Organization of cross-border trading between Georgia and Armenia

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Content

- The big picture;
- Statistical outlook;
- Cross-border infrastructure;
- Legal framework and general principles for cross-border electricity trading;
- Planned infrastructure projects;
- Challenges and next steps

“The Big Picture”

- Until breaking USSR, Georgia’s and Armenia’s power systems were integral to the South Caucasian United Energy System, whose regional dispatch center at Tbilisi served Georgia and Armenia and Azerbaijan;

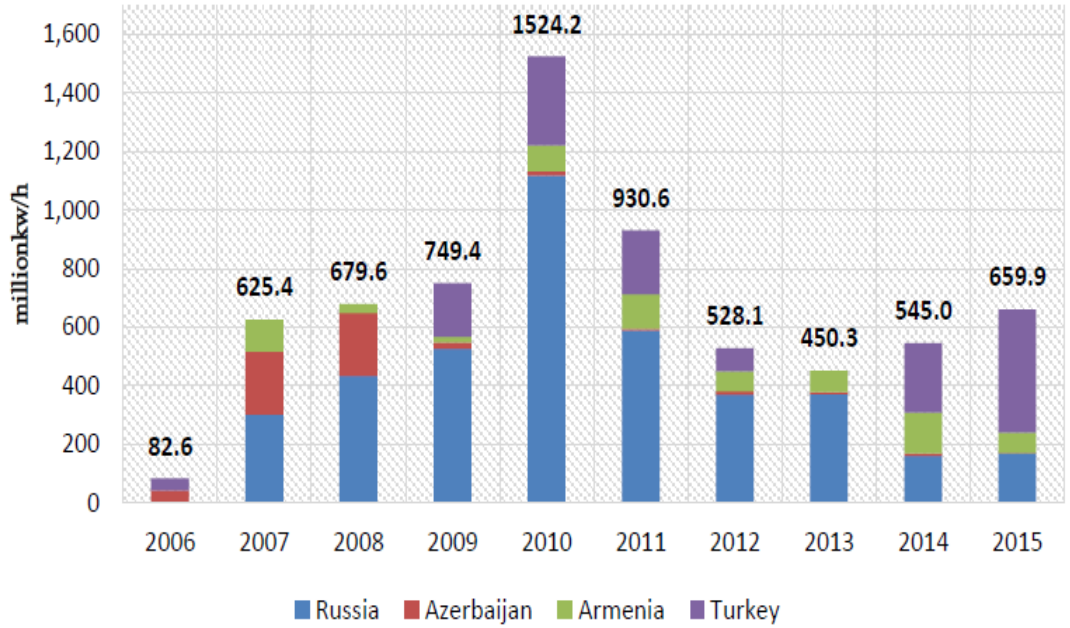
- Armenia’s current electricity market model (EMM) was established in 2004 and is based on a “single buyer (seller)” model;
- Both wholesale and retail sections of the market are fully regulated, as well as the import and export in Armenia.



