

# **CONTEXT OF ELECTRICITY SECTOR REFORM**



# Outline

- Historical Outlook
- Electricity Market Reform Process
- Overview of Electricity Market
- The Strategy Paper
- Conclusions



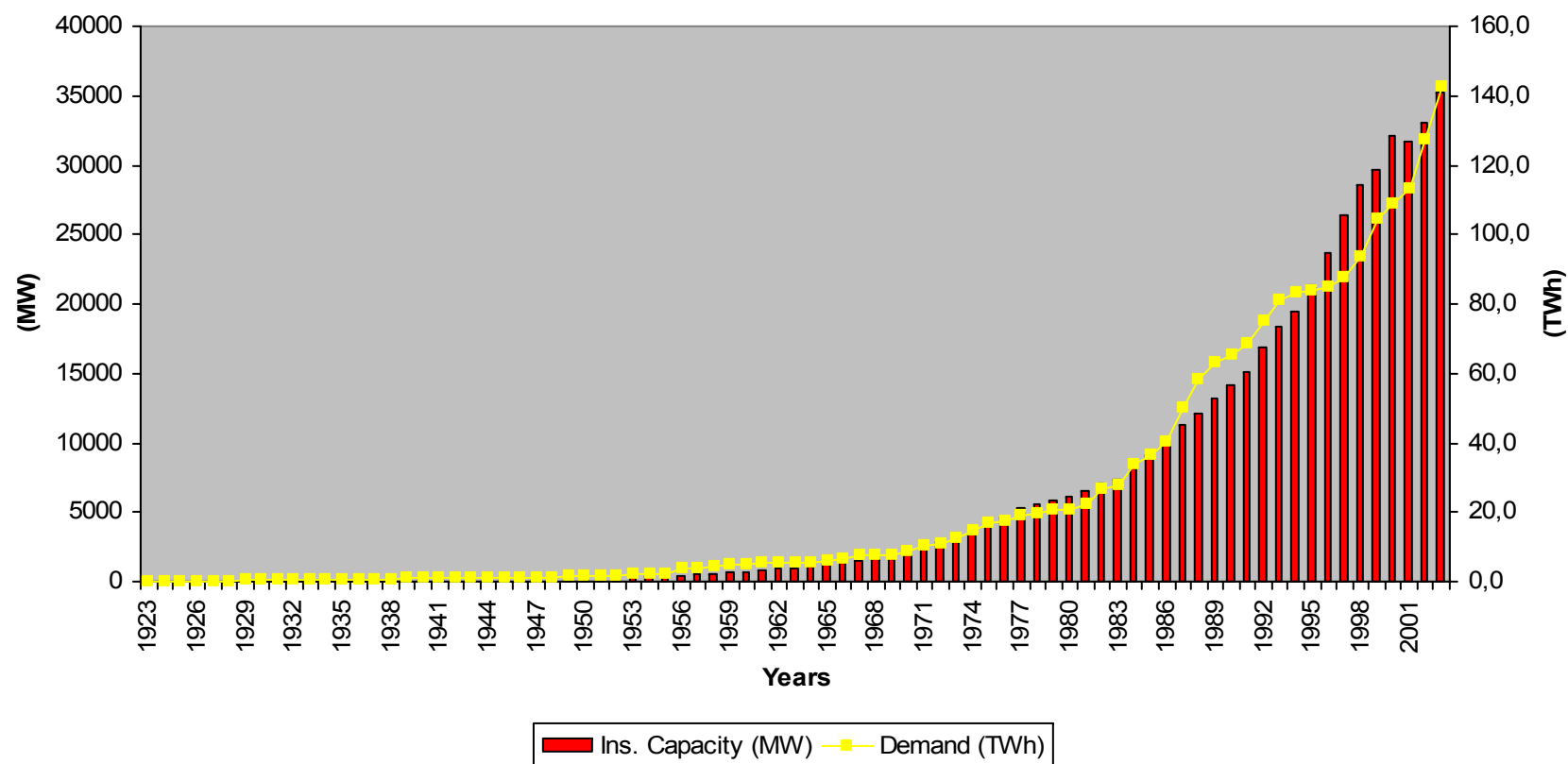
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# Outlook in Figures

