

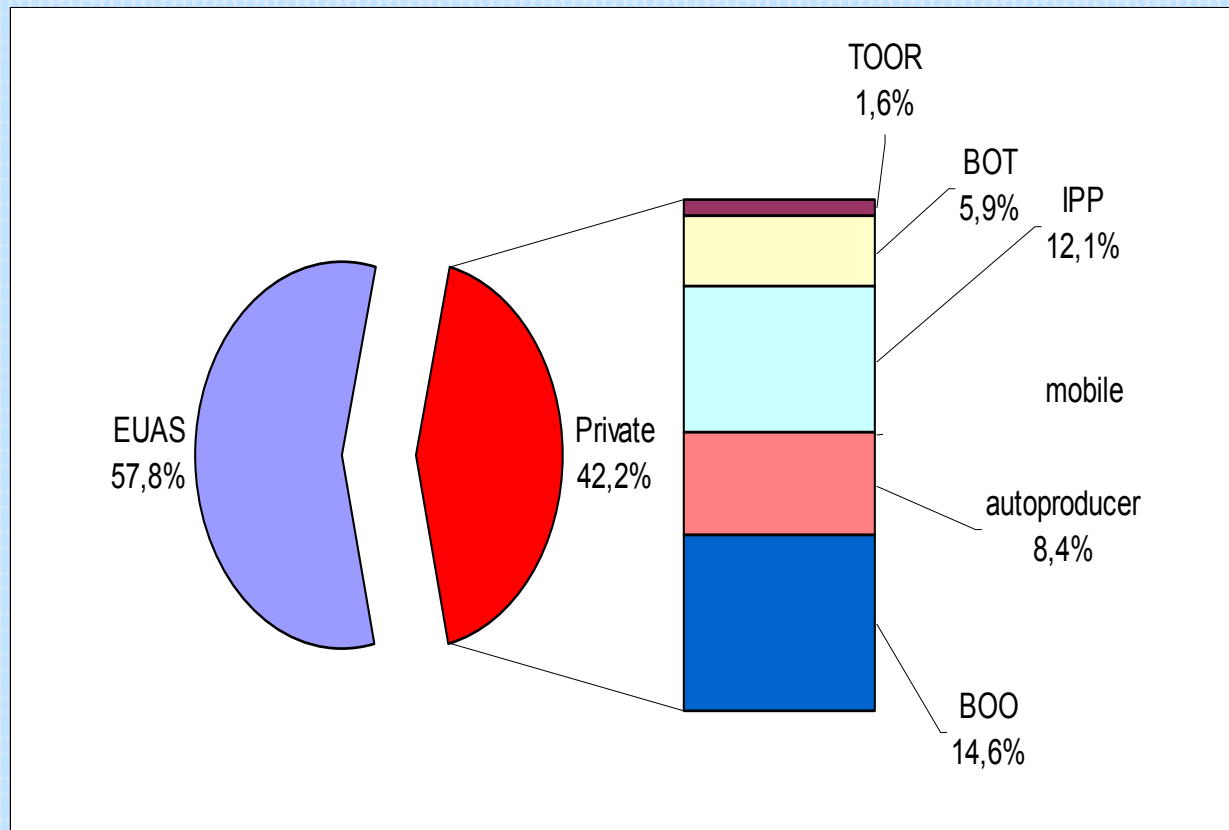
General Overview of Turkish Electricity Sector (Privatization & Renewable Energy)

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Electricity Market by figures (2008)

