



**29-31 AGUSTUS 2023**  
**YOGYAKARTA**

**PRACTICAL FLARE GAS RECOVERY AT  
PERTAMINA REFINERY TO MINIMIZE  
FLARING.**

**Akhmad Syaiful Hasan**

# Overview



IKATAN AHLI FASILITAS PRODUKSI  
MINYAK DAN GAS BUMI INDONESIA



## Upstream



Crude  
import / purchase



Crude export /  
sales

## Refinery

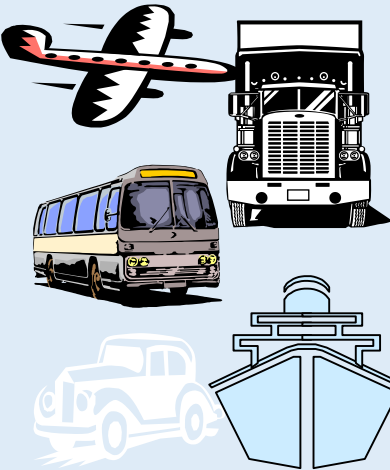
PT Kilang Pertamina Internasional  
(Sub Holding Refining & Petrochemical)



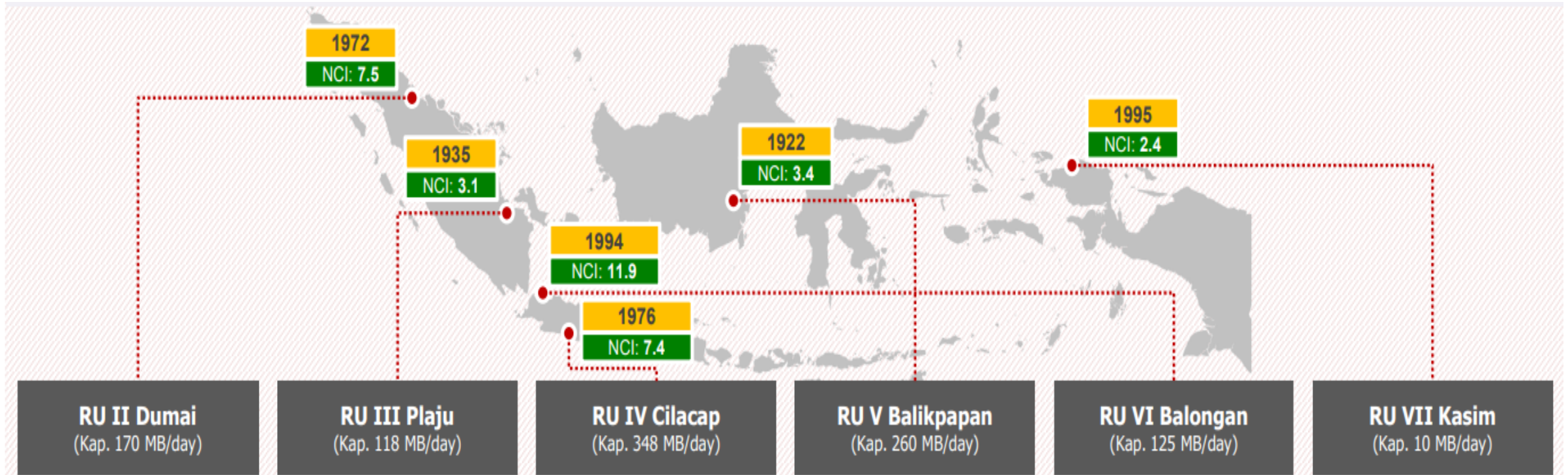
