

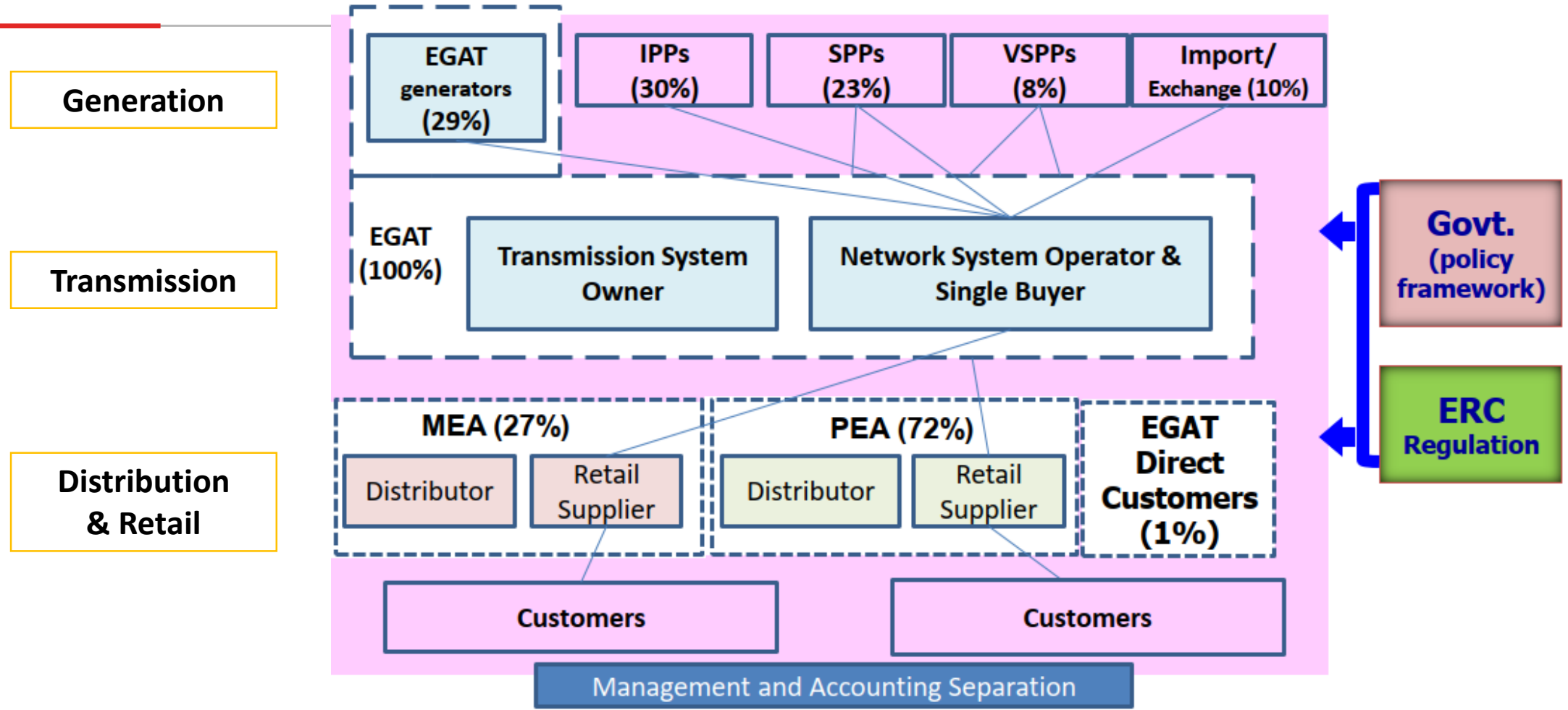
# PPAs in gas sector as factors of investments incentives

## Case Study by Thailand

Dr. Phuwanart Choonhapran / Pat Sirimotedara  
Energy Regulatory Commission (ERC), Thailand



# Thailand Electricity Market : ESB



EGAT = Electricity Generating Authority of Thailand  
 MEA = Metropolitan Electricity Authority  
 PEA = Provincial Electricity Authority

