

トルコ調査報告
(February 10-19, 2014)
2014年4月23日

上智大学
経済学科
浜田寿一

Turkey and its Vicinity

外務省



トルコ県地図











トルコの歴史

- 現在のトルコ共和国はイスラム圏に属するが、その領土となっている地域の悠久の歴史を見ると、古代オリエント文明、古代ギリシアローマ文明、ビザンティン文化、イスラム文化などが栄え、多様である。また、同国最大の都市イスタンブルはローマ帝国、東ローマ帝国、オスマン帝国と3つの世界帝国の首都となった稀有の都市である。さらに近代においてはイスラム圏では世俗主義の近代国家の建設をいち早く行ったことが注目される。

トルコの特色

- 1. 親日国家(1890年のエルトゥールル号事件)
- 2. 人口増加と平均29歳の若い人口
- 3. アフリカ・欧州・アジアの地理的中心地
- 4. カスピ海から欧州へエネルギーを送るパイプラインの要衝
- 5. アラブとユダヤの宗教的緩衝
- 6. EU加盟の可能性
- 7. NATO軍としての軍事的役割

* 日・トルコ友好物語2014-平成26年1月17日 YouTube

資料: 国際投資顧問2012年10月5日号 特別レポート

イスタンブール歴史と人口

Handout 資料

在イスタンブール日本国総領事館2012

- 塩野七生 『海の都の物語 5』
- 塩野七生 『コンスタンティノープルの陥落』
- 村上春樹 『雨天炎天ーギリシャ・トルコ辺境紀行』
- 新井政美 『イスラムと近代化：共和国トルコの苦悩』
- 澁澤幸子・池澤夏樹 『イスタンブール歴史散歩』

トルコを理解する

- 急速な経済成長（特にAKP[Justice and Development Party]のエルドアン首相の治世下で, 2002～）
- 経済インフラの整備（地下鉄、道路、橋、空港）
- 固形廃棄物、大気汚染などの管理強化要
- 高い一人当たり所得（急速な経済成長）
- 人口の増加と若年層の就業機会の創出
- 東部地域からの西部地域への人口移動（イスタンブールの膨張: 1970年代からの輸出志向工業化の進展）
- 急速な都市化の進展: 脆弱な都市構造および住宅（地震）
- 日本の原発輸出（「トルコへ原発輸出、影落とす巨額賠償問題: 日経新聞電子版2013/11/11他参照」）

2023年ビジョン

三菱商事イスタンブール支店

- 政府は、トルコ共和国100周年を迎える2023年の目標として以下を挙げている。
- GDP総額2兆ドル
- 一人当たりGDP:2.5万ドル
- 経済大国トップ10入り
- 輸出額:5,000億ドル
- インフラ整備
- -電力分野(1,300億ドルの投資)
- -公共交通(1,100億ドルの投資)
- 主要大型案件:原発、ボスフォラス第三大橋、イスタンブール第三空港、高速鉄道網1万km、大運河計画
- 農業大国トップ5入り
- 外国人観光客数:5,000万人

イスタンブール Blue Mosque



第一ボスフォラス橋

wiki



第二ボスフォラス橋



Marmaray Project

イスタンブルは人口1300万人を有し一大経済圏を形成し、またアジアとヨーロッパ結ぶという地理的な要因によって交通の要所として栄える、イスラム圏最大級の世界都市である。そのイスタンブルにおいて都市形成に大きなインパクトを与えているのが、ヨーロッパとのアジアとを分断する全長約30kmのボスポラス海峡であった。

この海峡には第一ボスポラス大橋、ファティフ・スルタン・メフメト橋という2本の道路橋やフェリーなどの船舶があるものの、人口増加や経済発展に伴い深刻化するイスタンブルの交通事情のボトルネックとなっていた。そのため地下トンネルによって両岸を鉄道で結ぶ事で街の混雑緩和を図り、海峡で二分された街の一体化によって名実ともに“アジアとヨーロッパの結合点”として成長させる、トルコ国家を挙げての大事業がマルマライ計画であった。

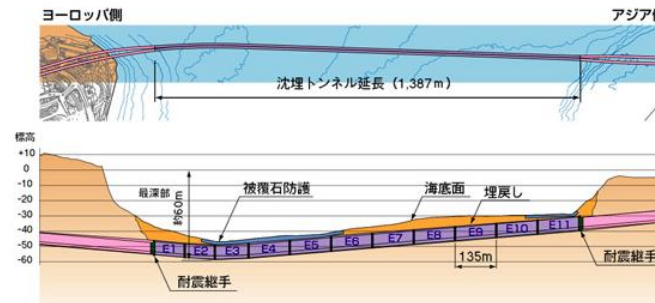
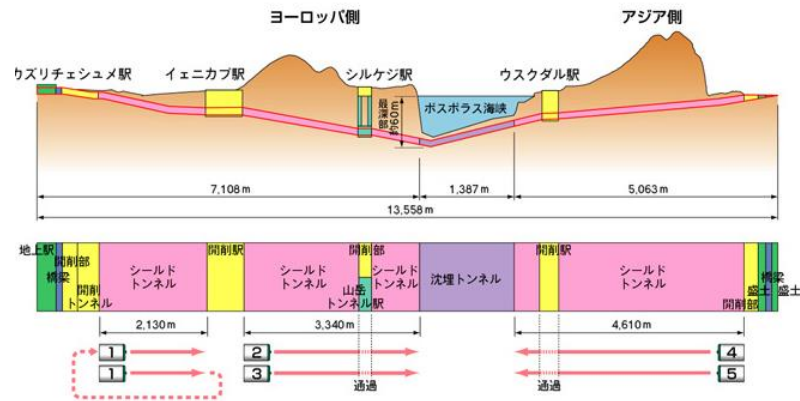
計画自体は、

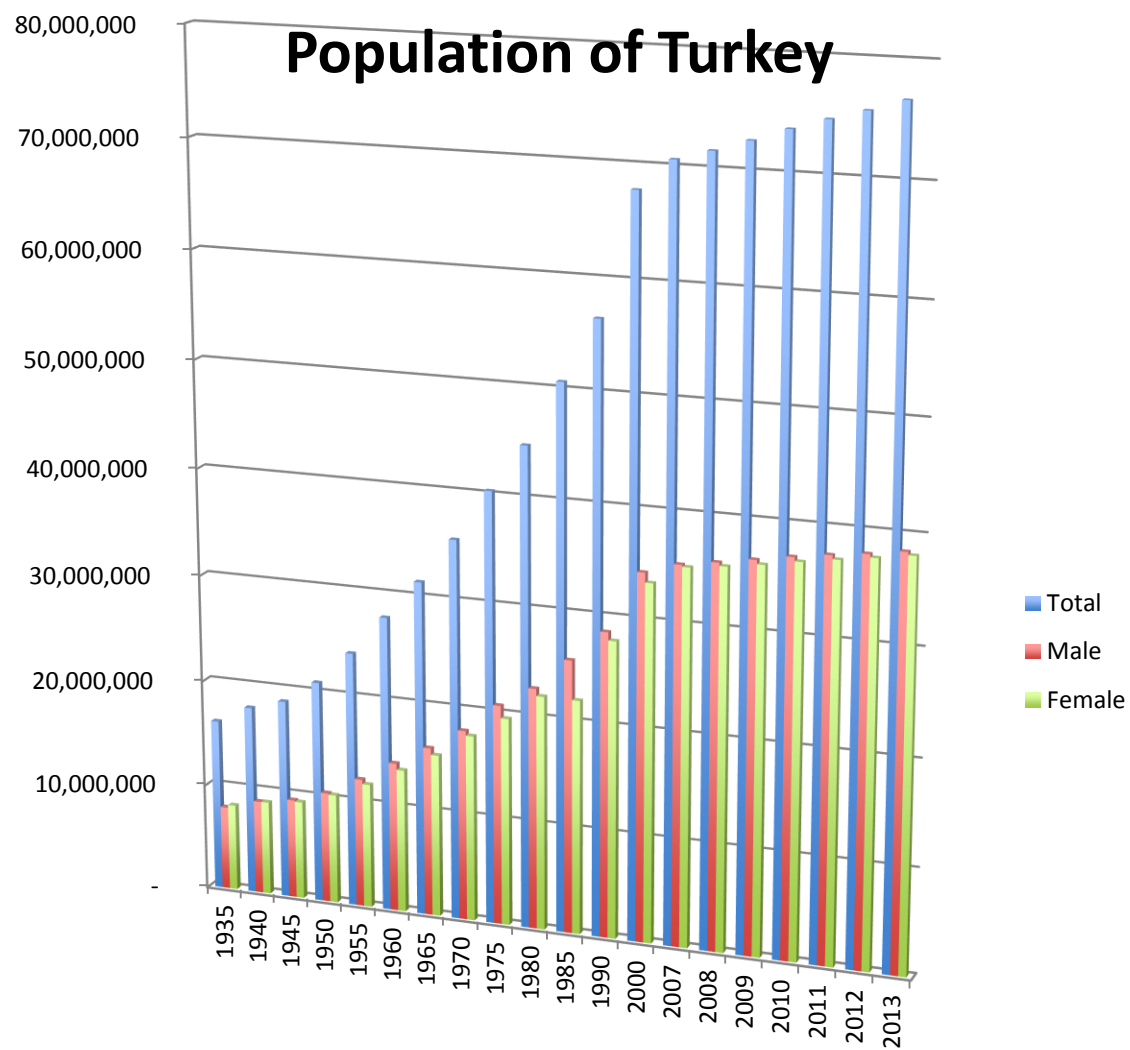
オスマン帝国時代の1860年に設計図が描かれて以降、何度も計画が立ち上がったものの、政治的あるいは技術的理由により頓挫した経緯を持ち、トルコ国内では“トルコ150年の夢”として国民の関心も高い[1]。

事業区間はボスポラス海峡下を沈埋トンネル(ボスポラス海峡横断トンネル)によって横断する13.6 kmの区間と、既存設備を改良する63 kmの郊外区間に分けられ、ゲブゼ-ハルカル間、計76.3 kmは高頻度運転路線となる予定である。日本の大成建設と現地トルコのガマ重工業、ヌロール社の3社によるJVで[1]、高度な技術を必要とする沈埋トンネル部分を主に大成建設が、近隣対策が必要な郊外部分を主にガマ重工業およびヌロール社が施工している。

- **トンネル計画[編集]**
- 海峡区間は、11個の函を組み立てた全長1,387mの沈埋トンネルにより横断する[2]。これらの函はもっとも深いところで海面下約60mの場所に置かれる。海水部分が55m、海底部分が4.6mである[3]。世界有数といわれる海流速(約2.5m/秒)という厳しい条件下での施工であったが、2004年5月に着工し、2008年8月には海中60mでの沈埋函接続を、2010年2月には海底トンネル(沈埋工法)とアジア側のアイルルクチェシュメから掘られた陸地トンネル(シールド工法・NATM工法)との接続をそれぞれ成功させた。2011年2月にはヨーロッパ側のカズルチェシュメから掘られたトンネルとも接合され、トンネル全体が貫通した。 Wiki

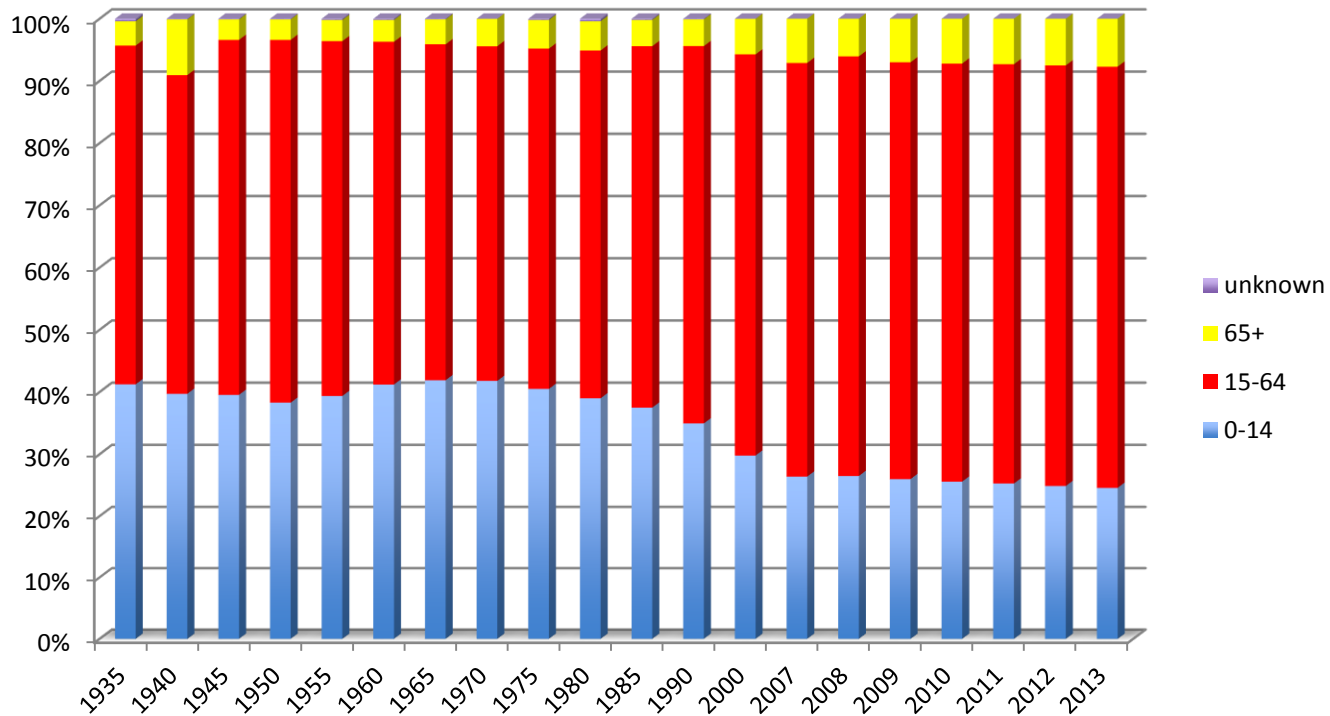
ボスポラス海峡横断鉄道トンネル貫通 大成建設プレスリリース2011/02/28





Population by Age Group

Statistical Institute of Turkey



トルコの年齢層ピラミッド

トルコ統計機構

年齢層

トルコ (2012)

