

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

Required Report - public distribution

**Date:** 6/10/2009

**GAIN Report Number:** TU9020

## Turkey

### BIOFUELS ANNUAL

## Turkey Biofuels Report 2009

**Approved By:**

Ralph Gifford

**Prepared By:**

Osman Cakiroglu

**Report Highlights:**

Although Turkey's bio-diesel production capacity is 1.5 million tons per year, government policies limit rather than encourage production; 2008 output was only 25,000 tons. Out of the 54 licensed bio-diesel producers, only seven are operating. Turkish bio-ethanol capacity is 0.16 million tons per year. Due to low demand, only one of the three existing manufacturers is producing regularly.

**Post:**

Ankara

**Commodities:**

select

## **Author Defined:**

### **Executive Summary**

In the Turkish bio-fuels market, the main focus is on bio-diesel production (which attracts the majority of investment) and to a lesser degree bio-ethanol production. Bio-diesel development in Turkey can be analyzed in three separate time frames:

- Growth of investment between 2000-2005
- Increase in government legislation in 2006
- Decline of industry since 2007

Until 2006, bio-diesel production was viewed as a potential step towards reducing Turkey's dependence on imported petroleum. From 2003 to 2006 bio-diesel production facilities were set up all around the country. Then, a series of new laws in 2006 and 2007 blocked the development of this rapidly-growing industry through complex and burdensome bureaucratic procedures and high tax rates. Although the Turkish bio-diesel production capacity is currently 1.5 million tons per year, 2008 production was only about 25,000 tons.

There are three plants set up to produce bio-ethanol for fuel in Turkey: Konya Seker, Tezkim, and Tarkim. All three producers use domestically grown crops. Due to low demand, only Tarkim is producing regularly, while the other two producers have not been operational for the past two years.

### **Bio-diesel: Growth of Investment 2000-2005**

In Turkey, research on bio-diesel was first conducted at the Ataturk Forest Farm In 1934. The research focused on using bio-diesel for fuel in agricultural machinery. However, this pioneering research was largely ignored and interest in bio-fuels in Turkey was negligible until recent years.

In 2000, once again bio-fuels were gaining public attention. Several universities conducted research projects on bio-diesel and bio-ethanol technologies. This research, combined with the economic crisis of 2000, increased media and government attention to bio-fuels. In 2002 the Ministry of Industry and Commerce formed the "Bio-diesel Working Group". The work of this group formed the basis for legislation on bio-fuels that was passed in 2003.

The Ministries of Environment, Agriculture, Industry and Trade are all involved in setting regulations and standards for bio-diesel. In early 2003 definitions of bio-diesel and bio-ethanol were included in the Petroleum Market Law. This law was not specific to bio-fuels and focused on petroleum-based fuels. Bio-diesel was included in this law even though bio-diesel fuels are not classified as petroleum anywhere else in the world. The bio-diesel associations and other supporters of bio-diesel pressured the government to include bio-fuels in renewable energy laws, as is routine elsewhere in the world. Proponents claimed that bio-fuels must be handled within the framework of a separate law that would reflect their distinctiveness and also promote growth in the sector.

Although the Petroleum Market Law was a hindrance in some ways, it did exempt bio-fuels from special consumption taxes. This tax advantage and the growing media hype attracted entrepreneurs causing investments in bio-fuel production to increase rapidly. This regulation spurred the rapid development of bio-diesel production in Turkey.

In 2004 two regulations ("Legislation on Technical Criteria to be Applied to the Petroleum

Market” and “Petroleum Market Licensing Legislation”) defined bio-diesel as a liquid fuel and laid out licensing criteria for the export, distribution, transport and sale of the product.

In 2005, standards for bio-diesel were set by the Turkish Standards Institute in accordance with European Union Standards. Accordingly, Bio-diesel could be marketed as either “automobile bio-diesel” or “other fuel bio-diesel”.

Between 2003 and 2006 more than 200 bio-diesel product facilities were established in Turkey. Additionally, countless backyard bio-diesel production facilities were operating. By the end of 2005, Turkish bio-diesel production reached 450,000 tons per year.

### **Bio-diesel: Increased Government Legislation in 2006**

Turkey is a net importer of oilseeds and oils which are typically used to produce bio-diesel, such as soy and canola. Until 2006, bio-diesel in Turkey was produced from a combination of different types of vegetable oils, but mostly from imported soybean oil. In the winter, producers typically blended 65 percent soy oil with 35 percent canola oil to produce bio-diesel and in the summer, they used 85 percent soy oil with 15 percent palm oil. In cotton-producing regions cottonseed oil has also been used in bio-diesel production. In 2006 increased importation of oilseeds prompted the government to tax bio-diesel production.

