



Infrastructure Industry

REPUBLIC OF TURKEY PRIME MINISTRY
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August 2013

Deloitte¹.

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List of Abbreviations

Acronym	Definition
ADSL	Asymmetric Digital Subscriber Line
AGR	European Agreement on Main Traffic Arteries
A.Ş.	Incorporated Company
AZR	Azerbaijan
BAKA	West Mediterranean Development Agency
BEBKA	Bursa, Eskişehir, Bilecik Development Agency
BCM	Billion Cubic Meters
BDDK	Banking Regulation and Supervision Agency
BL	Build Lease
BMI	Business Monitor International
BO	Build Operate
BOT	Build Operate Transfer
BOTAŞ	Petroleum Pipeline Corporation
BRIC	Brazil, Russia, India, China
ca.	Approximately
CAGR	Compound Annual Growth Rate
CCGT	Combined Cycle Gas Turbine
CEO	Chief Executive Officer
CIF	Cost, Insurance, Freight
CNR	National Research Council
Co.	Company
DE	Germany
DHMI	General Directorate of State Airports Authority
DLH	General Directorate Of Railways Harbors And Airports Construction
DWT	Deadweight Tonnage

Acronym	Definition
EATL	Euro-Asian Transport Links
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EBRD	European Bank for Reconstruction and Development
ECOTA	Economic Cooperation Organization Trading Agreement
EIB	European Investment Bank
EIU	Economic Intelligence Unit
EMEA	Europe, the Middle East and Africa
EMU	Electric Multiple Unit
EPİAŞ	Energy Market Corporation
EU	European Union
EUR	Euro
Euro Stat	Statistics Institute of European Commission
Expo	Exposition
FDI	Foreign Direct Investment
FR	France
GAP	Southeastern Anatolia Development Project
GASKİ	Gaziantep Water And Sewerage Administration
GCF	Generale Costruzioni Ferroviarie S.p.A.
GDP	Gross Domestic Product
GSM	Global System for Mobile Communications
HPP	Hydropower Plant
HSR	High Speed Railway Network
İBB	Istanbul Metropolitan Municipality
ICAO	International Civil Aviation Organization
ICT	Information & Communication Technology
IFC	International Finance Corporation



List of Abbreviations

Acronym	Definition
IFC	Istanbul Finance Center
IGC	Inter-Governmental Commission
IMF	International Monetary Fund
IMO	Intermodal Container
IRN	Iran
IRQ	Iraq
IRU	International Road Transport Union
ISPAT	Investment Support and Promotion Agency of Turkey
IT	Italy
JICA	Japanese International Cooperation Agency
KM	Kilometers
KOP	Konya Plains Project
km/h	Kilometers per hour
KUDAKA	Northeast Anatolia Development Agency
KUW	Kuwait
KWh	Kilowatt hour
LHS	Left Hand Side
LNG	Liquefied Natural Gas
m²	Square Meters
MW	Megawatts
N. Cyprus	Northern Cyprus
N/A	Not Available
NGO	Non-Governmental Organizations
NL	Netherlands
NLDC	National Livelihood Development Corporation
OECD	Organization for Economic Co-operation and Development

Acronym	Definition
OOG	Out of Gauge
ÖSYM	Student Selection and Placement Center
PPP	Public Private Partnership
PVC	Polyvinyl Chloride
QTR	Qatar
R&D	Research and Development
RHS	Right Hand Side
RUS	Russia
SAR	Saudi Arabia
SPK	Capital Markets Board
SSI	Social Security Institution
TANAP	Trans Anatolian Natural Gas Pipeline Project
TCDD	Turkish State Railways
TEM	Europe North-South Project
TEU	Twenty Foot Equivalent Unit
THY	Turkish Airlines
TEİAŞ	Turkish Electricity Transmission Corporation
TL	Turkish Lira
TOKI	Housing Development Administration of Turkey
TOR	Transfer of Operational Rights
TPAO	Turkish Petroleum Corporation
TR	Turkey
TRACECA	Transport Corridor Europe-Caucasus-Asia
TRK	Turkmenistan
TRT	Turkish Radio Television
Turkstat	Turkish Statistics Institute
TWh	Terawatt hours
UAE	United Arab Emirates



List of Abbreviations

Acronym	Definition
UBAK	Ministry of Transportation, Maritime Affairs and Communication
UEM	United Engineers Malaysia
UITP	International Association of Public Transport
UK	United Kingdom
UKAT	International Road Transporters and Agents
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNIFE	The Association of the European Rail Industry
Urban Inf.	Urban Infrastructure
URD	Urban Renewal and Development
US	United States
USD	United States Dollar
VAT	Value Added Tax



Executive Summary

- Turkey is the **17th largest economy** in the world and 6th largest economy in Europe with a nominal GDP of approximately **USD 786 billion** in 2012. With its vibrant and growing economy, Turkey aims to be **one of the top ten global economies by 2023**.
- Trade in Turkey has been increasing significantly. For instance, in 2012 **1.2% of all global trade** was conducted through Turkey and this share is **expected to exceed 1.5% by 2025**.
- Regarding the infrastructure sector, the government has allocated **USD 26 billion** in 2013. **30%** of this budget is for the **transportation sector, followed by education, energy, healthcare, and agriculture**.
- Tremendous government incentives created a pipeline of projects as well as capital for new investments and opportunities for investors.
- Turkey also have ambitious targets in the sub-sectors of the infrastructure industry.
- For example, for transportation sector, the government plans to increase the length of high speed railway lines to **10,000 km in 2023** from 888 in 2012 km at a **CAGR of 25%**. For the same time period, highways are expected to reach **7,500 km** from 2,236 km.
- Regarding the energy sector, Turkey aims to increase its **installed power capacity to 125,000 MW by 2023** from 57,059 MW in 2012. Aforementioned targets in the energy sector require significant infrastructure investments in Turkey and offer ample opportunities for investors.
- New plans and targets also continue for urban renewal projects. Since the enactment of the *Urban Transformation Law No. 6306*, the Turkish government decided to retrofit and renovate buildings that are prone to destruction during natural disasters which include 6.5 million residences with a budget of USD 400 billion.
- This report provides a comprehensive and detailed review of the infrastructure industry in Turkey and its subsectors.



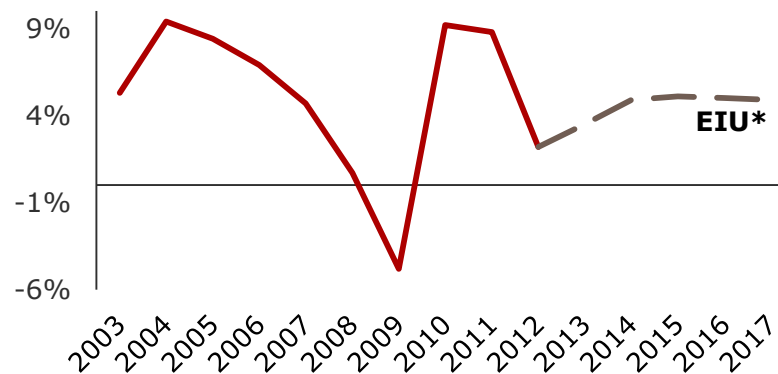
I. A Macroeconomic Overview of Turkey

- A. Overview of the Turkish Economy and Macroeconomic Outlook
- B. Foreign Direct Investments Overview
- C. Turkey's Advantageous Geographical Position
- D. Ease of Doing Business in Turkey Compared to Selected Countries

Turkey's fast-growing economy is expected to attract more investment in the future

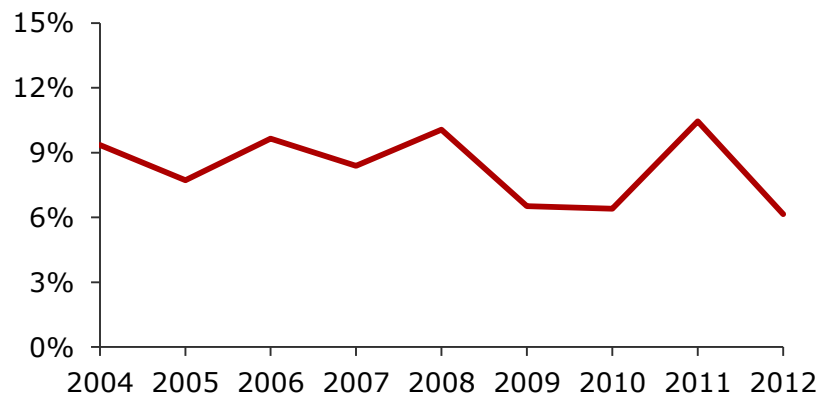
- Turkey has undergone profound economic transformation over the last decade and its economic fundamentals are quite solid. It is the 17th largest economy in the world and the 6th largest economy in Europe with a current GDP of approximately USD 786 billion in 2012.
- Having boomed as fast as 9.3% and 8.8%, in real terms, in 2010 and 2011, OECD projects a real GDP growth of around 4% in 2014 and 2015, while EIU projects on average 5% growth until 2017.
- Monetary policy played a vital role in reining in inflation over the recent years. Turkish inflation has stayed under 10% since 2004 and year end inflation was realized as 6.2% in 2012. EIU forecasts that the average inflation will further ease to 4% by 2018.

Figure 1: GDP Growth Rate (constant prices)



Source: Turkstat, OECD, EIU
*:forecasts

Figure 2: Inflation, 2004-2012

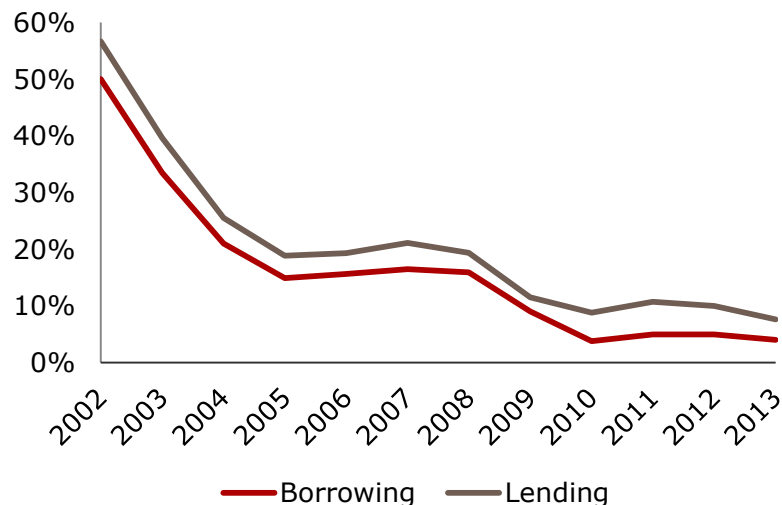


Source: Turkstat



The investment environment in Turkey has become increasingly more welcoming for foreign investors

Figure 3 The Central Bank of the Republic of Turkey O/N Interest Rates



Source: CBRT

- The overnight lending rates have been steadily decreasing over the years, reaching to 7.5% in September 2013, which is a 500 basis point decrease since 2002.
- Fitch Ratings announced Turkey's investment grade rating as BBB in November 2012 and Standard & Poor's announced it as BB+ in March 2013. These events signal further upgrades and are expected to boost the inflow of institutional funding.
- Moody's raised Turkish government bond ratings to Baa3 and revised its outlook to stable from positive in May 2013. Due to high economic growth, progress on structural and institutional reforms and improving public finance metrics.

Table 1: Turkey's Credit Ratings

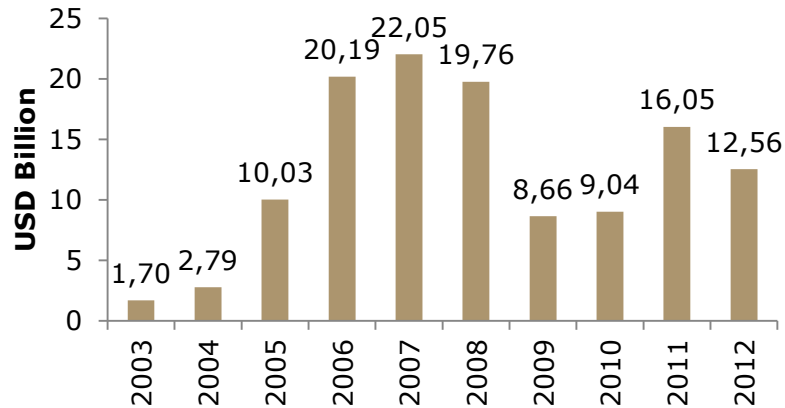
	Rating (Local Currency)	Outlook (Local Currency)	Rating (Foreign Currency)	Outlook (Foreign Currency)
Standard & Poor's	BBB	Stable	BB+	Stable
Fitch	BBB	Stable	BBB-	Stable
Moody's	Baa3	Stable	Ba1	Positive
JCR	BBB-	Stable	BBB-	Stable

Source: Source: Moody's (May 2013), S&P (March 2013), Fitch (December 2013), JCR (May2013)



Turkey is a popular FDI destination and expects to attract more FDI inflow in the upcoming years

Figure 4: FDI Inflows to Turkey

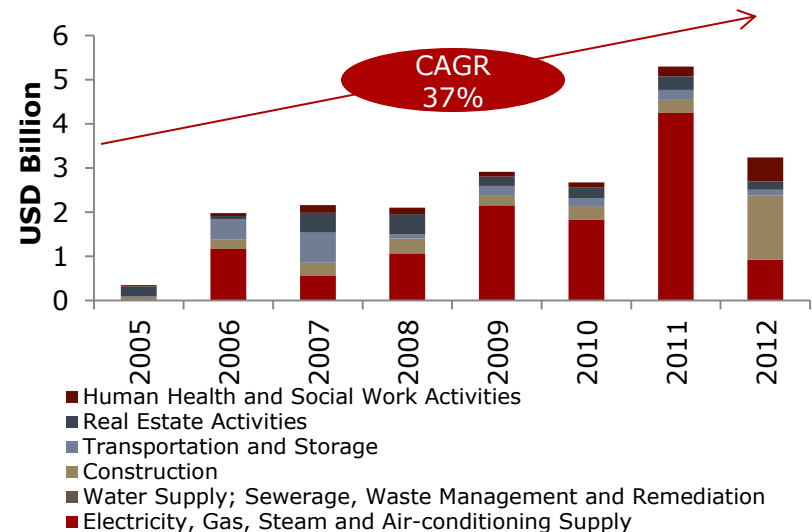


Source: World Development Indicators, World Data Bank

- Turkey has become an attractive destination for foreign direct investments (FDI). In 2012 FDI in Turkey reached **USD 12.56 billion**, compared to USD 8.66 billion in 2009. The majority of FDI inflows to Turkey come from the EU Member States, followed by North America and Asia.
- Regarding the infrastructure industry, FDIs have increased at a CAGR of 37% from 2005 to 2012. In 2012, **construction sector constituted 45% of the total infrastructure FDIs**, whereas 28% of infrastructure FDIs were in the electricity and energy sectors.

- Some of the major infrastructure projects in Turkey include the Eurasia Tunnel which will cross the Bosphorous beneath the seabed, allowing a reduction of Istanbul's heavy traffic. An estimated USD 1.1 billion investment is expected for the project. The contractors for this Project include Avrasya Tüneli İnşaat which is a consortium of Turkish Companies Yapı Merkezi and SK E&C, and Korean companies Samwhan Corp and Hanshin.

Figure 5: Foreign Direct Investment By Sector in Turkey



Source: Central Bank of the Republic of Turkey



Turkey's advantageous geographical position: Europe meets Asia, within a radius of a 4-hour flight or less

- Turkey is situated between Europe and Asia, allowing the country to create a link to three continents that have over 1.5 billion people with a total GDP of approximately USD 25 trillion.
- As major airway hubs in the region, Istanbul and Ankara airports provide a practical route of travel with a maximum 4 hour direct flight to the capital cities in Europe, Western & Central Asia, the Middle East and Africa.
- Turkey's geographical location as well as its logistics capabilities, its unique positioning at the intersection of trade routes, and its rapidly progressing investment climate are the major factors which contribute to Turkey's strategic and regional importance.

Figure 6: Turkey's geographical position

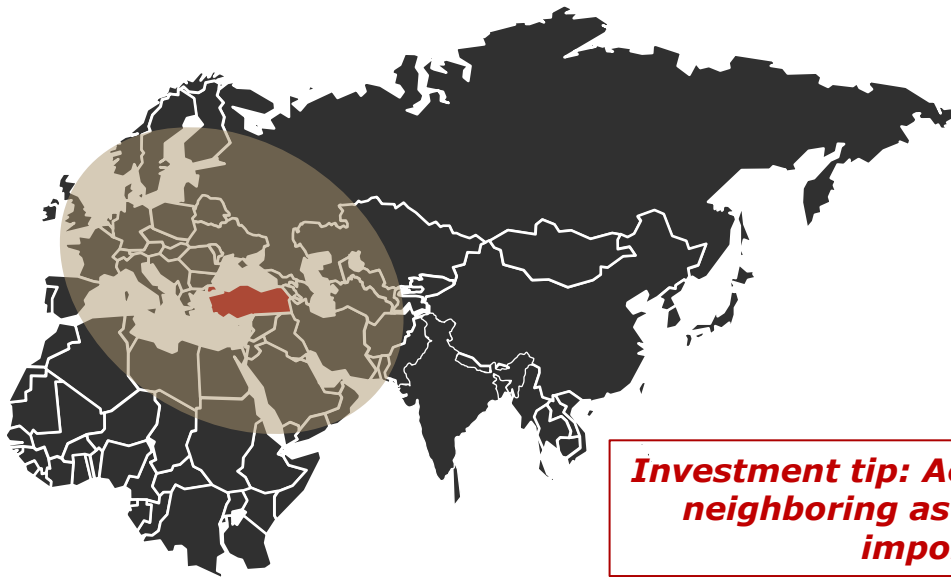


Table 2: Total Foreign Trade Volume by Regions

Regions	Trade Volume (USD billion)
Free Zones in Turkey	3.34
Europe (EU)	146.65
Europe (Non-EU)	51.78
North America	21.75
Central & South America	8.11
Middle & Near East	63.86
Africa	19.28
Asia & Pacific	61.53
Others	12.71
Total	389.01

Investment tip: Acceleration in Turkish foreign trade with neighboring as well as distant countries underlines the importance of Turkey as a major trade route.

