

Liberalization of the Turkish Electricity Distribution Sector, A Brief Report on the Expectations and Frustrations

**An Outlook to Liberalization of the
Turkish Electricity Distribution
Sector in Terms of Expectations
and Frustrations**

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Liberalization Procedures Realized in Electricity Distribution Sector



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| 1. Dicle elektrik Dağıtım A. Ş. | 12. Uludağ Elektrik Dağıtım A. Ş. |
| 2. Vanşülü Elektrik Dağıtım A.Ş. | 13. Trakya Elektrik Dağıtım A. Ş. |
| 3. Aras Elektrik Dağıtım A.Ş. | 14. İstanbul Elektrik Dağıtım A.Ş. |
| 4. Çoruh Elektrik Dağıtım A.Ş. | 15. Sakarya Elektrik Dağıtım A.Ş. |
| 5. Fırat Elektrik Dağıtım A.Ş. | 16. Osmangazi Elektrik Dağıtım A.Ş. |
| 6. Çamlıbel Elektrik Dağıtım A.Ş. | 17. Boğaziçi Elektrik Dağıtım A.Ş. |
| 7. Toroslar Elektrik Dağıtım A.Ş. | 18. Kayseri Elektrik Dağıtım A.Ş. |
| 8. Meram Elektrik Dağıtım A.Ş. | 19. Menderes Elektrik Dağıtım A.Ş. |
| 9. Başkent Elektrik Dağıtım A.Ş. | 20. Göksu Elektrik Dağıtım A.Ş. |
| 10. Akdeniz Elektrik Dağıtım A.Ş. | 21. Yeşilirmak Elektrik Dağıtım A.Ş. |
| 11. Gediz Elektrik A.Ş. | |

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Liberalization Procedures Realized in Electricity Distribution Sector

Region	No. of Customers (Million)	Annual Sales (Billion kWh)	Privatization Payment (Million USD)	Payment/ Customer (USD)	Payment (Cent/kWh)	Company
Meram	1.483	5,426	440,0	296,7	8,10	Alarko -Cengiz
Başkent	2.951	9,966	1.225,0	415,1	12,29	Enerjisa
Sakarya	1.275	7,890	600,0	470,6	7,60	AkCez
Osmangazi	1.232	4,769	485,0	393,7	10,17	Eti Gumus
Yeşilirmak	1.429	3,830	441,5	309,0	11,50	Calik
Çoruh	959	2,096	227,0	236,7	10,83	Aksa
Çamlıbel	735	2,088	258,5	351,7	12,38	Limak - Kolin - Cengiz
Fırat	657	2,146	230,3	350,5	10,73	Aksa
Uludağ	2.265	10,941	940,0	415,0	8,59	Limak - Kolin - Cengiz
Trakya	790	5,781	575,0	728,1	9,95	IC Ictas
Boğaziçi	4.202	16,710	1.960,0	466,4	11,73	Limak - Kolin - Cengiz
Gediz	2.488	13,025	1.231,0	494,8	9,45	Elsan-Tümaş-Karaçay OGG
Akdeniz	1.677	5,005	546,0	325,7	10,91	Limak - Kolin - Cengiz
Dicle	1.221	5,085	387,0	317,0	7,61	İşkaya-Doğu OGG
İstanbul Anadolu	2.389	7,799	1.227,0	513,6	15,73	Enerjisa
Toroslar	2.879	14,031	1.725,0	599,2	12,29	Enerjisa
Vangözü	459	1,620	118,0	257,1	7,28	Türkerler
Aras	725	1,655	128,5	177,2	7,76	Kiler
General Total			12.744,8			



Social and Political Aspects of the Liberalization of Electricity Distribution Sector

Liberalization of the Electricity Distribution Sector involves many social and political aspects such;

- **Developments of tariffs that would be accepted by all parties involved,**
- **Reducing or keeping interruptions at a reasonable low-level, if not completely eliminated,**
- **Establishment of financial mechanisms for the investments to be realized in the socially inferior regions,**
- **Implementing a non-discriminatory management and behaviour to the industrial, residential and other customers in region,**
- **Management with the strong interest of the Government to keep the tariffs unchanged, due to political reasons**



Mistakes in Developing Tariffs

Tariffs issued by EMRA¹ should have been objectively developed for every distribution region in Turkey in a fair manner, by regarding the number and employment status of employees.

