



Cross-Border Trade in Turkish Power Market

Fatih Kölmek
Energy Expert & Advisor
Energy Market Regulatory Authority of Turkey (EMRA)

28/01/2014 – Tbilisi, Georgia

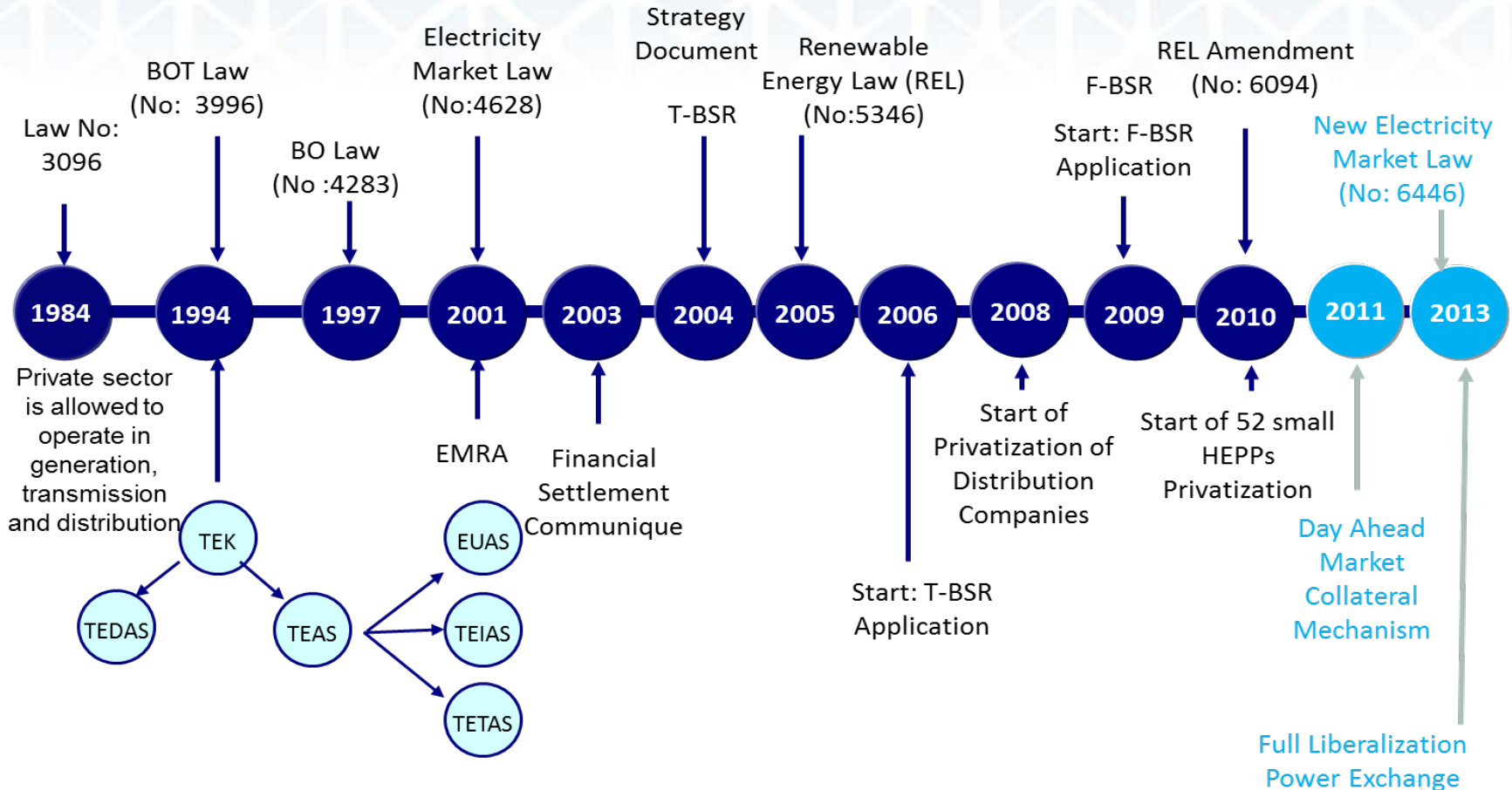




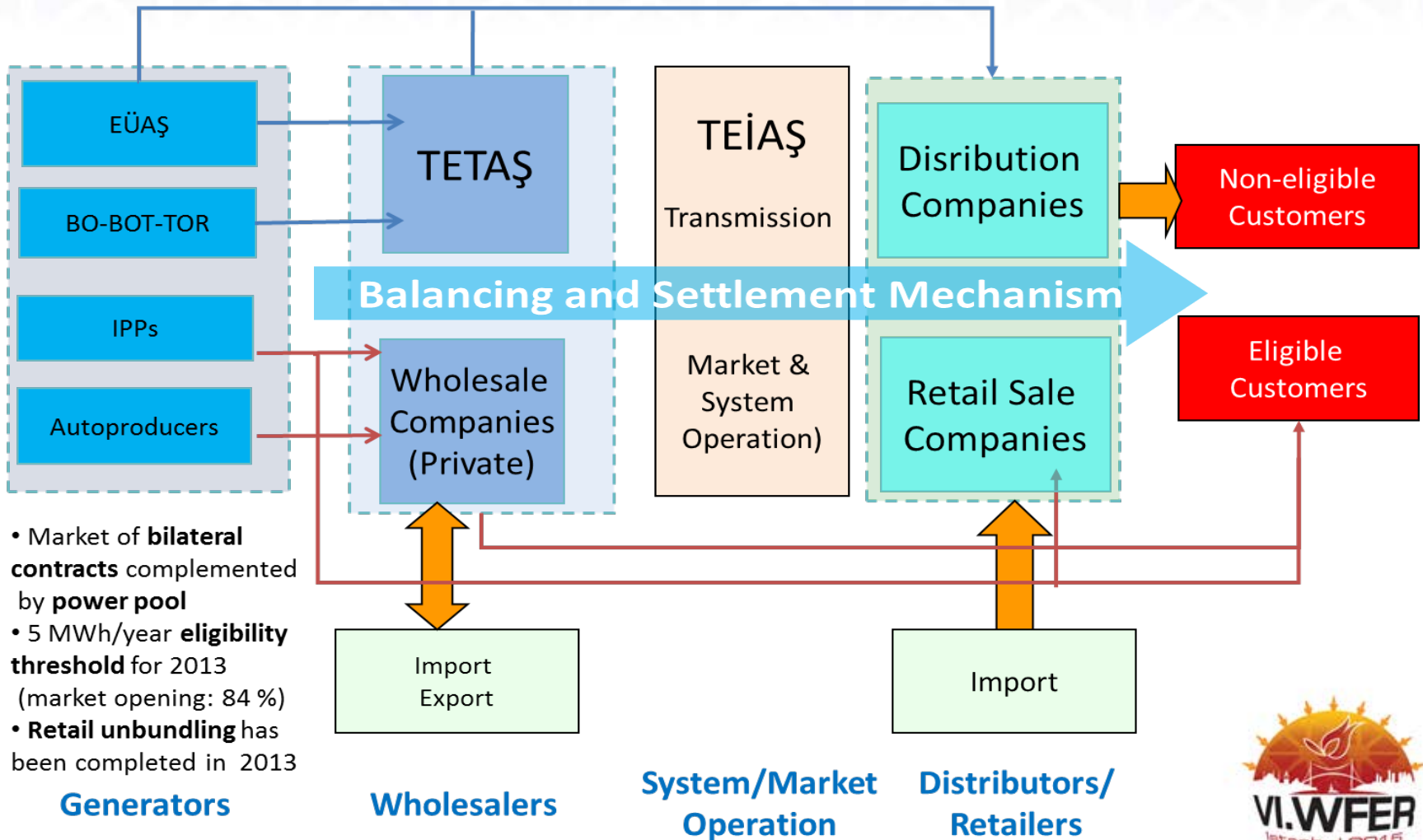
- Sole regulator of Electricity, Gas, Petroleum and LPG markets,
- Autonomous authority
- Monitors, supervises and audits markets & market players
- Approves tariffs
- Main objectives are to provide;
 - Financially viable, stable and competitive energy market
 - Sustainable energy at good quality and low cost, in a reliable and environment friendly manner