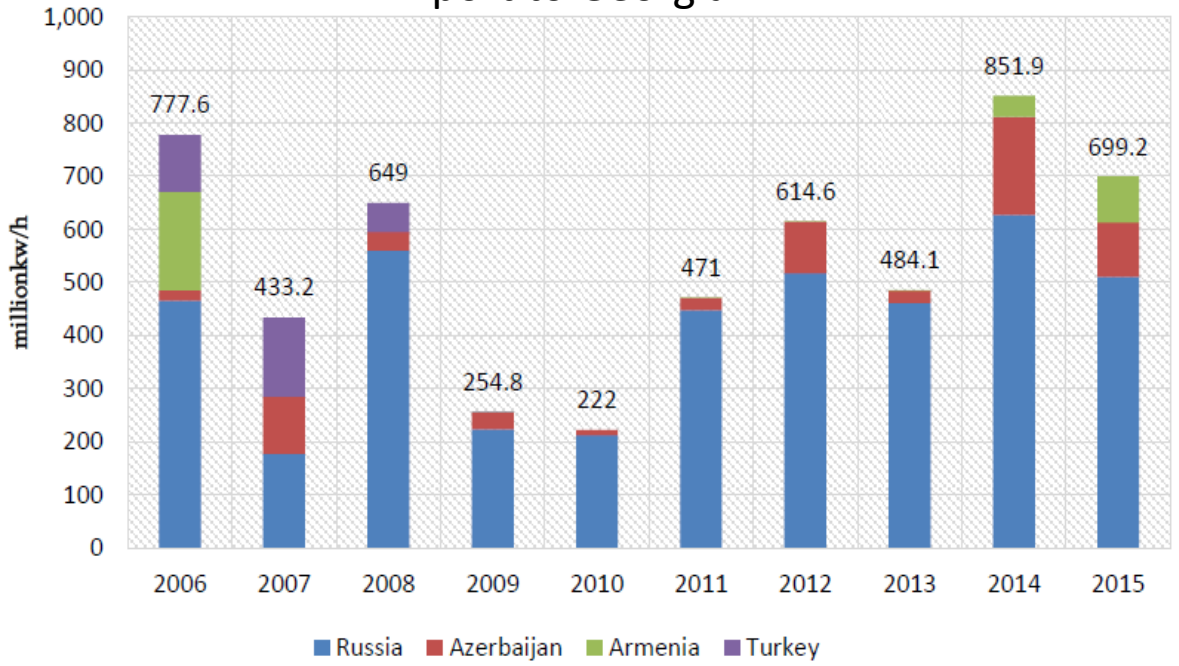
- Georgia’s current electricity market model was established in 2006 and is based on a “direct contracts” model;
- In Georgia, wholesale trade is partially deregulated and retail section of the market is fully regulated. The import and export are deregulated.