Breakdown of installed capacity by generators

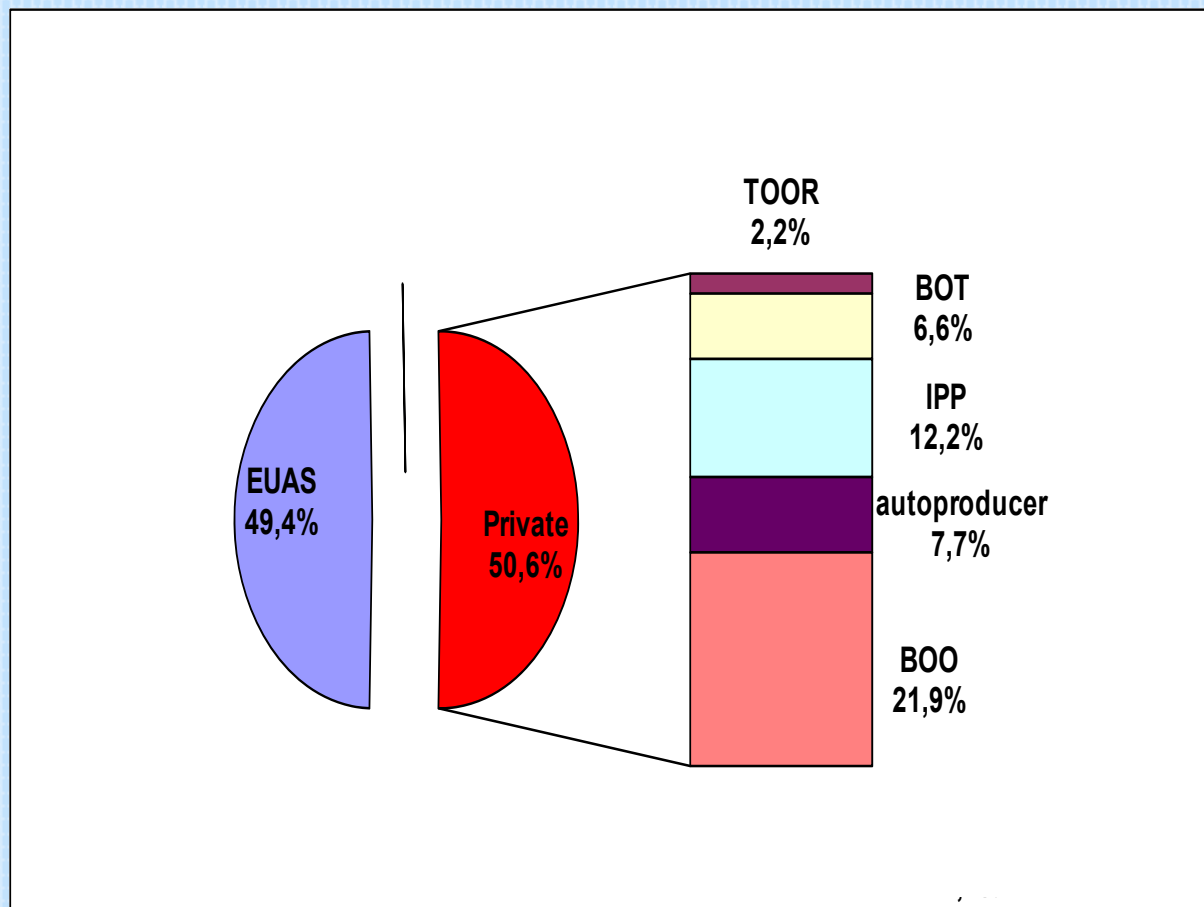
	MW
EUAS	23980.8
IPP	5041
BOO (IPP)	6101.8
Autoproducer	3525.2
BOT	2449
TOOR	650.1
TOTAL	41.748



Electricity Market by figures (2008)

Breakdown of electricity generation by generators

	TWh
EUAS	97,85
IPP	24,22
Autoproducer	15,32
BOO	43,43
BOT	13,16
TOOR	4,31
TOTAL	198,3



Electricity Market by Figures

“Increasing Share of Private Sector”

- Installed Additional Capacity (2003 – 2009)

	2003	2004	2005	2006	2007	2008	2009*	TOTAL
PRIVATE	388	569	1183	619	384	972	950	5.065
PUBLIC	-	-	795	1.132	301	106	200	2.534
BOO	2.911	798	-	-	-	-		3.709
BOT	-	-	100	-	-	-		100
TOTAL	3.299	1.367	2.078	1.751	685	1.077	1150	11.408

* First 5 months

- **TOTAL NEW GENERATION LICENCES ISSUED BY EMRA: >37 000 MW**
- **MORE THAN 12000 MW EXPECTED BY 2014**

PRIVATIZATION of STATE-OWNED DISTRIBUTION AND GENERATION

AIM:

- CREATE A COMPETITIVE LIBERAL ELECTRICITY MARKET
- PRIVATE INVESTMENT FOR NEW GENERATION CAPACITY AND DISTRIBUTION SECTOR
- INCREASE THE EFFICIENCY IN DISTRIBUTION AND GENERATION

