# **PETDER** OIL INDUSTRY ASSOCIATION



2010

# **Sector Report**



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#### I. SUMMARY OF THE 2010 SECTOR REPORT

#### a) General Overview of the Fuel Market:

- Total consumption of automotive fuels (*Gasolines, Diesel Fuels and LPG Auto-gas*) in 2010 <u>increased</u> by **1.9**% reaching **18.4 million tons**.
- In 2010, total diesel fuel consumption (diesel fuel and off-road diesel fuel) has totaled approximately 16.3 million m<sup>3</sup> with a 2.4% <u>increase</u> compared to 2009. Consumption of off-road diesel fuel, a significant indicator of commercial and industrial activities in Turkey, fell to approximately 11.4 million m<sup>3</sup> this year with a <u>decrease</u> of 4.6%. Diesel fuel (Low Sulfur) consumption continued its progressive rise in 2010, and reached 4.9 million m<sup>3</sup> with a 23% rise compared to the previous year.
- Total **gasoline** consumption <u>decreased</u> by **7.7**% in 2010 compared to 2009, reaching approximately **2.7 million m**<sup>3</sup>(2.1 million tons).
- It is estimated that auto-gas LPG consumption will yield 2.5 million tons in 2010 with an <u>increase</u> of approximately 8.4%, while total bulk and bottled LPG consumption is estimated to <u>decrease by 6.5% and 33.7%</u>, hence it is estimated that the total LPG consumption will increase by 1.6% in total compared to the previous year.
- The consumption of **black products**, including fuel oil and heating oil, has yielded approximately **1.1 million tons this year** with a <u>decline</u> of 44%.
- In 2010 total fuel consumption has decreased by **3.9%** reaching **17.0** million tons.
- The total lubricant consumption has been estimated to total **461,000 tons** in 2010 with an approximate **15% rise**. This estimation is calculated through the data provided by those companies that participated in our data collection system. These companies account for 65% of the total market in the industry. In 2010 engine lubricant consumption increased **14%** compared to the the previous year. It is calculated that consumption of lubricants **rose 12%** for **engine oils**, **28%** for **gear and transmission lubricants**, **19%** for **industrial lubricants 8%** and **21%** for **antifreeze and hydraulic brake liquids** compared to 2009 figures.



#### b) Taxation and Market Volumes on Automotive Fuels Sectors

Even with decreasing consumption in the fuel and lubricant sectors, indirect taxes (VAT and SCT) collected from fuel consumptions **expanded 20%** totalling **35 billion TL** this year. Similarly, the sum of indirect taxes collected from **LPG consumption** reached **7 billion TL** with a **5%** rise compared to last year's figure. In total, the amount of indirect tax revenue obtained from fuels and LPG industries together reached **42 billion TL** indicating a **17%** growth in tax revenue.

#### c) Crude Oil Prices:

**Crude oil prices which averaged 62 USD** per barrel in 2009 has shown an upward trend this year reaching approximately **79.6 USD** per barrel in 2010, with **67.6 USD per barrel** being the lowest it has seen and **94 USD per barrel** being the highest level reached.

#### d) General Outlook of the Oil Industry in 2010:

#### • Illegal/illicit fuel problem has gained additional momentum in 2010 :

In 2010, off-road diesel consumption fell deeply (it has decreased 550.000 tons despite the heating economy) due to number 10 lube and other similar fraud fuel activities. On July 2008, a new VAT regulation was adopted which widened the VAT gap between off-road diesel and lubricants, later on in 2009, diesel fuel saw a further increase in VAT that bolstered the fraud fuel problem. The total volume of (fraud) activities conducted under the name of number 10 lube is estimated to have reached around one million tons in 2010, which represents approximately 1.5 Million TL worth of tax loss. Significant increases in base oil and mineral oil imports and the <u>4.6% decrease</u> in off-road diesel consumption in 2010 is regarded as the most important indicators portraying the volume of these activities.

# <u>Adaptation of Competition Authority's decision has been realised effectively on 18</u> <u>September 2010</u>:

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Adaptation period for the renewal of usufruct and leasing contracts between fuel and LPG stations and dealers with regards to non-competition clause restriction which has been reduced to five years, has been finalized as the regulation entered in to force on 18 September 2010 under the Competition Authority's ruling. The compliance of the Ruling's adaptation period, which has compolsated the renewal of current and valid contracts, where the industry has advocated against claiming retroactive implementation, has resulted in a high capital burden to the marketing companies, precisely it meant a significant wealth loss transferred from the distributors to the dealers. According to EMRA's data from 18 September 2010 till the end of the year, about 1200 dealers have changed their company. The aforementioned ruling and its aimed effects to the market as well as the effects of the wealth loss to distributor firms will be observed in the period that will follow.

## • <u>Turkish pump prices without tax are in general consistent with the prices in four</u> reference Mediterrenean. Distributor margins have not increased in TL currency within the last four year period.:

Important rise in oil prices at the end of 2010 and drifting exchange rates have been reflected upon the Turkish market through rising pump prices which have been a source of much debate in the media. In this light, a comprehensive section comparing Turkish and European pump prices is included in the following sections of this report. The analysis presented in the related section suggest that the ceiling pump prices announced by distributor companies (maximum prices that can be applied in fuel stations) in Turkey are not any higher than the ceiling (or higher level prices applied at the pumps) pump prices in the four referenced mediterrenean EU member countries. Despite additional costs applied in Turkey due to specific legal and structural requisites, Istanbul European Side pump prices show that prices are consistent with average station pump prices without taxes in Rome, Athens, Paris and Madrid.

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Whilst also according to the data collected from EMRA reports, distributors' gross share of total costs and margins over pump prices albeit rising inflation based in Turkish Liras has not increased. In contrast, following the effects of the price cap regulation in 2009, the Competition Authority's ruling which have included pasts contracts to the framework of the regulation have dissolved the profits of distributor firms in a great extent.

## • <u>Transition period to "clean" (low sulphur) diesel has taken a start by the end of the</u> <u>year:</u>

Concurrently with EU regulation, EMRA has restricted the sulphur content in diesel fuels to 10 ppm. EMRA's decision has been taken as a step towards the harmonisation process to EU Directive and is aimed at restricting the sulphur content in fuels in Turkey to 10 ppm effective from 01 January 2011, a measure taken simultaneously with EU countries. According to the transition schedule published in the official gazette, refinery production and imports of the unmatching diesel types will be halted on 01 January 2011, by 15 February it will be disposed from distributor firm warehouses, and its sale in stations will be terminated on 01 April 2011. The regulation also supported by Petroleum Industry Association aims to significantly reduce emissions caused by fuel specifications, as such, restricting the sulphur content in diesel fuels to 10 ppm is forecasted to reduce emissions caused by sulphur a hundred times, furthermore, through this regulation the amount of sulphur and particules emitted to the atmosphere is estimated to be reduced 9,900 tons each year.

