

Fuel the future

with bioethanol – a realistic
large scale alternative
to fossil fuels



Fuel the future

Imagine a fuel that doesn't contribute to global warming. A fuel that is completely renewable. A fuel that can be used by ordinary, mass-produced cars, and that already can be found at filling stations around the world.

The end of oil

In recent years, it has become perfectly clear that the world's reliance on fossil fuels for transport is unsustainable. To begin with, the days of cheap and easily available oil are numbered. In addition, fossil fuels are the main reason for global warming, a process that practically all climate scientists say we have to deal with – not soon, not tomorrow, but now.

Fortunately, there are alternatives: hydrogen, electricity, and a number of others. But only a few can start making a difference right away. One of the most promising of these is bioethanol.

Bioethanol is the alternative

Most of us are familiar with ethanol as the "alcohol" ingredient of alcoholic drinks. And precisely in the same way that grapes can be made into wine, or sugarcane into rum, these and many other crops and plants can be made into bioethanol to fuel cars, buses and trucks (when used as a vehicle fuel, it is usually known as E85 or E95).

Bioethanol comes from plants and is a renewable resource. This means that, in the making and using of bioethanol, as much carbon dioxide is taken up by the growing plants as is produced when it is burnt.



Grapes don't only produce wine e.g. in Spain and Italy they also turn into fuel.

Bioethanol is also biodegradable, less explosive, less poisonous and easier to extinguish if burning, compared to petrol and diesel. In addition, wherever crops can be grown, bioethanol can be made.

This means that Europe, which today is completely dependent on foreign oil imports, can become a major source of its own fuel.

"Many big car manufacturers are today making these vehicles as a part of their normal production lines."

Bioethanol also works in the traditional internal combustion engine that almost all cars use, albeit with some minor adjustments. And it is a liquid, which means it can be handled in the modern fuel supply infrastructure.



Sugar beet is one alternative feedstock.

Vehicles fueled by bioethanol have been in use for many years in North and South America. Many big car manufacturers are today making these vehicles as a part of their normal production lines. And many countries have begun mandating that the regular petrol being sold is mixed with five, ten or even fifteen percent ethanol.

Bioethanol is here - to stay

However, bioethanol will not replace fossil fuels simply by its own merits. But as bioethanol has proved itself to be a viable alternative, more and more players – governments, industry representatives, consumers – agree that something needs to be done. What is now clear is that bioethanol only needs a slight nudge to begin replacing fossil fuels for real.

The switch is happening – and BEST is the helping hand

BEST (Bioethanol for Sustainable Transport) is a joint effort between ten strategically chosen sites in Europe and the rest of the world, as well as a number of important market participants, to stimulate an extensive substitution of petrol and diesel by bioethanol. It is supported by the European Union, and coordinated by the City of Stockholm, Sweden.



Spruce, and other cellulosic feedstocks, are very promising sources for future bioethanol production.

Giving bioethanol a boost

The analysis behind BEST is simple. For bioethanol-fueled vehicles to become valid, convenient alternatives for regular consumers, an infrastructure supporting these vehicles – car-makers selling the cars, fuel-producers making the fuel, and fueling stations providing it – has to be in place.

BEST's goal is to help such an infrastructure emerge on a very practical, local level, by stimulating the market for bioethanol-fueled vehicles. In concrete terms, BEST will help the participating markets to develop, so that a market breakthrough occurs and the market becomes self-supporting.

What does BEST do?

BEST will work across several fields and with a great number of projects. Demonstration vehicles will be introduced in bus and car fleets for services such as taxi, city and regional fleets, public transportation, etc. Evaluation and monitoring will be carried out to prove the energy efficiency of bioethanol.

Communication campaigns will spread the message of the advantages of bioethanol. Studies will be produced on the possibilities and advantages of bioethanol. And finally, BEST will give recommendations for environmental labelling, for standards and policies for local and national politicians, as well as the European Commission.

Not the car makers, not the filling stations, not even governments, municipalities or public bodies can make the bioethanol market share grow by its own. But if all these stakeholders come together, and do so in several countries at once, a breakthrough will happen.

This is exactly what BEST is doing. Apart from ten different cities and regions in Europe, South America and Asia, BEST participants include some of the world's largest car makers (Saab and Ford) as well as bioethanol manufacturers and leading universities (a complete list of all the participants can be found on the back of this folder).

"BEST will help put more than 10,000 ethanol cars and 160 ethanol buses in operation."

By combining the wide-ranging knowledge, influence and experience of all these stakeholders, BEST will help put more than 10,000 ethanol cars and 160 ethanol buses in operation, as well as contribute to the opening of numerous bioethanol fuel stations.



Sugarcane, is by far the most efficient of the current feedstocks, yielding up to eight times as much energy as is needed to produce the bioethanol.

BEST partners

You find detailed contact information for all partners on www.best-europe.org

COORDINATION

City of Stockholm,
Environment and Health
Administration

CITIES/REGIONS

STOCKHOLM, SWEDEN

City of Stockholm, Stockholm
Transport, BSR Svenska AB

BIOFUEL REGION, SWEDEN

Biofuel Region, BioAlcohol
Fuel Foundation

ROTTERDAM, NETHERLANDS

City of Rotterdam, Department
of Public Works

SOMERSET, UK

Somerset County Council

DUBLIN, IRELAND

BASQUE COUNTRY, SPAIN

EVE – The Basque Energy Board

MADRID, SPAIN

Madrid City Council,
Department of Environment

NANYANG, CHINA

City of Nanyang

SÃO PAULO, BRAZIL

CENBIO – Brazilian Reference
Center on Biomass
WIP – Renewable Energies,
Germany

LA SPEZIA, ITALY

City of La Spezia,
ETA Renewable Energies,
ATC SpA, Province of La Spezia

VEHICLE PRODUCERS

Ford of Europe
Saab Automobile

BIOETHANOL FUEL PRODUCERS

Sekab, Sweden
Nedalco, Netherlands
Wessex Grain, UK
Maxol Biofuels, Ireland

UNIVERSITIES

Umeå University, Sweden
Tsinghua University, China
University of Pisa, Italy
Imperial College, UK
University of São Paulo, Brazil

With BEST Friends we welcome actors who have already started working in the spirit of BEST, or who wish to do so.



BEST FRIENDS:

- *will receive* first-hand information on the experiences from BEST partners.
- *will be able to* work closely with BEST industrial partners
- *are invited to* BEST workshops, seminars and study tours, etc.
- *may participate* in common actions to promote bioethanol for transport

– *are invited to* visit BEST partners to receive hands-on experience

– *are encouraged to* arrange local bioethanol seminars

You can find additional information, and instructions on how to sign up your organization for BEST Friends, at www.best-europe.org



www.best-europe.org