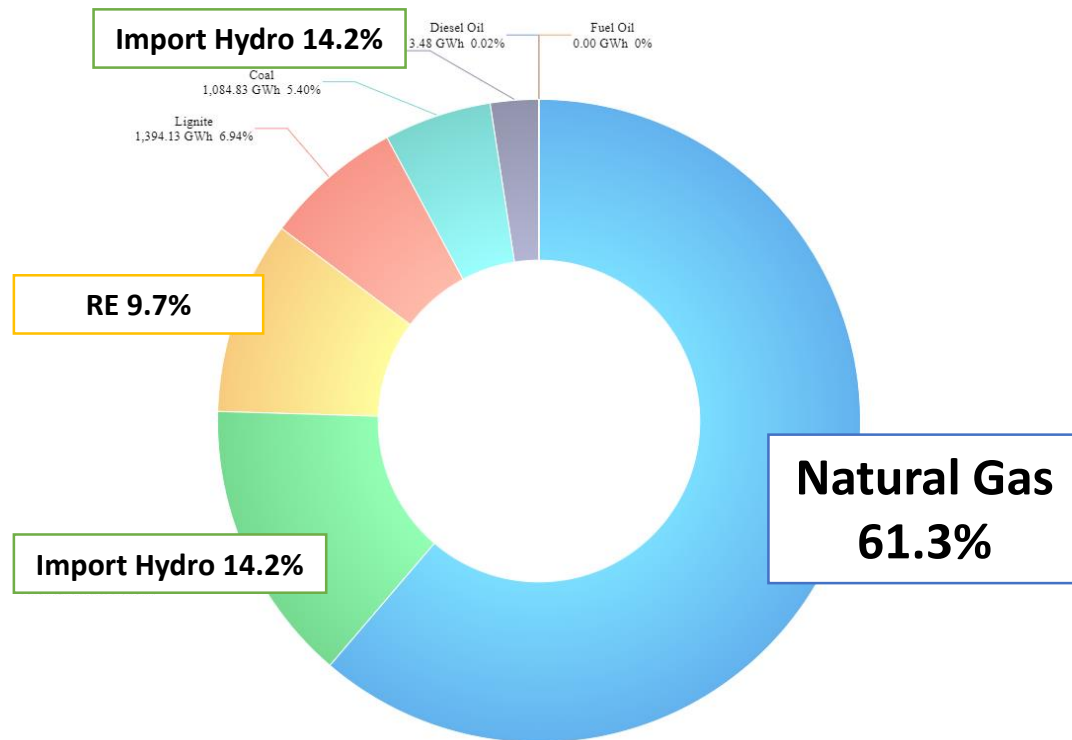
IPP = Independent Power Producers (Capacity sold to EGAT > 90 MW)  
 SPP = Small Power Producers (Capacity sold to EGAT ≤ 90 MW)  
 VSPP = Very Small Power Producers (Capacity sold to MEA/PEA ≤ 10 MW)

Note: % in brackets as at Mar2023. Generation here refers to Contracted Capacity to the grid (excluding IPS).