Source: TUIK

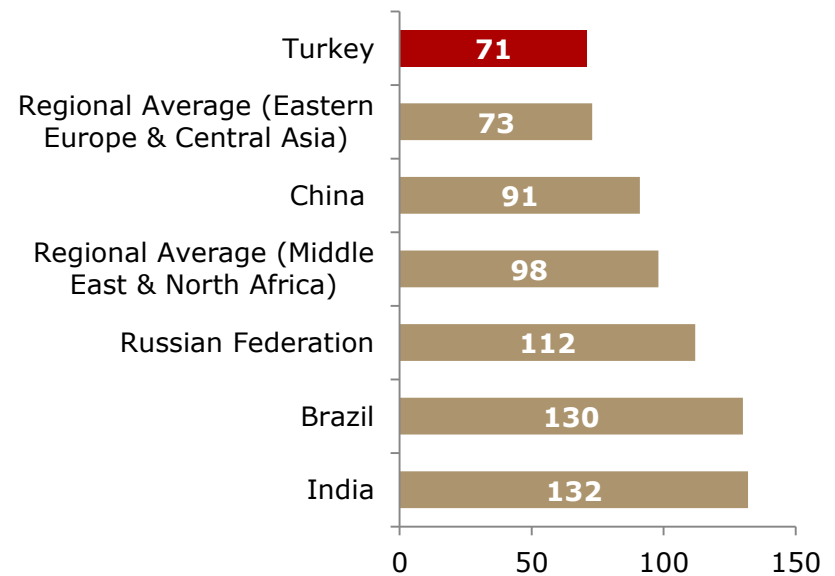


Starting a business in Turkey is easier compared to MENA and BRIC countries

- *Foreign Direct Investment Law* in Turkey – which is compatible with international standards- came into force in 2003. The objective of this Law is to regulate the principles to encourage foreign direct investments; to protect the rights of foreign investors; to define investment and investor in line with international standards; to establish a notification-based system for foreign direct investments rather than screening and approval; and to increase foreign direct investments through established policies. This Law establishes the treatment to be applied to foreign direct investments.
- With this law, unless stipulated by international agreements and other special laws:
 1. Foreign investors are free to make direct investments in Turkey,
 2. Foreign investors shall be subject to equal treatment with domestic investors.
- Due to new developments in FDI Law and Turkey's increasing reputation in the international arena, the number of expats increased significantly. For example, according to the Ministry of Labor and Social Security, number of work permits given to foreigners increased by 86% in 2012 reaching 32,272. Since 2003 a total of 125,697 permits were provided to foreigners.

- According to *Doing Business 2013* report by the World Bank, Turkey is ranked 71th among 185 countries on the ease of doing business.
- Turkey has a higher ranking compared to BRIC and MENA countries.

Figure 17 Ease of Doing Business Analysis Ranking, 2013



Source: Doing Business 2013, The World Bank



II. The Infrastructure Targets of Turkey

- A. The 2023 Targets for the Infrastructure Sector
- B. A Brief Introduction of the Major Infrastructure Industries in Turkey
- C. The Supporting Industries of Infrastructure
- D. The Major Players in the Infrastructure Sector
- E. The Labor Force in the Infrastructure Sector

To reach 2023 targets, Turkey is focusing on the importance of infrastructure and related investments

- Turkey aspires to achieve ambitious goals in its infrastructure sector by 2023. Some of the major targets are as follows;

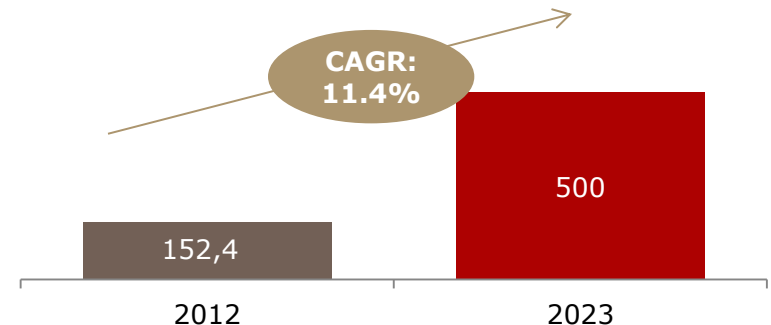
Having an **export volume of USD 500 billion** and being one of the **Top 10 economies** in the world.

- Increasing the length of **high speed railway lines** to **10,000 km** from 888 km with a **25% CAGR**.
- Reaching **7,500 km of motorways** from 2,236 km in 2013.
- Increasing the **passenger capacity of airports** from 165 million to **400 million** by 2023.
- Reaching a **32 million TEU handling capacity for container transport**.
- Having a 10 million DWT shipbuilding capacity**.
- Increasing the **number of marinas to 100** with a yacht **capacity of 50,000**.
- Turkey's emerging economy presents a need for infrastructure investments in various industries. The main industries include, but are not limited to, **construction, residential and non-residential buildings, transportation and energy**.

Table 3: 2023 Motorway and High Speed Railway Routes

Transportation Range	2013	2023
Motorway	2,236 km	7,500 km
High Speed Railway	888 km	10,000 km

Figure 8: Targeted Export Volume Growth (USD billion)



Source: Ministry of Transport, Maritime Affairs and Communications, Ministry of Economy



Construction

Expected growth at a CAGR as high as 10% until 2022

Figure 9: Construction: The Value and Share for Infrastructure, 2011-2022

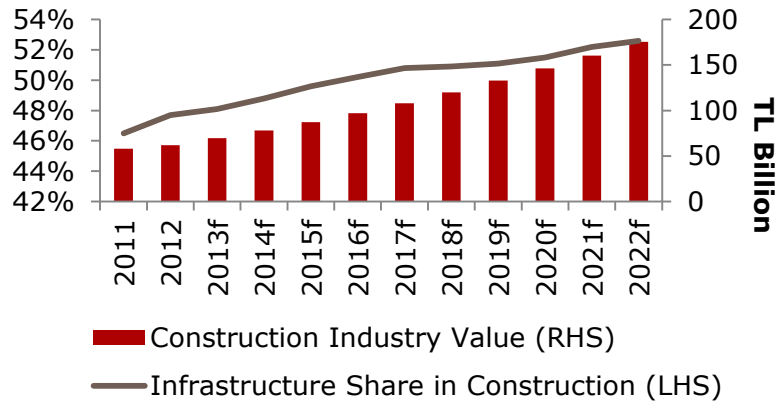
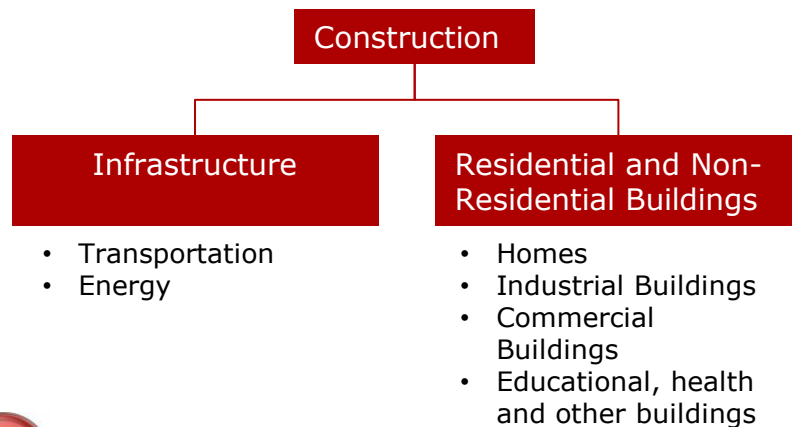


Figure 10: Breakdown of Construction according to BMI



- According to BMI, the construction industry value (see Figure 9) includes infrastructure value as well as residential and non-residential buildings value. It is also important to note that the infrastructure value includes the transportation and energy sectors.
- Figure 9 demonstrates the expected construction industry value within Turkey and the expected share of infrastructure industry within construction industry from 2011 to 2022.
- In 2012, the construction industry value reached TL 61.8 billion which corresponds to an increase of 7% from 2011. At the end of 2013, this value is expected to reach approximately TL 70 billion, and TL 176 billion by 2022.
- Figure 9 also displays the infrastructure industry which had a share of 47.7% within construction industry, whereas the residential and non-residential building sector had 52.3%.
- By 2022, the share of infrastructure industry – including energy and transportation – is expected to surpass the residential and non-residential industry.

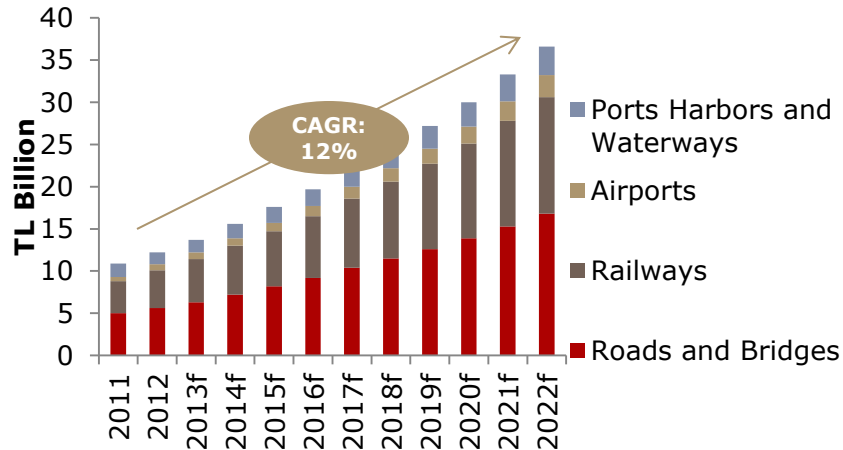
Source: BMI Infrastructure Report 2013



Transportation

Accounts for 30% of Turkey's total budget at TL 46 billion

Figure 11: Turkey's Infrastructure Industry Value* for Transportation, 2011-2022



Source: BMI Infrastructure Report 2013

f: forecast

*The total nominal investments

- Investments in the transportation industry can be categorized as roads and bridges, railways, airports, ports, harbors and waterways.
- From 2011 to 2022, value of infrastructure industry, which demonstrates cumulative (e.g. Investment of 2012 is the difference between 2012 and 2011) investments is expected to increase at a CAGR of **12%** from TL 10.9 billion to **TL 36.6 billion** in 2022. This number is triple the value realized in 2011.

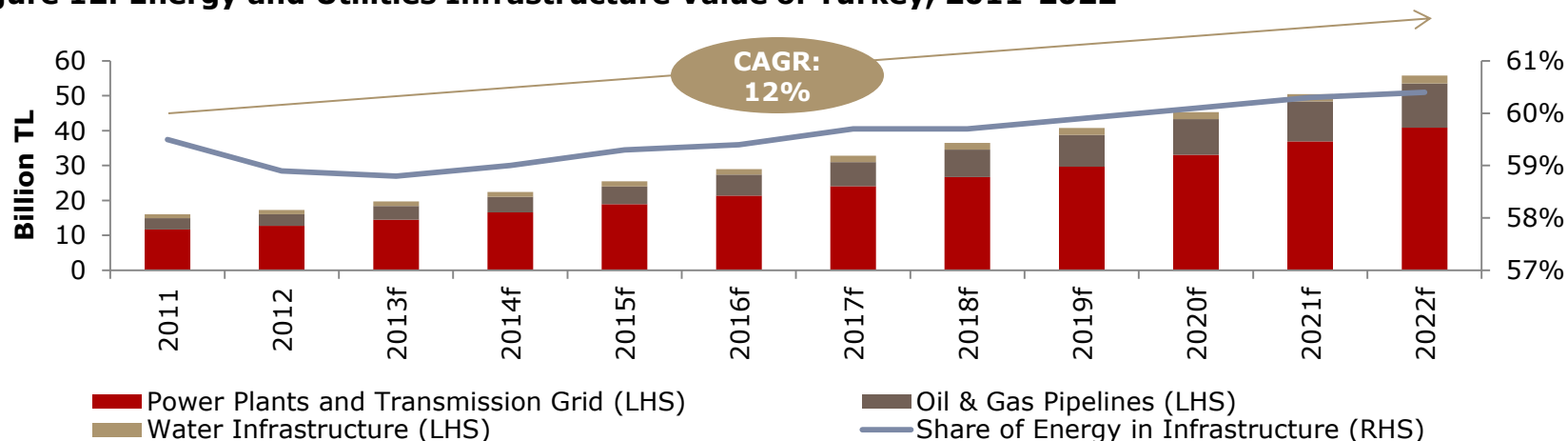
- As it can be observed from Figure 11, the majority of the investments focus on roads and bridges followed by railways.
- The value of roads and bridges is expected to reach **TL 16.8 billion** in 2022 from TL 5.6 billion in 2012. The railways sector will also benefit from an increased value from TL 4.5 billion in 2012 to TL 1.38 billion in 2022.
- Transportation also constitutes a significant portion of the government budget. In 2013, the government allocated **TL 46 billion** to the transportation industry, which accounts for 30% of the total budget.
- Some examples of the major projects in the transportation industry are:
 - Marmaray
 - New Airport in Istanbul
 - Kanal Istanbul
 - New Motorways Project
 - Third Bridge over Bosphorus



Energy

Growth expected at a CAGR of 12% until 2022

Figure 12: Energy and Utilities Infrastructure Value of Turkey, 2011-2022



Source: BMI Infrastructure Report 2013
f: forecast

- **The demand for electricity in Turkey grew by a staggering 9% in 2011** reaching 230 TWh compared to 2010 demonstrating Turkey's fast growing economy.
- Similar to the electricity market, natural gas consumption in Turkey has been growing as well. The consumption reached 45,992 bcm in 2012 demonstrating an increase of 4.7% compared to the previous year. According to the Ministry of Energy and Resources the demand will continue to increase 2.9% annually until 2020.
- It is also noteworthy to mention that according to BMI, **the infrastructure investments for energy and utilities will increase at a CAGR of 12% from 2011 to 2022 reaching TL 55.8 billion.** Energy and utilities investments include water infrastructure, oil & gas pipelines, power plants and the transmission grid. As it can be observed from Figure 12, power plants and the transmission grid account for the highest level of investments. In 2012, power plants and the transmission grid was valued at TL 12.7 billion, and by 2022 this is expected to reach TL 40.9 billion.



Access to Real Estate

5% of Turkey's total GDP is in real estate

- Turkey's economic stability, strong macroeconomic indicators and attractive long term loans have made the country a lucrative investment environment for foreign investors. For instance, in 2010 Turkey was awarded the 'highest improvement' title in the global real estate transparency index. Sales of real estate to foreigners started to increase in the last two quarters of 2012 due the enactment of the *Reciprocity Law*. Real estate sales to foreigners increased by 30.9% and reached USD 2.64 billion in 2012.
- According to a report by the Association of Real Estate Investment Companies (GYODER), the most active commercial real estate market was the office market in 2012. Foreign investors and developers are increasingly interested in the office market.
- Compared to BRIC countries along with, Hungary, Poland and Croatia, Turkey offers the lowest number of days to register a property with 6 days whereas for the aforementioned countries the process takes much longer. It is also important to note that amongst the selected countries Turkey shares highest score for «Overall Quality of Infrastructure» with Croatia at 5.1 out of 7.

Figure 12: Number of Days to Register a Property, 2013

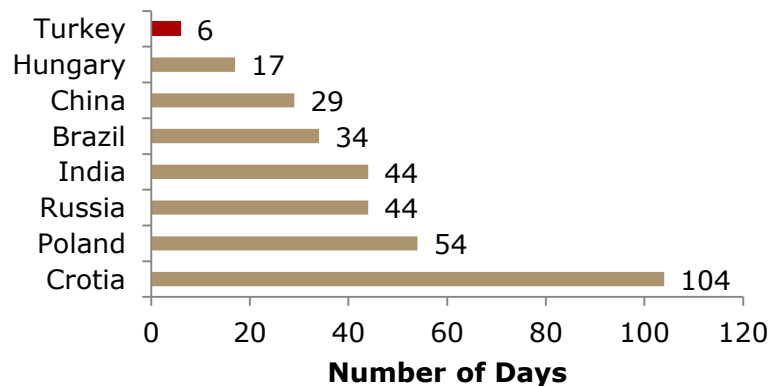
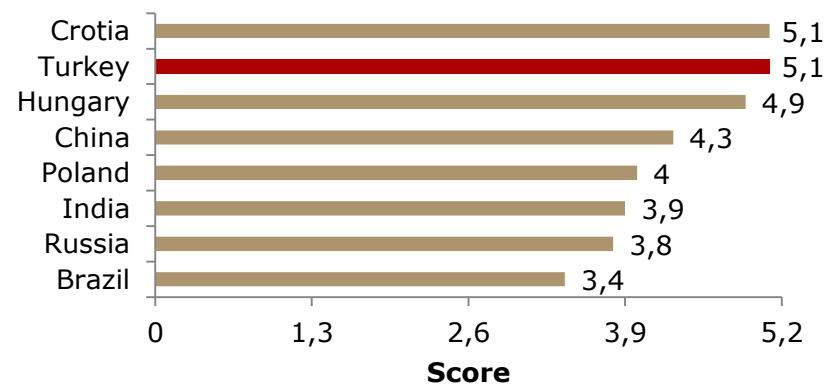


Figure 13: Overall Quality of Infrastructure Score (1-7), 2013

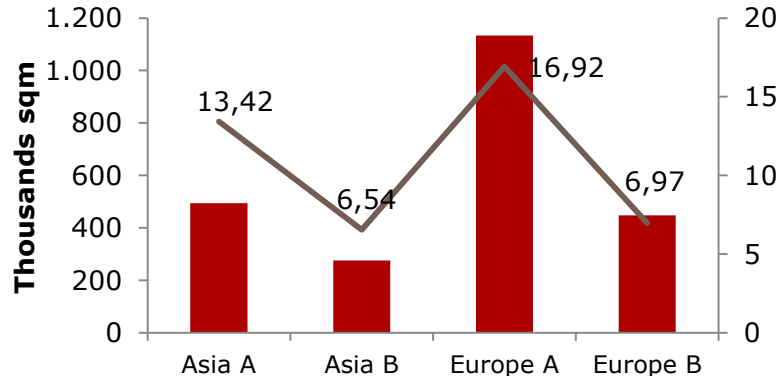


Source: Global Competitiveness Report 2013



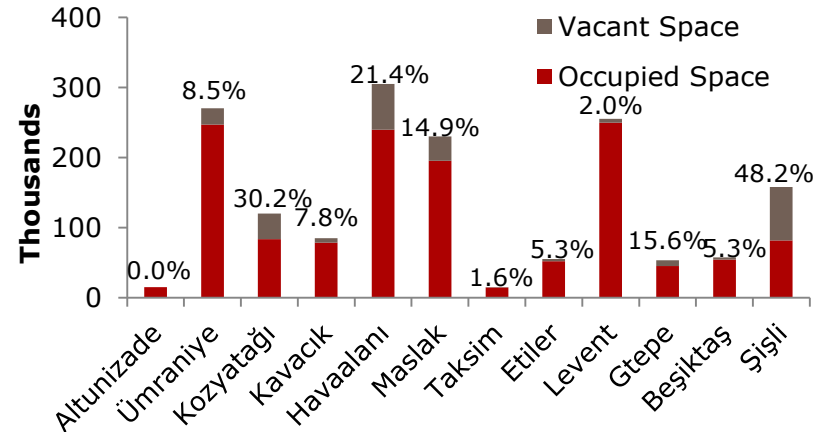
Turkey provides prime real estate for foreign investors

Figure 14: Total Office Area for A and B Class and Average Vacancy Rates (%), Istanbul



Source: Colliers International, Propin Investment Consultancy, Istanbul Office Market

Figure 15: Istanbul A Class Office Market Average Vacancy Rates Q3 2013



Source: Colliers International

- For foreign investors seeking to expand their operations into Turkey and the surrounding regions, Turkey provides prime real estate.
- Class A offices, referring to those offices located in the most exclusive areas and decorated with the highest quality materials, are mainly concentrated in the three largest cities; Istanbul, Ankara and Izmir. Istanbul has the highest share of Class A offices in Turkey occupying a total of 2.8 million sqm, followed by Ankara with 400,000 sqm and Izmir with 85,000 sqm. Similarly, Class B offices, which provide more economical options for firms seeking to set up offices, are also widely available.