STRATEGY:


- CREATION OF A RELIABLE AND STRONG DISTRIBUTION AND RETAIL SECTOR IS NECESSARY IN ORDER TO GIVE CONFIDENCE TO INVESTORS FOR THE NEW GENERATION INVESTMENTS.
- PRIVATIZATION SHALL START FROM DISTRIBUTION SECTOR
- GENERATION PRIVATIZATION AFTER PRIVATIZATION OF SOME DISTRIBUTION REGIONS

Privatisation of Distribution Assets (1)


- **Privatisation method of Distribution Companies is block sale of 100% of shares in electricity distribution companies**
- **The tender procedure for the privatization of the following 4 electricity distribution companies are finalized:**
 - **Başkent Electricity Distribution Inc. → Transferred**
 - **Sakarya Electricity Distribution Inc. → Transferred**
 - **Meram Electricity Distribution Inc. → to be transferred**
 - **Aras Electricity Distribution Inc. → to be transferred**
- **Additionally, according to existing contracts signed before Electricity Market Law**
 - **Menderes Electricity Distribution Region → Transferred**
 - **Akedas Electricity Distribution Region → to be transferred**

Privatisation of Distribution Assets (2)

(2008)	Consumption (billion kWh)	Number of customers (million)
Başkent Dist.Inc.	12,2	3,0
Sakarya Dist.Inc.	9,4	1,3
Menderes Dist.Inc.	6,0	1,5
Meram Dist.Inc.	6,4	1,53
Kayseri ve Civarı Dist.Inc.	2,4	0,52
Aras Dist.Inc.	2,3	0,73
TOTAL	38,7	8,58



% 23,4 of
distribution sector
consumption



% 29,6 of all
customers

Privatisation of Distribution Assets (3)

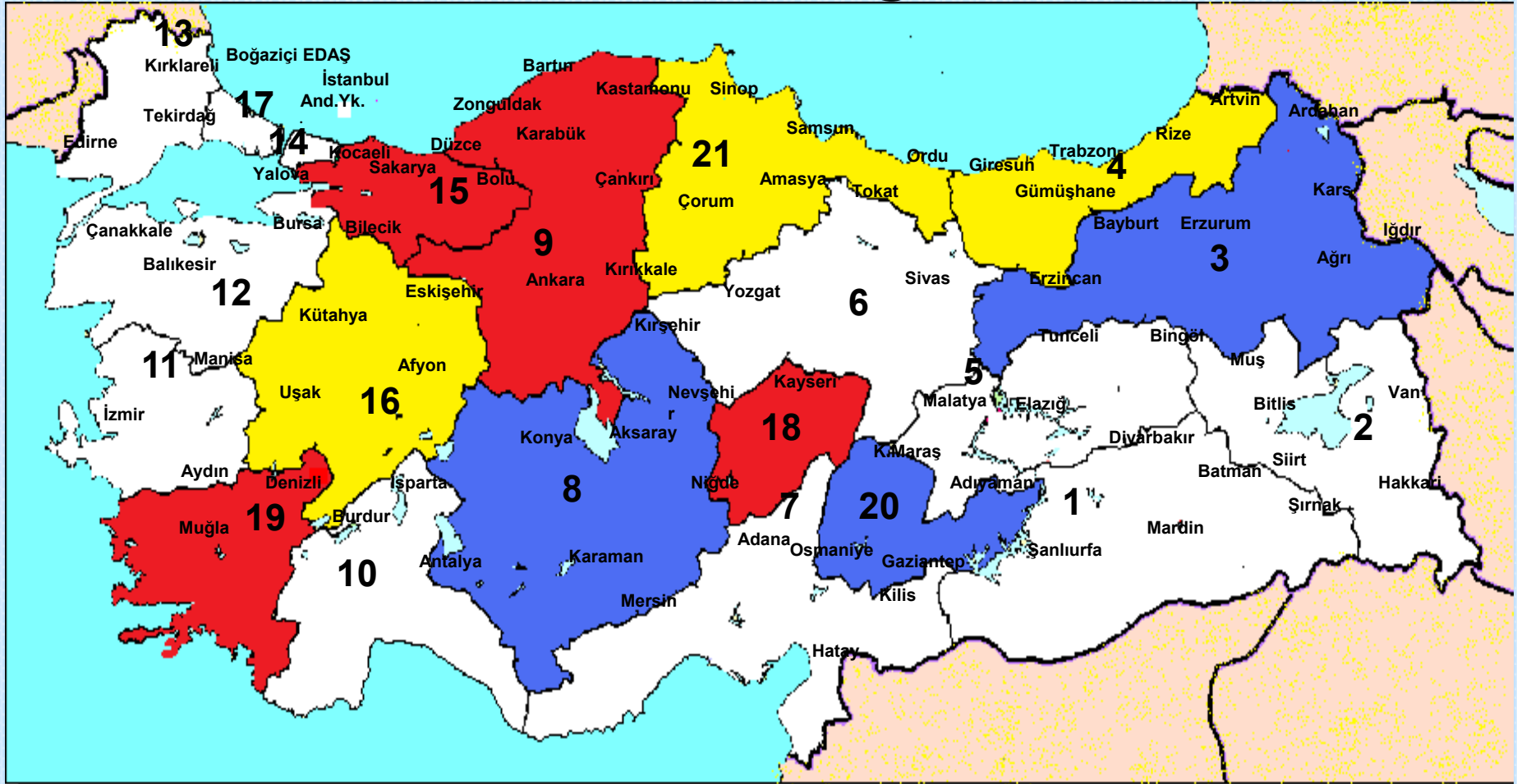
• Deadline for the submission of bids for the privatization of the following 3 electricity distribution companies is October 20, 2009:

