

Romania[®]

Water *Let's save Blue & Green*

DUAL FUEL SOLUTIONS FOR DIESEL ENGINES



COMPATIBLE FUEL GASES

- ◆ PNG - Pipeline Natural Gas
- ◆ CNG - Compressed Natural Gas
- ◆ LNG - Liquefied Natural Gas
- ◆ CBM - Coal-Bed Methane
- ◆ Bio-gas (landfill wastewater)



company profile

The Story Of Romania Water Project Enterprises

We are a squad of geeks in our venture to save our Planet. The environment is sabotaged beyond the threshold and it's high time we start saving it. We gathered up right away when we expressed our deepest anguish of all the torments our environment is going through. That's how we started in 2021.

Romania is a trailblazer in formulating novel ideas to make cutting-edge instruments for a better industrial culture. Our work has made greater beneficial impact with innumerable clients in adopting Eco friendly habits. We marveled in our ambition of launching phenomenal environmental instruments and engineering solutions, and now in the vision of expanding this wider across the globe. Besides, we also organize campaigns via digital platforms to create awareness to our fellow beings on the Environmental issues.

FEATURES		RWPE	COMPETITION
OPERATIONS	Displacement of 70% HSD with PNG	YES	YES
	No de-rating of the engine	YES	SOME
	Versatile performance in synchronized DG sets	YES	NO
	Versatile performance in DGs with jerk loads	YES	NO
	PLC based Solution	YES	NO
	Dynamic & real-time throttle position adjustment	YES	NO
SAFETY	Exhaust gas temperature monitoring	YES	YES
	Engine vibration monitoring	YES	YES
	Adaptive gas correction (Reaction time:10 mins)	YES	NO
SAVINGS	Real time calculation of cost savings due to remote monitoring of fuel consumption (diesel & gas)	YES	NO
	Maximized savings due to precision throttle position control of fuel control valve	YES	NO

SYSTEM CHARACTERISTICS

- Non engine intrusive simple construction
- Available for different sizes of high speed engines
- Simple and easy to operate
- Safe engine operation
- Exhaust Temperature and Engine Knock monitoring
- Few moving components
- Fuel Flexibility
- Seamless switching between operational modes

SYSTEM ADVANTAGES

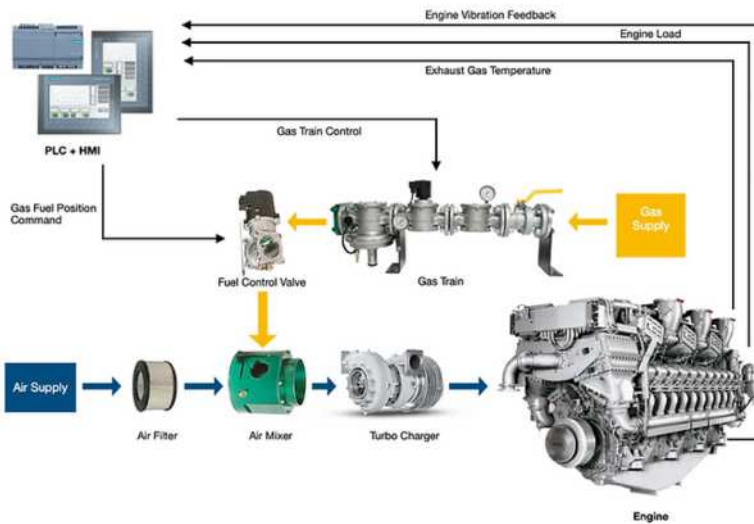
- No loss of power
- Existing assets can be used
- Low Capital cost
- Rapid payback
- Reduced cost of generation
- Low or no maintenance cost
- Cleaner fuel improves emissions
- Improved engine condition monitoring



HOW DOES IT WORK?

Natural gas is delivered to the combustion chamber of the engine using the existing air intake system of the DG sets. Hence there is no modification done to the engine or its firing/ignition system or the alternator.