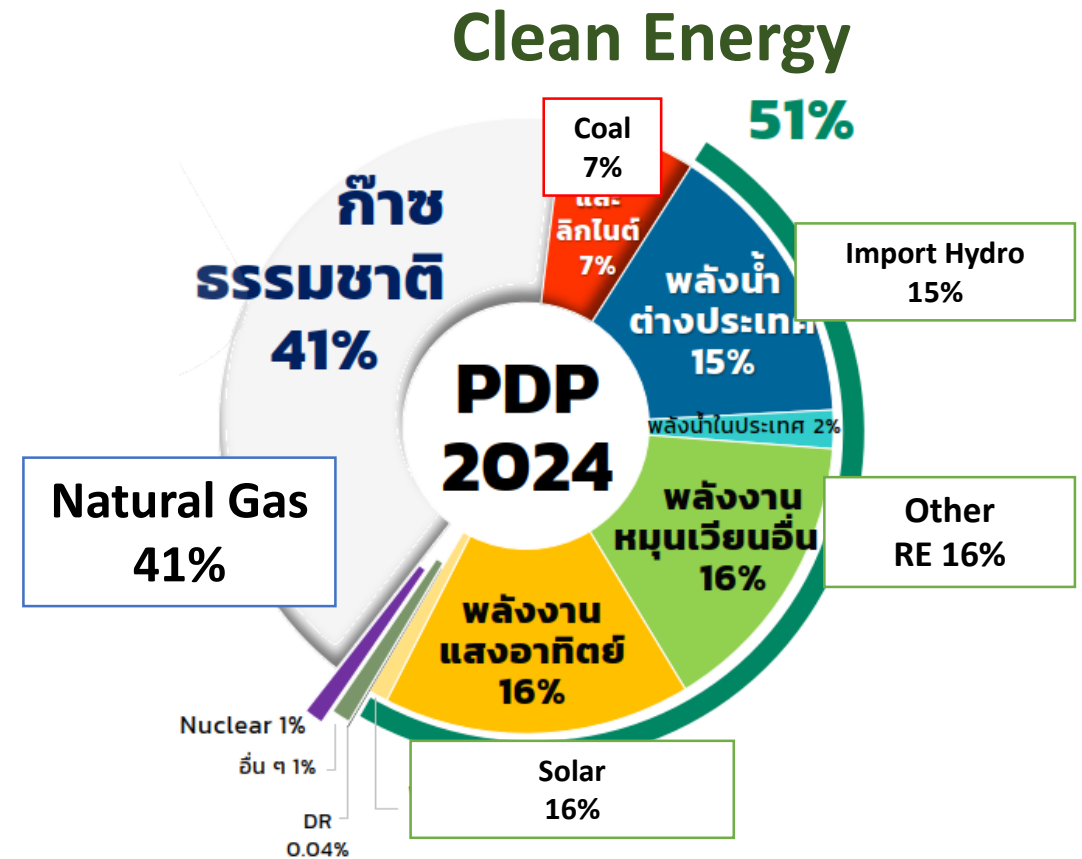
# Thailand Energy Mix : Today & Plan Forward