- Rents vary largely depending on the location and quality of the property. In Istanbul's commercial business district, for instance, rents for Class A office buildings averaged at USD 29.1 per sqm per month, whereas for Class B offices rents were an average of USD 17 per sqm per month in the first quarter of 2013.
- Even though commercial business districts' occupancy rates are not low, there is still office space available in most districts in Istanbul, and with many new office construction projects in the pipeline, the availability will improve in the future.



Turkish contractors* have experience in global markets



Renaissance specializes in design and construction of various infrastructure projects worldwide. Renaissance Construction was ranked 64th in the Engineering News-Record (ENR) Top 250 International Contractors in 2013. Selected infrastructure projects include:

- Sochi International Airport – Sochi/Russia
- Tripoli Stadium Project – Trablus /Libya
- Five New Airport Terminal Buildings – Trablus/Libya



Enka was ranked 79th on the ENR Top 250 International Contractors List in 2013. Enka's selected infrastructure activities include the construction of a motorway (Albania), a stadium (Ukraine), a new town project (Oman), 3 airports (Russia) as well as others.

- The construction of 5 business centers in various countries will be completed by 2014



Tekfen Construction was ranked 85th on the ENR Top 250 International Contractors List in 2013. Some of their infrastructure projects are:

- Kuwait – Fahaheel Motorway
- Azerbaijan – Shah Sea Gas Export Onshore Terminal



Polimeks Construction was ranked 90th on the ENR Top 250 International Contractors List in 2013. Some of their selected infrastructure projects include:

- Türkmenabat Water Treatment Plant – Turkmenistan
- Köpetdag Highway – Aşgabat/Turkmenistan



TAV operates Istanbul Atatürk, Ankara Esenboğa, Izmir Adnan Menderes and Antalya Gazipaşa Airports in Turkey, as well as Medina Airport, Tbilisi and Batumi Airports, Monastır and Enfidha-Hammamet Airports in Tunisia and many more. TAV was ranked 104th on the ENR Top 250 International Contractors List in 2013.



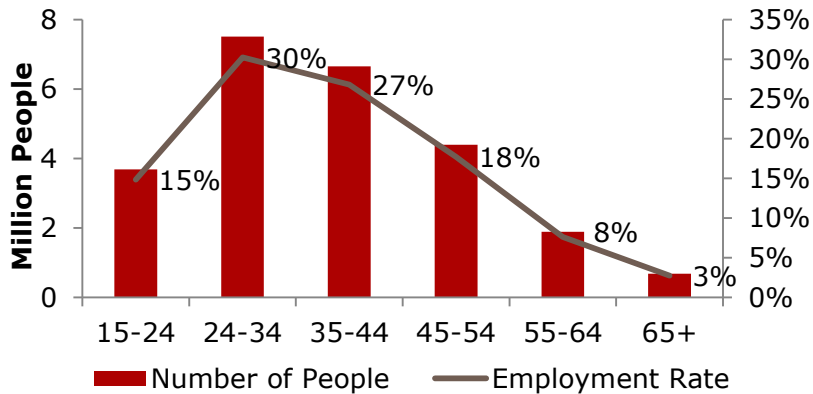
Çalık Holding is an active player in various business categories such as construction, energy, mining, and finance. Çalık Holding was ranked 111th on the ENR Top 250 International in 2013. Some of their infrastructure projects are;

- Tarlabası Urban Renovation Project and Metropolis Istanbul Project



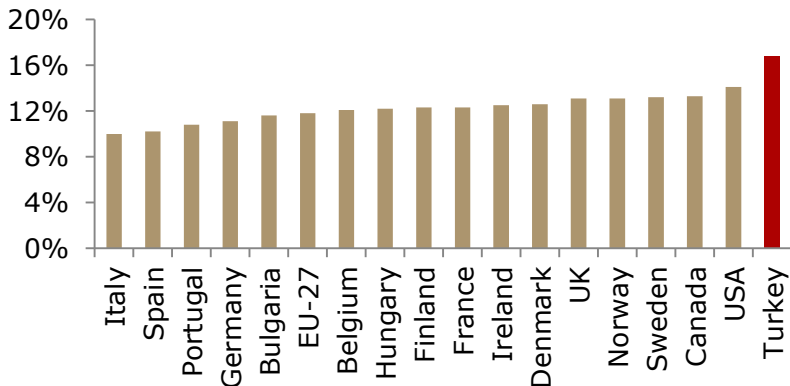
Turkey has one of the world's highest percentages of young people and an increasing employment rate

Figure 14: Employed Population, 2012



Source: Turkstat

Figure 15: The Percentage of Young People Aged 15-24 in Total Population for 2012



Source: Turkstat, United Nations Economic Commission for Europe

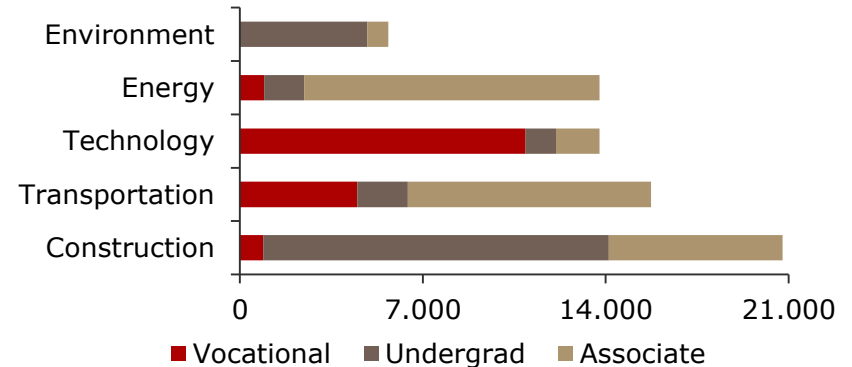
- According to Turkstat, a total of approximately 25 million people were in the workforce, and this number increased at a CAGR of 3% between 2004 and 2012.
- From 2011 to 2012, there was an addition of 711,000 jobs to the Turkish economy. Even the onset of the global crisis in 2008 did not affect the number of jobs created in the economy, there were an additional 83,000 jobs added from 2008 to 2009.
- Turkey has one of the highest percentages of young people (between the ages of 15 to 24) in the world. The population of young people is 5% higher than the EU-27 average (see Figure 15).
- A high percentage of young people is a crucial indicator of a country's potential employees. As education programs continue to expand and as the economy continues to grow, Turkey brings an exceptionally well educated and highly skilled workforce into its economy.



Turkey has a large talent pool in infrastructure related fields

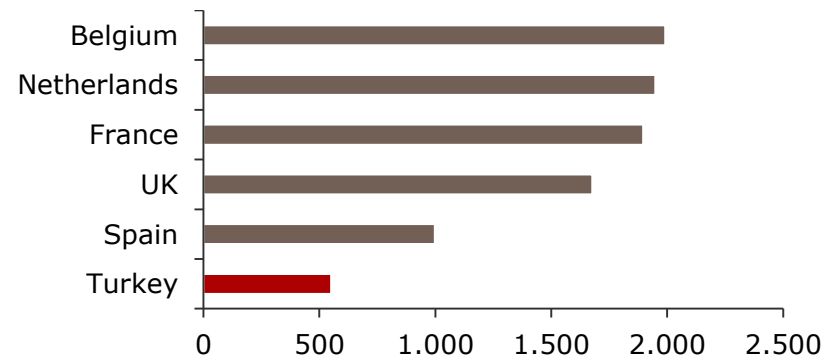
- Universities and vocational schools offer various programs in the sub-sectors of the infrastructure industry including technology, construction, environment, energy and transportation.
- As it can be observed in Figure 16, the highest number of educational openings related to infrastructure industry are allocated to construction with a total of 70,000 students in the following departments: civil engineering, architecture, urban design, interior design and construction technology.
- After the construction educational field, the highest number of available openings are in programs for transportation, technology and energy.
- Turkey has a young, dynamic and a highly educated population. However, the monthly minimum wage is relatively lower than that of the EU or the US. According to Eurostat, the minimum wage in Turkey was EUR 511 as of October 2013.

Figure 16: Educational Course Openings in Infrastructure Related Fields



Source: Deloitte Analysis, ÖSYM

Figure 17: Monthly Minimum Wage, October 2013



Source: Eurostat



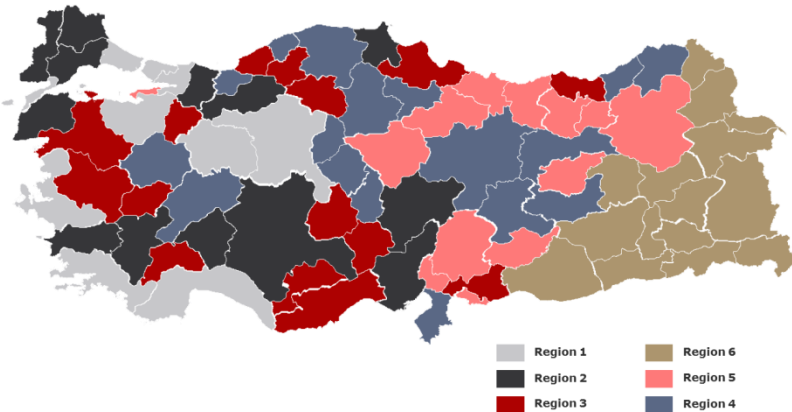
Source: ÖSYM

III. The Investment Environment in Turkey

- A. New Investment Incentives Program
- B. Major Stakeholders in Public-Private Partnerships
- C. The Role of Public-Private Partnership Projects in Infrastructure Sector
- D. Public-Private Partnership Opportunities in Turkey Compared to the EU
- E. Major Public Institutions in Infrastructure Sector

The Turkish Republic's New Investment Incentives Program

Figure 18: Incentive Regions



The New Investment Incentives Program in Turkey has been in effect since the 1 January 2012 and offers four different kinds of programs. They can be summarized as:

- 1. General Investment Incentive Program:** Available for all investment types considering the subject of investment is not excluded from the program list, and the minimum defined fixed investment amount is completed.
- 2. Regional Investment Incentive Program:** These incentives are allocated depending on the region (see Figure 18) to eliminate inter-regional imbalances within the country. Minimum investment amounts are determined for different kinds of investments. If not specified for the type of project, the minimum investment amount is TL 1 Million TL for Regions I and II, and TL 500,000 for regions III, IV, V, VI. An additional labor cost reduction of 38% is available only for Region 6.

Support Measures	General Investment	Regional Investment	Large Scale Investment	Strategic Investment
Vat Exception	✓	✓	✓	✓
Customs Duty Exemption	✓	✓	✓	✓
Tax Deduction	☒	✓	✓	✓
Land Allocation	☒	✓	✓	✓
Interest Support	☒	✓	☒	✓
Vat Refund	☒	☒	☒	✓
Employer's Social Security Premium Support	☒	✓	✓	✓
<i>Only For Region 6</i>				
Income Tax Withholding Support	✓	✓	✓	✓
Employee's Social Security Premium Support	☒	✓	✓	✓

Region	1	2	3	4	5	6
<i>Regional Incentive Applications</i>						
Tax Reduction						
Investment Contribution Rate	15%	20%	25%	30%	40%	50%
<i>Incentive for Large Scale Investments</i>						
Tax Reduction						
Investment Contribution Rate	25%	30%	35%	40%	50%	60%
Support for Employer's National Insurance Contribution (Both)	2 Year	3 Year	5 Year	6 Year	7 Year	10 Year

3. Large Scale Investment Incentive Program: The goal of this program is to improve Turkey's technological abilities and R&D capacity. Through these investments Turkey aims to achieve a global competitive advantage. The minimum investment amount for this program is defined as TL 50 million in twelve investment categories.

4. Strategic Investment Incentive Program: This program is offered for the production of intermediate and final goods that have high import dependence (meaning more than 50%). Investments of TL 50 million and above are eligible to benefit from this plan.



Various infrastructure sectors are on the “Priority List” of the New Investment Incentives Program

- According to the Ministry of Economy, some of the **major infrastructure sectors are included in the “Priority List” for investments in Turkey**. The sectors included on this list can benefit from Region 5 incentives even though they are located in a different (1 to 4) regions. Region 5 incentives consist of incentive taxation of 80%, VAT exemption, customs duty exemption, social security premium support, interest support and land allocation. However, if the proposed project is in the 6th Region, then the project will benefit from Region 6 incentives.
- **Priority investments include:**
 - Investments of maritime freight and/or passenger transportation
 - Investments by the private sector in railways for freight and/or passenger transportation
 - Investments by the private sector in education including elementary, middle school and high school education

Table 4: The Priority Investments of the New Investment Incentives Program in 2012

Priority Investment Sectors	Number of Documents	Fixed Investment (million TL)	Employment
Mining	146	1,304	5,354
Education	105	764	8,787
Transportation	8	60	97
Tourism	8	122	611
Test and Analysis Centers	1	12	7
Means of Transportation	1	21	50
Total	269	2,282	14,906

Source: Ministry of Economy



PPP is encouraged by the Turkish government to accelerate infrastructure projects

- The term Public-Private Partnership (PPP) refers to a long term partnership between the public and private sector in order to finance, implement and operate infrastructure services conventionally by the public sector.
- Turkey was one of the first countries to implement its own PPP legislation. Law No. 3996 was enacted in 1994 for various fields within infrastructure sector such as transportation, energy, water supply and treatment.

The PPP Methods in Turkey

• **Build-Operate-Transfer (BOT)**

- In this method, a private sector company builds an infrastructure project and operates it for a pre-agreed period and eventually transfers the ownership back to the government.

• **Build-Operate (BO)**

- In this model, a private organization builds and operates the project with certain incentives from the government instead of direct funding. As an example, the government can offer financial incentives such as tax-exemption.

• **Transfer of Operational Rights (ToR)**

- This model involves transferring the rights of a selected project to the private sector for a predetermined duration of time under certain conditions.

• **Build-Lease Model (BL)**

- The private sector organization builds the project and leases it to the relevant public organization. BL is generally used in the healthcare sector.

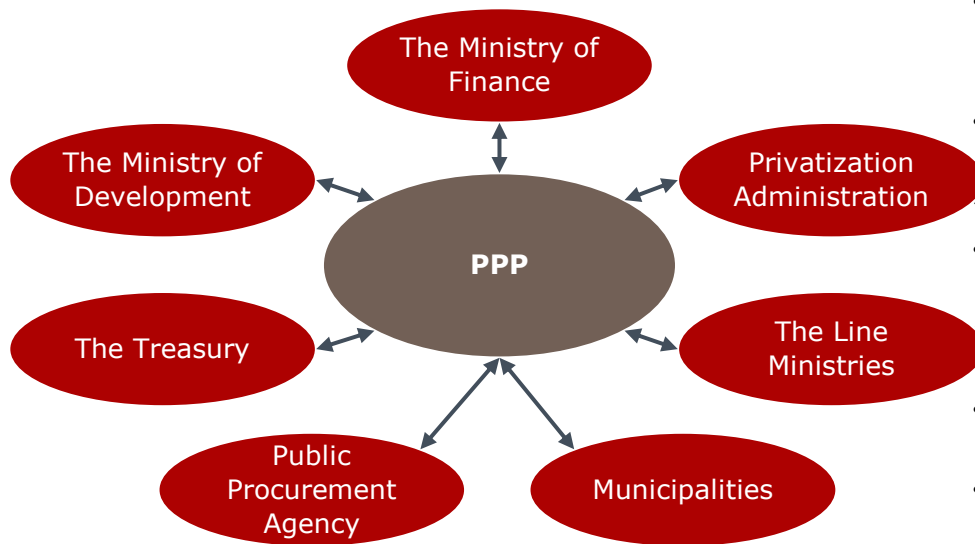
- **The most commonly used PPP method in Turkey is the BOT model** and it has been used in a variety of projects such as the Marmaray Project, Zafer Airport in Kutahya, the Istanbul-Izmir motorway, the Yuvacık power plant, the Birecik power plant and the Yamula power plant in Kayseri.

- Currently, the government is working on drafting a law that encourages further PPP investments.