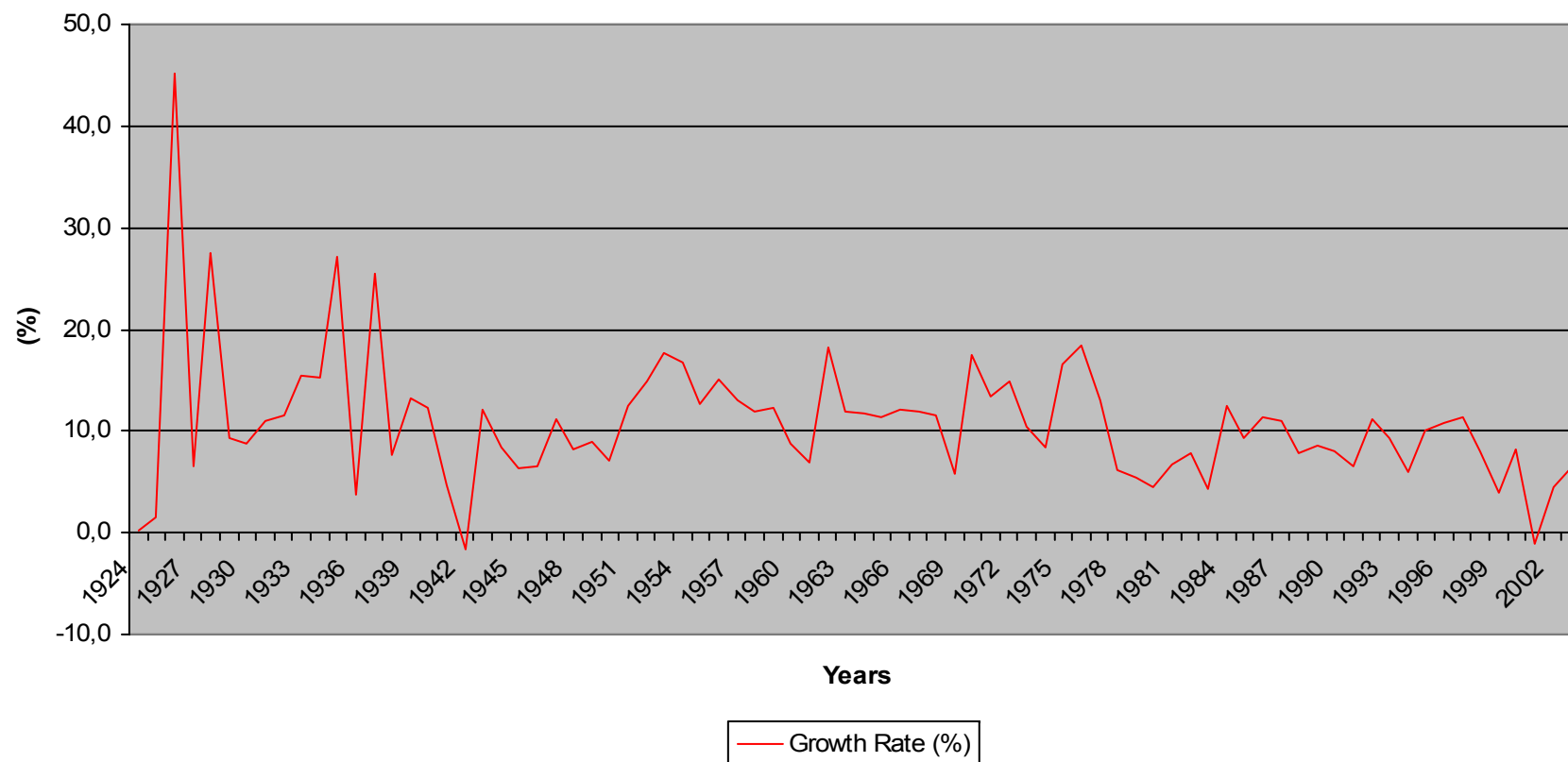
Installed Capacity vs Demand



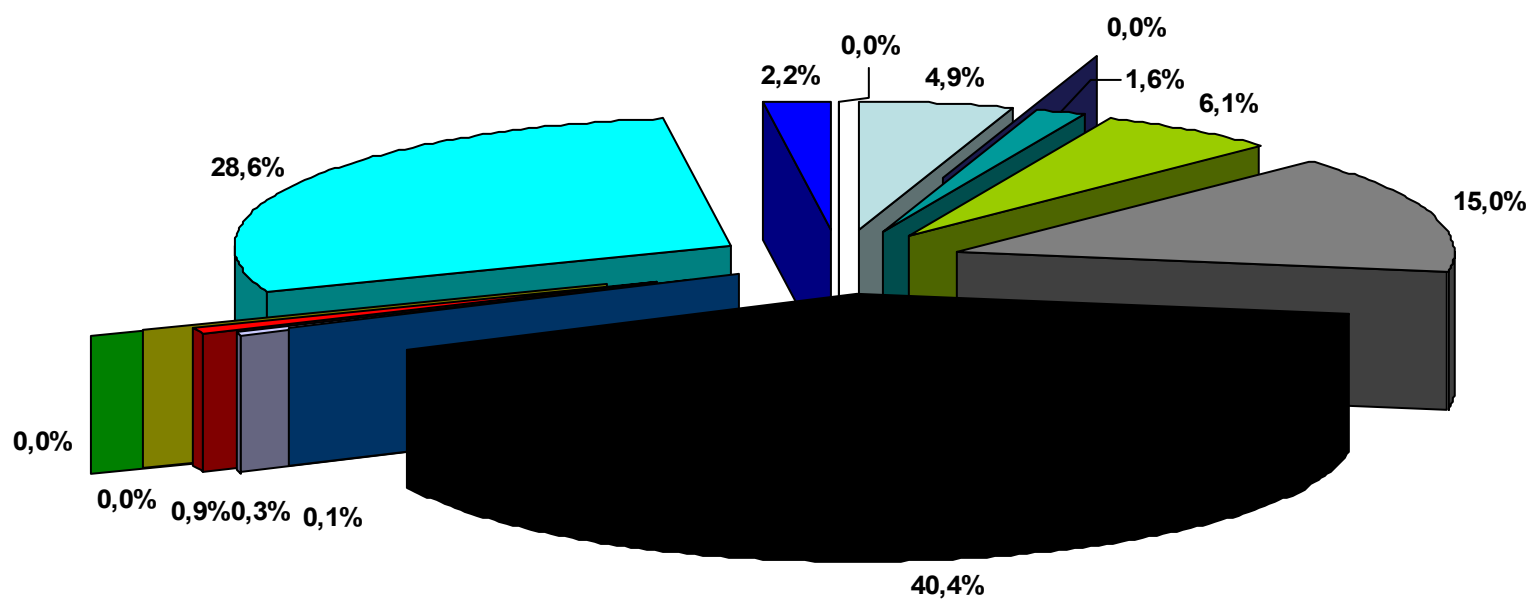


# Outlook in Figures

**Electricity Demand Growth Rate**

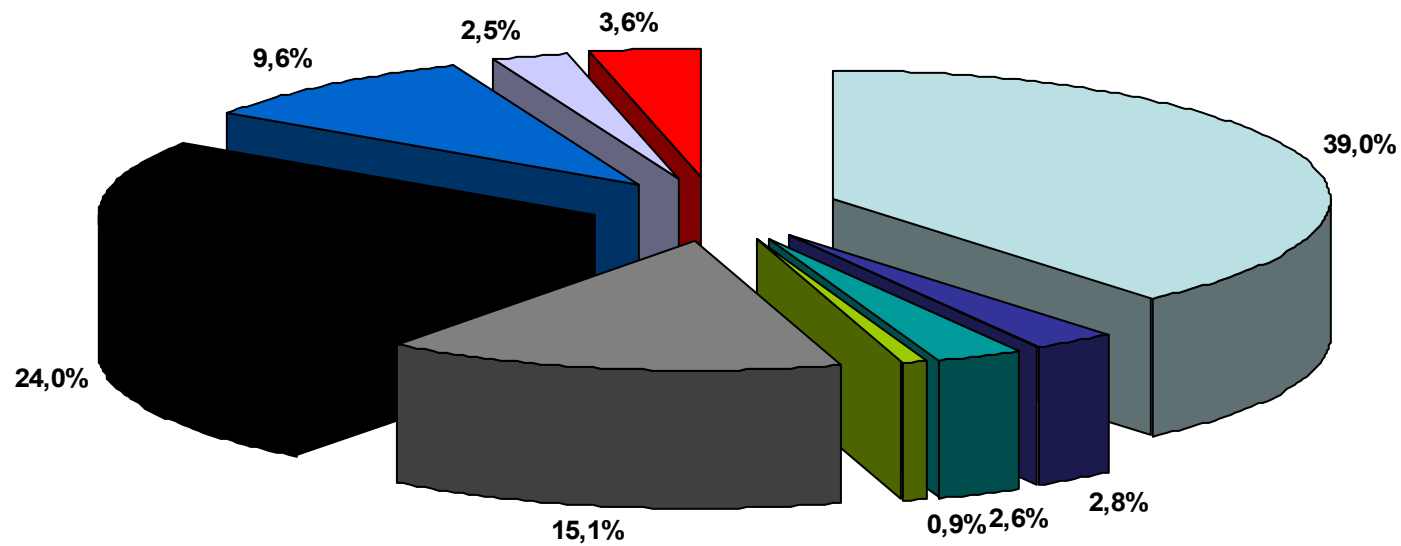


Generation Breakdown by Primary Sources