History of Liberalization



Electricity Market Structure



New Electricity Market Law

New EML (# 6446) made significant changes in cross-border trade

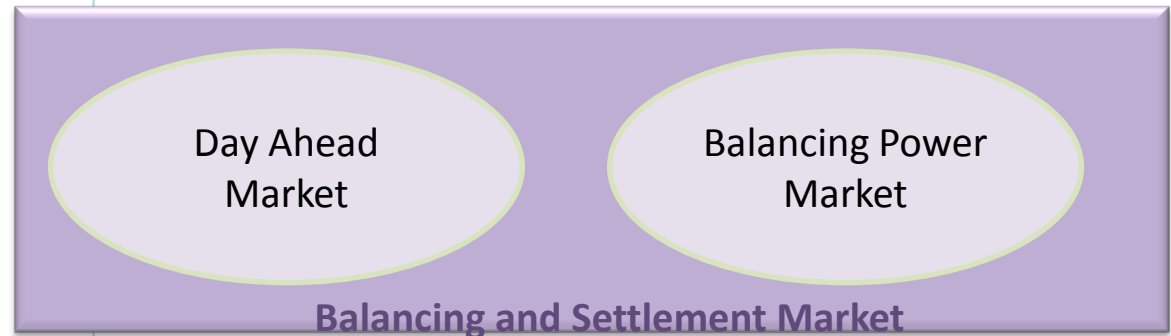
- **Unbundling** market and system operation activities carried out by TSO and establishing an **independent market operator**
- Combining **retail** and **whole sale** activities under a supplier license
- Opening import/export for generators (export only) & retailers
(via the supplier license)

Balancing & Settlement Market

Final Phase

- Day Ahead Market
- Balancing Power Market
- Hourly Settlement
- Demand side participation
- Enables market splitting
- Base-load futures offered
- Intra-day market underway

Since Dec 2011 – present



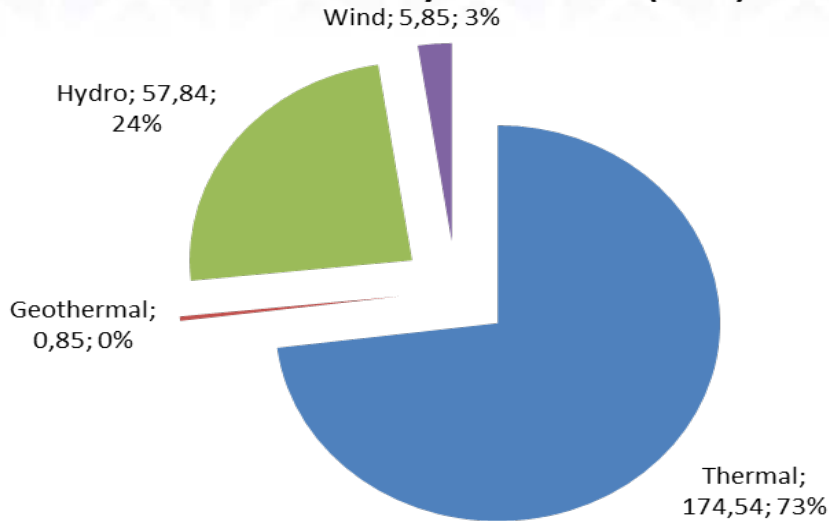
➤ Day Ahead Market provides;

- Opportunity for the market participants to purchase/sell energy for the following day in addition to their bilateral agreements
- Balanced system to the system operator for the following day