Differences in tariffs with no reasonable explanations have led to unfair revenues and gains for some distribution companies, at the expense of increasing the loading on the end-user customers.

The obvious and fair solution was the development of tariffs based on the average operating and recruitment costs by considering the the number and status of employees in each region.

¹ EMRA: Energy Market Regulatory Authority

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Make-up in the Calculation of Loss and Illicit Utilization

Exact calculation of loss and illicit utilization, especially at the low-voltage level is extremely difficult due to unavailability of large volume of data in to be gathered.

There is an widely accepted opinion that PPA² have performed make-up on the percentages for the loss and illicit utilizations in the regions, before the tendering procedure, in order to be able to create an image, as if they were low, and the regions were commercially highly attractive, and hence to collect higher bids in the tender.

The companies, although not fully convinced by this strategy, have raised their bids accordingly.

² PPA: *Public Privatization Authority: An Office responsible to the Prime Ministry*



Make-up in the Calculation of Loss and Illicit Utilization

The actual situation however have become clear and obvious following the first year period of activity in the regions, that the actual percentages of loss and illicit utilizations were much higher than those were declared. The companies then felt themselves as if they were somehow deceived.

The actual figures for loss and illicit utilization were in the range of 15-18 % in many regions, while the declared and accepted figures were in the range of 11-15 %. The differences were in the order of 3-5 %, while the legal gross³ earning granted by EMRA to the companies from the gross sales were only 3.4 %.

³ These earnings are subject to further taxation with 20 % of the revenue.



Make-up in the Calculation of Loss and Illicit Utilization

In other words the differences between the declared and actual figures were higher than the earnings of the companies.

The companies thus have seen serious risk in maintaining their financial balances and have started complaining.

As a response to these complaints the Government⁴ has revized the figures for the loss and illicit utilizations in many regions towards the interests of the companies⁵.

The most obvious and proper procedure for the calculation of Loss and Illicit Utilization was to calculate it correctly and honestly, and then keep it unchanged.

⁴ MENR (Ministry of Energy and Natural Resources)

⁵ Loss and illicit Utilization ratio have been revized (increased) in the six regions to be privatized



Inaccuracy in the Calculation of Technical Losses

The companies who have failed to win the tender have then raised objections to MENR that; "They would offer the same, or even higher bids in the tender, if they had known that these figures would be raised by MENR later on in this way".

Although not so easy, technical losses might have been more accurately calculated.

Data needed for calculating the technical losses are mostly scattered in a clumsy form and unavailable.

