Bunkering in the Caribs

PRESENTED BY ANNE GHENT
VENTRIN PETROLEUM COMPANY LIMITED
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The Caribbean Region



Caribs – Focus on Caricom Countries



More than just a holiday destination



Trading Routes

Trading routes established since the 1600s during the sugar/slave trade between Africa, Europe and the Caribs

Some of these routes have remained even though the goods have changed to include a wide variety of sectors

The emergence of the Far East as a manufacturing centre has seen expansion to include that relatively new route

The Panama Canal has given rise to transshipment opportunities in the region Increasing trading activity between North and South America passes put the Caribs in a very strategic location

Vessel Types Calling in the Region

- Oil Tankers (both crude oil and petroleum products)
- Chemical Tankers (including Methanol, Urea, Ammonia, Sulphur)
- LNG Tankers
- Dry Bulk Cargo (Iron and Steel Products,
- Break Bulk Cargo
- Container Vessels
- Cruise Vessels
- Pleasure Craft
- Reefers
- Rigs/Drill Ships/Semi-Submersibles

Refineries/ Storage

Location	Operator	Storage Capacity (bbls)	Refinery Throughput/day
Aruba	Valero	15,000,000	-
Bahamas (Borco)	Buckeye	26,000,000	-
Curacao	Curoil/PDVSA	600,000	320,000/day
Dominican Republic	Refidomsa/PDVSA		35,000bbl/day
Jamaica	Petrojam/PDVSA	2,000,000	30,000 bbl/day
Puerto Rico	Buckeye	4,000,000	<i>'</i> _
St Eustatius	NuStar	14,000,000	-
St Lucia	Buckeye	10,000,000	-
Suriname	Staatsolie	740,000	15,000bbl/day
Trinidad & Tobago	Petrotrin	2,500,000	150,000bbl/day
US Virgin Islands	Hovensa	10,000,000	-
West Indies Oil Co.	Gov't Antigua +	1,500,000	-

Product Offerings in the Region

- Fuel Oil RMG 380
- Intermediate Fuel Oils (mainly 180 RME)
- Gas oil DMA 1.5% S
- Low Sulphur DMA 0.1% S
- Low Sulphur Fuel Oils 0.1%S

Important Bunker Ports in the Region

Estimated bunker market in the Caribs estimated about 15 million MT/year

Main Players

- St Eustatius estimated 1,200, 000 MT/year
- Trinidad estimated 700,000 MT/year
- Curacao estimated 500,000 MT/year
- Jamaica estimated 300,000 MT/year

Main Competition

- Panama
- US Gulf
- Rotterdam
- Singapore
- South American Ports Cartagena

Trinidad & Tobago – A Closer Look



Trinidad - an Important Global Player

Trading in the following:

- Crude Oil
- Petroleum Products
- Methanol
- Urea
- LNG
- Dry bulk Sulphur
- Iron & Steel Products
- Ammonia

Bunker Suppliers in Trinidad

Three suppliers operate currently:

- Petrotrin Refiner and pipeline supplier at their Pointe a Pierre Refinery (recent exit from barge delivery service)
- Ventrin Supplier in Gulf of Paria via barge, as well as pipeline & RTW supplier at Point Lisas
- Aegean Off shore supplier, outside territorial waters on West Coast, Gulf of Paria
- <u>Note</u>: Due to existing subsidies on petroleum products, delivery of bunkers to vessels working in local waters usually supplied by a state oil company National Petroleum Company (NPMC) which is responsible for supply of all petroleum products into the local market

Bunkers - its all about the price

Bunker buyers worldwide are largely price driven. Comparison of price at present and next port is an ongoing exercise

In the Caribbean the next port could be

- Singapore
- Rotterdam
- US East Coast (Mobile, Houston, Savannah)
- Brazil
- Africa

If cheaper bunkers can be sourced at the next port, owners may just top up in local port.

LNG cargoes to the East depending on relative price may choose traditional bunker fuel or alternatively to use LNG boil off gas as fuel

Quality of Bunker Fuels

- Definite commitment by regulators towards lower Sox and Cox Emissions
- Recent regulations saw US Emission Control Area (ECA) move from 1% s fuels to 0.1%S fuels
- Plan to lower Global Cap from 3.5% S fuels to 0.5% S fuels by 2020
- Possibility that date be pushed back to 2025 (decision to be taken by 2018)
- Stakeholders expect trend towards tightening of emissions with respect to marine fuels to continue
- Increasing pressure on ship owners and refiners to keep up with changing specifications