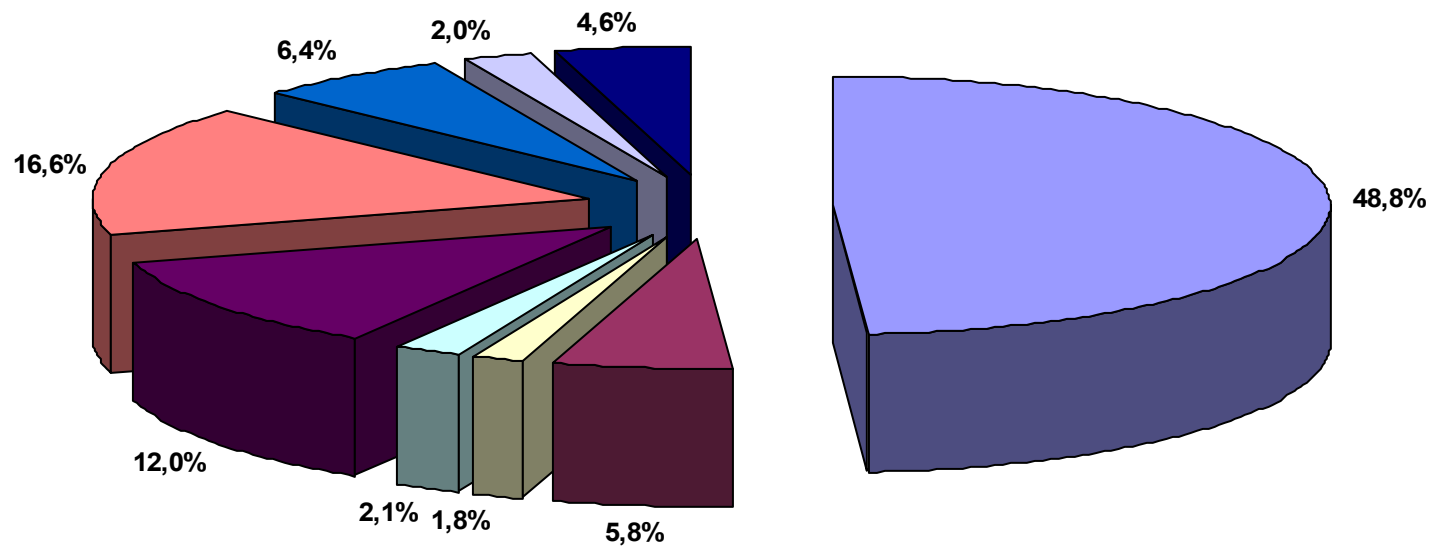
■ Fuel-Oil 
 ■ Diesel 
 ■ Hard Coal 
 ■ Coal 
 ■ Lignite 
 ■ Natural Gas 
 ■ Geothermal 
 ■ LPG 
 ■ Naphta 
 ■ Biogas 
 ■ Others 
 ■ HPP 
 ■ Run of River 
 ■ Wind

Generation Breakdown by Producers (2004)



