ACCESS TO DISTRIBUTION NETWORK

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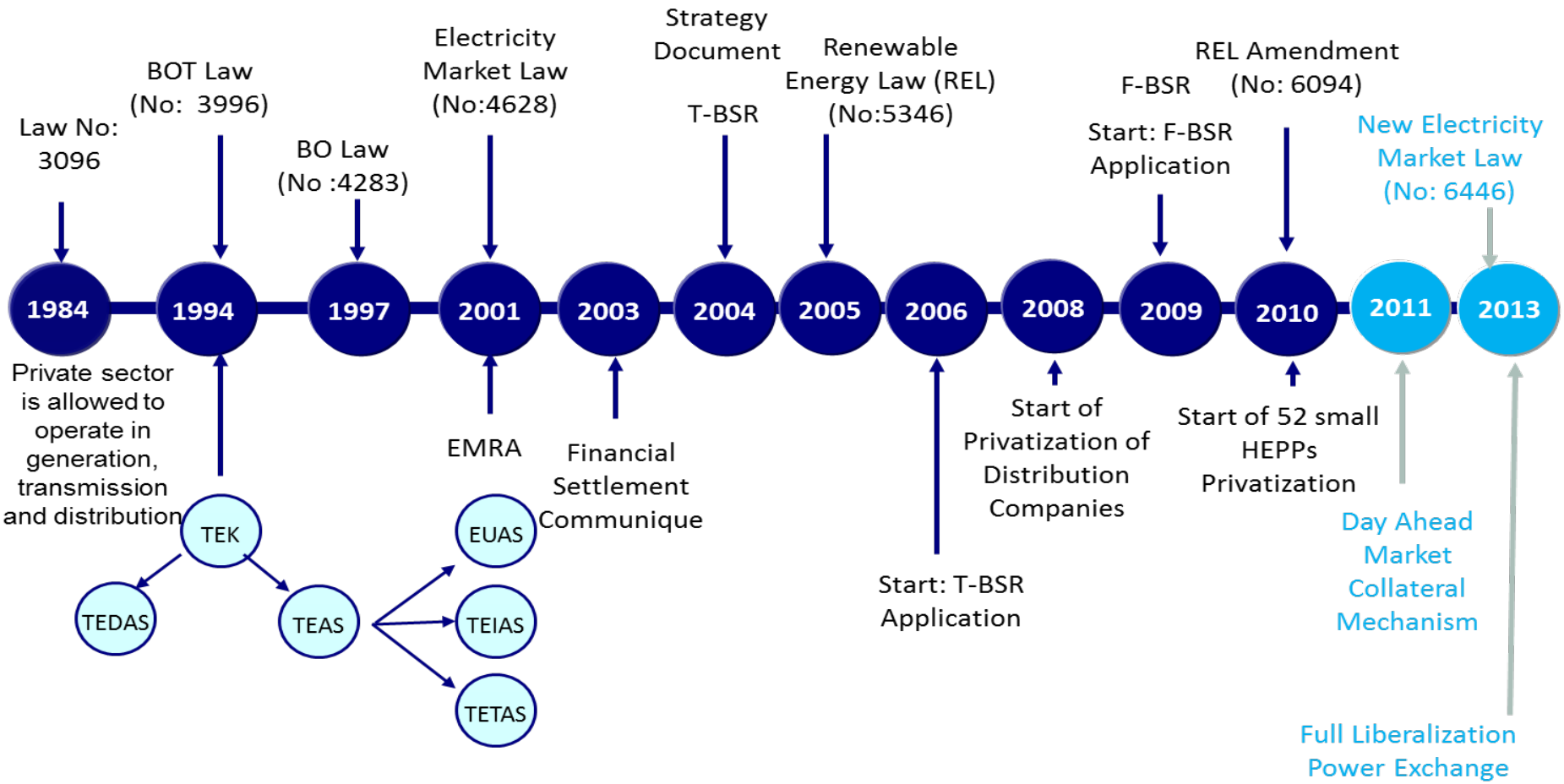
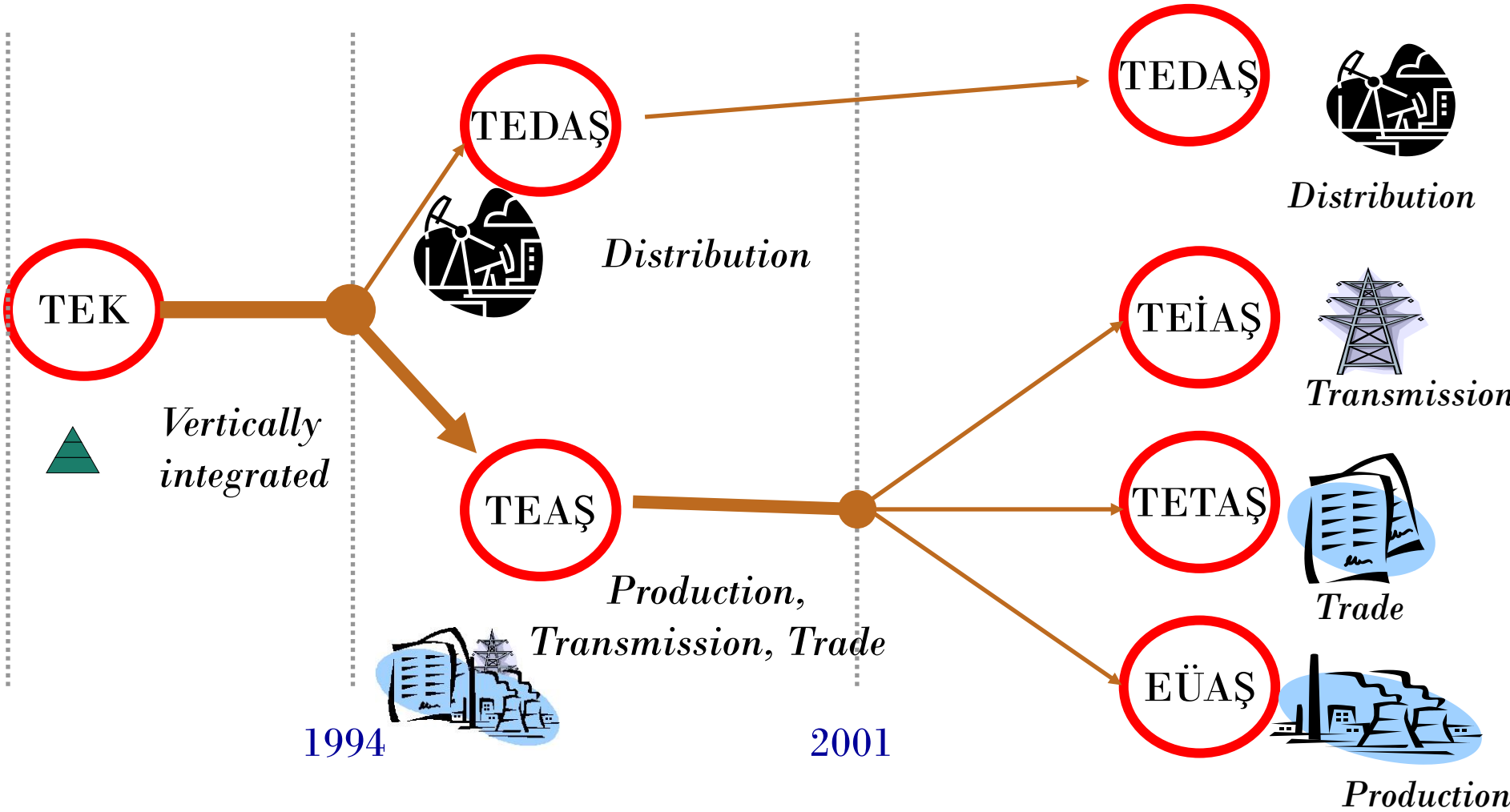
02 December 2015