**2024**  
( May 2024 )

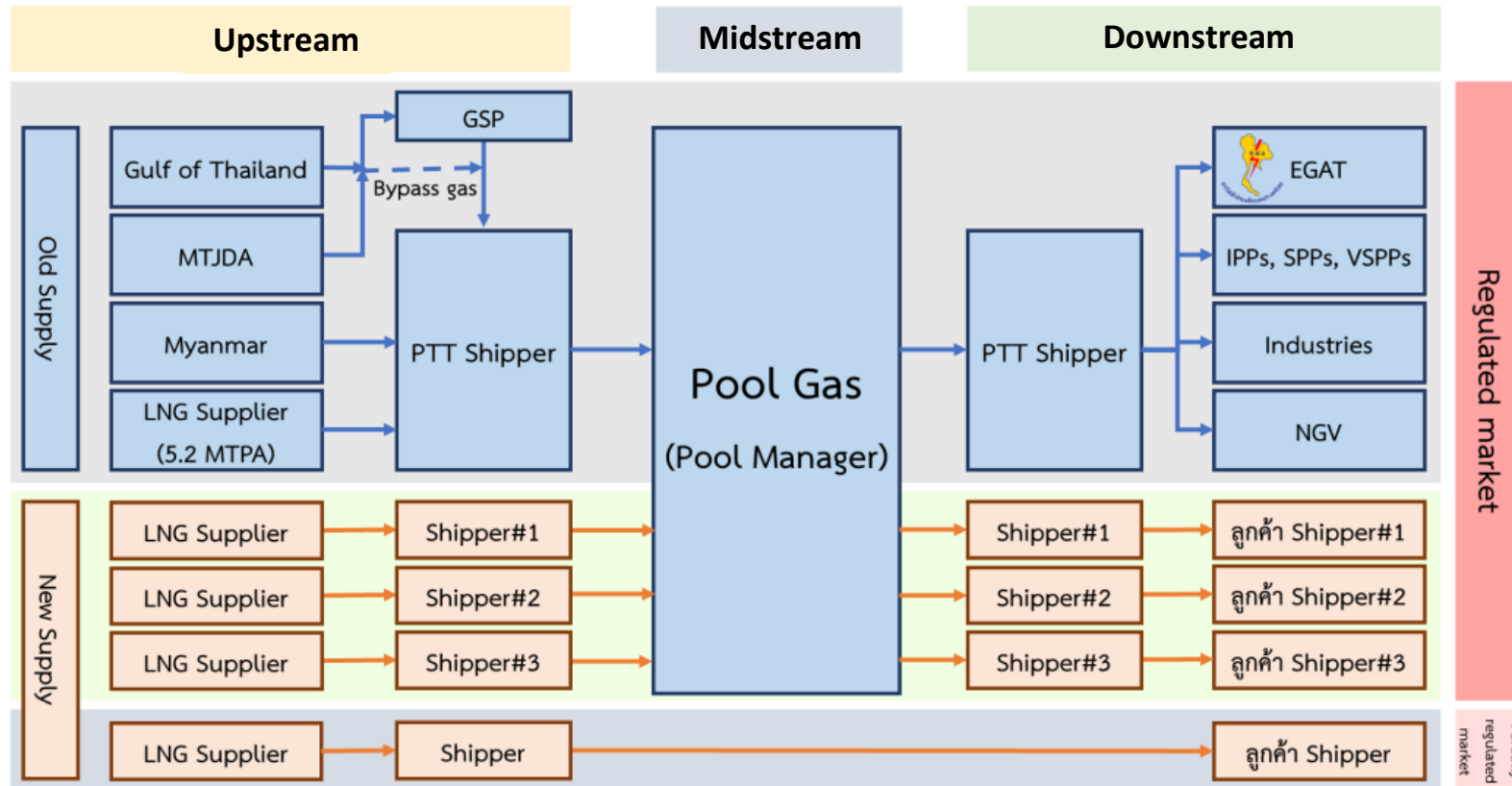


**2037**  
( Draft PDP 2024 )



# Gas for Regulated sectors include Power

## Gas Liberalization – Phase II >> Single Pool Gas Price for All Regulated Market



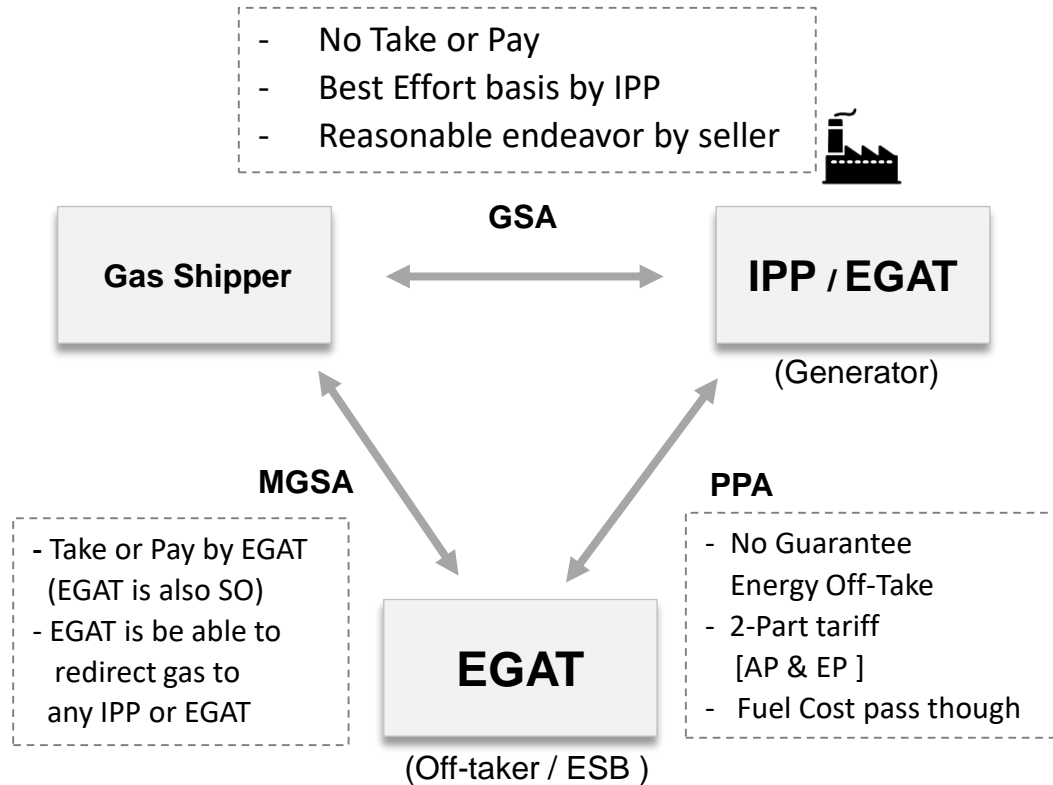
$$\text{Wholesale Gas Price} = \text{Pool Gas} + \text{Transmission} + \text{Shipper Fee} \times$$

