



## Case Studies Marine

### Trial results of Polish steam ship company – PZM & Polsteam

First trials were conducted for 2 years (from September 2009 to August 2011) on the PZM & POLSTEAM company bulk carrier, M/S Giewont

	rok budowy	typ	miejsce budowy	bandera	DWT
	2010	Panamax	New Times Shipbuilding, Jingjiang	 Bahamas	79649
Name			M/S GIEWONT		
Type			Panamax 2 Bulk carrier		
Weight			80.000 DWT		
Main engine			MAN 7S50MC {11.620 Kw}		
Auxiliary engine			3 Wartsila 645W4L20 {645 Kw}		
Main engine consumption			34.4 MT/day		
Auxiliary engines consumption			2.15 MT/day		
Boiler consumption			1.99 MT/day		
<b>Average consumption savings (%)</b>			<b>3 to 4 %</b>		

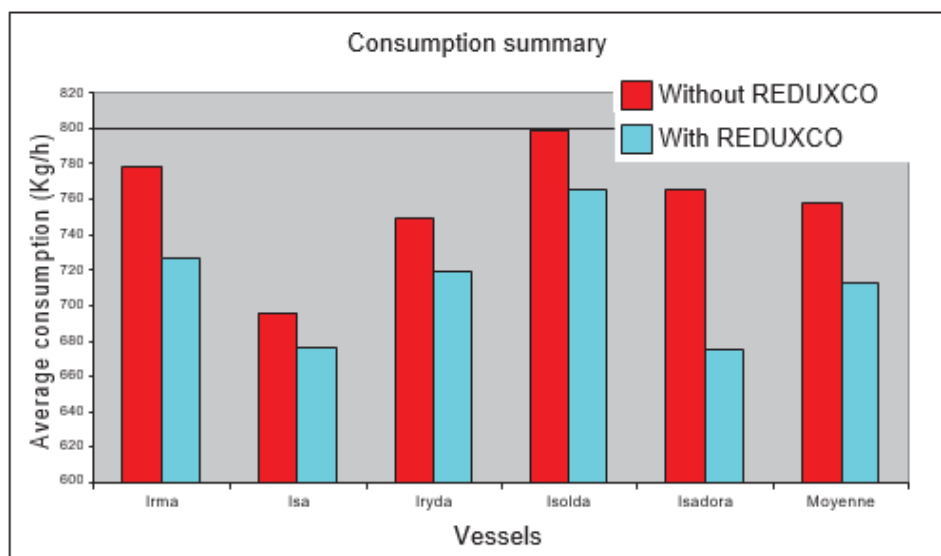
### First trial period conclusion

- In similar service conditions and with the same load on main engine, the fuel consumption is 3 to 4% lower when REDUXCO combustion catalyst is added – with a volume of 12 ml of catalyst per metric ton (MT) of fuel.
- The test led to a saving of more than 580 MT of fuel on a total of 19,500 MT used
- **USD 348,000 were saved**
- No negative impact on the elements tested
- Highly positive impact during maintenance phases

Savings calculations include the cost of Reduxco catalyst but do not consider cost savings from reduced maintenance

Second trials where performed (from September 2010 to January 2014) on five Handy size bulk carrier vessels, also owned by the company PZM & POLSTEAM

Names	M/S Irma, Isa, Iryda, Isolda, Isadora
Type	Handy size bulk carrier
Weight	35.000 DWT
Main engine	MITSUBI MAN B&W 5S50MC5 {6730 Kw}
Auxiliary engines	3 MAN B&W L16/24 {545 Kw}
Daily consumption	20 MT/day
<b>Average consumption savings (%)</b>	<b>4,45 to 5,93 %</b>



## Second trial period conclusion:

- No incident occurs during more than 24,000 hours of testing on these 5 vessels
- In similar service conditions and with the same load on main engine, the fuel consumption is 4,45 to 5,93% lower when REDUXCO combustion catalyst is added – with a volume of 12 ml of catalyst per MT of fuel.
- The test led to a saving of more than 890 MT of fuel on a total of 20,000 MT used
- **USD 535,000 were saved**
- Highly positive impact on the injectors, pistons and rings during maintenance phases