A closer look into the PPP structure in Turkey

Figure 19: Stakeholders in PPP



Source: TR Privatization Administration, Ministry of Development

- Figure 19 shows the major stakeholders in Public-Private Partnerships and brief overview of these stakeholders are as follows:
- **The Ministry of Development** is responsible for macroeconomic planning.
- **The Treasury** is responsible for state funds.
- **The Ministry of Finance** handles the budgetary issues of projects.
- **The Public Procurement Agency** supervises offers for tenders.
- **The Privatization Administration** deals with implementations, mainly in the TOR kind of PPPs.
- **The Line Ministries** deal with implementation of BOT, BO and BL for relevant projects.
- **Municipalities** also deal with the BOT and BO types of PPPs along with concessions.

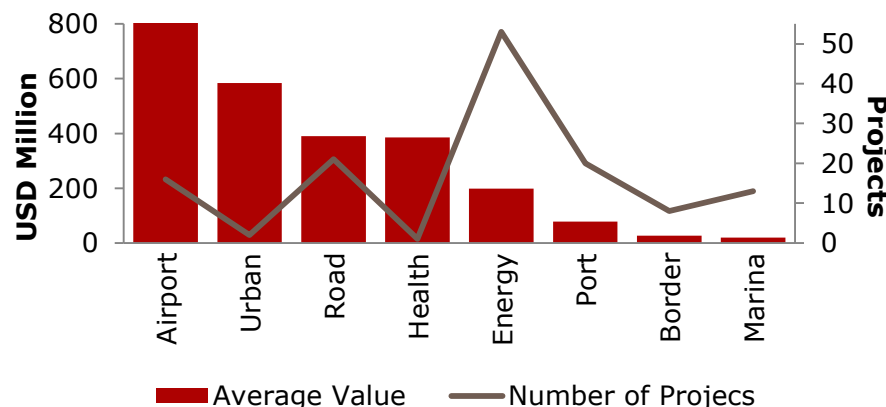
- **The total monetary value of operating PPP projects was USD 26 billion in 2011**, whereas projects in the construction phase had a total value of USD 9.5 billion.
- At the end of 2011, Turkey signed agreements for a total of 134 projects in 8 different sectors. These sectors include projects for **roads, airports, ports, tourism, customs, energy, healthcare and urban infrastructure**.
- Currently, even though there are not any energy projects to be tendered, apart from the future nuclear power plants, the energy sector is still the leading sector in PPPs with 53 applied contracts. The amount of investments in the energy sector accounts for USD 10.4 billion and Turkey's expertise with energy PPP projects date back to beginning of the 1990s.
- Regarding the road, port, airport, and marina projects, a total of USD 22.6 billion worth of PPP projects were realized. For example, the two airports in Istanbul (Atatürk and Sabiha Gökçen), Ankara's Esenboğa, and Izmir's airport were all completed through PPPs. A total of 19 ports in operation has been constructed using PPP methods. There will be ample opportunities in the future for these sectors due to the existing project pipeline.



Over USD 35 billion worth of infrastructure projects are financed through PPPs

- Figure 20 demonstrates the average value of each sector's investment as PPP projects and number of project agreements which were signed as of November 2012.
- The number of projects in these particular sectors have increased due to the endorsement of the government.
- For example, the Ministry of Health currently has 9 projects in the agreement phase and 1 project in operation.

Figure 20: Average Investment in Sectors



- Table 5 displays the total amount of PPP investments in the infrastructure industry in USD from 1986 to 2011. In terms of the number of projects, the energy sector leads the PPP projects, however in terms of total amount invested, investment in airports has been the most attractive choice.

Table 5: Total Contract Value of PPPs in USD, 1986-2011

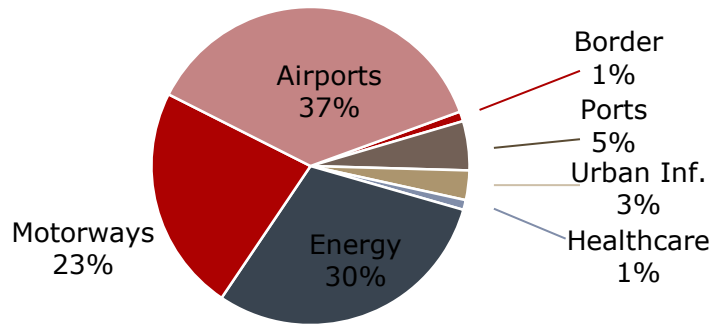
USD Million	Roads	Airports	Ports	Tourism	Customs	Energy	Urban Inf.	Healthcare	Total
BOT	8,195	2,467	122	241	219	4,370	1,168	-	16,782
BO	-	-	-	-	-	4,394	-	-	4,394
BL	-	-	-	-	-	-	-	385	385
TOR	-	10,652	1,444	-	-	1,721	-	-	13,817
Total	8,195	13,119	1,566	241	219	10,485	1,168	385	35,378

Source: Ministry Of Development



Turkey offers various PPP opportunities compared to various EU member states

Figure 21: Share of PPP Types



- Figure 21 demonstrates the average capital investments in PPPs in Turkey and Europe.
- As it can be observed, the average investment in PPPs in Turkey is significantly higher than European investment in PPP projects.
- As of February 2013, transportation had the highest share of PPP investments with USD 22.5 billion which corresponds to 65% of the total share.
- In transportation, airport construction has the largest share in terms of total value invested.
- In 1990s, few countries were using PPPs to complete projects. Turkey and the UK were amongst the first ones. The expertise gained from long term experience is self evident; both Turkey and the UK lead Europe in PPP projects in terms of the number of projects under construction as it can be observed from Figure 23.

Figure 22: Number of Projects under Construction, 2011

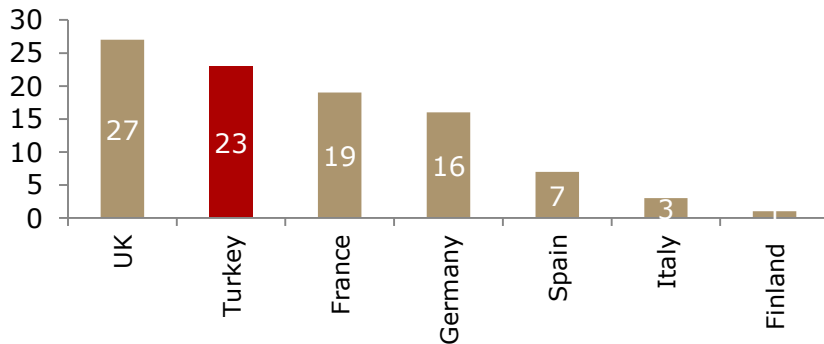
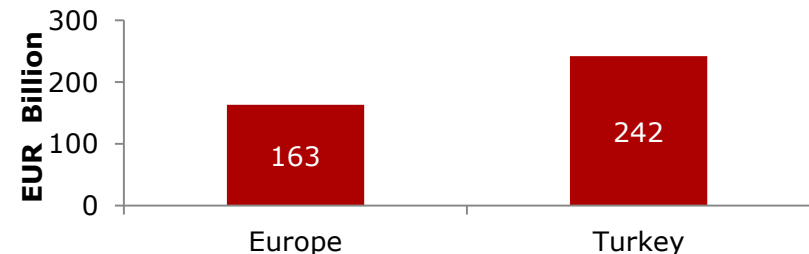


Figure 23: Average Capital Investment in PPPs



Source: ISPAT, Ministry of Development



Major public institutions in the infrastructure sector

Istanbul Metropolitan Municipality

- With over TL 7 billion spending in 2012, the Istanbul Metropolitan Municipality is one of the largest infrastructure investors in Turkey. Their aim is to maintain the growth of the city, gradually turning it into one of the biggest metropolises in the world. Some upcoming projects include new metro lines, tunnels and other urban renewal projects.

The General Directorate of Infrastructure and Urban Renewal Services

- Operating under the Ministry of the Environment and Urbanization, the General Directorate of Infrastructure and Urban Renewal Services is responsible for detecting and managing renovation within earthquake-prone regions by building more resistant structures including as roads, buildings and underground infrastructure.

The General Directorate of Infrastructure Investments

- Working under the Ministry of Transport, Maritime Affairs and Communication, the General Directorate of Infrastructure Investments works on procedures that mainly relate to investments in railways, airways and the maritime sector. Examples of projects are BOT projects for ports, high speed trains, airports and the like.

The Ministry of Energy and Natural Resources

- Established in 1963, the Ministry of Energy and Natural Resources is responsible for energy policies and creating the infrastructure for these activities. Lately, topics of focus have been petroleum affairs, nuclear energy and renewable energy. They are principally affiliated with the Turkish Electricity Transmission Company.

The Ministry of Environment and Urban Planning

- Formerly known as the Ministry of Public Affairs and Settlement, the Ministry of Environment and Urban Planning is responsible for creating sustainable living environments in the cities. The Ministry is the main organization responsible for urban renewal, development and the transformation processes all around Turkey.

The Ministry of Transportation, Maritime Affairs and Communication

- The Ministry of Transport, Maritime Affairs and Communication is responsible for providing the necessary services and infrastructure for logistics and information technologies since 1939. Their 2013 budget was TL 10.7 billion. Some of their projects cover high speed railways, airports and fiber optic infrastructure.



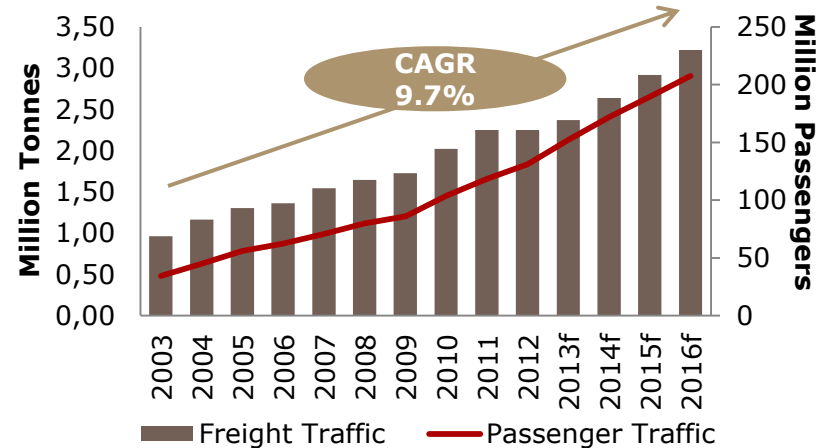
IV. Transportation: Infrastructure Developments

- A. Air transportation
- B. Railways
- C. Roads and Bridges
- D. Ports and Marinas

Air freight and passenger transportation continue to grow

- Air transportation is becoming a widely used way of transportation in Turkey.
- Freight carried via air has **increased at a CAGR of 10%** between 2003 and 2012.
- As more airports open and existing airport capacities increase, freight carried via air will also increase. Future air freight trends also point toward larger growth in this mode of transportation. The air freight industry is expected to continue grow at a **CAGR of 9.4% between 2012 and 2016**, reaching a total of **3.2 million tonnes**.
- The biggest proportion of freight comes from international lines. These lines constituted around 72% of the total freight for 2012.
- Currently, Atatürk Airport in Istanbul has the largest capacity and is the most significant airport in Turkey. More than half of total air freight in 2012 passed through Istanbul Atatürk Airport. Parallel to the increase in air carriers and passengers in Istanbul Atatürk Airport, the total amount of freight surpassed **1.2 million tonnes** in 2012 which accounts to a **15% increase** since 2011.
- The passenger traffic increased at a **CAGR of 16%** between 2003 and 2012 with over **130 million passengers** in 2012.

Figure 24: Development of Air Freight Transportation in Turkey, 2003-2012



Source: DHMI
f:forecast

Note: Forecasts are DHMI projections, CAGR indicates the growth in freight traffic

- Moreover, Istanbul Atatürk International Airport was the seventh busiest airport in Europe in terms of passengers in 2012.
- The industry will further profit from the new airport which will be superior technologically compared to the old airport and will have capacity of 150 million passengers.

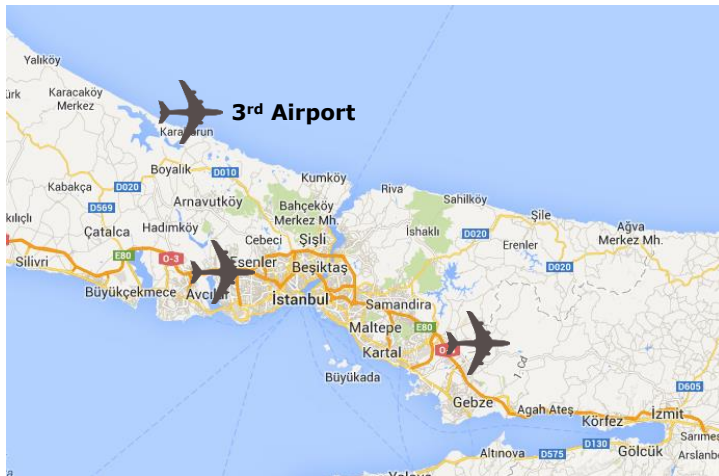


Air Transport

The New Airport Project in Istanbul

"The number of passengers using Istanbul as a transfer point has reached 13 million. With its 6 runways and 1.5 million m² terminal space, this new airport will not only respond to Turkey's needs, but will be a frequently used stop between the East and West for 30, or even 50, years."

Binali Yıldırım, *Minister of Transportation, Maritime Affairs and Communication, 2013*



- The tender for the new airport project in Istanbul was completed on May 3rd 2013. The construction is expected to start within a year and the completion date is expected to be in 2018. The new airport project is classified as build-operate-transfer PPP and is leased for 25 years.
- The airport is part of a larger urban development plan. A new settlement area will be built to the south of the third airport which will cover about 42,000 hectares of land, of which 9,400 hectares will be used by the airport, and the rest will serve approximately 1.0-1.5 million people.
- **The airport will be constructed by the Turkish joint venture consortium of Cengiz-Kolin-Limak-Mapa-Kalyon with a total investment of EUR 22 billion and a 25-year lease starting in 2017. The consortium is seeking EUR 7 billion in initial project financing. According to Binali Yıldırım, total investment cost of the airport will be EUR 10 billion.**
- The 3rd airport will be the largest airport in the world in regards to passenger capacity with 150 million passengers.
- The airport will create a considerable boost to the Turkish economy and will reinforce Turkey's position as a major logistics and transportation hub.



In order to access capital and attract foreign investment, the government enabled PPP in the sector

Table 6: PPPs in the Sector

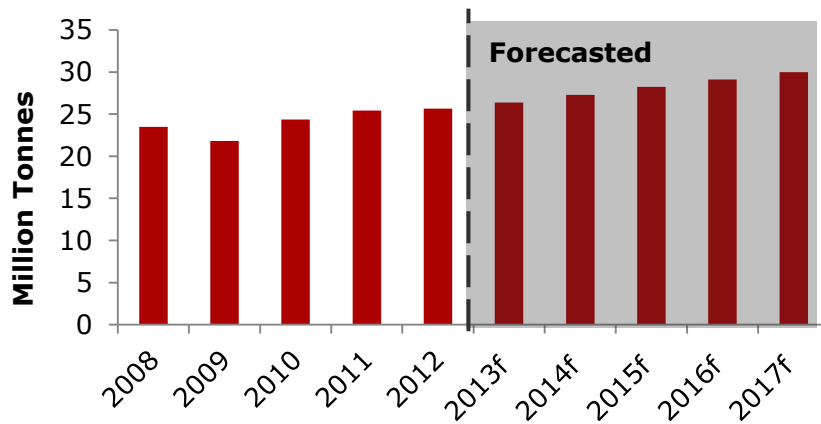
Acquirer	Target	Deal Value	PPP Type	License Duration
Limak-GMR Group & Malaysian Airlines Joint Venture	Sabiha Gökçen Airport	USD 3.1 billion	BOT	20-year operating license as of 2008
IC İçtaş İnşaat Sanayi ve Ticaret A.Ş.- Fraport Ag Frankfurt Airport Services	Antalya Airport (1 st and 2 nd International Terminals)	USD 3.19 billion	BOT	17-year operating license as of 2007
TAV Yatırım Yapım ve İşletme A.Ş.	Istanbul Atatürk Airport (International Terminal Building)	USD 2.96 billion	BOT	15.5-year operating license as of 2005
TAV Yatırım Yapım ve İşletme A.Ş.	Izmir Adnan Menderes Airport(International Terminal Building)	USD 610 million (will be USD 1 billion with additional investments)	TOR	18-year operating license as of 2014
TAV Yatırım Yapım ve İşletme A.Ş.	Ankara Esenboğa Airport	USD 251 million	BOT	15.6-year operating license as of 2006
Limak-Kolin-Cengiz-Mapa-Kalyon Joint Venture	Istanbul 3 rd Airport Project	EUR 22.2 billion	BOT	25-year operating license as of 2017
Zonguldak Özel Sivil Havacılık Sanayi ve Ticaret A.Ş.	Zonguldak Çaycuma Airport	N/A	Long-Term Rent	Starting from 2007
Sky Line Havacılık - Zonguldak Özel Sivil Havacılık Joint Venture	Çukurova Regional Airport	EUR 357 million	BOT	Approx. 10-year operating license as of 2014
IC İçtaş İnşaat	Zafer International Airport	N/A	BOT	30-year operating license as of 2014



Railways

An era of significant and sustained investment

Figure 25: Development of Railway Freight Transportation in Turkey, 2008-2012



Source: TCDD, Deloitte Analysis used with BMI growth rates
f: forecasted

- The Turkish State Railway (TCDD) is the national railway carrier established in 1953. It is headquartered in Ankara and operates through seven regional directorates countrywide.
- The TCDD also operates sea ports and has three affiliated companies that include locomotive manufacturer, Tülomsaş, passenger coach producer, Tüvasaş, and freight car maker, Tüdemtaş.