HISTORY of LIBERALIZATION



TURKISH ELECTRICITY MARKET (Public side)



ELECTRICITY MARKET- I

- Competitive parts

- Production market
- Supply (wholesale and retail) market

- Non-competitive (regulated) parts

- Transmission market
- Distribution market

ELECTRICITY MARKET- II

- **Market Players**

- Production Co.
- Supply Co.
    a) Incumbent Supply Co.
    b) Other Supply Co.
- DISCOs (21 regions in Turkey)
- Transmission Company (TEİAŞ)
- Organized Industrial Zones (OIZ)
    a) OIZ Distribution
    b) OIZ Production

ACESS TO GRID – I (Concept)

- Regulated third party access:

- Connection to grid and grid usage

- Grid rates (tariffs)

ACESS TO GRID – II (Regulation)

- Electricity Market Law, Law no. 6446
- Law on Organization and Duties of Energy Market Regulatory Authority, Law no. 4628
- **Regulation on Connection and Use of System in Electricity Market**
- Other regulations (about licensing, tariffs etc.)

REGULATION ON CONNECTION AND USE OF SYSTEM IN ELECTRICITY MARKET

- Regulates conditions about users' access to transmission and distribution grid.

- Generally, connection and system usage issues are written separately for each transmission and distribution access.

ACESS TO GRID – III (Main Rule)

RCUSEM 4-1 clause says;

- It is obligatory that connection to the transmission and/or distribution system and system use demands of real persons or legal entities **be met** in a **non-discriminatory manner** by TEIAS and/or the distribution company.

CONNECTION AND USE OF SYSTEM AGREEMENTS

- **Connection agreement:** An agreement including general and special provisions that is contracted in order to realize connection of a producer, a consumer or a distribution company to transmission or distribution grid.

- **Use of system agreement:** An agreement including general provisions about use of transmission or distribution system by a company having supply license or a consumer; and special provisions about typical conditions of that user.

COUNTERPARTIES IN CONNECTION AGREEMENT

Connection Agreement	TEİAŞ – Producer company directly connected to transmission system
	TEİAŞ – Consumer directly connected to transmission system
	TEİAŞ – Distribution company
	TEİAŞ – OIZ directly connected to transmission system
	Distribution company– Producer company connected to distribution system
	Distribution company – consumer
	Distribution company– OIZ connected to distribution system

COUNTERPARTIES IN USE OF SYSTEM AGREEMENT

Use of system agreement	
	TEİAŞ – Distribution company
	TEİAŞ – Producer company directly connected to transmission system
	TEİAŞ – Consumer directly connected to transmission system
	TEİAŞ – OIZ directly connected to transmission system
	Distribution company– Producer company connected to distribution system
	Distribution company– Supply company
	Distribution company– Producer company that directly sells energy to the consumer connected to distribution system

PRIORITIES IN CONNECTION

According to RCUSEM;

- If there are two or more application to connect at one same point in transmission grid, priority order is as follows:

  a) Distribution companies,

  b) Organized industrial zones,

  c) Renewables energy producers,

  d) Producers using local resources.

  For others, application date is the criterion for connection order (Article-6 clause-3).

- For distribution system connections, renewables and producers using local resources are prior to others (Article-10 clause-3).

REJECTIONS

According to RCUSEM (4/3);

- The demands of real persons or legal entities regarding connection to the transmission and/or distribution systems operated by TEIAS or distribution licensees shall not be rejected unless;

- **The technical features** of the network at the demanded connection point are **insufficient** as of the connection date that was requested,

- **The standards** set out in the Grid and/or Distribution Regulations or other applicable legislation with respect to system connection have not been met in the project of the facility requesting connection,

- TEIAS and/or distribution licensees demonstrate and justify that the intended connection and electricity transport arrangements constitute an **obstacle for public service obligations**,

REJECTIONS

- **The values regarding technical issues** such as **voltage decrease, harmonic, electromagnetic levels,** in the project of the facility requesting connection fail to meet the limits set out in the applicable legislation, at the network entry and exit points and at the transmission and/or distribution levels,

- The condition of the facility to be connected to the grid for getting the **quality of system electricity** out of the standards envisaged in the related legislation.

OBJECTIONS

➔ Users could apply to EMRA for objection if they think Grid Operator ;

i) does not offer fair provisions,

ii) makes discriminations between equal parties,

iii) could not provide reasonable grounds.