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#### **Brief Figures:**

		January - December						
Annual Consumptions		2009	2010	Difference	Change			
White Products Total	<b>m</b> <sup>3</sup>	18,880,830	19,038,744	157,914	0.8%			
Unleaded Gasoline 95 Octane	m <sup>3</sup>	2,589,882	2,463,095	-126,787	-4.9%			
Unleaded Gasoline 97 and Higher								
Octane	m <sup>3</sup>	294,494	231,015	-63,479	-21.6%			
LRP Added Unleaded Gasoline	m <sup>3</sup>	57,705	22,131	-35,574	-61.6%			
Total Gasolines	<b>m</b> <sup>3</sup>	2,942,081	2,716,241	-225,840	-7.7%			
Kerosene	m <sup>3</sup>	11,170	19,906	8,736	78.2%			
Off-road Diesel Fuel	m <sup>3</sup>	11,920,167	11,374,617	-545,550	-4.6%			
Diesel Fuel (Low Sulfur)	m <sup>3</sup>	4,007,412	4,927,980	920,568	23.0%			
Total Diesel Fuels	<b>m</b> <sup>3</sup>	15,927,579	16,302,597	375,018	2.4%			
White Products Total	ton	15,747,853	15,896,706	148,853	0.9%			
Unleaded Gasoline 95 Octane	ton	2,007,159	1,908,899	-98,260	-4.9%			
Unleaded Gasoline 97 and Higher								
Octane	ton	228,233	179,037	-49,196	-21.6%			
Unleaded Gasoline with additives	ton	44,721	17,152	-27,570	-61.6%			
Total Gasolines	ton	2,280,113	2,105,087	-175,026	-7.7%			
Kerosene	ton	8,936	15,925	6,989	78.2%			
Off-road Diesel Fuel	ton	10,072,541	9,611,551	-460,990	-4.6%			
Diesel Fuel (Low Sulfur)	ton	3,386,263	4,164,143	777,880	23.0%			
Total Diesel Fuels	ton	13,458,804	13,775,694	316,890	<b>2.4%</b>			
Heating Oil	ton	320,641	261,747	-58,894	-18.4%			
Fuel Oil No:6	ton	1,596,568	813,032	-783,536	-49.1%			
Black Products Total	ton	1,917,209	1,074,779	-842,430	-43.9%			
Total Fuel*	ton	17,665,062	16,971,485	-693,577	-3.9%			
LPG/Bottled**	ton	180,949	120,000	-60,949	-33.7%			
LPG/Bulk**	ton	1,134,145	1,060,000	-74,145	-6.5%			
LPG/Autogas**	ton	2,305,240	2,500,000	194,760	8.4%			
Total LPG**	ton	3,620,334	3,680,000	59,666	1.6%			
Total Automotive Fuels***	ton	18.044.157	18.380.781	336.624	1.9%			
		, ,	, ,	,				
Promt and o oil		62.0	70.6	17.6	20 40/			
brent crude on	/barrei	02.0	79.0	17.0	20.4%			
Consumption Trading Volume/								
Fuel ****	Billion TL	51	61	10	19%			
Fuel SCT*	Billion TL	22	26	4	20%			
Fuel VAT*	Billion TL	8	9	1	18%			
Total Indirect Tax/ Fuel ****	Billion TL	29	35	6	20%			
Consumption Trading Volume/								
LPG ****	Billion TL	14	14	0	1%			
Total Indirect Tax/ LPG ****	Billion TL	7	7	0	5%			
Vehicle Oils	ton	204,000	233,000	29,000	14.2%			
Industrial Oils	ton	118,000	140,000	22,000	18.6%			
Marine Lubricants and Greases	ton	40,000	43,000	3,000	7.5%			
Total Lubricant Oils	ton	362,000	416,000	54,000	14.9%			

\* Represents black + white products,

\*\* Calculated based on EMRA LPG Sector Report figures. \*\*\* Aggregate of Gasolines, Diesel Fuels and Auto-gas \*\*\*\* Estimates calculated using consumption and unit price values Fuel data are consolidated from 11, lubricant oil data are collected from 6 distributor firms on a voluntary basis.

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#### I. TURKEY'S FUEL STATISTICS FOR 2010

#### a) Diesel Fuels

In 2010, <u>total</u> consumption of **diesel fuel** types (diesel fuel and off-road diesel fuel) reached **16.3 million m<sup>3</sup>** <u>increasing</u> **2**,4% compared to 2009. On a different note, the share in total consumption of **diesel fuel (with low sulfur)** reached **4.9 million m3** with a **23%** <u>rise</u> in 2010, effectively making a leap from **25%** to 30% **in consumption calculated within the total consumption of all diesel fuels.** The decrease in consumption of off-road diesel perceived in the last two years continued and **fell to 11.4 million m<sup>3</sup>** with a **4.6% decrease**.



Figure 1: Total Diesel Fuel Consumption According to Years (Million m<sup>3</sup>)



Figure 2: Shares of off-road diesel fuel and diesel fuel in total diesel fuel consumption (%)

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The chart below demontrates the consumption progress in the last five years of off-road diesel fuel and diesel fuel (with low sulfur). The point drawing attention here is the important decline observed in the consumption of off-road diesel fuel since 2008 (4.6%). In parellel to the increase in the sales of diesel motored vehicles and diesel light commercial vehicles, diesel fuel consumption has increased in conjunction as expected to happen in normal market conditions. However, the decline in off-road diesel consumption in the amount of 550 tons is not correlated with economic growth as well as the increased number of diesel vehicles. This situation which is not in sync with normal market structures indicate the existence of fraud market activities as well as products lanced into the market under names such as "Number 10 Lube".



Figure 3: Yearly consumption trends of off-road diesel fuel and low sulphur diesel fuel.

The figure above clearly demonstrates the significant decline in off-road diesel consumption and thus indicates number 10 lube's role in this contraction. Likewise, a boosted import growth in mineral oil, base oil and lubricant oil in 2010 supports this argument. Although, Turkish economy has reached 8% growth rate this year, the fact <u>that consumption of diesel fuel types</u> <u>did not grow in tantamount and contrarily decreased in this period</u> posits another evidence for the abovementioned activities.

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#### b) Gasolines

Total gasoline consumption has decreased **7.7%** in 2010 reaching **2.7 million m<sup>3</sup>** (2,1 million tons). The price advantage of LPG Autogas due to lower duties and the increased use of diesel vehicles forms important reasons in explaining the decline in gasoline consumption.



Figure 4: Change in total gasoline consumption by years.

The decline in gasoline consumptions is mostly explained by the difference in excise duties between LPG autogas and gasolines. On a different note, the consumption of "unleaded gasoline with additives" have declined drastically almost reaching a near end.



Figure 5: Shares of types of gasoline in total gasoline consumption.

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#### c) Automotive Fuels

**The total automotive fuel** (*Gasoline, Diesel Fuels and LPG Auto-gas*) consumption <u>increased</u> by **1.9**% and reached **18.4 million tons** in 2010. The following chart demonstrates consumption progression for the last ten years for all automotive fuels. The upward trend in the consumption of automotive fuels has been induced since 2007.

The fact that there has been a considerable increase in the number of vehicles in transit in Turkey and not a corresponding increase in the consumption of fuels can only be explained by number 10 lube and other such products that are being used excessively in lieu of automative fuels.



Figure 6: Change in automotive fuel consumption through years.

As demonstrated in the figure below the shares of diesel (low sulphured) and LPG Autogas has been increasing while gasoline share in total consumption have been decreasing.



