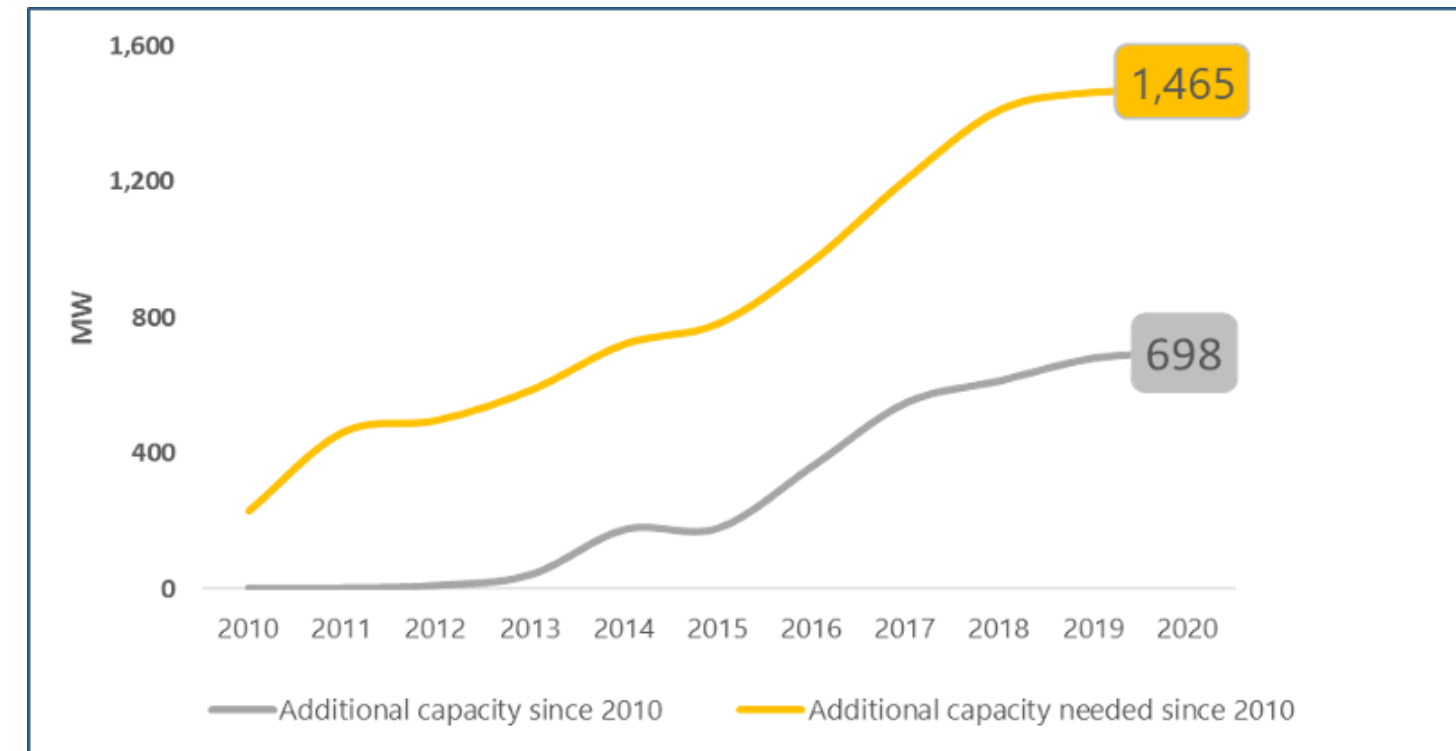
Increased demand is filled by the imported electricity

Share of local generation in 2021-2022 decreased from 74% to 68%



Electricity consumption growth was satisfied with the electricity imports or increased generation of TPPs (which run on imported gas).

Electricity consumption growth rate is twice higher than production growth rate



Since 2010, only 700MW of Hydro and Wind power plants have been commissioned, while 1,500 MW was needed to match the consumption growth.