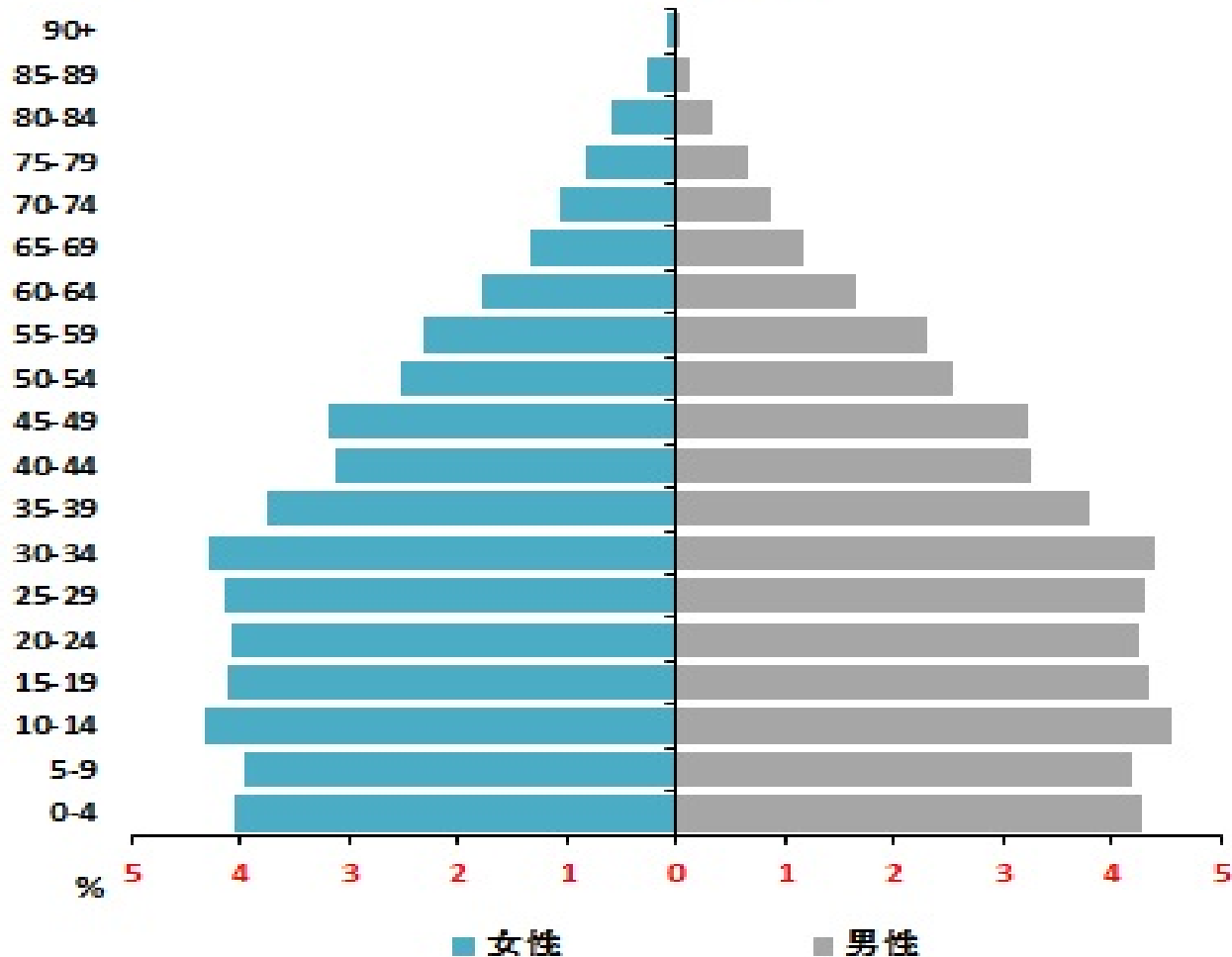
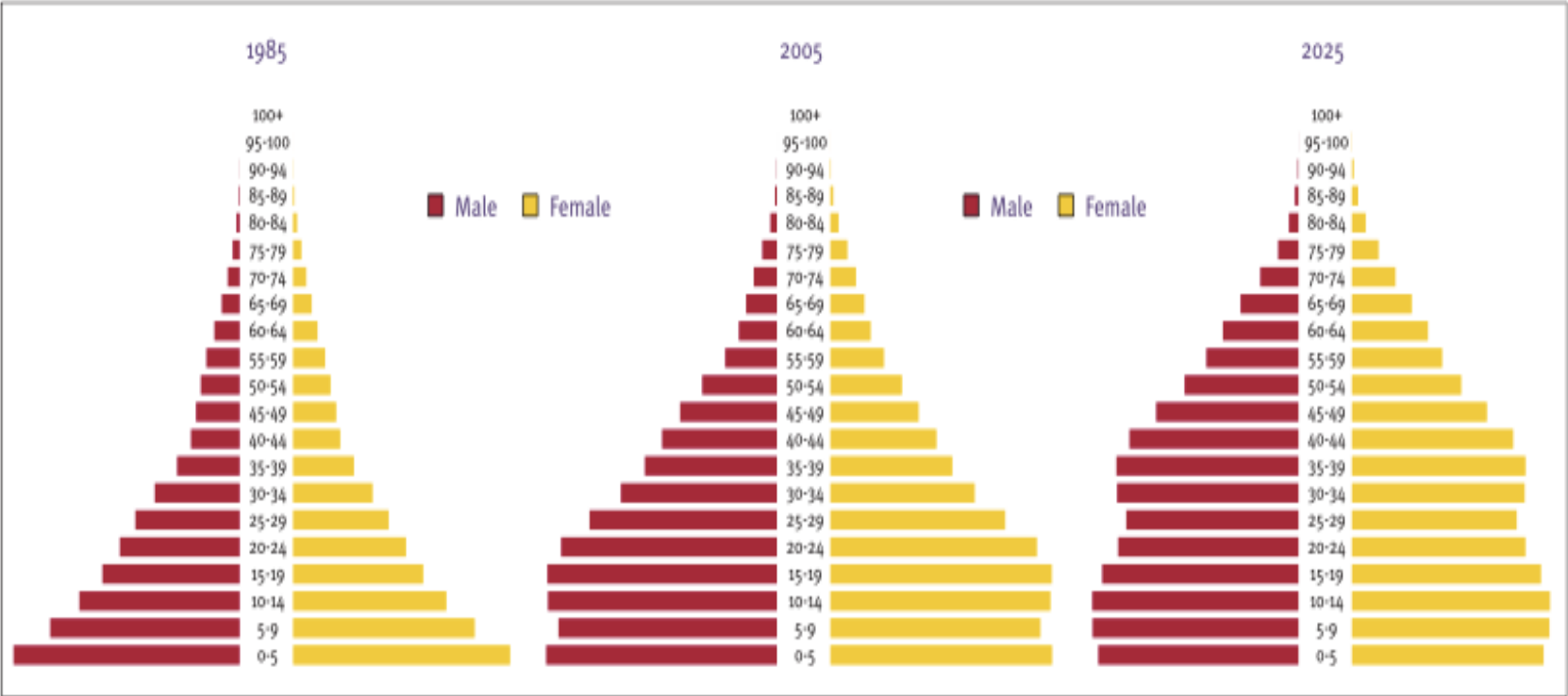
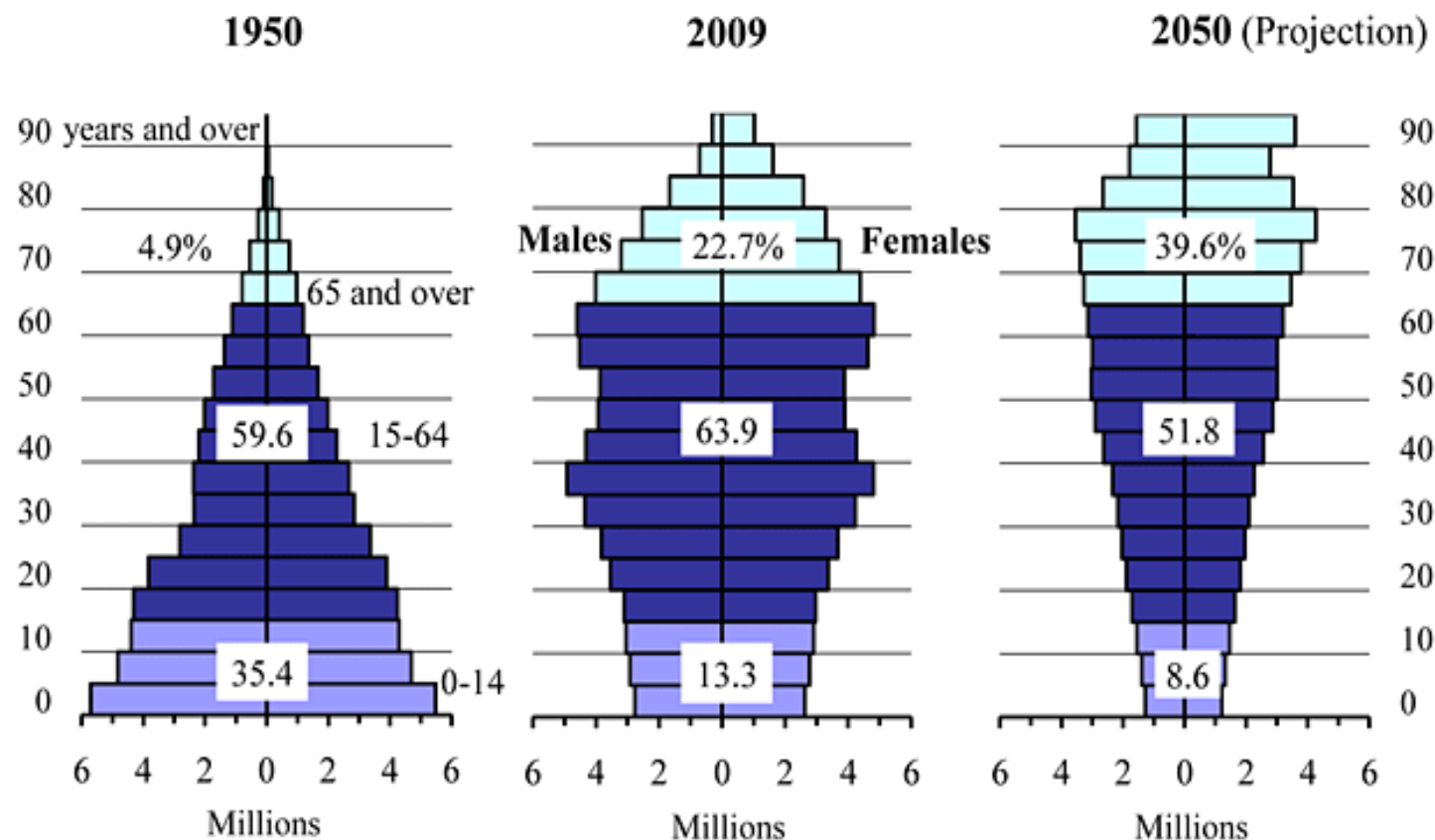