Ship Owner Options for Meeting ECA Regulations

- Switch to Distillates
- Switch to low Sulphur residual oils new hybrid fuels
- Abatement Technology mainly use of scrubbers
- Switch to use of LNG

Meeting Quality Requirements Short term (Present to 2020)

Switch to Distillates from Residual Fuels

- Despite challenges, ships have made necessary engine & boiler adjustments given their original design for residual fuels
- Owners prefer to use traditional marine fuel that they are familiar with rather than new hybrid fuels
- Owners overwhelmingly choose use of distillates into US ECA because of price, e.g. price today of distillates roughly equivalent to price of RMG during 1st half 2014 before crude price drop
- Choice of distillates as preferred bunker fuel will remain straightforward if prices hold at current levels or fall even further

Meeting Quality Requirements Medium Term (2020-2030)

Oil price is the big driver for buyers, if prices remain as present or drops further, there may well be no appreciable change in buying patterns, but if expected increase occurs

- Most vessels will likely switch to new hybrid fuels
- Some new builds will likely have scrubbers installed
- Some new builds will likely have engines that use conventional fuels as well as LNG

Decision by ship owners driven to some extent by the amount of time the vessel spends in the ECA in the normal course of it's business. Example a cruise ship which spends 90% of its time in an ECA may well opt see the installation of a scrubber as the best option, despite the capital investment.

Meeting Quality Requirements Long Term (2030 onwards)

It is expected that regulators will continue to tighten specifications aimed at reducing emissions

This will likely result in owners moving in the direction of LNG as preferred fuel

Current expectation is that LNG not a question of "if" but "when"

On the plus side

There is fairly widespread global distribution of Natural Gas

LNG prices likely to remain a cost reduction for buyers

LNG will continue to meet increasingly stringent regulations

Challenges include getting suppliers to include LNG option

- Meeting infrastructure cost of installation
- Training operators to comply with industry standards for handling LNG
- Sourcing supply of LNG from a supplier able to handle special needs

What does this all mean for suppliers in the Caribs?

In the case of LNG which requires significant investment, this is a chicken versus egg situation

Suppliers must get information on the direction in which owners want to go before they invest

Owners say they need reliable supply options available before they can decide on the nature of their new builds and by extension, their fuel of choice

Much is still dependent on the price of conventional bunker fuel

It is impossible to know for sure where prices will go, but if we take one common enough view that prices of crude oil will eventually increase although unlikely to levels of \$100+ for WTI, LNG should even now be a part of the strategic plans of suppliers in this region

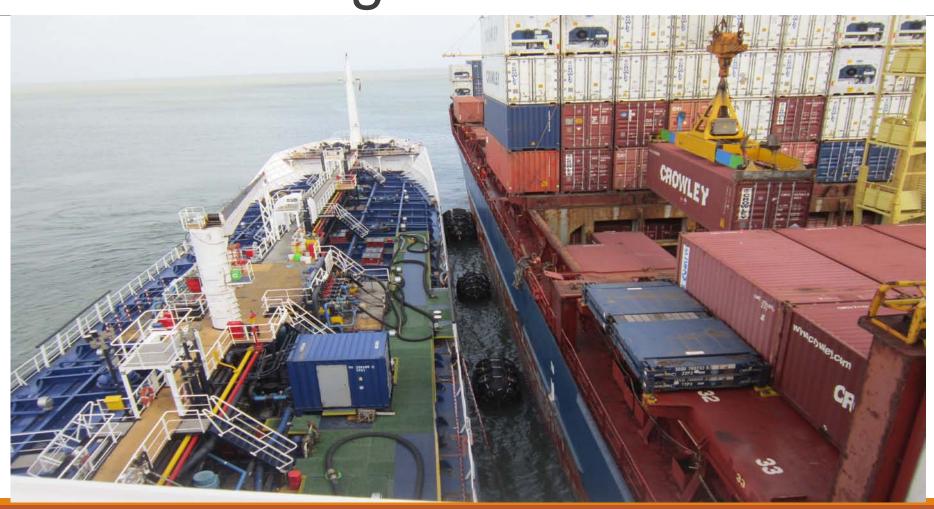
Trinidad may well then have an advantage by virtue of its LNG plant incorporated since 1995

Ventrin Petroleum Company Limited

- Ideally situated in the sheltered West coast Gulf of Paria
- Delivery via barge to all ports on West Coast
- State of the art barge with possibility of two barges shortly
- Delivery via pipeline and RTW in Point Lisas
- Full range of products on offer on spec
- Bunker delivery 24/7
- No extra fees for overtime or holidays

We understand Bunkering in the Caribbean

Bunker Delivery in Point Lisas via Ventrin's barge Panda PG



Thank You