Negative Outcomes - Frustrations

Damaged MV Cables left under Sunlight
in a TEDAS Warehouse



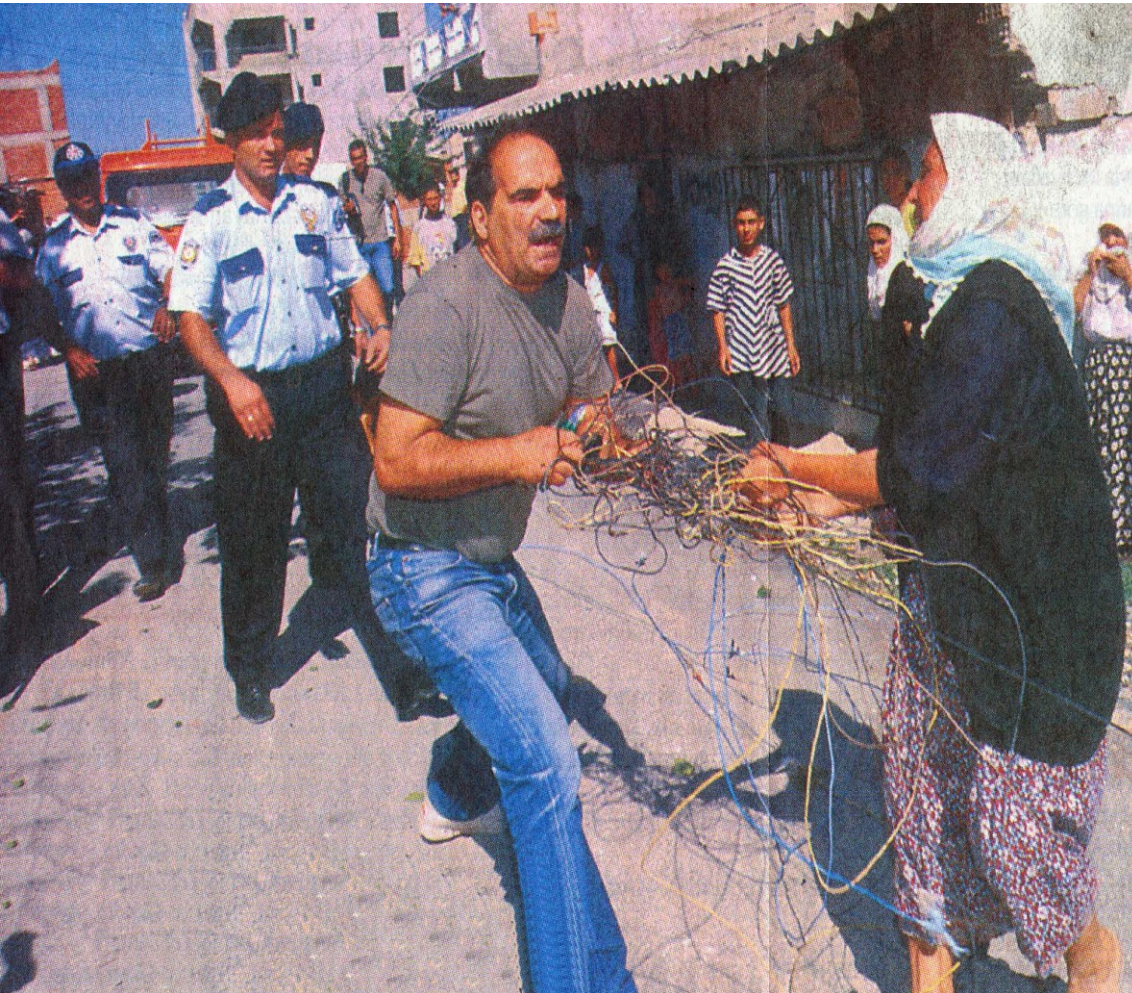
Most the companies, particularly those on the Eastern and Souther-Eastern Side could not exhibit an apperance that they had a major perspective plan for improving the service quality and reducing the loss and illicit utilization,

Government on the other hand, have put the objective of "Highest income from tenders" as the first priority, rather than "Highest performance in improving the service quality and reducing the loss and illicit utilization",

Thus, resulting in a situation that the loss and illicit utilization did not get reduced as aimed,

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Security Problems in Preventing the Illicit Utilizations



Companies are left alone in fighting against illicit utilization, particularly at Eastern Regions, where the Government does not provide sufficient support, due to political reasons.

Views from Turkey:

“Buca Battle”

Effort of Distribution Company staff trying to break the electricity of an illicit electricity user in Buca, İzmir.

Hürriyet: June 27, 2001

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Security Problems in Preventing the Illicit Utilizations



Views from Turkey:

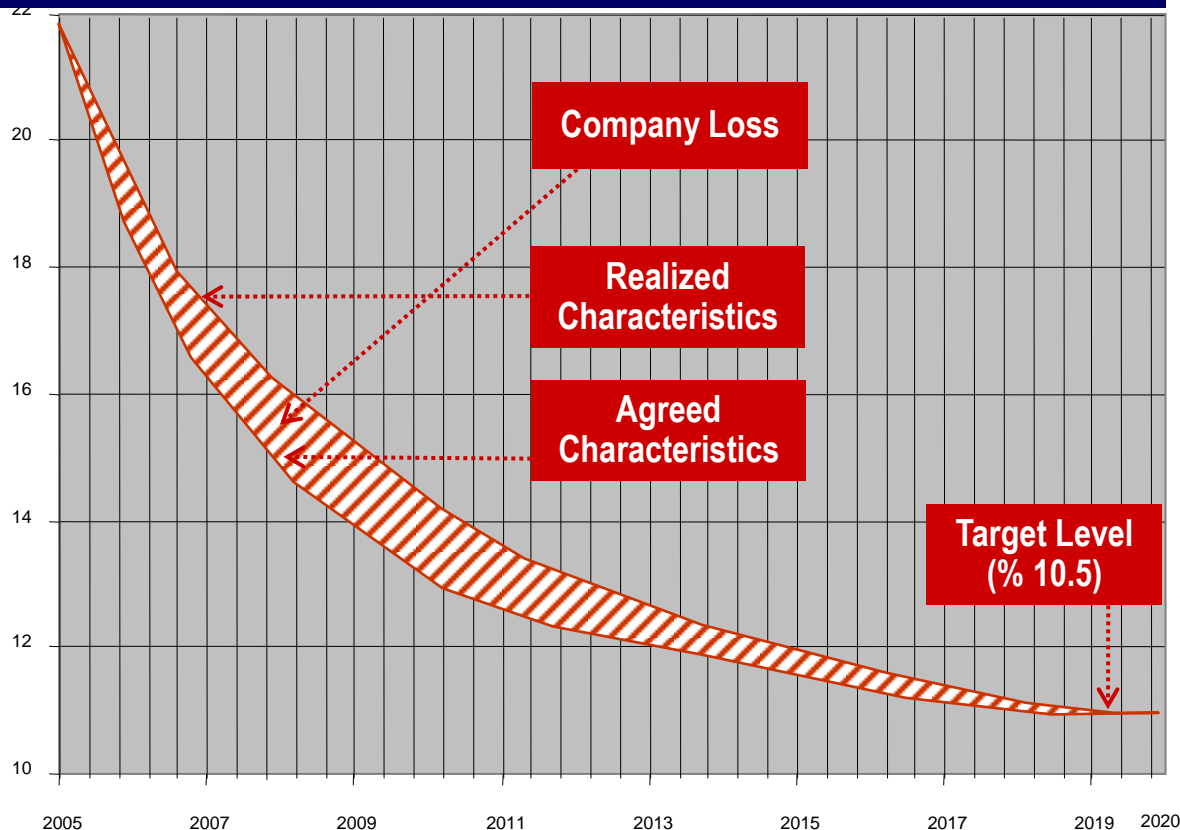
“Buca Battle”

