OUR MISSION IS TO IMPROVE AIR QUALITY AND EFFICIENCY OF FUELS THROUGH THE USE OF FUEL ETHERS.

www.globalfuelethers.com
Global petrol quality evolution
Africa’s progress on the fuel quality curve needs octane

- **Removal of:**
  - Lead
  - Metals and Organics

- **Reduction of:**
  - Sulphur
  - Benzene
  - Aromatics
  - Olefins

- **Reduction of:**
  - NOx
  - Sulphur
  - Vapour pressure (RVP)

- **Increase of:**
  - Fuel efficiency
  - Octane
  - Biofuels

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Fuel ethers enable fuel quality improvement curve
## Petrol quality evolution

Africa’s progress on the fuel quality curve needs octane

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- More octane required in pool
- No Lead = lower octane
- Desulfurization = lower octane
- Lower Aromatics = lower octane
- Improved air-quality

**Fuel ethers enable fuel quality improvement curve in Africa**
Best Practice: Proper handling of gasoline and components

With proper handling and storage in place, fuel ethers can be a great added value to Africa’s need for octane and clean fuels
Fuel Ethers can be produced from fossil and/or renewable biomass

Fuel ethers are a cleaner and cost effective solution
Fuel Ethers are high-octane clean-burning fuel components

<table>
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<th>Blend component</th>
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<td>Finished Petrol summer</td>
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Benefits of Fuel Ethers

FOR REFINERS
Reduce need for additional Capex to meet octane demand.
Provide refiners with more blend options.
Compatible with the existing refinery infrastructure.

FOR CAR MANUFACTURERS
Improve environmental performance of powertrain technologies.
Help reach CO₂ emission reduction goals.
Help reach fuel efficiency goals.

FOR CONSUMERS
Prevent engine damage and reduces maintenance costs.
Increase fuel efficiency by 15%.
Improve air quality by reducing:
• VOCs by 20%
• Toxic emissions by 23%
• Particulate Matter emissions by 1%-5%
• Benzene by 37%
Fuel Ethers
Widely used around the world

- Used/Produced
- Limited
- Under discussion

Oxygenates fuel spec:
- 2.7% domestic
- 0.2% import

Oxygenates fuel spec:
- Domestic and import: disallowed
Fuel Ethers are the answer to transport and air quality challenges in Africa

- IMPROVE AIR QUALITY
- ENHANCE VEHICLE PERFORMACE
- PREVENT ENGINE DAMAGE
- LOWER PETROL CONSUMPTION
- LOWER CO emission
THANK YOU

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