DATA REQUIREMENTS FOR C2 ALLOCATION MODEL

CONFIG MASTER

CUSTOMER

- ID.NAME
- MAX-MIN cap (ton/hr)
- Ref. formula (CP+X,HDPE..)
- a, b, c, d (for calc. pricing)
- Product (High/Low C02)

Rolling-Data

(NEXT 12 mon)

PRODUCTION

- Production plan

DEMAND

- Demand plan

PRICING

- HDPE, LDPE, LLDPE
- CP , X (by customer)
- Estimated Prd. cost
- FX

Annual Data

(JAN - DEC)

CUSTOMER CONDITION

- Pipeline Tariff
- Floor price
- a, b, c, d (for calc. pricing)

OPTIMIZATION CONSTRAINTS & OBJECTIVES

- MAX Margin (Sales price – Estimated Prd. cost)
- Monthly sales qty betw cap min & max

DATA REQUIREMENTS FOR C3/LPG ALLOCATION MODEL

CONFIG MASTER

CUSTOMER

- ID.NAME
- MAX-MIN cap (ton/hr)
- Ref. formula (CP+X)
- a, b, c, d (for calc. pricing)
- Product (C3/LPG)

Rolling-Data

(NEXT 12 mon)

PRODUCTION

- Production plan

DEMAND

- Demand plan

PRICING

- PP, MOP'J
- CP , X (by customer)
- Estimated Prd. Cost (C3,LPG-GSP, LPG-REFI, IMP)
- FX

Annual Data

(JAN - DEC)

CUSTOMER CONDITION

- Pipeline Tariff
- Floor price
- a, b, c, d (for calc. pricing)

OPTIMIZATION CONSTRAINTS & OBJECTIVES

Obj - MAX Margin (Sales price – Estimated Prd. cost)
Cons- Monthly sales qty betw cap min & max
- Monthly Ending Inventory > LR & < TANK CAP
- C3 qty > LR

DATA REQUIREMENTS FOR NGL ALLOCATION MODEL

CONFIG MASTER

CUSTOMER

- ID.NAME
- MAX-MIN cap (ton/hr)
- Ref. formula (CP+X,HDPE..)
- a, b, c, d (for calc. pricing)
- Product (NGL)

Rolling-Data

(NEXT 12 mon)

PRODUCTION

- Production plan

DEMAND

- Demand plan

PRICING

- HDPE, LDPE, LLDPE
- CP , X (by customer)
- Estimated Prd. cost
- FX

Annual Data

(JAN - DEC)

CUSTOMER CONDITION

- Pipeline Tariff
- Floor price
- a, b, c, d (for calc. pricing)

OPTIMIZATION CONSTRAINTS & OBJECTIVES

- MAX Margin (Sales price – Estimated Prd. cost)
- Monthly sales qty betw cap min & max

Data Integration
For 1 product grp.

Revision xxx @dd/mm/yy

Production

Production-Supply	LOCATION	M1	M2	M3
RYG / C3	GSP1			
	GSP2			
	GSP3			
RYG / LPG	GSP1			
	GSP2			
	GSP3			
IMPORT				
REFINERY	GC			
	SPRC			
TOTAL				

Internal Constraints

Capacity, LR, contract vol., etc

Commercial Data

Smart Price

ATA

Product cost@		M1	M2
C3	GSP Full Cost ($/Ton)		
LPG-Domestic	GSP Full Cost ($/Ton)		
LPG-Feedstock	GSP Full Cost ($/Ton)		

	Selling Price@		M1	M2	M3
IMPORT	GSP RY	GC (C3)			
REFINERY	GSP RY	GC (LPG)			
	GSP RY	SCG (C3)			
	GSP RY	HMC (C3)			
	GSP RY	PTTAC (C3)			
	GSP RY	PTTOR (C3)			
	MT	PTTOR			
	BRP	PTTOR			
	PTT TANK	PTTOR			

AOU SES

To-be system

WEB APP

Optimization

Margin maximization

Inventory (only C3/LPG)