Effort of the same Distribution Company staff trying to break the electricity of an illicit electricity user in Buca, İzmir.

Hürriyet: January 30, 2002

Security Problems in Preventing the Illicit Utilizations

Profile of Istanbul Electricity Distribution Region

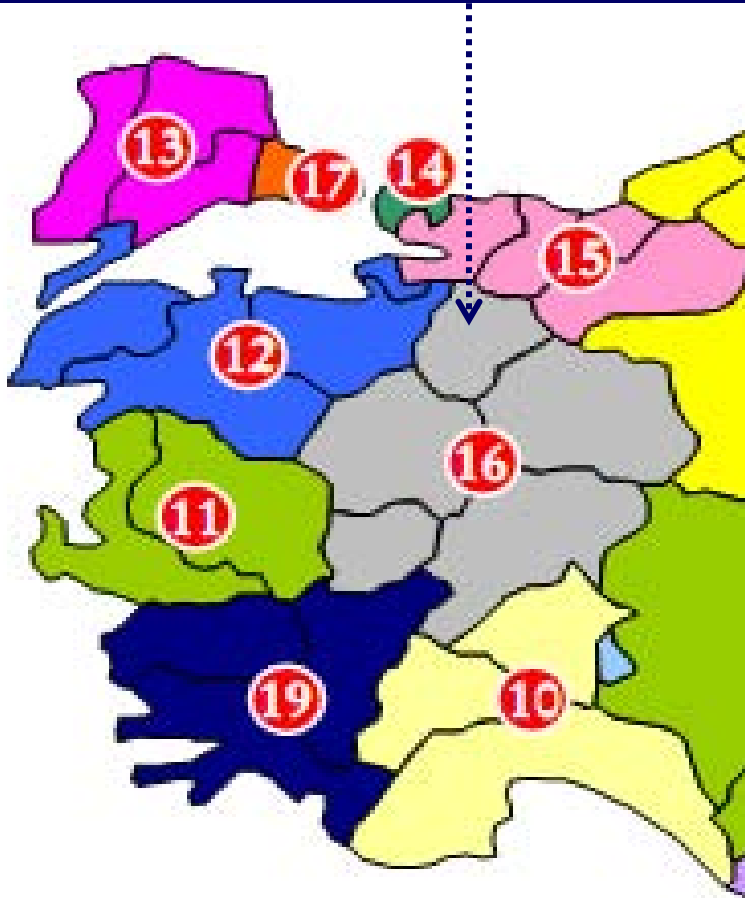


The rate of reduction of illicit utilization rate on the other hand, is rather sharp, highly difficult to realize.

The difference between the agreed and realized characteristics is the "Company Loss".

Companies, particularly those, who won the tenders in the Eastern Region require revisions in these curves.

