



Electricity and Natural Gas Tariffs & Subsidies in Türkiye

Dr. Mehmet Ali KÖLMEK

Energy Market Regulatory Authority
Türkiye



Workshop: International Experience on Energy Tariff Reforms

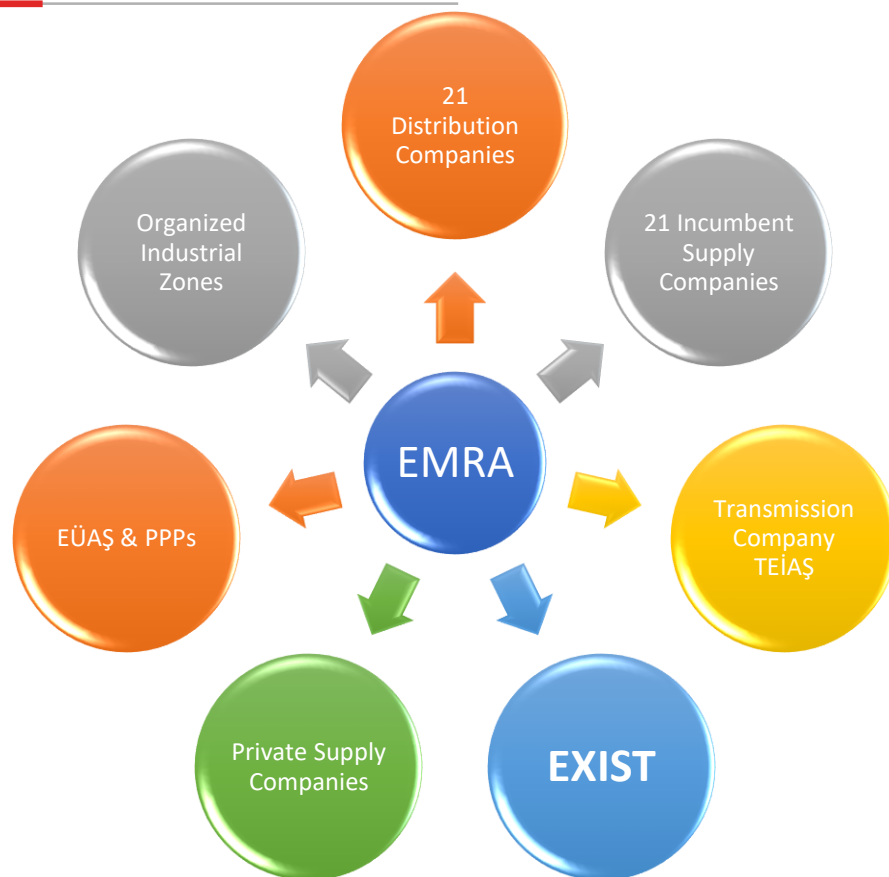
April 19, 2023 | Tashkent, Uzbekistan

Energy Market Regulatory Authority

- EMRA is the sole energy market regulator of Türkiye
- Established in 2001
- Monitors, supervises and audits markets & market players
- Electricity & Natural Gas utility tariffs are approved by EMRA board; oil prices are monitored to apply temporary interventions, if needed