The proprietary Air-Gas Mixer (AGM) is installed just downstream of the stock air filter where it dictates the air-to-gas ratio in conjunction with the Fuel Control Valve (FCV). The mixer uses the Venturi effect to draw gas into the engine. The fuel control valve has a 10-20 millisecond reaction time, allowing immediate throttle adjustment in response to changes in engine load. The fuel control valve utilizes internal software with fault detection and position control and is controlled by the Programmable Logic Control (PLC). Each kit is custom fit and commissioned for your specific engine and application.



Till date we have converted over 40 engines ranging from 60KVA to 3000KVA of reputed domestic and global brands in various regions of India.

Comparison



Frequently Asked Questions

Q. What does 'Dual Fuel' mean?

A. Dual Fuel means simultaneous combustion of 2 fuels. In the case of a generator set it is Natural gas and Diesel used in conjunction to run the engine. After the conversion the engine is able to operate on a mixture of diesel and natural gas with up to maximum 70% of natural gas usage.

Q. Do I need to modify my engine to operate on the 'Dual Fuel' system?

A. No. The Dual Fuel diesel to gas conversion technology has been designed as a retrofit technology. The plug and play model allows for no modification on the engine design or any critical engine parameter. The only modification that is made is that our Air Mixer is installed before the turbo charger. The Air Mixer is then connected to the gas train and the fuel control valve.

Q. What are the economic benefits of converting from diesel to gas?

A. In the Indian market there is a significant price differential between the cost of diesel and the cost of natural gas. (~50%) Rising diesel prices and access to cheaper natural gas (PNG) has made the Dual Fuel solution more economically viable. Our solution reduces operational fuel expenses by 35%. In addition to the cost savings on the fuel, you would be saving money on engine maintenance and extended runtime (upto 3.4 times longer).

Q. Will the Dual Fuel solution change the durability of my engine?

A. Operation on a Dual Fuel system has no negative impacts on the durability of an engine. This is because engine thermal loads are equivalent to those run solely

on diesel and there is no excess wear of combustion chamber components such as pistons, rings, valves, injectors. Installation of thermocouples ensure that operational temperatures always remain within OEM limits. Many users of this technology has reported positive effects on the durability because of the extended oil change intervals and extended time between overhauls.

Q. How will the Dual Fuel solution impact efficiency of the engine?

A. This technology replaces the diesel fuel with an equivalent amounts of natural gas. This results in the same net fuel that is burnt vs load as would be the case on 100% diesel run generator. For each litre of diesel fuel displaced there is a corresponding combustion of natural gas. This results in similar engine fuel efficiencies. There is no derating of the engine.

Q. Will this affect my engine warranty?

A. Most OEM engine warranty programs do not prohibit the use of after market parts or technologies. The OEM policies neither recommend nor endorse after market technologies. The end user might retrofit their assets to make them more energy efficient. AMC will continue as usual post retrofit of the engine.

Q. Is Dual Fuel Technology approved by the government?

A. Yes. The Government in multiple separate notifications have recommended the retrofit of Diesel Generators to run on partial gas systems. The reason is that PNG is a much cleaner fuel. Dual Fuel Engines not only reduce the PM particles, but also reduce NOx, SOx and CO2 emissions drastically.

CONTACT US



Registered office :

Plot No. GH/01, N/31904 Erore Sam Pooram Sector-2, Near Roja Jalalpur Chowk, Greater Noida West - 201306
Mob.: +91-8383076564

Branch office :

Flat No 1803 Platina F Casa Bell Gold, Palaba City, Maharastra, Dombivali 421204
Mob.: +91-7982188517

Branch office:

D127 PTPS New Market Road No 3 Ranchi, Hazaribagh Patratu 829119
Mob.: +91-7428393469

Branch office :

H.N. 240, Adhiya Mohalla, Vill. & Post Gotha, District Mau, Dohrighat 275303
Mob.: +91-8130181009



info@romaniawater.in, romileshchaubey@gmail.com



www.romaniawater.in