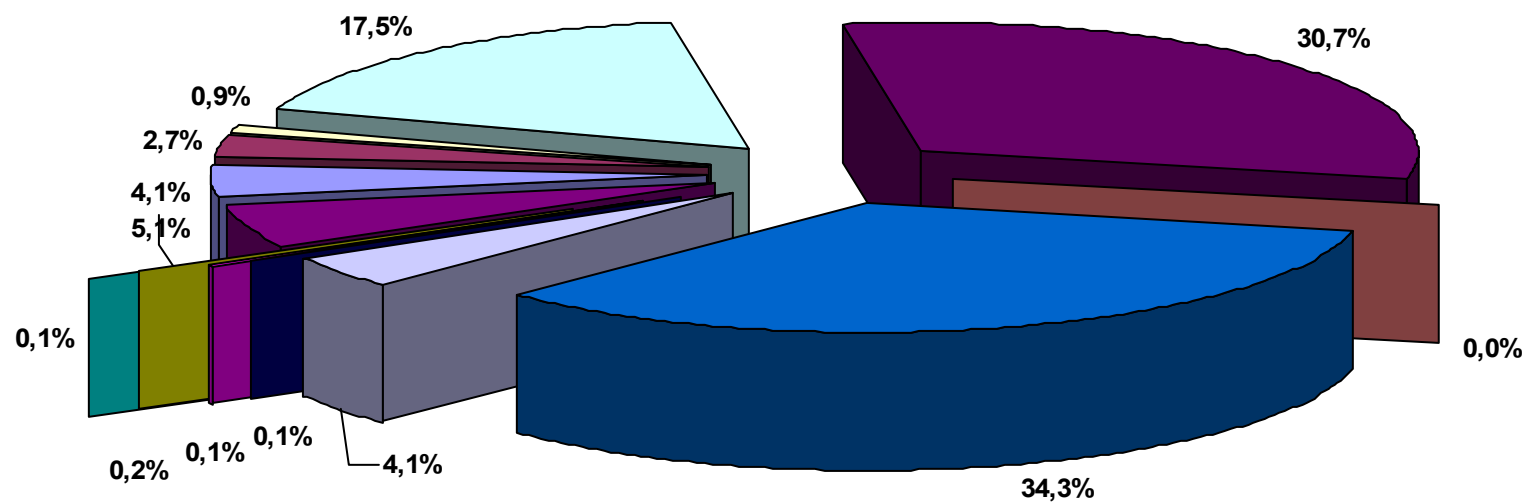
■ EÜAŞ 
 ■ EÜAŞ Affiliates 
 ■ TOR 
 ■ Mobile 
 ■ Autoproducers 
 ■ BOO 
 ■ BOT 
 ■ Private IPP 
 ■ Privatization Program

**Capacity Breakdown by Producers (2004)**



■ EÜAŞ 
 ■ EÜAŞ Affiliates 
 ■ TOR 
 ■ Mobile 
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 ■ BOT 
 ■ Private IPPs 
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Capacity Breakdown by Primary Sources (2004)



■ Fuel-Oil 
 ■ Diesel 
 ■ Hard Coal 
 ■ Lignite 
 ■ Natural Gas 
 ■ Geothermal 
 ■ HPP 
 ■ Coal 
 ■ Wind 
 ■ LPG 
 ■ Naphta 
 ■ Waste 
 ■ Multifuel



# Outlook to Legal Framework

- Initial period: Electricity generated and distributed locally by small-scale utilities
- Starting from 1935: SOEs – Etibank, DG for Mineral Research and Exploration, DG for Electrical Works Survey, State Hydraulics Work, Provinces Bank
- 1952: Introduction of concession agreements for hydro power generation and distribution
- 1970: Establishment of TEK and transfer of generation, transmission and distribution assets to TEK except those owned and operated by municipalities and Provinces Bank
- 1982: Transfer of all generation, transmission and distribution assets to TEK



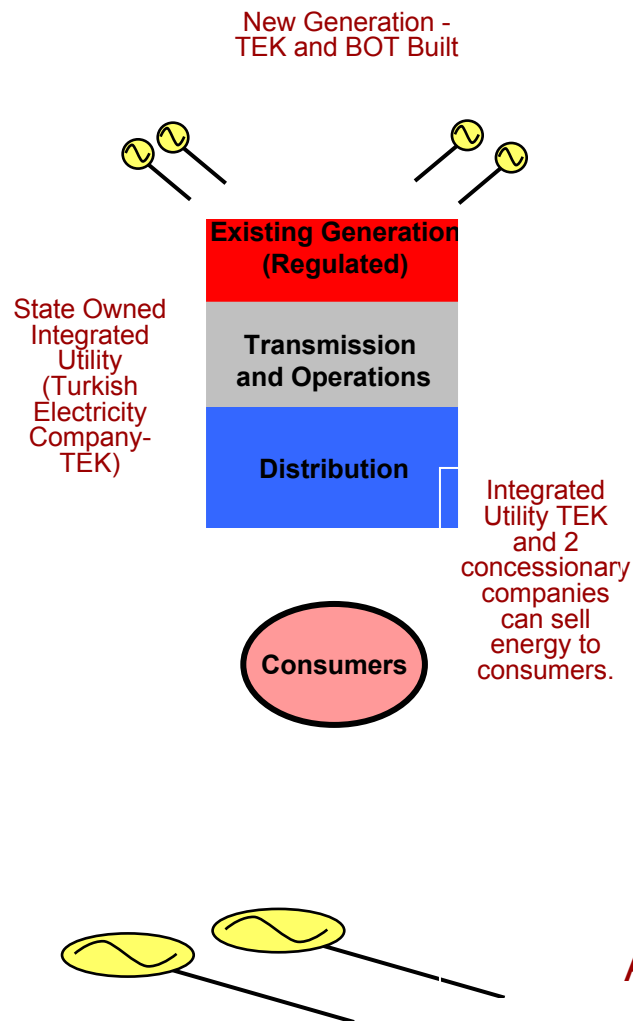
# Outlook to Legal Framework

- 1984: Introduction of Law 3096 (BOT Law) – Monopoly of TEK lifted up and private participation permitted
- 1994: Law 3996 – Treasury guarantees
- 1994: Split of TEK as TEAŞ (generation & transmission) and TEDAŞ (distribution)
- 1997: BOO Law nr. 4283 – Possibility to retain ownership
- 1999: Constitutional amendments – introduction of privatization to the Constitution, enabling international arbitration
- 2001: Electricity Market Law nr. 4628
- 2001: Unbundling of TEAS – EÜAŞ (generation), TEİAŞ (transmission) and TETAŞ ( wholesale)
- 2001: Establishment of EPDK