Inventory - only for C3 / LPG		M1	M2	M3
C3				
LPG				
C3/LPG				
LR - C3/LPG				

Delivery

Production-Supply	LOCATION	M1	M2	M3
RYG / C3	GSP1			
	GSP2			
	GSP3			
RYG / LPG	GSP1			
	GSP2			
	GSP3			
IMPORT				
REFINERY	GC			
	SPRC			
TOTAL				

Commercial summary

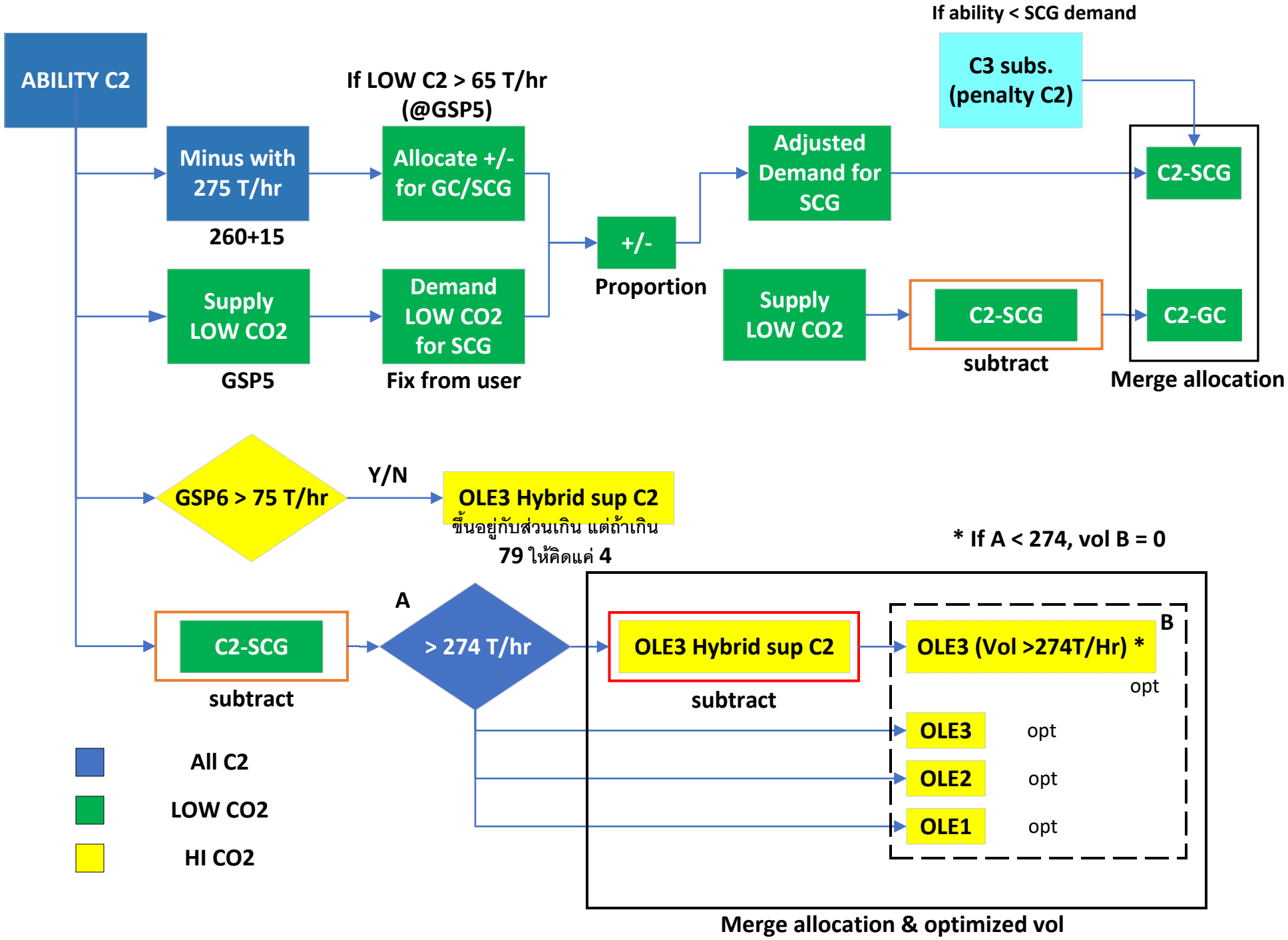
Total cost = Prod qty x @Product cost	
C3	GSP Full Cost ($/T
LPG-Domestic	GSP Full Cost ($/T
LPG-Feedstock	
IMPORT	
REFINERY	
TOTAL	