# PPA & related key contract structure



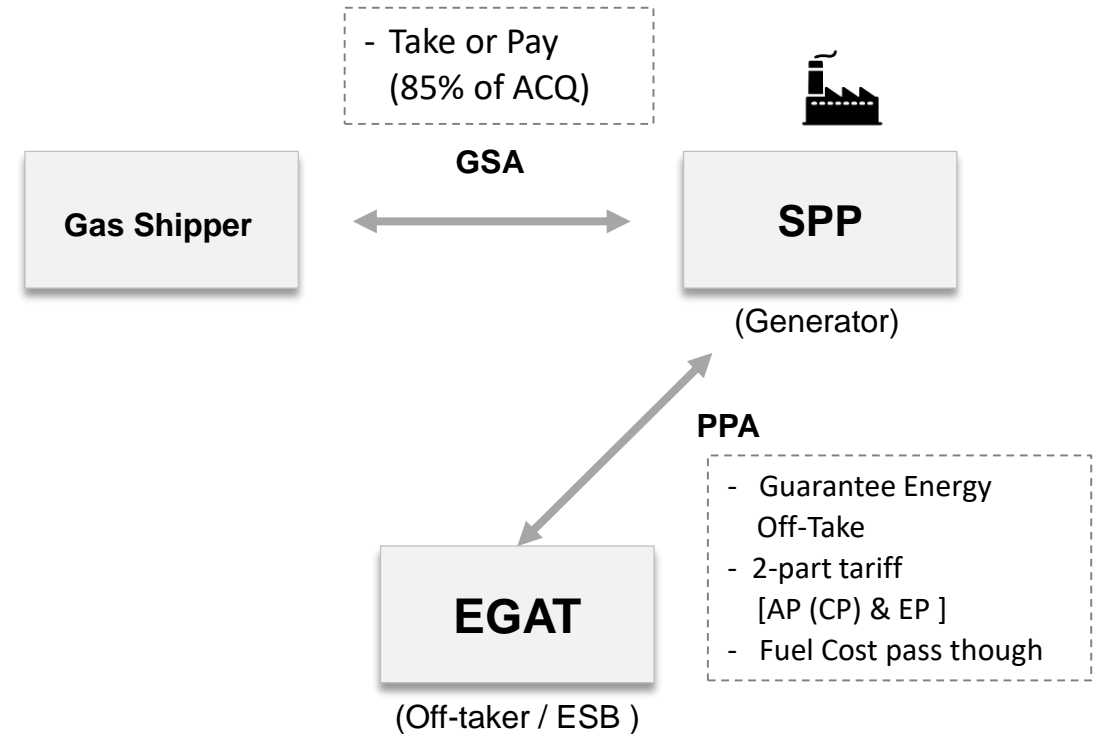
## Bankable Structure (via Project Financing)