➔EMRA shall decide on the issue within 60 days.

➔Agency is the decision-maker for the requests from consumer side, and the Board is the decision-maker for producers.

USE OF INTERCONNECTIONS

- Export
- Production Co.
- Supply Co.

- Import
- Supply Co.

- Apply to system operator (TEİAŞ or Distribution Co.)
- Agreement on Use of Interconnections

SPECIAL PURPOSE DIRECT LINE

- A line between a producer and its customers and/or shareholdings
- Exception: Grid access rules are not valid
- System control agreement
- Available capacity charge

ALTERATIONS

- Renovations during operation
- If user demands an alteration, each party is responsible for expenditures related to its own facilities
- If TransCo or Disco demands an alteration, the grid operator (TransCo or Disco) is responsible for all expenditures.
- Regulated within RCUSEM Article 26.

GRID RATES (TARIFFS) - 1

- **Grid rates (tariffs)**

- Connection tariffs
- Transmission tariffs
- Distribution tariffs

- Methodology of Calculating Tariffs
- Approve of tariffs
- Publication of tariffs

GRID RATES (TARIFFS) - 2

- SAMPLE USER TARIFF

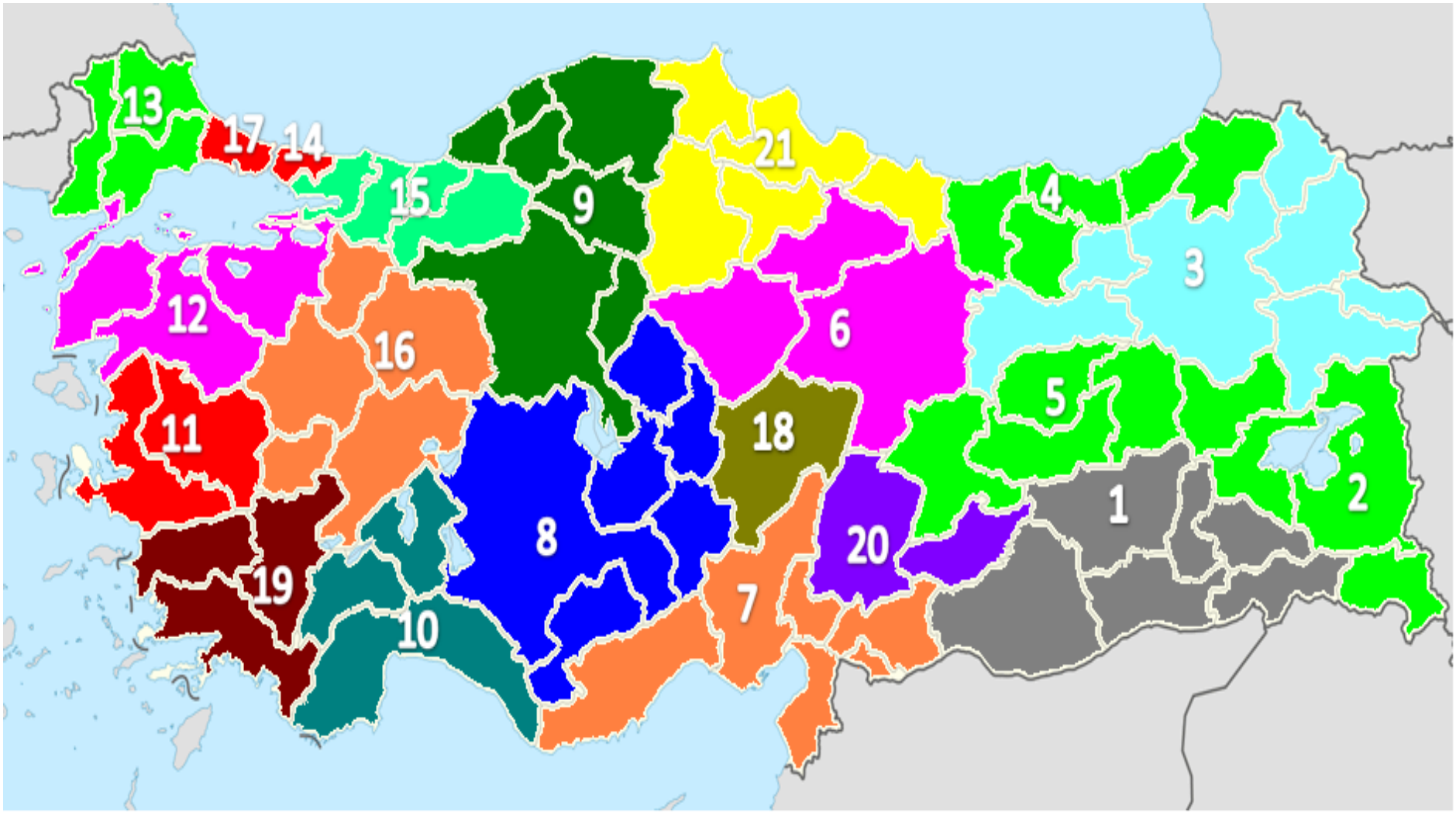
Connection type

01.04.2015	Tüketici Tarifeleri (kr/kWh)							
1 NOLU	Görevli Tedarik Şirketinden Enerji Alan İletim Sistemi Kullanıcısı Tüketiciler	Perakende Tek Zamanlı Enerji Bedeli	Perakende Gündüz Enerji Bedeli	Perakende Puant Enerji Bedeli	Perakende Gece Enerji Bedeli	K/K Bedeli	Dağıtım Bedeli	Perakende Satış Hizmet Bedeli	İletim Bedeli
	Sanayi	18,2871	18,1619	33,1141	7,3770			0,9952	
2 NOLU	İletim şalt sahalarının dağıtım şirketinin kullanımındaki OG baralarına özel hattı ile bağlı tek bir tüzel kişi durumundaki kullanıcılar	Perakende Tek Zamanlı Enerji Bedeli	Perakende Gündüz Enerji Bedeli	Perakende Puant Enerji Bedeli	Perakende Gece Enerji Bedeli	K/K Bedeli	Dağıtım Bedeli	Perakende Satış Hizmet Bedeli	İletim Bedeli
	Sanayi	18,2871	18,1619	33,1141	7,3770	2,6078		0,9952	0,8949
	Ticarethane	22,2048	20,3190	35,6805	8,7558	3,0654		0,9952	0,8949
	Tarımsal Sulama	19,0466	17,7210	34,7808	6,8443	3,3562		0,9952	0,8949

4 TYPES OF USERS (CONSUMERS)

1. Transmission system user
2. Distribution system user who are connected to MV voltage busbar of a transmission substation by line(s) owned by the user.
3. Distribution system user who are connected to MV voltage busbar of a transmission substation by line(s) owned by DISCO.
4. Other users of distribution system.