Revisions made in 2006 to the “Legislation on the Production, Domestic and International Sourcing and Marketing of Diesel Fuels” allowed bio-diesel to be mixed with petroleum based diesel up to a level of 5% by volume. Later that year, the Foreign Trade Under Secretariat published a notification on the standardization of bio-diesel, specifying requirements and test methods for bio-diesel using EU standards.

Also in 2006, legislation passed requiring bio-diesel producers to obtain additional authorization from the “Revenue Administration”. Then in 2007, petroleum legislation declared that all licensing and inspection of bio-diesel production facilities was to be conducted by the Energy Market Regulation Commission (EMRC). This added an additional layer of regulation.

Accordingly producers were now required to report their production forecasts to EMRC on a yearly basis and to report actual production every three months. Producers were allowed to obtain a distribution and dealer license only if they projected that they would produce 30,000 tons of pure bio-diesel production from domestic raw material. Even those who only produced for self use, such as farmers, were required to apply for a license or else they would be considered to be illegal producers.

Production from used cooking oil and other waste products is bureaucratically even more complex. In addition to the need to obtain all of the aforementioned licenses, the producers must obtain another two licenses from the Ministry of Environment and the Turkish Technological and Scientific Research Institute.

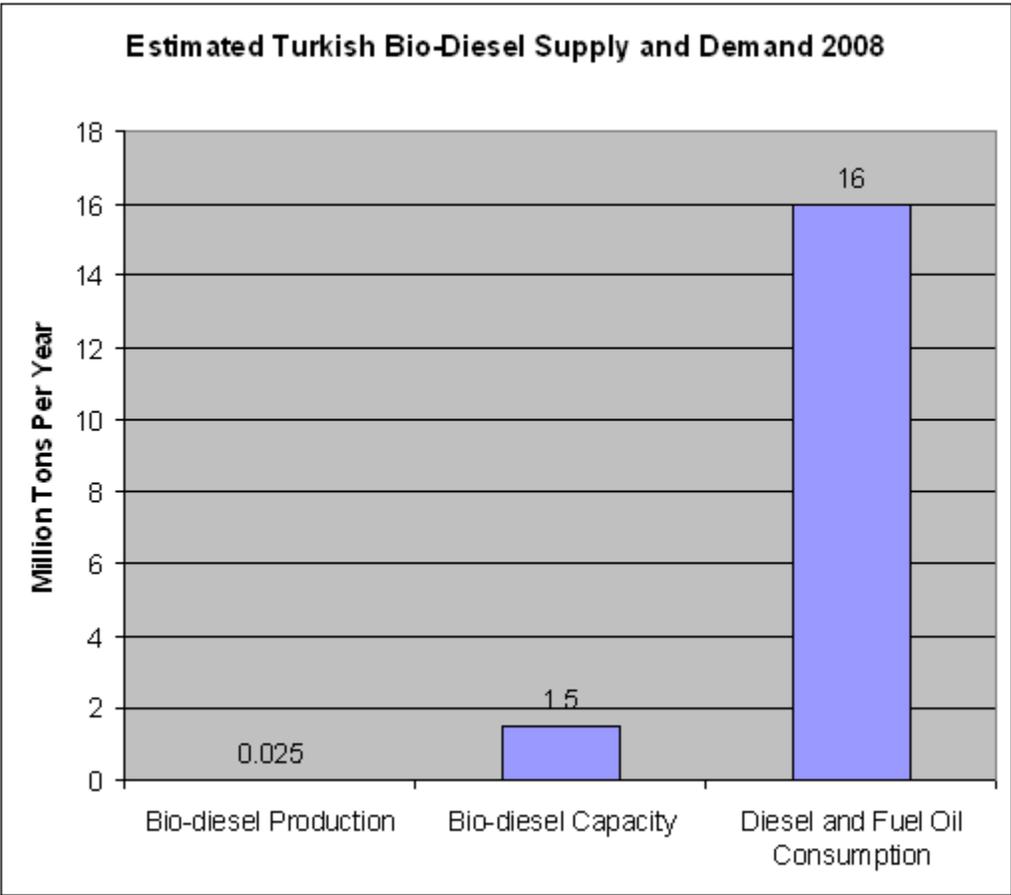
The most important development in 2006 was the announcement that in March 2006, for bio-diesel produced from imported raw materials, a 0.65 YTL per liter special consumption tax would be charged. In November 2007 the special consumption tax increased to 0.72 YTL per liter.

