

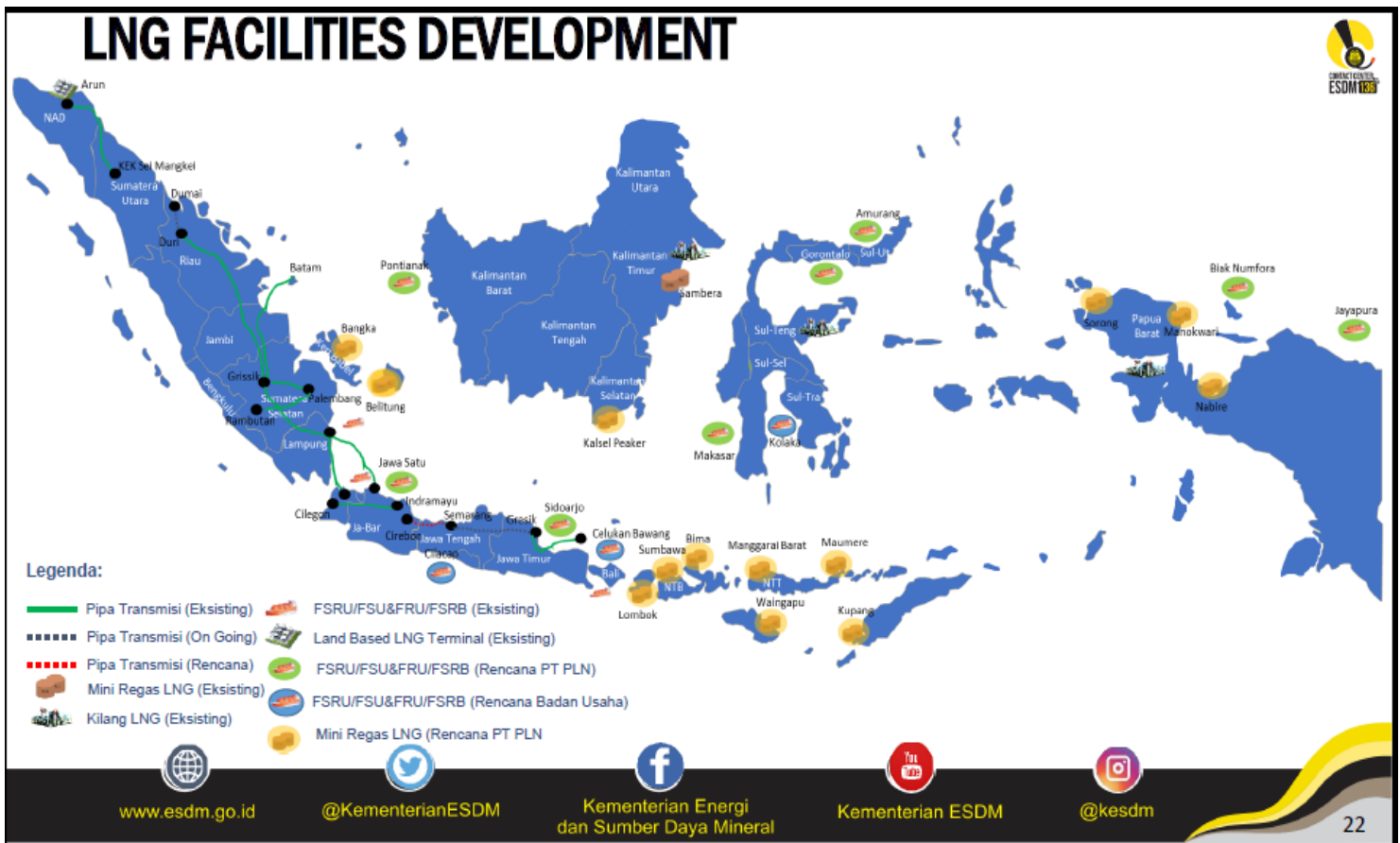
Report on the 9th Annual LNG Transport, Handling & Storage Forum, 10th – 13th Sept 2019, Bali, Indonesia

This 9th annual LNG Forum was held at Padma Resort, Bali, Indonesia. The forum consisted of a Masterclass on 10th Sept, 2 days from on 11th & 12th Sept, and a visit to a mini Floating, Storage and Gasification Unit (FSRU) on 13th Sept 19. The forum was organized by All Events Group Pte Ltd of Singapore and sponsored by GTT and MAN Energy Solutions. The Forum comprised of one and a half day forum and a day Masterclass (10 Sept.) and a site visit (13th Sept.). ANGVA supported this Forum and was represented at the event by its Executive Director.