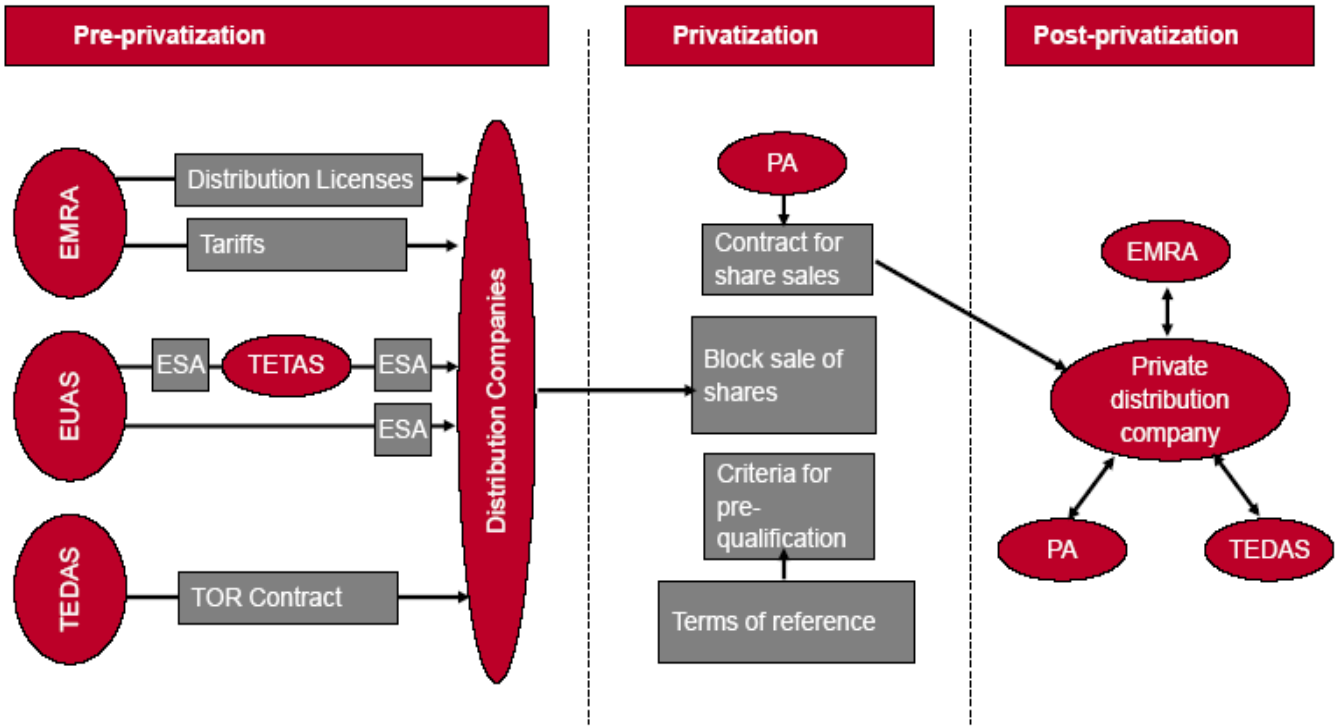
ELECTRICITY DISTRIBUTION IN TURKEY



DISTRIBUTION PRIVATIZATION

- Kick-off of Reforms:
  - Electricity Market Law (EML) 4628 – 2001
  - Market has been restructured, opened up and liberalized
- Article 14 of the EML:
  - Privatizations shall be implemented by the Privatization Authority (PA)
- March 2004 - Reform in the Electricity Market and Privatization Strategy Paper
- April 2004 – Privatization process of DISCOs (TEDAS) launched by PA

DISTRIBUTION PRIVATIZATION



- Distribution assests are owned by state (TEDAS) and operated by private companies for 30 years
- 21 distribution regions are served by private companies. Retail competition enabled.
- Total revenue from privatization reached 13 billion USD
- Private companies obtain satisfactory returns from network investments

