

Benefits of Shuttletankers

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Benefits of Shuttletankers

- Provides market optionality
 - Pipelines also can provide limited optionality via multiple connections
 - GOM deepwater production sales could reach all Gulf Coast markets from Corpus Christi to Mobile, Alabama. Quicker inland access possible via major trunkline
 - Ship avails could potentially open U.S. Atlantic Coast markets

Benefits of Shuttletankers

- Provides cost reduction on transportation in some areas
 - Area specific to cost structure
- Ultra deepwater in U.S. Gulf of Mexico is highly possible
- Multiple North Sea projects developed with fixed rate freight on shuttletankers

Benefits of Shuttletankers

- Allows for potential to fast track development
 - Dependent on availability of production facilities
- FPSO / FSO production facilities have been repositioned for fast track development in Asia and Australia with transport via tanker

Benefits of Shuttletankers

- Allows for development of smaller fields in isolated areas
 - No Capex for pipeline or terminal infrastructure required
- Possible for U.S. GOM discoveries in Alaminos Canyon and Walker Ridge
- Multiple fields in North Sea, Norway, Papua New Guinea and Irish Sea have proven successful with shuttletankers in isolated areas

Benefits of Shuttletankers

- Maintains consistent crude quality
 - No quality bank, crude degradation
- Pipeline quality banks do not always provide adequate compensation for quality changes as they relate to market price movement
- Allows unique quality characteristics to maintain segregated value in the the market (both positive and negative)

Benefits of Shuttletankers

- Allows direct delivery to market via single carrier
 - Pipelines often require multiple interfaces and tariffs
 - Tankers have single tariff from load port to disport
 - Tankers are not subject to allocation if scheduled accurately
 - Limits transit time to market

Benefits of Shuttletankers

- Global shuttletanker operations have provided proven technology
 - Technical challenges in ultra deepwater
 - Large diameter risers are potentially an issue
- Successful projects globally have proven shuttletankers reliability in harsh conditions

Norway

- Heidrun
- Norne
- Statfjord

UK

- Liverpool Bay
- Triton
- Ross

Brazil

China

West Africa

Australia