FIGURE 1: MIDDLE EAST POPULATION PYRAMIDS – 1985, 2005, 2025



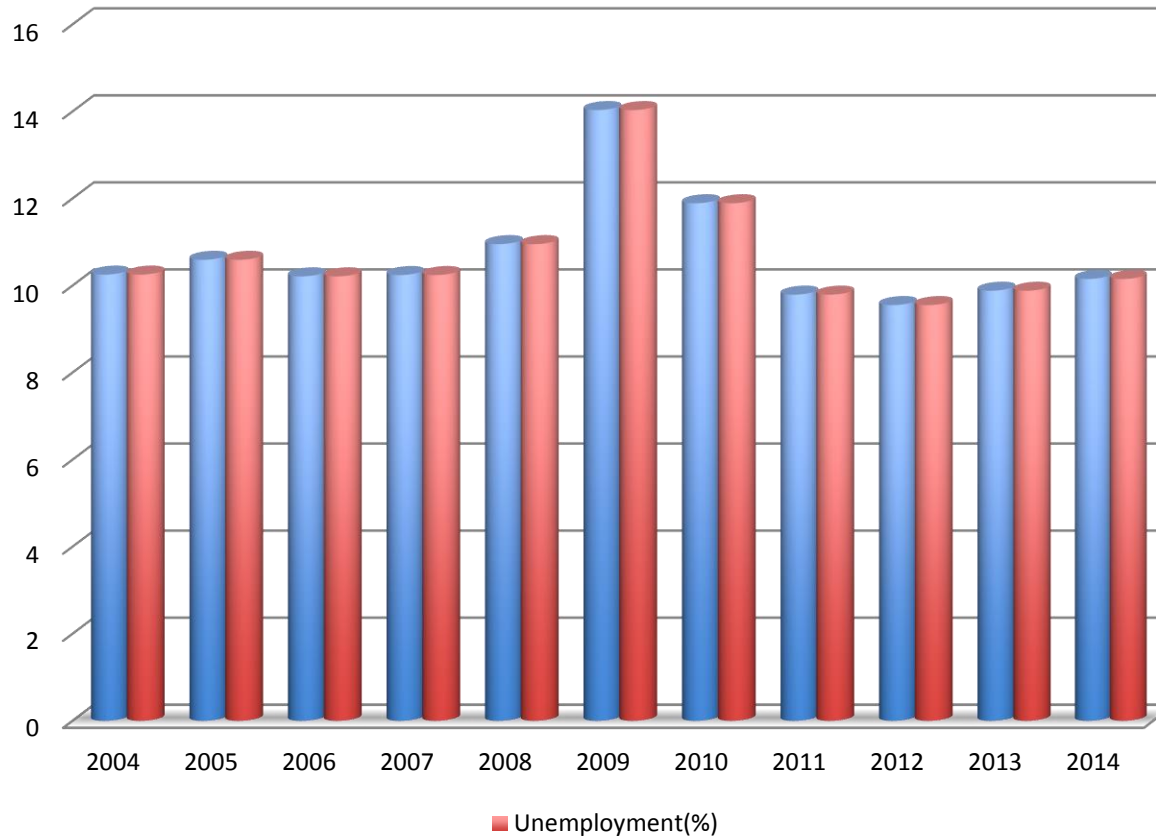
Source: UN Population Prospects, 2006 revision, medium variant.

Figure 2.3
Changes in the Population Pyramid



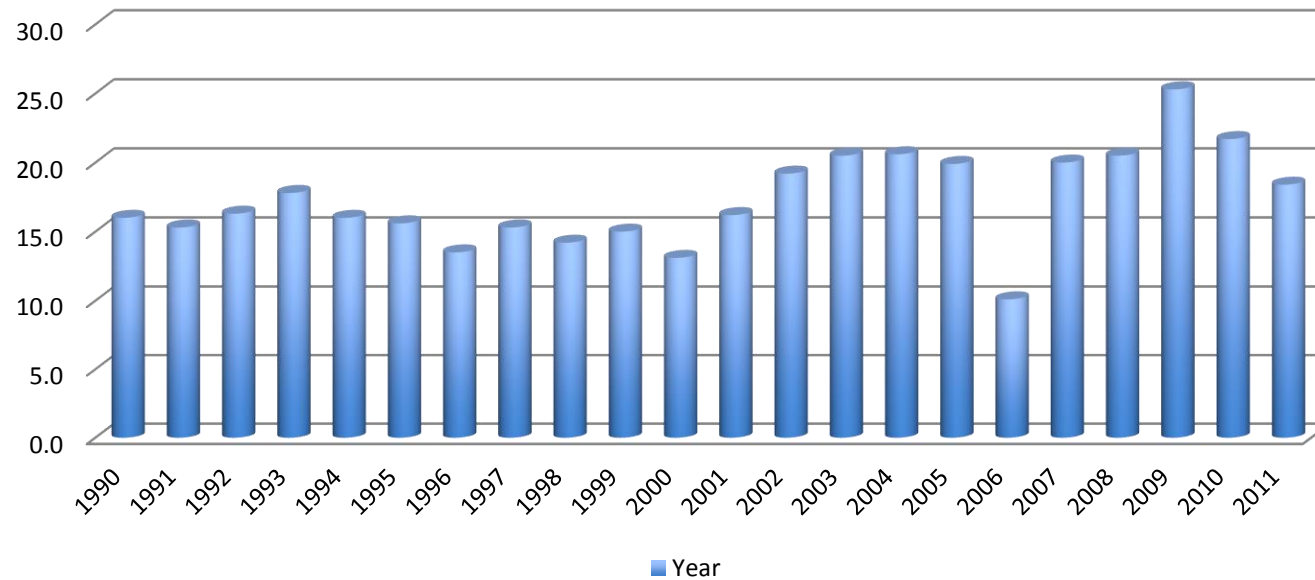
Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.

Turkey: Unemployment rate from 2004 to 2014



Youth Unemployment in Turkey

(Age of 15 to 24) World Bank



Historical Population of Istanbul

Historical Population of Istanbul

Pre-Republic		Post-Republic		
Year	Population	Year	Population	± %
100	36,000	1924	500,000	—
361	300,000	1927	680,000	+36.0%
500	400,000	1935	741,000	+9.0%
7th c.	150–350,000	1940	793,000	7.0%
8th c.	125–500,000	1945	860,000	+8.4%
9th c.	50–250,000	1950	983,000	+14.3%
1000	150–300,000	1955	1,258,000	+28.0%
1100	200,000	1960	1,466,000	+16.5%
1200	150,000	1965	1,742,000	+18.8%
1261	100,000	1970	2,132,000	+22.4%
1350	80,000	1975	2,547,000	+19.5%
1453	45,000	1980	2,772,000	+8.8%
1500	200,000	1985	5,475,000	+97.5%
1550	660,000	1990	7,620,000	+39.2%
1700	700,000	1995	9,260,000	+21.5%
1800	570,000	2000	10,923,000	+18.0%
1850	785,000	2005	12,061,000	+10.4%
1914	1,125,000	2010	13,256,000	+9.9%

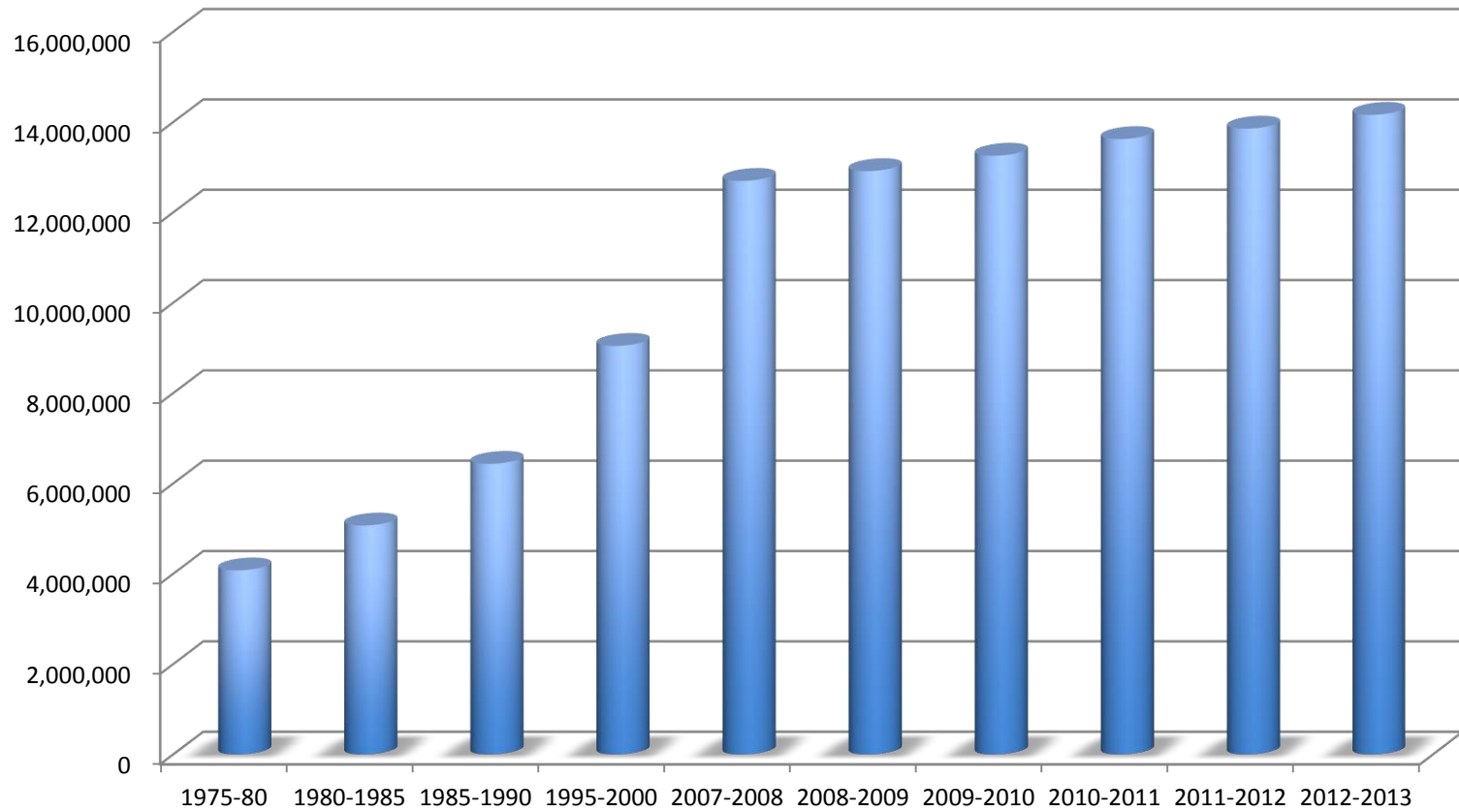
Sources: Chandler 1987, Morris 2010, and Turan 2010
Pre-Republic figures estimated Wiki