PRIVATIZATION SUMMARY

NAME OF DISCO	CITIES IN REGION	WINNER COMPANY	TENDER PRICE (million $)	DATE OF TRANSFER
BAŞKENT EDAŞ	ANKARA, ÇANKIRI, KASTAMONU, ZONGULDAK, KIRIKKALE, BARTIN, KARABÜK	ENERJİSA-VERBUND	1.225,00	28.01.2009
SAKARYA EDAŞ	BOLU, KOCAELİ, SAKARYA, DÜZCE	Akcez OGG/Akcez	600	11.02.2009
MERAM EDAŞ	KIRŞEHİR, KONYA, NEVŞEHİR, NİĞDE, AKSARAY, KARAMAN	Alsim Alarko/Alcen	440	30.10.2009
OSMANGAZİ EDAŞ	AFYONKARAHİSAR, BİLECİK, ESKİŞEHİR, KÜTAHYA, UŞAK	Eti Gümüş/Dedeli	485	31.05.2010
ULUDAĞ EDAŞ	BALIKESİR, BURSA, ÇANAKKALE, YALOVA	LİMAK-KOLİN-CENGİZ	940	31.08.2010
ÇAMLIBEL EDAŞ	SİVAS, TOKAT, YOZGAT	LİMAK-KOLİN-CENGİZ	258,5	31.08.2010
YEŞİLIRMAK EDAŞ	AMASYA, ÇORUM, ORDU, SAMSUN, SİNOP	ÇALIK HOLDİNG	441,5	29.12.2010
ÇORUH EDAŞ	ARTVİN, GİRESUN, GÜMÜŞHANE, RİZE, TRABZON	AKSA	227	30.09.2010
FIRAT EDAŞ	BİNGÖL, ELAZIĞ, MALATYA, TUNCELİ	AKSA	230,3	31.12.2010
TRAKYA EDAŞ	EDİRNE, KIRKLARELİ, TEKİRDAĞ	IC HOLDİNG	575	30.12.2011
BOĞAZİÇİ EDAŞ	İSTANBUL AVRUPA YAKASI	LİMAK-KOLİN-CENGİZ	1.960,00	28.05.2013
AKDENİZ EDAŞ	ANTALYA, BURDUR, ISPARTA	LİMAK-KOLİN-CENGİZ	546	28.05.2013
GEDİZ EDAŞ	İZMİR, MANİSA	ELSAN-TÜMAŞ-KARAÇAY	1.231,00	29.05.2013
ARAS EDAŞ	AĞRI, ERZİNCAN, ERZURUM, KARS, BAYBURT, ARDAHAN, IĞDIR	KİLER	128,5	28.06.2013
TOROSLAR EDAŞ	ADANA, GAZİANTEP, HATAY, MERSİN, KİLİS, OSMANİYE	ENERJİSA	1.725,00	30.09.2013
AYEDAŞ	İSTANBUL ANADOLU YAKASI	ENERJİSA	1.227,00	31.07.2013
VANGÖLÜ EDAŞ	BİTLİS, HAKKARİ, MUŞ, VAN	TÜRKERLER İNŞ.	118	26.07.2013
DİCLE EDAŞ	DİYARBAKIR, MARDİN, SİİRT, ŞANLIURFA, BATMAN, ŞIRNAK	İŞKAYA-DOĞU OGG	387	28.06.2013

CONNECTION TO DISTRIBUTION SYTEM: PROVISIONS/APPLICATIONS

- RCUSEM Article-10 regulates provisions for application to connect distribution system.

- RCUSEM 10/2 Necessary Documents:

a) Tapu kaydını ve onaylı elektrik projesini,
b) İmar alanı içerisinde bulunanlar, 3/5/1985 tarihli ve 3194 sayılı İmar Kanununun 30 ve 31 inci maddelerine göre yapı kullanma iznini,
c) Köy yerleşik alanları ve civarı ile mezralarda bulunanlar, 3194 sayılı İmar Kanununun 27 ve 30 uncu maddelerine göre yapı kullanma iznini,
ç) İmar ve köy yerleşim alanları dışında bulunanlar, Çevre ve Şehircilik İl Müdürlüklerinden verilecek yapı kullanma iznine ilişkin belgeyi,
d) Ruhsat gerektirmeyen kullanım yerleri için mevzuat kapsamında ilgili mercilerden alınacak izin belgesini,
e) 19/4/2012 tarihli ve 6292 sayılı Orman Köylülerinin Kalkınmalarının Desteklenmesi ve Hazine Adına Orman Sınırları Dışına Çıkarılan Yerlerin Değerlendirilmesi ile Hazineye Ait Tarım Arazilerinin Satışı Hakkında Kanun hükümleri kapsamındaki yerler için alınan izin belgesini,
f) İnşa halindeki yapılar için 3194 sayılı İmar Kanunu hükümleri uyarınca alınan yapı ruhsatını,
g) İlgili mevzuatın zorunlu kılması halinde istenecek diğer belgeleri,

EVALUATION OF APPLICATIONS AND ENERGY PERMISSION

- If existing grid has available and adequate capacity, immediately connection agreement is signed.
- When there is a need for new capacity investment; a reasonable period of connection is presented to user within 20 days if there is a need for field study, within 10 days if not.
- User shall object to EMRA for the energy permission. EMRA is able to set a new connection date according to objection.

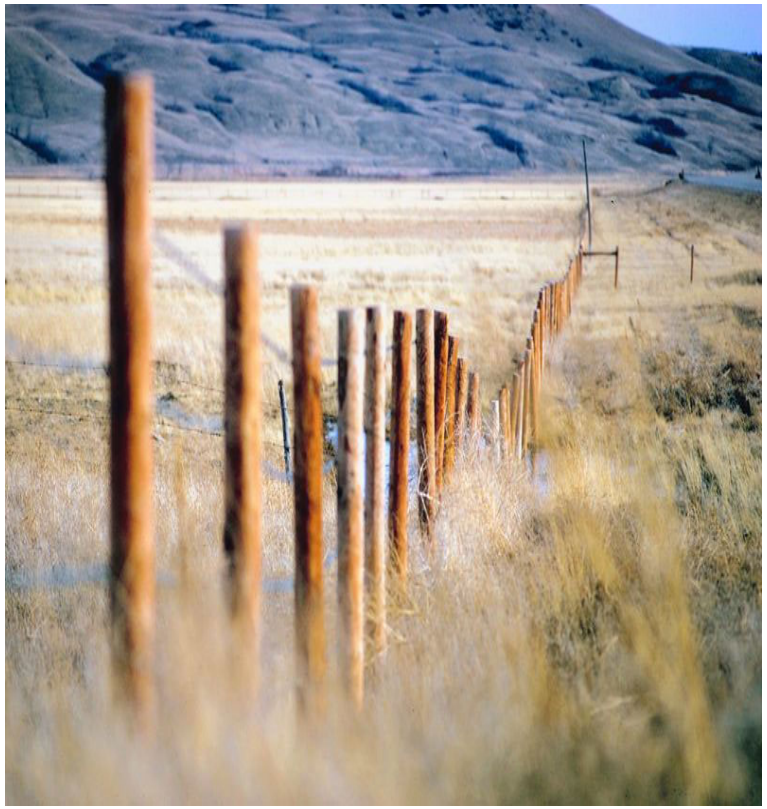
If user finds the period too long, there exists an option to construct or finance the distribution facility (grid) by his own which is stated at Article-21 of RCUSEM

BOUNDARIES
Distribution

- Definition in Electricity Market Law:

