



Badak LNG

A World Class Energy Company



Implementation of Environmental Based Community Development for Business Sustainability

by:

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Da Nang, Vietnam

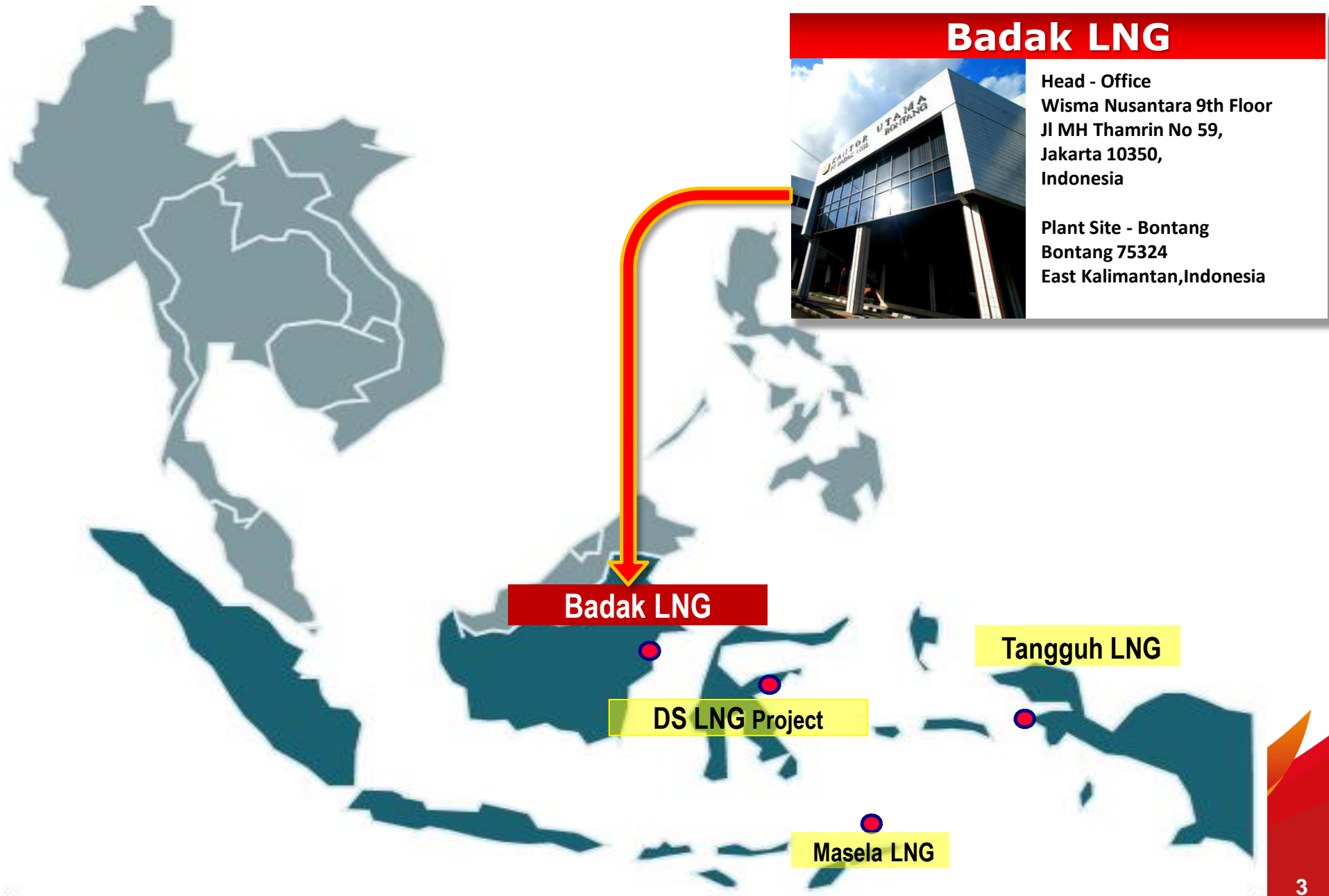
November 19, 2015

SHEQ Moments



Beras Basah Island next to LNG Ship Lane

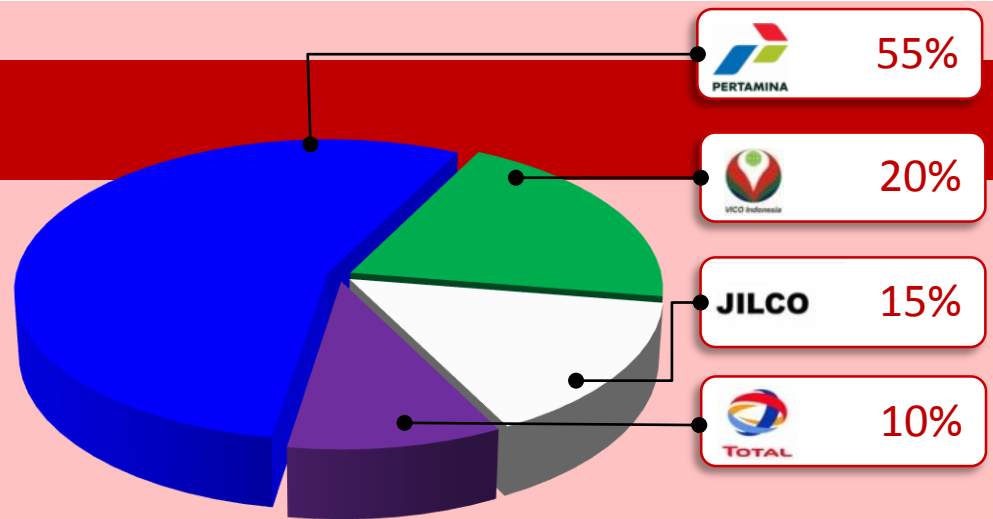