Energy Balance

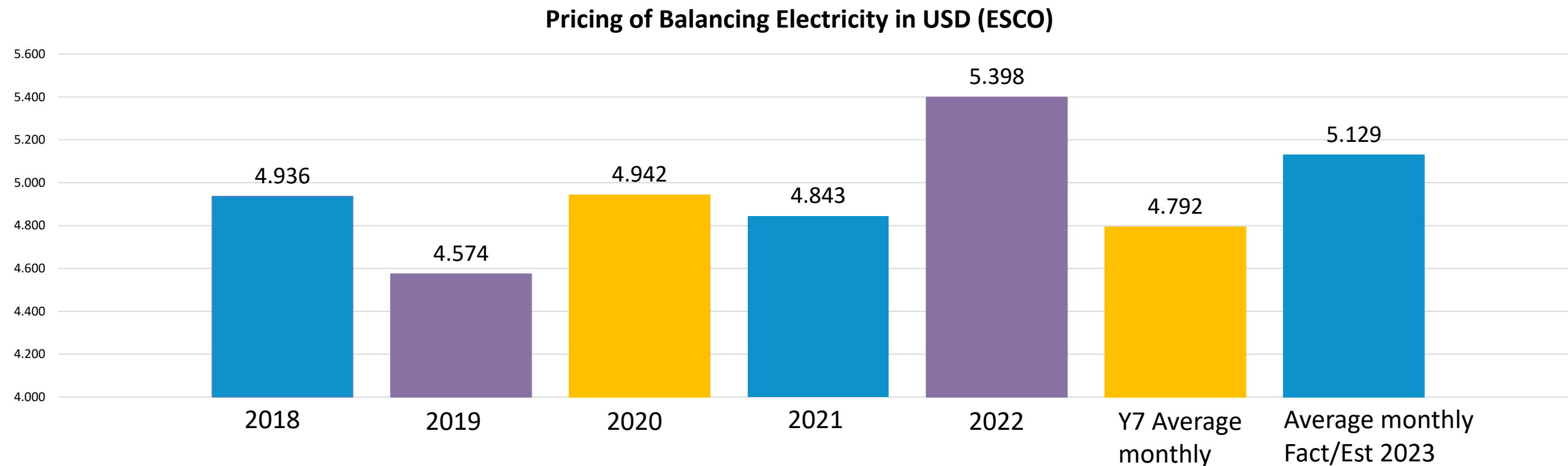


- <1 MW – 21 HPPs
- 1-10 MW – 60 HPPs
- 10> MW – 36 HPPs, 1 WPP, 5 TPPs
- Total Installed Capacity - 4596,4 MW

- **HPPs Total Installed Capacity - 3394,3 MW:**
Water reservoir Hydro plants 1993.1 MW;
Seasonal Hydro plants 1100.1 MW;
Small Hydro plants (<15 MW) 301,0 MW.
- **TPPs Total Installed Capacity - 1181,4 MW:**
Steam Turbines 572.0 MW;
CCGT 486,2 MW;
Gas Turbine 110.0 MW;
Coal 13.2 MW
- **Renewable (except for water) - 20.7 MW:**
Wind Power Plant is 20.7 MW.

Tariff Dynamic of Recent Years

- The electricity tariff in Georgia in 2018-2023 mostly ranged from 4 to 6 US cents.
- Electricity is the cheapest in the summer months, May and June.
- Electricity is the most expensive - from October to March.
- Over the years, the maximum price for electricity - \$6.21
- Over the years, the minimum price for electricity - \$2.52



Black Sea Submarine Cable Project



The 1,000-1,500 MW, 1,195 km long Black Sea submarine cable project between Georgia and Romania aims to connect the South Caucasus region to Southeast Europe. The underwater cable will also be equipped with an optical fiber cable.

The estimated launch year is 2030, and the estimated cost is 2.3 billion euros.