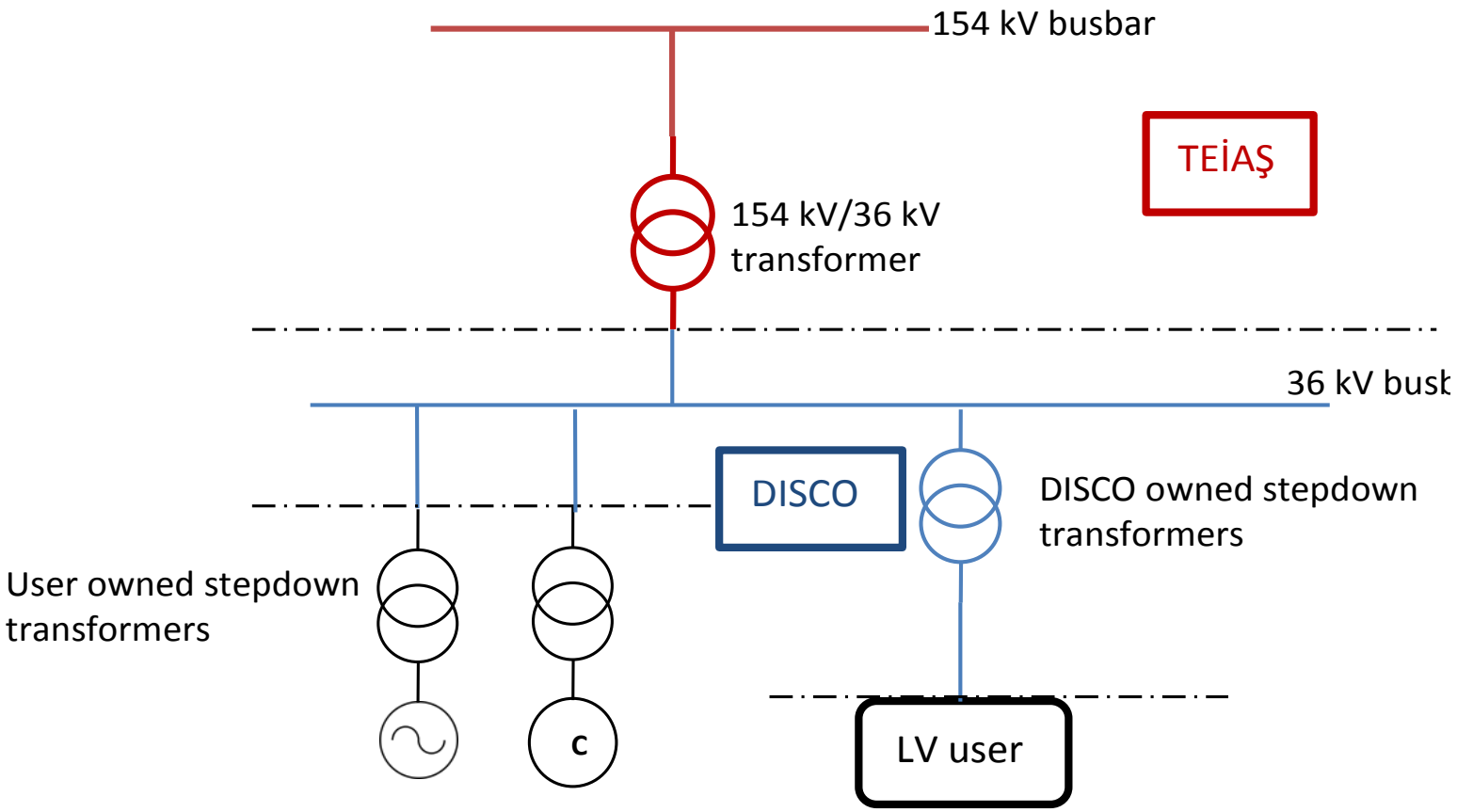
Distribution facility (grid): **From** the terminal pole after the endpoint of transmission facilities and switchyards belonging to production and consumer facilities which are connected at distribution voltage level, **to** the entrance point of buildings of consumers connected at low voltage level; except line between building entrance and meter.

- Similar definitions and explanations are placed in **RCUSEM**.



