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Hydropower Investment
Promotion Project (HIPP)

Cooperation between Georgia and Turkey To Facilitate Cross Border Energy Trading

Monday, July 12, 2010



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Cooperation between Georgia and Turkey To Facilitate Cross Border Energy Trading

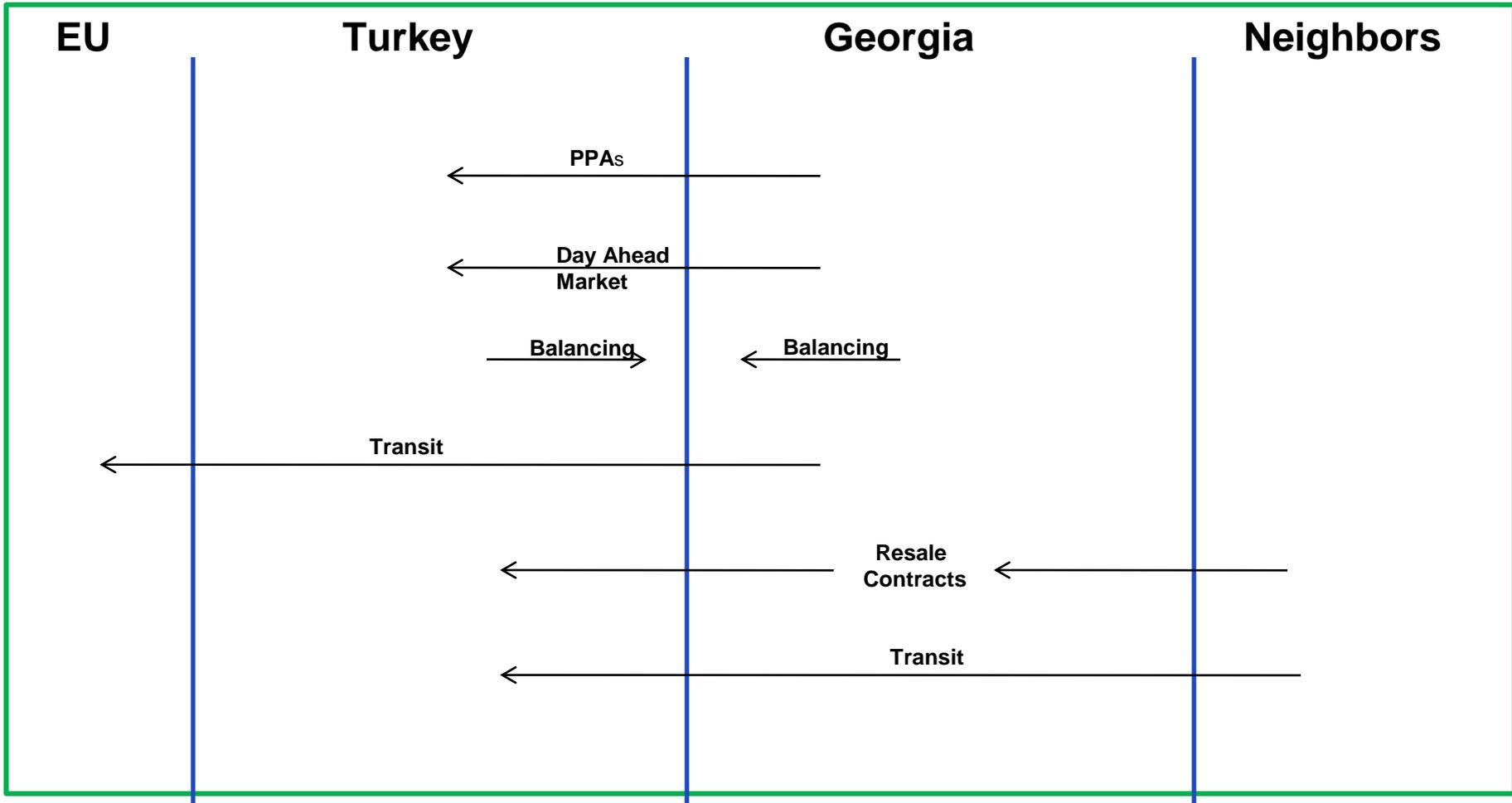
- Generating Units of Georgia wish to sell their energy output into the Turkish Power Market
- Many issues need to be resolved cooperatively by the two countries prior to the start of energy trading (**Cross Border Trading – “CBT”**)
- The requirements for harmonization of energy trading regulations is the same for all power systems when trading between two different Control Centers – CBT regulations