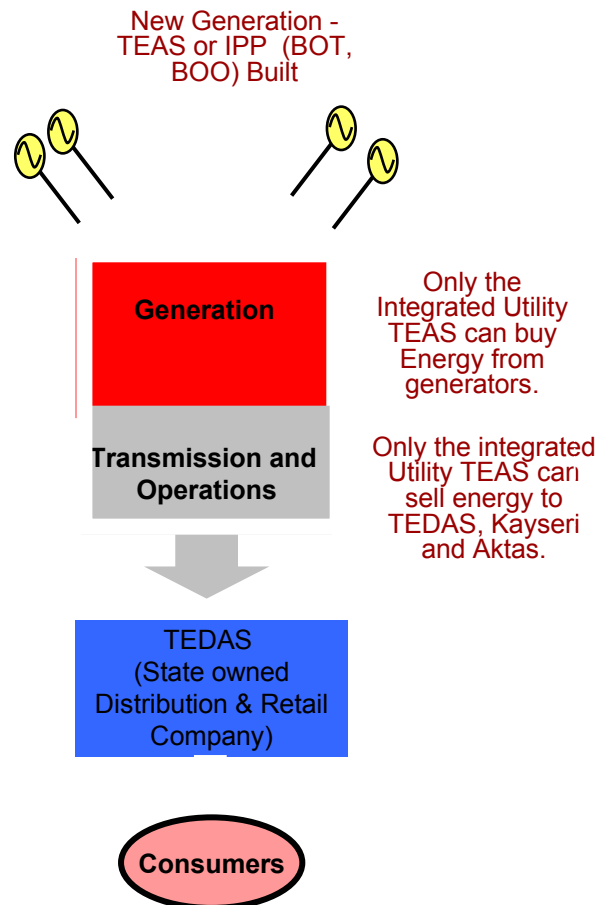


# Structural Evolution

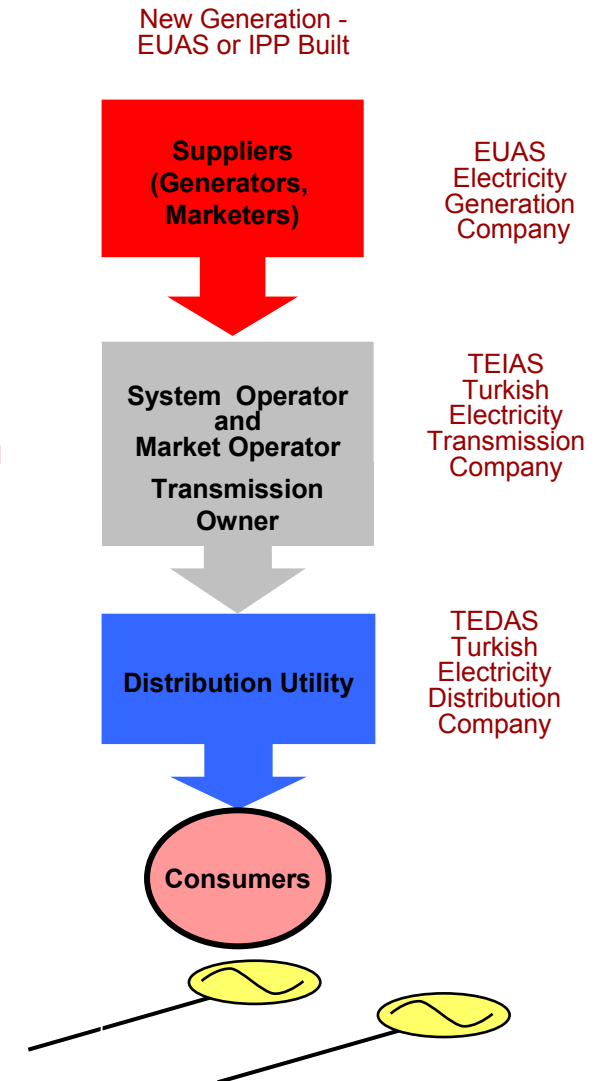
## The Vertically Integrated Utility Model (Until 1994)



## The Central Buyer Model (1994- 2001)



## Unbundling (2001 - )



Autoproducers (in all of 3 eras)



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# Legal Framework

- Electricity Market Law nr. 4628
  - Parliament approval: 20 Feb. 2001
  - Enactment: 3 Mar. 2001
- With the law, Turkish electricity market is to operate:
  - Under free market principles
  - In line with the provisions of private law
  - In a competitive, stable, financially reliable, and transparent business environment
  - Without discrimination



- Objectives:
  - Establishment of a financially viable, stable, transparent, competitive energy market
  - Ensuring adequate, efficient, continuous provision of high quality, low cost, environmentally friendly energy
- Scope:
  - Generation, transmission, distribution, wholesale, retailing and retailing services, import, export of electricity
  - Rights and obligations of all real persons and legal entities directly involved in these activities
  - Establishment of EPDK and determination of operating principles of EPDK
  - Methods to be employed for privatization of electricity generation and distribution assets



# Secondary Legislation

- Licensing Regulation
- Tariffs Regulation
- Customer Services Regulation
- Eligible Consumer Regulation
- Import & Export Regulation
- Grid Regulation
- Distribution Regulation
- Balancing & Settlement Regulation
- Transmission System Supply Reliability & Quality Regulation
- Auditing and Investigation Regulation



## Secondary Legislation

- Communiqué Regarding Determination of Transmission and Distribution Connection Charges
- Communiqué Regarding Regulation of Distribution System Revenue
- Communiqué Regarding Regulation of Retail Service Revenue and Retail Prices
- Communiqué Regarding Regulation of Transmission System Operation Revenue
- Communiqué Regarding Regulation of Transmission System Revenue
- Communiqué Regarding Wind and Solar Measurements
- Communiqué Regarding Regulatory Accounting Guidelines
- Communiqué Regarding Meters
- Communiqué Regarding Connection and Use of System
- Communiqué Regarding Financial Settlement
- Communiqué Regarding Identification of Projects Applied for Same Source and Same Place
- Communiqué Regarding Retail Contracts



# Regulatory Authority

- Energy Market Regulatory Authority (EPDK)  
founded on 19 Nov 2001
  - Independent
  - Financially and administratively autonomous
- Decision making body of EPDK is the Energy Market Regulatory Board:
  - Appointed by the Council of Ministers
  - A chairman and 8 members
  - Chairman is the President of the Authority

Good governance: accountability, public participation, predictability and transparency in decision making.