BADAK LNG PLANT SITE LOCATION



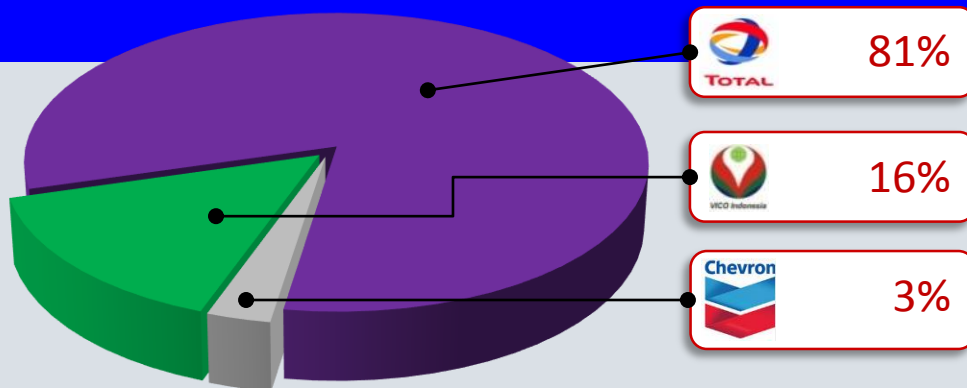
BOARD OF COMPOSITION

SHAREHOLDERS

- ☐ Established in 1974
- ☐ Non profit company
- ☐ Government owns the assets



GAS PRODUCERS



- ☐ Liquefy gas from EastKal PSCs
- ☐ At cost

MAIN GAS PRODUCERS 2015

OPERATED BY :



VICO INDONESIA

16%

OPERATED BY :



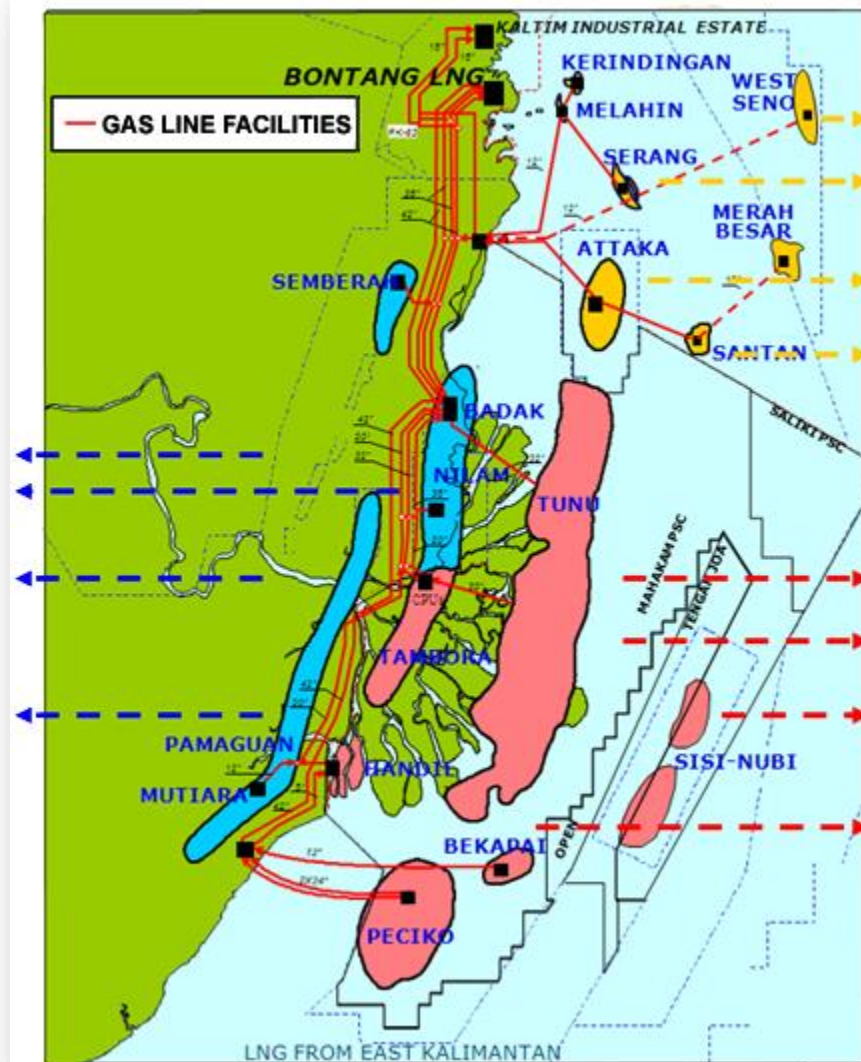
3%

OPERATED BY :