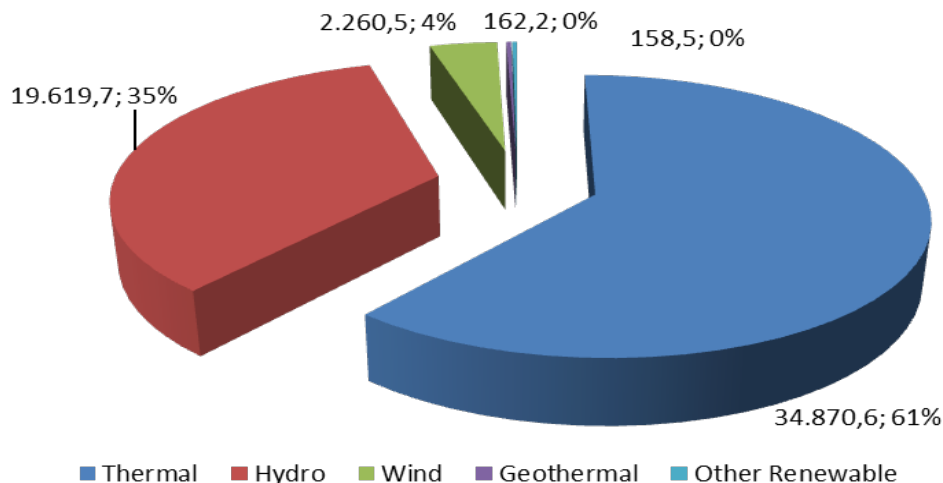
➤ Balancing Power Market is used for real-time balancing of demand & supply

Market Figures

2012 Electricity Generation (TWh)



2012 Installed Capacity (MW)



- Installed Capacity
Renewable 39 %
Thermal 61 %
(by Dec '12)
- Consumption (2012) 242 TWh
- Generation (2012)
Renewable 27 %
Thermal 73 %
- Peak Load (2012) 39.045 MW

Aggregate Figures:

- Consumption (2012) 242 TWh
- Generation (2012) 239.1 TWh
- Import (2012) 4.363 TWh
- Export (2012) 1.489 TWh

As of Nov'13;

- Total installed capacity : 61.984 MW
- Installed **RES-E** capacity : 24.947 MW
- Share of **RES-E** in capacity : 40,2 %
- Installed Wind Capacity : 2.689 MW
- Installed Hydro Capacity : 21.724 MW