Statistical Overview

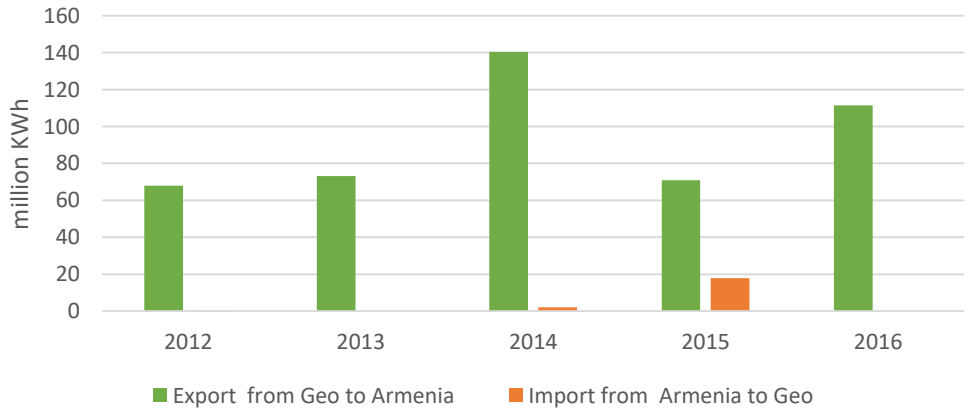
Export From Georgia



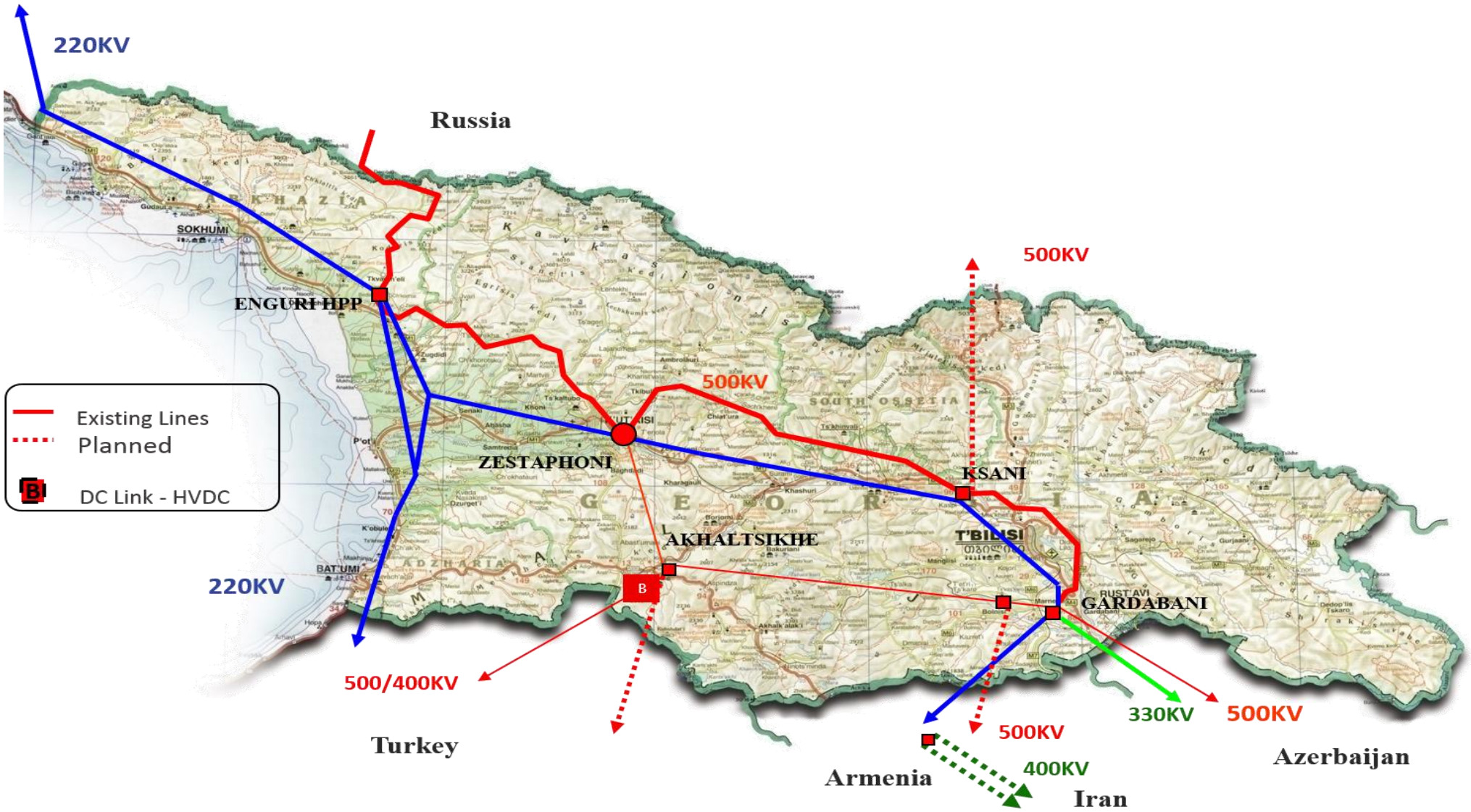
Import to Georgia



Transit Through Georgia (KWh)	2014	2015	2016	2017*
Transit From Russia to Armenia	0	0	36 435 788	42 237 357
Transit from Armenia to Turkey	38 311 316	0	0	0



Interconnection and HV internal lines



Transmission Network TTC in 2016



General Principles of Export-Import, Georgia

- Electricity export/import is fully deregulated;
- Electricity export/import can be done by any person based on direct contracts;
- Exporter and importer are obliged to act in accordance with the Electricity (Capacity) Balances
- Importer is also obliged to act in accordance with the tariffs set by the Commission;
- Electricity (Capacity) Balances is approved by the Ministry of Energy under the proposal submitted by the Dispatch Licensee
- During emergency situations imports and exports can be done without being included in the Electricity (Capacity) Balances;
- The Dispatch Licensee is authorized to determine the direction of the import or export volumes by neighboring country (countries)
- During emergency situations priority is given to electricity exchange compared to other export/import.