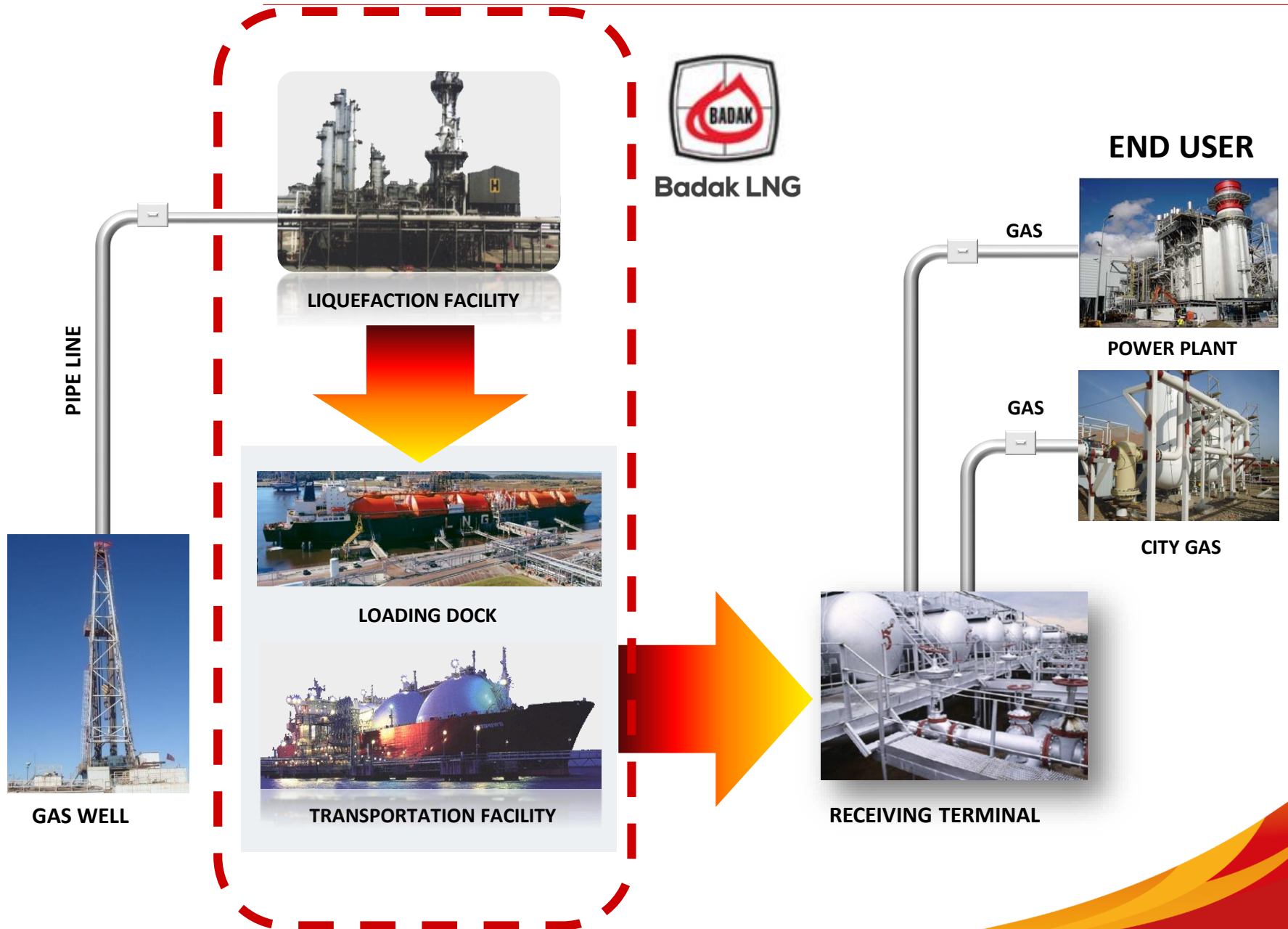
TOTAL

81%



MAHAKAM BLOCK

LNG BUSINESS CHAIN



Badak LNG Plant in Bontang, Indonesia

- No. Trains : 8 (22.5 MTPA LNG)
- Loading Dock : 3 (3 LNG, 2 LPG)
- Feed Gas Supply : 3,700 MMSCFD with 4 Pipe lines (2@36"; 2@42")
- Badak LNG Area : 2,010 HA (220 Ha for Plant)