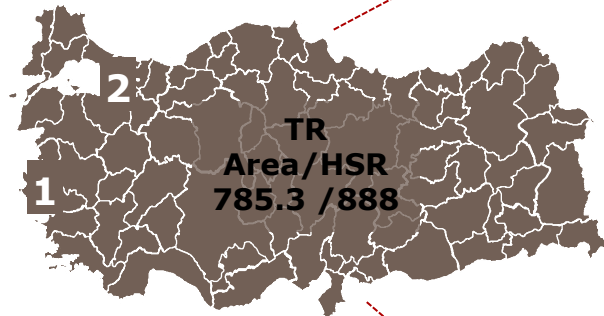
- In 2012, more than 25 million tonnes of freight was transferred via railway which corresponds to an increase at a CAGR of 2% between 2008 and 2012. The majority of this was domestic freight, while 8% was international. However, as international connectivity of railroads increase international freight handling will enhance.
- According to a Deloitte analysis, Turkey's railway freight volume is set to grow at a CAGR of 3.2% surpassing 29 million tonnes between 2012 and 2017.
- Moreover, tonne-kilometer, which is a critical performance indicator for modes of transport for railroads, increased at a CAGR of 4.9% from 2002 to 2012.
- A number of major cities have urban rail networks, light transit systems and underground subways of some sort. In Istanbul alone, there are plans to provide more than 100 km of new lines by the end of 2018 and over 270 km of lines by the end of 2023.
- Turkey acknowledges railways as a preferred mode of transportation for freight and is trying to identify ways to increase its share. Turkey also plans to carry freight and passengers from hubs around the country via high speed train networks that will be connected to international railroads.



Railways

Countries are switching to high speed rail

High Speed Railway Network, 2011



- A high speed rail network is defined by a train that can reach at least reach 250 km/h during its journey.
- There is a total of 888 km of high speed railway network in Turkey which is not sufficient compared to its total land area of 785,300 square km. Therefore, the Turkish government has plans to expand the lines and invest a total of USD 23.5 billion into the sector until 2023.
- The high speed rail line between Ankara and Istanbul will be 533 km long which will enable travel time from Ankara to Istanbul to reduce to 3 hours.
- The European Investment Bank (EIB) realizes the strategic significance of Turkey as a major trade route. Therefore, the bank invested a total of EUR 1.5 billion into the Turkish railway system. Furthermore, EIB provided EUR 200 million for the Istanbul-Ankara high speed railway.

Source: Europe Transportation Statistics 2012

Note: Area is given as 1000 km²

HSR: High Speed Railway Network in terms of km



Railways

Turkey's Targets and International Investments in High Speed Railways

High Speed Railway

- Developing the high speed railway project is a priority for Turkey and one of the most important goal of 2023.
- USD 45 billion will be invested into high speed rail until 2023.
- A high speed rail line linking Ankara and Istanbul will be 533 km long with a speed of 250 km/h. The travel time from Ankara to Istanbul will be reduced to 3 hours.
- The Marmaray Project is thought to be the continuation of the Ankara-Istanbul high speed line which will connect Anatolia to Europe.

China Invests in Turkey's High Speed Railways

- In 2012 Turkey and China have agreed on building a high-speed railway line between Edirne and Kars.
- The railway line is designed to pass through 29 provinces which will connect the east and west of Turkey. Due to this project the travel time will reduce from 36 hours to 12 hours.
- The cost of the project is estimated to be USD 35 billion, where USD 30 billion will be invested by China as part of an agreement with The China Civil Engineering Construction Cooperation.
- It will be integrated with the Trans-Asian Railroad Network to accelerate the speed of transformation.
- China also invested in Turkish Railways through the Baku-Tbilisi-Kars Railway Project. The investment amount was USD 22 billion.



Railways

Liberalization and privatization is progressing

- The Turkish State Railways (TCDD) has a vertically integrated system. Other than providing transportation services, it has manufacturing and maintenance facilities as well as operating ports. TCDD's activities are extensive and diverse going well beyond railroad transportation.
- Another important governmental organization involved in infrastructure investments in the transportation sector is DLH, which is the General Directorate of Infrastructure Investments for the Ministry of Transportation, Maritime Affairs and Communications. DLH designs, constructs and manages large infrastructure projects for railway networks such as the Ankara subway system and the Marmaray Project.
- As railways expand in Turkey, there will be large projects that will be open to investment. In the near future, the railway network will open up to private investments. The government is expected to attract private investment via the private-public partnership (PPP) method.
- Within this scope, there will be opportunities for investors such as:
 - Expansion of high speed railway network.
 - Rehabilitation of existing lines.
 - Modernization of infrastructure and technology.
 - Enhanced logistics and transportation operations.
- As of May 1st 2013, the new law associated with the liberalization of railway transportation in Turkey replaced the state monopoly of the railway network with a competitive and free market environment.
- The new law foresees improvement and expansion of the railway network with investments from both private and public investors.
- The new law permits private and public companies to conduct:
 - Construction of the railways which will be under authority of said company.
 - Operation of railways which has been leased or constructed.
 - Operation of trains using state railway network.



Railways

The Major International Railway Projects in Turkey

Project	Description	Impact
Baku-Tbilisi-Kars Railway	<ul style="list-style-type: none"> The project connects China to the Middle East, Russia, the Ukraine, Georgia and Turkey. Therefore linking Turkey to other countries and emphasizing its position as a major logistics hub. On October 8th 2010, there were 7 agreements signed with China, 2 of these concerned Trans Asian railroad. These were: <ul style="list-style-type: none"> The Railway Co-operation Agreement Co-operation in Transport Infrastructure and Maritime Affairs This project was included in TRACECA, an international program aimed at strengthening transport communication in the regions of the Black Sea basin, the South Caucasus and Central Asia, as a part of the "Silk Wind" Container Block Train Project reaching from Kazakhstan to Turkey's Black Sea. 	<ul style="list-style-type: none"> The project will cost Turkey USD 450 million. The project will provide an uninterrupted railroad line from China to Europe. The load carried after this project is estimated to be 16.5 million tonnes. The project will also connect to the major sea ports in Turkey, including the Mersin, Samsun, Haydarpaşa and Iskenderun ports. The project will reaffirm Turkey's strategic geographical position and as a major logistics hub. The railway connection of the Middle East, Russia, the Ukraine, Georgia and China to Turkey, reconnects Turkey to these countries that had been severed by the war between Azerbaijan and Armenia. China will invest a total of USD 22 billion into this project for the Turkish railway line.
Pakistan-Iran-Turkey Railway	<ul style="list-style-type: none"> Currently, there is a railway track that connects China to the Middle East and Turkey via the Pakistan-Iran-Turkey rail corridor. For the project to develop several agreements between countries were signed. These agreements include the ECOTA Agreement, the Economic Co-operation Organization Trading Agreement and the Istanbul-Teheran-Islamabad Container Train Collaboration Agreement. 	<ul style="list-style-type: none"> The value of goods transported each year would be? USD 1 trillion. Rather than building track ways around the rugged shoreline, the goods would transported via train ferry across Lake Van. There would be two ferries, each with a 16 coach capacity, capable of making 3 trips per day.
The Marmaray Project	<ul style="list-style-type: none"> This project will provide the non-stop transport of goods via railway from China to London. The route will also be connected to Istanbul subways. It will operate from Halkalı (an important logistics village) to Gebze. The Japanese International Co-operation Agency (JICA), the Council of European Development Bank and the European Investment Bank invested on the project. 	<ul style="list-style-type: none"> There are several additional costs related to the project, these include: <ul style="list-style-type: none"> BC1 (a pathway through the Bosphorus): Taisei-Gama NuroI Partnership, TL 3.3 billion CR1 (Haydarpaşa to Gebze and Sirkeci to Halkalı): Euro 1 billion CR2 (cost of cars Provided by the Turkish Ministry of Transport, Maritime Affairs and Communications, USD 585 million



Government of Turkey has prioritized railways over other modes of transportation

- The government encourages private sector companies to work with the **TCDD to create faster rail lines** and an improved railway infrastructure. Bringing public and private resources together for the development of railways and to create rail connectivity to ports, logistics villages, factories and other manufacturing plants is a significant initiative. Implementing the PPP model to railway development creates many advantages. Some of these include a skilled workforce that comes from the partnership, better planning and implementation, more funding and a higher level expertise of companies with many years of experience within the industry.
- One of the many opportunities that come with privatizations and partnerships is connecting railways to existing factories, trading companies, logistics centers and ports. Even after the rental period concludes and the TCDD regains control of railway operation; partnerships between the public and private sector will not cease and will continue in ways that are advantageous to both parties.

Table 7: PPPs in the Railway Sector

Acquirer	Target	Deal Value
Limak, Kolin and Cengiz Construction	TCDD Ankara High Speed Train Station	N/A – Operating license for 19 years, 7 months
Eoro Rapid TR	TCDD Antalya-Alanya Railway Project	USD 5.5 billion
Kolin İnşaat-Savronik-GCF	TCDD Ankara-Sincan Railway Northern Line Project	TL 69.7 million
YSE Yapi-Tepe İnşaat	TCDD Bursa-Bilecik High Standard Railway Project	TL 1.3 million
CNR China	TCDD Ankara-Konya High Speed Railway Project	USD 263.5 million
The China Civil Engineering Construction Co-operation	TCDD Ankara-Konya High Speed Railway Project (2023)	USD 35 billion

Source: Ministry of Development



Roads

Turkey has a total of 65,000 km of road network enabling significant freight and passenger transport

Figure 26: Total Freight and Passenger Carried via Roadways, 2007-2012

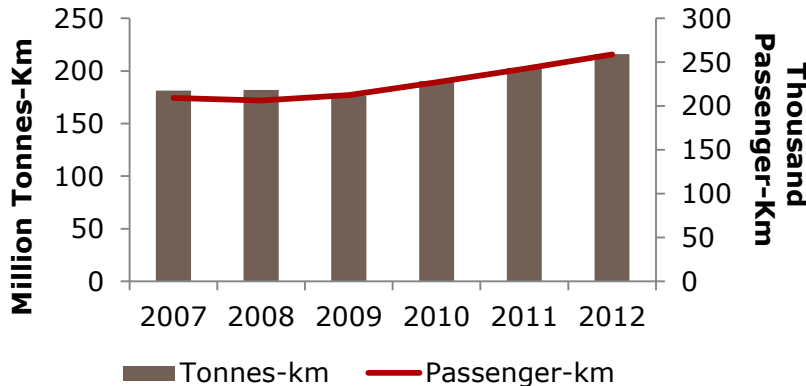
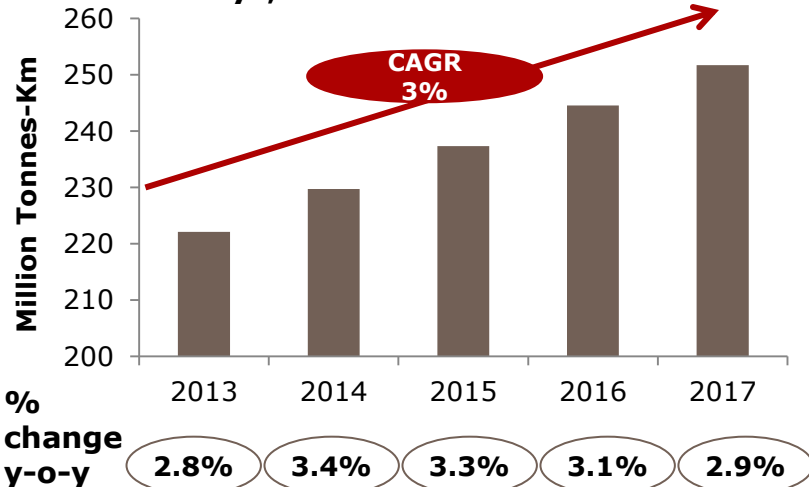


Figure 27: Growth Projection of Freight Carried Via Roadways, 2013-2017



- As of 2013, Turkey has 2,127 km of motorways, 31,375 km of state highways and 31,880 km of provincial roads that add up to a total of 65,382 km of road network.
- The growth of freight and passengers transported via roadways has been impressive. The tonnes-km and passenger-km grew a **CAGR 3.57% and 4.36%**, respectively from 2007 to 2012 (see Figure 26).
- Freight carried via roadway is expected to continue its growth between 2013 to 2017 with a **CAGR 3%** and reach **251,712 million tonnes-km** (see **Figure 27**).
- Turkey’s road network has developed even further due to the TRACECA (Transport Corridor Europe–Caucasus–Asia) project which aims to connect the EU and the 14 member states of the Eastern European, Caucasian and Central Asian region.
- The total length of TRACECA road network developed in Turkey is approximately **8,241 kilometers**.
- **10 different ports** connect TRACECA roads to Europe and the Balkans with more than 11 maritime routes.
- Additionally, there are **12 airports in Turkey** that make connections with TRACECA.

Source: BMI, Deloitte Analysis
 Note: BMI growth rates were used with actual 2012 tonnes-km amount



Roads

Major international highway networks and the 3rd Bosphorus Bridge

International E-Ways Network

- There are two main roads that interconnect Turkey with Europe, these are the E-80 at the Bulgarian border and the E-90 at the Greek border.
- Turkey also provides connections to Asia and the Middle East through its southern and eastern borders. The total length of E-ways in Turkey is 9,361 kilometers.

Europe North-South Project (TEM)

- TEM is the oldest and most developed project in European transportation history. The roadway in Turkey connects Europe to Asia and the Middle East with TEM roads. The total length of TEM roads is 24,931 kilometers and 6,962 kilometers of the project is within Turkey, which constitutes 28% of the total length.

Euro-Asian Transport Links (EATL)

- The project EATL plans to connect Pan-European corridors with the principal regions of Asia.
- Turkey's EATL road will have distance of 5,663 kilometers. Moreover, 208 kilometers between Filyos and Çandarlı port will also be connected to the EATL.

Figure 28: Yavuz Sultan Selim Bridge



- Yavuz Sultan Selim Bridge will be 59 meters wide and 320 meters high, making it the largest suspension bridge in the world with a railway network.
- The bridge will be constructed by the İçtaş İnşaat Sanayi Ticaret AŞ-Astaldi Partnership Enterprise Group with a total investment of USD 2.5 billion. The tender type was build-operate-transfer. The bridge will be operated by the partnership for approximately 10 years and is expected to be completed by 2015.
- The trains that cross the 3rd Bridge or the Marmaray will continue on their way to Halkali, Bulgaria and the Ukraine railroad lines, where goods can travel without any customs restrictions according to the EU-Turkey Customs Union Agreement that was signed on December 31st 1995. Thus, allowing Turkey to achieve a major logistics advantage.



Roads

PPP Projects for highways exceed USD 34 billion

- Turkey is one of the first countries in the world that developed its own PPP legislation.
- The Turkish government has been promoting investment and encouraging public-private partnerships for the development of road transport.
- The PPP model for highways helps to increase the amount of funds available, while also increasing the speed at which the project is completed. Furthermore, it allows for efficient project designs, hence, better infrastructure for highways.
- Tender processes are conducted using competitive bidding among private sector companies. Investors recover their investments during their operating term (typically between 25-49 years) through toll collection or government incentives depending on the type of PPP model.

Type of PPP	In Operation	Total Value of the Projects in Operation	Under Construction	Total Value of the Projects Under Construction
BOT	18	USD 8.1 billion	3	USD 8 billion
BO	N/A	USD 4.3 billion	-	-
TOR	N/A	USD 13.5 billion	-	-
Total	18	USD 25.9 billion	3	USD 8 billion

Source: Ministry of Development, PPP Report



Ports

Turkey's ports are the most cost effective compared to other nations

- Exports and imports are key drivers of the industry and they are mostly conducted via sea ports.
- Nominal price tariffs per day are significantly cheaper in Turkey, compared with other major ports of the globe.
- Prices for handling container can rise as much as **USD 293 in ports such as Marseille**. Even the most expensive port in Turkey, the Mersin port, is cheaper than the port of Singapore, which is the cheapest among benchmarked countries.
- Even though Turkey does not apply a free time policy on its ports, **daily prices of Turkish ports are still lower** than others major ports, hence, the cost is easy to compensate.

	Singapore	Trieste	Hamburg	Rotterdam	Marseille	Haydarpaşa	Izmir	Mersin
Terminal-Handling Container	USD 148	USD 200	USD 240	USD 200	USD 293	USD 85	USD 85	USD120
Warehouse per day	USD 12 (3 days free time)	USD 20 (3 days free time)	USD 47 (3-5 days free time)	USD 47 (3-5 days free time)	USD 29 (5 days free time)	USD 9	USD 7	USD 7

The Galata Port

- The plan is for Istanbul to become a hub for cruise ship tourism. Currently, Istanbul is 10th largest port for cruise ships with 500,000 passengers per year. It is projected that the new port will serve 3 million passengers.
- The build-operate-transfer (BOT) tender for the project was made in May, 2013 and was won by the Doğu Group for USD 702 million.

Haliç Port

- The BOT tender was completed in July, 2013 and won by Sembol-Ekopark Turizm-Fine Hotel OGG consortium for USD 1.34 billion.
- Construction is planned to be finished in less than 3 years.
- The project will cover 250,000 square meters of land comprising 2 marinas (with a 70 yacht capacity each), 2 hotels (500 rooms each), a car park and a shopping area.

Source: Seagoline



Ports

Turkish ports provide different storage options for different types of containers at reasonable prices

- Turkish ports offer many choices to businesses in terms of storage and cost effective solutions to storage problems. Even in ports that are centralized and easily accessible, investors can find rates as low as USD 7 per day.

Size	Ambarlı	Gemlik-Borusan	Mersin	Limak İskenderun	İzmit-Evyap	Izmir Port
20' Dry	13 to 23*	10 to 15*	7 to 18*	10 to 15*	10 to 15*	7 to 12*
40' Dry	23 to 33*	15 to 20*	11 to 27*	18 to 23*	18 to 23*	12 to 18*
45' Dry			12.5 to 30.5*	N/A	N/A	30
20' Reefer	60	30	33	40	40 to 50*	50
40' Reefer	80	45	55	55	55 to 70*	N/A
Reefer Monitoring	N/A	N/A	20	N/A	N/A	N/A
20' OOG	60	30 to 40*	N/A	N/A	N/A	N/A
40' OOG	80	40 to 50*	N/A	N/A	N/A	N/A
OOG Cargo	N/A	N/A	+%50 of service price	+%50 of service price	N/A	N/A
20 IMO	35	12 to 18*	N/A	N/A	12 to 18*	8.40 to 14.40*
40 IMO	40	18 to 24*	N/A	N/A	20-26*	24.40 to 21.60*
IMO Cargo	N/A	N/A	+%20 of service price	+%20 of service price	N/A	N/A
Non-OOG Cargo	N/A	N/A	N/A	Same as dry tariff	N/A	N/A

- Each row shows different types of containers in different sizes. Generally 20' (20 foot long) and 40' (40 foot long) container types can be found in every port.
- **Dry** is a storage container in which the interior is kept at low humidity.
- **Reefers** are refrigerated containers used for the transportations of temperature sensitive cargo.
- The **OOG** abbreviation is used for loads which is higher/wider than standard containers.
- An **IMO** type container is generally for hazardous goods.