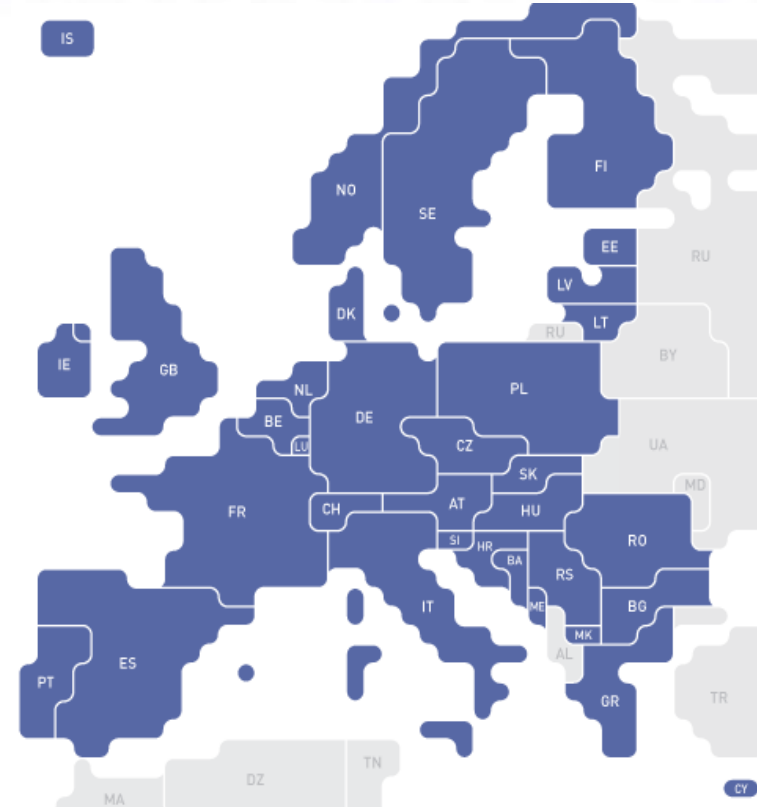
Cross – border Interconnections



2015 Plan

TIME TABLE

Process	Date
Isolated test at Maximum Load Conditions	11-25 January 2010 Has been successfully completed.
Isolated test for Minimum Load Conditions	22 March – 05 April 2010 Has been successfully completed.
Trial Parallel Operation	<ul style="list-style-type: none"> • Stabilization Period (No exchange) 18 September 2010 • Non-commercial exchange 21 February 2011 • Commercial exchange (Limited) 1 June 2011 Planned to be completed by fall 2014



Cross – Border Regulations - I

- Import and Export is possible to and from countries that fulfill the international interconnection requirements
- Subject to available capacity and the approval of EMRA
- Eligible market participants:
 - Supplier license owners
 - TETAŞ (state owned wholesaler)
 - Private wholesalers
 - Private retail salers
 - Generators (export only)

Regulations on cross-border trade

- The purchase/sales agreements between governments (which are managed by TETAŞ) have a priority in the allocation of the cross-border transmission capacity.
- Having allocated the required capacity to TETAŞ, the remaining capacity is allocated by the method of “**Explicit Auction**” in case of congestion.
- ENTSO-E interconnection capacity is auctioned via TCAT (online) and OTC trade is allowed.
- The revenues obtained from congestion are mainly used for;
 - Establishment of new interconnection lines
 - Strengthening of transmission and distribution systems for increasing NTC values of existing interconnection lines

Regulations on cross-border trade

- Once the transmission capacity allocated, it is possible to sell;
 - **imported** electricity;
 - in the internal electricity market by making **bilateral contracts** or the **balancing and settlement mechanism**
 - to a foreign country via export.
 - **exported** electricity in a foreign country.
- In this case, transactions are subject to “**system use**” and “**system operation**” tariffs, and market “**operation fee**”.

Cross – Border Regulations - IV

Quick Snapshot

- **Cross-border trade in place**
(not monopolistic exchange)
- **Non-discriminatory third party access**
(except IGAs)
- **Electrical systems of different countries are interconnected**
(but markets are not integrated)

Congestion Management and Relief

- Capacities are determined by TSO and approved by the regulator
- Ministry also makes evaluations upon capacity applications
- In case of excess demand in the applications, capacities are allocated via auctions
- Congestion relief measures are taken by TSO in real-time

Import – Export Scenario - I (GE-TR)

- Georgia → TR (import, Hopa-Batumi)
 - Supplier license (for wholesale or retailsale) is required
 - Available capacities are announced by TSO
 - Application to EMRA for permit (concent of TSO & MENR)
 - Participation to capacity auctions (in case of congestion)
 - Start of export

Import – Export Scenario - II (GE-TR)

- Georgia → TR (import, Borchka-Akhaltsikhe)
 - Cross-border capacities are allocated by Georgian TSO
 - Supplier license (for wholesale or retailsale) is required
 - Supplier licensee makes bilateral contract with the Georgian exporter
 - Supplier licensee applies to EMRA for permit (consent of TSO & MENR)
 - Start of export