Electricity Transit, Georgia

- Person interested in transiting electricity shall conclude an agreement with a dispatch licensee on the provision of technical support for transiting electricity;
- No regulation fees are charged for power transit;
- The respective tariffs set by the Commission for transmission and dispatch services shall not be applied in case of power transit;
- Electricity transit fee covers all costs related to transiting electricity including electricity losses;
- The issues related to the power transit are also regulated by the rules of power (capacity) market and by the agreement on technical provisioning of power transit;
- The participants of transit process are obliged to submit information to the market operator (ESCO);

Legal framework and cross-border trade organization

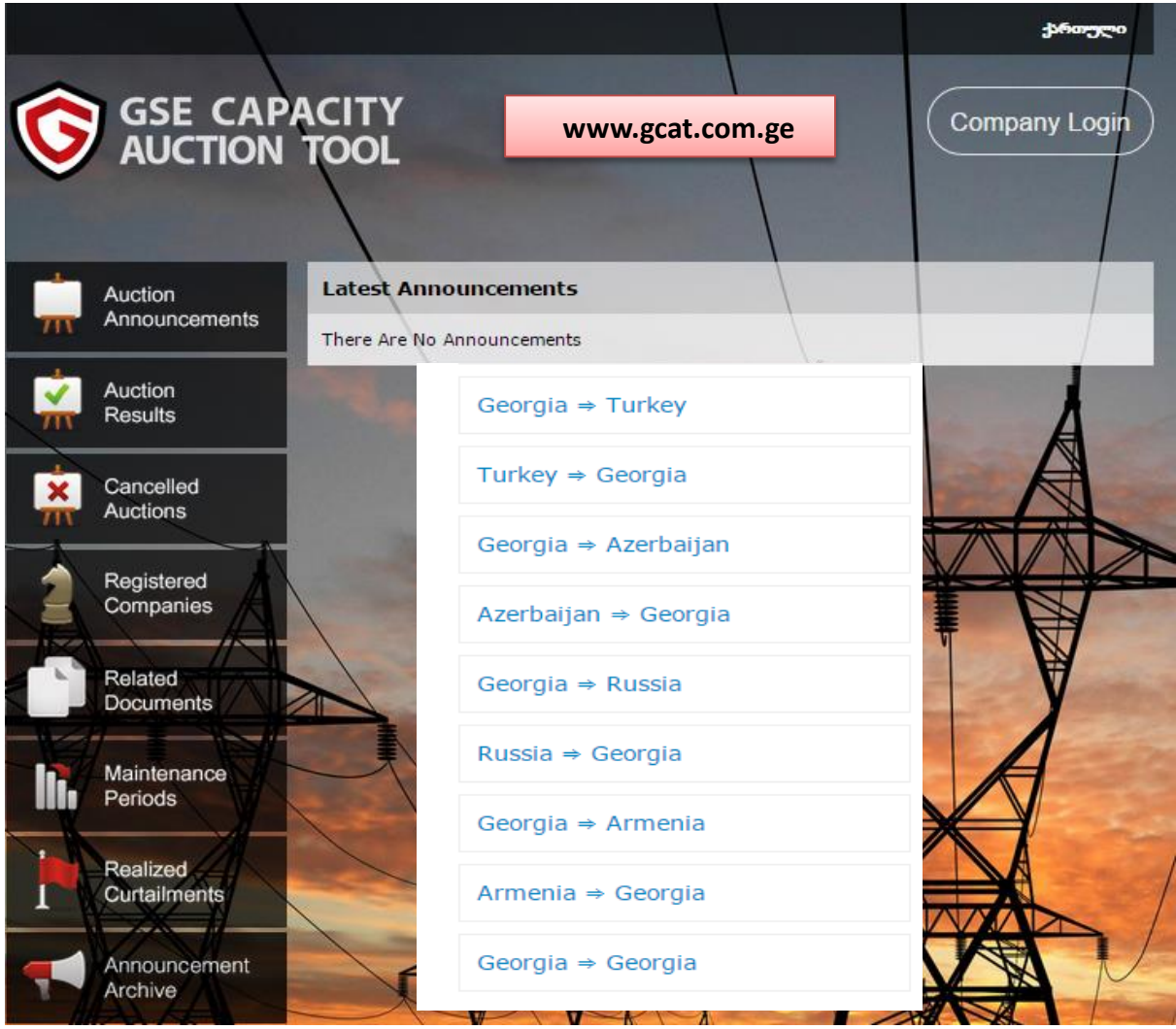
Inter-country or Inter-TSO agreements:

- Armenia:
  - Agreement regarding Parallel Operation
  - Agreement regarding emergency supply (Import/Export)
- Azerbaijan:
  - Agreement regarding Parallel Operation
  - Agreement regarding emergency supply (Import)
- Russia:
  - Agreement regarding Parallel Operation
  - Agreement regarding emergency supply (Import/Export)
- Turkey:
  - Agreement regarding Parallel Operation
  - Cross Border Electricity Trade Agreement (20/01/12)
  - Interconnection Operation Agreement (TEIAS-GSE/Energotrans) (18/09/13)
  - Special Auction Rules

- Law of Georgia on Electricity and Natural Gas
- Electricity (capacity) market rules
- Special Auction Rules

General Principles of Congestion Management

- Types of congestion:
  - **Export Allowed Volume** - is an energy left from total generation after full satisfaction of domestic consumption, as planned according to Annual balance, reduced by:
    - Energy needed to keep parallel synchronous operation
    - Already allocated Energy
  - **Transit Capacity** – Capacity that is possible to be transited from one interconnection point to another taken into consideration internal line transfer capacities, calculated by GSE
  - **ATC** – Available Transfer Capacity of the cross-border line(s) for the interconnection



Congestion Management Mechanism: Electronic Auctions

Net Transfer Capacities

NTC is agreed between neighboring countries for Import and Export separately.

Timeframe for the NTC agreement according to the counties is as follows:

- Armenia
  - Year ahead for each 12 months separately
  - NTC is agreed on both Import and Export
  - Both for synchronous and asynchronous operation
- Azerbaijan
  - Before each transit period
- Russia:
  - 10 days ahead before start of energy transit
  - Clarified before start of Export/Import
- Turkey:
  - Year ahead before 1st of August for each 12 months separately, for Borchkha-Akhaltsikhe interconnection line

General Principles of Congestion Management

Available Transfer Capacity (ATC)

=

Net Transfer Capacity (NTC)

-

Already Allocated Capacity (ALC)

Priority Groups

A) Electricity import and export in emergency situations;

B) Export of electricity **generated by a renewable power plant** (including hydro power plants) built in Georgia after 2010, conditional that **there is a long term electricity export agreement on Transmission/Distribution Services** during the effective period of the agreement;

C) Export of electricity **generated by a renewable power plant** (including hydro power plants) built in Georgia after 2010, conditional that less than 10 years have passed since the start-up and beginning of the commercial operation of the power plant and **there is no long term electricity export agreement on Transmission/Distribution Services**.

Export of electricity generated by a renewable power plants (including hydro power plants) which are **under construction also belong to the same priority group** if:

C.A) An **agreement is signed with the government** on construction of the power plant,

C.B) A long term agreement **on Transmission/Distribution Services** has not been signed for export of its generation.

D) Export of electricity generated by other Georgian power plants which is not provided for in Paragraphs (a), (b) and (c) mentioned above.

Transmission Cost for Exporting Electricity to Turkey and Other Directions (2014)