Turkey Provincial In-Migration, Out-Migration, 1980-2013

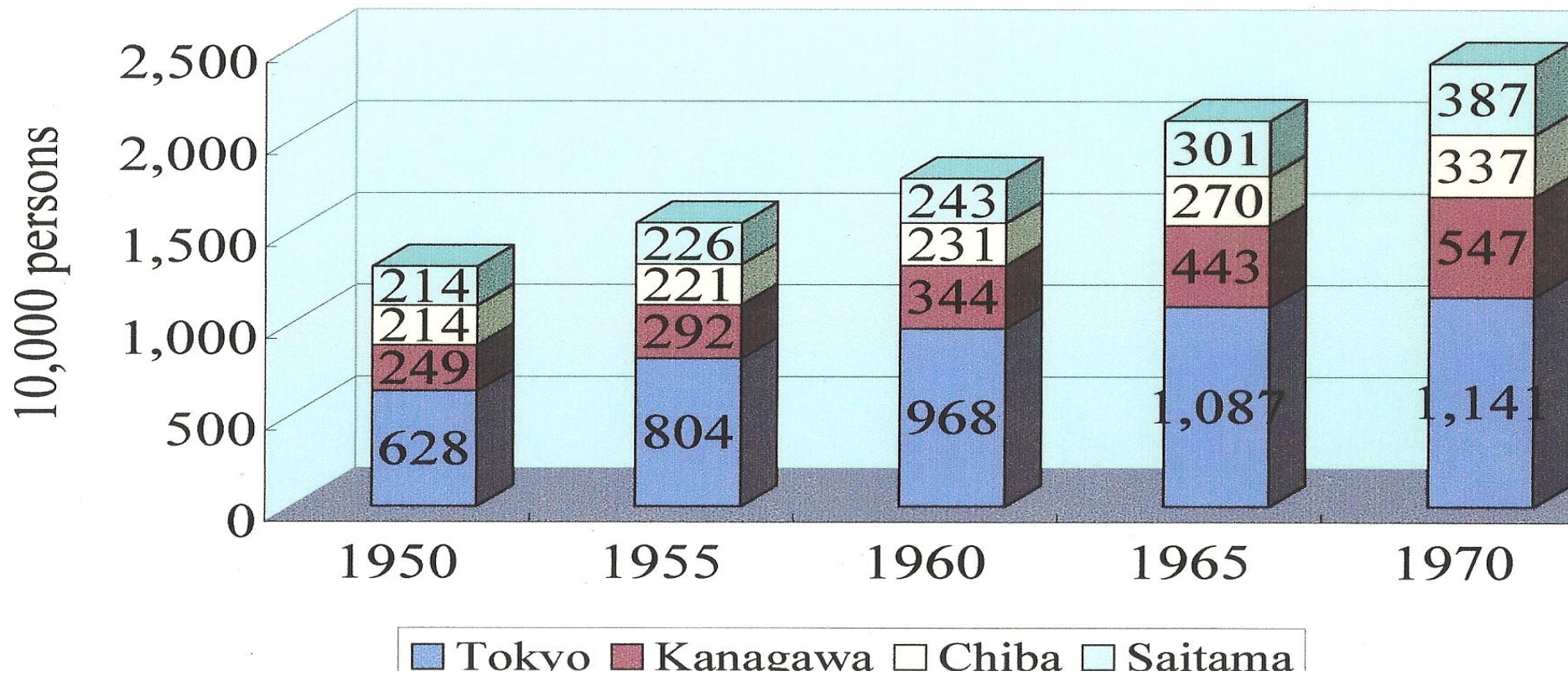
資料 トムコ統計局

Period	Province	Total Population	In-Migration	Out-Migration	Net Migration	イスタンブールの人口比率
1975-80	Total	28,306,720	2,700,977	2,700,977	0	10.0%
	Ankara	2,423,789	252,407	203,908	48,499	
	Istanbul	4,074,808	557,082	268,429	288,653	
	Isirir	1,685,725	202,777	62,681	140,096	
	Konya	1,344,001	52,450	62,602	-10,152	
1980-1985	Total	44,078,033	2,880,872	2,880,872	0	11.0%
	Ankara	2,843,732	257,516	220,889	36,627	
	Istanbul	5,068,512	576,783	279,184	297,599	
	Isirir	2,000,733	194,245	112,072	82,173	
	Konya	1,555,448	61,478	72,101	-10,623	
1985-1990	Total	49,986,117	4,005,172	4,005,172	0	12.0%
	Ankara	2,825,967	326,301	255,790	88,511	
	Istanbul	6,432,568	995,717	338,040	656,677	
	Isirir	2,386,242	276,278	120,170	146,208	
	Konya	1,589,840	71,113	88,287	-17,174	
1995-2000	Total	60,732,995	4,786,193	4,786,193	0	14.0%
	Ankara	3,587,882	377,108	288,224	90,884	
	Istanbul	9,044,829	920,950	513,507	407,443	
	Isirir	2,078,981	305,287	186,012	120,275	
	Konya	1,958,840	107,218	104,529	2,787	
2007-2008	Total	71,517,100	2,273,492	0	0	17.0%
	Ankara	4,548,939	156,760	126,198	30,562	
	Istanbul	12,697,154	374,888	348,193	26,675	
	Isirir	2,785,976	117,087	89,818	27,268	
	Konya	1,969,868	45,502	56,760	-11,258	
2008-2009	Total	72,561,212	2,228,981	2,228,981	0	17.0%
	Ankara	4,650,802	168,193	131,114	37,079	
	Istanbul	12,915,158	388,487	348,988	39,499	
	Isirir	2,884,208	116,290	89,517	26,773	
	Konya	1,992,875	48,042	51,006	-2,964	
2009-2010	Total	73,722,988	2,360,079	2,360,079	0	18.0%
	Ankara	4,771,716	182,845	133,440	49,505	
	Istanbul	13,220,885	426,515	328,932	97,583	
	Isirir	2,944,948	111,252	86,775	24,477	
	Konya	2,013,845	47,301	56,729	-9,428	
2010-2011	Total	74,724,288	2,450,181	2,450,181	0	18.2%
	Ankara	4,890,893	191,864	137,385	54,479	
	Istanbul	13,624,240	450,445	328,853	121,592	
	Isirir	2,985,232	110,364	101,432	8,932	
	Konya	2,035,055	52,134	54,533	-2,399	
2011-2012	Total	75,627,384	2,517,814	2,517,814	0	18.2%
	Ankara	4,985,542	160,225	127,824	32,401	
	Istanbul	14,160,497	384,332	354,974	29,361	
	Isirir	3,025,458	105,864	95,984	9,880	
	Konya	2,052,281	51,981	48,313	3,668	
2012-2013	Total	76,667,864	2,534,279	2,534,279	0	18.0%
	Ankara	5,045,083	188,642	153,791	34,851	
	Istanbul	14,160,497	427,322	371,051	56,271	
	Isirir	3,061,074	113,673	99,681	13,992	
	Konya	2,078,225	51,080	55,006	-3,926	

Population of Istanbul



Population in Greater Tokyo as of October 1



Air pollution ‘gravest environmental issue’

ISTANBUL - Hürriyet Daily News

The most critical environmental problem in Turkey is air pollution, according to a study recently aired by the Environment and Urban Planning Ministry.

Air pollution, which threatens 79 of Turkey’s 81 provinces, is largely caused by fuel usage in homes, according to the Ministry’s air pollution mapping.

In 33 cities, air pollution is the biggest environmental problem, according to the study, and in Istanbul the biggest environmental problem is water pollution caused by industrial and home waste.

Alarming air pollution in Ankara

ANKARA - The large increase in natural gas prices and the distribution of free coal by municipalities prior to local elections has led to an enormous jump in pollution levels in Ankara, reaching 9,350 micrograms per cubic meter in the Sıhhiye district.

According to the World Health Organization, or WHO, the acceptable level of pollution is a maximum of 300 micrograms.

"This is one of the highest levels in the world's history. When pollution rose over 4,000 micrograms per cubic meter in London in 1952, approximately 4,000 people died," Dr. Recep Akdur, an expert in public health, said yesterday.

Hurriyet DailyNews.com

Ankara pollution at hazard level

- Ankara, the Turkish capital, is trying to keep its air pollution levels down and meet strict EU targets by 2014.
- According to the World Bank, Istanbul is the 7th most polluted city in the world, while Turkey's capitol Ankara ranks 26th out of 97, both surpassing acceptable limits set by the World Health Organization.
- *By CCTV reporter Natalie Carney, 01-20-2013*

Dangerous Levels of Air Pollution in Ankara

Traffic is a contributor to dirty air in Turkey's capital.



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Air Pollution in Istanbul

Istanbul Metropolitan Municipality, March 2009

In spite of its seriousness, not giving enough importance to the subject

- Rapid Population Growth
- Dense Migration
- Inappropriate places selection for industry
- Use of poor quality fuel
- Not giving importance enough for heat isolation
- Having non-standard burning devices
- Failing in flue gas treatment
- Insufficient efforts on reducing traffic emissions
- Lack of information on environmental issues

The Air Pollution Sources

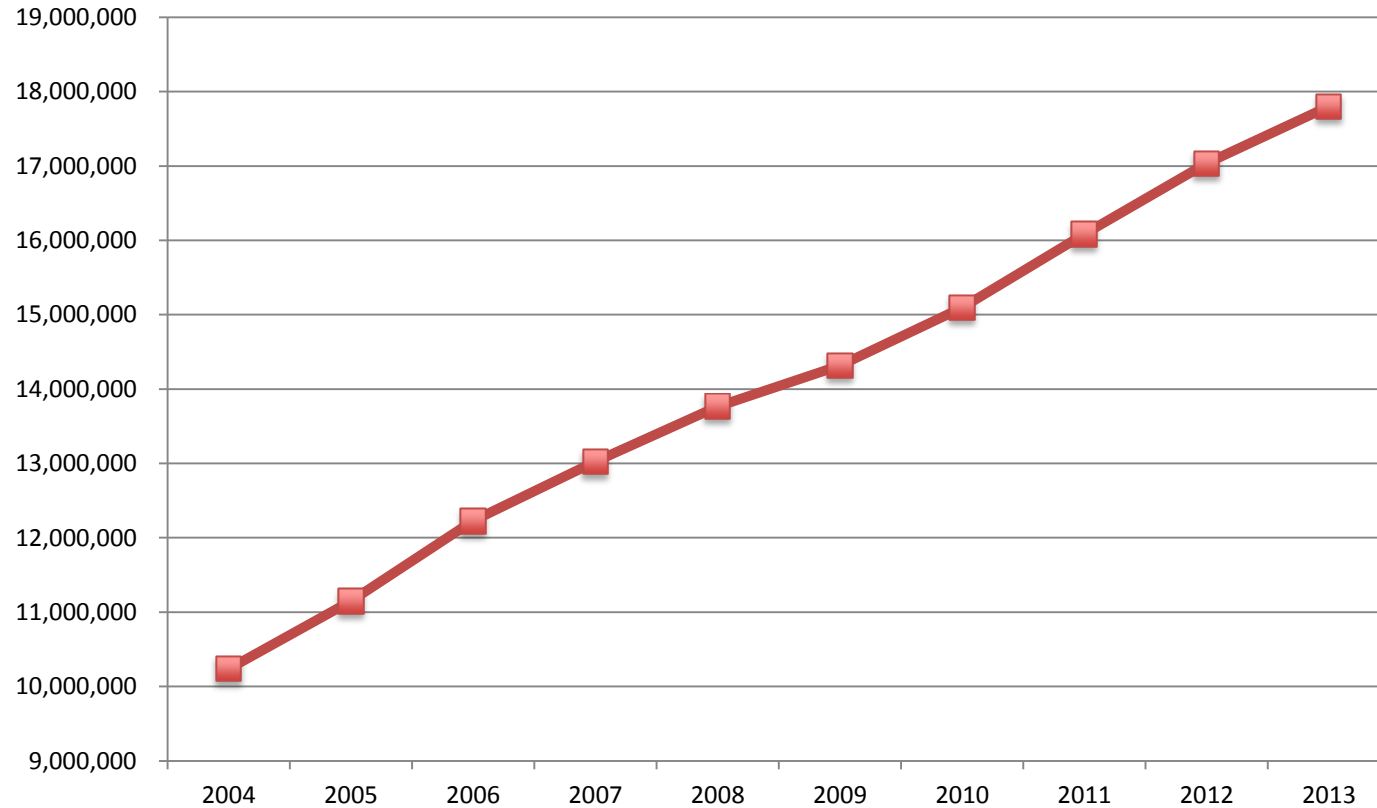
Istanbul Metropolitan Municipality, March 2009

- Residential Heating,
- Motor Vehicles,
- Industrial Plants,
- Others



Number of Road Vehicles in Turkey

Over-dependence on Cars



Seragazi emisyonları (CO₂ eşdeğeri), 1990 - 2011
Greenhouse gases emissions (CO₂ equivalent), 1990 - 2011

Yıl Year				Milyon ton - Million tonnes	
	CO ₂	CH ₄	N ₂ O	F Gazları F Gases	Toplam Total
1990	141.56	34.05	12.22	0.60	188.43
1991	148.55	38.19	13.17	0.74	200.65
1992	154.17	41.64	15.23	0.68	211.73
1993	162.76	43.90	15.74	0.69	223.08
1994	161.01	44.28	12.64	0.60	218.53
1995	174.09	47.39	16.82	0.52	238.82
1996	192.20	49.85	17.00	0.89	259.94
1997	205.37	51.14	15.54	1.13	273.17
1998	204.50	52.44	17.19	1.18	275.31
1999	203.85	53.67	17.47	1.03	276.02
2000	225.61	53.81	17.14	1.66	298.21
2001	209.15	53.20	15.19	1.70	279.25
2002	218.19	50.81	15.80	2.41	287.22
2003	232.80	52.01	16.16	2.80	303.77
2004	243.58	49.75	16.48	3.46	313.27
2005	259.77	52.82	14.67	3.73	330.98
2006	276.88	53.76	16.05	4.05	350.74
2007	308.07	55.90	12.85	4.13	380.95
2008	297.28	54.36	12.05	3.51	367.21
2009	299.27	54.11	13.00	3.64	370.01
2010	326.55	57.59	13.08	4.89	402.10
2011	344.69	58.81	12.65	6.26	422.42

TÜİK, Seragazi Emisyon Envanteri, 1990-2011

TurkStat, Greenhouse Gases Emission Inventory, 1990-2011

Arazi kullanımı, arazi kullanımı değışikligi ve ormancılıktan kaynaklanan emisyonlar ve yutaklar envantere dahil edilmemiştir.

The emissions and sinks from landuse, landuse change and forestry are not included.

Sektörlere göre toplam seragazi emisyonları (CO₂ eşdeğeri), 1990 - 2011
Greenhouse gases emissions by sectors (CO₂ equivalent), 1990 - 2011

Milyon ton - Million tonnes

Yıl Year	Enerji Energy	Endüstriyel İşlemler Industrial Processes	Tarım Faaliyetleri Agriculture	Atık Waste	Toplam Total	1990 yılına göre değişim Change compared to 1990
1990	132.88	15.44	30.39	9.72	188.43	-
1991	138.82	17.73	30.97	13.13	200.65	6.48
1992	145.12	18.93	30.94	16.74	211.73	12.36
1993	151.56	20.92	31.10	19.50	223.08	18.39
1994	149.38	19.25	29.77	20.13	218.53	15.97
1995	161.50	24.21	29.23	23.88	238.82	26.74
1996	179.68	24.32	29.65	26.29	259.94	37.95
1997	192.12	24.14	28.17	28.74	273.17	44.97
1998	191.34	24.75	28.86	30.36	275.31	46.11
1999	191.30	23.93	29.12	31.68	276.02	46.48
2000	213.20	24.37	27.85	32.79	298.21	58.26
2001	196.62	23.32	26.42	32.89	279.25	48.19
2002	204.59	25.55	24.94	32.14	287.22	52.42
2003	218.56	26.30	25.79	33.12	303.77	61.21
2004	227.98	28.52	25.44	31.33	313.27	66.25
2005	242.34	28.78	26.28	33.58	330.98	75.65
2006	259.15	30.70	26.95	33.94	350.74	86.13
2007	289.29	29.26	26.76	35.64	380.95	102.16
2008	278.33	29.83	25.47	33.57	367.21	94.87
2009	278.95	31.69	26.10	33.27	370.01	96.36
2010	285.07	53.94	27.13	35.97	402.10	113.39
2011	301.25	56.21	28.83	36.13	422.42	124.17

TÜİK, Seragazi Emisyon Envanteri, 1990-2011

TürkStat, Greenhouse Gases Emission Inventory, 1990-2011

Arazi kullanımı, arazi kullanımı değişikliği ve ormancılıktan kaynaklanan emisyonlar ve yutaklar envantere dahil edilmemiştir.