- The Role of EPDK
  - Preparing and implementing secondary regulation
  - Licensing market participants
  - Approving and publishing tariffs
  - Monitoring and supervising market participants
  - Conducting technical, legal and financial audits
  - Settling disputes
  - Applying sanctions when necessary
  - Approving, amending and enforcing performance standards
  - Determining the eligibility threshold



## Reform Milestones

Licensing Day	3 Sep. 2002
Eligible Consumers Day	3 Mar. 2003
<i>Financial Settlement Date</i>	1 Dec. 2003
Balancing and Settlement Date	2005
Market Date	When privatization process completed and infrastructure established



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# Main Features of Market Model

- Compliance with EU rules
- Competition: Main pillar
- Cost-reflective tariff system
- No cross-subsidies: Subsidy via direct funding
- Market entrance via licensing by EPDK
- Regulation by EPDK: Independent, financially and administratively autonomous body
- Role of the State: Supervising and auditing
- Market risk assumption by market participants
- Privatization
- Good governance



# Main Features of Market Model

- Unbundling



TEAŞ



EÜAŞ

TEİAŞ

TETAŞ

- Retail and wholesale activities
- Competition in generation, wholesale and retail
- Consumer protection
- Market share limitations



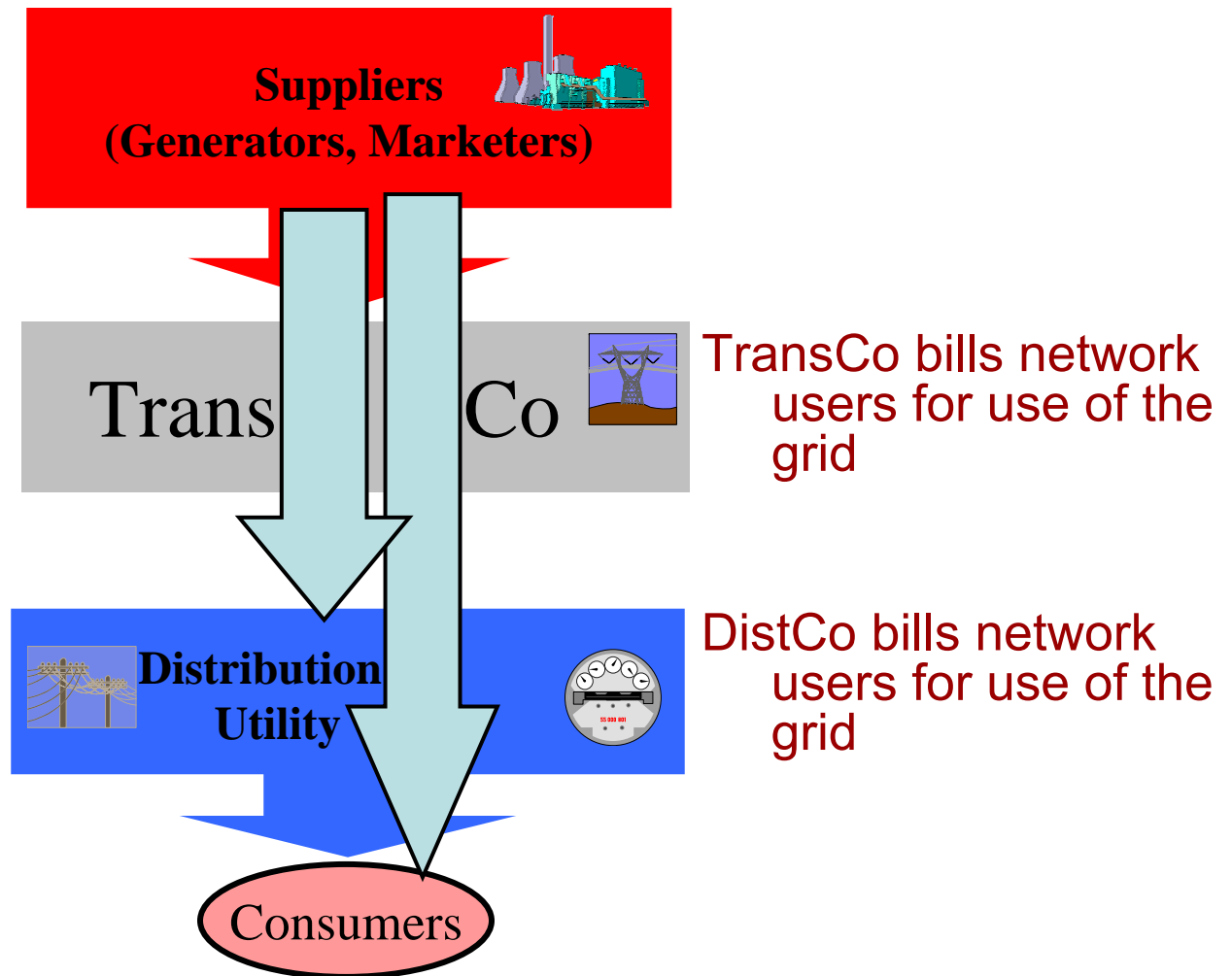
# Electricity Market

The market is based on voluntary bilateral contracts with residual balancing pool

All generation must be sold to traders and consumers.

TransCo operates the balancing market that allows buyers to adjust their schedules by buying and selling.

The system imbalance price will be marginal price of excepted bid and offer prices.