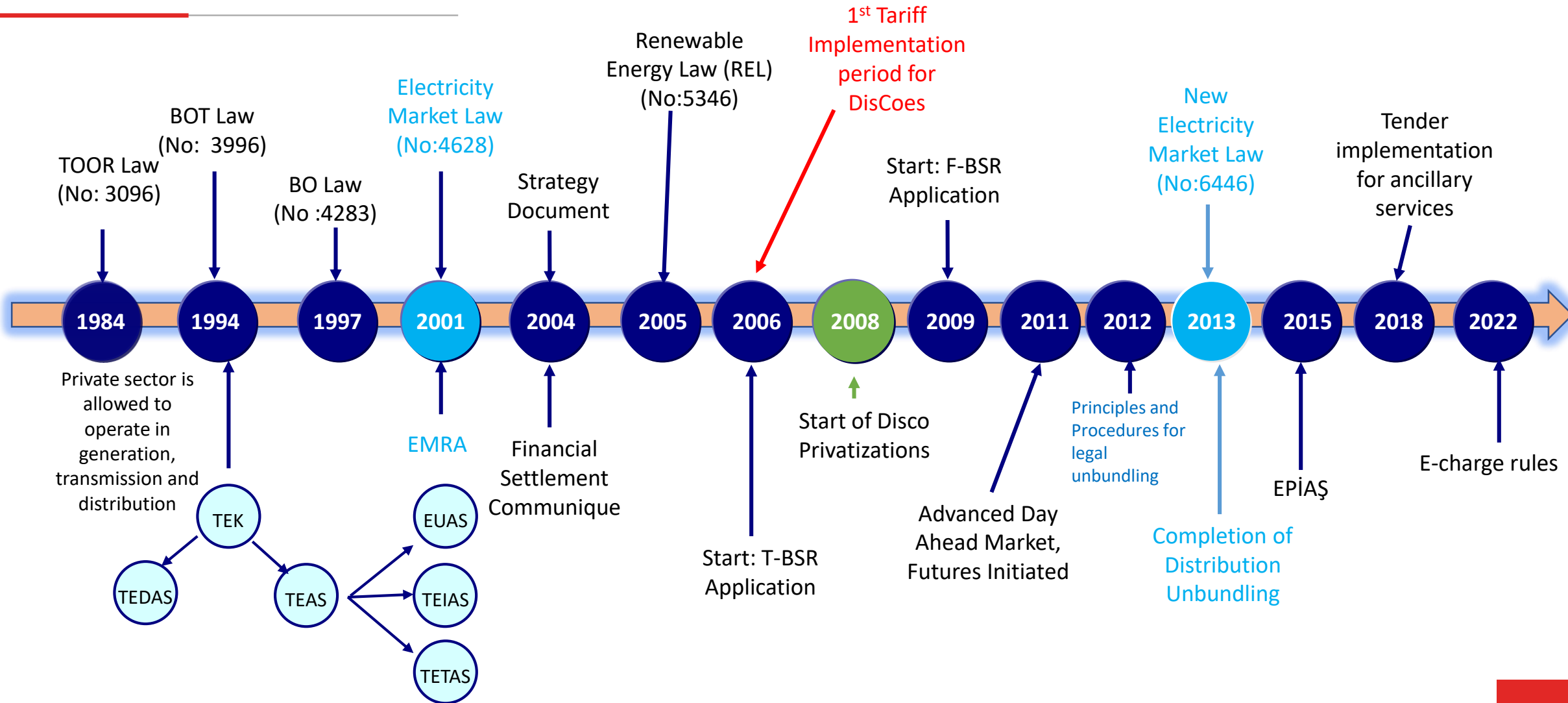


Electricity Market Structure in Türkiye

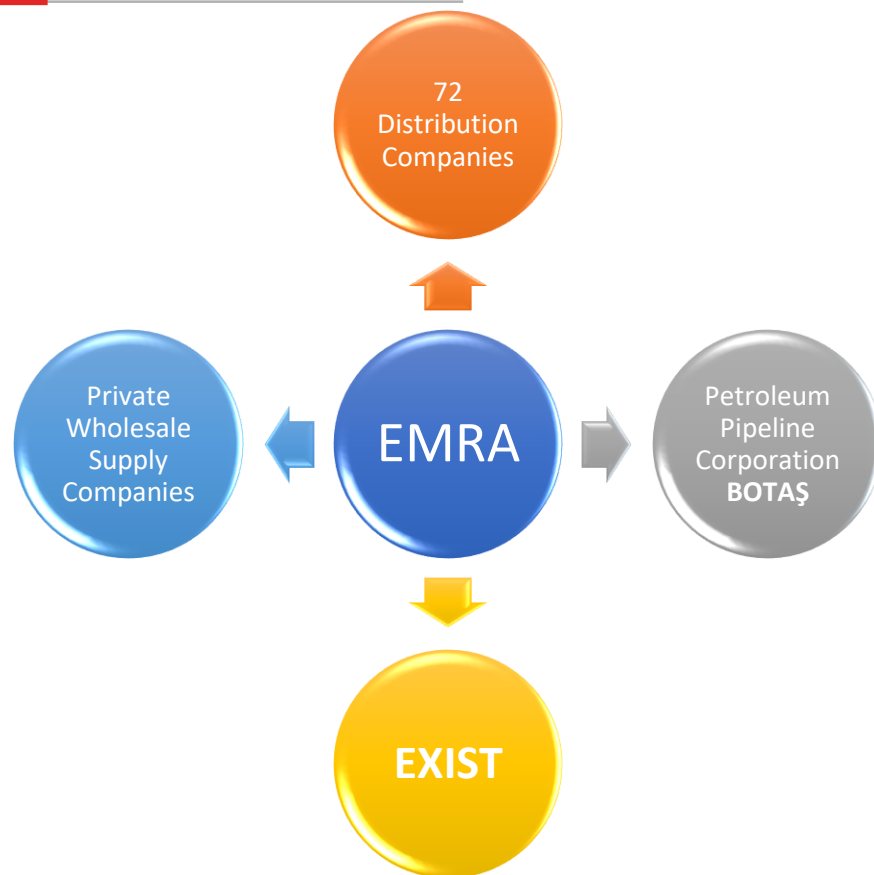


- State-owned company TEDAŞ was divided into 21 distribution companies and all of them were privatized by the end of 2013 (approximately 13 Billion \$ revenue obtained in concession tenders)
- Transmission activity by state-owned TEİAŞ, distribution activity by 21 distribution companies, retail (and last resort) sale activity by 21 incumbent supply companies (sister companies of DisCoes after unbundling), market operation by Energy Exchange Istanbul (EXIST-EPIAŞ)
- Energy generation by state-owned company EÜAŞ and independent power producers, which has the majority of the market share in production