- Coruh Electricity Distribution Inc.
- Osmangazi Electricity Distribution Inc.
- Yesilirmak Electricity Distribution Inc.

Electrical Energy Market and Security of Supply Strategy Paper

→ Privatization of significant portion of distribution companies by the end of 2010

Distribution Regions



- Privatized
- Tender finalized – Not transferred yet
- Tender announced

Privatisation of Generation Assets

- Strategy → to privatize significant portion of state owned generation assets (mainly Thermal Power Plants)
- 6 Portfolio groups determined.
- Privatization of 9 small generation plants (totally 140 MW) finalized.
- Privatization Administration hired Technical & Legal Consultants
- Methodology and program to be determined.
- Legal and technical studies will be finalized in 2009

Electrical Energy Market and Security of Supply Strategy Paper

→ Activities for the privatization of generation assets will start in 2009

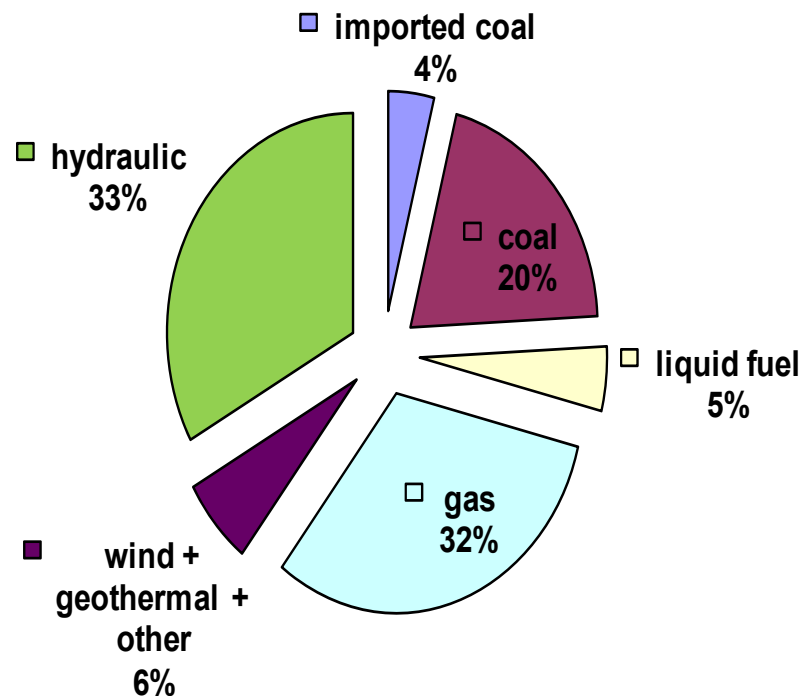
RENEWABLE ENERGY

Electricity Market by figures (2008)