# Licensing

- All market activities are conducted under particular licenses obtained from EMRA
- Separate licenses are required for each market activity and for each facility where the activity is carried out
- Separate accounts are required for:
  - all licensed activities and facilities/regions
  - sales to eligible consumers and sales to captive consumers
  - non-market activities



# Tariffs

- Regulated tariffs:
  - Transmission
  - Distribution
  - Sale of electricity and capacity to captive consumers
  - Wholesale by the state-owned wholesale company (TETAŞ)
- Principles of tariffs structure:
  - Costs not directly related to market operations shall not be included
  - Cross subsidies are not allowed
  - Cost-reflectiveness is employed
  - If need arises, direct payment can be applied to consumers in need, without deteriorating the structures of the tariffs



# Market Opening

- Eligible consumer: Consumer directly connected to the transmission grid or consumer consumes above the threshold
- Eligibility threshold: 7.8 GWh per annum
- Market opening degree: ~ 30%
- Gradual market opening will be employed
- Board of EPDK has the right to lower eligibility threshold yearly



# Financial Settlement

- Electricity Market Model: Bilateral agreements completed with residual pool
- Legal framework: Balancing & Settlement Regulation
  - Bids and offers by market participants
- Interim Solution: Communiqué Regarding Financial Settlement
  - Regulated bid and offer prices
    - State-owned wholesale company – TETAŞ – acts as balancing pool
    - Bid and offer prices proposed by TETAŞ and approved by EPDK
  - Financial Settlement Centre settles imbalances monthly based on 3 different settlement time zones

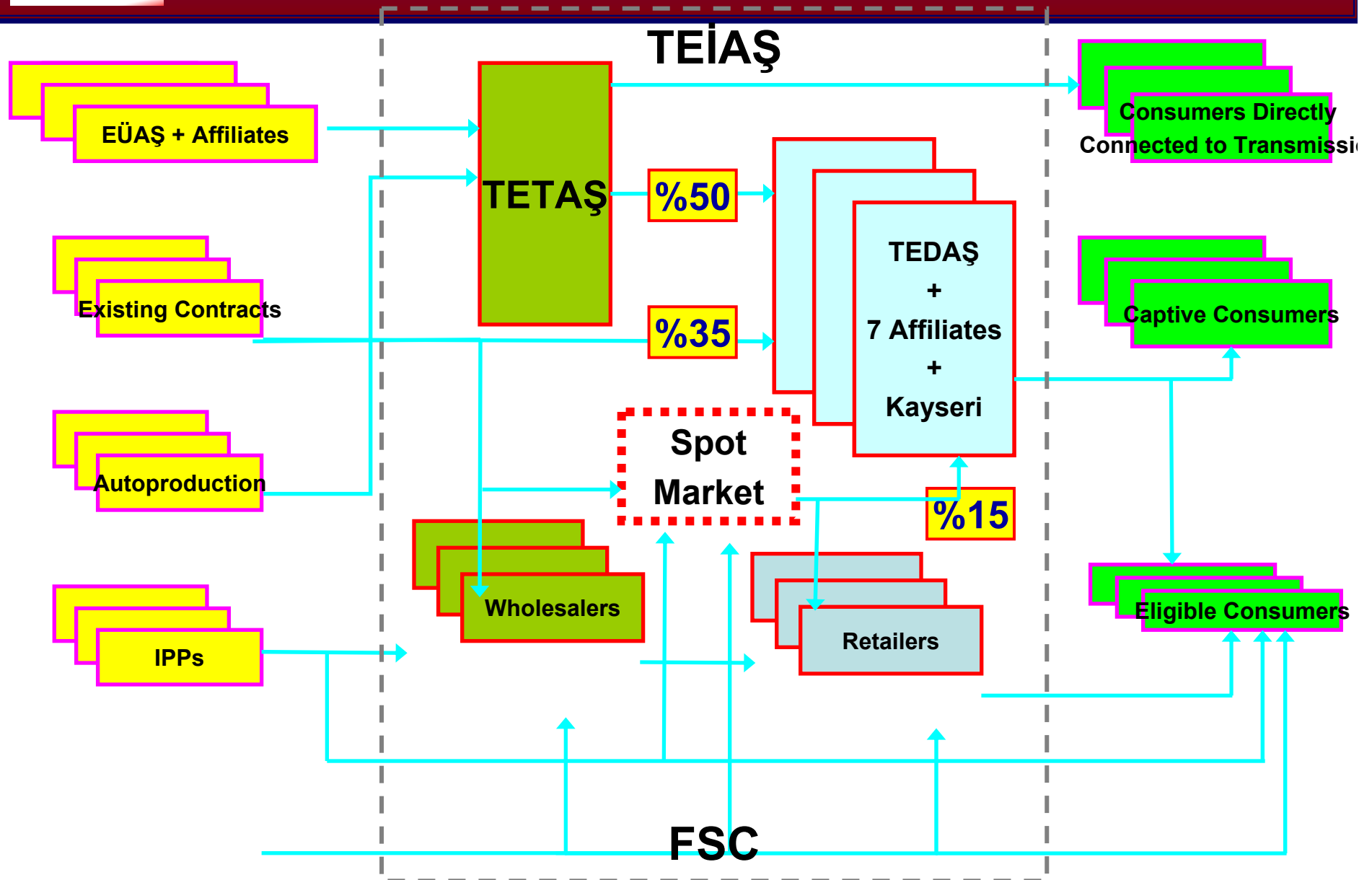


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- Electricity Market Reform and Privatization Strategy Paper
  - Higher Planning Council Decision: 17 March 2004 – 2004/3
- Scope
  - Actions and associating timetable
- Main features:
  - Distribution re-organization on the basis of 21 regions and then privatization (2005-2006)
  - Generation re-organization as portfolio companies and then privatization (2006-2009)
  - Employment of cost-reflective tariffs with the aid of a price equalization mechanism
  - Transitional (vesting) contracts between:
    - TETAS vs. EUAS
    - TETAS vs. Distribution Companies
    - Portfolio Companies vs. Distribution Companies