Figure 7a: Consumption shares of gasoline, diesel and auto-gas LPG in 2009 and 2010.

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Gasoline to LPG transition can best be observered in the shares of total Gasoline-LPG consumption shares. While in 2009 autogas LPG and gasoline shares were 50%-50%, in 2010 the share values have taken turn in favor of autogas LPG consumption reaching 54%-46%.



Figure 7 b: Comparison of year 2009 and 2010 gasoline and auto-gas LPG consumptions.

#### d) Black Products

Black product consumption has reached approximately **1.1 million tons** in 2010<u>shrinking</u> **43.9**%. In this period, heating oil consumption has reached **262 thousand tons** with a total <u>decrease</u> of **18.4**% and **Fuel Oil No: 6** consumption has totalled **813 thousand tons** with a total <u>decrease</u> of **49.1**%. Hence, the progressive decline in black products has continued in 2010 due to the wide penetration of natural gas into the market. The changes in black products consumption can be seen clearly in the following graphs.



Figure 8: Change in black products consumption throughout years.

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Figure 9: Shares of black product types in total black product consumption.

The decline in fuel oil and heating oil consumption is primarily caused by the deep penetration of natural gas into the sector.

#### e) Fuels

**Total fuel** (*Gasolines, Diesel Fuels, Kerosene, Heating Oil and Fuel Oil*) consumption has amounted to approximately **17 million tons in 2010** with a <u>decline</u> of **3.9**%. As the chart below demonstrates, fuel consumption after having exceled in 2007 and 2008 has fallen back in 2009 and 2010. This change is in great part due to the contracted consumption of black products and due to the effects of number 10 lube consumption over off-road diesel consumption.



📓 Off-road Diesel 🐸 Diesel (Low Sulphur) 🖬 Total Gasolines 🛢 Fuel Oil No:6 📓 Heating Oil

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Figure 10: Change in total fuel consumption by years.

Due to the decrease in consumption of black products and gasoline, diesel consumption share has continued to increase. The below figure demontrates that while diesel fuel consumption share was 76% in 2009, this value has increased to 81% in 2010.



**Figure 11:** Shares of types of fuel in total fuel consumption (%)

#### f) Total Oil Consumption:

Share of Oil in Turkey's primary energy consumption is decreasing. The figures below demonstrate that in the last 10 years the share of oil consumption in Turkey's primary energy consumption has decreased from 40% to 30% falling behind of natural gas' share. Turkey's petroleum share in primary energy has been 31% in 2009, this amount is estimated to yield 30% for 2010.



#### Million Ton Petroleum Equivalent

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**Figure 12a:** Total petroleum products consumption and their share changes (million ton petroleum equivalent, %)

Turkey's yearly oil consumption progress can be seen in the figure below. The figure indicates that total oil consumption has escalated to around 30 million tons in 2010 as diesel and jet fuel consumption has been increasing progressively.



**Figure 12b**: Annual petroleum product consumptions (million tons), (\*2010 include some asumed values)

## g) Lubricants

Lubricant consumption data in this report is consolidated through data obtained from ALPET, BP, CASTROL, LUKOIL, OPET, POAŞ, SHELL, TOTAL, and MOIL - companies that represents approximately 65% of the whole market – and through data obtained fromEMRA, PIGM and Ministry of Environment and Forestry. According to these data the total amount of lubricant consumption in 2010 **increased** by **15**% compared to the same period of last year. As such, Turkey's total lubricant consumption is estimated to yield **416,000 tons** in 2010. The significant increase in lubricant consumption is mainly caused by economic and industrial growth. This increase in lubricants is in accord with the additional number of vehicles that entered traffic this year.

According to Energy Market Regulatory Association data there are 249 facilities in Turkey active in mineral oil production.

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Figure 13: Lubricant consumption for years 2009 and (Thousand Tons)

In 2010 total mineral oil consumption shares has been as the follows; 56% Engine Oils, 34% Industrial Oils, 6% Marine Oils and 4% Greases.



Figure 14: Shares of product groups in lubriants for 2010 (%)

#### • Vehicle Lubes

Turkey's total vehicle lubes consumption has reached 233 thousand tons in 2010. This amount was 204 thousand tons for 2009, hence there has been a 14% increase in consumption. While engine lubes consumption was 27 thousand tons (13%), gear and transmission oils was 177 thousand tons (87%), in 2010 the engine oil consumption has reached 34 thousand tons (15%) and gear and transmission oils has reached 199 thousand tons (85%).

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Figure 15: Vehicle oil consumption values for 2009 ve 2010 (Thousand Tons)

• Engine Oils

In 2010, consumption of engine oils has <u>increased</u> by **12**% compared to the same period of 2009 and has reached 199 thousand tons. In this period engine oils share in total lubricants consumption has been approximately 44%. The below figures provide comparisons of engine oil consumptions across 2009 and 2010. Accordingly, engine oils are consumed by 22% of personal vehicles, %3 of motorcycles, 77% of light consumption vehicles.



Figure 16: Engine Oil consumption values for 2009 and 2010 (Thousand Tons)

• Industrial Lubricants

Total consumption of industrial lubricants (hydraulic, processed, other) reached approximately **140 thousand tons** in 2010 with an **increase** of **19**%. During this period, industrial lubricants

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constructed approximately 34% of shares within the total lubricant products. The comparative charts of industrial lubricant consumption are given below;



**Figure 17:** Consumption amounts (thousand tons) of industrial lubricants in years 2009 and 2010.



Figure 18: Consumption shares of industrial lubricants for 2010 (%)

### • Special Products (Antifreeze and Hydraulic Brake Liquids)

Antifreeze and hydraulic brake liquids produced in mineral oil facilities have **increased 21%** compared to last year's figures and has reached **52 thousand tons** in total.

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**Figure 19:** Consumption values of anti-freeze and hydraulic brake liquids in 2009 and 2010 (Thousand Tons).

#### **III- INDIRECT TAXES AND MARKET VOLUMES:**

#### a) Duties applied to Automotive Fuels

The fuel and LPG sectors are among the leading industries that provide significant amount of taxes to the government through indirect taxes and duties. The table below indicates special consumption taxes (SCT) applied to certain fuels on 31 December 2010. Through the table below it is possible to observe significant differences in the amounts of special consumption taxes applied to prices of fuel products which may act as substitutes of one another.

	Special Consumption Tax (SCT)
Unleaded Gasoline 95 Oktane	1,8915 TL/lt
Diesel (with low sulphur)	1,3045 TL/lt
Autogas LPG	0,7157 TL/lt
Natural Gas (vehicles)	0,6964 TL/lt
Fuel Oil No : 6	0,224 TL/Kg

Indirect taxes contstruct a major portion of the prices reflected upon the consumer. The figure below demonstrates total tax amounts (Special Consumption Tax +VAT) of automotive fuels. Annual average taxes applied to gasoline has been 2,47 TL/lt in 2010, this amount has been 1,8 TL/lt for diesel with low sulphur, 1,71 TL/lt for off-road diesel and 1,06 TL/lt for autogas LPG.

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Figure 20: Indirect taxes applied to pump prices, 2010 year average, (TL/Lt)

The shares of indirect taxes (SCT + VAT) reflected upon the consumers is given in the figure below. Gasoline, with 67% of indirect taxes in the final pump price, is the highest taxed fuel. Taxes applied to LPG autogas make up 51% of the pump prices, while 24% of natural gas' price in composed of taxes. Coal is the least taxed energy product.