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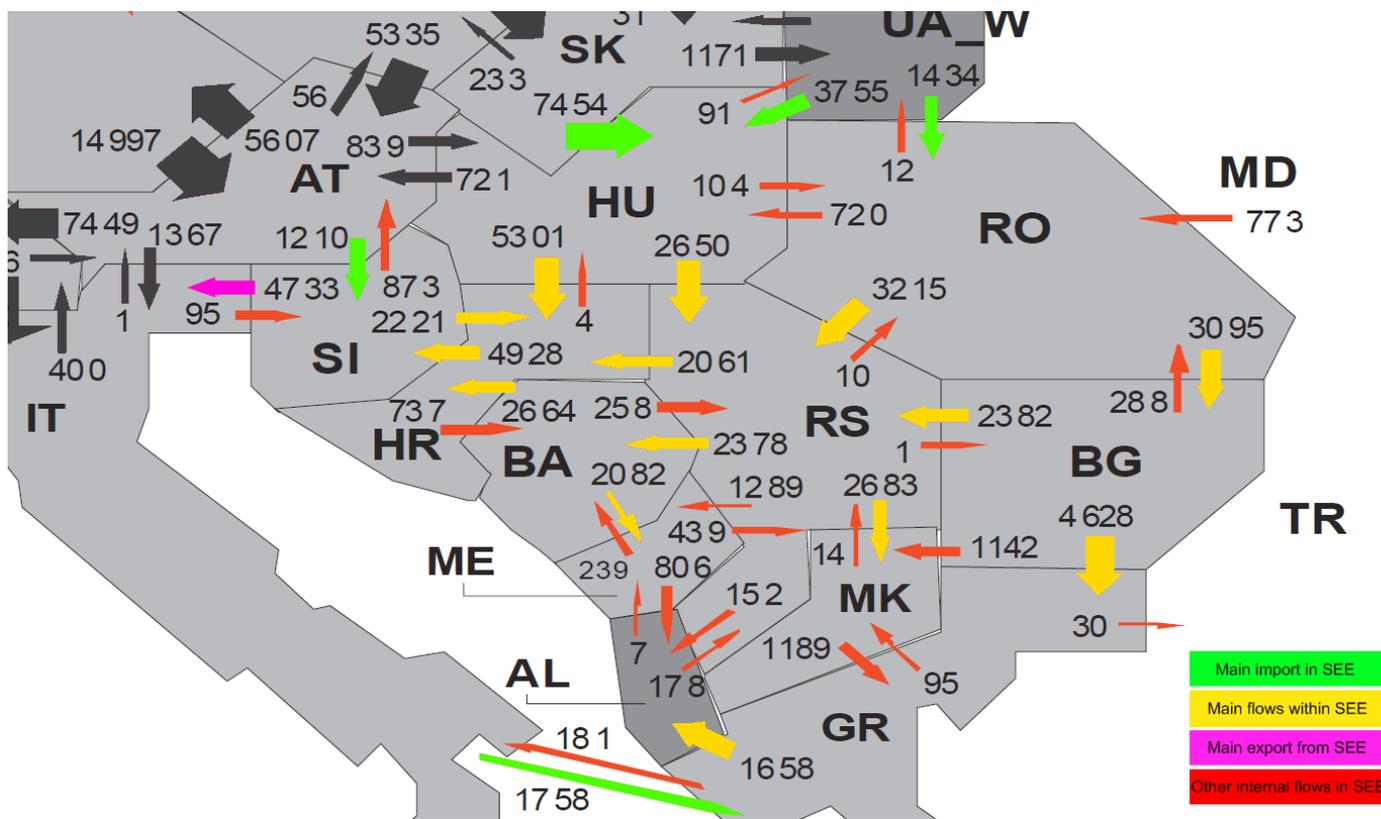
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Sampling of Possible CBT