Osmangazi Electricity Distribution Company



Bankruptcy of Osmangazi Electricity Distribution Company

Company Profile

Region: Afyon, Bilecik, Eskişehir Kütahya, Uşak

Total no. of Customers: 1.227.300

Date of Privatization: 06.11.2008

Privatization Fee: 485.000.000 USD

Privatization Fee/Customer: 379.71 USD / Customer

Privatization Fee/ Gross kWh/Year: 9.53 Cents /kWh

Privatization Fee/ Net kWh/Year: 10.169 Cents /kWh

Date of Bankruptcy: 02.08.2013

Duration of Activity: Four years and 270 days.

The reason fo bankruptcy:

Falling in a situation of not being able to pay back
the amounts for gross electricity purchased from the
producers.

Aged Towers



Refurbishment of the System Infrastructure

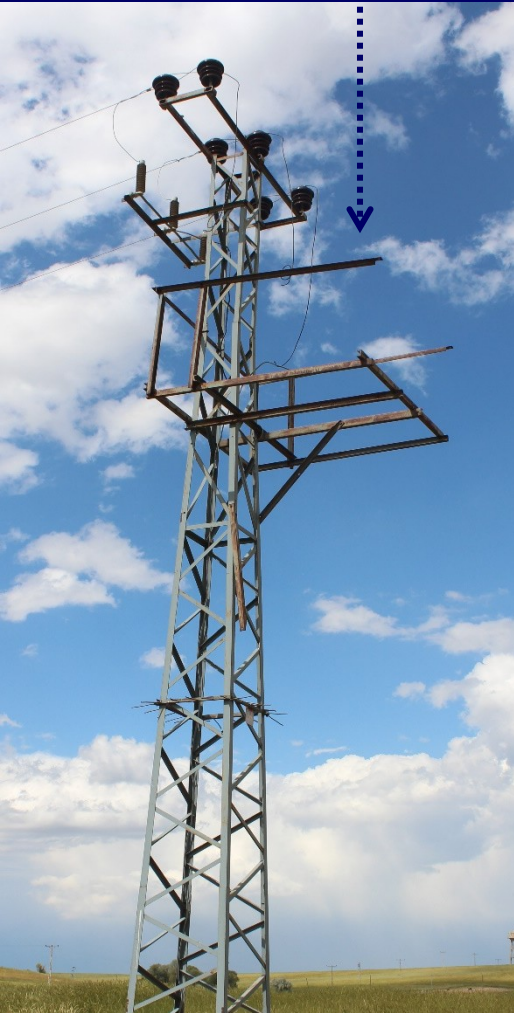
The liberalized systems are rather old, most of them being at least 40 years age, with almost no refurbishment has been made.

Refurbishments on the other hand requires the approval of EMRA, in order to be able to include the incurring costs to the tariff.

There are also some discussions, particularly on the opposition political party side, claiming that these investments have already been paid by the public, thus, making these payment through tariff, in the form of "Fee for the Transfer of Operation Right (TOR)" is actually duplication, thus illegal.

Similar difficulties exist for funding the digital meters.

Stolen Transformer



Transfer of Accounts Receivables

In the earlier liberalizations done in 1984, the accounts receivables of the Parent Company-TEDAS, have been collected by the winner company, but paid back to the Parent-TEDAS.

This type of model did not function, since the winner company has no commercial interest and benefit from this type of collection.

In the earlier liberalizations done in 2010, the accounts receivables of the Parent Company-TEDAS, have been left and collected by the winner company, leading to a way that the company has followed these receivables more closely and systematically.

This type of collection model on the other hand has been criticized by the opposition politicians that these receivables have been gifted by the Government to the company.



Liberalizations Realized in 2008-2010

14 of these regions have been liberalized in 2008-2010;

1. Meram,	8. Ayedaş ⁶	
2. Başkent,	9. Çamlıbel,	
3. Sakarya,	10. Fırat,	
4. Osmangazi,	11. Uludağ,	
5. Yeşilirmak,	12. Trakya,	
6. Çoruh,	13. Boğaziçi ⁶	2.990.000.000 USD ^{7,8}
7. Akdeniz ⁶	14. Gediz ⁶	1.920.000.000 USD

⁶ Bids for these regions have all been withdrawn by the Companies, due to the fact that the bids offered have later been evaluated and seen to be extremely high, and hence could not be financed by the banks, (Winner's Curse: Psychological influence of the tendering environment; a term taken from the economics literature),

⁷ Guarantee Fund was only 30 milyon USD for Boğaziçi Region, hence the company has easliy fired this amount, These withdrawals are obvious indication of the fact that the Guaratee funds were too low, compared to the value of these tenders,

⁸ The overall gain obtained from these firings have reached to 400 milyon USD

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Withdrawal of the at the secondary, tertiary, fourth and even fifth level Companies at the expense of Firing Guarantee Funds

The withdrawn regions have been offered to the bidders at the secondary, tertiary, fourth and even fifth level companies, but they all refused to proceed.