The emissions and sinks from landuse, landuse change and forestry are not included.

Sectoral Emissions in Istanbul (tons/year)

	PM ₁₀	SO ₂	NO _x	NMVOC*	CO
Industry	7,630	58,458	9,394	117	1,714
Domestic Heating	13,631	10,983	7,014	18,451	123,510
Traffic	5,200	1,016	158,000	38,500	270,000
Total	26,461	70,457	174,408	57,068	395,224

* Non-Methane Volatile Organic Compounds

Source: Air Pollution in Mega Cities: A Case Study of Istanbul,
IBB 2009

Sectoral Emissions in Istanbul (tons/year)

	PM ₁₀	%	SO ₂	%	NO _x	%	NMVOC*	%	CO	%
Industry	7,630	28.8%	58,458	83.0%	9,394	5.4%	117	0.2%	1,714	0.4%
Domestic Heating	13,631	51.5%	10,983	15.6%	7,014	4.0%	18,451	32.3%	123,510	31.3%
Traffic	5,200	19.7%	1,016	1.4%	158,000	90.6%	38,500	67.5%	270,000	68.3%
Total	26,461	100.0%	70,457	100.0%	174,408	100.0%	57,068	100.0%	395,224	100.0%

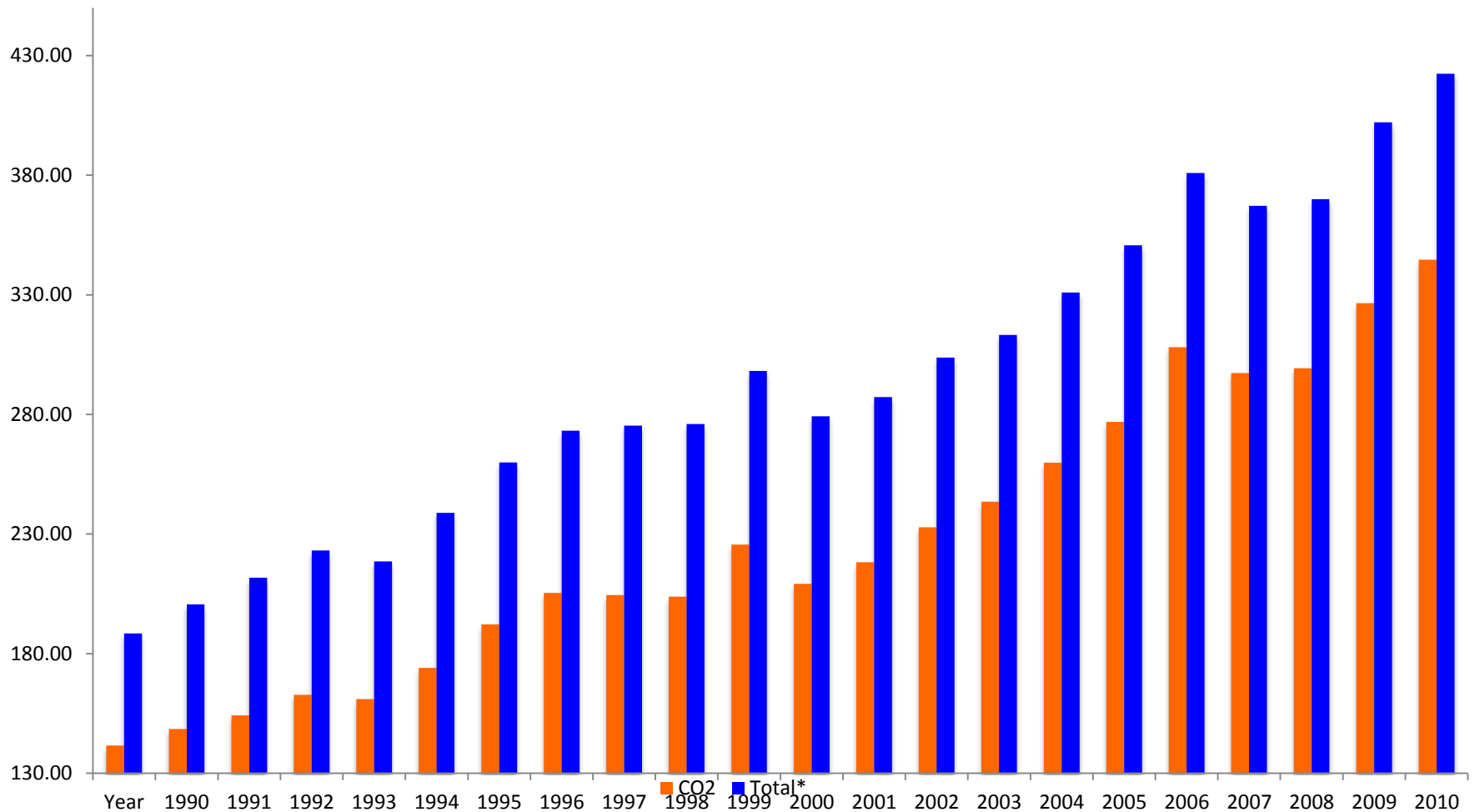
* Non-Methane Volatile Organic

Compounds

Source: Air Pollution in Mega Cities: A Case Study of Istanbul

Greenhouse Gases Emissions

Million Tons; Total: CO₂, CH₄, N₂O, F Gases



air quality of İstanbul

Air pollution in İstanbul, one of the most important problems of modern life, became a serious problem in the past, due to rapid population growth, dense immigration, inappropriate place selection for industry, use of poor quality fuel, not giving importance enough to heat isolation, having non-standard burning devices, use of inefficient burning technologies in industry, failing in flue gas treatment, insufficient efforts on reducing traffic emissions, lack of information on environmental issues, in spite of its seriousness, not giving enough importance to the subject.



The air pollution problem experienced in İstanbul has reached to a significant level since 1980's. Similarly, the pollutant concentrations have exceeded the air quality standards for several times.

The air pollution sources can be classified as:

- Residential heating,
- Motor vehicles,
- Industrial plants,
- Others.

Of these sources, the residential heating contributes to air pollution as a result of the use of poor quality fuels, the buildings without the heat insulation, and due to problems associated with urbanisation.

The great increases in the number of the vehicles has led to the increase in the air pollutants such as CO, HC, NO_x, lead, etc. as well as the traffic congestion problem.

Newspaper headlines in 1990's



- Common Death Risk in İstanbul
- Don't Let Your Kids Go Outside
- Air Pollution Level Going up Every Year.
- Living in İstanbul Decreases the Lifetime for 4 Years



From Import Substitution to Export Orientation FDI and Industrialization

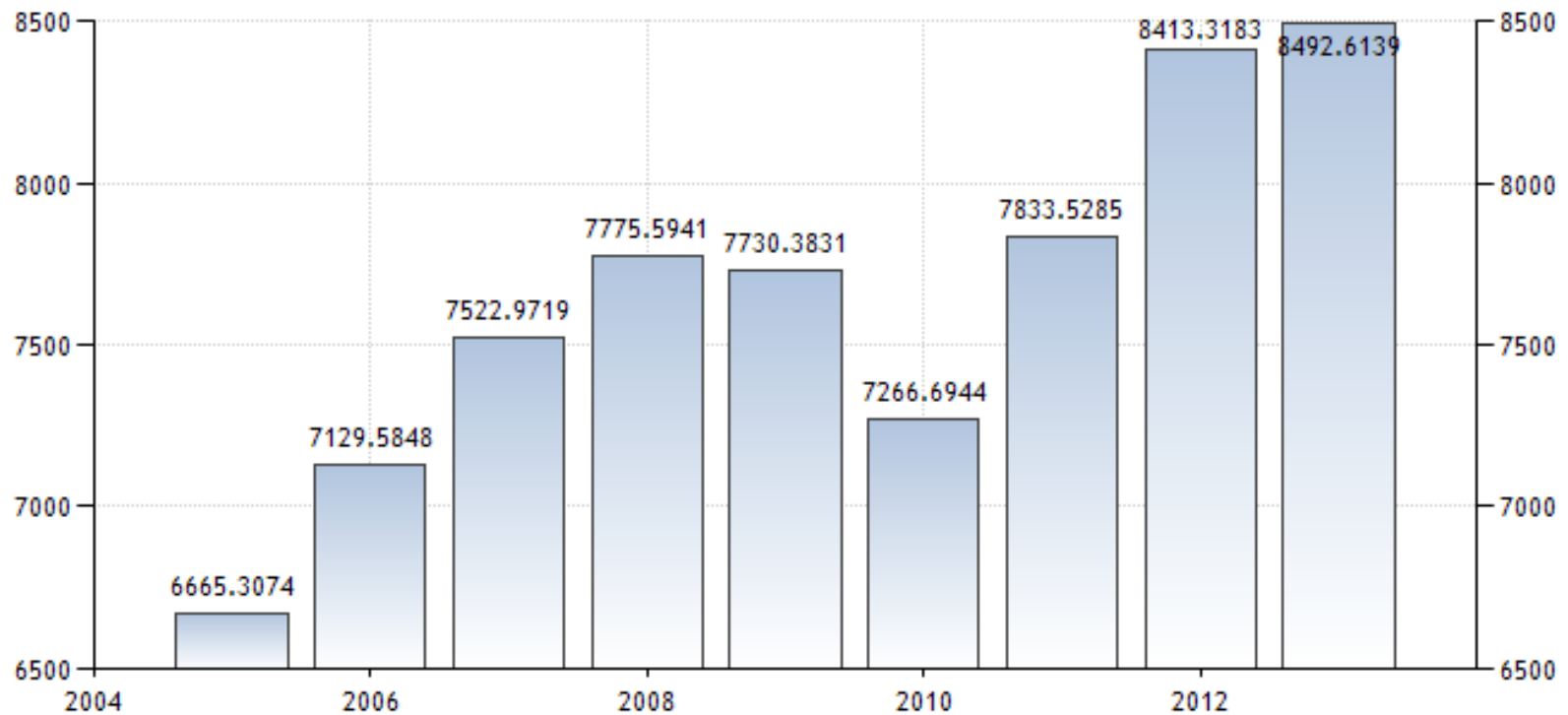
- From Import Substitution to Export Promotion around 1980s
- 1996 Customs Union Agreement with EU
- Major Investment Destination from EU
- Turkey's automotive sector began in the 1950s in a heavily protected domestic market, then start to grow: large size of domestic market and the enormous expansion of international trade, automotive sector has become the country's leading exporter