Exporting Electricity to Turkey

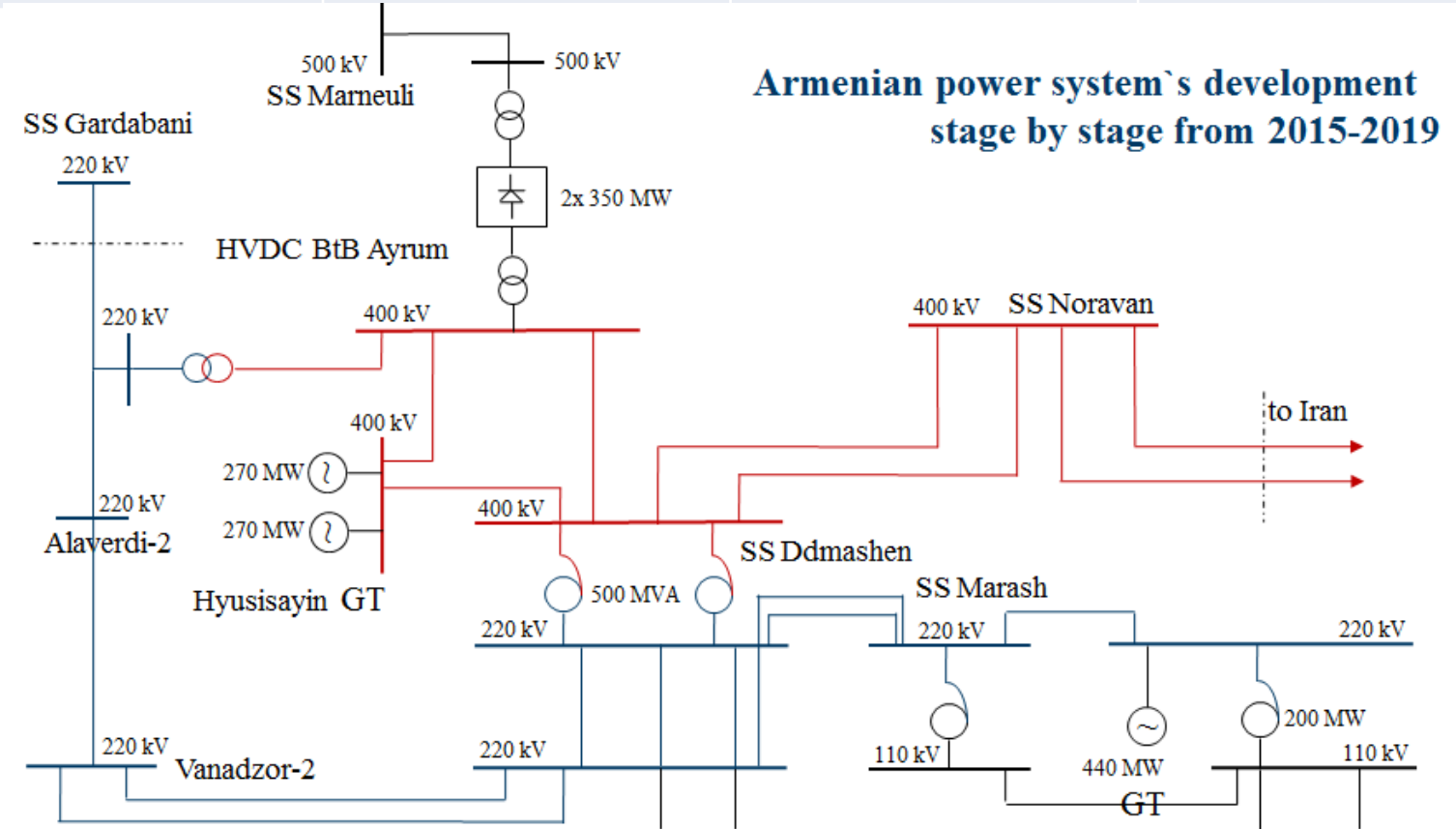
Transmission	Market Operator	Dispatch	Guaranteed Capacity	
0.677 US cent	+ 0.008 US cent	+ 0.044 US cent	+ 0.222 US cent	= 0.951 US cent