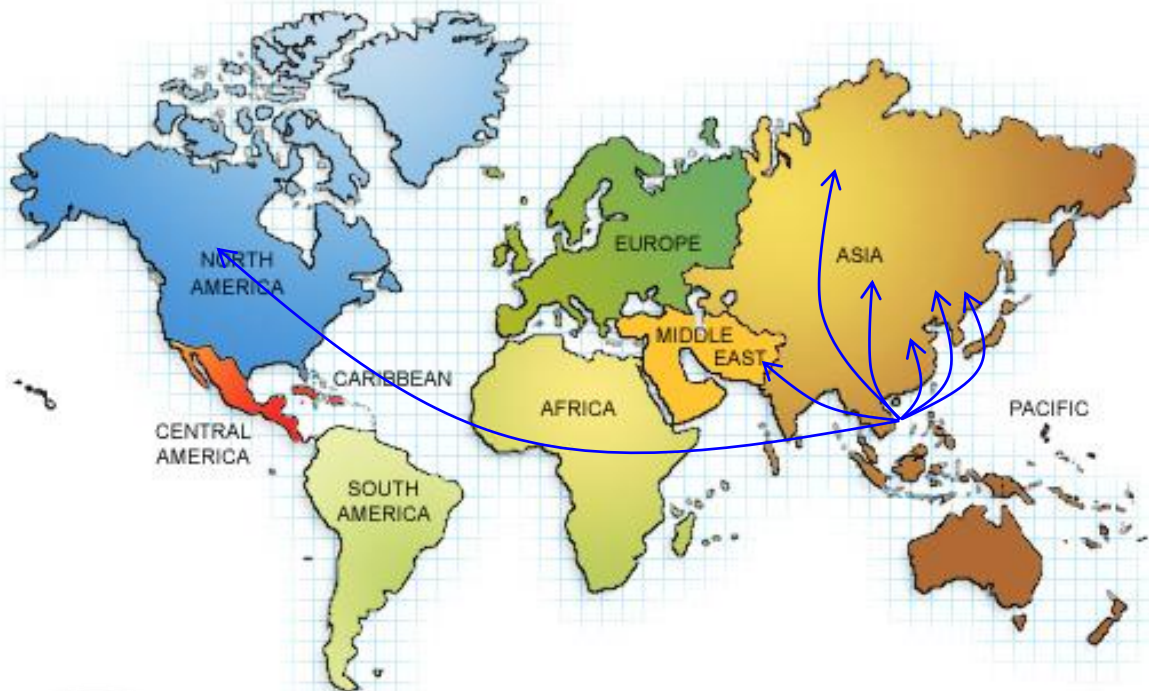


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LNG Shipment

August 1977 – 5 November 2015



- ❖ **OBLIGATION 2015**
Mix Cargo : 201
Standard Cargo : 185.86
- ❖ **REALIZATION 2015**
Mix Cargo : 176
Standard Cargo : 161.80
- ❖ **THE FIRST LNG SHIPMENT:**
AUG 9th, 1977
- ❖ **LNG CONTRACTS**
CIF (Cost, Insurance and Freight) & FOB (Free On Board) Contracts.
- ❖ All Contracts & Shipping activities are managed by PERTAMINA LNG Sales Operation / JMG (Joint Management Group).