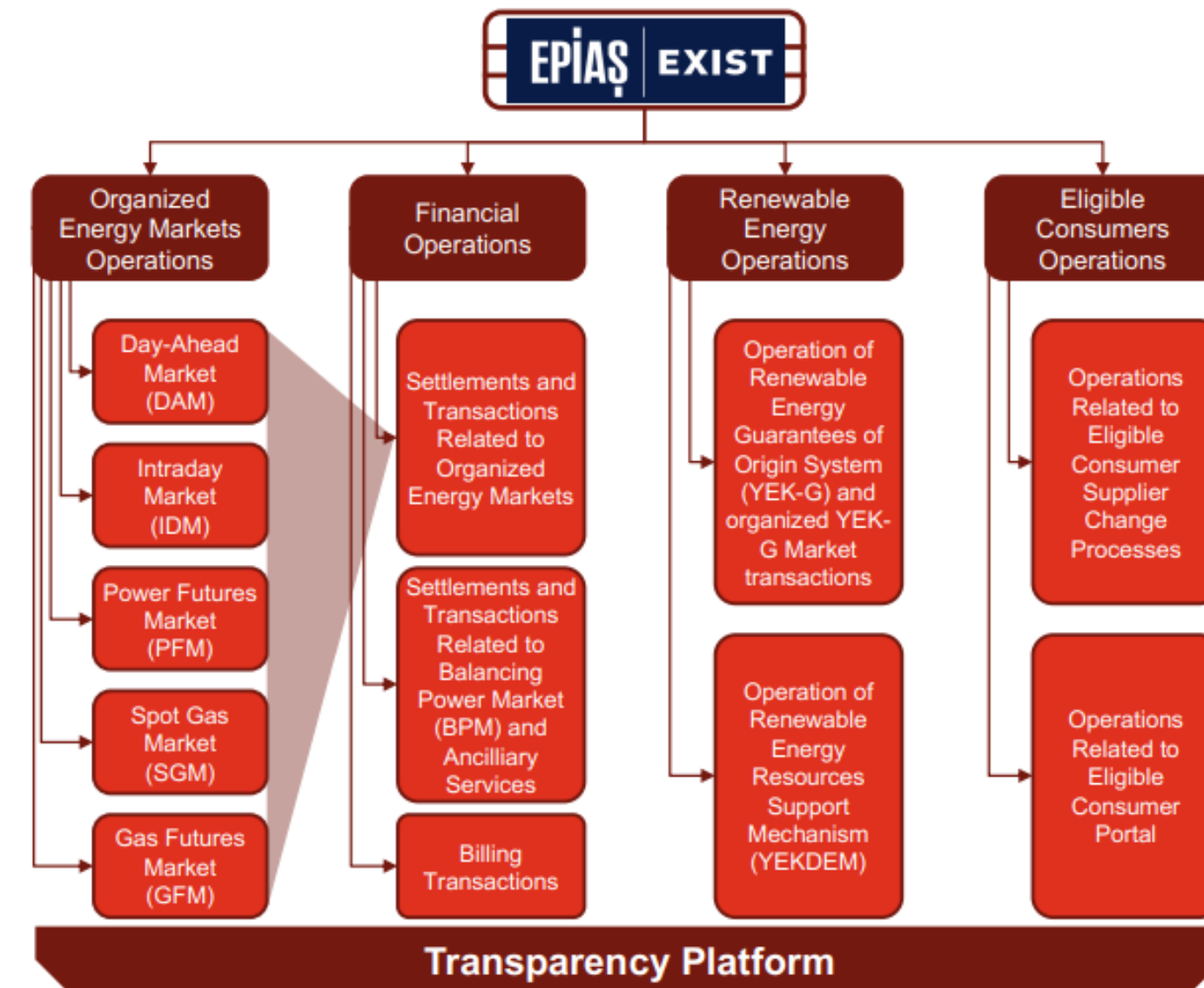
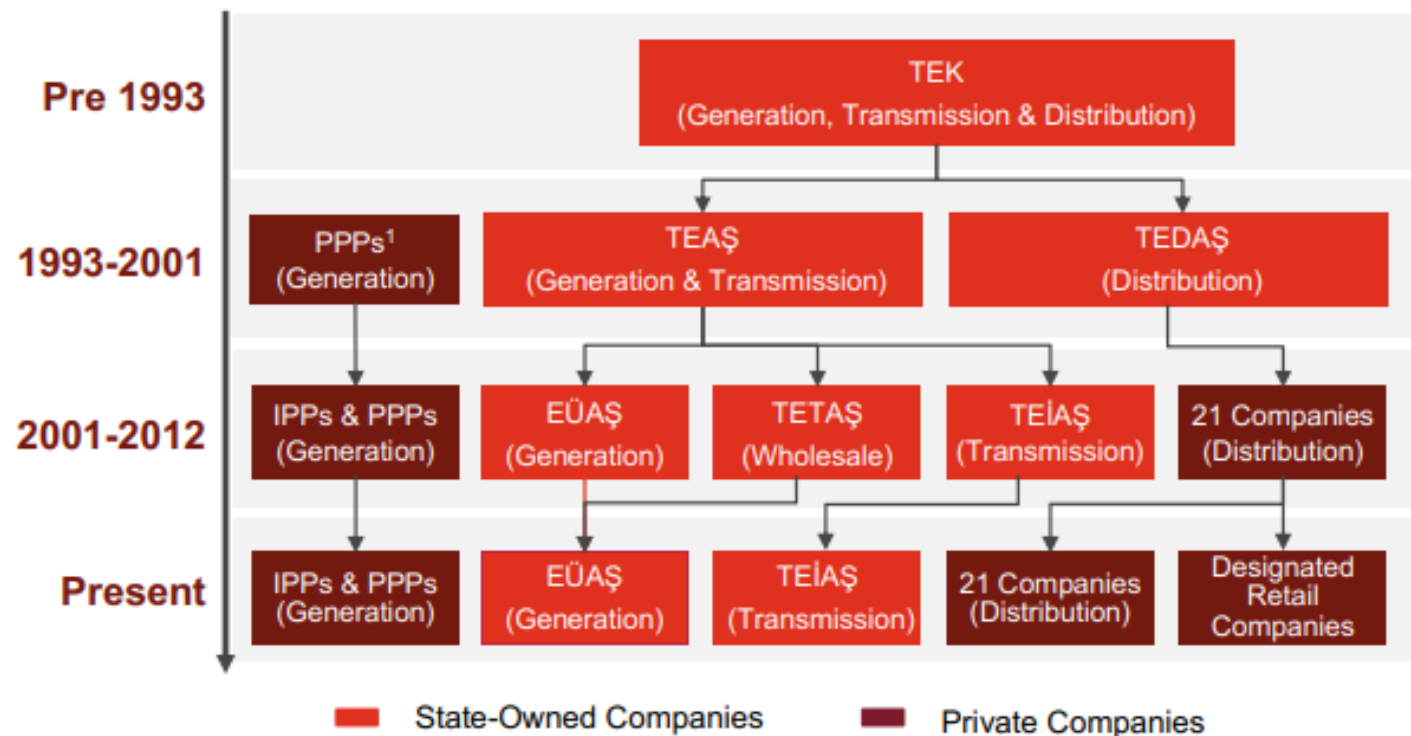
Currently, the technical and economic study of the project is being carried out by the Italian consulting company CESI. The deadline for completion is the end of 2023. The final route will also be determined as part of the study.