These regions were then re-privatized in 2012-2013 with significantly lower values of bids, - *almost half of the earlier bids*;⁹

- **Akdeniz**
- **Ayedaş**
- **Boğaziçi**
- **Gediz**

⁹ *No compensation or penalty have been requested for the "Public Loss" incurred from those companies.*

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Mistakes in Principles and Criteria implemented

Instead of inspecting the annual investments and refurbishments, alternative criteria based on measuring "Service Quality" should have been developed.

Within this context;

- (a) The frequency, duration and amount of interruptions,
- (b) Voltage level and harmonic contents,
- (c) Behaviour of the staff to the people and customers

should have been taken as the main criteria by EMRA.

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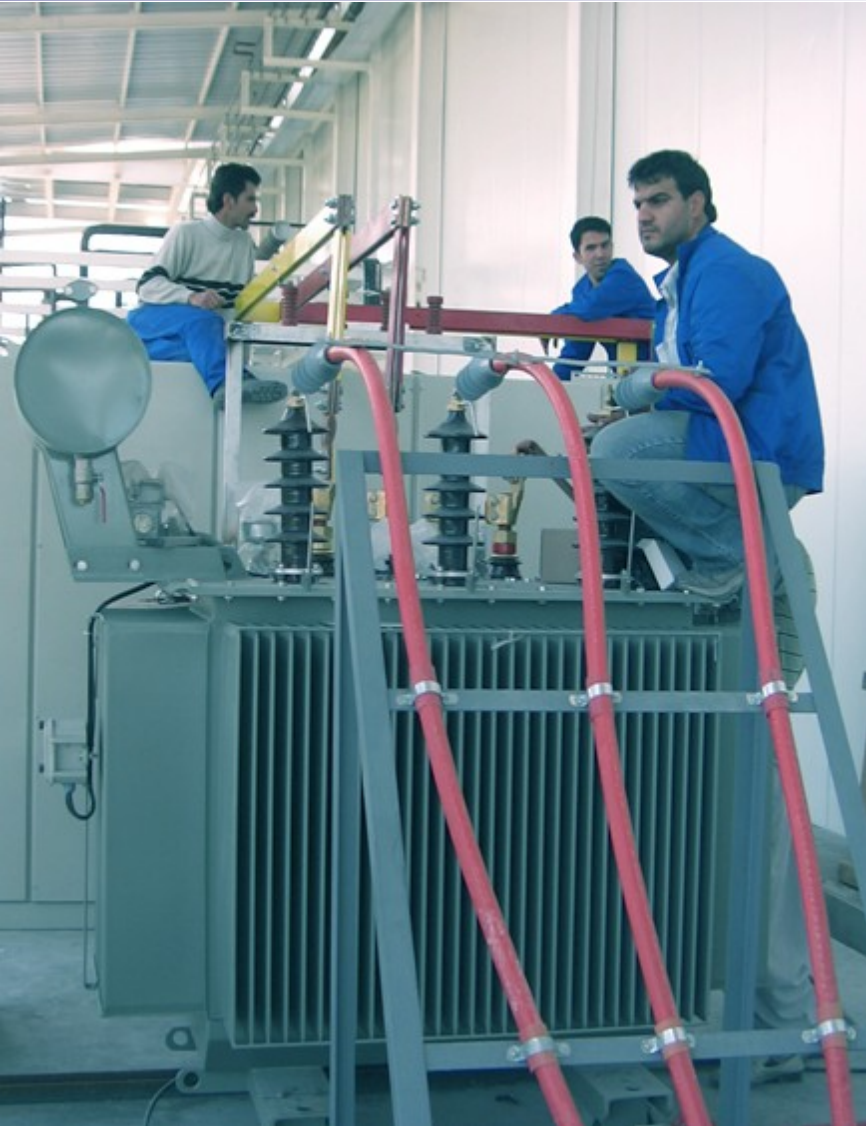
Loss of Critical Technical and Management Staff in TEDAS

Most of critical technical staff in TEDAS have been lost during the long and time consuming privatization procedure that lasted 20 years.