BUYERS	TOTAL (MM TON)	TOTAL CARGOES
INTERNATIONAL	471,04	8.741
DOMESTIC	4,47	79
TOTAL	475,51	8.820





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LPG Shipment

December 1988 – 5 November 2015

December 1988 – (Up to) November 2015

DESTINATION	TOTAL (MM TON)	TOTAL CARGOES
INTERNATIONAL	13.66	338
DOMESTIC	3.47	109
TOTAL	1713	447

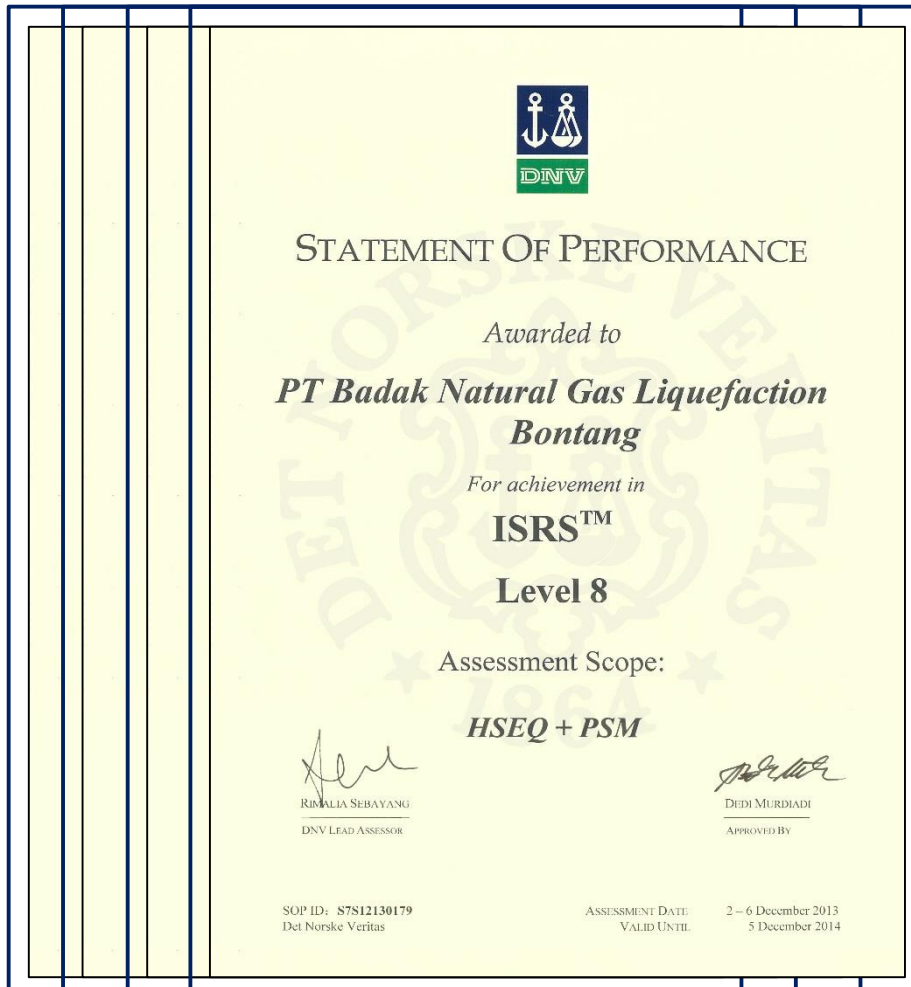


Schedule
2015

10
Cargoes



Achievements








**ISRS8 Level 8
2011-2014**






**PROPER Gold
2011-2014**

Achievements - Benchmarking

Benchmarking by Phillip Townsend Associates Inc. in 2014
among 14 LNG Plant which represents
>80% LNG production in the world

-  **1st SAFETY HEALTH & ENVIRONMENT**
Zero Lost Time Injuries (LTIs) since 2006
-  **1st RELIABILITY**
Maximum Sustainable Capacity
-  **1st MAINTENANCE COST**
Lowest Maintenance Cost
-  **1st PERSONNEL**
Lowest Personnel cost
-  **1st ENERGY LOSS**
Lowest Energy Loss

Benchmarking by Maximark & Associates in 2015
among 20 LNG Business in the world

-  **1st HAZARDOUS WASTE PRODUCTION**
Lowest Hazardous Waste Production Rate per Production Rate
-  **2nd WATER RECYCLE**
2nd Highest Water Recycle Rate per Production Rate
-  **5th ENERGY EFFICIENCY**
5th Highest Total Energy Saving per Production Rate

Opportunities



LNG Shipping

Sea is a great potency in LNG transportation



LNG Receiving Terminal

Sea also has great potential along the growing of LNG Business such as LNG receiving terminal