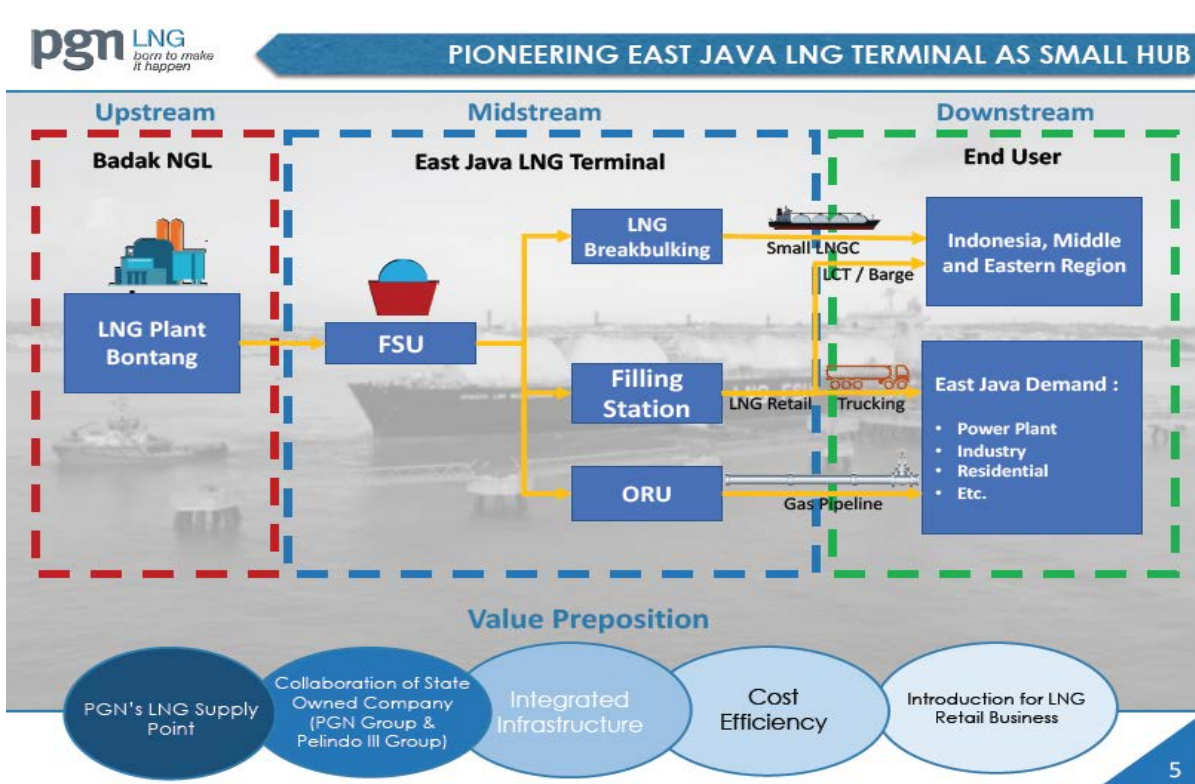


Highlights of presentations:
Indonesia

- i. Indonesia, the 4th most populous country in the world, with population of ~ 268 million in 2019 is embarking on extensive utilization of LNG to increase its domestic utilization of natural gas. Since 2013, the domestic supply of natural gas in Indonesia is higher than export.



- ii. As Indonesia is an archipelago with more than 17,000 islands, the supply of natural gas through local LNG supply hubs, small LNG marine vessels and small scale liquefaction, storage and regasification units are being extensively planned and implemented. Most LNG projects in Indonesia are categorized as Small Scale LNG Project with capacity range of 2 to 195 mmscfd, with more than 30 LNG terminals under construction / planning.
- iii. In 2018, the country gas infrastructure consisted of 4901 km of transmission pipelines, 6192 km distribution pipelines, 3 units of LNG plants, 4 units of Regasification terminals and 463,619 city gas connections.
- iv. Both Pertamina and PGN have entered into the LNG supply chain business to supply and retail LNG to domestic customers.





FILLING STATION ARUN
(for western market)



Location	: PT Perta Arun Gas, Lhokseumawe
Loading Capacity	: up to 18 ISO Tank @ 40 ft per day (operation), eq. to 14 MMSCFD
Type of ISO Tank	: 20 ft & 40 ft
LNG Source	: PT Badak NGL Bontang, DS LNG, others



Malaysia

- v. PETRONAS, a fully integrated oil & gas multinational company which had been the producer and supplier of LNG for decade, is now entering into the LNG bunkering and bulk breaking business and also LNG trucks and ISO tanks supplies.



- vi. In June last year, PETRONAS conducted its first LNG Break Bulk Ship-to-Ship (STS) operation in Brunei Bay transferring 18,383m³ of LNG from Bintulu from Seri Bijaksana tanker to Lucia Ambition tanker to supply to Haikou Terminal (17,752m³). Seri Bijaksana later discharged its remaining cargo of 129,621m³ at Tianjin Terminal. A second STS operation was conducted in Mar/April 2019 transferring LNG from Gladstone at Brunei Bay from Seri Bijaksana to Polar Spirit tanker to supply to Wuhaogao Terminal and to Polar Spirit tanker to supply to Yangshan Terminal.

Site Visit

A site visit was made to the Benoa LNG Terminal, Bali. This terminal now has an FSRU unit instead of a FSU unit (as reported in the site visit in September 2018) with storage capacity of 26,000 m³. However, the previous FRU is still in operation as the regasification unit in the current FSRU is not been deployed.



Left: Current FSRU and FRU. **Top:** Last year FSU and FRU

Reported by: Lee Giok Seng, Executive Director, ANGVA, 19th Sept '19.