CBT is a Key Element of Competitive Power Markets





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Key Issues to Facilitate Cross Border Energy Trading

- ✓ Power Market Structures and Contracting
- ✓ Transmission System Development
- ✓ Compatible Legal and Regulatory Frameworks
- ✓ Compatible Operational Rules
- ✓ Taxation Policies on Cross Border Trading
- ✓ Joint Working Groups



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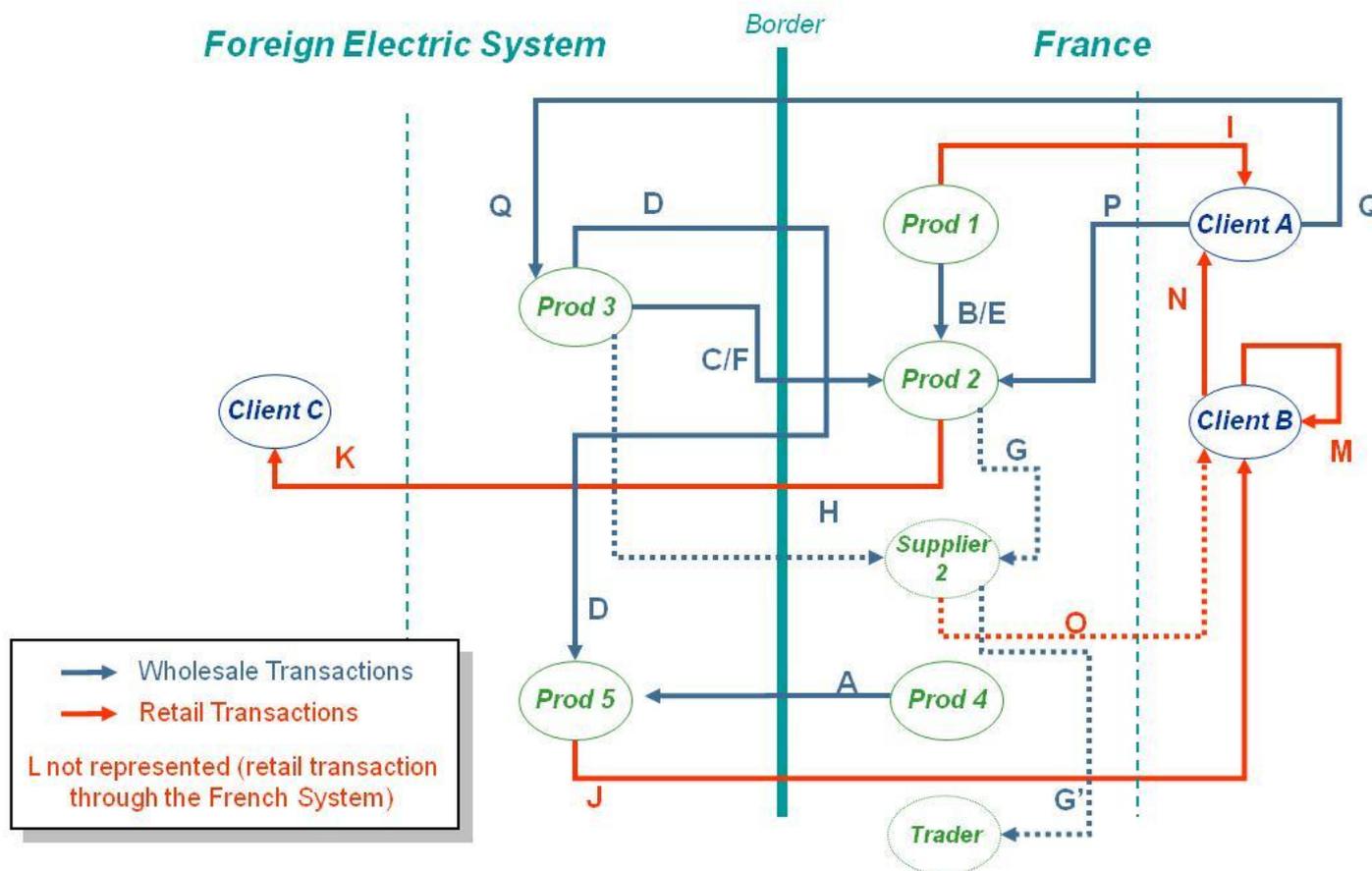
Power Market Design and Contracting