Business Risks



Seawater Utilization

- LNG Transportation •
- Seawater as Cooling water •

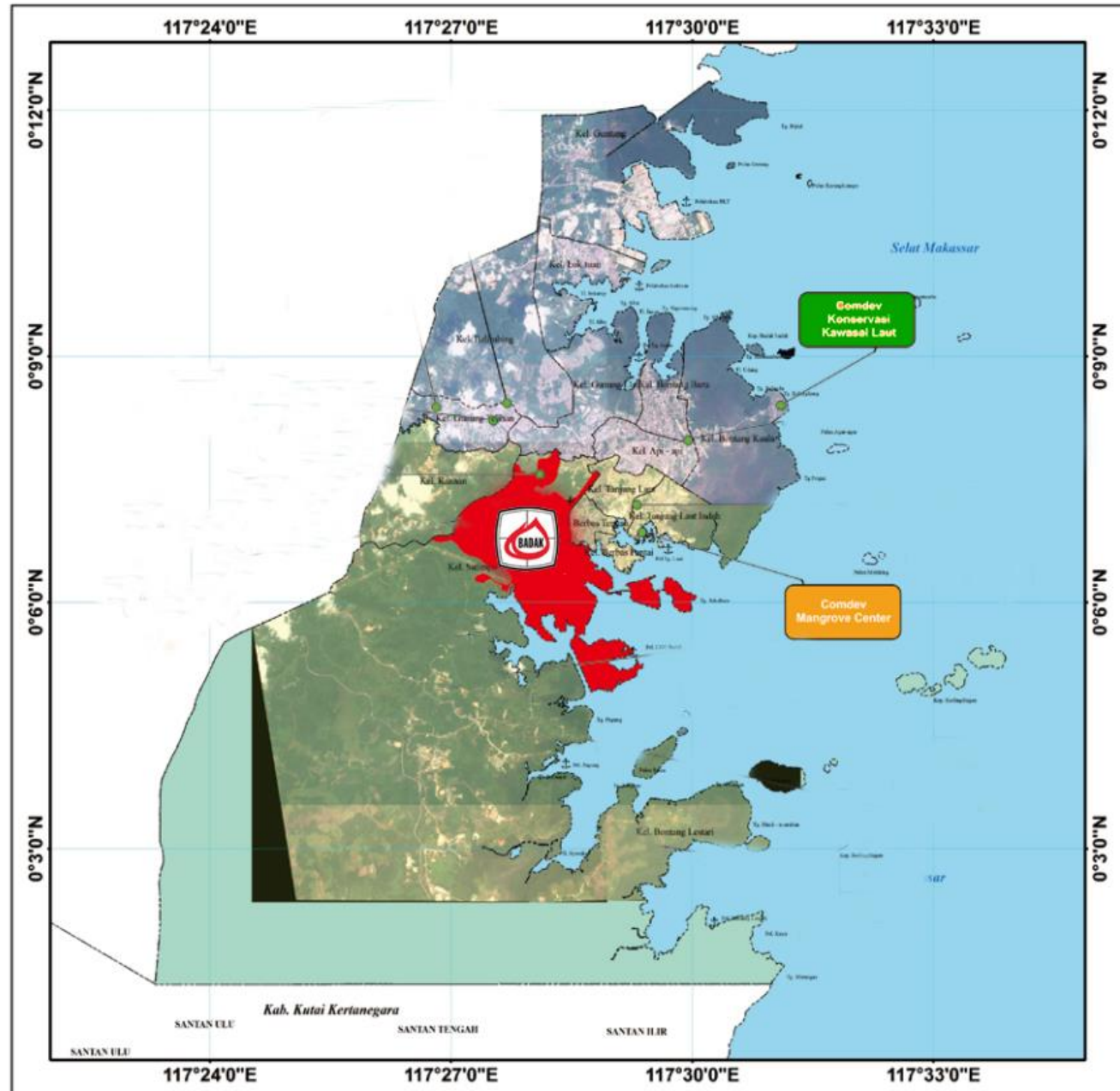
Community

- Mangrove Conservation
- Grouper Cages
- Coral Reefs Transplantation
- *Culture Change*

Badak LNG's stake in Coastal Development

**In Badak LNG's
Opinion, there are
3 area based on
its necessity:**

-  **Conservation Area**
-  **Operational Area**
-  **Community Development Area**



Internal Factor - Operational Area



□ Sea water utilization needs **specific requirements** to support operational activities (*Organism* and *Temperature*)

Internal Factor - Conservation Area



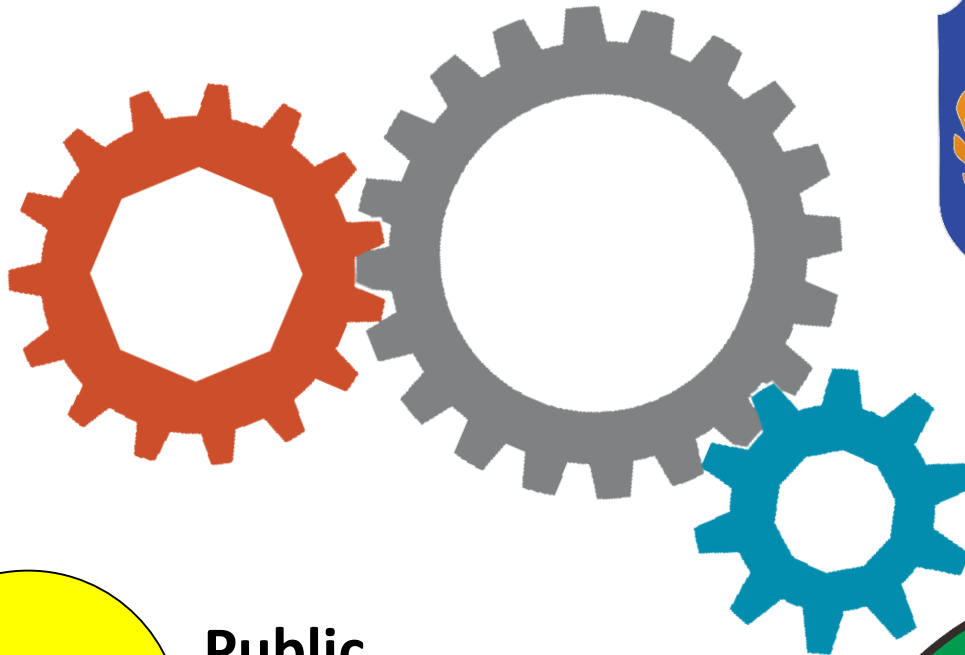
That's why

- ❑ Conservation Area is needed
 - To provide a living ecosystem for marine organism

Top 3 Partnership

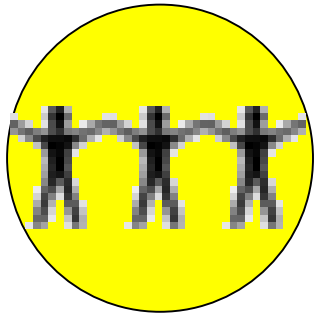


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Government

Cooperates with Fishery and Marine Dept. to define **Conservation Area**, **Operational Area**, and **ComDev Area**.



Public

Through Community Development we can conserve and keep coastal area clean and green



College

Cooperates with experts in University regarding coastal conservation and CommDev

External Factor – Community Development Area



- ☐ Support Both Operational and Conservation Area
- ☐ ***Culture Change*** through Community Development



Mitigation Actions for Sustainability



☐ Internal

- Well-designed Shipping Lane
- Control of Effluent to Seawater

☐ External

- Mangrove Conservation
- Coral Reef Transplantation
- Community Development to support marine and coastal ecosystem



Mangrove Conservation

- ❑ Mangrove **before** community development to conserve the mangrove
- ❑ Some of Mangrove Area was damaged due to bad habit of people around the area



ComDev: Mangrove Conservation



- ❑ **400.000** mangrove plantation since 2011
- ❑ Badak LNG has conserved more than **45 ha** so far
- ❑ But now they can utilize almost all of mangrove parts