Products  
import / purchase



Product  
export / sales



# Overview



Gandaria Office Tower, 5th Floor  
Jl. Sultan Iskandar Muda, Jakarta 12240

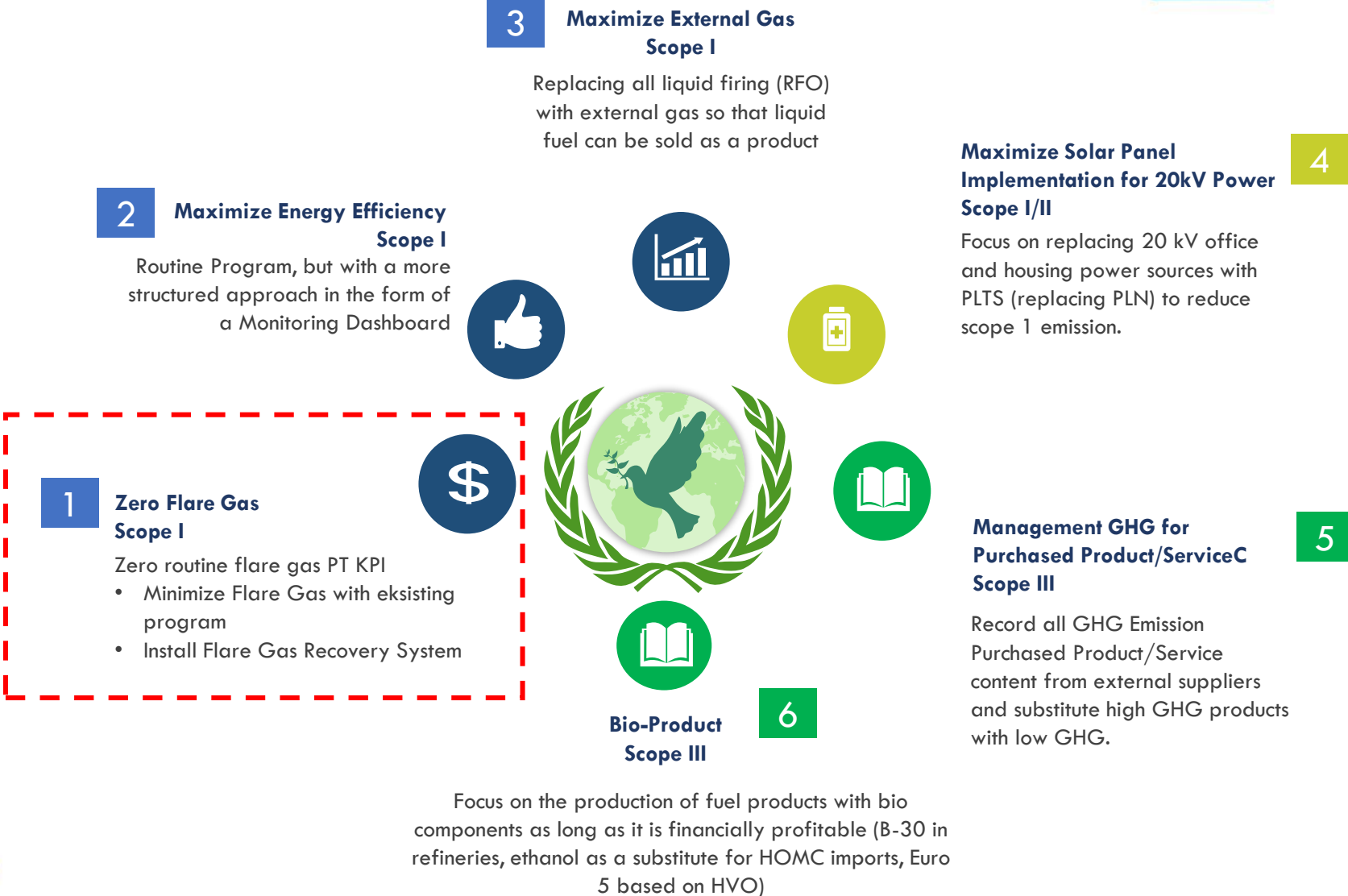
# Background



**In-line with global O&G companies' aspiration, Pertamina plans to develop a roadmap to reach Net-Zero by 2060**



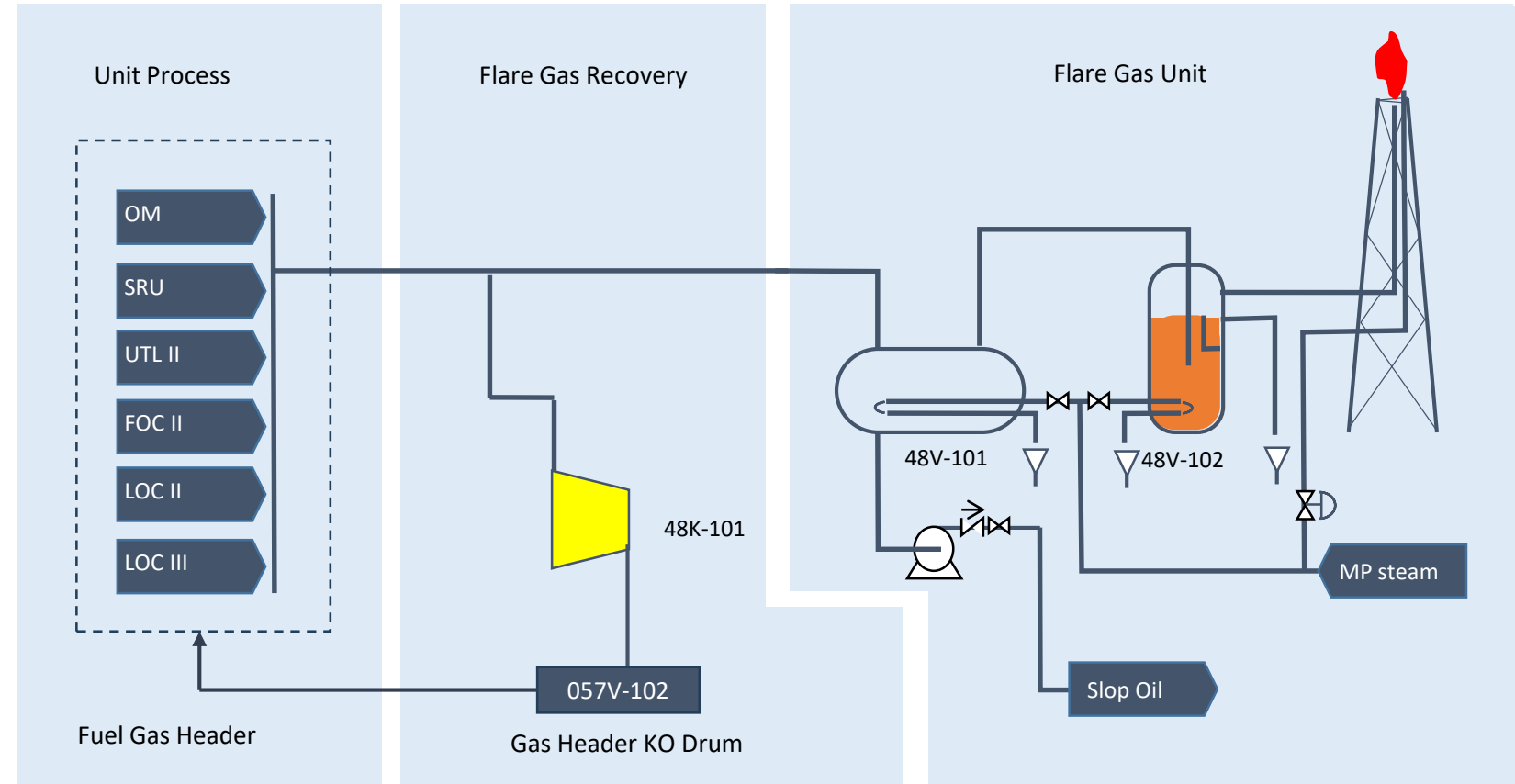
Gandaria Office Tower, 5th Floor  
Jl. Sultan Iskandar Muda, Jakarta 12240



# Typical Flare Gas Unit Design for Eksisting Refineries



- PT Kilang Pertamina International refineries have at least 20 flares (Total) from all facilities
- The purpose of a flare is to achieve safe, reliable, efficient and effective disposal / combustion of gases (and occasionally liquids) released from the associated process plant.
- There is a flare gas recovery compressor in gas flare unit at the Kilang Pertamina International Refinery.
- Recovered gas is reused mainly as fuel in the boiler and furnace.

