

expected because many investors are not finding sufficient grain inputs. 'New projects requiring hundreds of thousands of tonnes of maize are being unveiled week by week, but few of these will actually be built,' says Imre Németh, Hungary's state secretary.

Part of this is due to recent drought. It would take about five years for Hungary to reach its goal of building 800,000 tonnes of bioethanol capacity, Németh remarks. Two firms make bioethanol in Hungary, Gyor Distillery and Hungrana, which is jointly owned by Austria's Agrana and UK sugar producer Tate & Lyle.

The combined capacity will reach 200,000 tonnes by the end of 2007. The third substantial project is situated at the site of a former sugar plant in Kaba which is run by Eastern Sugar, a joint venture of Tate & Lyle with Saint Louis Sucre, a subsidiary of Suedzucker. The plant in

North	2006	2007	South	2006	2007
Germany	165	431	Spain	303	396
France	144	293	Italy	8	78
Poland	64	161	Hungary	35	34
Total	373	885	Total	346	508

Source: European Bioethanol Fuel Association (eBIO)

eastern Hungary will make an estimated 100,000 tonnes of ethanol from 300,000 tonnes of grain. Joining the race is Bács-Bio-Etanol, Hungary's own producer, which has announced it will construct a bioethanol plant in 2008. The factory will process 250,000 tonnes of locally produced corn a year.

Largest producers

Spain is the biggest bioethanol producer in southern Europe, with the efforts of Abengoa Bioenergy leading the way. Abengoa Bioenergy has three bioethanol plants in production

in Spain with capacities of 100 million litres, 126 million litres, and 200 million litres (of which 12.5% will be made from wine distillation). The company operates two wine distillation plants with 50 million litres capacity each. Apart from barley and wheat, a pilot plant for the production of 5 million litres of bioethanol from lignocellulosic biomass (cereal straw) is also being built.

Italy is the largest biodiesel producer in southern Europe, and the second largest bioethanol producer, behind Spain. Italian biodiesel is produced mainly from imported rapeseed and soybean oil from

other EU countries. Rapeseed accounts for 70%, soybean 20%, and the remainder from sun and palm oils. At the start of 2007 there were 10 biodiesel plants, with a further six to be operational by 2009. Total capacity will rise from 1.53 million tonnes to 2.14 million.

In 2006, bioethanol production in Italy rose to 1.28 million hectolitres obtained from alcohol produced from both the distillation of wine surpluses and molasses. Two bioethanol plants using corn have been operational for over 20 years with a combined capacity of 2.7 million hectolitres. Four further plants are planned for 2009, adding almost 10 million hectolitres extra capacity.

Success outside the circle

Since the introduction of the EU Directive, member states have been steadily pursuing individual targets. Meanwhile the biofuels situation in non-EU countries such as Turkey and Serbia has been helped along by external investment, ensuring a similar biofuels output.

As a non-EU member, Turkey has no pressure to meet a set biofuels target, so external investment is vital. Saving Energy Corporation, a US biodiesel company, is teaming up with a local partner in Turkey. Georgy Norkin, project manager at Saving Energy's Turkey Group, says: 'Biofuels are not currently stable yet - the biggest problem is raw materials because there is not enough. There is no internal market so we need to import or switch to an alternative such as algae.' After the plant in Turkey is built,



Verbio is one the biggest biofuels producers in Europe

within three years the company plans to use algae as a raw material.

Biodiesel produced from domestic raw materials in Turkey is exempt from a private consumption tax of 0.65 Turkish lira (0.35) per litre with a 2% blend. The main challenge for biofuel producers in Turkey is to promote biofuel usage as Turkey does not have a legal framework to make this compulsory. Therefore only some of the oil companies blend biofuels in order to qualify for the 2% excise tax waiver.

Norkin points out that the imposition of tax depends on where the biofuels production takes place. 'There are lots of free zones in the country; in those zones there will be tax breaks. If you import outside the free zones there could be a potential problem.'

The Saving Energy Turkey Group plant will be built in a free zone. There are incentives for local farmers that grow canola as a feedstock, and Saving Energy has construction agreements with partners to supply raw

materials in the area.

While the biofuels output in Turkey's is under no obligation to comply with the EU's 5.75% target, the company is looking to reach that number eventually. 'We're promoting a huge capacity. It will be the biggest biodiesel production plant in Turkey. There are some companies on the market but not with such high capacity.' The company has established a joint venture with a local company to build a plant with an annual capacity of 265,000 tonnes.

Saving Energy is looking for a solid long term investment. 'We are also looking for potential partnerships with local companies familiar with the laws and the country,' says Norkin. The company imports rapeseed from the southern region of Russia to support the production cycle.

Bioethanol in Turkey, on the other hand, is something producer Tarkim handles singularly. The company has one operational production plant at Mustafakemalpaşa-Bursa, with an annual production capacity of 40,000 m³.

Both corn and wheat processed in the plant are grown locally, with an annual consumption of 100,000 tonnes.

'We do not import bioethanol,' Simin Emir, sales and marketing specialist, says. 'Depending on the demand, we expect, maximum, a quarter of our production levels to be exported. The future looks bright as Turkey is producing many agricultural products. The main problem is the lack of legal basis for promoting biofuel usage and an action plan for the upcoming years.'

Serbia gets prepared

With news that Serbia could join the EU in 2008, the readying of biofuels projects seems to be a clear move to meet the trends set by the EU for its member states. Serbia opened its first biodiesel plant in June this year with an annual production rate reaching 100,000 tonnes of biodiesel, which equates to 2% of Serbia's annual consumption of fossil fuels.

The biodiesel produced at

the Victoria Oil refinery in Sid will come from local raw materials rapeseed, sunflower and soybean oils. Savo Vukicevic, head of the commercial department at the plant, says: 'Our basic target is the domestic market: big transport companies, big farms and petrol stations. For Serbia it means getting the fuel produced out of local raw materials. Its also important that it reduces dependence on imported fossil fuel.'

In September 2006, a group of eight Hungarian companies, a US firm and a German bank, started building Serbia's biggest bioethanol power plant. This will burn 1 million tonnes of wheat and 500,000 tonnes of maize, equating to almost 50% of Serbia's annual output of both crops.

The Hungarian-US consortium, Biotech Energy, will invest 371 million in building a bioethanol plant in the town of Zrenjanin, along with a port and other infrastructure. The project is scheduled for completion by the end of 2009, and represents the largest-ever green field investment in southeast Europe. The factory is expected to generate around 680,000 tonnes of bioethanol annually.

Future outlook

Lack of raw materials and recent droughts are having a specific effect on biofuels production in the southern European countries this year. But with a little help from outside, the market is growing. Bulgaria in particular has been attracting a large amount of investment interest from Germany and Spain, giving it the potential to become one of the main biofuels producers of the future, alongside Hungary.

With this external support, national initiatives and a growing demand, producers in southern Europe could soon be toasting their successes in the sunshine. ●



Tarkim will produce 100,000 tonnes of biodiesel from local raw materials