Total sales = @QTY x Selling price		M1	M2	M3
GSP RY	GC (C3)			
GSP RY	GC (LPG)			
GSP RY	SCG (C3)			
GSP RY	HMC (C3)			
GSP RY	PTTAC (C3)			
GSP RY	PTTOR (C3)			

Total Margin = Total Sales - Total Cost		M1	M2	M3
GSP RY	GC (C3)			
GSP RY	GC (LPG)			
GSP RY	SCG (C3)			
GSP RY	HMC (C3)			
GSP RY	PTTAC (C3)			
GSP RY	PTTAC (C3 Spot)			
GSP RY	PTTOR (C3)			
MT	PTTOR			

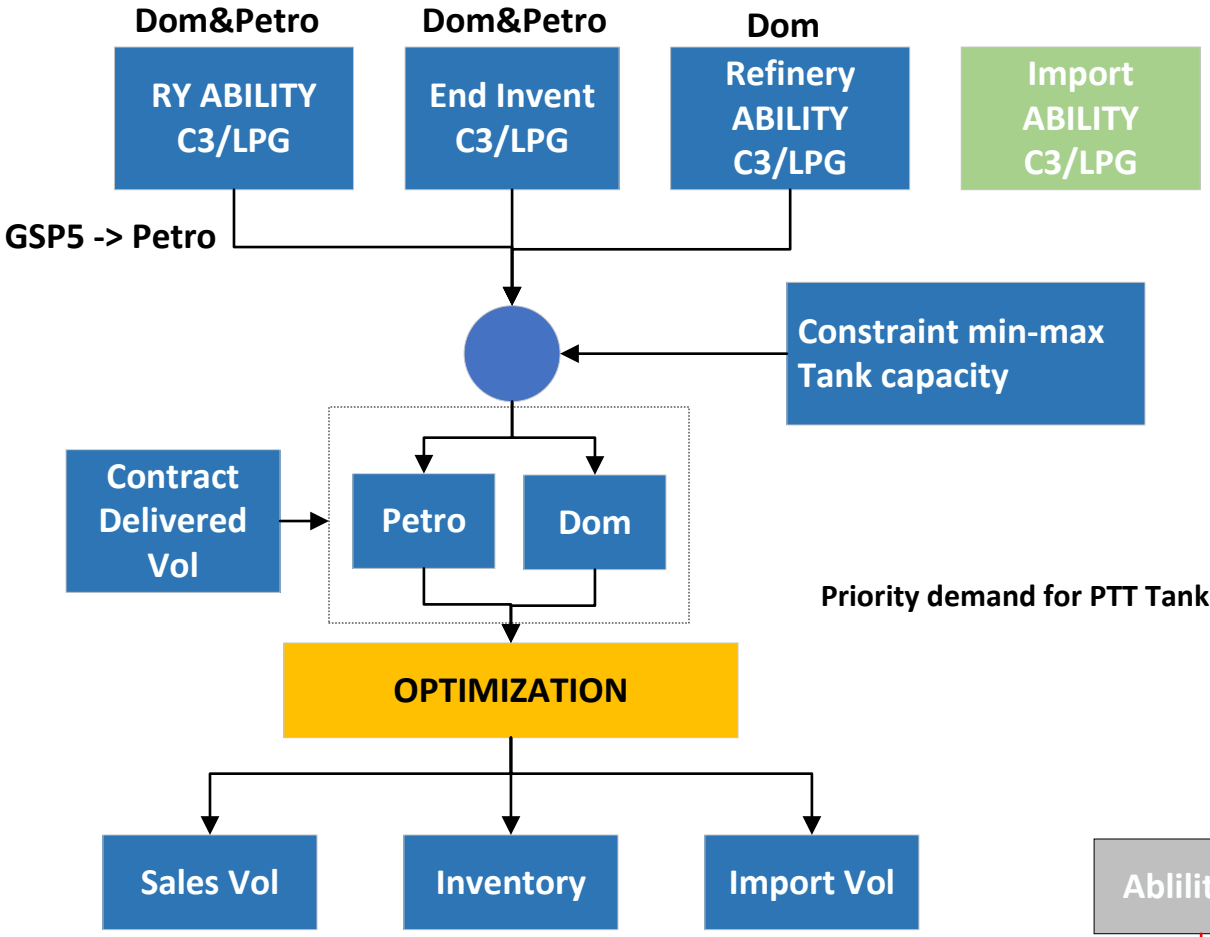
C2 Allocation Logic

Maximize profit

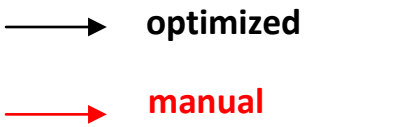


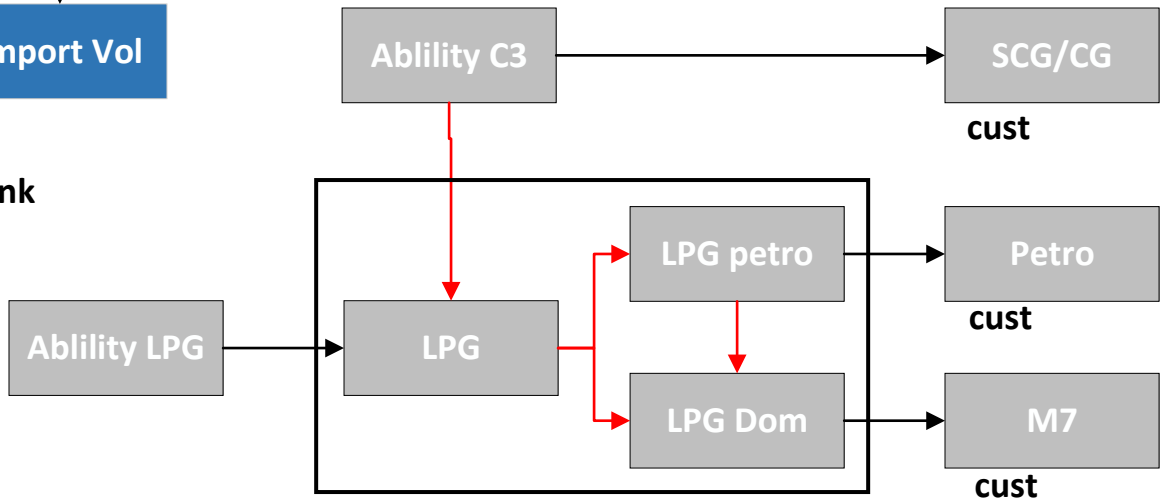
C3/LPG Allocation Logic

Maximize profit w LR



Priority demand for PTT Tank (truck)