Mixing bio-diesel with petroleum based diesel up to 5% is allowed in Turkey. If the mixture rate is less than or equal to 2% and if bio-diesel is produced using domestic raw materials, there is special tax exemption. However if the mixture rate is more than 2%, the special consumption tax for petroleum based diesel is applied.

In essence, after the 2006 legislative changes, bio-diesel lost its tax advantages over petroleum-based diesel. Industry sources note that for petroleum-based diesel there is no import tariff, only a special consumption tax, whereas for bio-diesel there is an import tariff for the raw materials as well as a special consumption tax [For information about oilseed imports and tariffs, see GAIN report TU9013 Turkish Oilseeds Annual at <http://www.fas.usda.gov/gainfiles/200903/146347587.pdf>

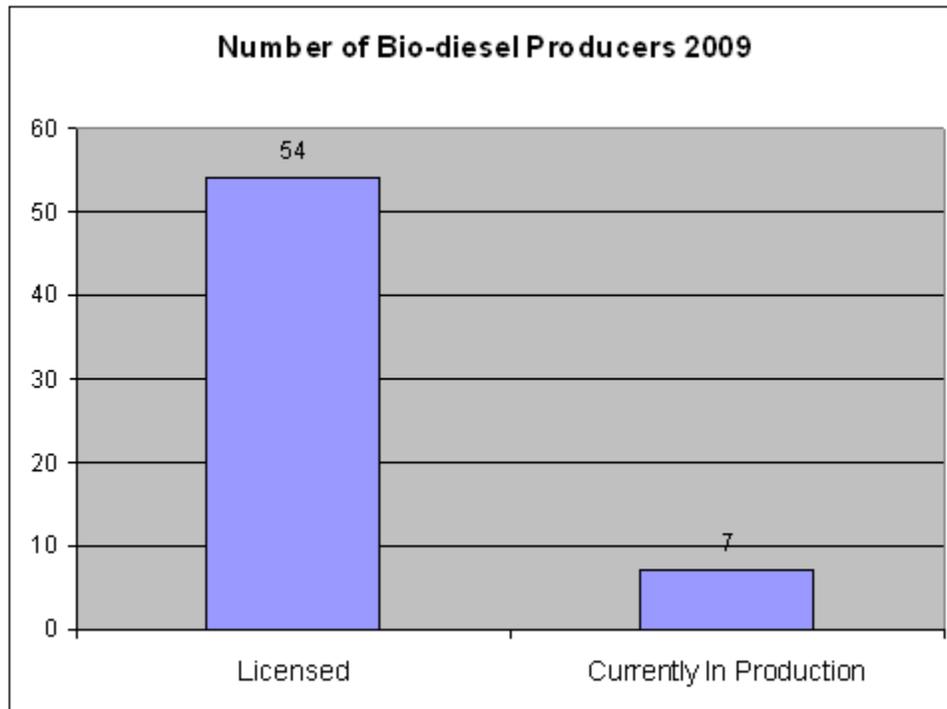
**Bio-diesel: Decline of Industry Since 2007**

From 2003 to 2006 bio-diesel production facilities were set up all around the country. During this time, since there were no standards, the quality of bio-fuels produced varied greatly. Since Turkish oilseeds could not meet the raw material demand, oilseeds were primarily imported by producers.



After the legislative changes of 2006, about 150 bio-diesel production license applications were submitted and of these only about a third received production licenses. Currently there are 54 licensed companies, but only seven of them are in operation. Cevresel Kimya (investment of USD 14 million) and Biyoner (investment of USD 4 million) were among the firms that ceased operations. The companies that continue to produce bio-diesel use waste oil as a raw material.

Currently the Turkish bio-diesel capacity is at 1.5 million tons per year, based on the capability of the existing facilities. However, 2008 production was only about 25,000 tons. Bio-diesel associations noted that due to the high special consumption tax, bio-diesel is not competitive and therefore estimate that USD 200 million in bio-diesel capacity is not being utilized.