Figure 21: Shares of taxes in the final prices of energy products as of 31.12.2010 (%)

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#### b) Taxes applied to automotive fuels in Turkey and in EU countries:

This section presents a comparison between the amounts of taxes applied to pump prices in Turkey and the EU countries. As highly voiced in the media, Turkey is listed as the country that taxes gasoline the most in the world. The figure below demonstrates the tax differences between Turkey and the EU.

Turkey applies 90 kurus (0,43 €cent/lt) more tax per litre in gasoline, 59 kurus (0,28 €cent/lt) more tax per litre in diesel compared to EU average.



Figure 22: Taxes applied to fuel products in Turkey and the EU (€/Lt, 31.12.2010)

Another crucial point affecting the Turkish fuel market regarding the effects of high taxation is concerned with the financing of this taxation. In Turkey the distributor companies pay high taxes at the time of purchase from refineries, while receives the payback of this transfer from the consumer in a prolonged period through financial tools such as credit cards, vehicle recognitions, crediting, sales through instalments and so forth, thus, endures the financial cost of the tax as well as the financial risk of it. High taxes and financing of taxes in the distributor

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sector is another burden effecting the cost structure, therefore these financial aspects and other structural differences need to be considered with care when making comparisons regarding pump prices between Turkey and Europe.

#### c) Indirect Taxes Collected from Automotive Fuels :

In the past six year, indirect taxes collected from fuel and LPG sectors have been increasing progressively every year and the amount of indirect taxes collected from these sectors in 2010 has amounted to 42 billion TL. The figure below demonstrates that in the 2005-2010 the Petroleum sector has generated approximately 200 Billion TL worth of indirect tax revenue.



Figure 23: Change over the years of total indirect taxes collected on fuel and LPG

According to calculations, indirect taxes collected from fuel consumption in 2010 (VAT and SCT) have reached 23,5 billion TL with a 20% <u>increase</u> over the past year, similarly, indirect taxes collected from total LPG consumption has amounted to 7 billion TL with a 5% <u>increase</u>. Hence, it is calculated that the indirect tax revenue collected from fuel and LPG sectors together amount to **42 billion TL** with a **16.6**% <u>rise</u> over the past year. The following graphs portrays the breakdown of the indirect tax revenue obtained from fuel and LPG sectors distributed in product.



Figure 24: Indirect tax revenue obtained from fuel and LPG sectors

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Indirect tax shares in pump prices have been in the range of 65-70% for gasoline, 50-60% for diesel and 48-51% for LPG. However, due to rising oil prices, rising VAT and heightened SCT, fuel consumption has been adversely effected as total indirect taxes have consistently increased as shown in the figure above.

#### d) Trading Volumes

Although there has been a fall in the consumption of off-road diesel and black products in July and December 2009 due to an increase in SCT by approximately 34%, the change has been reflected upon the sector as a growth in total capital growth of the sector when compared to 2009 figures.

The next two graphs below demonstrate sectoral magnitudes calculated for fuel and LPG. Trade volume in the fuel sector has **increased approximately by 18% in 2010, producing a figure of 61 billion TL.** In the LPG sector, on the other hand, the impact of the significant growth in autogas has compensated for the contraction in bottled and bulk LPG and has increased 1% with a total trade volume of 14 billion TL compared to the previous year. Hence, the total magnitude calculated of Fuel+LPG has increased 14% reaching **75 billion TL**.





#### **Figure 25:** Trade volumes in fuel industry (Billion TL)

Figure 26: Trade volumes in LPG industry (Billion TL)

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#### e) Calorific Values and Taxation of Energy Products:

The calorifc value of energy types is essential in determining their energy efficacy. It is a widely accepted approach to compare different energy types through costs/tax amounts for 1000 kcal heat values. The figure below demonstrates VAT amounts exerted on 1000 kcal heat values produced from energy products in Turkey.



#### VAT Amounts for every net 1000 Kcal of Energy Product (Kuruş)

**Figure 27:** VAT amounts for every 1000 kcal of heat obtained from different energy sources. \* Electricity is not subject to VAT, however, there are other payments such as energy fund, TRT fund, and Municipality consumption.

#### As can be observed below, consumers pay

- Gasolines 26.72 kurus
- Diesels 17.49 kurus
- Autogas LPG 12.63 kurus
- Natural Gas
   0,30 kurus
- Coal 0 kurus

#### worth of VAT for every 1000 kcal energy.

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#### **IV. OIL AND FUEL PRICE ESCALATIONS:**

#### • World oil prices:

The year 2010 has seen a reprisal of world oil prices and as a result fuel pump prices has received much media coverage especially over the later part of this year. Brent petrol has started the second half of 2010 with 75\$ per barrel, and during November and December have accented further reaching 95\$ per barrel by the end of December. The changes in crude oil prices have directly effected main fuel products in the mediterrenean markets such as gasoline and diesel, and has resulted in the steep acceleration of their prices in an upward direction. In figures, these variations have caused gasoline prices to hike to 900 \$/ton and diesel prices to 850 \$/ton in January 2011. The rise in crude oil prices together with exchange rate appreciations have led fuel prices to sour with the steady rise in prices by the end of 2010. The table below demonstrates the upward trend in the international markets and the consequent effects of it over the pump prices.

		2008 Avg	2009 Avg	July 2010	Aug 2010	Sept 2010	Oct 2010	Nov 2010	Dec 2010	July/ Dec 2010 Change
Brent	\$/Barrel	97,5	61,8	76,5	78	78,5	83,2	85,8	92,2	20,50%
U.Gasoline 95 (CIF MED Platts)	TL/Lt	0,81	0,69	0,82	0,79	0,8	0,84	0,86	0,95	15,90%
Diesel (CIF MED Platts)	TL/Lt	1,02	0,71	0,86	0,86	0,88	0,89	0,92	1	16,40%
LPG (CIF MED Argus)	TL/Lt	0,54	0,44	0,54	0,54	0,59	0,64	0,74	0,79	46,40%
U.Gasoline 95 (Istanbul European Side Price w/out tax)	TL/Lt	1,24	1,08	1,21	1,18	1,18	1,22	1,25	1,33	9,90%
Diesel (Isntabul European Side Price w/out tax)	TL/Lt	1,47	1,1	1,39	1,31	1,3	1,33	1,37	1,48	6,50%
Autogas (Istanbul European Side Price w/out tax)	TL/Lt	0,97	0,84	0,95	0,92	0,97	0,97	1,06	1,19	25,00%

**Figure 28:** Crude oil and petroleum products price developments in International markets and Turkey

As can be observed in the chart above, in July- December 2010 period international unleaded gasoline market prices have increased 16%, this amount correlated to 10% increase in prices without taxes, likewise, during this period, world diesel prices have increased 16,4% and 6.5% in pump prices without taxes.