Liberalization milestones for Electricity Market

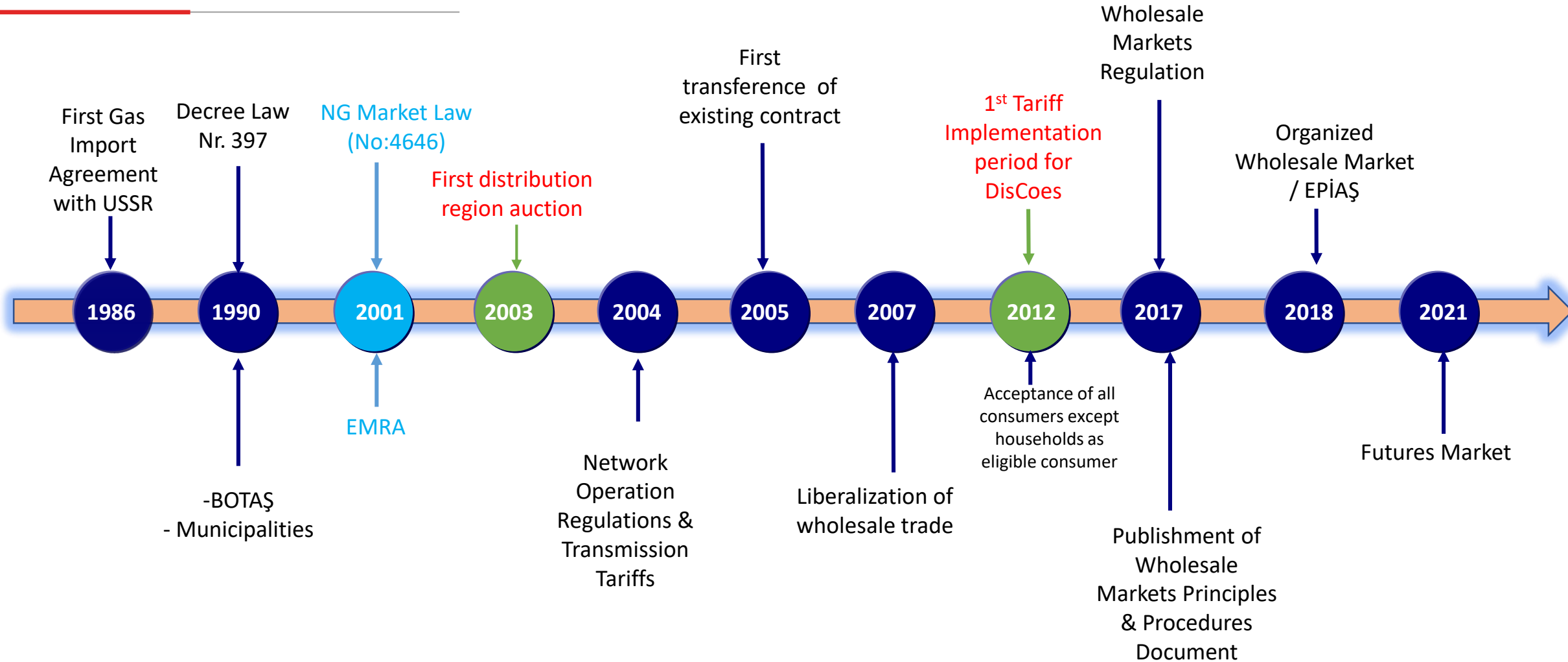


Natural Gas Market Structure in Türkiye



- Transmission and Storage Facilities are operated by BOTAŞ
- BOTAŞ also has supply license and is the main gas supplier for users
- Similar to electricity market operation by Energy Exchange Istanbul (EXIST-EPIAŞ)
- Distribution companies are owned by private sector generally (exception İGDAŞ), however each region's relevant municipality owns 10% share of the company
- There is no unbundling between distribution and retail sides yet although supplier switching is allowed for eligible consumers.

