



Marine CNG – An Innovative and Competitive Alternative

Claudio Steuer, Director of SyEnergy, an energy consultancy specializing in Natural Gas, LNG and CNG with over 20 years of experience in formulating strategy, business development, and resolution of important commercial issues, opened a new topic of discussion. Mr. Steuer's presentation during the recent Rio Gas Forum focused on the potential of Marine CNG as an efficient and viable alternative for the Brazilian market, with immediate utilization opportunity.

"Marine CNG can fill an important void in the production and logistic value-chain enabling a significant reduction of offshore gas flaring"

According to the executive and based on official statistics by the Federal Petroleum Agency (ANP), just in the State of Rio de Janeiro on average over the past 5 years, 160MMscf/d were flared - sufficient quantity of natural gas to generate 950MW of electricity.

"Marine CNG can have an important complimentary role in the oil and gas production systems of the Brazilian pre-salt. The volume of gas from smaller or isolated fields which would normally be flared can be collected and delivered to floating LNG production systems or injected at production platforms connected to the shore via gas transmission systems." The executive added, "In larger fields, it is perfectly viable to utilize Marine CNG as a "floating pipeline" connecting the production source directly to a gas distributor such as CEG in Rio de Janeiro or COMGAS in Sao Paulo."

Steuer stated, "Marine CNG will enable a more appropriate level of competition in the domestic market owing to its reduced capital requirements and higher economic feasibility with smaller volumes." Steuer added, "The utilization of Marine CNG will enable independent E&P companies like OGX and HRT the option to commercialize their natural gas production directly with large industrial clients in full compliance of all Health, Safety and Environmental regulations, and possibly reducing the price of natural gas to the domestic market."

According to the Director, in spite of not having the same flexibility of LNG, Marine CNG offers important competitive advantages to the Brazilian market; for example, the greater proximity between production source and center of consumption enables a better and more responsive gas supply system with reduced need for gas storage. The significant reduction in the level of investment required enables the creation of a dedicated local supply chain reducing the influence of external markets and the high volatility of international prices. Steuer affirmed that Marine CNG is a more attractive and less costly alternative than imported LNG.

Steuer concluded, "SyEnergy offers to its clients a complete integrated solution considering all technical and commercial objectives. As we are an independent company, we have complete freedom to propose on a case-by-case basis the best range of alternatives matching our client's needs. We evaluate with our clients each option and offer a final recommendation in accordance with the agreed criteria."