## Ethanol-powered Bus



Global Warming taken seriously.



## nica



In 1993, a technological experiment considered visionary was launched in Stockholm, as part of the search for a solution for mass urban transport and its relationship with global warming. What began as an innovative approach has become an increasingly obvious response to a growing challenge.

As of late 2008, the Bio Ethanol Sustainable Transport Project, or BEST, includes some 600 diesel engine buses – 400 of them in Stockholm, that run on a mixture of 95% ethanol and 5% of a special additive called Sekab, in operation in various cities throughout Sweden.

The experiment stemmed from an initiative by Scania in Brazil in the 1980's, which was further developed in Sweden. BEST now returns to its country of origin, home of the world's most successful commercial scale program for production and use of ethanol. It arrives as an open technological demonstration for the world, with support from numerous companies and associations, Brazilian and international bodies, governments and academic research centers.

BEST has been in operation on the streets of São Paulo since October of 2007. The program is coordinated by CENBIO – The National Biomass Reference Center, in partnership with the University of São Paulo's Electro-Technical and Energy Institute, with support from the European Union, a number of companies and other bodies. The ethanol used in the project is supplied by UNICA, the Brazilian Sugarcane Industry Association, also responsible for communicating results to the public.

During its first year, the BEST Project bus has been in use on a regular route between the districts of São Mateus and Jabaquara in São Paulo, managed by the state-run mass transit authority, EMTU. With additional buses, BEST will be extended in 2009 to new routes in other São Paulo state municipalities, to further expose it as a superior solution for urban transport, in terms of benefits for both the environment and public health.

## BENEFITS OF USING ETHANOL IN DIESEL ENGINES:



- It is a clean, renewable, biodegradable fuel
- It leads to a 90% reduction in particulate material and a 60% reduction in NOx emissions
- Ethanol is in compliance with EURO 5\* and EEV\*\* emission limits
- Does not contain sulfur
- Reduces greenhouse gas emissions by more than 90% compared to gasoline
- Compatible with existing distribution infrastructure
- Strengthens the public image of the companies that adopt it
- Generates employment in agriculture and broader economic development
- Competitively priced
- Widely available



- \* EURO 5 New emission standard that comes into force in Europe in 2009
- \*\* EEV Enhanced Environmental Vehicle More rigorous standard, that determines emissions in Europe.



coordination





## partners





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