GDP of Turkey

millions of US\$

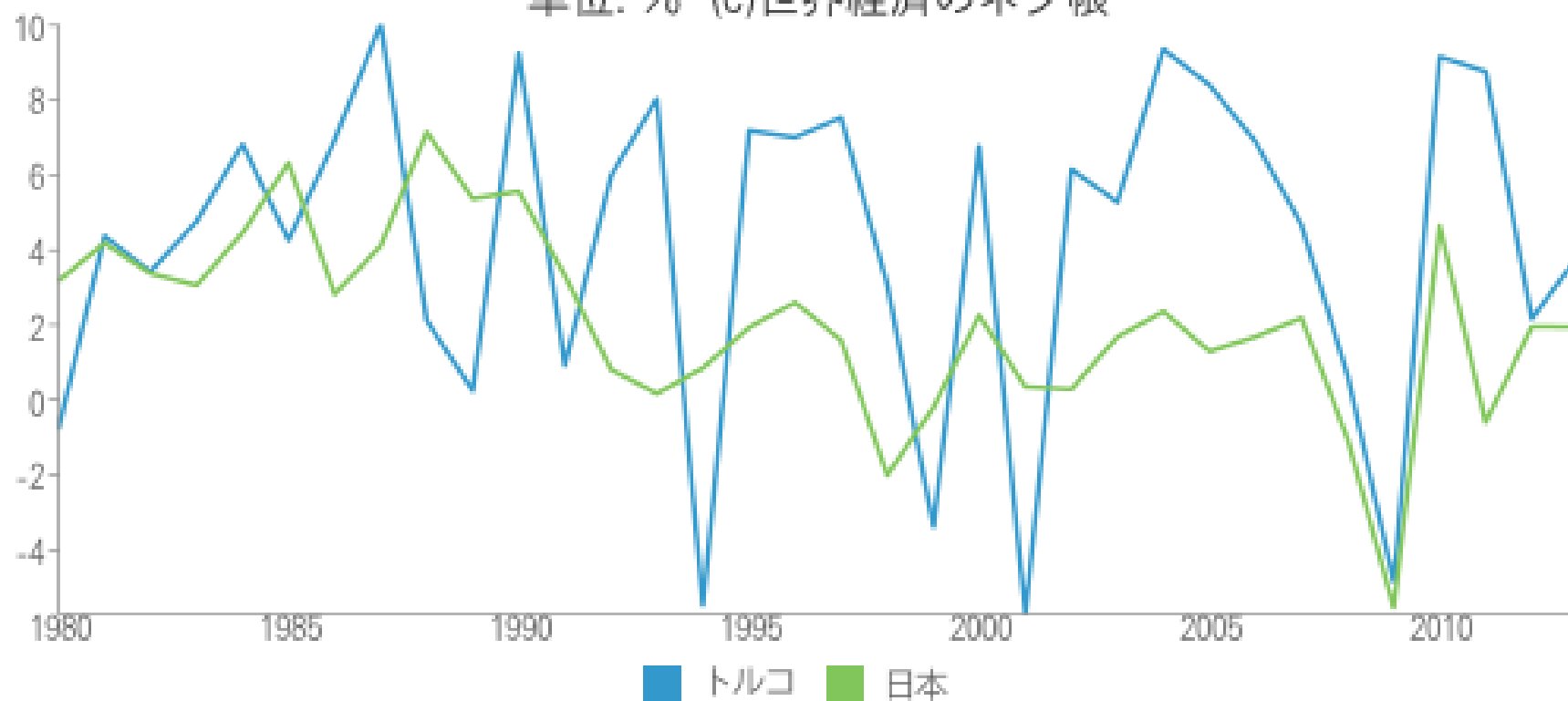


Per Capita GDP of Turkey (US\$)



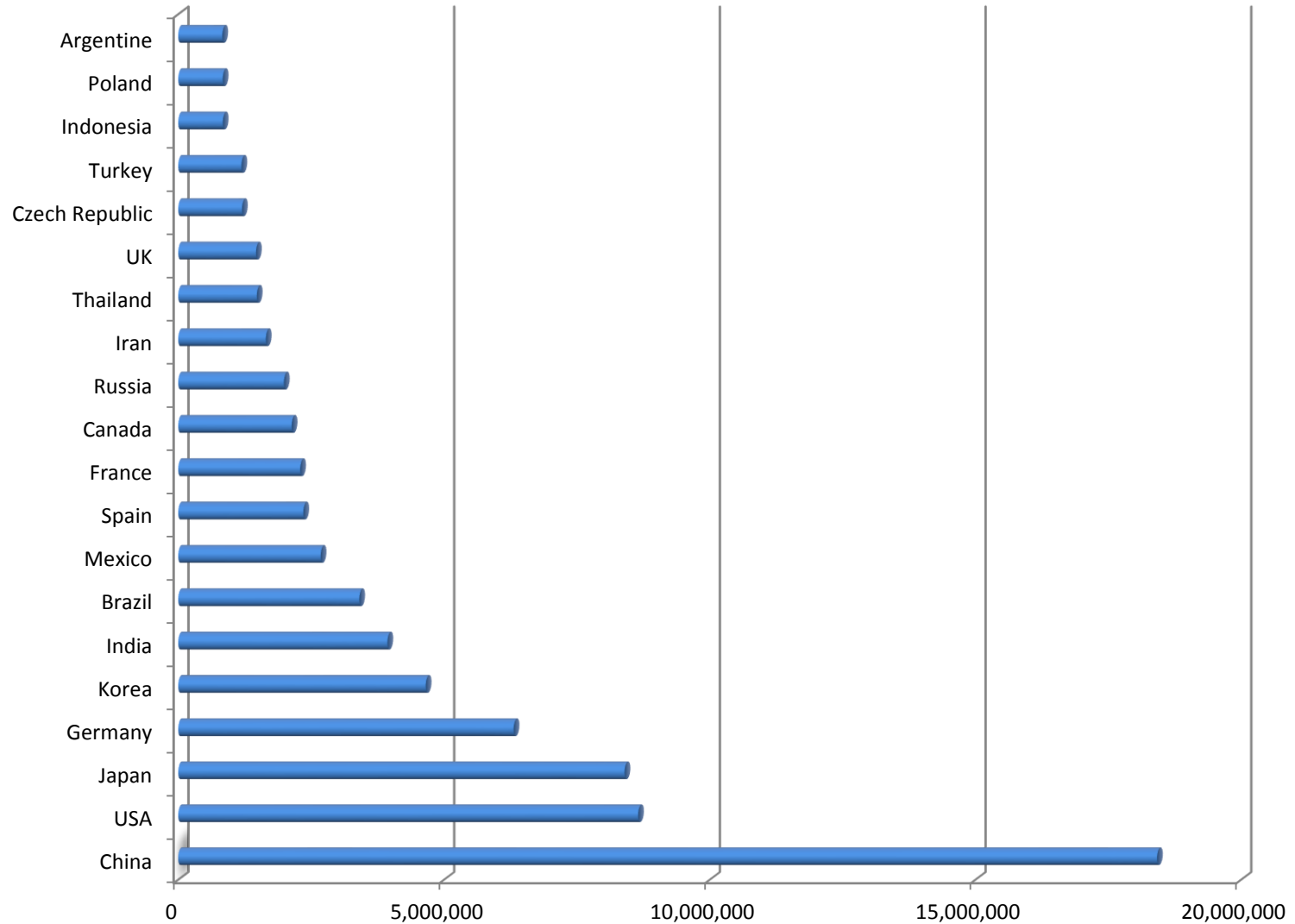
トルコ経済成長率

経済成長率の推移(1980~2013年)
単位: % (c)世界経済のネタ帳



World Automotive Production 2011

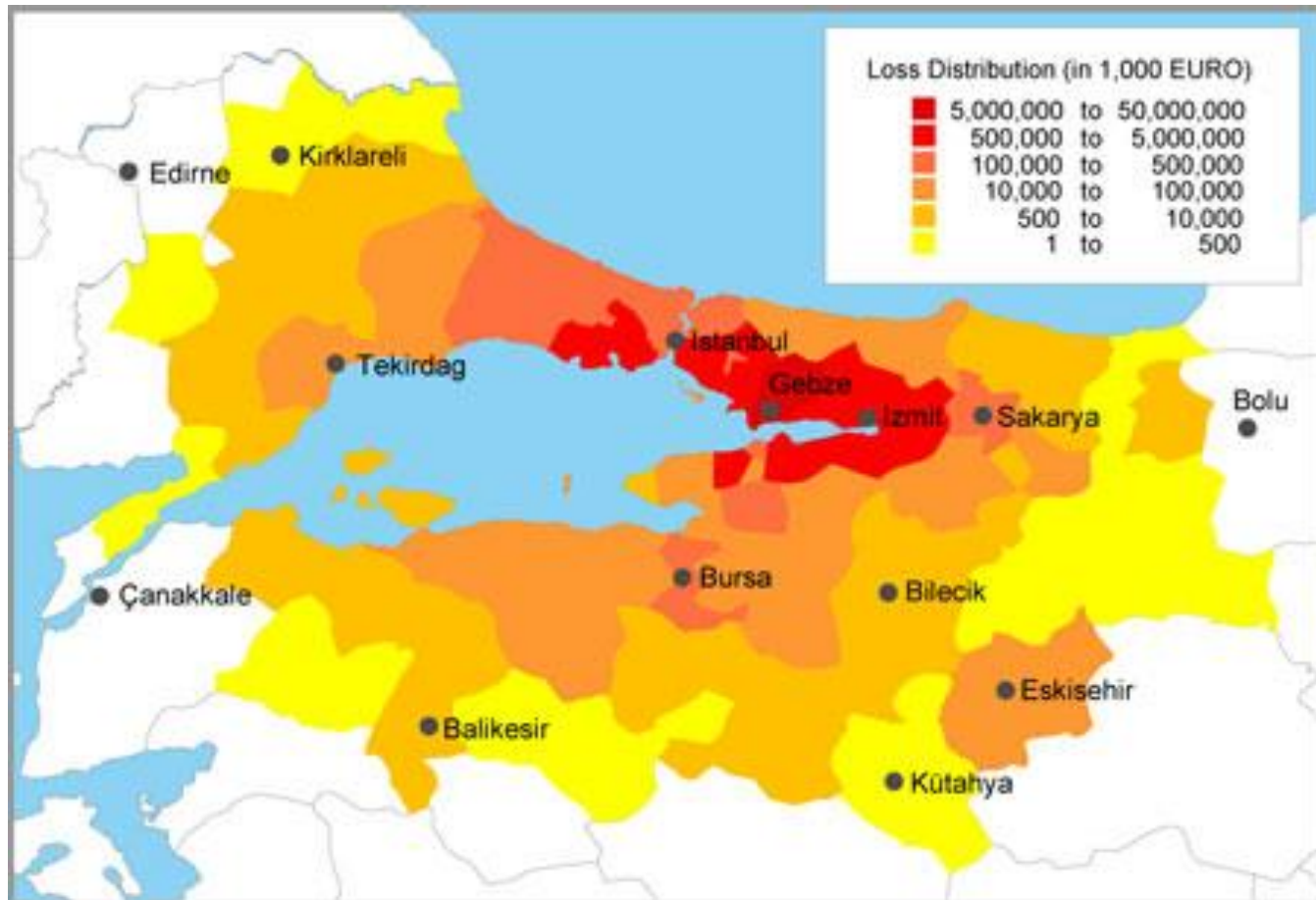
OICA



FDI 2013

- US\$ 12.6 billion 52 % from European Union
- 2,690 foreign-funded new company established
- 37,000 companies operating funded by foreign capital as of December 2013
- Istanbul got the lion share, nearly 22,000 of them operating in the city
- 5,651 firms from Germany and 2,635 from UK
- *Daily [News, "Turkey](#) attracts \$12.6 billion FDI"*

トルコ地震



Map of plate boundaries affecting Turkey



Recent Earthquake Near Istanbul

- 2 months ago 3.6 magnitude, 16 km depth
 - Hadimkoy, Istanbul, Turkey
- 3 months ago 4.0 magnitude, 10 km depth
 - Soma, Manisa, Turkey
- 5 months ago 4.5 magnitude, 9 km depth
 - Çorlu, Tekirdag, Turkey
- 8 months ago 4.3 magnitude, 9 km depth
 - Biga, Canakkale, Turkey
- 8 months ago 4.1 magnitude, 5 km depth
 - Gemlik, Bursa, Turkey
- 2 years ago 4.4 magnitude, 9 km depth
 - Gönen, Balikesir, Turkey
- 2 years ago 4.9 magnitude, 14 km depth
 - Çorlu, Tekirdag, Turkey
- 2 years ago 4.4 magnitude, 11 km depth
 - Biga, Canakkale, Turkey

Earthquake hazard for Istanbul 2013



Best cities in terms of freedom from pollution in Europe in 2010

- *Companies were asked which are the top three cities in terms of freedom from pollution.*
- Scandinavian and Swiss cities continue to dominate the freedom from pollution ranking but this year are joined by Edinburgh in third place. Stockholm moves up from third to first place, with Geneva, last years first place, easing down into fifth place. Perceptions of Copenhagen are improved over the year and the city rises two places into fourth.
- Istanbul is ranked at 34, worse than 2009 rank at 32
- The score is derived from the nominations for best, second best and third best
- Base: All familiar with location
- Source: EUROPEAN CITIES MONITOR 2010

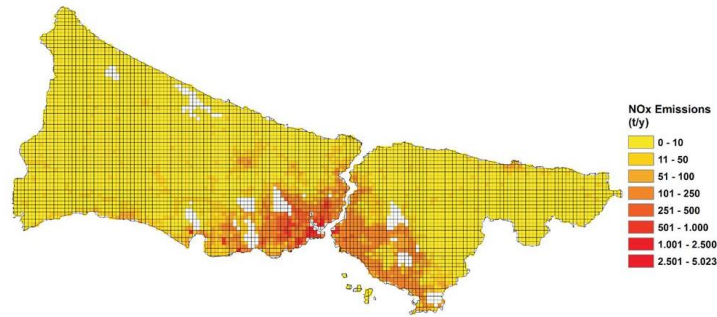


Figure 6 Distribution of annual NO_x emissions from all sources in 2007

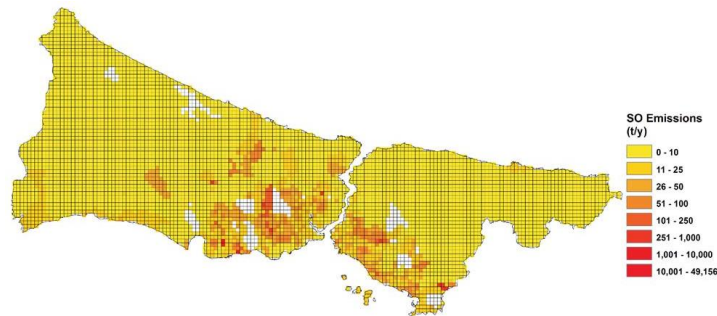


Figure 7 Distribution of annual SO₂ emissions from all sources in 2007

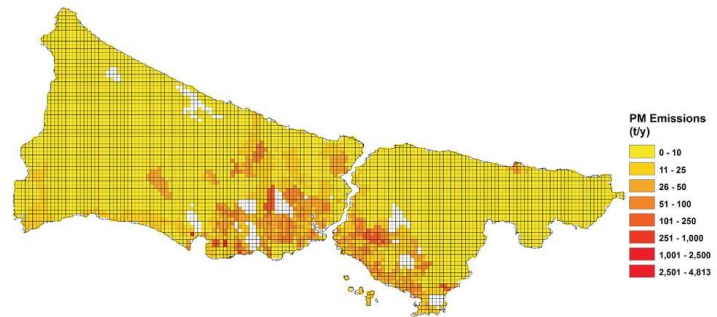


Figure 8 Distribution of annual PM₁₀ emissions from all sources in 2007

The number of vehicles in traffic in Istanbul increased
(21 January 2013)