Differences between energy markets in the Region

Turkey

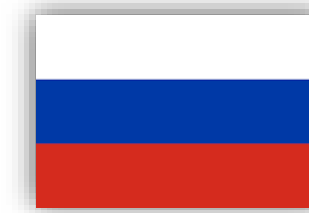


- Liberalisation – Liberalised
- Establishment of NRA – 2001
- Establishment of the Organized Electricity Market – 2006
- Amendment of Renewable Energy Law – 2011

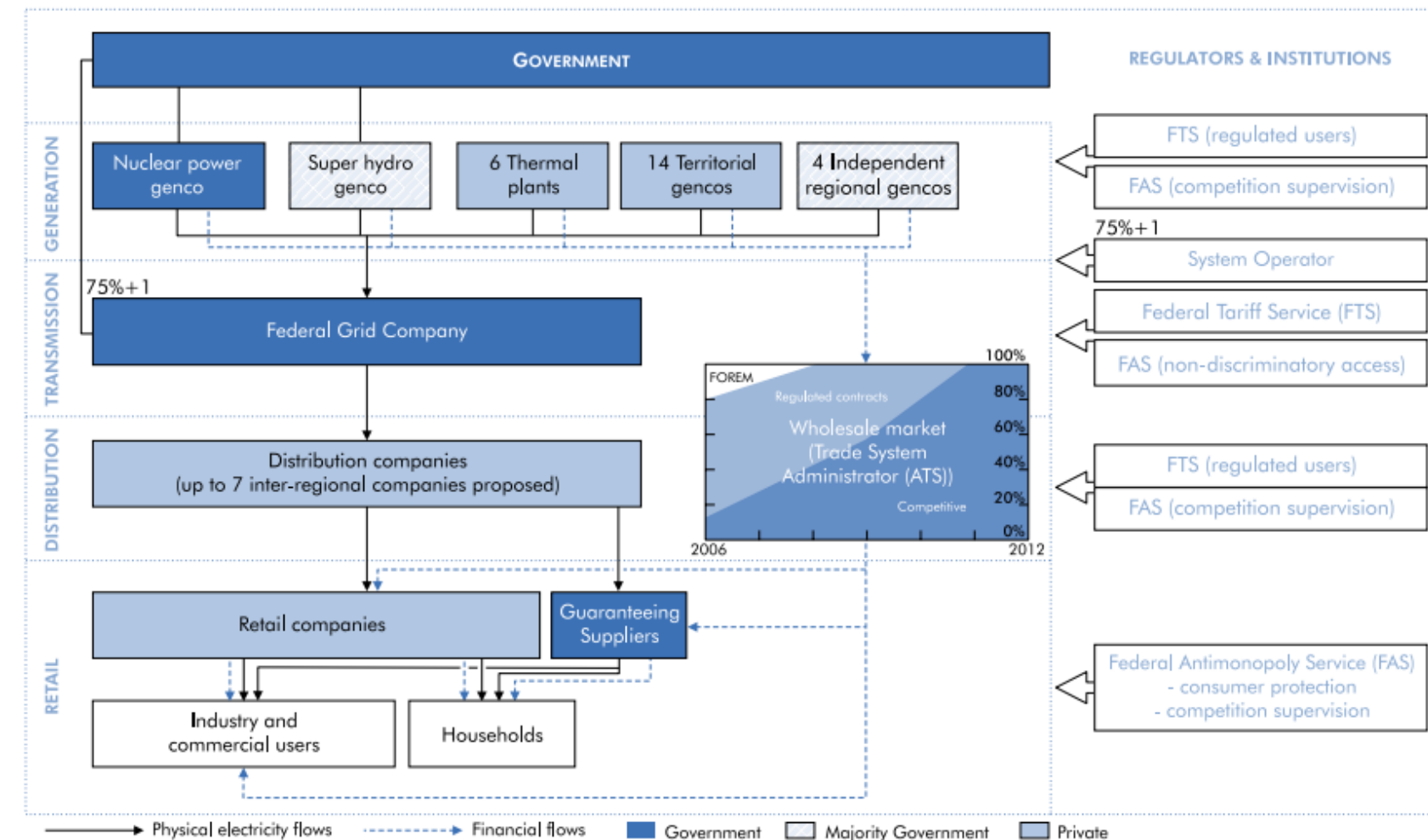


Differences between energy markets in the Region

Russia



- Liberalisation – Liberalised
- Establishment of NRA – 2004
- Establishment of the Organized Electricity Market – 2012
- Amendment of Renewable Energy Law – 2007