Breakdown of installed capacity by resources

	MW
Hydraulic	13828.7
Natural Gas	13176.8
Coal	8445.9
Liquid Fuel	1973
Imported Coal	1651
Others	2288.5
Wind	354.7
Geothermal	29.8
Total	41.748

**Capacity addition in
2008 → 1077 MW**

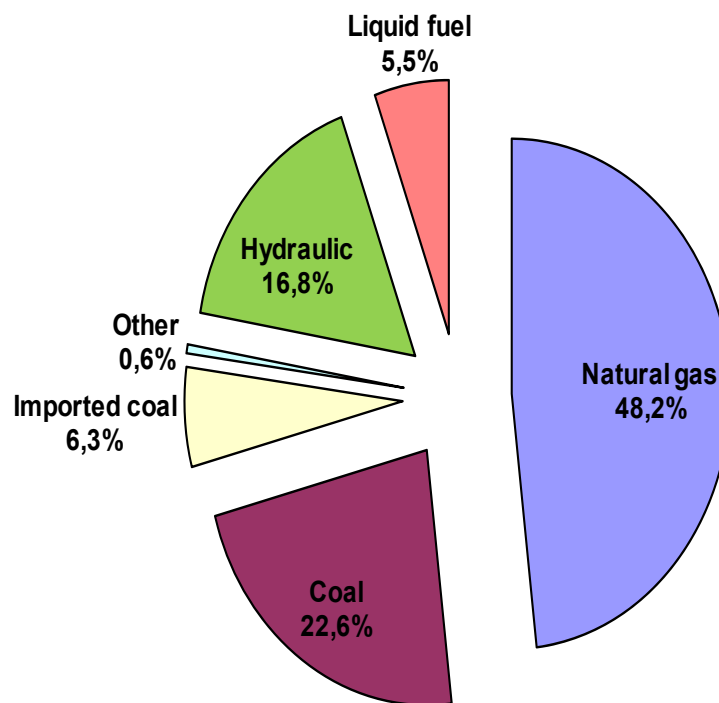


Electricity Market by figures (2008)

Breakdown of electricity generation by resources

TWh

Natural Gas	95,5
Coal	44,9
Hydraulic	33,2
Imported Coal	12,5
Others	1,1
Liquid fuel	10,9
TOTAL	198,3



Renewable Energy Sources Potential and Assets (2008)

Source	Potential	Under Construction (MW)	Under Operation (MW)
Hydraulic	130 000 GWh/y	9 400	13 852
Wind	48 000 MW	488	425
Solar	32.6 MTOE	-	-
Geothermal	600 MWe (31 500 MWt)	64	30
Biomass	8.6 MTOE	24	63

Renewable Generation Licenses (April 7, 2009)

Sources	Projects	Capacity (MW)
Hydraulic	490	11 940
Wind	93	3 363
Geothermal	5	47
Gas From Waste	4	34
Biogas	7	14
Biomass	2	6
Total	601	15 404

Renewable Targets

Turkey aims at utilization of renewable and energy potential in a cost-effective manner.

According to the Strategy Paper (2009), targets by 2023 are;

- **30%** of total electricity production from **renewable energy**
- Utilization of all economically usable hydropower potential for electricity generation
- **20 000 MW** wind installed capacity
- **600 MW** geothermal installed capacity

Renewable Targets (Con't)