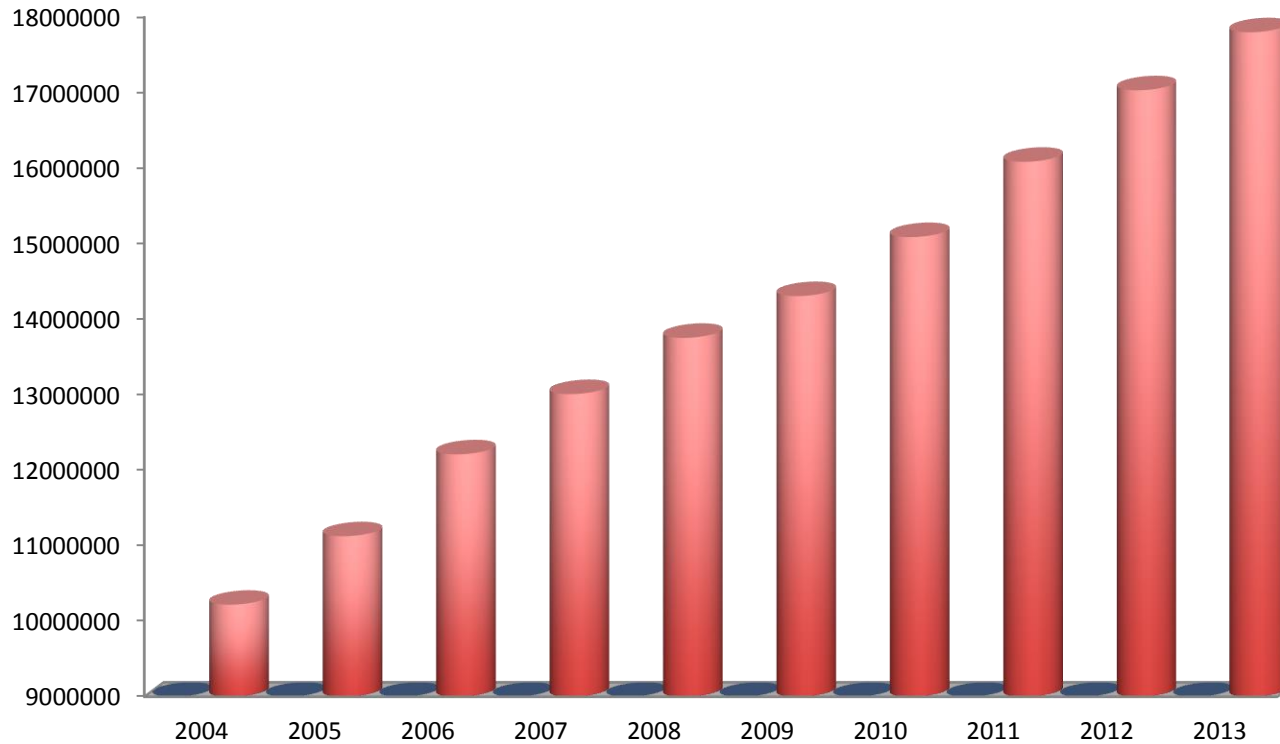
Motor Vehicles in Istanbul

- 3,112,070 (1 car for each 5 persons) as of January 2013
- About 20 % of the Cars in Turkey are in Istanbul
- About 20,000 New Cars join in every month.

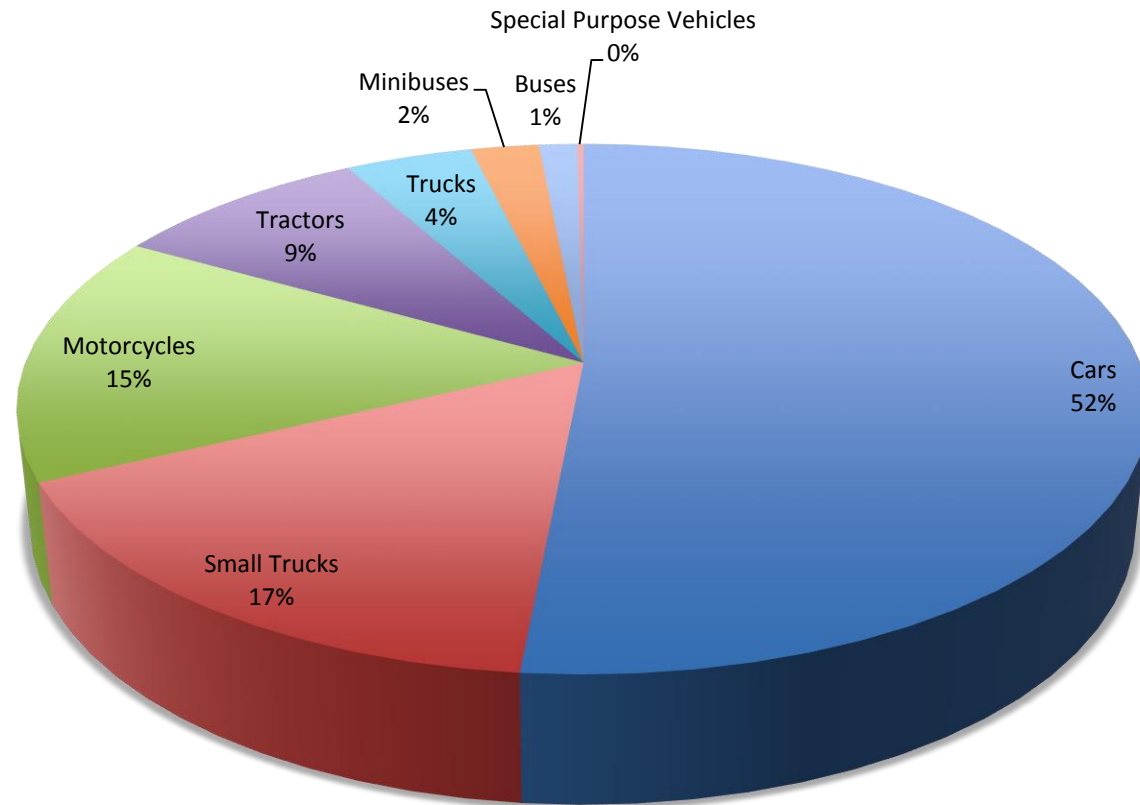
Source: Istanbul in Numbers

Number of Vehicles in Turkey (Passenger Car + Commercial Car)

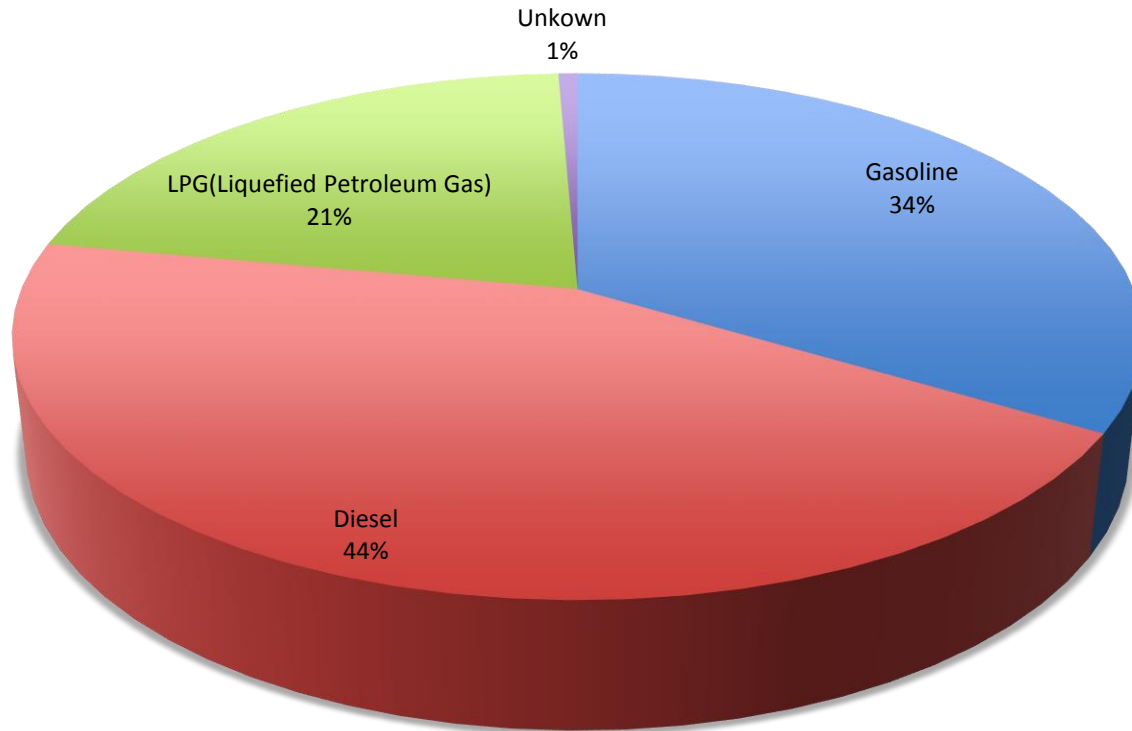
***Large domestic market +International trade with EU
in 1996 ***



**Number of Vehicles
as at 2013/Oct**



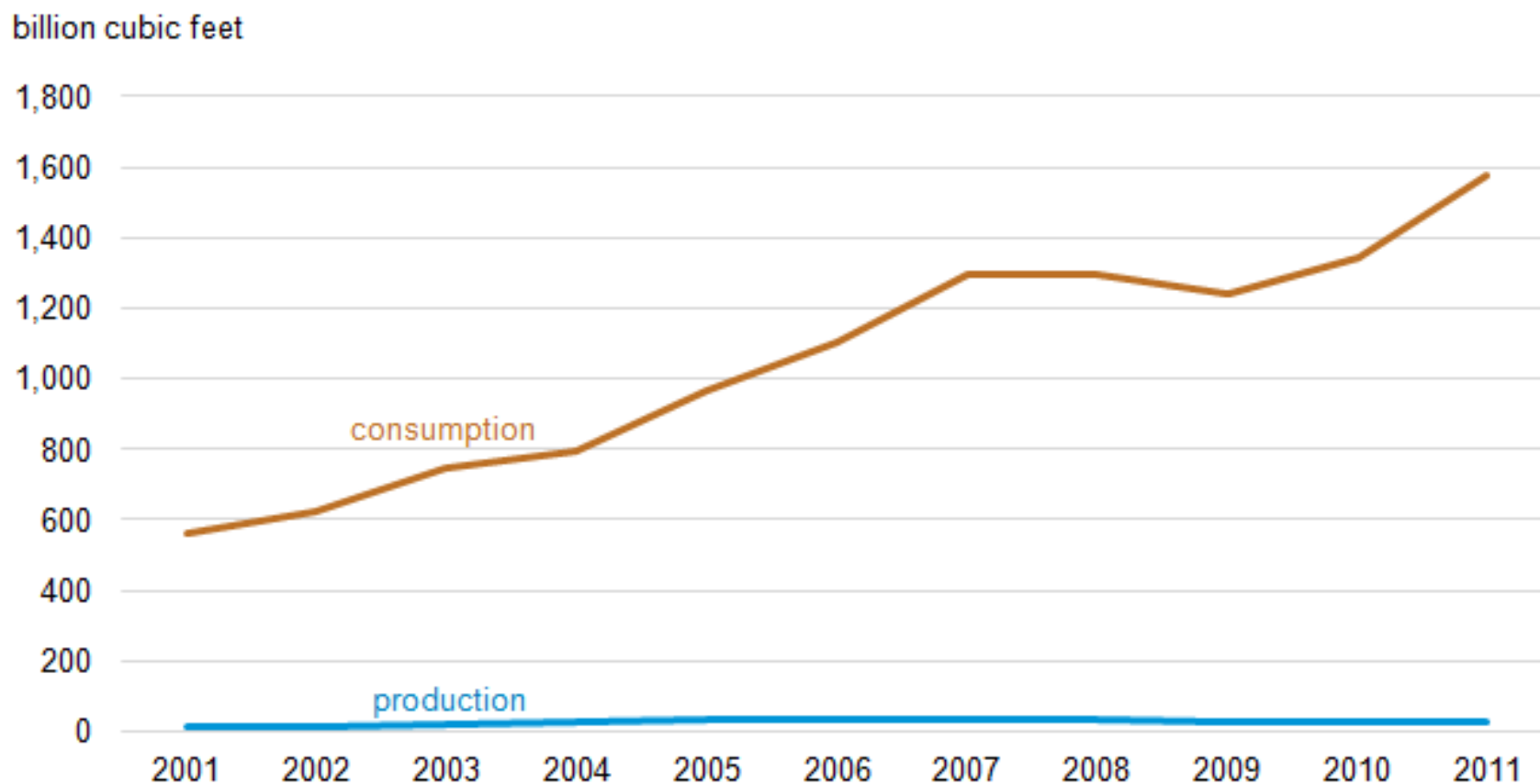
The Types of Fuel Used (2012)