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#### • Effects of world oil prices over Turkish pump prices:

Fuel prices have once again since 2008 spurred much debate following the recent developments in the world markets, precisely, comparisons between Europe's and Turkey's pump prices, refinery and distributor shares have been taken under close scrutiny. When 2010 average gasoline pump prices in Istanbul European Side is observed it is portrayed that 90,6% of the price is composed of taxes and the product's refinery price. This composition was 88.1% for diesel fuel for the year 2010. The remaining 9.4% share in gasoline and 11.9% share in diesel represent all of the costs of the distributor and dealer firms (starting from the refinery acquisition till the product is sold to the final consumer), transportation costs, compulsory expenses such as the national stock and profits.



*Figure 29:* Composition of gasoline and diesel fuel pump price, 2010 (%)

During this period of rising oil prices, the distributor sector's profits are voiced from time to time in the media. It is possible to observe that marginal shares that represents all cost items and profits of the distribution and marketing chain, including both distribution companies and dealers have been somewhat compressed by rising petroleum prices and taxes, and have decreased against inflation. The following figure which has been constructed through data obtained from EMRA demonstrates the distributor sector's cost and profit values for yearly average pump price of gasoline and diesel.



*Figure 30:* Distributor sector's cost and profit share within the yearly average pump price (TL/Lt)

This figure demonstrates that in the last four years distributor sector's cost and profit total share have not increased. Whilst, especially in years 2009 and 2010, due to legal changes, distributor's investment expenses and legal harmonization costs have significantly increased. In 2009, sector profitibality has in great part decreased due to the regulation that obliged all distributor stations to form a compulsory automation system, the price cap regulation and as a result of the economic crises. In 2010 according to the Competition Authority's decision most dealer-distributor agreements had to be renewed. As such, usufractury/rent contracts between dealer-distributor relationship has been re-identified, and reduced to maximum five year of validity, the contracts with longer periods were subjected to change and their time periods where reduced to five years, this in turn has reflected upon the market as a financial transfer of capital from the distributors to the dealers. All of the listed factors together have made 2010 a rather difficult year with heightened financial burdens for the distributors.

# • Pump price comparisons between Europe and Turkey and the important issues to be taken into account while making such comparisons:

Especially due to rising oil prices at the end of 2010, Turkey-Europe pump price comparisons have received much media coverage. With the increased importance of these comparisons there is a need to clearly point out the following;

 The data reported by the European Commission represent pump prices and taxes of European countries each collected weekly at different intervals, days and averages (the weekly collected data is expected to represent the <u>average</u> price of the entire nation). The European countries that are referenced according to the similarities they posses with the Turkish market are known as AK-4 Countries (MED-4: Greece, Italy, France and Spain). The following figures demonstrate pump price comparisons of these countries and Turkey at the end of 2010 and the beginning of 2011.

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#### Gasoline 95 Octane without tax pump prices, 31 December 2010:

Diesel 10 ppm without tax pump price, 31 December 2010:



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Gasoline 95 octane without tax pump price, 31 January 2011:

Diesel 10 ppm/ without tax pump prices, 31 January 2011:



*Figure 31:* Gasoline and diesel pump prices without taxes in four EU country and Turkey ( $\in$ /Lt)

Most comparisons published in the media have been focused on pump prices disregarding the fact that Turkey and Europe have major differences in the distributor sector. These differences

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which are listed in the section below are mostly related to price, quality, service and competition.

#### • Structural differences between Turkish and European fuel distributor sector:

- 1. In Europe stations are in general company owned, COCO or CODO operations which provide the advantages of vertical integration in sustaining competitive advantage. Whereas, in Turkey due to legal restrictions, ownership and management by distributor firms are limited, and almost all stations are composed of DODO operations, which generate a significant difference in operational structures.
- 2. Fuel station management / operational systems are different;
  - In Turkey there are pump attendants/ In Europe it's self-serviced.
  - In Turkey stations give 24/7 full service/ In Europe it's limited and with predetermined work hours.
  - In Turkey due to legal adaptations, costs of setting up a station by acquiring licenses and other requisites are much higher, the required field area for a station is set larger.
- 3. In Europe supermarket stations and diagonal subsidies are used more frequently.
- 4. In Turkey refinery capacity is insufficient to satisfy demand and especially for this reason 50% of diesel is imported. In Europe there is oversupply. National supply prices are much more economic and there are logistic cost advantages.
- 5. In Turkey 20+20 days compulsory / national oil stock is fully financed by refineries and distributors. In some European countries by clause there are compulsory financing mechanisms developed by the public sector or agencies.
- 6. In Turkey the burden of high taxes is levied upon the distributors.
- 7. A new structural amendment has been passed in Turkey regarding dealer/distributor contracts which has been effective since 18 September 2010 with the Competition Authority's decision.
- 8. There are financial burden differences brought by differing interest rates between Turkey and Europe; there are additional financial burdens for credit card payments and installment payments.
- 9. Turkey's geography is large and has a logistics system based on land transport which levies extra costs. In Europe there is a wide use of pipeline transport and networks.
- 10. In Turkey there are a high number of stations, efficiency and sales per station averages are low.
- 11. In Turkey there are activities which contract the market and lead to unfair competition such as cross border trade, illicit fuels, number 10 lube, and etc.
- 12. In Turkey as opposed to European countries there are important additional costs levied by the petroleum market law (i.e. EMRA income share, national marker, compulsory automation, excessive penalty fees.)

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In the light of the above mentioned differences it is possible to observe that Turkey's pump prices without taxes are competitive and compatible with the referenced four Mediterrenean countries.

#### V. IMPORTANT DEVELOPMENTS IN THE INDUSTRY:

#### a) Number 10 Lube and similar fraud fuel activites:

Number 10 Lube problem has increased a great deal in 2010. Today, under the name of number 10 lube -waste lubricants (lubricants, vegetable oils), mineral oils and heavy solvents formulations – are being used extensively in diesel automotives. While, the salers of these products do not carry a thrace of legal concern by introducing these products to the market. It is estimated that in 2010 at least 1 million tons of oil, waste oil, vegatable oil and solvent under the name of number 10 lube are sold to the market. The amount of tax loss calculated due to these activities have reached 1,5 billion TL in 2010. Apart from its fiscal effects, number 10 lube threatens market competition, the environment and human health, through which has become a state dignity issue. As such, EMRA is trying to formulate a solution to this problem through several regulations.

• Use of number 10 lube in place of diesel fuel, aside from threatening human health and environment is also harmful for the vehicles.

Analysis over the use of products produced from waste vegetable oils, waste mineral oils, base oils, solvent formulations named under number 10 lube suggest that these products contain dangerous substances which are detrimental for human health and the environment. The vehicles that use these products cause harmful exhaust emissions which threaten the environment and human health. Such illicit products that are used as fuel also damages the vehicles by decreasing the motor's life span, hence vehicles complete their economic life span much sooner, therefore hurting the national wealth of the country.

• 800.000 tons of excess mineral oil/ base oil / lubricants are introduced to the local markets as Number 10 lubricants and their formulations.

The above statement together with the 4,6% fall in consumption of diesel fuel in 2009, and market observations clearly portray the extents of the number 10 lube problem. Another indication is demonstrated by the low VAT applied to base oil, lubricant formulations and mineral oil imports under postponement and cancellation activities. Turkey's 2010 total mineral oil demand is estimated as 416.000 tons. In contrast, as can be seen from the figure below, around 800-850.000 tons of excess base oil/ lubricant formulations enter the market every year. This data, combined with the solvent and waste oil products used during the production

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activities of number 10 lube suggest that the volume of these activities have **increased by twofold** in 2010.