Electricity to Other Directions

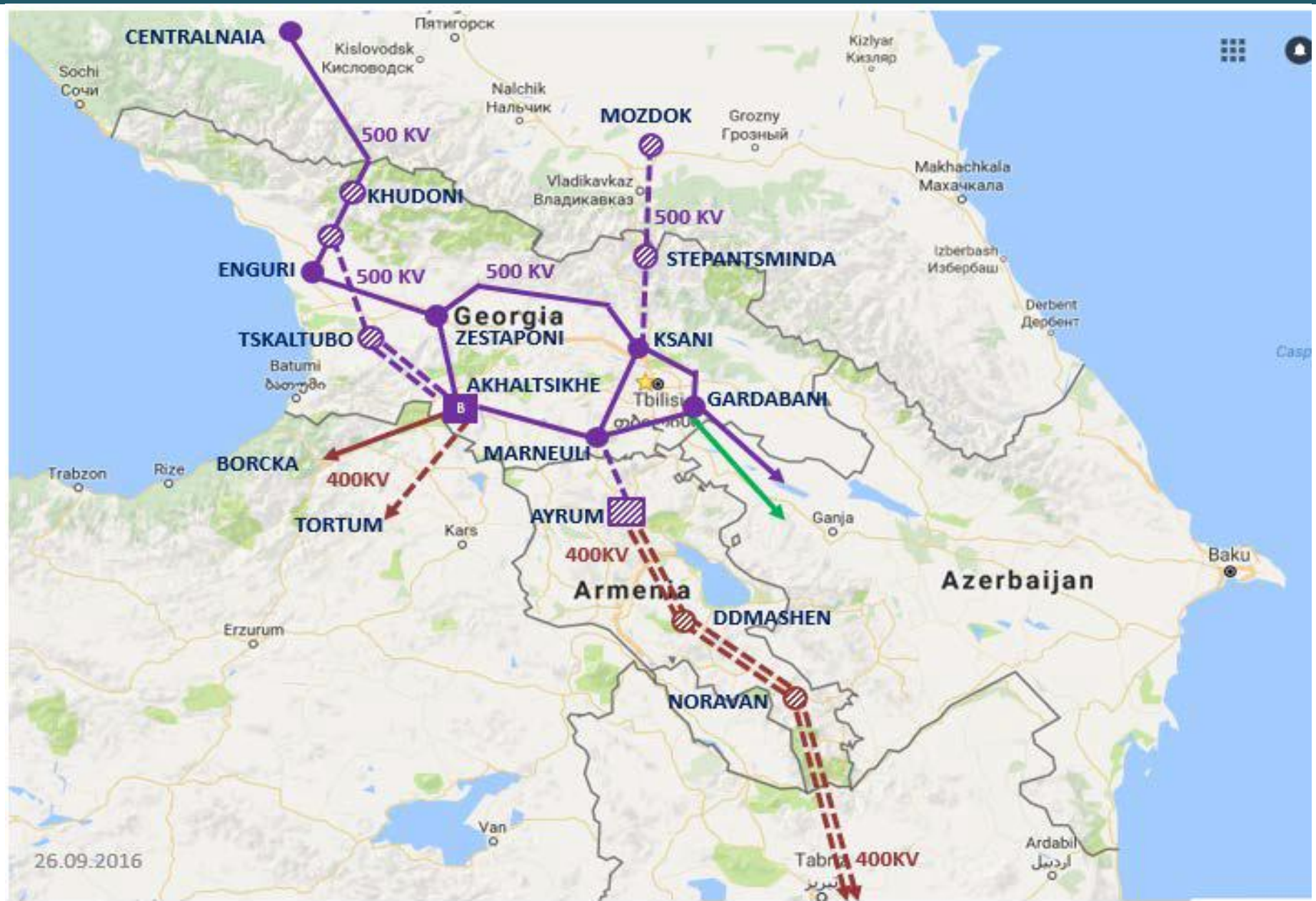
Transmission	Market Operator	Dispatch	Guaranteed Capacity	
0.348 US cent	+ 0.008 US cent	+ 0.044 US cent	+ 0.222 US cent	= 0.622 US cent

Georgian TYNDP (2017-2027)

Country	Power Line	Voltage	Exchange	TTC (MW)	Regime
Armenia	“Alaverdi” AC-300	220	Export/Import	150/100	Synchronous/Island mode
	“Marneuli-Ayrum” AC-330X3	400	Export/Import	700	B2B



Armenia-Georgia-Iran-Russia Project



Challenges and next steps

ARMENIA

- The RoA Government Protocol Decision No. 29-11 dated July 29, 2016, with the intention of coordinating the process of power market liberalization and the implementation of activities promoting cross-border trade;
- Develop concept of new electricity market model and electricity trading mechanisms;
- Analyze potential of day-ahead electricity trading node at the border;
- Revise the existing tariff methodology.

GEORGIA

- Georgia's Membership of EU energy Community implies harmonization of Georgia's energy legislation with the EU's energy community acquis;
- Strengthening regulatory competence in monitoring of cross-border trading
  - EU Energy Community's Regional Market Monitoring
- Maximum utilization of cross-border transmission capacity;
- Analyze potential of day-ahead electricity trading node at the border.

Thank You!

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