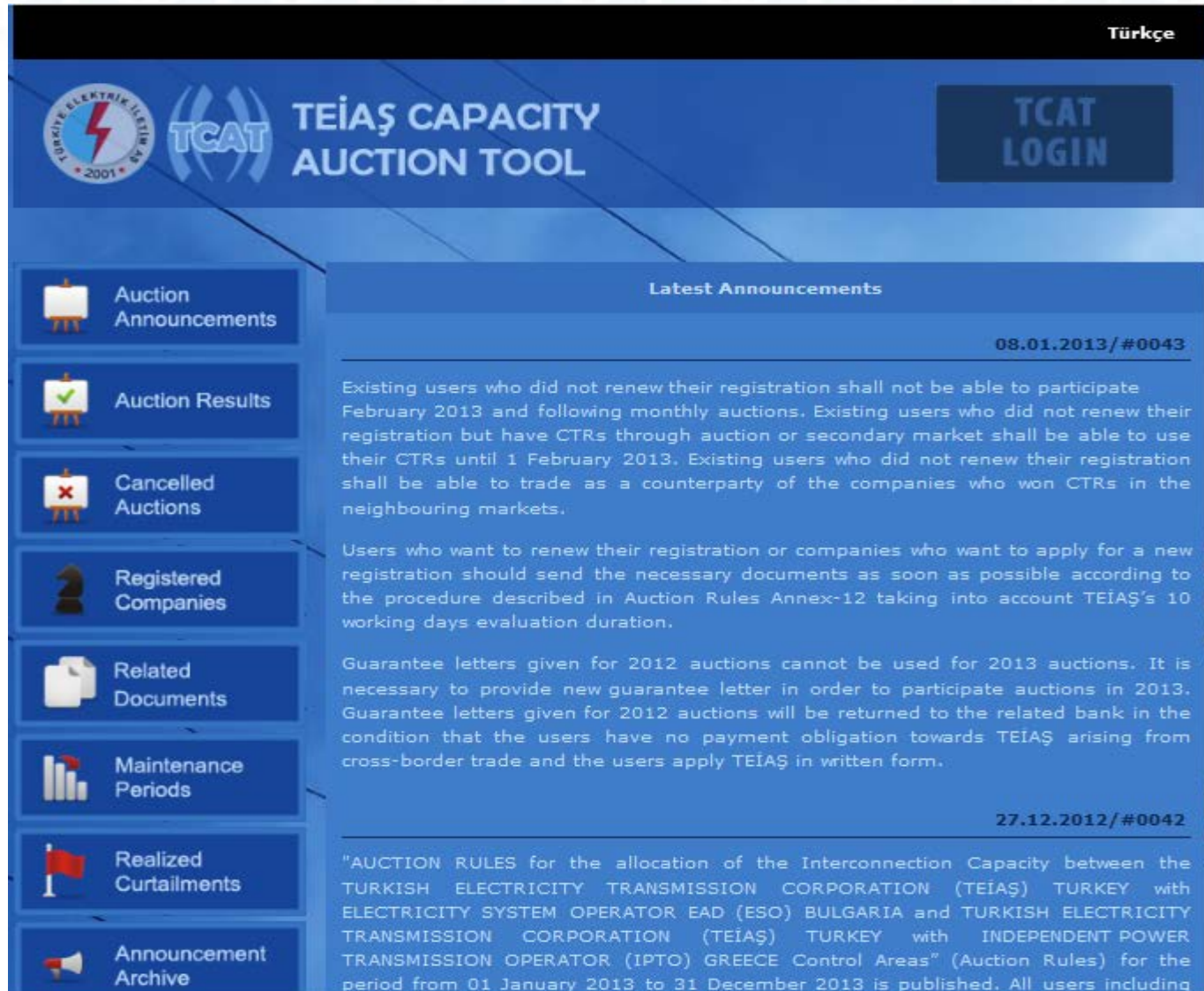
Import – Export Scenario - III (ENTSO-E)

➤ Turkey → Bulgaria/Greece (export)

- Supplier license (for wholesale or retailsale) is required
- Application to EMRA for a general permit
- Application to TSO for TCAT registration
- Available capacities are announced on a monthly basis jointly by the System Operators
- Participation to capacity auctions
- Start of export

Online Capacity Allocation (TCAT)