BASE OIL – MINERAL OIL – UNREFINED OIL (ADDITIVES) AND FORMULATIONS OF OIL - DEMAND (TONS/YEAR)	2005	2006	2007	2008	2009	2010
Given Import Permit (EMRA)	319.694	480.587	685.899	839.073	FREE	FREE
Base Oil Imports	213.514	307.402	466.211	438.263	605.766	920.000
Mineral Oil Imports	27.492	29.562	42.596	70.091	61.942	90.000
Import of Unrefined oil and formulations of oil	28.930	35.948	46.220	79.849	67.471	59.000
Refinery Base Oil Sales	339.149	305.811	307.716	252.235	244.353	316.426
TOTAL Market SUPPLY	609.085	678.723	862.743	840.438	979.532	1.385.426
Base Oil Exports	-	-	242	30.504	13.571	1.366
Mineral Oil Exports	142.781	120.000	133.928	113.571	116.633	143.338
Export of special additives of oil	5.564	7.039	9.733	15.257	20.251	10.958
Local Mineral Oil Consumption	339.000	360.000	388.000	386.000	363.000	416.000
TOTAL Export and local consumption	487.345	487.039	531.903	545.332	513.455	571.662
DIFFERENCE (EXCESS CONSUMPTION)	121.740	191.684	330.840	295.106	466.077	813.764

 Table 1: Turkey's production / import / export / and consumption balance of lubricant oils
 (source: TurkStat)

The table above demonstrate that there is an oversupply of 813.000 tons of base oil / lubricant oils accumulated in 2010 and that this amount is twice that of 2009.

## • <u>Tax (VAT) equalization and tax returns in providing industrial incentives provides a</u> <u>definite solution to overcome number 10 lube problem.</u>

The immediate solution to solve the problem is to level the tax amounts between fuels and mineral oils. The figure below demonstrate the tax differences between these products. This table portrays that there is a 1,16 TL difference between every Kg of the two products. This important difference constitutes a crucial reason for the activities conducted under number 10 lube. <u>The elimination of this tax difference is expected to provide an immediate solution to this problem.</u>

#### PETDER PETROLEUM INDUSTRY ASSOCIATION VAT Amounts (TL/Kg) 31.12.2009 Off-road Diesel 46 Auto Biodiesel 1.07 Lubricant Oils 1.06 (G.T.I.P. 2710.X) Kerosene 0,94 Lubricant Compositions 1,16 TL/kg 0,30 (G.T.I.P. 3403.X) Waste Oils 0.00 (Mineral and vegetative) 0.00 0,20 0.40 0.60 0,80 1.00 1,20 1.40 1.60

Figure 33: VAT differences between mineral oil and fuel products (TL/Kg)

## b) Competition Authority Ruling regarding Dealer Agreements

On March 11, 2009 the Competition Authority has stated that contracts signed under usufruct and lease annotations will be restricted to five years under the claim that such contracts pressure dealers to extend contract durations and create barriers to entry for the market. This regulatory enforcement has been the sector's most important topic for the year 2010.

The regulation to restrict the terms of contract to five years is assumed to have a natural transition for new contracts, however, previous contracts which had satisfied the regulations of its time are having difficulty adopting. Distributors have appealed against this procedure to exempt past contracts from the regulation as it will incur great conflicts for the investments made by the distributor firms, essentially, it will cause investment losses and will harm distributor/dealer relationship. The appeal has been fortified by presenting examples from European Commission's decisions regarding such similar proceeds.

Nevertheless, harmonization of contracts ending on 18<sup>th</sup> September 2010 is mostly concluded. In this period, distributers, to maintain their dealership and market share had to transfer a significant amount of wealth to the dealers. Following the Competition Authority decision, distributors have incurred important wealth losses to maintain current/valid contracts with their dealers and restrict their contracts to five years.

From 18<sup>th</sup> of September 2010 till the end of 2010 1,166 dealers have changed their distributor companies. The aimed effects of this regulation and its consequent wealth loss to distributors is expected to be felt in the market in the years to come.

During this process, an evaluation of the regulations solely based on the station numbers will be misleading. For distributors sales per station is just as important as the number of stations. In

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this regard, it is suggested that a full analysis of the effects of the regulation can be observed through evaluating market shares prior and after the regulation.

The figure below shows the change in number of stations of distributor companies on 05 Agust 2009 and 31 December.



**Figure 34:** Dealer Station numbers of Distributors (unit, 20 stations and above) *Source: EMRA* 

The figure demonstrates a limited transition of petrol stations towards the small and medium sized distributor firms. Nevertheless, the effects regarding market shares will be observed in the following period.

### c) Limitation of Sulphur Content in Diesel Fuel Types By 10 PPM:

The European Commission gives much weight on alleviating environmental degredation, reducing global warming, enhancing energy supply security, and improving renewable and sustainable energy use. As such, technical characteristics (regarding environmental effects) of fuel types to be introduced to the markets are reformulated under 98/70/EC Fuel Quality Directive. Directive is revised by the commission on 2009 with 2009/30/EC Directive. With the new directive (2009/30/EC) fuel types' quality and technical characteristics, use of biofuels, minimum compulsory standards of fuels used in land transport, waterways and railways, and exemptions from this regulation have been amended. The European Commission together with this regulation have restricted the maximum suphur content used in diesel fuels within the borders of EU to 10 ppm made effective from 01.01.2011. As such, if an exemption is not acquired from the European Commission, all EU countries will have to abide by the 10 ppm sulphur restriction for all vehicles including off-road vehicles that use diesel fuels.

In parallel to these changes, EMRA with a national regulation, have decided to restrict the sulphur content of all diesel fuels to 10 ppm effective from 01.01.2011, in parallel with the EU.

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According to this decision, the sulphur content in off-road diesel fuels will be reduced to 10 ppm and thus will have the same quality specifications with low sulphur diesel. Currently, there are no differences between off-road diesel fuel and low sulphured diesel apart from their sulphur content.

Turkey through EMRA's decision passed in conjunction with the EU Directive, aims to adapt the 10 ppm sulphur restriction simultaneously with EU countries made effective on 01 January 2011. From this date onward diesel fuels that contain more than 10 ppm sulphur will not be produced in refineries or imported to be distributed to the market; diesel fuels in transit from this day onward will be adapted to 10 ppm regulation through a transition schedule determined by EMRA. Restricting the sulphur content of diesel fuels to 10 ppm is estimated to reduce emission by a 100 fold, while suphur and its particule emissions to the atmosphere will be reduced 9,900 tons/year.

#### d) Actors of the Oil and LPG Markets:

4 refineries, 53 distributor company, 102 storage facility, and 12,894 fuel stations are actively participating in the petroleum market with EMRA's licenses as of 2010. While, 65 distributor company, 83 storage facility, and 8,721 autogas station are actively participating in the Liquefied Petroleum Gas (LPG) market. 90% of licensed autogas stations are situated within the fuel stations.

#### e) International Oil Markets

Oil prices which was **62**\$ per barrel in averge for 2009, portrayed an escalated value for 2010 reaching **around 79.6 \$/barrel** in average, with **67.6 \$/barrel** being the lowest value it has seen and **94 \$/barrel** being the highest value reached.