- ✓ Market participation – i.e., Day Ahead Market (DAM), Forwards, Futures
- ✓ Clearing and Settlement Periods
- ✓ Balancing responsible parties on both sides of the interconnection
- ✓ Trading Rules
- ✓ Georgian node on the DAM
- ✓ Agreement on congestion management methodology
- ✓ Coupled price for generation and transmission at the border



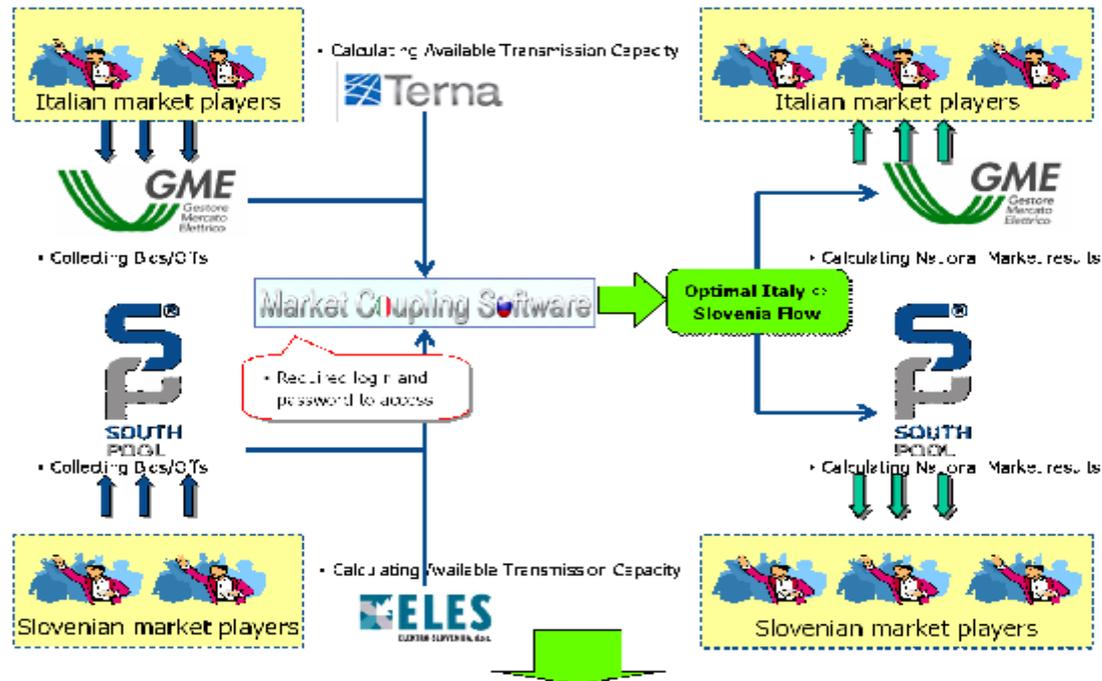
Similar Activities 10 years ago (France and Neighbors)

In our preliminary analysis, we have listed 18 possible generic transactions between market participants, as described in the French legal framework



Similar Activities in 2010 (Slovenia- Italy)

Implementation/technical issues (3/3)



Market coupling purpose is to calculate the optimal Italy ↔ Slovenia flow, which will be uploaded as an input to calculate National Market Results



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Transmission System Development

