

GE Power & Water

LM6000 on Bioethanol

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Aeroderivative Gas Turbines



Ethanol Summit 2011
São Paulo, Brasil



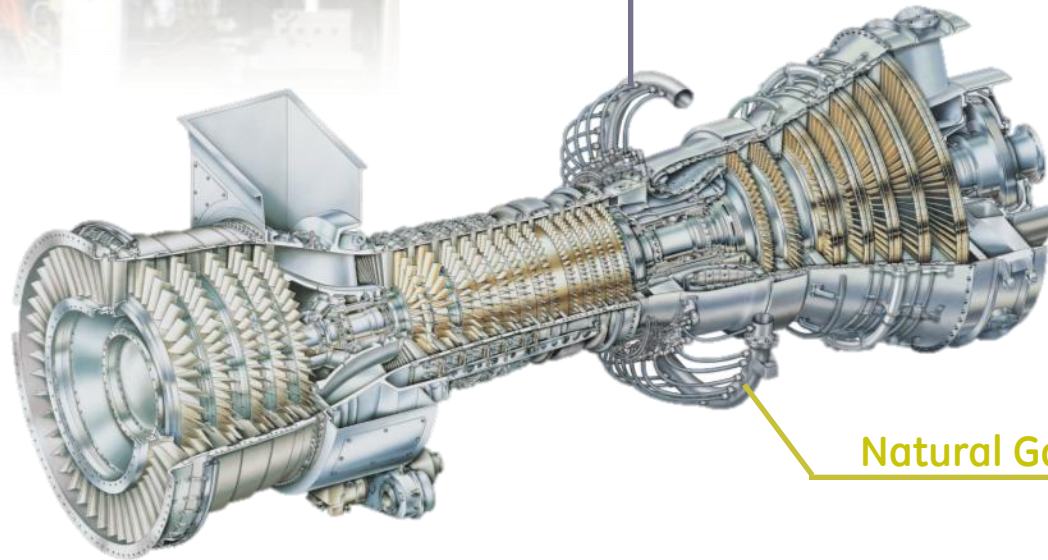
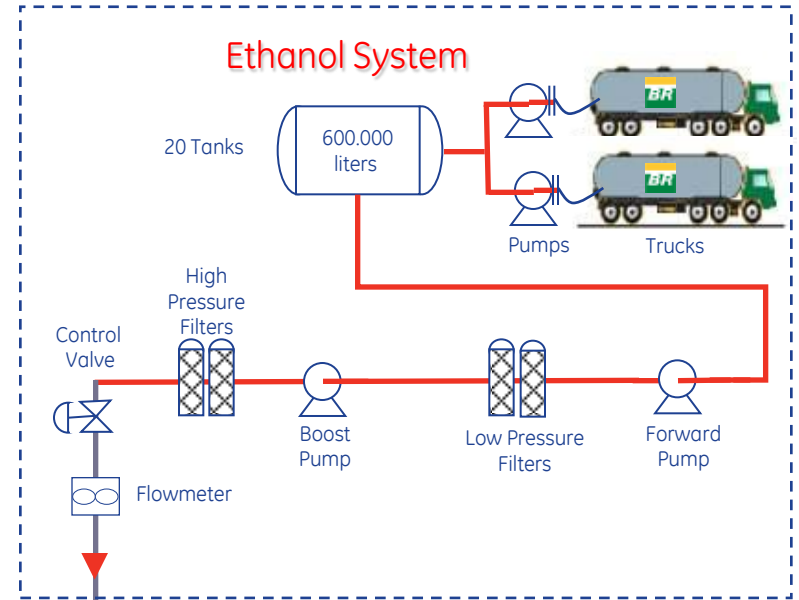
imagination at work

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UTE Juiz de Fora



Conversion of Juiz de Fora Power Plant



Results

	Natural Gas	Ethanol	Original Turbine Guarantee
Max. Power (MW)	43.6	44.0	41.8
Efficiency (%)	40.5	39.6	39.3
NOx (ppm)	38.3	20.4	42
Particulate (mg/Nm ³)	5.0*	1.1 ~ 6.3	-

Based on Petrobras Report # CT-OPE/OAE/SMT-006/2010
 SAC G35 combustor, water injection at 29 gpm, site conditions
 (*) Not measured during test, reference number only

Aldehyde Emissions

Fuel Consumption: 18.600 L/h
Total fuel during demo: 18.000.000 L



With that fuel, a compact car could travel approximately 150 Million km (from here to the Sun).

Yet, during the full test, the LM6000 emitted the equivalent of a car driving only 1 km! (~0.033g).

Possible applications

- Backup fuel for power plants
- Island Nations with renewable energy targets
- Wind firming, for lower CO₂ penalty
- Grid stability





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