### EGAT / IPP



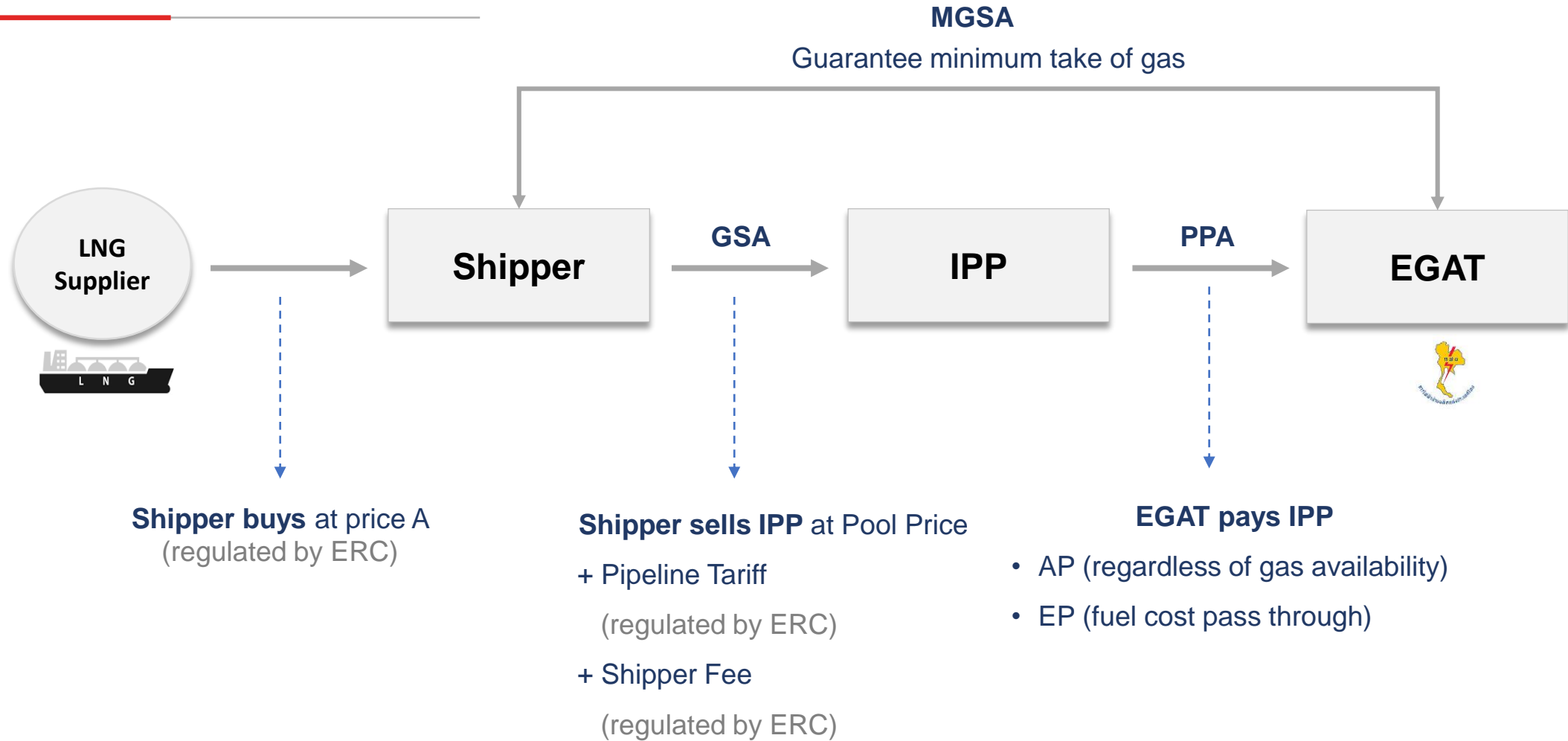
## Bankable Structure (via Project Financing)

### SPP



**Note :** GSA = Gas Sale Agreement  
 MGSA = Master Gas Sale Agreement  
 AP = Availability Payment  
 EP = Energy Payment  
 SO = System Operator  
 ACQ = Annual Contract Quantity (365 days x DCQ)