Figure 35: Daily average Brent type crude oil price progression (USD/Barrel).

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According to International Energy Agency reports world oil supply and demand has been in close sync in 2009. Nonetheless, this relation have been somewhat distorted through increased demand for the year 2010 which resulted in a (negative) difference. This situation which elevated prices is the result of enhanced demand that accumulated following the world economic crisis. The daily average of supply and demand demonstrated in quarters for 2009 and 2010 can be observed in the figure below.

#### Million Barrel / Day



Figure 36: 2009 and 2010 quarters daily average oil supply and demand (Million Barrel / Day)

### f) Vehicle Number Facts and Figures

According to Turkish Statistical Institute data 838,859 vehicles have entered traffic, and 132,236 vehicles have exited traffic in the January-November 2010 period. As such, the total number of vehicles increased in traffic has been 706.623 units for this period. 15,023,323 units of vehicle in total have circulated in traffic by the end of November of which the shares have been divided as the follows; 49.9% automobiles, 15.9% motorcycles, 15.9% vans, 9.3% tractors, 4.8% trucks, 2.6% minibus, 1.4% buses, and 0.2% special purpose vehicles.

The figure below demonstrates total vehicle number and automotive fuel consumption changes in Turkey across years. Although the number of vehicles in traffic have progressively increased between the years 2004-2010, automotive fuel consumption, especially in years 2009 and 2010, have remained stable, as off-road diesel consumption have contracted. This difference is mostly caused by illegal activities such as the Number 10 Lube.

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**Figure 37:** Number of vehicles in traffic and automotive fuel consumption progression. Source: TurkStat, PETDER, \* *Motorcycles are exempted*, 2010 *November (included) data*.

Number of vehicles using different fuel types is given in the next figure. In the last four years motorcycle numbers using gasoline have increased albeit the number of automobiles using gasoline have decreased. Futhermore, it is important to note that vehicles using LPG have doubled in the past four years.





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#### g) Other Industrial and Economic Data

#### - Electric Consumption

Electric production, which had decreased in 2009, has increased in 2010 as the effects of the global economic crisis started to fade. Monthly electric production values can be observed in the figure below.



Figure 39: 2009 and 2010 monthly electric production (Gigawatt/hour) Source: TurkStat,

Electric demand in Turkey is mostly supplied through termic santrals. In 2010 termic santrals provided 74% of total electric production. The percent of termic santrals using natural gas as a fuel is 62%. The figure below demonstrates electric production produced from different sources.



Figure 40: 2010 shares of sources used in the production of electricity (%). Source: TEIAS,

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#### - Natural Gas

Natural gas imports have progressively increased from 2000 to 2008, while after the crisis in 2009 consumption decreased as imports fell. Natural gas imports across years can be observed in the figure below.



#### - Economic Indicators

Inflation rates which had decreased in 2009 due to the crisis have increased in 2010 as production inputs and exchange rates increased. The figure below demonstrates inflation rates for the last six years calculated according to consumer price index and producer price index.



Figure 42: 2004 -2010 inflation values (%) Source: TurkStat

Growth rates which is regarded as the most important macroeconomic indicator have portrayed a positive outlook for the Turkish economy in 2010.

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The figure belew portrays yearly and quarterly growth rates.

Figure 43: 2005-2009 period yearly and 2010 quarterly growth rate (%) Source: TurkStat

While Turkey's economic growth is expected to average 8% for the whole 2010, the fact that fuel consumption has remained almost stable presents a peculiar picture. This incongruity between these two indicators is observed especially within the last two years.



**Figure 44:** Yearly Automotive fuel consumption rate and GDP growth rate (%) Source: TurkStat,

The fact that fuel consumption has not been able to pace up with economic and industrial growth, and the fact that there cannot be an economy without energy indicates the heights of the illicit fuel activities in Turkey. This in turn portrays another important explanation to the increase in illegal fuel activities in 2010. This situation which is wholly related to the Number 10 lube is explained in detail in the related part of this report.

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#### **V. PETDER ACTIVITIES:**

#### **PETDER Waste Engine Oil Collection Activities:**

Petroleum Industry Association (PETDER) within the framework of "Control of Waste Oils Regulation" since 2004 till present hosts activities under the name of "waste engine oil collection" from which within the timeframe of the last six years **10,049** engine oil producers have been visited **65,913** times across 81 cities of Turkey and collected a total of **84,486** tons of waste engine oil which were later transported to licensed raw material facilities to be recycled as energy or transfered for their disposal.

In 2010, PETDER collected **17,775 tons** of waste engine oils in its 15,612 trips from different enterprises to be distributed to the Ministry of Environment and Forest. **In 2010 PETDER has distributed 2,065 tanks full of waste engine oils to licensed facilities.** 



Figure 45: 2005-2010, yearly waste engine oil collection values (ton).

PETDER, as a non-profit organisation, through this project has aimed to provide a cost free service to waste engine oil producers to collect their wastes engine oils for the benefit of the public sector. Till present PETDER has generated <u>15 million TL</u> funds for this project.



**Figure 46:** 2005-2010, yearly funds generated for waste engine oil collection activities (million TL).

In 2010 PETDER through its waste engine oils collection activities has collected energy equivalent to satisfy the yearly demand of 30 thousand persons.

#### WASTE OILS TURN INTO TREES !

Petroleum Industry Association through the "ONE BARREL ONE TREE" project signed in coordination with the Ministry of Environmnet and Forest will plant one tree for each barrel of waste engine oil collected.

Within the scope of T.R. Ministry of Environment and Forestry's forestation campaign, PETDER has agreed to finance "One Barel One Tree" project which aims to plant 30 thousand trees within the first two years of the project. In the instance of participation attained from all public bodies, the procject aims to forest 25,000 m<sup>2</sup> area by the end of 2011.

PETDER will plant one tree for each barrel of waste engine oil collected through the "One Barrel One Tree" Project in the hopes of leaving a better future and environment for our children and country.

Heavy metals, heavy hydrocarbons, and composites with chloride having a cancirogen effect found in waste oils threaten the environment and human health.

Waste engine oils burned in uncontrolled conditions, inserted in fuels such as number 10 lube, or disposed to the



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environment cause serious harms to the environment and human health. Not surprisingly, figures show that 1 litre of waste oil when blended with water contaminates 800,000 litres of water, also when included in fuels it has serious potential to harm human health.