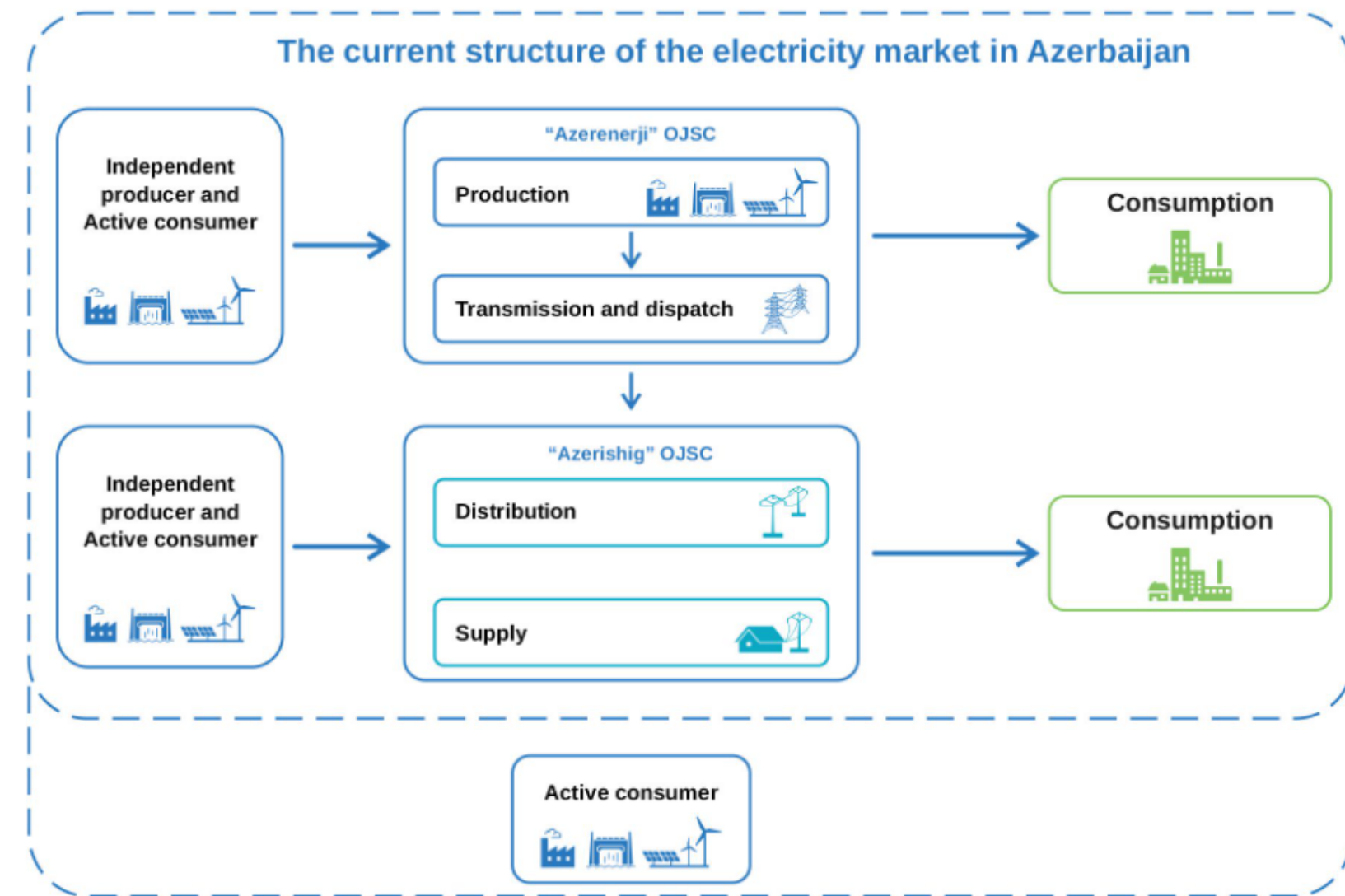
Source: <https://iea.blob.core.windows.net/assets/2a1df6a4-9929-4c0f-a050-c2c695e694ee/russianelec.pdf>

Differences between energy markets in the Region

Azerbaijan



- Liberalisation – non Liberalised
- Establishment of NRA – 2017
- Establishment of the Current Electricity Market – 2003
- Amendment of Renewable Energy Law – 2021



Source: <https://regulator.gov.az/en/elektrik/elektrik-enerjisi-sebekesi-ve-daxili-topdansatis-bazari#:~:text=Structure%20of%20the%20electricity%20market,the%20agreement%20between%20the%20participants.>