# Transaction Flow





**THANK YOU  
FOR YOUR ATTENTION!**

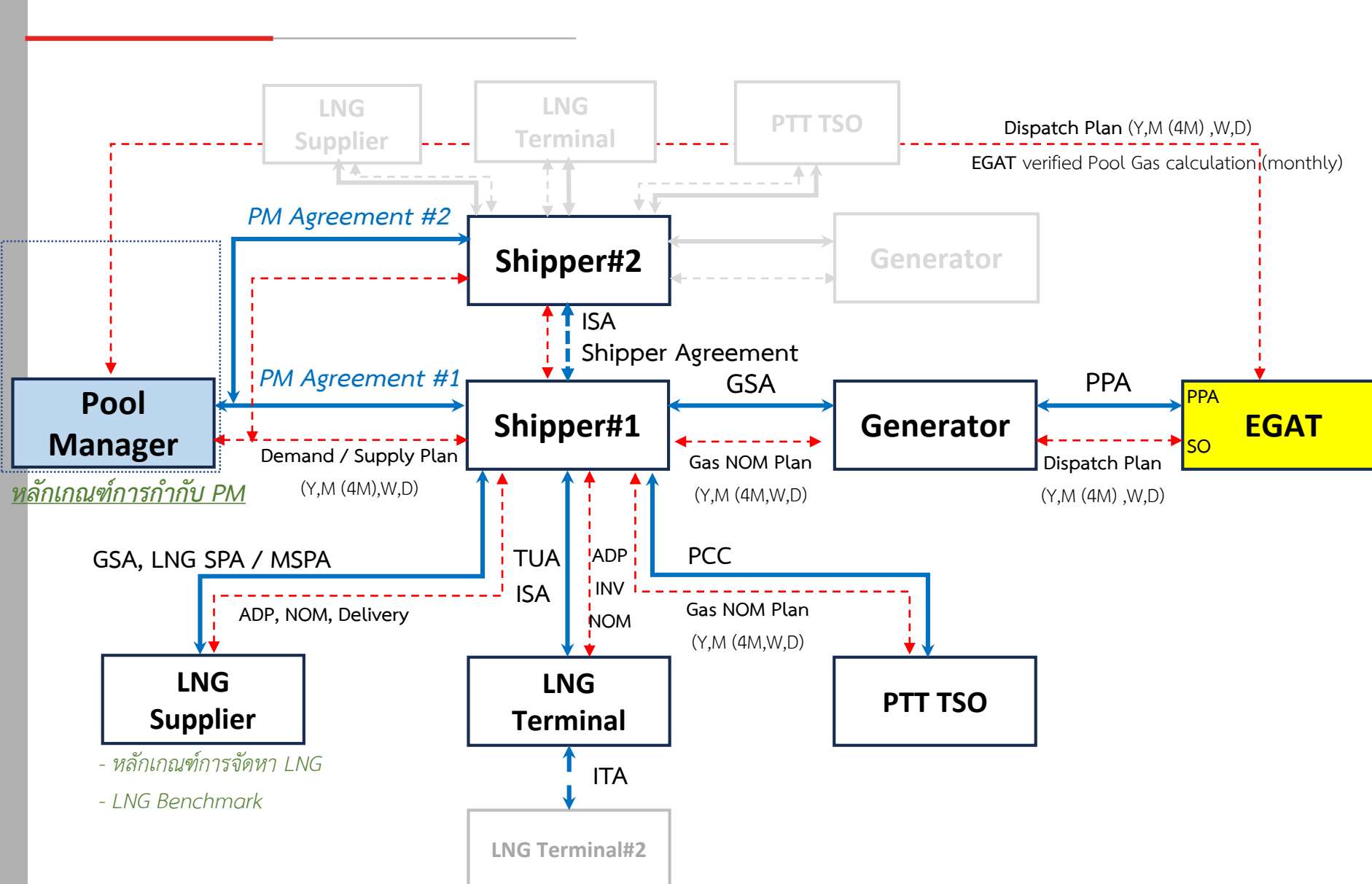
[phuwanart@erc.or.th](mailto:phuwanart@erc.or.th)

[Pat.s@erc.or.th](mailto:Pat.s@erc.or.th)

Back Up



# Gas Contract Structure with PPA



หลักเกณฑ์การกำกับ PM

- หลักเกณฑ์การจัดการจัดหา LNG  
- LNG Benchmark

---> Communication  
=> Contract

PPA = Power Purchase Agreement  
GSA = Gas Sale Agreement  
PM Agreement  
PCC = Pipeline Capacity Contract  
TUA = Terminal Usage Agreement  
ISA = Inter-Shipper Agreement  
( PTTLNG & all Users)  
ITA = Inter-Terminal Agreement  
( T1 & T2 เพื่อรองรับ ICPL / Virtual INV )  
Shipper Agreement  
SPA = LNG Sale & Purchase Agreement  
( สัญญาซื้อ LNG LT / MT )  
MSPA = Master Sale & Purchase Agreement

Dispatch Plan แผนเดินเครื่องโรงไฟฟ้า  
Gas NOM Plan แผนเรียกก๊าซ  
ADP = Annual Delivery Plan of LNG  
NOM = Nomination การเรียกก๊าซ