- ✓ Integrated Transmission Studies
- ✓ Consistent set of assumptions on both sides of the border
- ✓ N-1 contingency criteria
- ✓ Transmission infrastructure identified and approved for construction – based on joint studies
- ✓ Determination of transfer capability for CBT

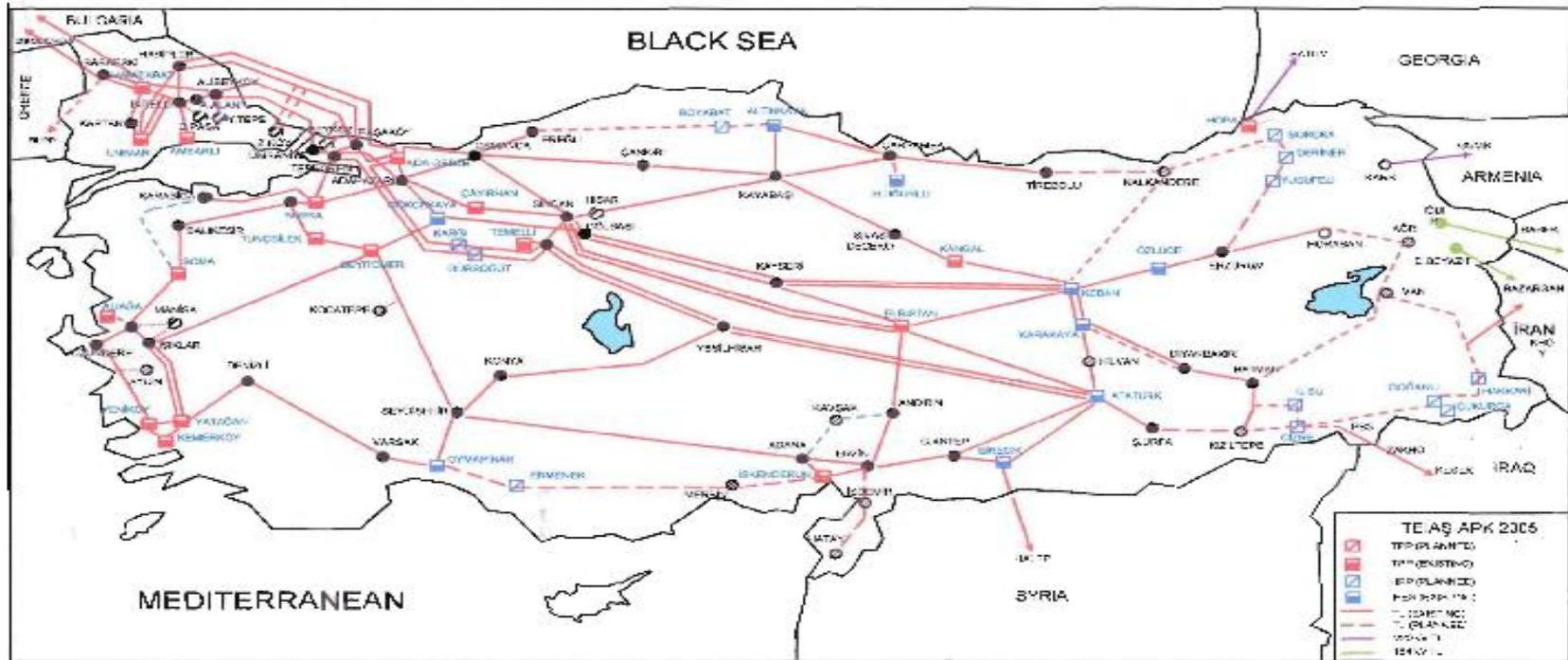


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2005 Turkish Network Plan

400 kV INTERCONNECTION SYSTEM

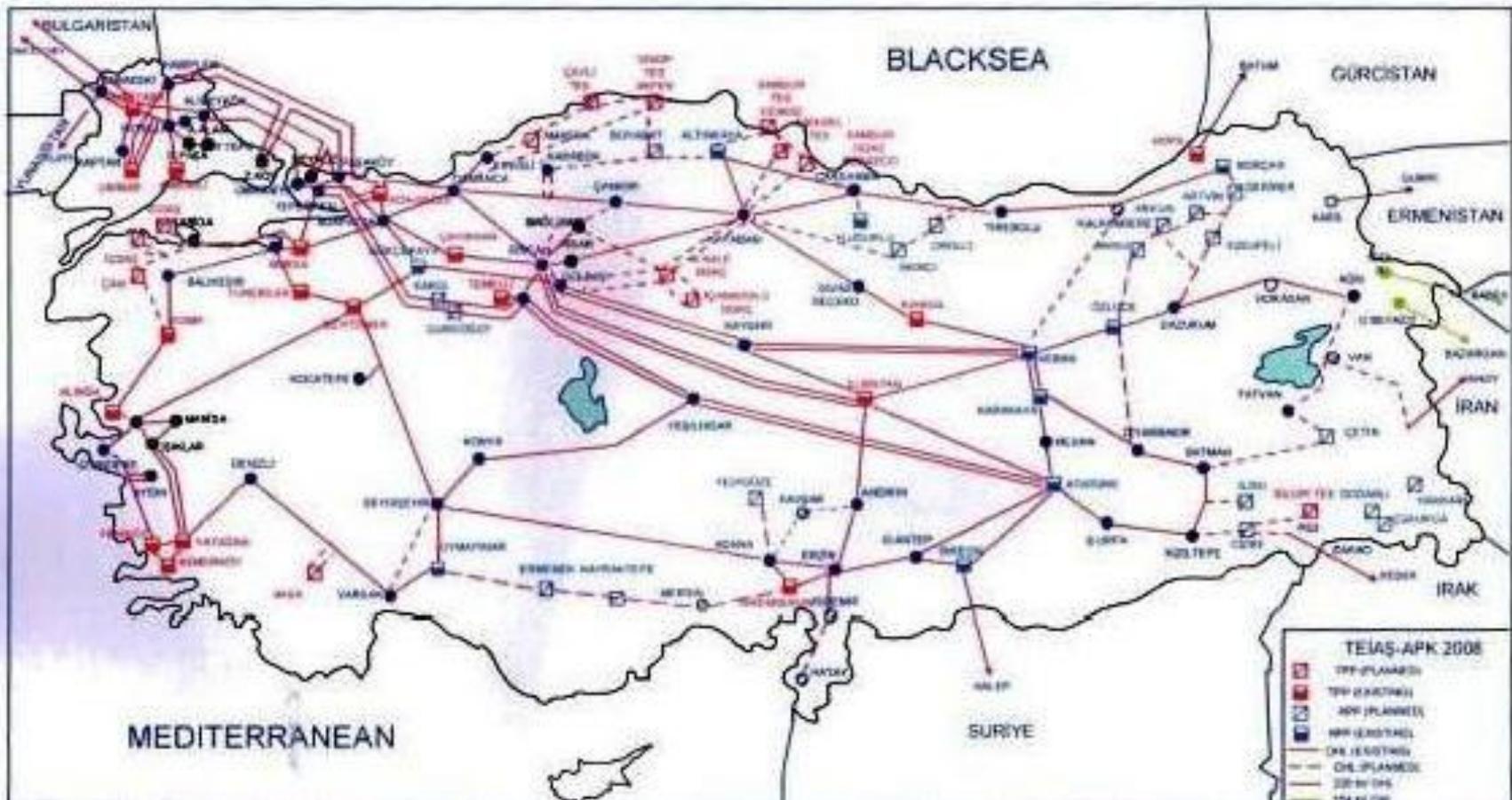




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2008 Turkish Transmission Network Plan