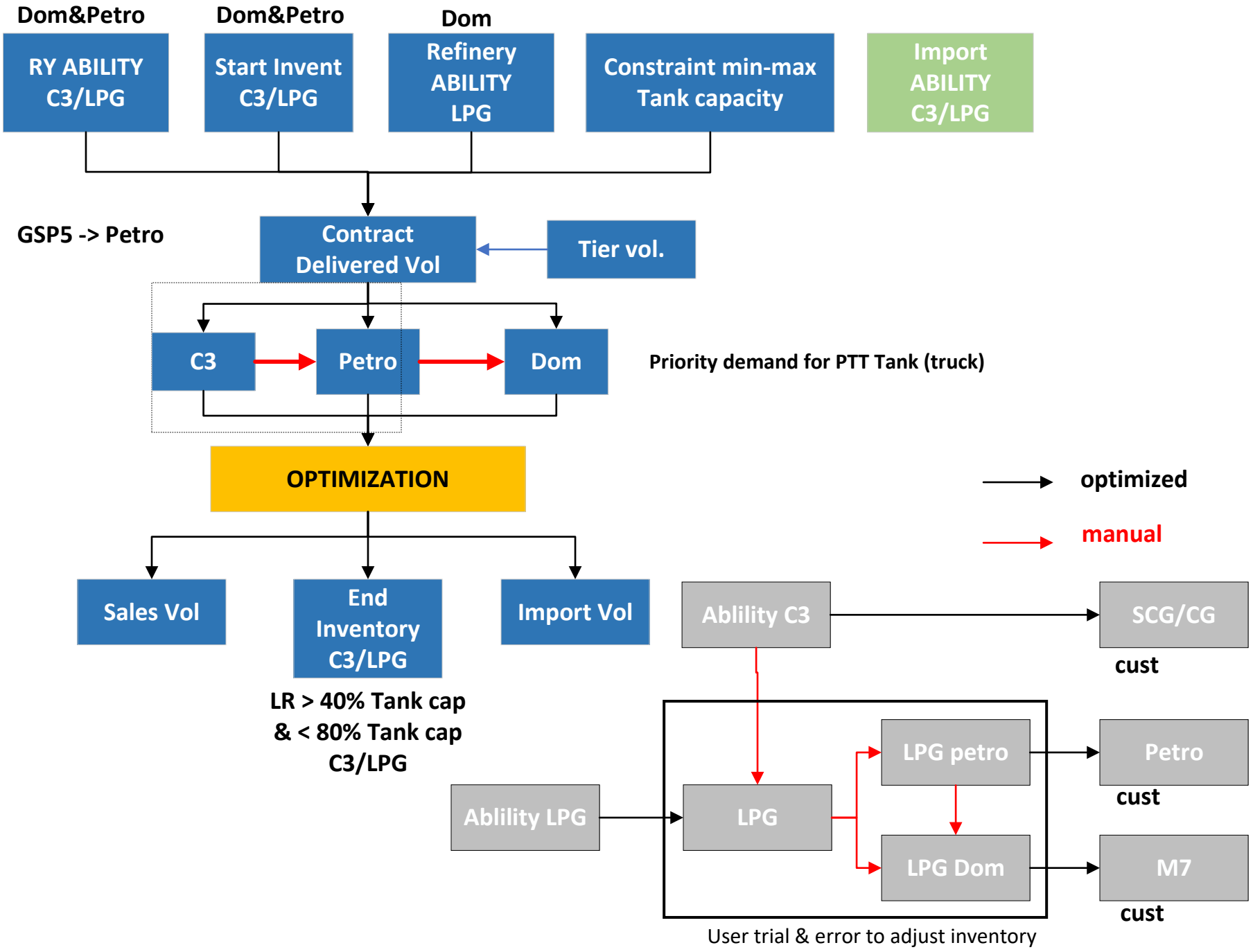
LR > 40% Tank cap & < 80% Tank cap C3/LPG

LR: กำหนดเป็น **Qty** รวม ให้กำหนดเป็น **Pre-caution** เพื่อเตือน ไม่ได้กำหนดเป็น **%**

