



**TotalEnergies**  
Additives & Fuels Solutions

# TotalEnergies E&P Angola

## Vessels Fleet towards carbon footprint reduction

Impact of the use of Excellium additive on ships' marine gasoil (MGO) performance : Environmental Impact and Cost efficiency

### SCOPE OF WORK

- TotalEnergies E&P Angola (TEPA) in collaboration with Opsealog
- Operations on Block 32, Block 17 and the Luanda port
- 5 ships of TEPA fleet: 3 crewboats and 2 Platform Supply Vessel (PSV)

Name	Type	LOA (m)	Engine Power (BHP)	Propulsion type	Built in
Bourbon Explorer 502	PSV	78.55	7290	Diesel Electric	2014
Mamola Defender	PSV	80.10	3837	Diesel Electric	2015
Surfer 3601	CB	36.3	8151	Conventional	2010
Surfer 3602	CB	36.3	8151	Conventional	2010
Surfer 3603	CB	36.3	8151	Conventional	2011

- Results from data from January 2024 to June 2024 without additive and then 5 months test with additive (1443 daily reports with MGO and 341 with MGO + Excellium)
- Opsealog a technology-driven company specializing in performance management and digitalization was contracted to analyze collected data
- Strict methodology applied, with weekly follow-up meetings and ad hoc sessions

### THE SOLUTION

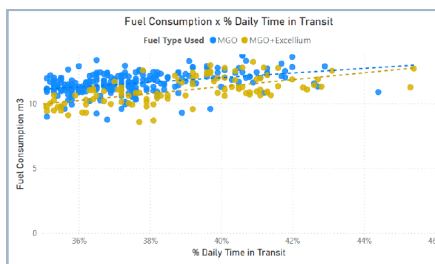
- 100% organic, multifunctional additive that enhances fuel efficiency and engine protection.
- By eliminating injector deposits and improving combustion, it helps to maintain peak performance while protecting against wear, fuel degradation, water contamination, and corrosion.
- Quick-win nature and easy to implement.

### RESULTS

Average potential gains of adding the Excellium Pro Concentrate Plus additive to the MGO of TEPA fleet, based on an annual MGO consumption of 80 000 tons, including ships and offshore installations, and a MGO cost of 1 260 USD/ton.

Savings level %	Fuel consumption reduction tons/year	Emissions reduction ton CO <sub>2</sub> /year	Fuel costs reduction USD/year
3%	2 400	7 694	3 024 000
4%	3 200	10 259	4 032 000
5%	4 000	12 824	5 040 000

In particular, a solver consumption model built to test the robustness of crewboats results confirms a fuel consumption reduction when using Excellium averaging around 4.8% benefit for the average crewboats fleet over a broad and relevant operational period.



### GOALS

Testing Excellium additive in MGO impact in a measurable way to :

- reduce greenhouse gas (GHG) emissions
- achieve cost savings while maintaining operational efficiency
- confirm no-harm nature of the additive

### CHALLENGES OVERCOME

- Comparison of similar "typical days" with similar hours of certain activities and similar operational contexts, by eliminating irrelevant and non-comparable operational profiles due to differences in work scope
- The additive requires 3 to 4 weeks to clean the engines and become fully effective

### BENEFITS

The Angola project achieved **3.3%** fuel cost savings (approximately 1.5 million USD) and reduced CO<sub>2</sub> emissions by **3.6** ktCO<sub>2</sub>, enhancing both operational efficiency and environmental sustainability.

**3.3%**  
MGO Consumption reduction

**3.6** kt CO<sub>2</sub>  
Emission Reduction

Other benefits often associated with the use of the Excellium additive in other industries :

**Reduced maintenance costs and time**

**“ Cedric BOULEY, Bourbon Angola  
MASTER OF SURFER 3602**



**“We have noticed less settling in the tanks, less dirty fuel filter and a drop in consumption.”**

**Opsealog** Powered by

**“Great to be part of this initiative, where Opsealog helped transform vessel reporting into measurable efficiency and sustainability gains with Excellium Pro Concentrate additive from TotalEnergies.”**