Liberalization milestones for Natural Gas Market



Basic Regulated tariffs in Electricity & Natural Gas

ELECTRICITY

Network Tariffs

- Transmission
- Distribution
- Connection

Energy Tariffs

- Retail
- Last Resort
- Wholesale (only EÜAŞ)

Other Tariffs

- Market Operation

NATURAL GAS

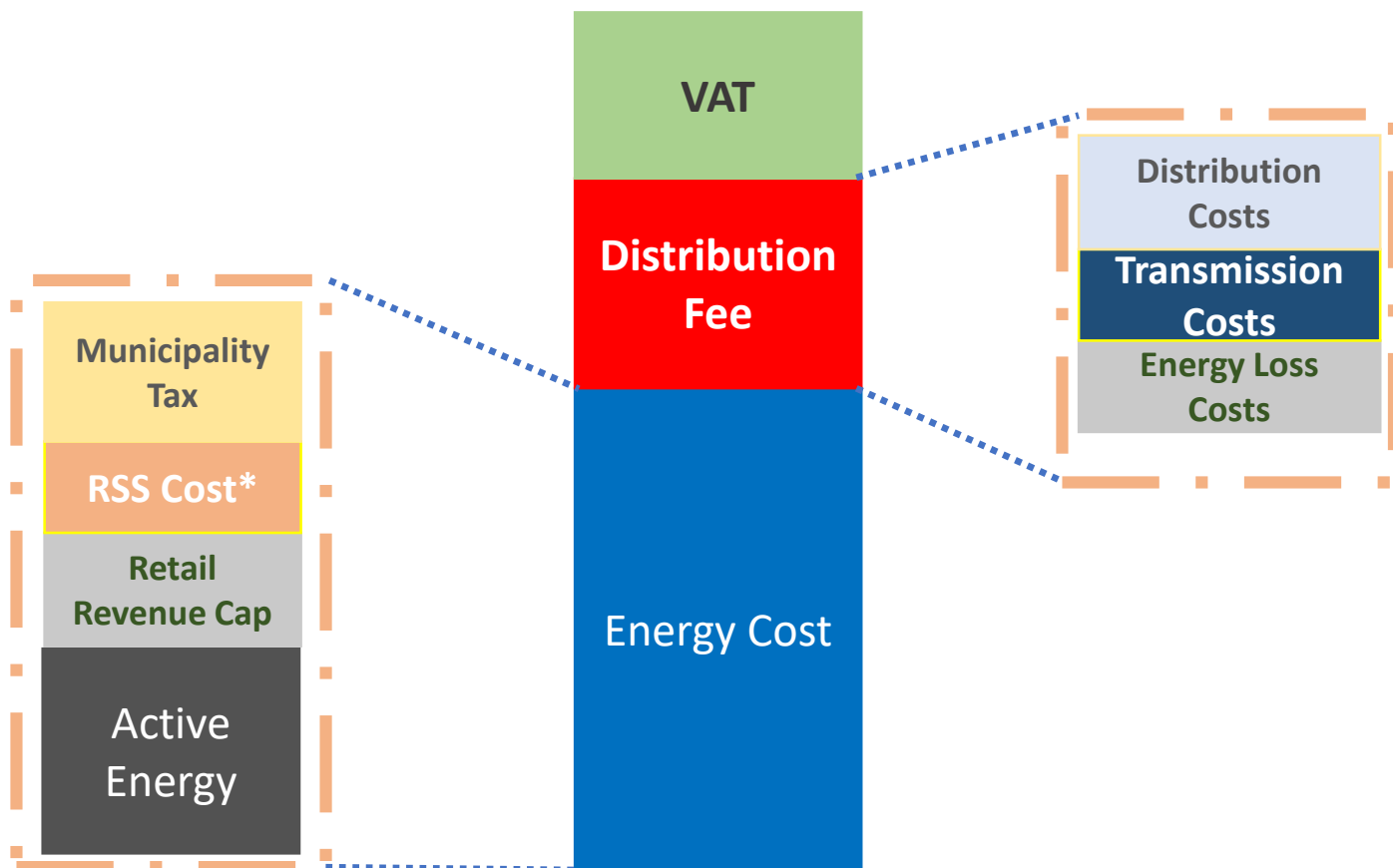
Network Tariffs

- Transmission & Dispatch Control
- Distribution
- Storage
- Connection for non-eligible consumers