User trial & error to adjust inventory

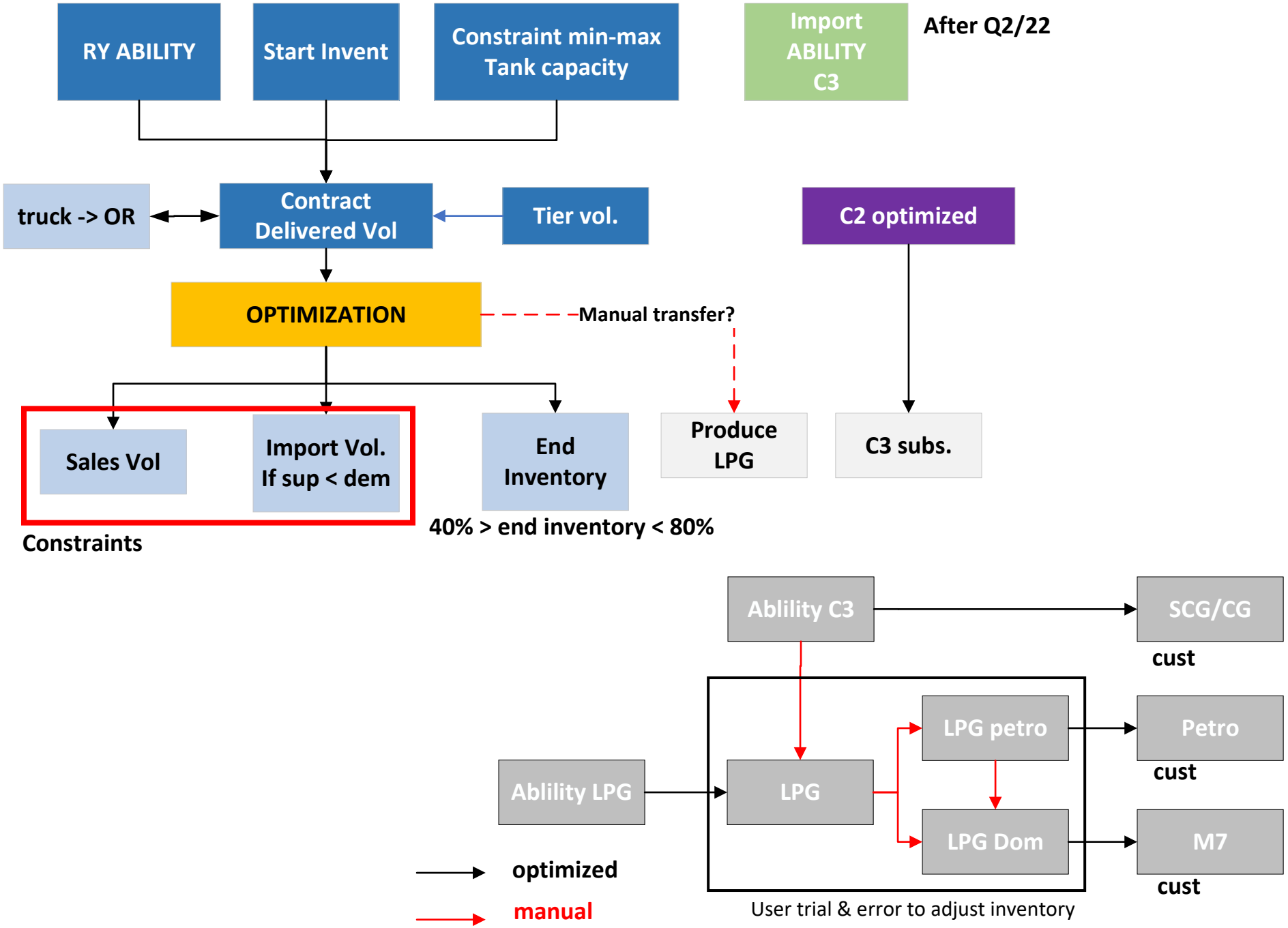
C3/LPG Allocation Logic

Maximize profit w LR



C3 Allocation Logic

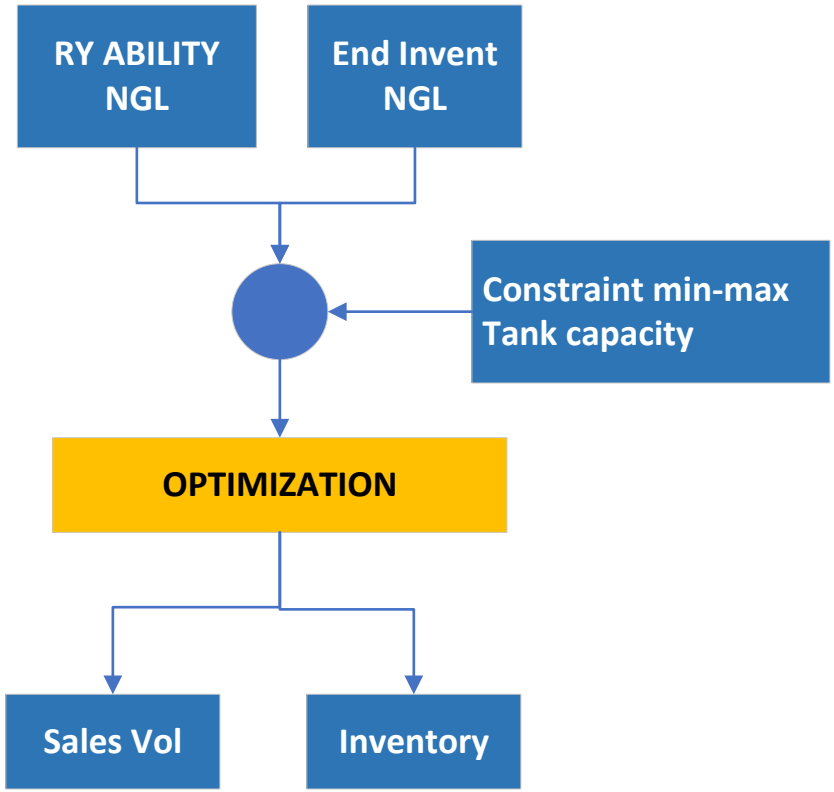
Maximize profit w LR