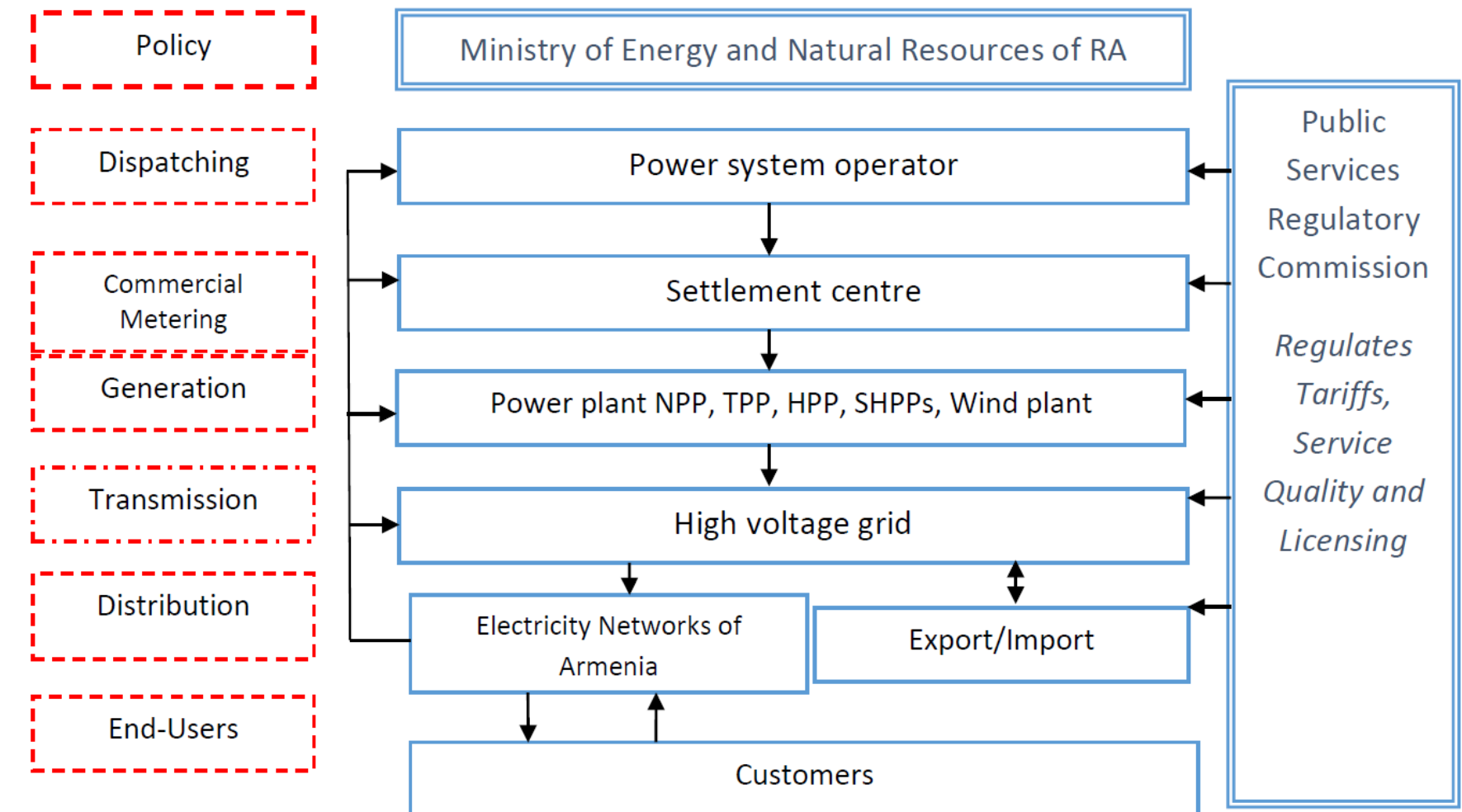
Differences between energy markets in the Region

Armenia



- Liberalisation – Liberalised
- Establishment of NRA – 1997
- Establishment of the Organized Electricity Market – 2022
- Amendment of Renewable Energy Law – 2016

Armenia's Electricity Market Scheme



Source: MENR

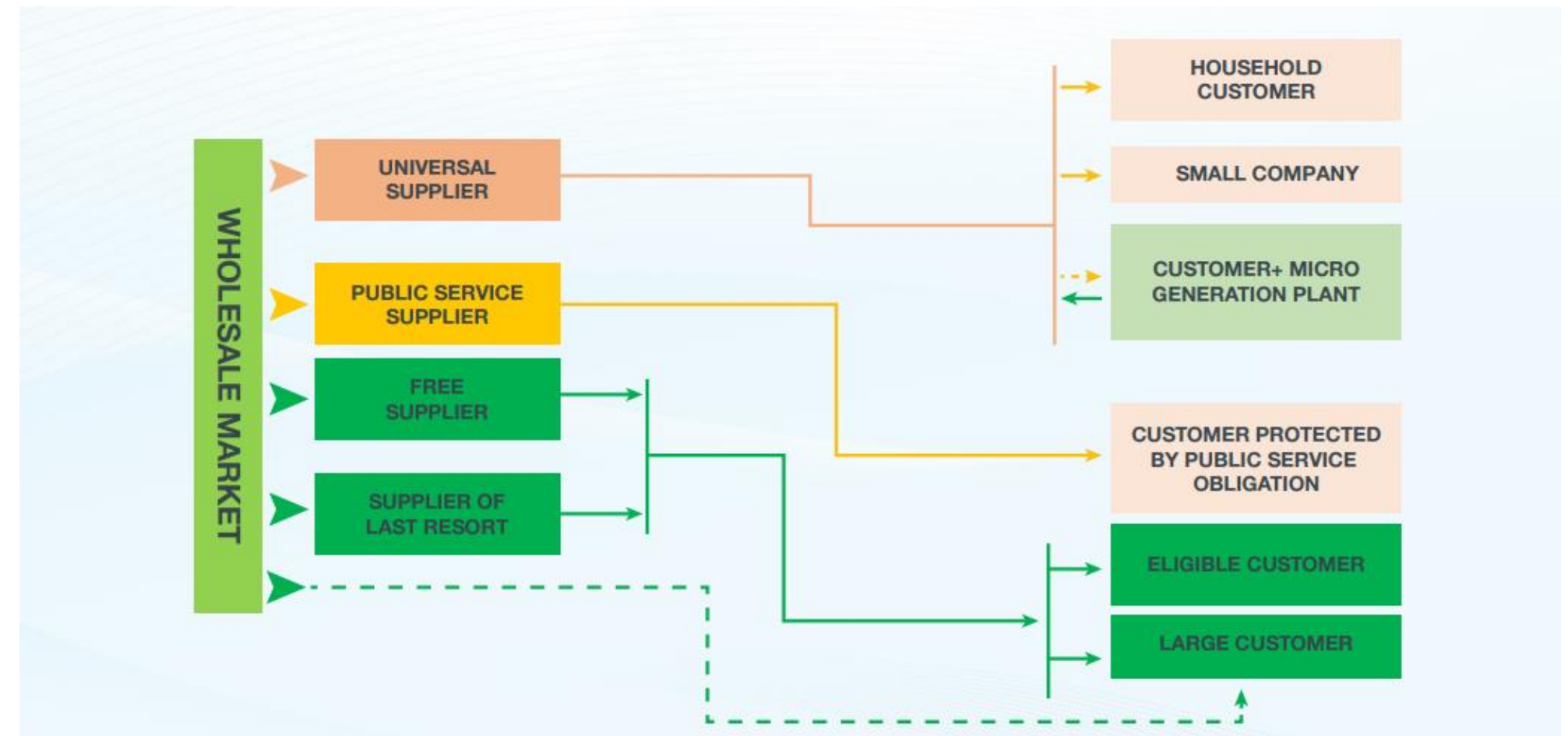
Source: <https://regulator.gov.az/en/elektrik/elektrik-enerjisi-sebekesi-ve-daxili-topdansatis-bazari#:~:text=Structure%20of%20the%20electricity%20market,the%20agreement%20between%20the%20participants.>