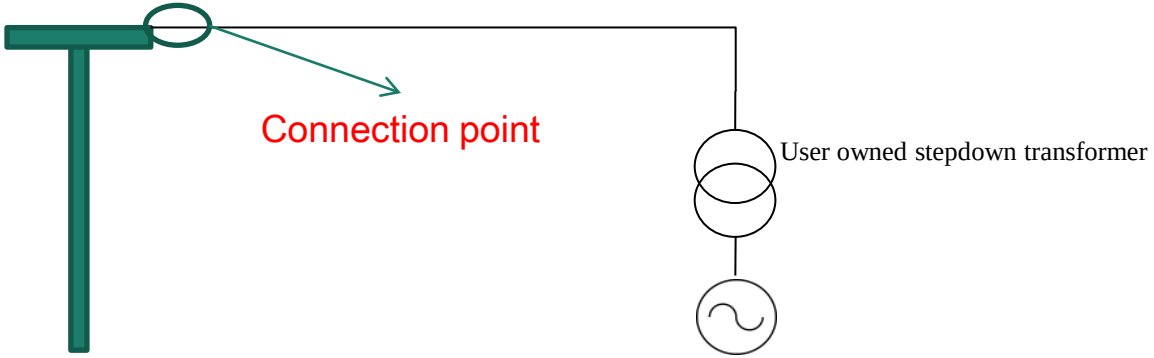
BOUNDARIES

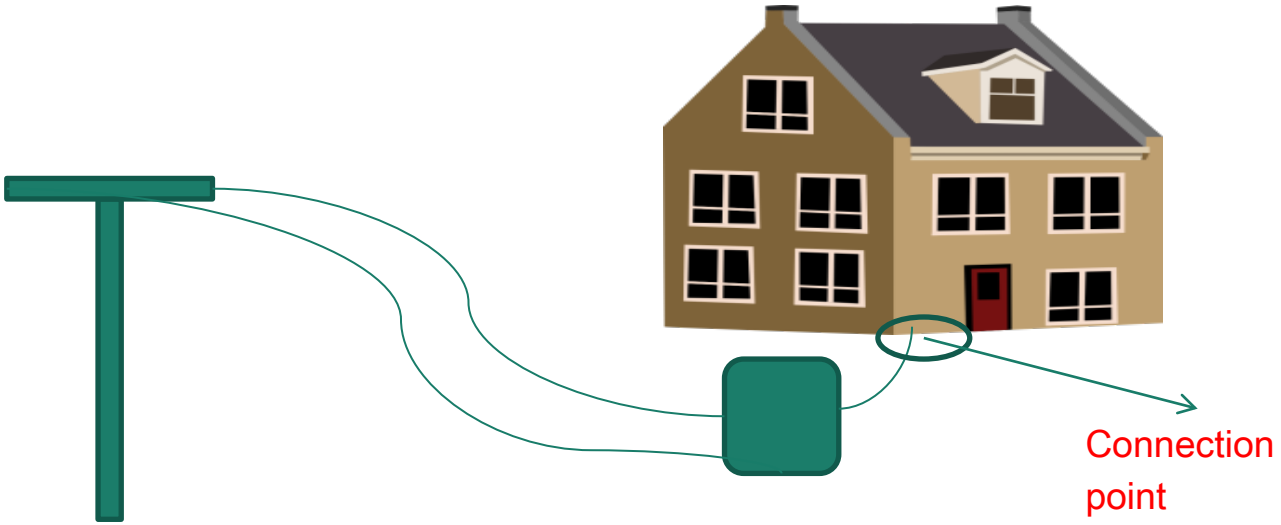
General Picture



BOUNDARIES

Distribution





CONNECTION TO ANOTHER DISTRIBUTION REGION

- By Electricity Market Law No. 6446 users have such an opportunity.
- The reason should be based on «**technical**» and «**economical**» challenges/difficulties.
- That is regulated in Article-11 of RCUSEM.

REGULATION ON QUALITY

Legislation on Quality of Service Regarding Electrical Distribution and Retail

- Guaranteeing Standards of Performance
- Provide protection & compensation rights to customers
- Design performance indicators to incentivize better QoS by Discoes

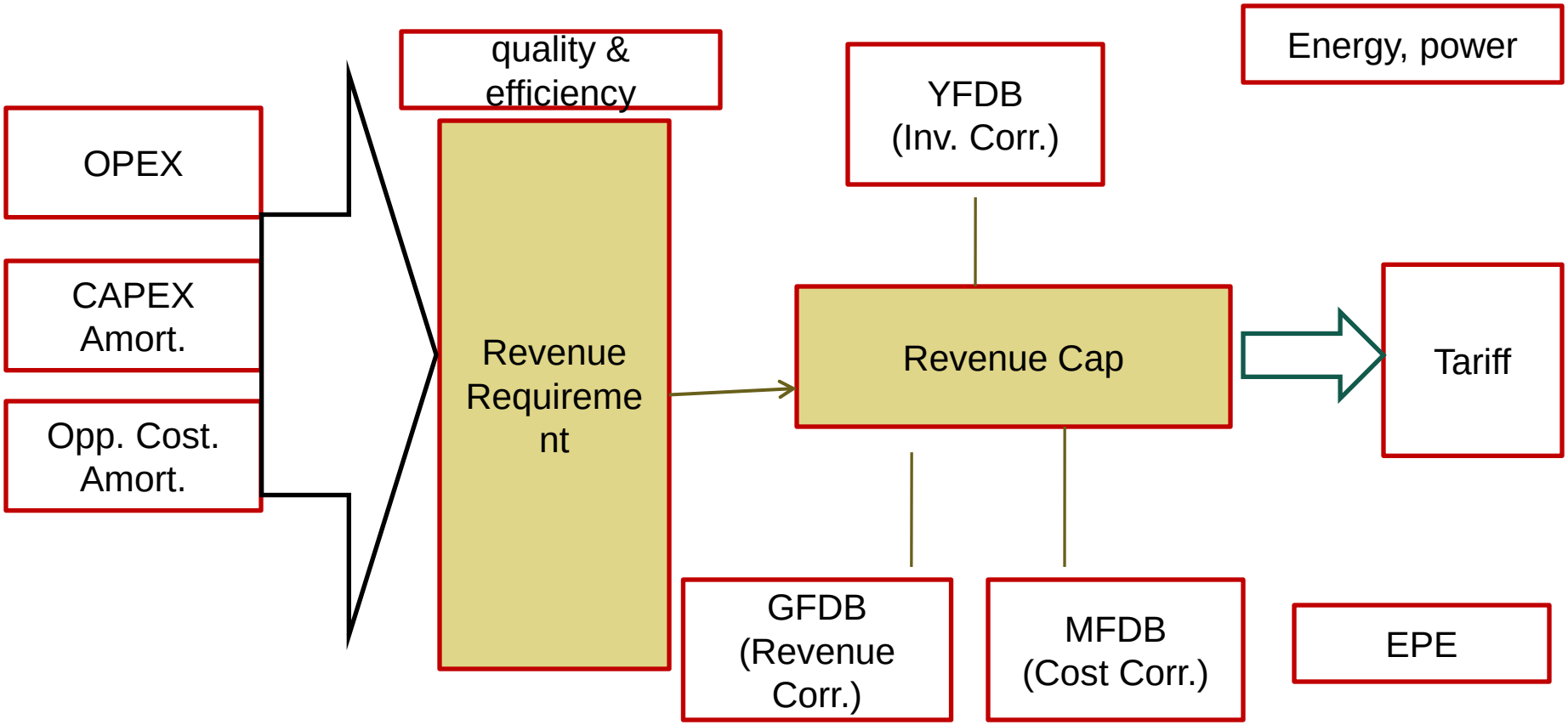
SANCTIONS IN QUALITY REGULATION ABOUT CONNECTION AND SYSTEM USAGE

COMMERCIAL QUALITY CODE	COMMERCIAL QUALITY INDICATOR	STANDARD DURATION	COMPENSATION AMOUNT OR PROCEDURE TO FOLLOW
1.1	Notifying applicant in written form with justifications about when connection can be set up	In ten working days; in case existing situation of distribution system is not suitable for meeting connection request and extension investment or new investment is needed, if site study not needed	Household: TL 25 Other: TL 50
1.2	Notifying applicant in written form with justifications about when connection can be set up	In twenty working days; in case existing situation of distribution system is not suitable for meeting connection request and extension investment or new investment is needed, if site study needed	Household: TL 25 Other: TL 50
2	Project approval or return for revision in case investment regarding connection is made by applicant	In five working days after project submission	Household: TL 25 Other: TL 50
3	In case of connection power change, written reply to user for result of project examination and procedure to follow	In fifteen working days	Household: TL 25 Other: TL 50
5.1	Proposing connection or system usage contract to user	Sixty days after necessary information given by user to distribution company regarding facility and/or appliance that will be connected to distribution system	TL 100
5.2	Proposing connection or system usage contract to user	Ninety days after necessary information given by user to distribution company regarding facility and/or appliance that will be connected to distribution system in case additional information required	TL 100