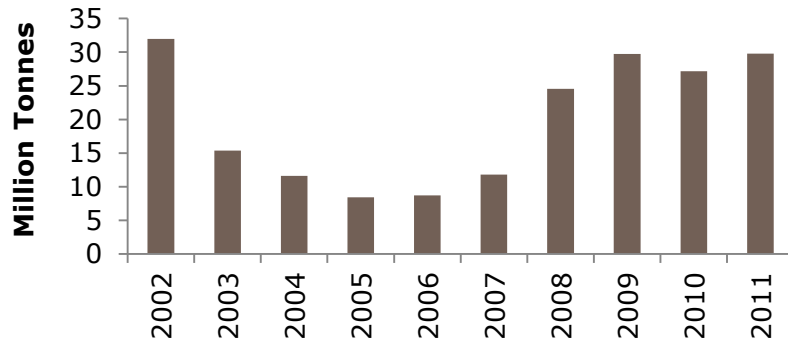
V. Energy: Infrastructure Developments

- A. A Brief Introduction to Turkey's Energy Sector
- B. Turkey's Geographical Position: A Bridge between Consumption and Production
- C. Natural Gas Infrastructure
- D. Electricity Transmission Infrastructure

Energy

Turkey stands between the demand rich west and supply rich east

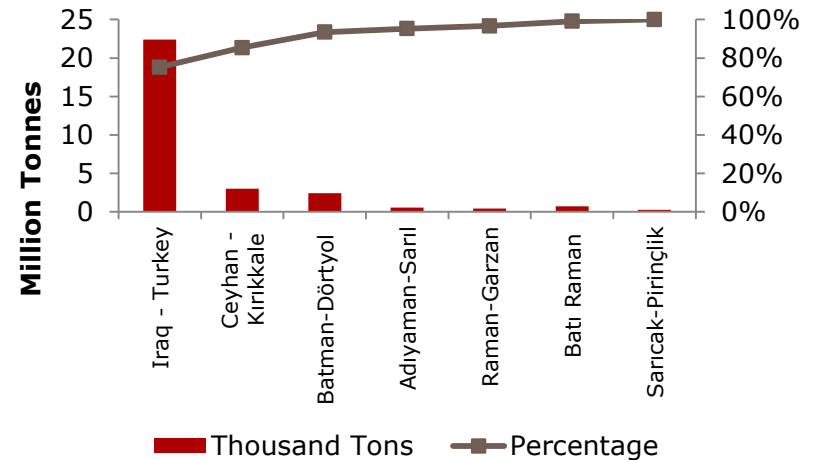
Figure 29: Volume of Transported Petroleum, 2002-2011



Source: Turkstat

- Turkey stands between the energy abundant Middle Eastern countries, the CIS countries and the European countries whose demand for energy is high.
- Turkey is itself a crude oil importing country. It has transported **more than 29 million tonnes of petroleum** in 2011 and imported more than 18 million tonnes of crude oil in 2011.
- Approximately, **75% of petroleum that is transported is from Iraq** and passes through the Iraq-Turkey pipeline, which is over 1,800 km.

Figure 30: Breakdown of Total Volume Transported by Country, 2011



Source: Turkstat

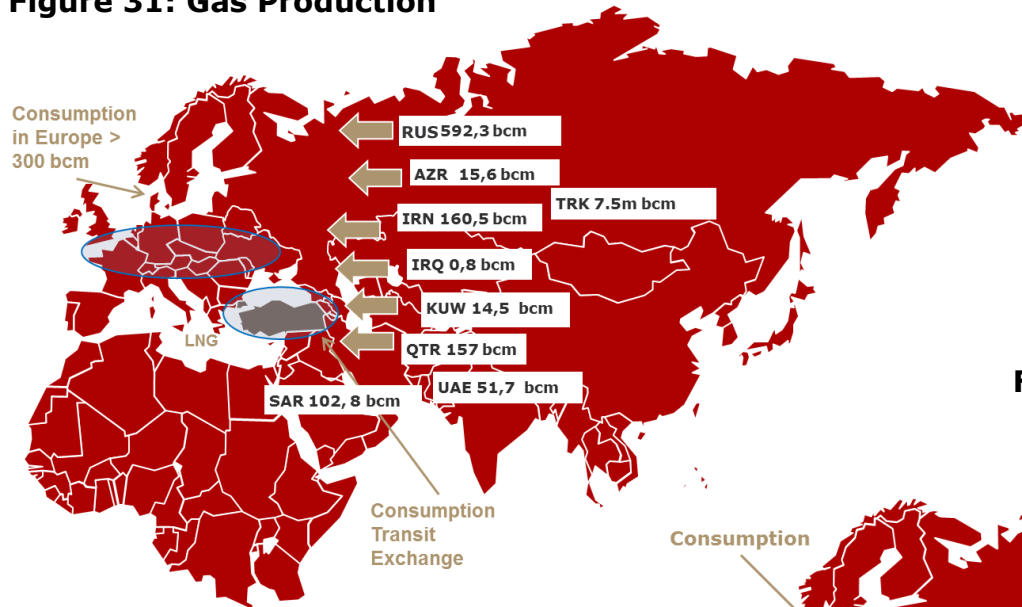
- The total length of petroleum pipeline in Turkey is **3,038 km as of 2011**.
- The Baku-Tbilisi-Ceyhan Pipeline:** The USD 3 billion pipeline transports oil from Baku to Ceyhan. The total capacity of the pipeline is expected to reach 50 million tonnes.
- Iraq-Turkey Pipeline:** The total volume of oil transported across the pipeline is 71 million tonnes. The oil is extracted from Kerkük, Iraq and reaches the sea terminal in Ceyhan.



Energy

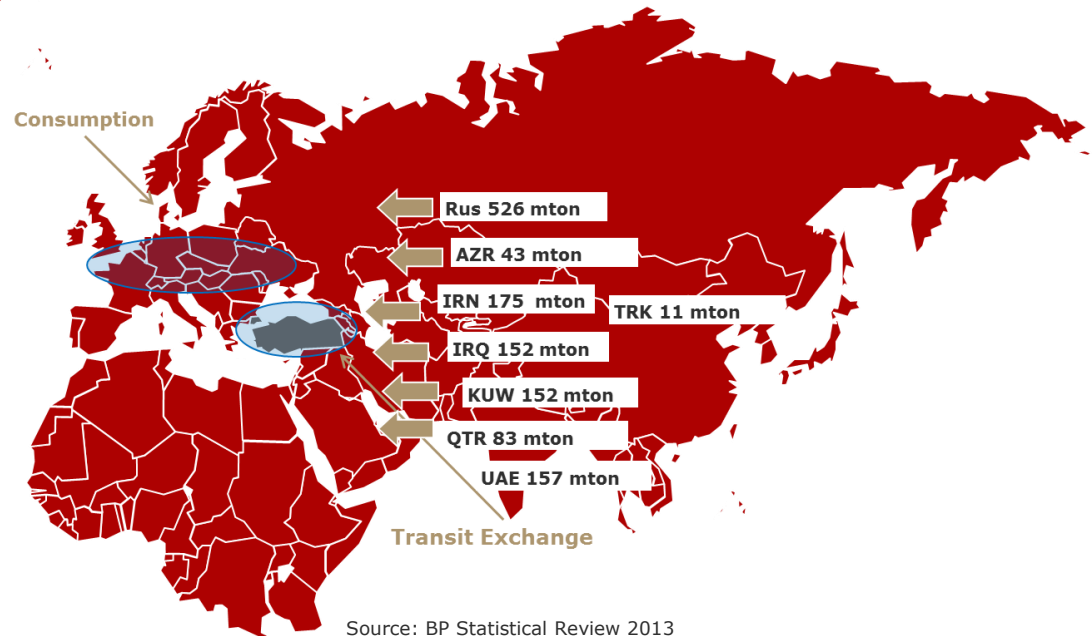
Turkey is at the crossroads of consumption and production: a natural bridge

Figure 31: Gas Production



- Having a position central to the regions of Europe, the Balkans, the Aegean, the Black Sea, the Caucasus-Khazar Basin and Central Asia, Turkey is a natural transit country for maritime and pipeline transportation of gas and oil.

Figure 32: Petroleum Production



Source: BP Statistical Review 2013

Source: BP Statistical Review 2013

- Turkey's position is critical for the export and import of petroleum as it integrates the demand-rich west to supply-rich east.



Energy

Turkey's natural gas infrastructure is developing

- The natural gas grid consists of pipelines, compressor stations, LNG terminals and underground storage facilities.
- The total length of natural gas pipelines has **increased 164% from 2002 to 2011**, reaching over 12,500 km. 98% of these pipelines belong to BOTAŞ, which is the state owned natural gas transporter, while the rest is owned by TPAO, which is the Turkish Petroleum Corporation.
- More than **43 million sm³** of natural gas was transported in 2013.
- With the advent of liberalization in the Turkish natural gas market and increasing competition, it is evident that underground gas storage and LNG terminal investments will grow at a fast pace.
- Currently, there are 2 LNG terminals in Turkey, namely the BOTAŞ LNG Terminal located in the Marmara region and the EgeGaz Aliaga LNG Terminal located in Izmir. Apart from these, several private sector companies and foreign investors like the nation of Qatar are interested in investing in LNG terminals in Turkey.
- In terms of underground storage, the Silivri storage facility is the only one that is operational. Moreover, it is known that there is an ongoing project in Lake Tuz to increase storage capacity and to ensure supply security during peak demand.
- Turkey also is an important player as an energy bridge between the natural gas rich countries in the East and high consuming regions in Europe. For example, the **Trans Anatolian Pipeline Project (TANAP) which aims to transport natural gas from the Caspian region to Europe through Turkey is an investment worth USD 7 billion**. The project aims to transport natural gas that is produced in Shah Deniz-2 field and other fields of Azerbaijan through Turkey to Europe.

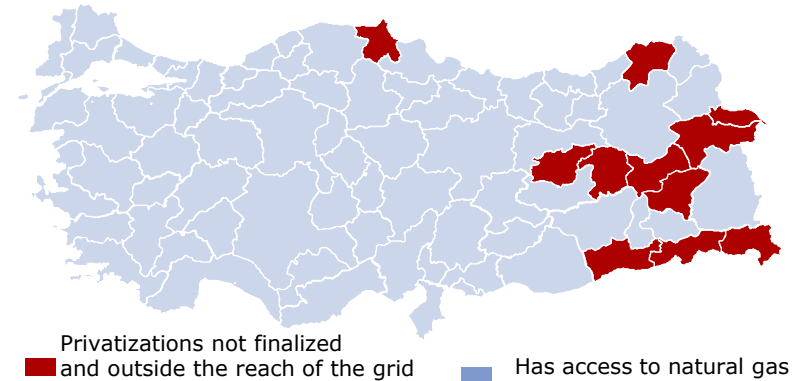
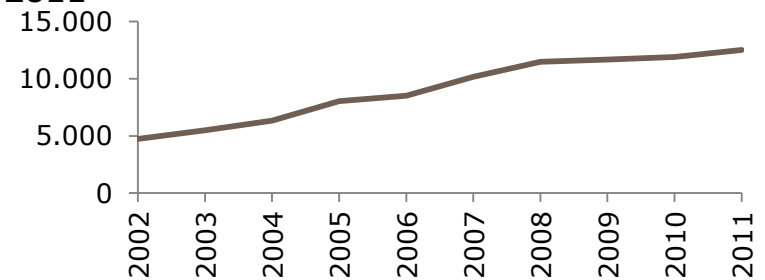


Figure 33: Length of Natural Gas Pipeline, 2002-2011



Source: BOTAŞ



Source: BOTAŞ, TANAP

Energy

Transmission infrastructure is a critical link for investments: Turkey continuously invests in its infrastructure

- TEİAŞ is a state-owned monopoly and for 10 years it has been responsible for load dispatch & frequency control, interconnections and generation capacity projections. The Market Financial Settlement Center (market operator) and the National Load Dispatch Center (system operator) are parts of TEİAŞ.
- The establishment of an independent energy exchange has been created by the recent *Electricity Market Law No. 6446*. Therefore, market operations will soon be handed over from TEİAŞ to spot energy exchange, EPİAŞ.
- Due to the fact that both supply and demand are not equally distributed among regions, transmission constraints and congestion can occur. However, these are managed by the NLDC and related curtailments are very rare. Emphasis is given to ancillary services: primary frequency control and secondary frequency control have been procured commercially as of 2009 and 2010, respectively, extensively enhancing system reliability.

Expected Important Investments

- A 380 kV Bandırma CCGT – İçdas 2 – Lapseki underwater transmission line is under construction to transmit electricity from Bandırma to the İkitelli LDC region.
- TEİAŞ has tendered this project and the work is currently on-going. It is expected that the establishment of this connection will relieve an important portion of the constraints in the region of Thrace.

Table 8: Length of Transmission Lines and Number of Transformers, 2011

Voltage Level	Overhead Transmission Lines (km)	Underground Transmission Lines (km)	Transformer Centers
380 kV	15,978	35.9	203
220 kV	85	-	-
154 kV	32,878	184	1105
66 kV*	509	3.2	49
Total	49,451	211	1357 (104,658 MVA)

Source: TEİAŞ



VI. Urban Renewal and Development

- A. Urbanization and Population Growth in Turkey
- B. Major Urbanization Projects in Istanbul
- C. Kanal Istanbul
- D. Istanbul Finance Center
- E. TOKI
- F. TOKI Urbanization Project Examples

Urban Renewal and Development

Turkey's growing population requires urban renewal and development

Figure 34: Population Growth in Turkey

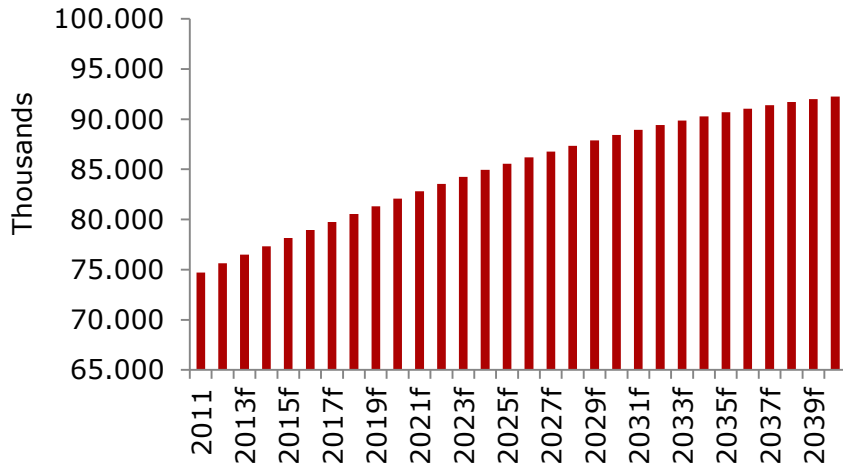
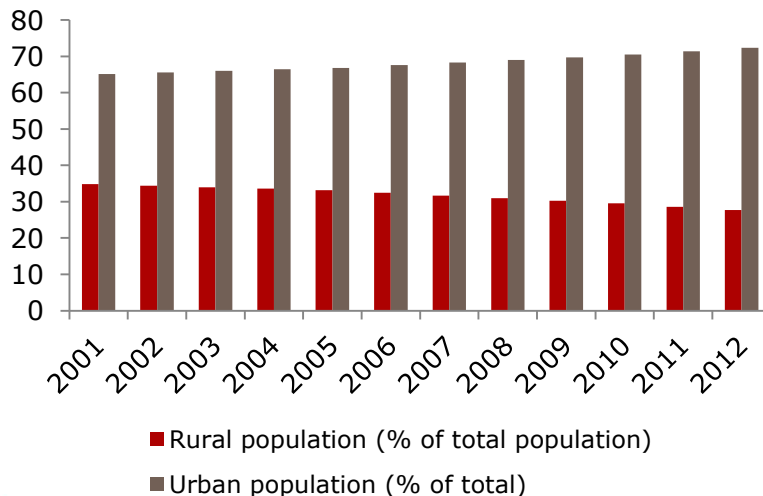


Figure 35: Urban and Population Percentage



Source: Turkstat, World Bank

- The growth in population is a significant indicator of an emerging economy. Indeed, Turkey has been experiencing continuous growth in its population over the last decade. According to Turkstat, the population of Turkey (see Figure 34) in 2012 was 75.6 million and is expected to reach 84.2 million in 2023 which corresponds to an 11% increase.
- The 10 most populous cities in 2023 are expected to be İstanbul, Ankara, Izmir, Bursa, Antalya, Şanlıurfa, Adana, Gaziantep, Konya and Kocaeli.
- Turkey presents great opportunities for investors due to its emerging cities. Over the last decade there has been an increase in the urban population and a decrease of the rural population. Even though the increase in the urban population has been gradual, according to World Bank 72% of Turkey's population was living in cities at the end of 2012.
- Turkstat projects that Istanbul will continue to be a megacity with a population of 16.5 million in 2023 followed by Ankara and Izmir. Within the scope of the Urban Renewal Project, 6.5 million residences will be included in the Urban Renewal and Development initiative. A budget of USD 400 billion is allocated for this initiative where the private sector will play the largest role.
- Currently, there are a total of 19 million residences in Turkey, and according to the Ministry of Urbanization 14 million residences are at risk if a natural disaster occurs. The Urban Renewal and Development Plan is determined to take action in regards to these residences.



Major Urban Renewal and Development Projects in Istanbul

Zeytinburnu Sümer Project

Under the scope of this project, 455 apartments and 29 offices in the neighborhood of Sümer were delivered to property owners. The second stage of the project, which has a value of TL 200 million, will continue. According to the information given by the municipality, 500 independent units will be demolished to initiate the second phase. The municipality is planning to complete the entire project in Zeytinburnu within 20 years.

Maltepe – Urban Renewal in 4 Regions

There are many 30 to 40 year old buildings in Maltepe. Renewal and development projects are needed for certain neighborhoods. In the Esenkent neighborhood, some homeowners have started renovation projects on their own through contractors. Renewal & Development projects are approved for the transformation of slums in Başibüyük. TOKI, IBB and the Maltepe municipality have signed an agreement for transformation of 90 homes. Approval for renovation to begin in the neighborhoods of Gülsuyu and Gülensu is awaited from the IBB.