Three Faces of Istanbul

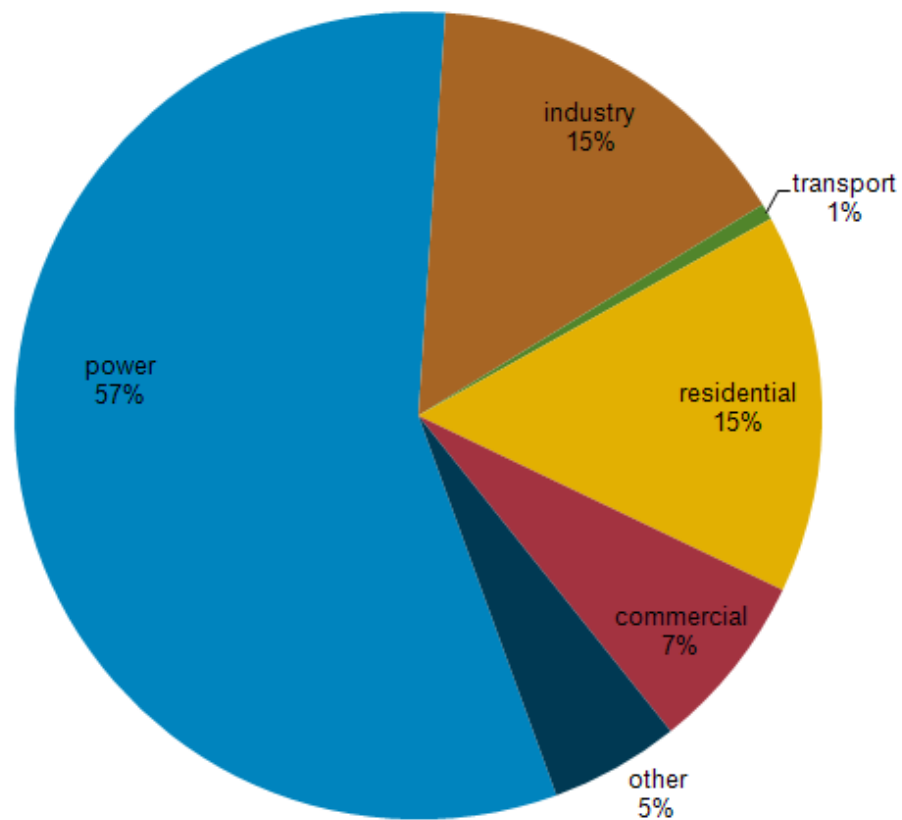
- “In Istanbul, population growth, road traffic, congestion, and pollution are at its worst contributing to the rapid decline of the city’s livability; and at its best putting at risk the city’s ambition to be a cultural, economic and logistical hub of Eurasia.”
- ECONOMIC INTELLIGENCE UNIT, 2010
- Istanbul is the only city that straddles two continents, Europe and Asia; and the only part of Turkey that is actually on the European continent. Aside from its unique geographic position, Istanbul currently houses one fifth of Turkey’s population, making it especially significant in Turkey.
- The rich historical fabric of Old Istanbul has attracted tourism to the area. In 2010, Istanbul was the European Capital of Culture, which prompted various developments in the city. In the process of selling its image to the rest of the world, Istanbul has been overlooking the needs of its community.

Natural Gas consumption and Production of Turkey

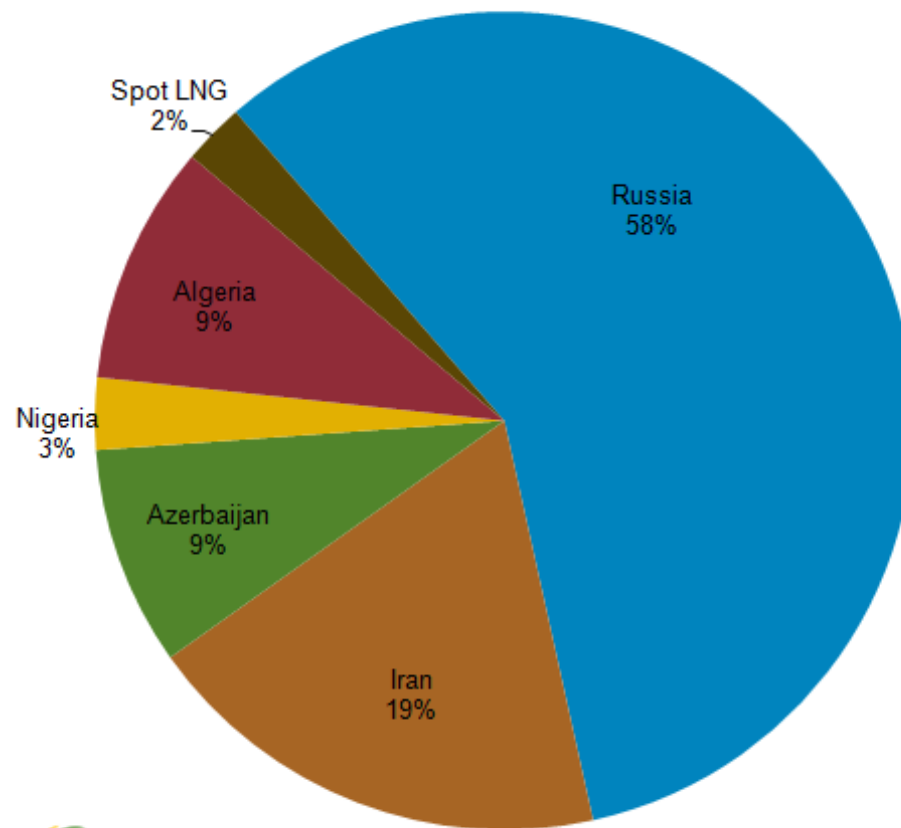


Source: U.S. Energy Information Administration, International Energy Statistics Database

Turkey's natural gas consumption by sector, 2009

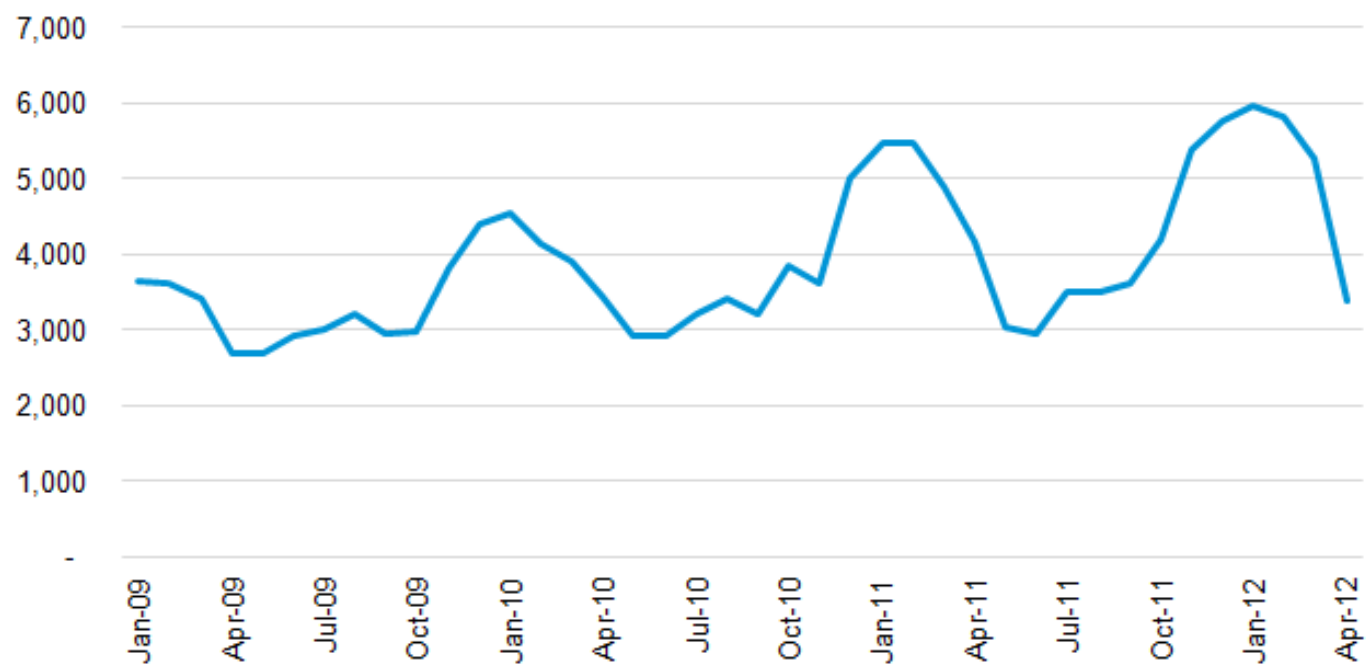


Turkey's natural gas imports, 2011



Seasonality in Turkey's natural gas consumption, January 2009-April 2012

million cubic feet per day



Source: PFC Energy

Images show destruction of Istanbul forests with bridge, highway construction



Green space in Istanbul

- Erhan Demirdizen, the Istanbul branch president for the Ministry of Public Works and Settlement, set up after the 1999 earthquake, said the ratio of green spaces in the city should be at least 10 square meters per person, while people in most European cities had 20 square meters. According to Istanbul Metropolitan Municipality, *the green area ratio per person in Istanbul is only is 6.4 square meters.*

トルコの緑

- タクシム広場とゲジ公園
- 都市再開発と緑の維持

June 2013

- トルコでは大規模な抵抗運動の波が収まりを見せていない。このうねりは、その発端はイスタンブール、タクシム地区にあるゲジ公園の再開発だったが、デモの宣言文には早い段階で政治的なスローガンがとび、なかには内閣の退陣要求も掲げられた。トルコの社会、政治的緊張はますます高まりを見せており、複数の大学のキャンパス内でもこれに呼応する声上がり始めている

Mega Projects to 2023

- Third Bridge over Bosphorus Strait
- Third Airport
- The Northern Marmara Highways
- Istanbul Kanal
- Two or three Atomic Power Plants

Mega Projects (more than US\$50 billion) of Turkey
[50km long ,25m deep, and 150m wide

Istanbul Kanal



The Northern Marmara Highway to Third Bridge

Hurriyet



Roads to Istanbul's third bridge to cross first degree
archeological sites: Destruction of a huge forest area

Hurriyet



Action Plans: Vehicle Emission Reduction

Istanbul Metropolitan Municipality:
Istanbul Air Quality Strategy, March 2009

- Raising awareness about the environmentally friendly driving technique
- Using filter and catalytic converter systems for exhaust emission control on vehicles
- Reducing pollution through the use of environmentally acceptable vehicles and fuels in public transportation
- Promoting alternative and more sustainable modes of transport to the cars
- Improving and popularizing the marine transport
- Promoting the implementation of Park and Ride applications
- Application of traffic congestion charge
- Improving the substantial transportation infrastructure

Industrial Emission Reduction

- Industrial site selection considering wind direction
- Using environment friendly fuels
- Industrial source contribution to air quality
- The effects of neighbouring region on air quality
- Promoting new technologies industries
- Onlie monitoring of emission from industrial stacks
-

Household Emission Reduction

- Encouraging the use of natural gas in all parts of Istanbul
- Promoting thermal insulation in residential buildings
- Raising awareness about periodic stack cleaning and efficient combustion

Turkey

- TURKEY: GATEWAY BETWEEN EAST AND WEST
- Turkey is geographically positioned between Europe and Asia, a dichotomy that has been reflected in the formation of its identity. Turkey encompasses dimensions of both Eastern and Western politics, social life, architecture, and religion.
- Turkey is a predominantly Muslim country (98%) that has distinguished itself from its Middle Eastern neighbors through a government structure that detaches Islam from politics. The Turkish military are the protectors of Turkey's secular democracy, intervening when necessary in order to keep religion out of politics. In the wake of the 2011 Tunisian and Egyptian revolutions, Turkey has been talked of as a democratic model for political Islam throughout the Middle East. Nevertheless, Turkey has continued to push for acceptance to the European Union.