Other Tariffs

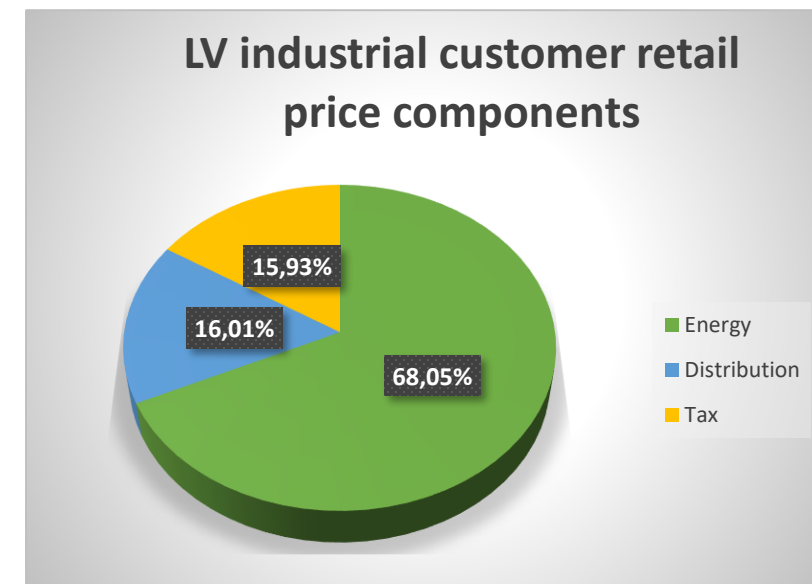
- Market Operation

Electricity Retail Price Components

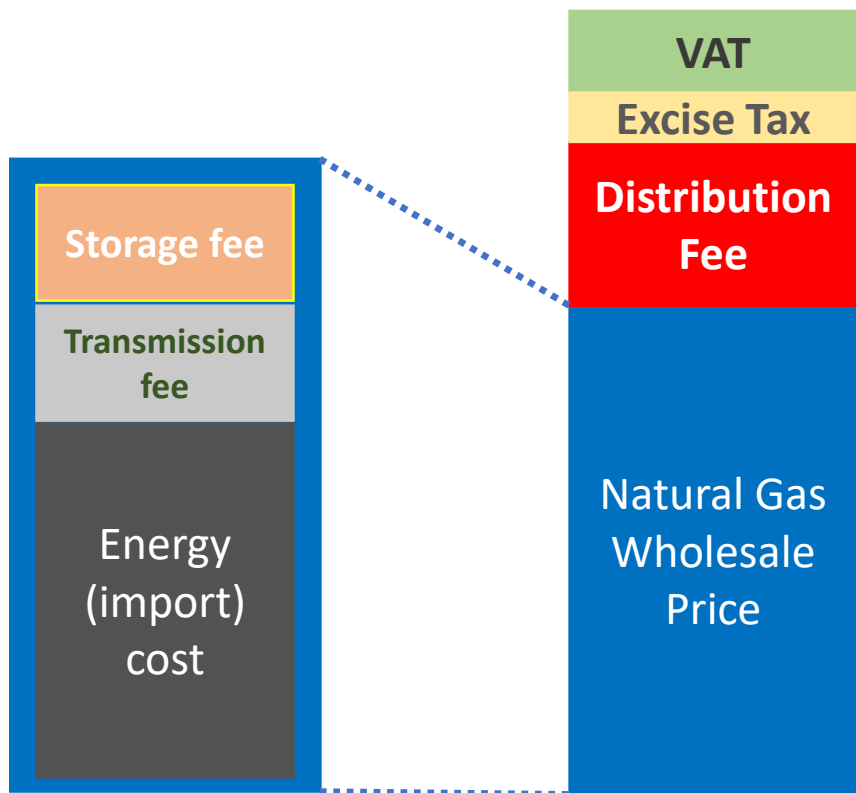


Electricity Retail Price

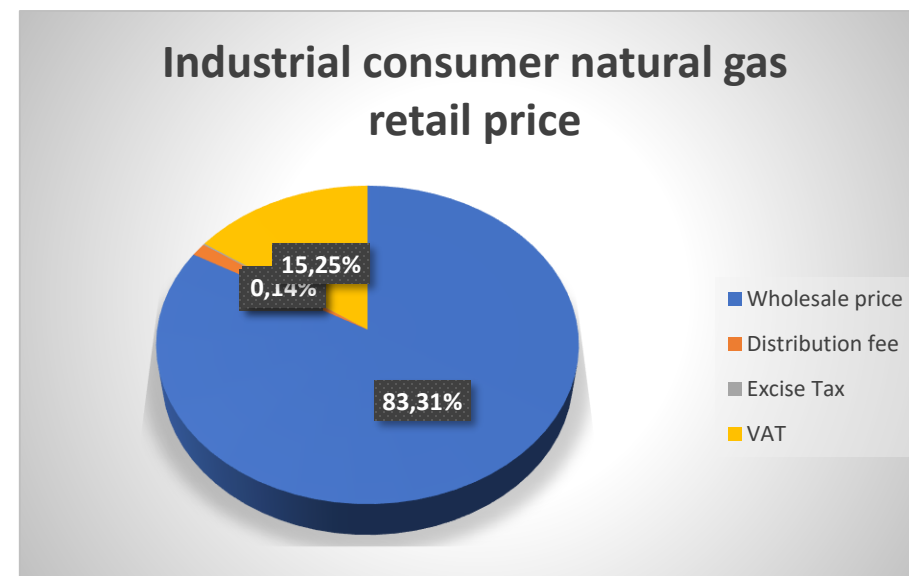
* End-User share of Renewable Support Scheme Costs



Natural Gas Retail Price Components



Natural Gas Retail Price



Electricity Tariff Regulations

- Cost-based revenue requirement (OPEX+CAPEX+Others)
- Revenue Cap model for Network Tariffs
- Implementation period is 5 years for DisCoes, 3 years for TransCo.
- RAB model, depreciation period is 10 years for DisCoes, 30 years for TransCo.
- Regulated retail tariffs are grouped as 5 depending also voltage level of connection*:
 - Households
 - Agricultural Facilities
 - Public/Private/Commercial
 - Industrial Consumers
 - Lighting Facilities
- Any pre-defined direct subsidy for end-user in the context of Electricity Market Law

* Transmission Users 36 kV<
Medium Voltage Users <36 kV & 1 kV > → User-owned transformers
Low Voltage Users < 1 kV

Natural Gas Tariff Regulations

- Cost-based revenue requirement (OPEX+CAPEX+Others)
- Price Cap model for Distribution, Revenue Cap model for Transmission & Storage
- Implementation period is 5 years for DisCoes, 3 years for TransCo & 2 years for Storage
- RAB model, depreciation period is 22 years for DisCoes, TransCo & Storage
- Regulated distribution tariffs are grouped with respect to annual consumption levels as:
 - 0-100,000 sm³
 - 100,001-1,000,000 sm³
 - 1,000,001-10,000,000 sm³
 - 10,000,001-100,000,000 sm³
 - 100,000,000 sm³+
- Any pre-defined direct subsidy for end-user in the context of Natural Gas Market Law

Direct Subsidies for End-Users