Replication of Mangrove Resources

2010



Mangrove Nursery

2012



Mangrove Diversification

2014



Mangrove Natural Dyes

2015



Mangrove EcoTourism

1
Mangrove
Nursery

2
Mangrove
Syrup

3
Mangrove
Sweets

Mangrove
Conservation

4
Mangrove
Dodol
(Taffy cake)

5
Mangrove
Amplang
(Crackers)

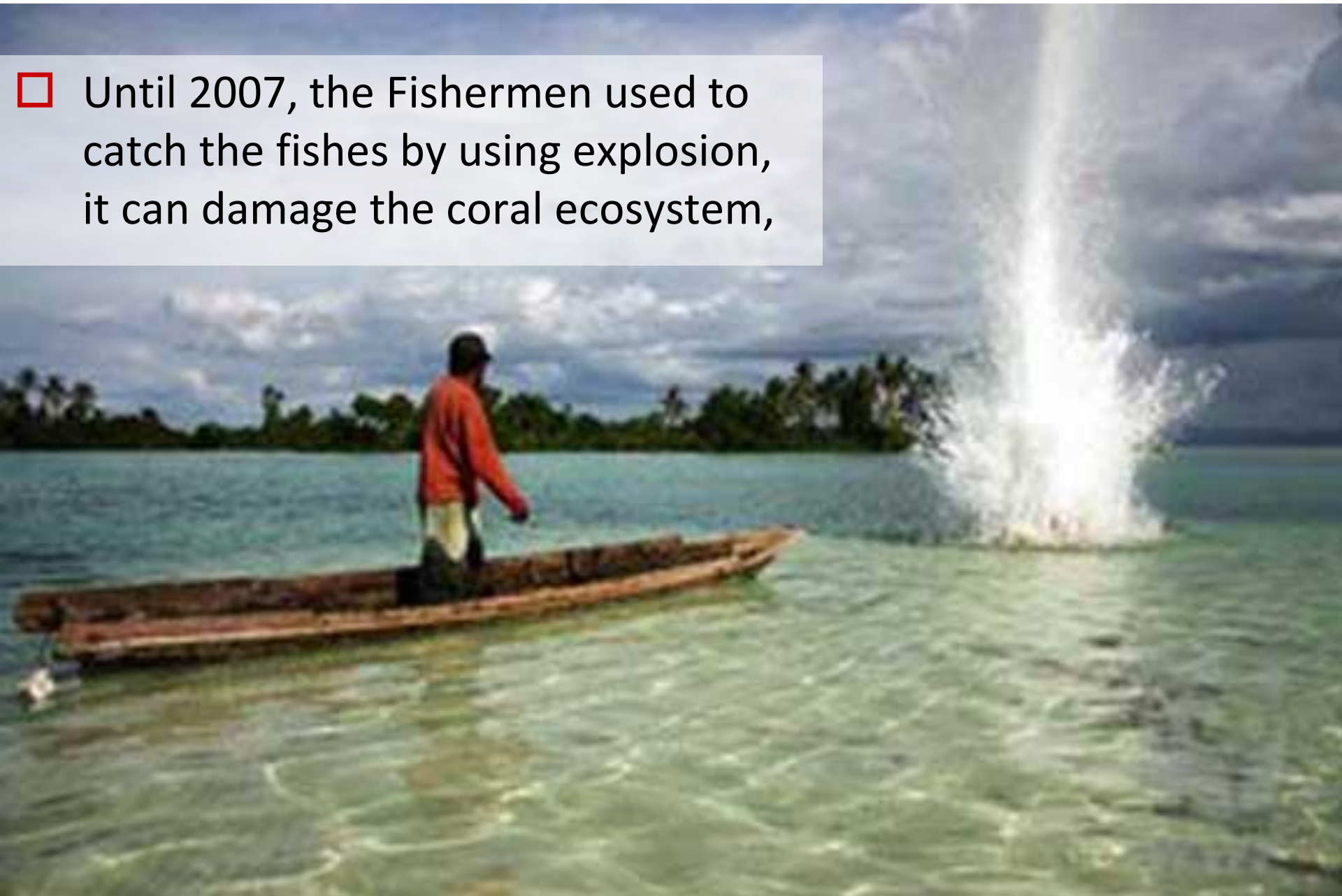
6
Natural
Dyes

7
Mangrove
Eco-Tourism

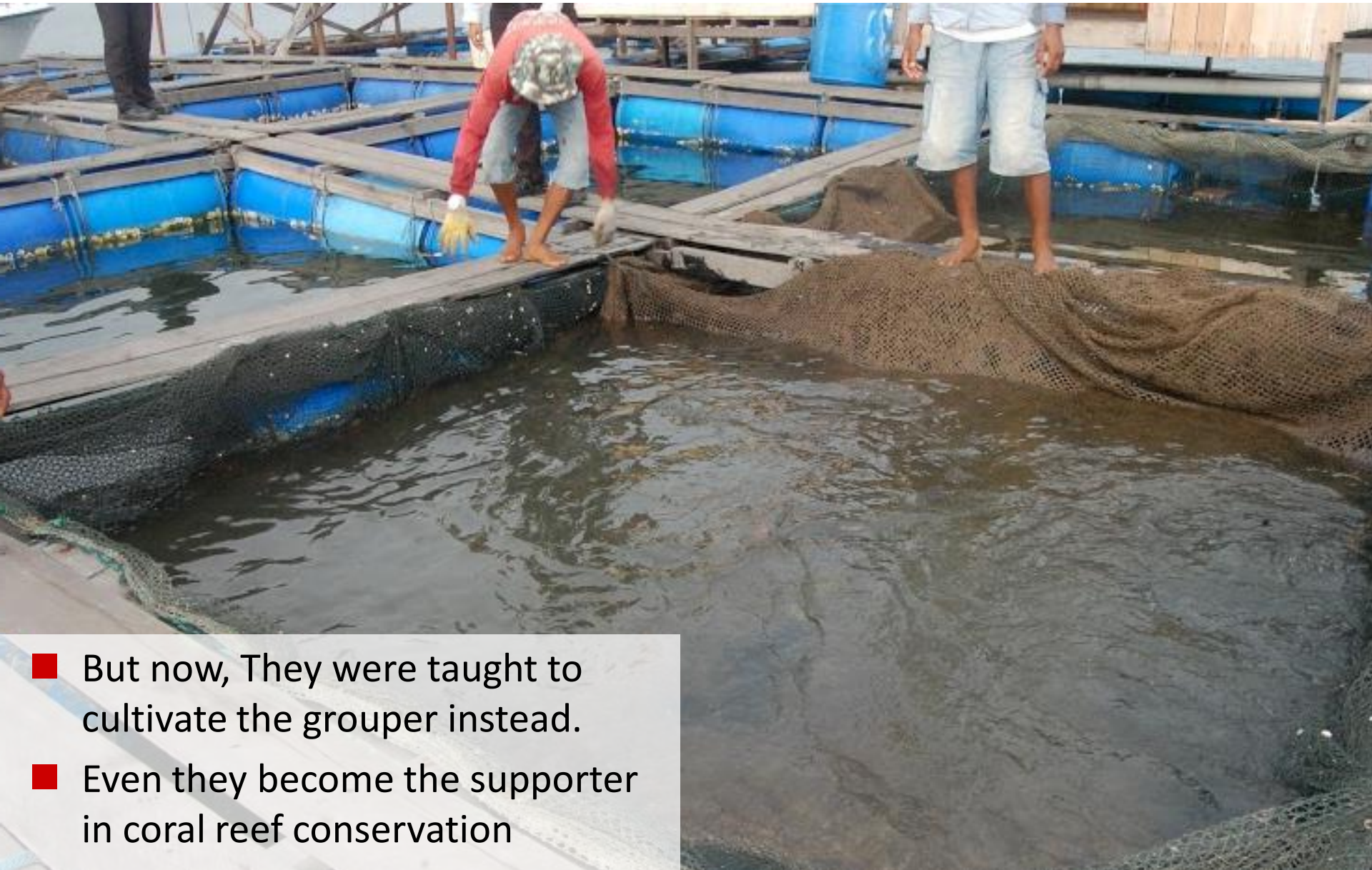


Coral Reef Conservation

- ❑ Until 2007, the Fishermen used to catch the fishes by using explosion, it can damage the coral ecosystem,



Grouper Cultivation



- But now, They were taught to cultivate the grouper instead.
- Even they become the supporter in coral reef conservation

Bio-Reef Technology