These staff have either retired or enrolled to the privatized distribution companies.

Thus, most of the regulations and legislations for system operation and maintenance principles have been developed by unskilled people who have almost no knowledge about the real system and situation.

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Consequences Loss of Critical Technical and Management Staff

Loss of these staff has resulted in;

- Degradation of the highly valuable system infrastructure,
- Degradation of the service quality,
- Degradation of the culture of paying the electricity bills,
- Increase in the loss and illicit utilization level,
- Spirits of the staff in ethics,
- Technical and Professional education level of the staff

Key principle: Privatization is a procedure that should never be postponed once started.

**People resisting against TEDAS Staff for
illicit utilization**



Political Influences on Tariff Structure

For the last 10 years, EMRA has insisted to continue implementing the "National Tariff" for political reasons, mainly due to the delicate social conditions in the Southern-Eastern Region, that envisages a uniform, identical tariff structure everywhere.

The main objective of the national tariff is to spread the losses arising from illicit utilization to the overall country, by balancing the losses arising from the high illicit utilization in the Southern-Eastern Regions by the gains in the Western Regions



Political Influences on Tariff Structure

This kind tariff structure however, is highly destructive and unsuitable to the liberalization procedure since;

- The implementation of the "Cost-Based Tariff Structure", which constitutes the backbone of the liberal market structure is being delayed for the last 10 years,
- The percentage of loss and illicit utilizations are not uniform in the regions, hence the people residing in the regions with low illicit utilizations exhibit strong social reactions to the tariffs implemented,
- Companies acting in the due to the Southern-Eastern Region exhibits almost no real effort to reduce the percentage of the loss and illicit utilization in their regions, since they are being paid by the people living in the other regions.

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Difficulties in Implementing the Cost-Based Tariff

Cost-Based Tariff is the pricing mechanism developed particularly for each region, that includes all kinds of costs, expenditures and losses due to illicit utilization.

Thus, regions with different losses due to illicit utilization will have different Cost-Based tariffs.

The most obvious difficulty in implementing this kind of Tariff is the strong influence of the members of the Parliament from the Southern-Eastern Region on the Ministry.

These parliaments claim that the prices would rise to extremely high levels due to excessive losses arising from illicit utilization.

The ignored fact in these claims is that the Cost-Based Tariff would have been by "Direct Subsidy" with an exponentially decaying incentive mechanism, in time if it were implemented.

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Professional Background and Adequacy of the Companies attending to the Tenders

Professional background and adequacy of the companies attending to the tender have not been carefully investigated and criticized by PPA.

Various companies from construction, textile, hotel and even food sector have attended and won the tenders.

These companies have then transferred people retired from the Government-Side of the energy sector.

In fact, the main reason for extremely high bids showing-up in the tender room is the technical inadequacy of the managers of those Companies attending to the tender.



Merger of four or five Cities to form larger Regions

Liberalization procedure is mostly carried-out only by PPA, an Office responsible to the Prime Ministry, without any significant cooperation with MENR.

The main instinct in the procedure was to be able to obtain as much as revenue from the procedure to the Treasury, rather than improving the distribution infrastructure and service quality.

Proceeding in that direction, four or five Cities are merged to form larger regions, and retail activities are completely disabled, so to increase the revenues of the Companies.

The geographical distances between the cities in a region are rather long, hence it is quite difficult to explain the actual reason for these mergers, except collecting higher revenue.

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Illegal Connections in Southern-East Region with no apparent metering



Disabling the Retail Activities in Regions

Retail is the most significant activity for the end-users to reach competitive prices.

Competition at the retail level might have been established by granting licenses by EMRA, to alternative retail companies, as well as the main retailer branch of the distribution company.

However, in order to be able to collect higher revenue from the tenders, these licenses have granting of these licenses have been cancelled, in accordance to the preference and demand of the Companies.

Thus, the main retailer branch of the distribution company has been kept as the only company for the retail activity.

Illegal Connections in Southern-East Region with no apparent metering



Disabling the Retail Activities in Regions

The statement claiming that;

"The eligibility limits will progressively be reduced down to the consumption level of domestic customers, hence there will be no need for retail companies"

is obviously incorrect, distorting the facts, since a domestic customer can never be a part of a bilateral agreement, with its inadequate technical knowledge and culture in electricity trading.