- Direct bill-support of Ministry of Family & Social Policies for vulnerable customers
 - Electricity
 - Approximately 4 billion Turkish Liras was paid last year for electricity bill-support (10 Billion Turkish Liras between 2019 & 2022)

Household population	Amount of support per month
1-2 persons	75 kWh
3 persons	100 kWh
4 persons	125 kWh
5+ persons	150 kWh

- Natural Gas
 - Depends on heat map
 - Approximately paid 900-2500 TRY (50-120 \$ app.) for each applicant this winter (400 million Turkish Liras in total for 2022)
 - For winter period only
- Electricity supports for agricultural customers and regions

Indirect Subsidies for End-Users: Electricity

- Price-equalization mechanism (national tariff)
- Energy for loss & theft is purchased from state-owned generation company EÜAŞ by DisCoes. EÜAŞ sells energy at its cost where it has a significant hydro capacity (low marginal cost).
- EÜAŞ also occasionally sells energy to incumbent supply companies to support regulated tariffs (mostly households)

Indirect Subsidies for End-Users: Electricity

After **2022 Energy Crisis** additional measures taken:

- A stepped tariff for household consumers (8 kWh/day); for commercial consumers (30 kWh/day) and discounts made around 33% & 25% at low step respectively
- Elimination of some taxes such as energy (0.7 %) & TRT funds (2 %)
- Value added tax is reduced from 18 % to 8 % for households and agricultural facility consumers
- Non-profit organizations have also been counted in household tariff group

Indirect Subsidies for End-Users: Electricity

2022 Energy Crisis : Active energy revenues could not compensate expense. Therefore, 3 main remedies have been implemented:

REMEDY # 1:

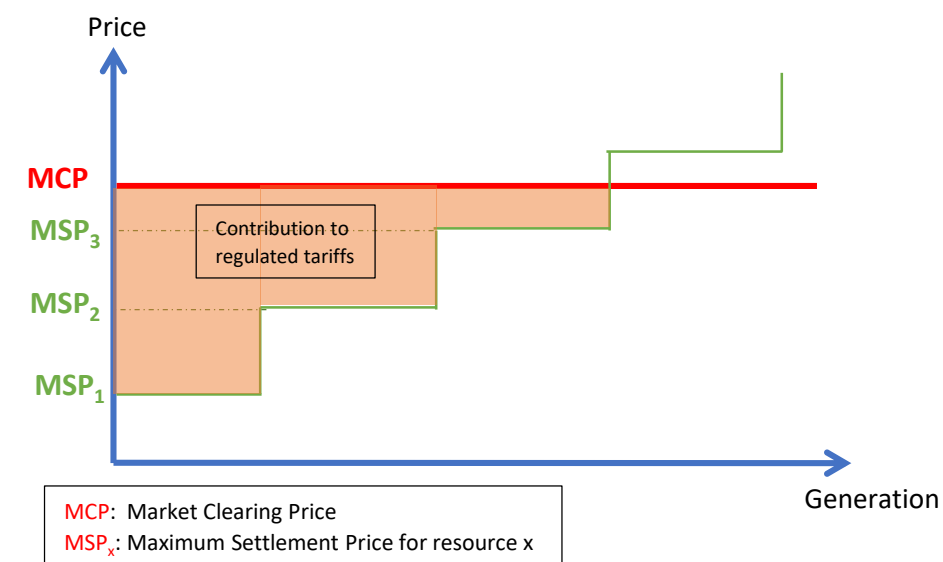
Transfer of excess revenue coming from difference between Renewable Support Mechanism Cost and cost caused by Clearing Price

REMEDY # 2:

The revenue generated by difference between market price and pre-determined price of producers according to sources are going to be also transferred to incumbent supply companies regulated portfolio

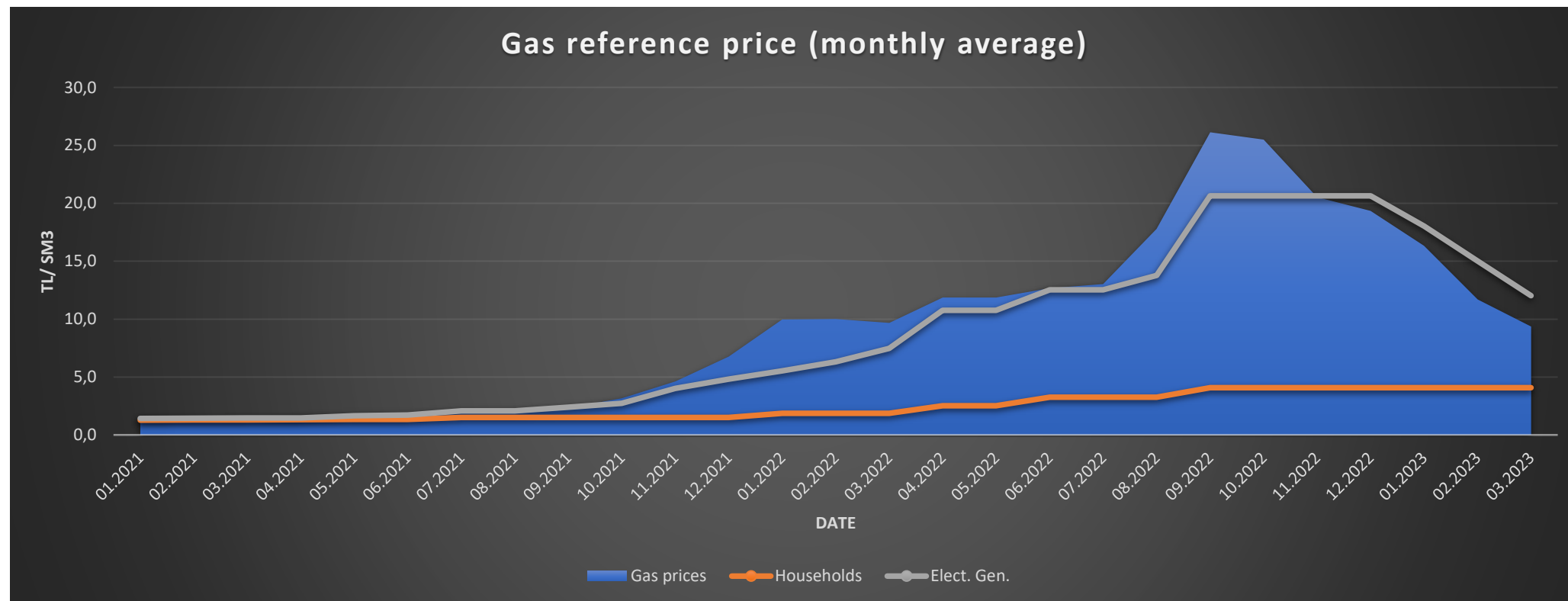
REMEDY # 3:

Consumption limit of last resort supply tariffs decreased to 1M kWh/year valid by July 1st, 2022



Indirect Subsidies for End-Users: Natural Gas

- The graphic shows up monthly average of daily gas reference prices of EPIAŞ-Market operator and wholesale prices of BOTAŞ



Communications

- An active website
- TV programs
- Periodic infos on national media
- Online applications for complaints/info requests

Uzman Gözüyle Enerji Video Galerisi

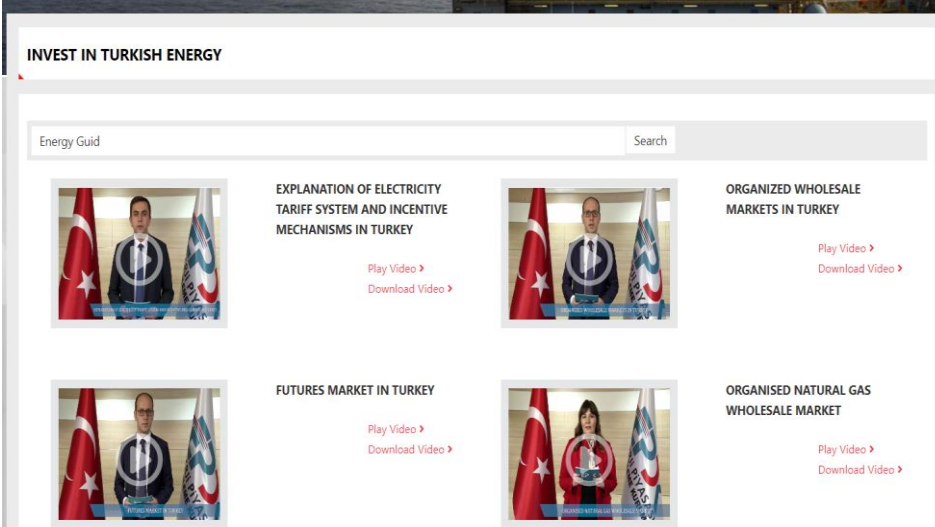


The gallery contains six video thumbnails, each with a play button icon and a title below it:

- Uzman Gözüyle Enerji** adıyla canlı yayınlanan ve 57 hafta süren program; pazartesi
- Türkiye'de LPG Kullanımı**
- Serbest Tüketici Hakları**
- Biyoyakıtların ve Bu Konuda EPDK'nın Yaptığı Çalışmalar**
- Doğal Gaz Tüketiminde Dikkat Edilmesi Gerekenler**
- EPDK ve Enerji Piyasalarına Yönelik Hukuki Süreçler**

INVEST IN TURKISH ENERGY

Energy Guid Search



The grid displays four video thumbnails with the following titles and options:

- EXPLANATION OF ELECTRICITY TARIFF SYSTEM AND INCENTIVE MECHANISMS IN TURKEY**
Play Video >
Download Video >
- ORGANIZED WHOLESALE MARKETS IN TURKEY**
Play Video >
Download Video >
- FUTURES MARKET IN TURKEY**
Play Video >
Download Video >
- ORGANISED NATURAL GAS WHOLESALE MARKET**
Play Video >
Download Video >

Lessons learned so far

- Cost-based regulated tariffs works in a liberalized environment
- Learning curve of new utility owners in a regulated monopolistic business takes time
- Balance between customer satisfaction & costs (tariffs)
- Carrot & stick incentive regulation is necessary
- Difficult times bring harsh remedies

Recommendations

- **A step-wise structured strategic plan for liberalization/privatization**
 - Necessity?
 - Unbundling process /liberalization
- **Preservation of municipality shares**
- **Clear definitions for responsibilities of parties**
 - Ministry
 - Independent regulator
 - Utilities
- **Incentive regulations**
- **End-user perception: From «public service» to a «commercial good»**



**THANK YOU
FOR YOUR ATTENTION!**

Dr. Mehmet Ali KÖLMEK
mkolmek@epdk.gov.tr