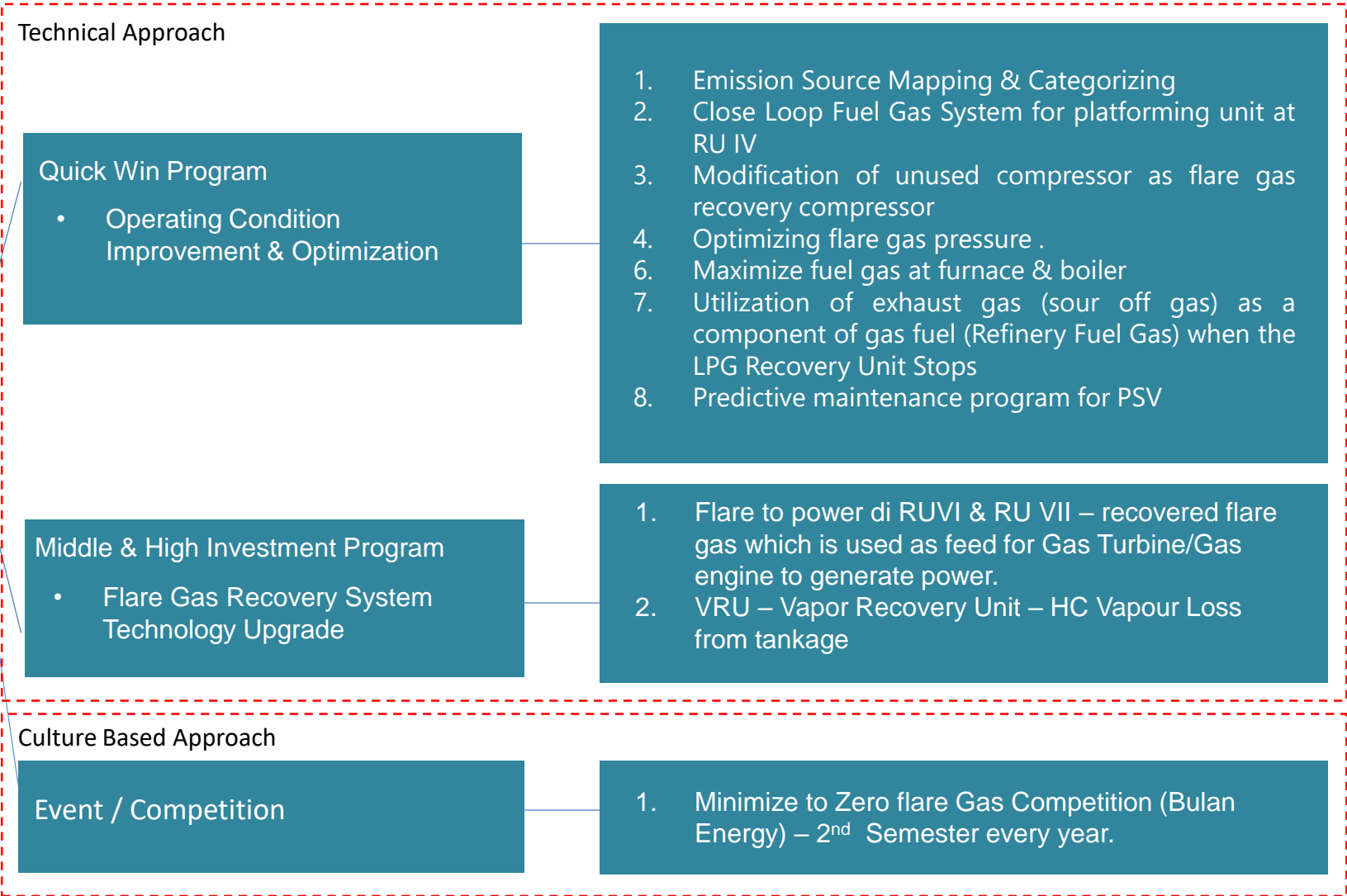


# Practical Methods to Approach Zero Routine Flaring



**Operating Condition Improvement & Optimization program reduce 45% waste gas to flare.**

**Zero Routine Flare**



# Sustainability Program



IKATAN AHLI FASILITAS PRODUKSI MINYAK DAN GAS BUMI INDONESIA

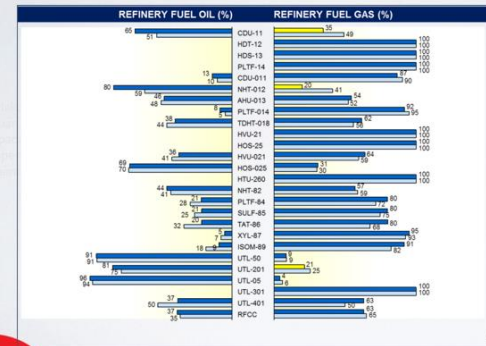


## Monitoring program

- Online dashboard
- Monthly basis (Energy & Loss Monthly Coordination Meeting)
- Community of Practice (COP) Energy & Loss
- Yearly event (Competition) – “*Bulan Energy*”

### Program maximize penggunaan fuel gas

Bertujuan untuk memanfaatkan excess fuel gas dengan memanfaatkan kembali gas tersebut sebagai bahan bakar di furnace-furnace dan boiler sehingga meminimalisir excess gas terbuang ke flare system.