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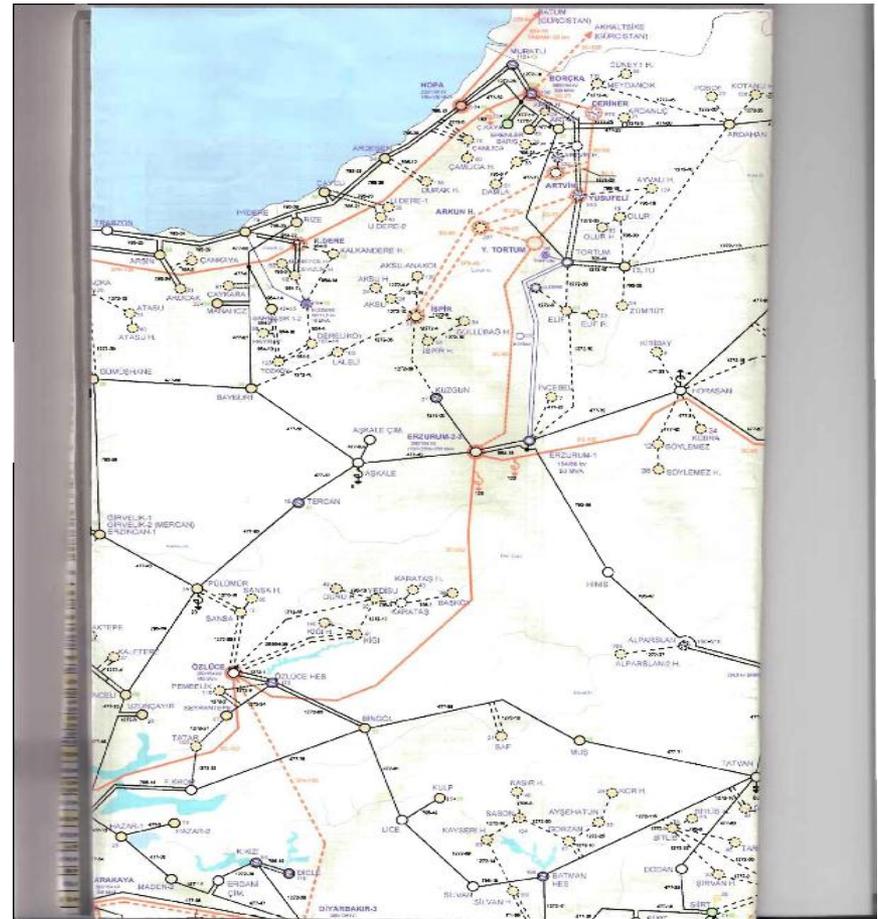
2010 Turkish Network Plan

Why have some elements been eliminated?

What new generations sites have been approved in eastern Turkey?

How much capacity from Georgia is assumed in the winter and summer?

What situations will create limitation of CBT?





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Compatible Legal and Regulatory Frameworks

- ✓ Legal framework needs to be harmonized
- ✓ Third party access
- ✓ Transparent transmission and balancing tariff methodologies
- ✓ Transmission Transit Use and Tariffs
- ✓ Import licensing and regulations
- ✓ No “Pancaking” of transmission tariffs – use of EU CBT model



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Compatible Operational Rules

- ✓ Operating Reserves and reserved transmission capacity for operational purposes
- ✓ Interconnection Agreement
- ✓ Liability due to lack of transmission capability
- ✓ UCTE requirements
- ✓ Operating using AC/DC convertors and in island mode
- ✓ Regional impact of line disconnection
- ✓ Congestion management procedures
- ✓ Rules for decreasing or cutting off flows from Georgia during system emergencies



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Supportive Taxation System

- ✓ Taxation of cross border trading should be minimized or eliminated
- ✓ No future discriminatory taxation of import energy or transmission services
- ✓ No extraordinarily high import licensing fees
- ✓ No taxation on spot market or balancing transactions – small uplift fee only – for market services
- ✓ Clear and transparent methodology on determining transfer capability



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Conclusions

- ✓ The MoU between the countries must cover all key aspects of CBT
- ✓ Create several joint working groups responsible for recommendation for harmonizing the energy trading platforms
 - Legal and regulatory framework
 - Transmission studies and transmission development plans
 - Contracting and market formation improvements
- ✓ Eventually sign a Treaty with agreed upon conditions for CBT
- ✓ Develop and implement a transitional plan for harmonizing the legal and regulatory power market trading framework