<https://tcat.teias.gov.tr/>



The screenshot shows the TEİAŞ Capacity Auction Tool (TCAT) website. The header includes the TEİAŞ logo, the text "TEİAŞ CAPACITY AUCTION TOOL", and a "TCAT LOGIN" button. The language is set to "Türkçe". The left sidebar contains a menu with icons and labels: "Auction Announcements", "Auction Results", "Cancelled Auctions", "Registered Companies", "Related Documents", "Maintenance Periods", "Realized Curtailments", and "Announcement Archive". The main content area is titled "Latest Announcements" and displays two announcements. The first announcement, dated 08.01.2013/#0043, states that existing users who did not renew their registration shall not be able to participate in February 2013 and following monthly auctions. The second announcement, dated 27.12.2012/#0042, states that "AUCTION RULES for the allocation of the Interconnection Capacity between the TURKISH ELECTRICITY TRANSMISSION CORPORATION (TEİAŞ) TURKEY with ELECTRICITY SYSTEM OPERATOR EAD (ESO) BULGARIA and TURKISH ELECTRICITY TRANSMISSION CORPORATION (TEİAŞ) TURKEY with INDEPENDENT POWER TRANSMISSION OPERATOR (IPTO) GREECE Control Areas" (Auction Rules) for the period from 01 January 2013 to 31 December 2013 is published.

TEİAŞ CAPACITY AUCTION TOOL

TCAT LOGIN

Latest Announcements

08.01.2013/#0043

Existing users who did not renew their registration shall not be able to participate February 2013 and following monthly auctions. Existing users who did not renew their registration but have CTRs through auction or secondary market shall be able to use their CTRs until 1 February 2013. Existing users who did not renew their registration shall be able to trade as a counterparty of the companies who won CTRs in the neighbouring markets.

Users who want to renew their registration or companies who want to apply for a new registration should send the necessary documents as soon as possible according to the procedure described in Auction Rules Annex-12 taking into account TEİAŞ's 10 working days evaluation duration.

Guarantee letters given for 2012 auctions cannot be used for 2013 auctions. It is necessary to provide new guarantee letter in order to participate auctions in 2013. Guarantee letters given for 2012 auctions will be returned to the related bank in the condition that the users have no payment obligation towards TEİAŞ arising from cross-border trade and the users apply TEİAŞ in written form.

27.12.2012/#0042

"AUCTION RULES for the allocation of the Interconnection Capacity between the TURKISH ELECTRICITY TRANSMISSION CORPORATION (TEİAŞ) TURKEY with ELECTRICITY SYSTEM OPERATOR EAD (ESO) BULGARIA and TURKISH ELECTRICITY TRANSMISSION CORPORATION (TEİAŞ) TURKEY with INDEPENDENT POWER TRANSMISSION OPERATOR (IPTO) GREECE Control Areas" (Auction Rules) for the period from 01 January 2013 to 31 December 2013 is published. All users including

Online Capacity Allocation (TCAT)

➤ Procedure

- TSO's determine available cross-border capacity for the next month until 5th.
- Then, they reach a consensus and finalize available capacities
- Available capacity is allocated for auctions as below

- %65 BG - TR
- %35 GR - TR
- %50 - %50 (by TSOs)

TR Import: 400 MW				TR Export: 600 MW			
260 MW BG-TR		140 MW GR-TR		390 MW BG-TR		210 MW GR-TR	
BG->TR 130 MW ESO	BG->TR 130 MW TEIAS	GR->TR 70 MW HTSO	GR->TR 70 MW TEIAS	TR->BG 195 MW ESO	TR->BG 195 MW TEIAS	TR->GR 105 MW HTSO	TR->GR 105 MW TEIAS

- Auctions are announced on ~20th (5 days before auction: D-5)
- Results are announced on D+1
- OTC trade of capacities is possible (subject to approval)

Thank you for your attention!

Fatih Kölmek
Energy Expert & Advisor
Energy Market Regulatory Authority



fkolmek@epdk.org.tr



+90 312 201 46 20



@fatihkolmek



www.epdk.org.tr