In short, regulatory changes in 2006 and 2007 blocked the development of this once thriving industry by creating the following situation:

- High special consumption taxes caused the price of bio-diesel to increase, hence making it less competitive against petroleum based diesel
- Producers are now unable to sell directly to end users and there is no legislation that obliges distributors to purchase bio-diesel.
- Due to high costs distributors do not have any commercial interest in purchasing bio-fuels
- Distributors are not willing to make pump and storage modification changes to their sales outlets
- Licensing procedures are bureaucratic and burdensome

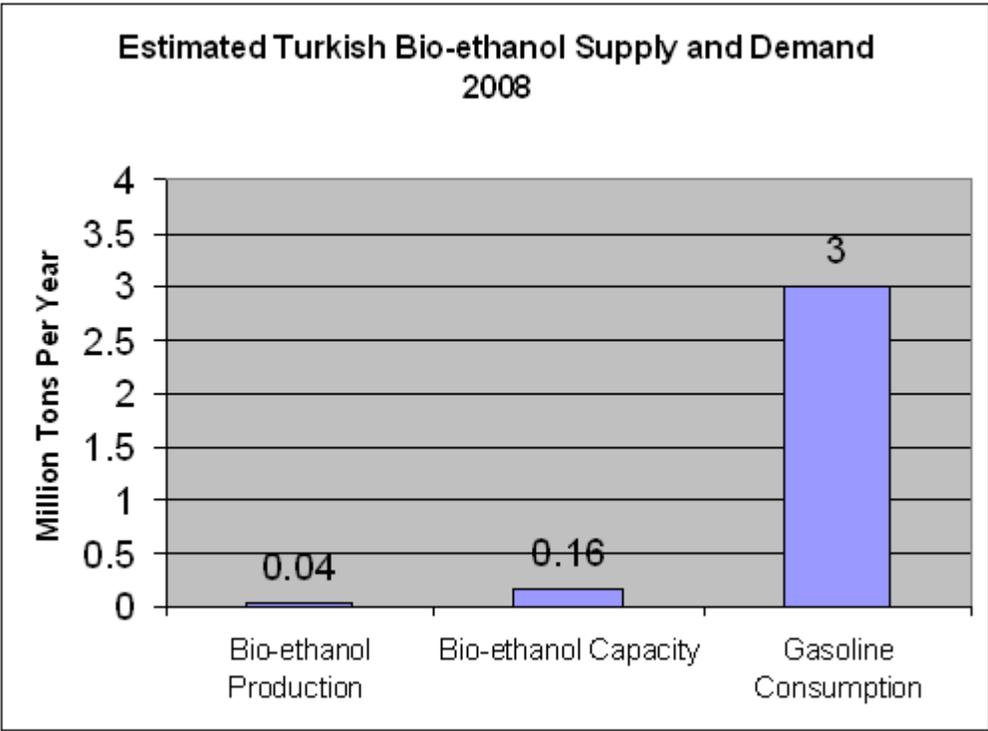
Industry noted that in 2008 the production cost of bio-diesel was about 2.5 YTL per liter. Costs increases to 3.2 YTL per liter with the imposition of the special consumption tax. In comparison, the price of diesel was between 2.9 and 3.0 YTL during the same period.

Turkish regulations do not allow bio-diesel producers to sell bio-diesel directly to users. Since the producers do not have direct sales licenses, they must sell to petroleum distribution companies whose licenses give them authority to sell bio-diesel. These companies must sell their products to their retailers that have gas stations or sell by truck load to the consumers.

Distribution companies must make initial investment in their facilities to allow for the storage and distribution of bio-fuels. Currently there is no legislation that obliges distributors to incorporate bio-fuels in their product line. Therefore, distributors view bio-fuels from a purely commercial perspective and are not willing to invest in bio-diesel distribution.

**Bio-ethanol**

Bio-ethanol production in Turkey followed a trend similar to bio-diesel production. Production first began in 2004. Initially the production cost of ethanol was higher than the cost of gasoline. A decree passed in 2005 made domestically produced bio-ethanol exempt from special consumption tax. According to this decree; blending bio-ethanol with petroleum based gasoline up to 5% is allowed. If the mixture rate is less than or equal to 2% and if the bio-ethanol is produced using domestic raw materials, there is special consumption tax exemption. However if the mixture rate is more than 2%, Special consumption tax for petroleum based gasoline is applied.