➤ **Solar**

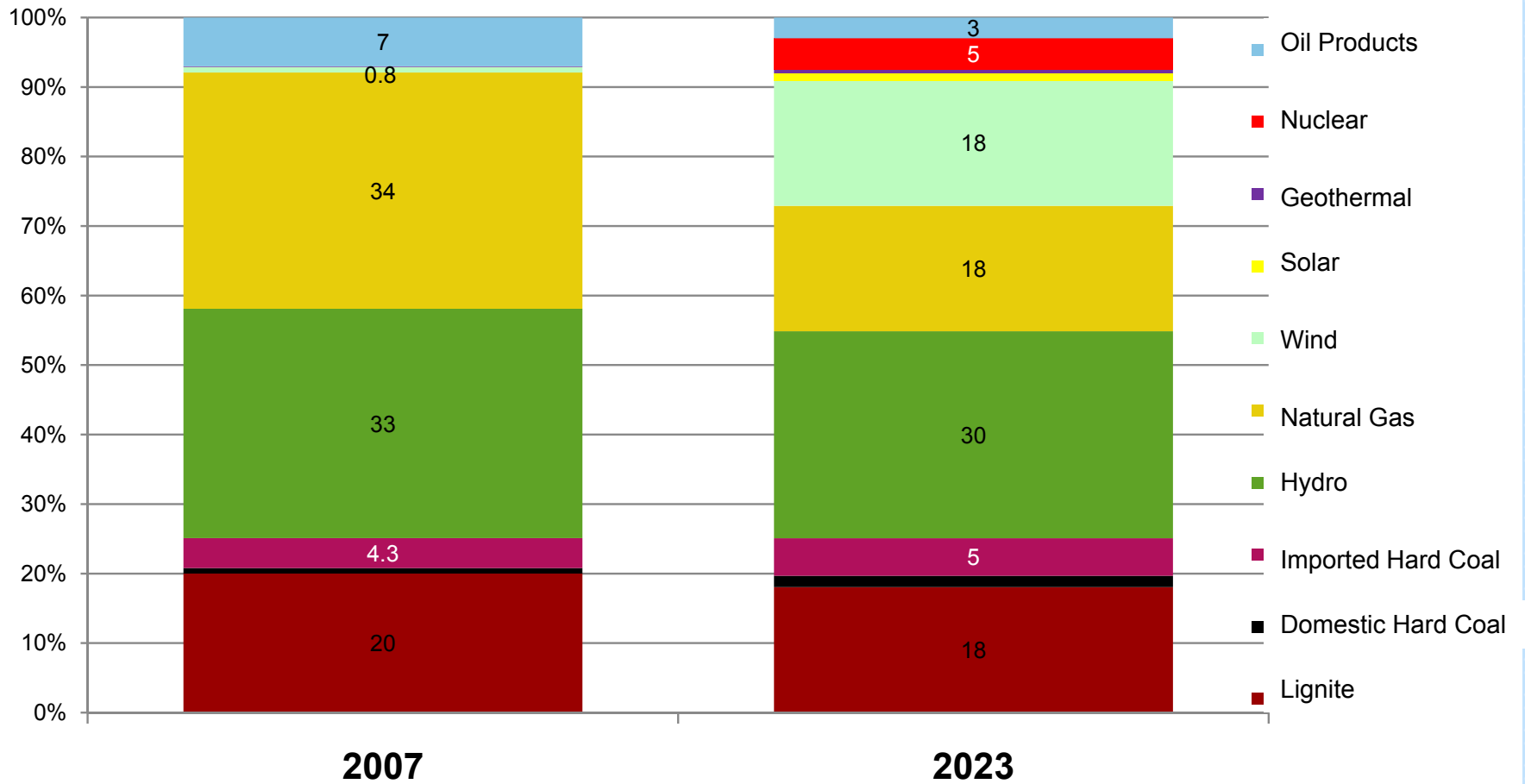
The aim is to expand the utilization of solar energy for generating electrical energy in Turkey.(Draft Amendments to the Renewable's Law)

➤ **Other Renewables**

The production planning will be prepared depending on technological improvements, laws and regulations and advances in utilization of other renewable energy.

PROSPECTS FOR GENERATION PORTFOLIO

“FURTHER DIVERSIFICATION”



Projections for Installed Capacity

Law for the Utilization of Renewable Sources for Electricity Generation

Law No:5346 on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy

- This law includes some important incentives for renewable sources. There exist additional promotions and incentives in the Electricity Market Regulation for the renewable energy sources.

New Amendmends :

- Different feed-in tariffs will be applied for each type of renewable energy source,
- Higher tariff levels,
- Simpler trade mechanism "renewable pool"
- Additional support in Cape electro-mechanical equipment is manufactured in Turkey
- Under Discussion in Parliament

Other Supports for Renewable Energy

World Bank Loan

- Renewable energy project by World Bank aiming to supply 200 million USD loan
- Up to now, this loan were used for 21 projects with total installed capacity of 585 MW.
- **New World Bank Loan: 500 million USD +100 million USD from Clean Technology Fund. Investment Plan and project approved, to be used this year for renewable and energy efficiency projects of private sector.**

Thank you for your attention..