Şişli Ayazağa Project

As of today, 180 slums have been demolished. The URD projects continue within the context of the relevant legislation in Kuştepe, Ayazağa and Küçük Sanayi which includes places such as the Levent Oto Sanayi, the Atatürk Oto Sanayi etc. Geological/geotechnical research reports and ground maps were approved by the Ministry of Public Works and General Directorate of Natural Disasters, except the military areas and forests in Şişli.

Fener-Balat Project

The Mayor of the Fatih neighborhood in Istanbul, stated that the renewal/renovation project regarding an area of 80,000 square meters and 534 buildings, which goes from the Fener Church to Ayvansaray was put out to tender (2007) and approved. The project will be undertaken on flat for land basis Demir also stated that they increased the number of registered cultural assets from 256 to 324. Project will be finished in 2014.



Urban Renewal and Development

The Istanbul projects are creating more business-friendly infrastructure

The Istanbul Finance Center

- Initiated in 2009, the Istanbul Finance Center is a project to build and create a financial district in Istanbul that will become a regional and global financial hub for the world. The expected cost of the project will be approximately USD 2 billion. Projections say that the Istanbul Finance Center will provide employment for 30,000 people.
- When complete, the financial district will be bigger than the ones in New York and London. The district will be cover 2.5 million square meters of land, comprising 560,000 square meters of office space, 60,000 square meters of residences, a 2000 seat conference hall, a shopping mall and a hotel. The district will be located between two major highways and will be easily accessible via two different metro lines.
- State-owned Ziraat Bank, Halk Bank and Vakıfbank along with governing bodies such as the Central Bank of Turkey, the Banking Regulation and Supervision Agency (BDDK) and the Capital Markets Board (SPK) will be relocated to the IFC when the first stage of construction is completed in 2016.

The Marmaray Project

- Started in 2004, the Marmaray Project is a railway upgrade project which connects Halkalı on the European side to Gebze on the Asian side. The railway tunnel is built under the Bosphorus and is a major transportation infrastructure project.
- The Marmaray Project enhances the current commuter rail system that transports 10,000 passengers to 75,000 passengers upon completion. The commute time between Gebze and Halkalı will be reduced from 185 minutes to 104 minutes.
- The Electric Multiple Units (EMU) for the Marmaray Project was provided by Hyundai Rotem after the signing of a EUR 580 million contract. The rest of the units will be provided by Eurotem, which is a joint venture between Hyundai Rotem and TÜVESAS (the Turkish Wagon Industry).
- The Marmaray Project started its operations on 29th of October 2013.



Urban Renewal and Development

Kanal Istanbul is a megaproject that will make an artificial sea-level waterway connecting the Black Sea and the Sea of Marmara

- Kanal Istanbul is planned to be about 45 km long and is projected to be in service by the Turkish Republic's 100th anniversary in the year 2023. This project aims to minimize marine traffic in the Bosphorus. The new route will also allow tankers and cargo ships to pass through the Bosphorus easily.
- The projected cost of Kanal Istanbul is USD 10 billion. It is expected to reach a total of USD 30 billion with the addition of other linking infrastructure such as bridges, highways and airports.
- The daily capacity of the Bosphorus is currently 140 ships and after the canal is completed the capacity will increase to 160 ships per day.
- The Bosphorus is currently able to handle ships with 260 dwt and Kanal Istanbul will be able to handle ships with 300 dwt.

Figure 36: Overview of Kanal Istanbul



Source: kanalistanbulprojesi.info

**Investment Support and
Promotion Agency of Turkey**

Urban Renewal and Development

Two new cities will be built in Istanbul

- In line with Turkey's 2023 targets, two new cities are planned to be built in Istanbul. One being in Kemerburgaz, on the European side of Istanbul, and other being in Tuzla, on the Anatolian side.
- The Anatolian part of the project will be adjacent to Sabiha Gökçen International Airport and TEM, the E-5 highways and a subway will connect the city to the heart of Istanbul.
- The European part of the project will also include an airport and will have also be easily accessible. Istanbul's new airport project is planned to be adjacent to this new settlement site.
- A port will be constructed near the site to increase the trading activities of the city and will increase its economic value. Real estate projects and the resulting demand for construction and related businesses are expected to be lucrative and create more opportunities in Istanbul.
- The area to be built on the Anatolian part of Istanbul, in Tuzla, will be accessible by airway, highway and railway transport.

Figure 37: New Cities in Istanbul



- These cities will have a capacity to handle a population of 1 million which is expected to reduce the population density in the city center of Istanbul as well as creating new investment and employment opportunities.
- The new airport will be constructed close to the city of Kemerburgaz and will contain business centers, hotels and tourism centers.

Source: Real Estate Backstage

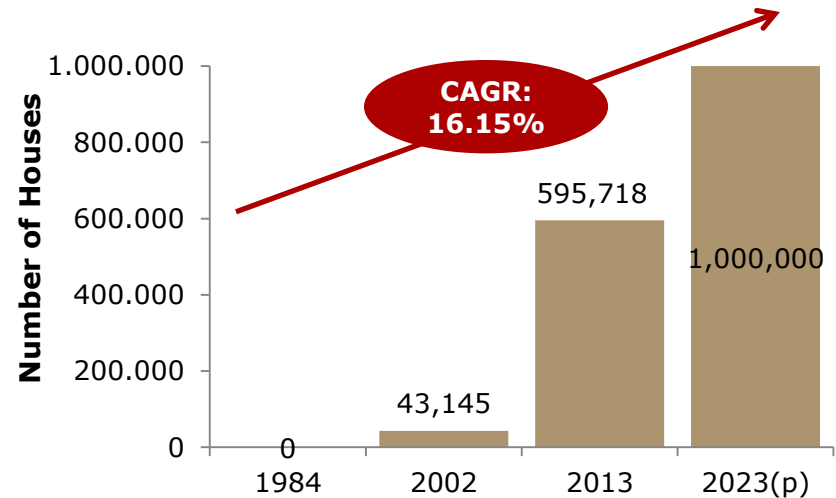


Urban Renewal and Development

TOKI: The public construction pioneer of Turkey

- To cope with fast urbanization and rapid population growth, TOKI was founded in 1984 to solve the problems of distorted urbanization and housing. TOKI also undertakes construction projects of facilities such as schools, trade centers, hospitals, libraries, sports centers and the like.
- As of February 2012, TOKI has built a total of 595,718 houses in 81 cities throughout Turkey and 800 different towns.
- As a part of Turkey's 2023 goals, commemorating the 100th anniversary of the Turkish Republic, TOKI plans to build a total of 1 million housing units for the citizens of Turkey.
- TOKI is mainly concerned with its social housing program. This program targets low- and middle-income people who cannot buy housing under existing market conditions. 85% of the current housing projects are social housing projects constructed on TOKI-owned lands.

Figure 38: TOKI Past and Planned Construction



Source: TOKI



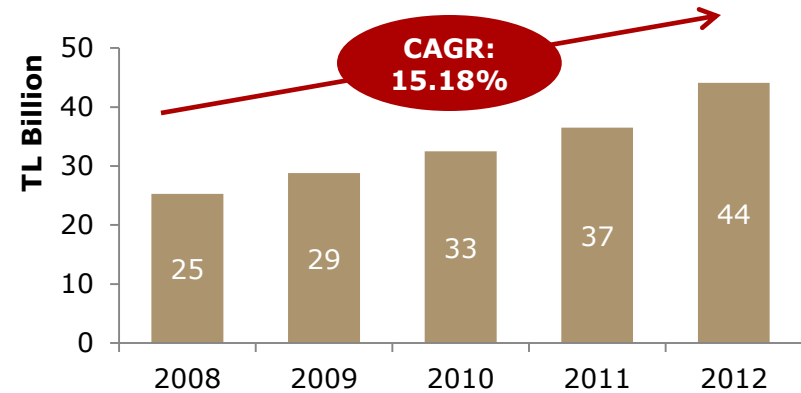
VII.Special Focus: Healthcare and Communications

- A. Healthcare Infrastructure and Planned Projects
- B. Health-Related Free Zones
- C. Urban Renewal and Medical Facilities
- D. Communications Infrastructure

Special Focus: Healthcare Infrastructure

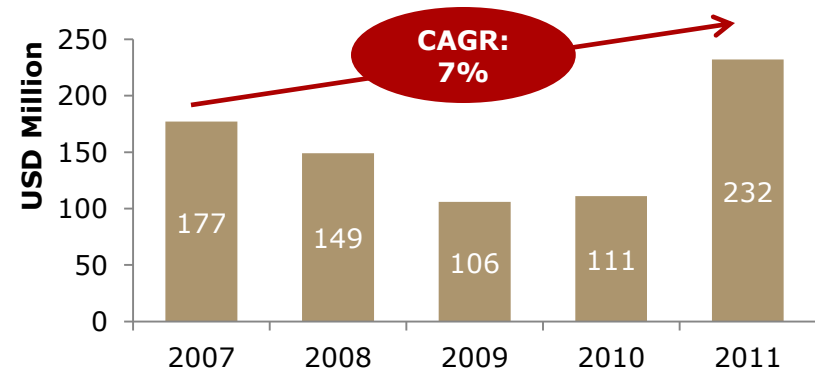
- As Turkey's urban population is growing due to migration from rural areas to the cities, the need for healthcare infrastructure is becoming inevitable.
- The total expenditure by the Social Security Institution (SSI) for healthcare has been increasing over the last years. For instance, between 2008 and 2012 healthcare expenditures by the SSI increased at a CAGR of 15.18%. It is important to note that contribution of total expenditures to GDP was 3.12% in 2012.
- Turkey presents countless opportunities for both local and international investors in the healthcare infrastructure industry. The need for hospitals, integrated health campuses and similar complexes are increasing.
- There have been many foreign investors in building of hospitals in Turkey , such as the Carlyle Group from the USA, Abraaj Capital from Dubai, Marfin from Greece, GEF from the USA and NBK from Kuwait.

Figure 39: Healthcare Expenditures by SSI



Source: SSI Health Report

Figure 40: Foreign Direct Investment on Healthcare and Social Services



Source: ISPAT



Healthcare Infrastructure : Health Campus Projects

- Between 2003 and 2011, 1,893 new health facilities have been established to serve the public. PPP Directorate of Healthcare investments owns nine projects in the agreement phase that have a 13,883 bed capacity and four projects under construction with a capacity of 9,850 beds.

Completed Health Campus Projects

Ankara Bilkent Integrated Health Campus

- The campus will be built over a 1.2 million m² area.
- 9 different hospitals will be included on the campus, each in different fields with 3,660 beds.
- The University of Health Sciences, convention centers and trade areas, a technology center and a R&D center will be included in the campus.

Elazığ Integrated Health Campus

- The campus will include 4 different hospitals with 1,040 beds.
- The agreement to build this campus was signed on June 4th 2013 and currently the project is under construction.

Kayseri Integrated Health Campus

- The campus will be built over an area of 750,000 m². The estimated duration of the project is 3 years.
- When completed, there will be a capacity of 1,583 beds in 5 different hospitals.

Ankara Etlik Integrated Health Campus

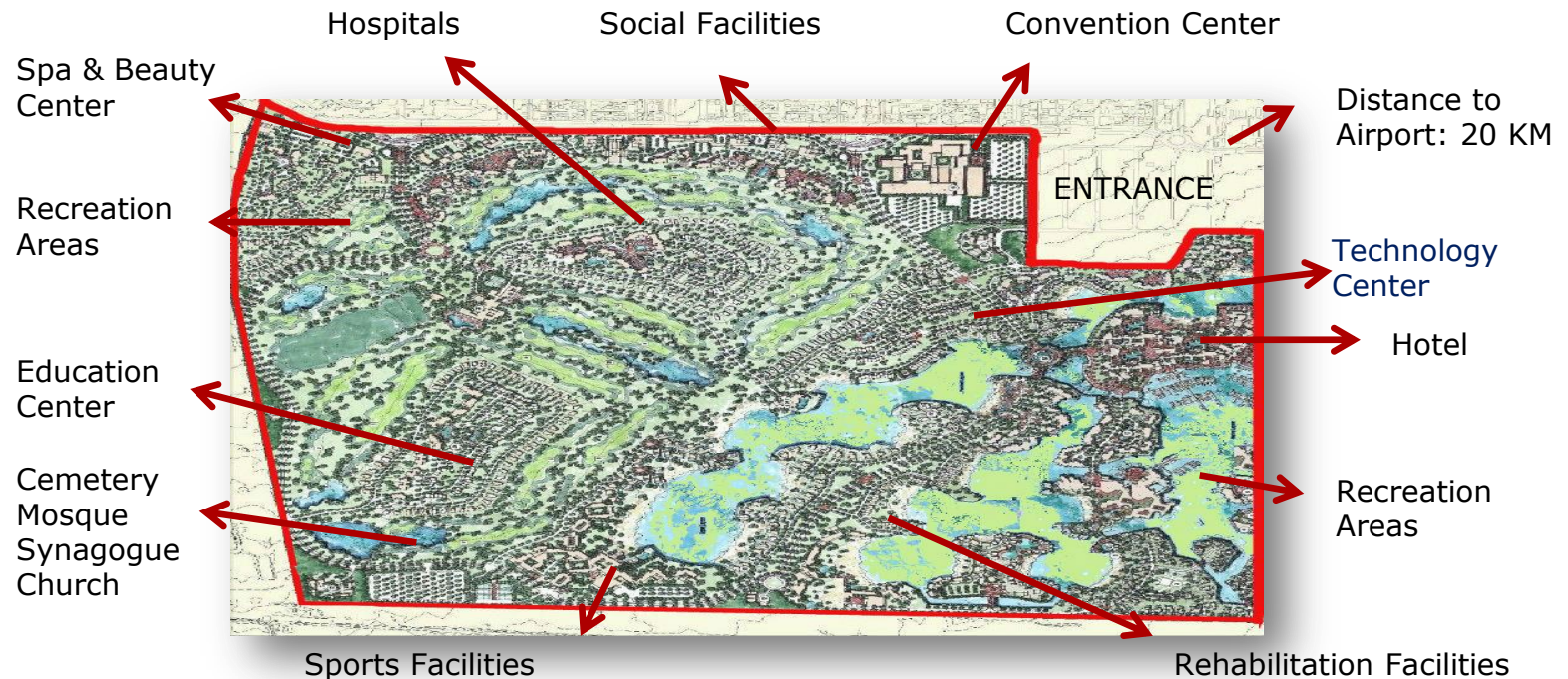
- The campus will be built over a 1.4 million m² area and will include 9 different hospitals with 3,566 beds.
- The agreement to build the campus has been signed and the campus is under construction.



Health-Related Free Zones

- Free trade areas are normally places where export-oriented production is encouraged and no administrative legislation is applied. These areas provide investors with exemptions from taxes such as VAT, customs tax and the ability to transfer profit without permission.
- The main idea behind health-related free zones is to implement the aforementioned principles to an area where all the activities are related to healthcare. Health free zones will not be limited to hospitals and healthcare facilities. The area will include spas, education centers, technology development zones, R&D centers, hotels and sports facilities. Even though there are not any establishments currently operating in health free zones, there are projects by the Ministry which are expected to begin construction in Antalya, Bursa and Izmir by the end of 2013.

Figure 41: Health Free Zones



Where urban renewal and health infrastructure meet: *Medical Faculties*

- The Istanbul Medical Faculty Hospital (ÇAPA) and Cerrahpaşa Medical Faculty Hospital will need retrofitting in order to withstand earthquakes. That is why both hospitals are included in the urban renewal projects of their respective locations.
- The renovation of these hospitals will take approximately 5 years. During the project, these medical faculty hospitals will be transformed into health campuses where medical students can have access to modernized facilities and laboratories.
- A park with a capacity of 3,000 cars, a helicopter landing field for transportation of emergency patients and guest houses for students, relatives of patients and scholars will be built.
- The number of faculty and hospital related areas such as laboratory space, lecture theaters and polyclinics will increase due to this projects.

Table 9: Number of Facilities for Project

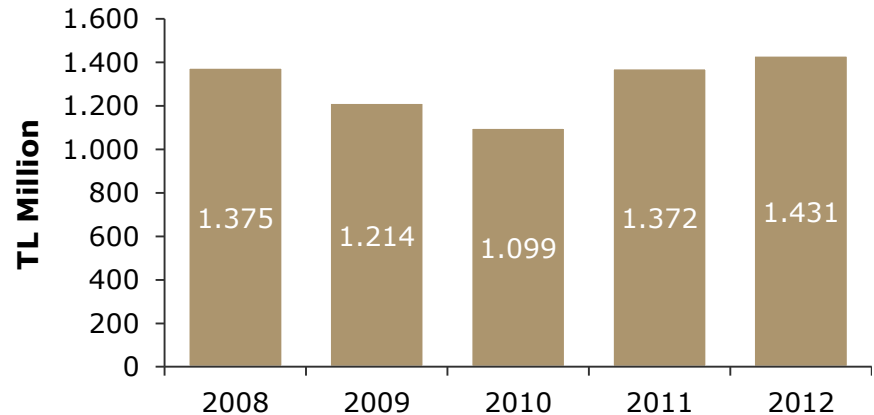
Current Area	New Area	Area Increase Rate	Lecture Theater Number	Laboratory Number	Polyclinic Number	Operating Room Number
477,070 m ²	1,060,210 m ²	222%	290	105	168	46



Communications Infrastructure: A market worth more than USD 15 billion

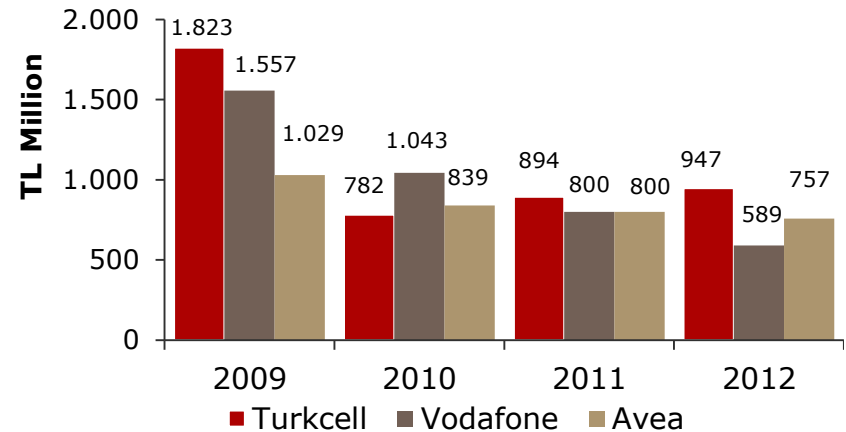
- The Turkish government has implemented a new legal framework to encourage R&D and IT spending, which will support the growth of the sector. The income earned as a result of R&D activities for companies located in technology development zones is exempt from tax. Additional incentives include contributions to the social security payments of R&D employees.
- The total market for communications is about TL 30.3 billion in Turkey. Three major mobile operators, Turkcell, Vodafone and Avea, and a fixed line operator, Türk Telekom, which also has investments in mobile and broadband services, exist in Turkey.
- Türk Telekom has invested TL 1.4 billion in fixed line operations. The annual development of investments in fixed line can be observed in Figure 42.
- It can be observed from Figure 43 that a significant amount of investment is made by the three principal mobile operators every year.
- Parallel to these investments, the use of communication networks within Turkey has been increasing. For example, the internet usage rate for households was 42.5% in 2011. In 2012, the internet usage rate for households increased to 47.2%
- Global leaders in communications such as TeliaSonera, Alfa Group Consortium and Oger Telecom all invested in Turkey's communication infrastructure.