Differences between energy markets in the Region

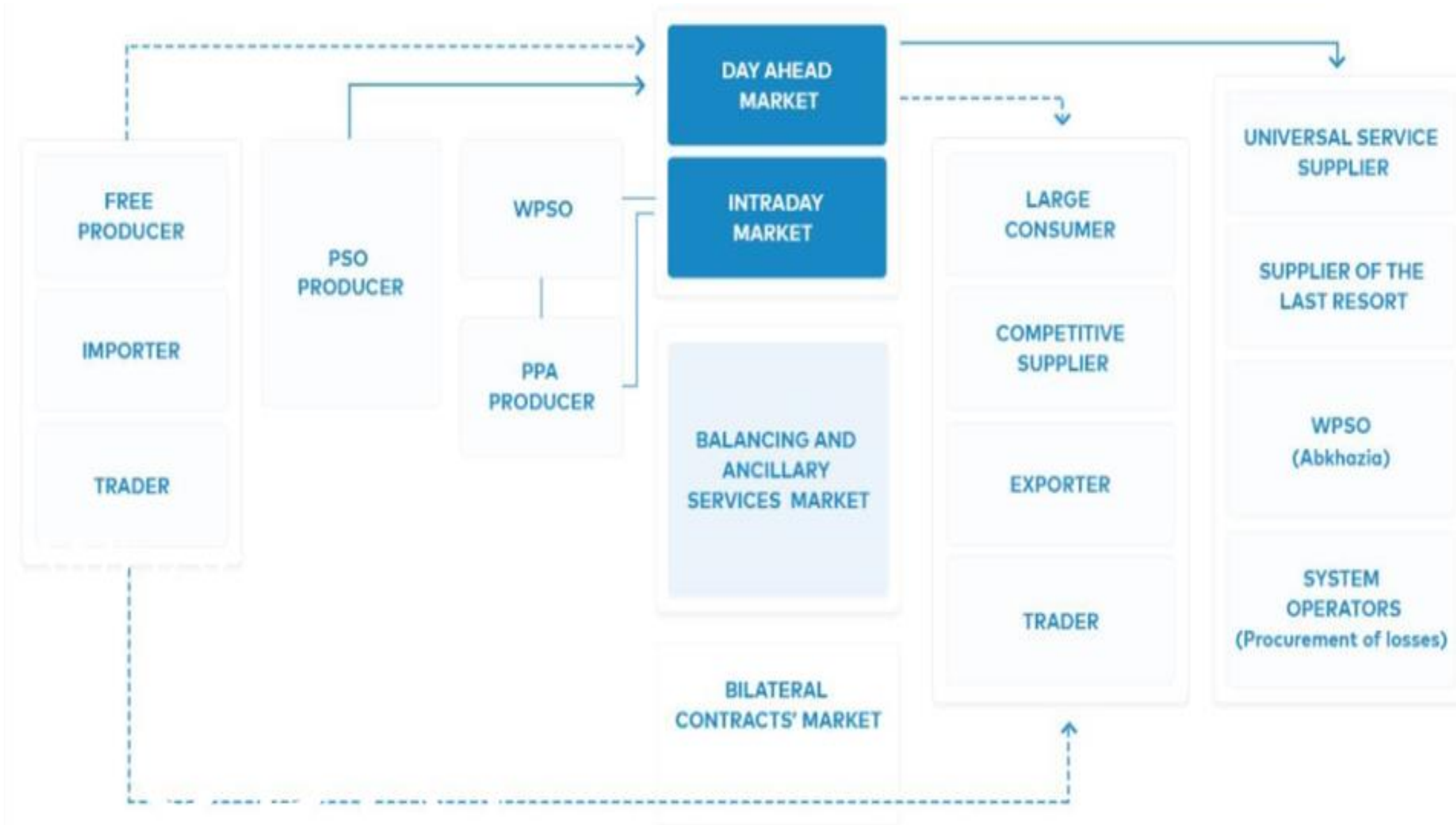
Georgia



Liberalisation – non Liberalised
Establishment of NRA – 1997
Establishment of the Current Electricity Market – 2020
Amendment of Renewable Energy Law – 2019