TARIFFS-REVENUE CAP METHOD

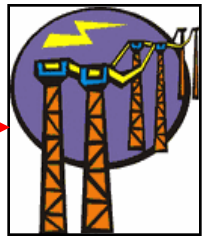
- $R_t = R_{t-1} * (1 + I - X + Q)$

- I: inflation (CPI) X: efficiency factor Q: quality factor



DISTRIBUTION TARIFF

Investment
(Asset Value)



Average
RAB

Correction
Mechanism

Corrections

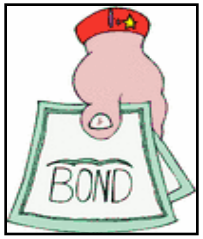
- Revenue Difference Correction
- Investment Difference Correction
- Cost Difference Correction

OPEX

+

Amortization

+



Return

Revenue
Requirement

Quality
Factor

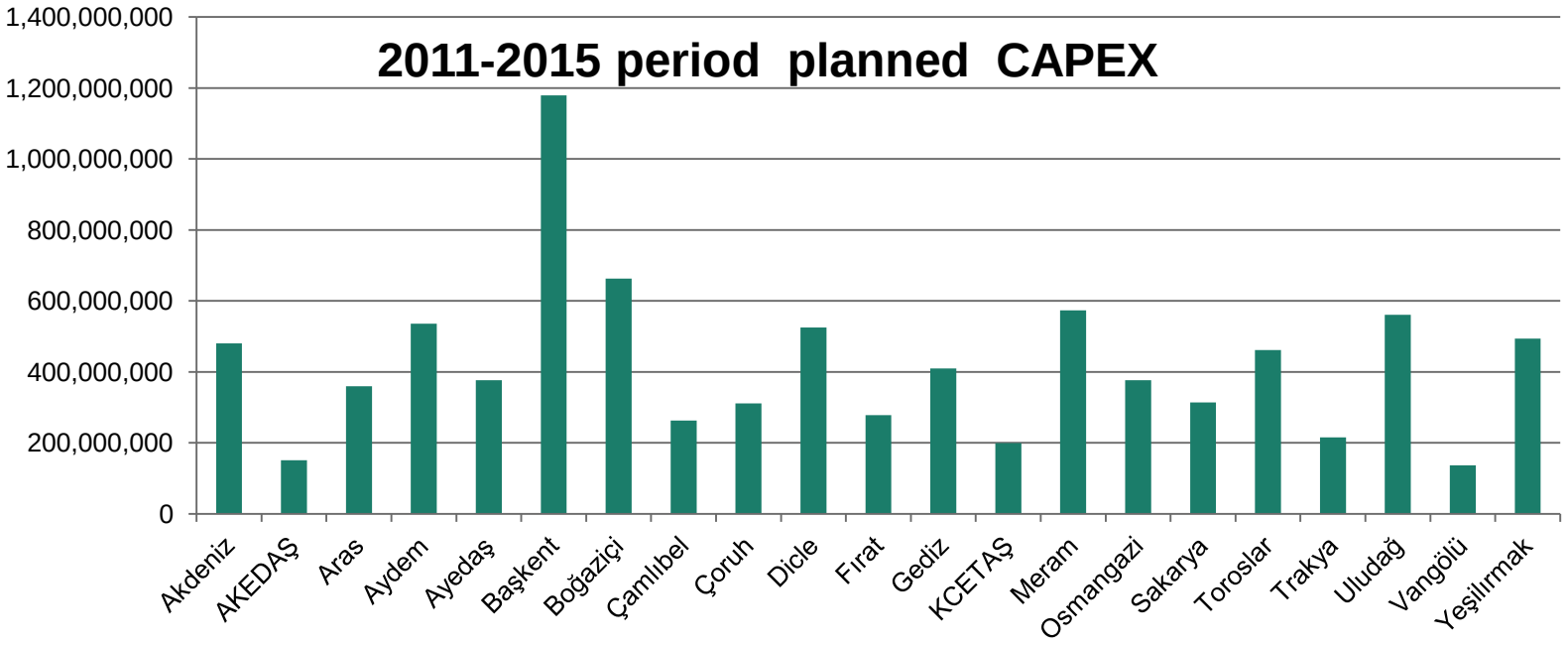
Tariff

Update
by EMI

EMI = Electricity Market Index
EMI = CPI (In present)

APPROVED CAPEX BUDGET FOR DISCOs

- For 2011-2015 tariff period and for 21 distribution companies approximately 9 billion ₺ total capital expenditure (planned) was approved by EMRA.



TYPES OF CAPEX INVESTMENTS

- Grid Capacity Enhancement Investments (New capacity)
- Grid Rehabilitation Investments
- Grid Replacement Investments (Reinforcement)
- Connection investments (user connection lines)
- Investments depending on load distribution change
- Investments depending on environmental, safety and other legal obligatory concerns
- Lighting investments
- Grid operation system investments
- Other expenditures having investment characteristic

INVESTMENT PRIORITY ORDER

- According to regulation of investment, a DISCO should obey the following order of priority when planning investments:

  a. Life and property safety,

  b. Continuity of supply and technical quality,

  c. Connection requests.

Questions?

ENERJİ PİYASASI
DÜZENLEME KURUMU