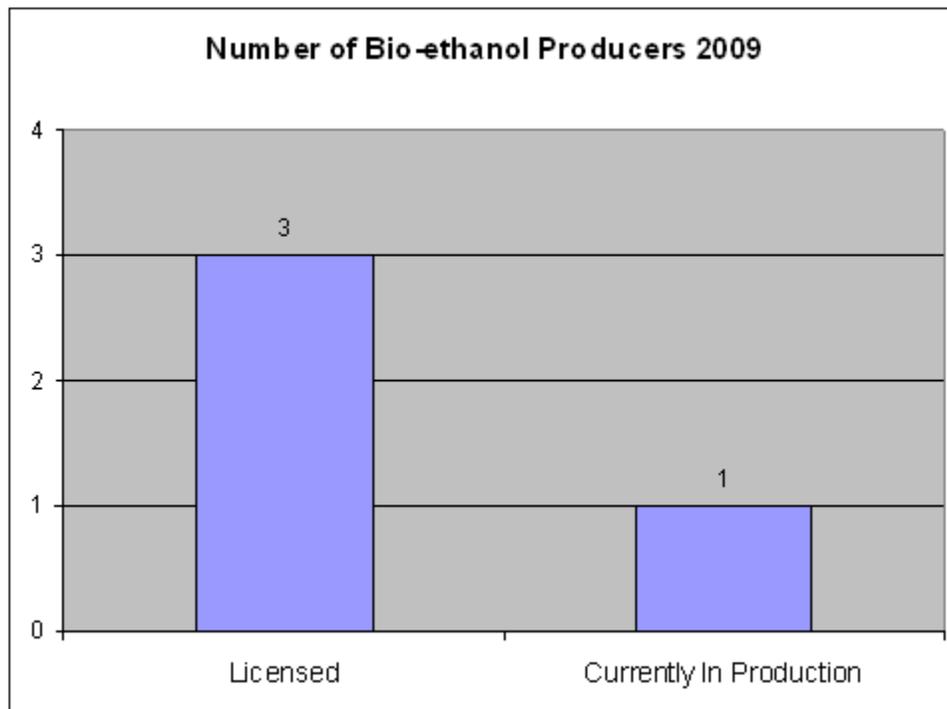


Currently there are three plants that produce bio-ethanol for fuel in Turkey: Konya Seker, Tezkim, and Tarkim. All three producers use domestically grown crops (sugar beets, corn, or wheat) so the political tension over imported raw materials, seen with bio-diesel, is not seen in this sector. Due to low demand, however, only Tarkim is producing regularly. The other two producers have not been operational for the past two years.

Konya Seker's bio-ethanol plant was established in 2007 in Konya and has the highest capacity with 85,000 tons per year. It uses sugar beets to produce bio-ethanol and its main goal is to support sugar beet production in the area. Industry sources note that the factory was built not with profit in mind, but the prestige of helping with environmental issues.

Tarkim Company started production in 2004. Its plant is located in Bursa. It produces ethanol for fuel from either corn or wheat. The capacity of its facility is estimated at 40,000 tons per year.

Tezkim Company started production in 2007. Its plant is located in Adana. Tezkim also uses wheat or corn as a raw material. It has an estimated capacity of 35,000 tons per year.



Due to very low demand from distributors the industry is unable to produce at full capacity or to grow. As with bio-diesel, bio-ethanol distribution requires initial investment by distributors. Industry sources note that conventional petroleum based distributors are unwilling to make the necessary investment unless they are legally obliged to.

### **Bio-fuel Associations**

There are three associations representing bio-fuel producers in Turkey. These associations work to influence lawmakers to pass laws that benefit the bio-fuel industry. "The Alternative Energy and Bio-diesel Manufacturers Union" is the main bio-diesel association in Turkey. It has a sister organization called "Bio-diesel Industrialists & Businessmen Association". Third is "Bio-ethanol Producers Union" which focuses on bio-ethanol.

### **Post Contact Information**

USDA's Foreign Agricultural Service has two offices in Turkey, one in the U.S. Embassy in Ankara and another in the U.S. Consulate General in Istanbul.

- FAS Ankara:  
Foreign Agricultural Service  
Embassy of the United States  
110 Ataturk Bulvari  
Ankara, Turkey

U.S. mailing address:  
Foreign Agricultural Service  
U.S. Embassy Ankara  
PSC 93 Box 5000  
APO AE 09823

Tel: 90-312-455-5555 Ext: 2406  
Direct: 90-312-468-6129  
Fax: 90-312-467-0056

- FAS Istanbul:  
Foreign Agricultural Service  
Consulate General of the United States  
Istinye Mah. Kaplilar Mevkii No: 2  
Istinye, Istanbul, Turkey  
U.S. (APO) Address:  
PSC 97, Box 0002 APO AE 09827-0002

For more information on high value food items, commodities, regulations and other countries, please refer to the FAS homepage at <http://www.fas.usda.gov>.