Market Reform

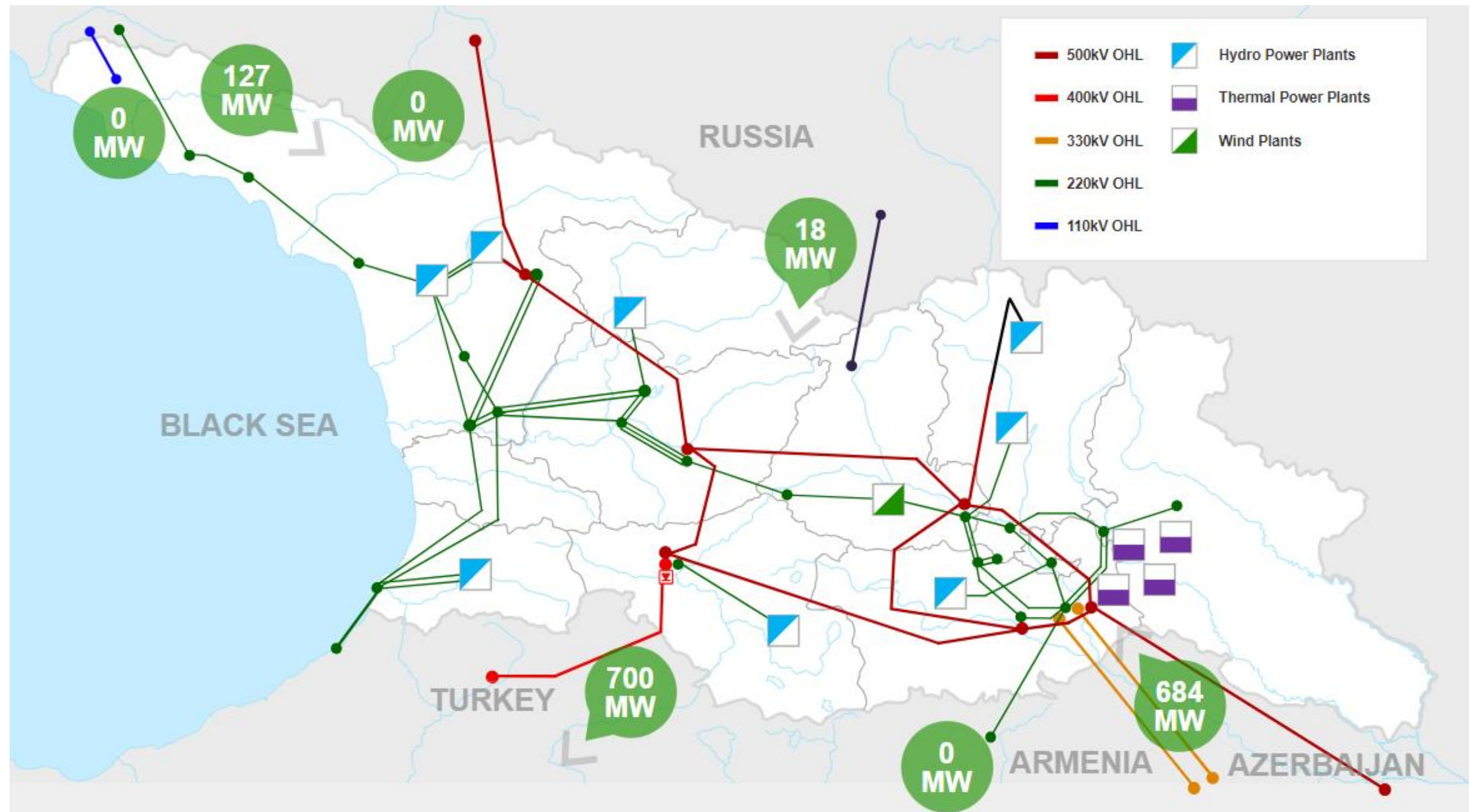


The market go-live date - July 1, 2024

- ← Day-ahead market
- ✓ Intraday market

Simulation trade in the DAM and Balancing and Ancillary Service market continues in accordance with the GNERC resolution. The GNERC resolution regulates the transitional measures ahead of the Georgian power market go-live. Additionally, GENEX also simulates trade in the Intraday Market.

Cross-Country Electricity Trading



Source: GSE's power flow map
 Acces Date: 22.11.2023

THANK YOU!



+995 32 2 200 036



info@greda.ge



www.greda.ge



GREDA-საქართველოს განახლებადი ენერჯის განვითარების ასოციაცია



GREDA - Georgian Renewable Energy Development Association



TBILISI, KOTE APKHAZI ST. 44