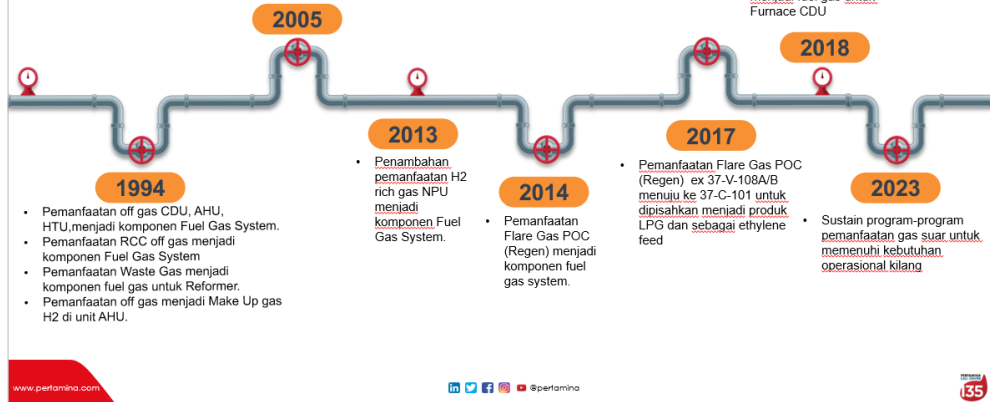
Monitoring penggunaan fuel gas dan fuel oil pada setiap heater di RU IV Cilacap.



### Program Pemanfaatan Gas Suar Yang Telah Dilakukan



- Pemanfaatan H2 rich gas NPU menjadi komponen fuel gas untuk Furnace NPU (ownused) dan Fuel Gas System
- Pemanfaatan H2 rich gas NPU menjadi make up gas H2 di unit HTU
- Pemanfaatan Flare Gas CDU menjadi fuel gas untuk Furnace CDU



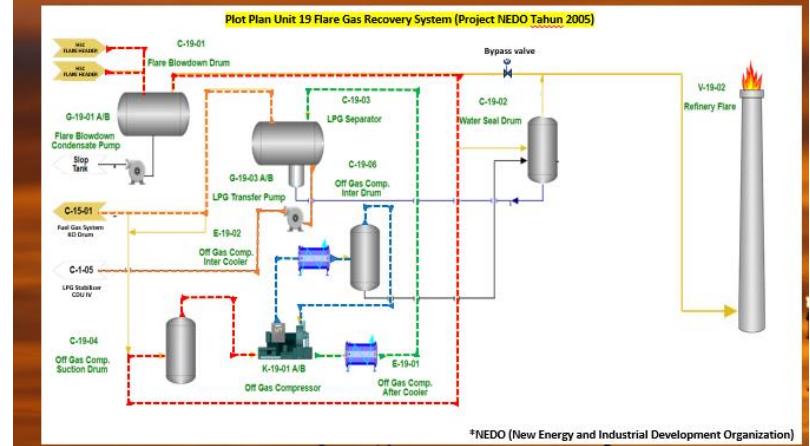
www.pertamina.com

in f t p @pertamina

135

## FLARE GAS RECOVERY SYSTEM (FGRS)

Pemanfaatan Kembali gas suar untuk Fuel Gas System dan Produk LPG di RU V Balikpapan

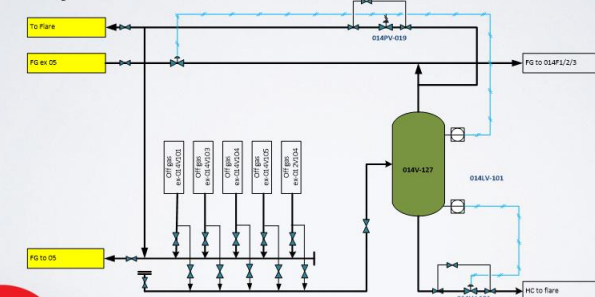


### 3 Strategi Minimize Flare Loss



#### Close Loop Fuel Gas System di Unit Platforming – FOC II

Melalui pengaplikasian close loop fuel gas system di unit PL II dapat mengurangi ketergantungan terhadap refinery fuel gas dari utilities serta menjamin ketersediaan supply fuel gas ke heater-heater unit platforming, dan jika terdapat excess gas akan disupply ke utilities sebagai komponen refinery fuel gas.



# Summary





**End of Presentation Slide  
Thank You**