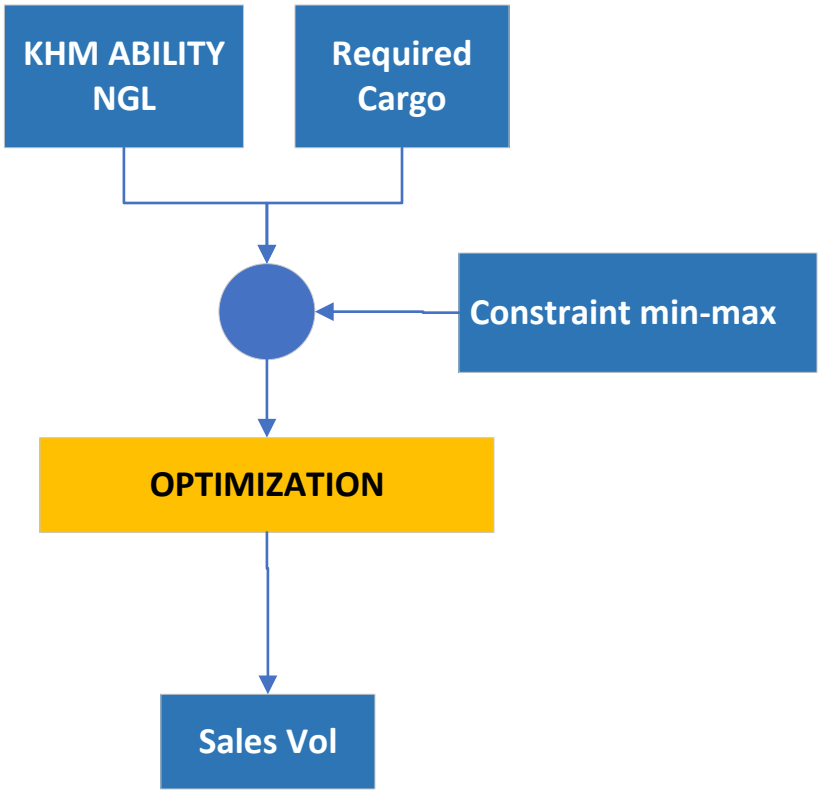
NGL Allocation Logic

Maximize profit

RAYONG



KHANOM



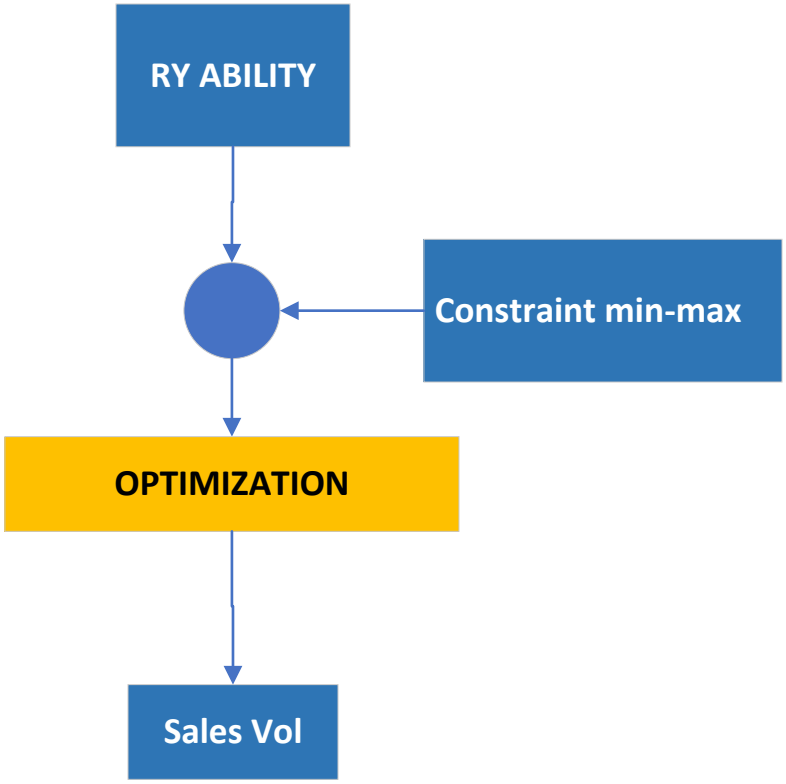
Old
- IRPC : MIN 1 Cargo
- Export : MAX 1 Cargo

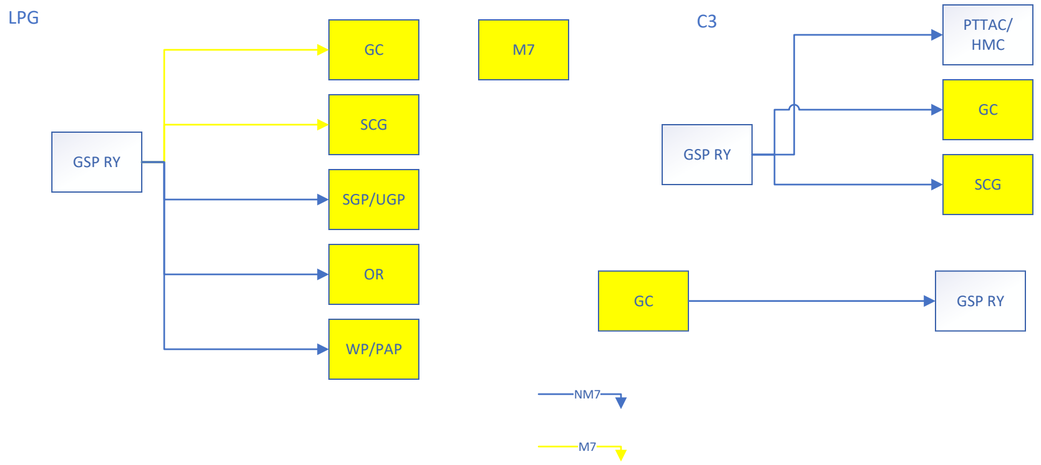
If no export @KHM -> @MT

New (valid start 2022)
- IRPC : MIN 1 Cargo
- Export : MAX 1 Cargo/Yr

C5/CO2 Allocation Logic

Maximize profit




LPG
GSP RY
GC
SCG
SGP/UGP
OR
WP/PAP
M7
C3
GSP RY
PTTAC/
HMC
GC
SCG
GC
GSP RY
NM7
M7