# Model and Stages of Electricity Market





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## In General

- Reforming;
  - is always a challenging issue
  - requires political commitment
  - necessitates a comprehensive restructuring process
  - needs continuous effort
  - should be tailor-made
  - has to be better implemented gradually
  - can be succeeded via public support



# Conditions for Success

- Well established market design
- Confidence in proper functioning of the market
- Attractive increase in demand and the availability of new capacity investment needed to meet demand
- Availability of adequate negotiable generation margin
- Wholesale prices that appeal to investors
- Involvement of financially viable buyers in the market
- Eligible consumers electing their own suppliers with competing firms through bilateral contracts
- Success in privatization



# Transitional Challenges

- Handling of stranded costs
- Marketization of existing contracts
- Insufficient metering and communication infrastructure
- Training of market participants to redefine attitudes compatible with liberal market philosophy
- High loss and leakage rates in distribution system
- Lack of facility-based cost reflective generation prices
- Implementation of cost-reflective end user tariffs



# **SOUTHEAST EUROPE REGIONAL ENERGY MARKET**



# Outline

- Scope
- Institutional Framework
- Prospects for Future
- Conclusions



- **Scope**

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# Historical Background

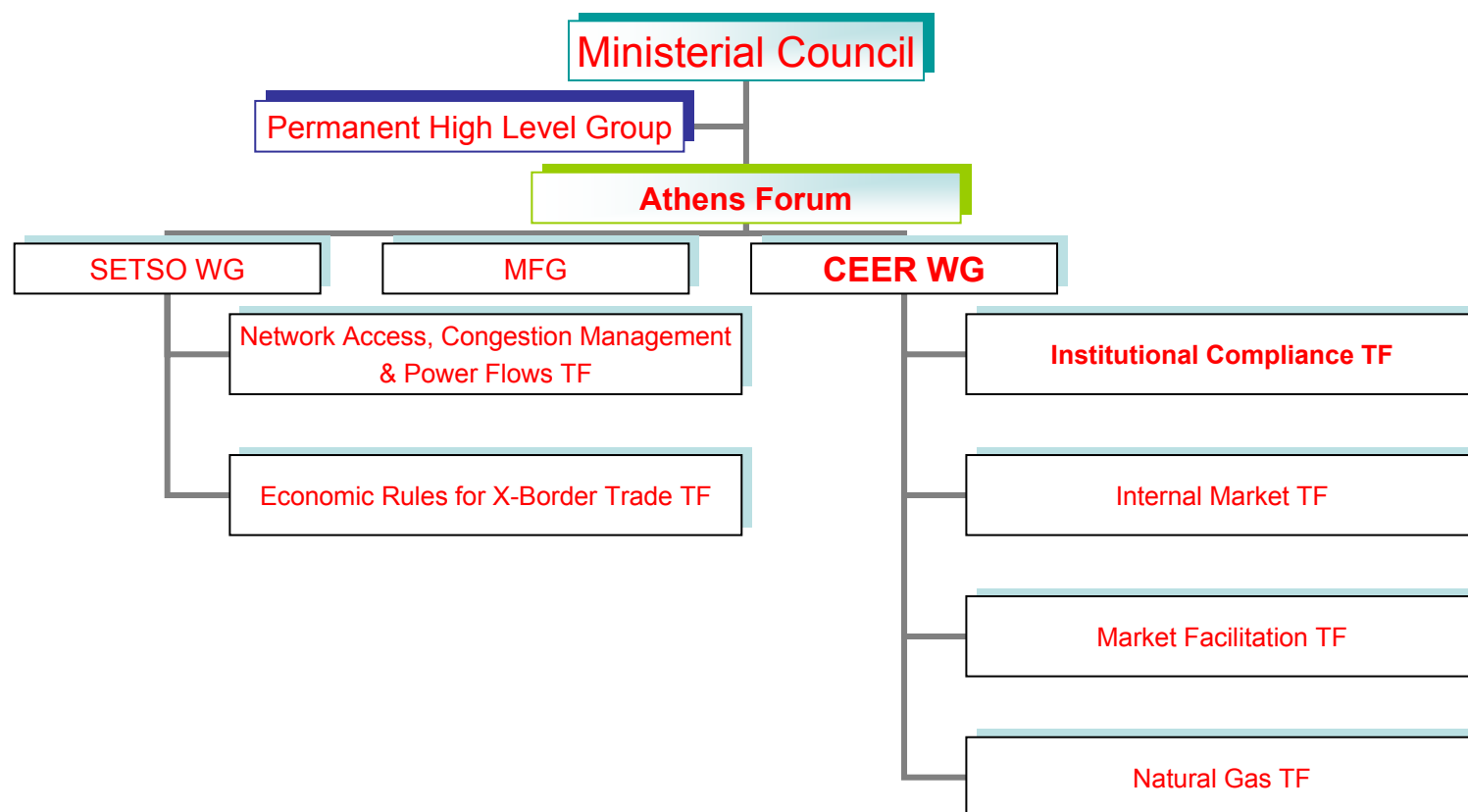
- 15 Nov. 2001: 1st Memorandum of Understanding
  - Scope: Regional Electricity Market
- 8 Dec. 2003: 2nd Memorandum of Understanding
  - Scope: Regional Energy Market
    - Electricity
    - Natural Gas
- Energy Community Treaty (*under negotiation*)
  - *General framework: EU acquis communautaire*
  - Parties: European Community vs. Turkey, Bulgaria, Romania, Croatia, Bosnia & Herzegovina, Serbia, Montenegro, Albania, Macedonia, UNMIK



- Scope
- **Institutional Framework**
- Prospects for Future
- Conclusions



# Current Institutional Framework





# Envisaged Institutional Framework