#### VI. SOURCES:

- Fuel data used in this report have been compiled from statements provided by 11 fuel distributors whose aggregate market share is calculated to be above 95 of the market and reported to the independent research organization PWC (Price Waterhouse Coopers) on voluntary participation basis. For data on fuel distributors who did not participate in this voluntary data formation system, calculation were made using data from previous periods obtained from the EMRA.
- Mineral oil data used in this report is reported to an independent audit organisation on a voluntary participation basis. EMRA, PIGM and Ministry of Environment and Forest data suggest that participating firms together compose 65% of the total share in the market.
- Data related to the LPG sector is obtained from EMRA LPG Sector Report.
- Inflation, GDP, CPI, exchange rates, vehicle numbers and total vehicle station data is obtained from open source Turkish Statistics Institute (TurkStat) and the Central Bank Reports. Crude oil prices and pump tax values are obtained from Argus and European Commission sources.
- Turkish pump prices used in this report is obtained from EMRA and firm websites. Data related to European pump prices is obtained from:
  - France: Ministry of Industrial Economy and Employment : <u>www.prix-carburants.gouv.fr</u>
  - Spain: Ministry of Industry, Tourism and Trade <u>http://www.mityc.es/energia/petroleo/Precios/Informes/InformesMensuales/Paginas/Ind</u>
  - Italy : <u>http://www.quotidianoenergia.it/check\_up\_prezzi\_qe.php</u>
  - Greece : Treasury <u>http://www.fuelprices.gr</u>
  - EU Data: European Commission, EC Oil Bulletin, <u>http://ec.europa.eu/energy/observatory/oil/bulletin\_en.htm</u>

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#### 2000-2010 Fuel and LPG Consumptions

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
U.Gasoline 95	m3	2.014.354	2.305.525	2.160.712	2.260.772	2.436.466	2.607.834	2.884.939	3.047.316	2.602.498	2.589.882	2.463.095	
U.Gasoline 97+	m3	0	0	0	16.959	285.489	262.218	123.878	20.180	310.926	294.494	231.015	
U. Gasoline with Additives	m3	1.599.493	1.176.463	1.906.795	1.552.788	1.005.699	625.519	366.890	209.624	110.902	57.705	22.131	
Total Gasolines	<i>m</i> 3	3.613.846	3.481.988	4.067.507	3.830.519	3.727.653	3.495.570	3.375.707	3.277.120	3.024.326	2.942.081	2.716.241	1
Kerosene	тЗ	51.353	41.216	37.430	47.977	41.118	34.792	26.077	18.176	13.624	11.170	19.906	2
Off-road Diesel	тЗ	9.691.472	9.963.639	11.234.997	11.504.277	12.445.391	12.291.514	12.588.855	12.624.816	13.161.773	11.920.167	11.374.617	8
Diesel (Low Sulphur)	тЗ	0	0	0	0	248.634	783.791	1.589.643	2.704.326	3.415.699	4.007.412	4.927.980	2
Total Diesels	<i>m</i> 3	9.691.472	9.963.639	11.234.997	11.504.277	12.694.025	13.075.305	14.178.498	15.329.142	16.577.472	15.927.579	16.302.597	101
Total White Products	<i>m</i> 3	13.356.671	13.486.844	15.339.934	15.382.773	16.462.796	16.605.667	17.580.282	18.624.438	19.615.422	18.880.830	19.038.744	6
U.Gasoline 95	ton	1.561.124	1.786.782	1.674.552	1.752.098	1.888.261	2.021.071	2.235.828	2.361.670	2.016.936	2.007.159	1.908.899	Fu
U.Gasoline 97+	ton	0	0	0	13.144	221.254	203.219	96.005	15.640	240.968	228.233	179.037	e1
U. Gasoline with Additives	ton	1.239.607	911.759	1.477.766	1.203.411	779.416	484.777	284.340	162.459	85.949	44.721	17.152	ar
Total Gasolines	ton	2.800.731	2.698.541	3.152.318	2.968.652	2.888.931	2.709.067	2.616.173	2.539.768	2.343.853	2.280.113	2.105.087	d d
Kerosene	ton	41.082	32.973	29.944	38.382	32.894	27.834	20.862	14.541	10.899	8.936	15.925	
Off-road Diesel	ton	8.189.294	8.419.275	9.493.572	9.721.114	10.516.355	10.386.329	10.637.582	10.667.970	11.121.698	10.072.541	9.611.551	ິດ
Diesel (Low Sulphur)	ton	0	0	0	0	210.096	662.304	1.343.248	2.285.155	2.886.266	3.386.263	4.164.143	Ó
Total Diesels	ton	8.189.294	8.419.275	9.493.572	9.721.114	10.726.451	11.048.633	11.980.831	12.953.125	14.007.964	13.458.804	13.775.694	9
Total White Products	ton	11.031.107	11.150.789	12.675.834	12.728.148	13.648.277	13.785.533	14.617.865	15.507.434	16.362.716	15.747.853	15.896.706	ISU
Heating Oil	ton	1.309.576	1.397.577	987.773	951.716	720.482	612.175	482.942	390.777	384.736	320.641	261.747	1 8
Fuel Oil No: 6	ton	3.813.166	2.714.688	3.888.676	3.784.642	3.746.051	3.399.622	2.461.617	2.163.418	2.373.363	1.596.568	813.032	pt
Total Black Products	ton	5.122.742	4.112.265	4.876.449	4.736.359	4.466.533	4.011.797	2.944.559	2.554.195	2.758.099	1.917.209	1.074.779	٥.
Total Fuel	ton	16.153.849	15.263.054	17.552.283	17.464.507	18.114.810	17.797.330	17.562.424	18.061.629	19.120.815	17.665.062	16.971.485	ns
LPG/Bottled	ton	2.133.831	1.810.341	1.724.805	1.801.825	1.665.167	1.557.212	1.491.580	1.302.434	1.177.269	551.536	514.947	1
LPG/Bulk	ton	1.067.348	794.052	713.354	646.552	454.066	383.148	475.454	216.470	171.528	90.657	76.679	
LPG/Autogas	ton	1.280.331	1.230.330	1.136.025	1.147.374	1.640.766	1.751.838	1.550.605	2.006.263	2.111.557	2.305.240	2.497.435	
LPG (bottled, bulk and autogas)*	ton	4.481.510	3.834.723	3.574.184	3.595.751	3.759.999	3.692.198	3.517.639	3.525.167	3.460.354	3.620.334	3.679.168	
Total Automotive (White Products+Autogas)	ton	12.270.356	12.348.146	13.781.915	13.837.140	15.256.148	15.509.538	16.147.609	17.499.156	18.463.373	18.044.157	18.378.216	1

\* Bottled, bulk and autogas LPG consumption have been collected from EMRA reports, total 2010 consumptions are estimated values

Figure 48: 2000- 2010, fuel and LPG consumptions

PETROLEUM INDUSTRY ASSOCIATION

#### VII. CONTACT AND MEMBER INFORMATION:

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Altınbaş Petrol ve Ticaret A.Ş.



BELGiN

Petline Petrol Ürünleri A.Ş.

Shell & Turcas Petrol

Shell Gaz Ticaret ve

Total Oil Türkiye A.Ş.

Sanayi A.Ş.

Petrol Ofisi A.Ş.

A.Ş.

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BP Petrolleri A.Ş.

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DELTA Akaryakıt Tic. A.Ş.

ERK Petrol Yatırımları A.Ş.

Mobil Oil Türk A.Ş.

**E**∕∕xonMobil.

Turkuaz Petrol

Turcas Petrol A.Ş.

Turkuaz Petrol Ürünleri A.Ş.





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PETROLEUM INDUSTRY ASSOCIATION



In the past six years we have recycled over eighty thousand tons of waste engine oil as energy.

# **PETDER** OIL INDUSTRY ASSOCIATION

Waste Engine Oil Information Hotline: 0 212 220 39 99 <u>atikyag@petder.org.tr</u>

Petroleum Industry Association, 2010 Sector Report