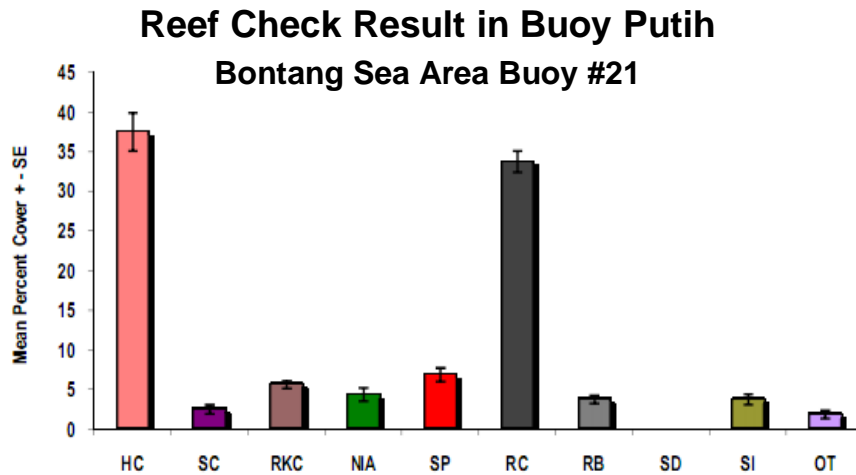
☐ *Bio-Reef Tech* is one of the most popular coral conservation method.

☐ So far, Badak LNG already planted 400 units since 2013



Coral Reef Check Monitoring Program

- Coral Reef Check Monitoring Program was done to get information related to Coral Reef ecosystem.



Coastal Award 2014



Badak LNG was awarded by Ministry of Marines Affairs and Fisheries in 2014, Republic of Indonesia due to its effort in Coastal Development

***“Through Implementation of
Environmental Based Community Development we
build a synergy between Company, Government,
and Community to conserve and sustain Sea
Ecosystem and Resources.”***



Thank you



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