Figure 42: Investments of Türk Telekom to Fixed Line Communication



Source: BTK Quarterly

Figure 43: Investments by Operators



Source: BTK Quarterly



Technology Development Zones (TDZ) in Turkey are on the agenda as strategic investments since early 1990s

Establishment of TDZs was brought to agenda at 1989 in Turkey, by Prime Ministry State Planning Organization (SPO).

At 1990, reports are prepared on the opportunities of the universities in Istanbul, Ankara, Izmir, Gebze and Eskişehir.

The program for the establishment of TDZs in Turkey started

SPO brought establishing TDZs to agenda

First TDZ of Turkey, TÜBİTAK Marmara Research Center TDZ is established in Kocaeli

50 TDZs in Turkey, 36 of them are currently in service

1989

1990

2000

2001

2013

The Program for The establishment of TDZs in Turkey" by the Government

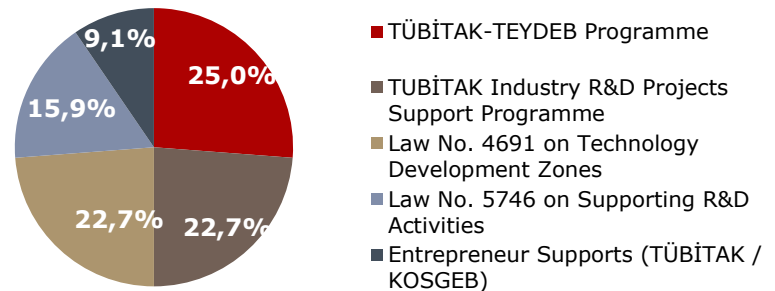
First university TDZ was founded by Middle East Technical University (METU)

The program for establishment of TDZs in Turkey started with 5 TDZs, namely, **ITU TDZ, METU TDZ, ANADOLU UNIVERSITY TDZ, EGE UNIVERSITY TDZ** and **TUBITAK MARMARA RESEARCH CENTER TECHNOPOLIS**. TÜBİTAK Marmara Research Center TDZ (TÜBİTAK MAM) is the first TDZ of Turkey established in Kocaeli at 2000. Followed by METU, in 2001. It established the first TDZ founded by a university. In 2002, GOSB, Bilkent and Izmir TDZs followed them.

There are different incentive programs of support and exemptions

- In addition to the New Investment Incentive Program, ICT sector investment and initiatives are supported with several regulations and incentive schemes.
- In 2012, 50% of the ICT companies benefited from these incentives. TUBITAK-TEYDEB Program's incentives have the largest share in total.

Figure 44: Share of Total Incentives Granted



- TÜBİTAK-TEYDEB Program
- TÜBİTAK Industry R&D Projects Support Program
- Law No. 4691 on Technology Development Zones
- Law No. 5746 on Supporting R&D Activities
- Entrepreneur Supports (TÜBİTAK / KOSGEB)

Some Incentives for TDZ Investors

- Income tax gain exemption
- Corporation tax gain exemption
- Income tax exemption of researcher, developer and R&D personnel
- Social security premium support
- Value added tax exemption

- Companies in Technology Development Zones (TDZs) are granted various supports and exemptions totaling TL 1.4 billion.

Table 10: Total Amount of Support and Exemptions provided to the Companies in TDZs from 2001 to March, 2012

Income and Corporate Tax Exemption	TL 448.87 million
VAT Exemption	TL 365.26 million
Employee Income Tax Exemption	TL 482.09 million
Social Security Premium Support	TL 95.30 million
Total	TL 1.44 billion



Source: Ministry of Science, Industry and Technology

Investment Support and Promotion Agency of Turkey

VIII. Infrastructure Investments in the Major Cities of Turkey

- A. Adana
- B. Ankara
- C. Antalya
- D. Bursa
- E. Erzurum
- F. Gaziantep
- G. Izmir
- H. Konya
- I. Samsun

Adana: From agriculture and foreign trade to energy and industry

- Adana has an area of 14,030 km² and 2 million inhabitants and is one of the largest city in the region of the eastern Mediterranean. From hydro energy to agriculture, many investments can be realized as a result of its diverse offerings.

Çukurova Airport	Energy	Pipelines	Pipelines Continued and High Speed Railway
<p>In 2013, the foundation of a new airport with a capacity of 30 million passengers was built in Adana by the Ministry of Transport, Maritime Affairs and Communications. This airport will render service to the combined region of Mersin, Adana and Tarsus. The cost of this BOT project is almost TL 850 million with an area of 8 million m² for the construction.</p>	<p>Tufanbeyli thermal power plant managed by Enerjisa which has 450 MW installed capacity is the largest lignite power plant investment of Turkey in the private sector. Tufanbeyli power plant will produce electricity with fluidized-bed technology based on domestic resources including coal and lignite. All under development hydroelectric power plant licensed by Energy Market Regulatory Authority (EMRA) have approximately 869 MW capacity.</p>	<p>The Baku-Tbilisi-Ceyhan (BTC) pipeline is a dedicated crude oil pipeline system that extends from the Azeri-Chirag-Guneshli (ACG) field through Azerbaijan and Georgia to a terminal in Ceyhan on the Mediterranean coast of Turkey. The pipeline, which has a capacity of 1 million barrels per day, and at 1,760 kilometers is the second longest of its kind in the world.</p>	<p>The Kirkuk-Yumurtalik Crude Oil Pipeline System transports the oil produced in Kirkuk and other areas of Iraq to the Ceyhan Terminal. It is anticipated that 6 to 7% of the global oil supply will be transported through Turkey and that Ceyhan will become a major energy hub and the largest oil outlet terminal in the Eastern Mediterranean. It was announced by the Turkish Minister of Transportation that the high speed railway project between Karaman-Konya-Adana-Gaziantep will part of the investment plans for 2013.</p>

Source: Adana Proconsulate, Limak Holding, enerjienstitusu.com, hydrodizayn.com, HABER7, hydroworld.com



Ankara: Capital of Turkey and its second largest city

- The capital of Turkey, Ankara, is the second largest city in Turkey after Istanbul. Being the capital of country, it has a privileged place in infrastructural investments.
- The investments already made have greatly advanced the standard of living as well as the investment climate of Ankara.
- Ankara is the flagship city of Turkey for industries such as IT, defense, health technologies and agriculture. All of these industries operate on the basis of good infrastructure development and some of these industries are directly linked to infrastructure itself.

High Speed Railway, Başkentray and Subway

10,000 km of high speed railway is to be built in Ankara. Today, Ankara is at the center of a high speed railway system and it will continue to be even with the new railway projects since geographically it is at the heart of Turkey. After the completion of the project, Ankara will be connected to almost every other major city in Turkey.

Since Ankara will be the center of high speed rail, Başkentray and 4 subway projects are also planned in order to generate enough capacity to transport freight and passengers within the city limits.

Road Projects

In addition to those of the General Directorate of Highways, other resources have been used in order to complete urgently needed road repair. One of the main priorities was to create uniform roadways in terms of national and international standards as well as increasing road capacity.

Real Estate

A total of 70,564 houses are either under construction or completed. Also, renewal, revitalization, landscaping and social reinforcement projects are handled, planned or under construction.

Urban Renewal Projects are going on in the Altındağ Mamak district. Since 2005, 25,000 shanties have been demolished and cluster houses were built instead. The scope of the project is to build 50,000 houses, 500 business centers, recreation areas, hospitals and hotels.

Source: Ankara Development Agency



Antalya: Gateway for tourism and foreign trade

- Antalya is tourist town in the south of Turkey. It is located on Mediterranean coast line with a population close to 2 million. In 2012, 3,891,983 tourists visited Antalya spending USD 29.4 billion dollar. According to the tourist organization known as Aktob, Antalya has 2,896 hotels and tourist facilities providing 715,692 beds. Because of its ideal geographic location and logistical advantage, Antalya has the potential of becoming an important port town.
- The West Mediterranean Development Agency is the official organization that promotes investment within the region and is responsible for the investments in Antalya on behalf of the Ministry of Development. In 2012, the agency's budget was TL 55 Million.

Antalya EXPO 2016

Expo 2016 is the next scheduled A1 Horticultural Exposition organized by the International Association of Horticultural Producers and will be hosted in Antalya. The project is going to be the 3rd largest Expo in the world. 8 million people are expected to visit Expo 2016 Antalya over a period of 6 months.

Railway Projects

The Kayseri-Konya-Antalya railway is another project that is planned for the 100th anniversary of the Republic of Turkey in 2023. This project will offer easy transportation to the inner regions of Turkey from the Mediterranean coast line which is valued at approximately TL 5 million. The distance between Kayseri and Antalya is about 500 km.

The Istanbul-Eskişehir-Afyon railway project is a high speed train track and it will connect a distance of more than 500 km. When this line is finished, transportation between cities such as Antalya, Izmir and Sivas by railway will be established.

Highway Projects

Major infrastructure investments in terms of motorway transportation will be seen in three main projects that will surround Antalya with highways from the east, west and north. The western highway will be 13.5 km long and cost TL 84 million, the northern will be 37 km long and the eastern highway will be 20 km long and cost TL 90 million.



Source: BAKA

Bursa: A highly industrialized city

- Bursa is located in Turkey's Marmara region and it is the fourth most populous city in Turkey. It is a highly industrialized metropolitan city.
- Bursa has a developed network of roads and highways. Within its region, Bursa is the only city that has highways.
- Bursa's air transport infrastructure is also modern and developed. Bursa Yenişehir Airport has an operating area of 5,600 m² with a capacity of 1.5 million people per year.
- Maritime transport is between Istanbul and Bursa, connecting Bursa to the largest city of Turkey.
- Bursa has seven ports. These seven ports are mostly used for freight transport. The freight volume of the ports in Bursa generate 8% to 10% of total freight volume in the Marmara region.

Bursa-Osmaneli High Speed Railway

This high speed railway project will connect Bursa to other cities like Istanbul, Ankara and Izmir in a faster and more comfortable manner. The total length of the railway will be 106 kilometers.

Bandırma Port will also connect to these cities through this railway.

Another benefit of the railway will be the increased capacity of the airport in the city.

The estimated completion of the project will be 2015.

Bursa Logistics Center Project

In accordance with national logistics goals, the Bursa Logistics Center pre-feasibility report has been completed and analyses in the report show that Bursa has great potential for logistics within the Marmara region.

A logistics center in Bursa is being considered in the light of this report. The center will have railway connections with other cities within the region.

Energy Center

In February 2013, an agreement to build the biggest center for energy efficiency was signed.

The project will be financed by the Bursa Chamber of Commerce and Industry and the Ministry of Energy and Natural Resources will also provide support for the project.

The center will be the hub of Turkish education, research and project development in energy efficiency.

The total cost of the project is TL 2 million.



Source: BEBKA

Erzurum: The largest and most populous city in Eastern Anatolia

- Erzurum is located in eastern Turkey and it is the largest and the most populous city in the province of East Anatolia with a population of 784,000.
- Being the largest city of its province, Erzurum has a lot of advantages and has had bigger investments in terms of infrastructure compared to the other cities in its region.
- Any international transportation route, whether it is a highway or a railway, passes through Erzurum.

Health Infrastructure

Erzurum has 1 regional research and education hospital, 17 state hospitals, 1 university hospital and 1 privately owned hospital with a total bed capacity of 3,109.

More than 1,000 persons in the health industry are employed in the city.

Transportation

Erzurum is located on the international highway, airway and railway network. The city has 8,813 kilometers of roads and highways which connect it to every region in Turkey.

Erzurum International Airport has an annual capacity of 2 million.

Other Infrastructure Investments

Starting from 2009, Erzurum has hosted seven international tournaments and events. The University 2011 tournament was one of the largest and most costly events ever organized.

Even though most of the investments have been made for sports and for the Olympics, some of the investments such as hotels, shopping malls and business centers create enough infrastructure for other businesses related to tourism and sports tourism to operate.



Source: KUDAKA

Gaziantep: Rising in the Southeast

- With its 1,700,000 population, Gaziantep is the largest city in the Southeastern Anatolia.
- It places 30th largest city among 81 cities in Turkey in terms of development.
- Gaziantep also contains one of the largest industrial estates in Turkey.
- Since 2009, 254 km railroad has been constructed which forms connections to foreign railroads like those of Iran and Syria.

Transportation

The Ministry of Transport, Maritime Affairs and Communications has planned a tunnel project that is 31 km in length and will connect Dörtöyl to Hassa in order to quickly reach İskenderun port. It will also enhance exportation capacity. The tender process for the project has not been completed.

The Ministry of Transport has planned a large railway project 22 km long, with 15 stations and 4 lines running from Gaziantep to Konya. It will transport 100,000 passengers daily.

Waste Treatment & Storage

GASKI Waste Water Treatment Facility

GASKI has invested TL 9 million for the construction of a plant that produces electric power from waste. The plant should produce 2-2.5 megawatt of electric power.

Solid Waste Storage Facility

Along with South Korean Company CEV corporation, a biogas power plant was constructed at the cost of TL 10 million. Total conversion efficiency of the plant is 41.6%. Whereas its electricity generation corresponds to 1,113 kWh.

IT Infrastructure

Turkcell Superonline continues its fiber-optic infrastructure investments in Gaziantep.

875 km of fiber-optic line was constructed by Turkcell Superonline in Gaziantep with an investment of more than TL 100 million.

Source: Gaziantep Proconsulate, Limak Holding



Izmir: A vital trade center

- Izmir is Turkey's 3rd largest city and 2nd largest port town. The city is located at the far west end of the country, having almost 4 million habitants in an area of 12,000 km². With a USD 8.6 billion export and USD 10.5 import volume in 2012, Izmir is also a vital trade center.

Urban Transformation

Izmir is also included in the urban transformation project that was launched in Turkey. The scope of this project is to renovate buildings and construct better ones, do necessary environmental plans and create better urban life within Izmir. The total spending foreseen for this project is more than TL 10 billion.

Airport Projects

Figures for domestic passengers in Izmir has been increasing with a rate of 20% and it is predicted that it will reach to 8 million by 2015. Government aims to increase this number to 40 million by 2023. In addition to renewal of Adnan Menderes Airport, 2 new airports (BOT) will be built to North of Izmir. Total cost will be app. TL 400 billion.

Izmir Highways

Three intra-city BOT highways will be built in 5.5 years. The Izmir-Istanbul highway will be 421 km, the Izmir-Ankara highway will be 535 km and Izmir-Antalya highway will be 480 km long. The total cost of these projects are projected to be TL 21.5 billion. 80 km of intra-city highway construction is also planned.

Railway Projects

Egeray is a project that will connect Selçuk and Bergama to Izmir's city center. The project costs TL 1.5 billion and will be completed in 4 years. High speed railways will be built from Izmir to Ankara and Istanbul and will cost TL 7 billion. Izmir Metro lines will be expanded to 70.8 km from 11.6 in 10 years.

Medical Infrastructure

Tipkent is a project that will improve Izmir's medical infrastructure by building 2 large hospitals with a 3,000 bed capacity. This project is projected to finish in 3 years and it will cost TL 950 million. The project is planned to offer employment to 4,000 people.

Ports

17 marinas will be built in 8 years that will increase yacht capacity to 7,765 from 1,965. The total cost is around TL 250 million. The North Aegean Port, a BOT project will be built in 4.5 years. This port will be among the top 10 ports in the world. The yearly handling capacity of the port will be 12 million TEU.



Konya: The seventh most populous city in Turkey

- The annual population growth rate in Konya has been recorded at 6.71% and the urbanization rate is 76.20%. As of 2012, 2 million people live in Konya.
- Currently, there are two high speed railway networks in Konya connecting to Eskişehir and to Ankara.

Karapınar Special Energy Investment Region

Konya-Karapınar region is selected as a specialized region for energy investments, especially solar and lignite fired power plants. The region offers several advantages and ease of doing business for energy investments.

Konya is expected to be one of the largest solar power bases in Turkey and offers an investment friendly environment for solar energy projects due to its high level of irradiance.

Konya Plains Project (KOP)

The main scope of this project is the irrigation of the Konya and Karaman plains. The project consists of 14 irrigation projects including 4 dam projects, 1 water carrier, 1 water tunnel and 1 water storage construction. At the completion of this project, 414 million m³ of water will be transported to Konya for daily agricultural and industrial usage. KOP is the second largest irrigation project after GAP and will irrigate approximately 62,000 km² of land.

The Mavi Water Tunnel and Bağbaşı Dam

The Mavi Water Tunnel and Bağbaşı Dam are the biggest projects within KOP, which will annually convert 180 million m³ of water into electric power.

Total Mavi Tunnel length: 17,055 m
Bağbaşı Dam height: 115.50 m

Sources: T.C Konya Proconsulate, Energy Institute, TMMOB Chamber of Maps and Cadastral Survey, UTİKAD, Konya Chamber of Trade



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