Abu Dhabi Oil Refining Co. (TAKREER)





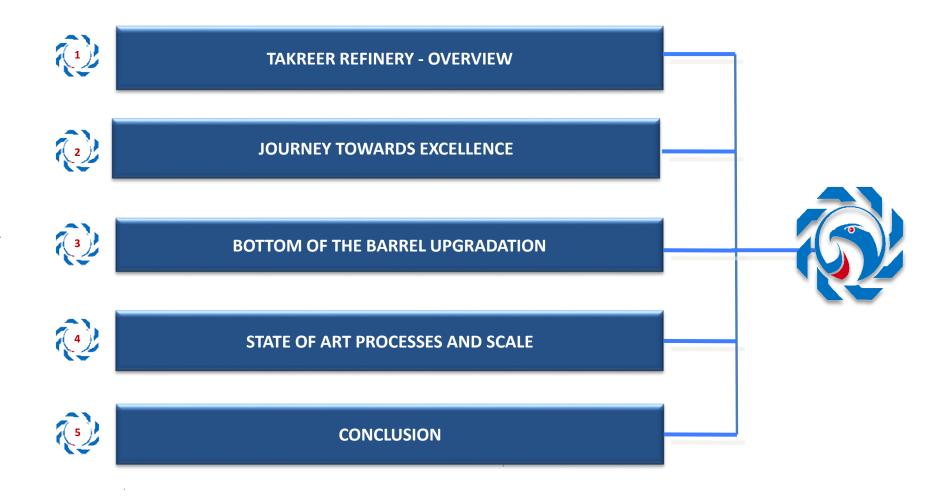
Zero Fuel Oil Production

The 35th JCCP International Symposium, January 26, 2017 – Tokyo

By: Dr. Hasan Karam
Senior Vice President – Ruwais Refinery (East)

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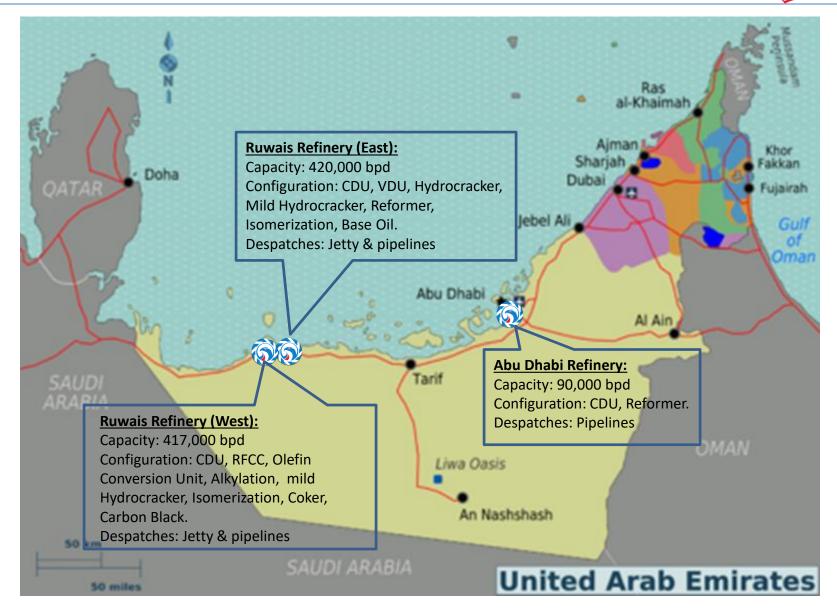


TAKREER REFINERY OVERVIEW



TAKREER'S REFINING CAPACITY







JOURNEY TOWARDS EXCELLENCE



TAKREER JOURNEY TOWARDS EXCELLENCE



We Refine Right

CARBON BLACK &
DELAYED COKER

PETROCHEMICALS INTEGRATION AND OFFSHORE CRUDE PROCESSING

World Class diversified Refining complex

RFCC & BASE OIL UNIT

RUWAIS REFINERY EXPANSION: PROJECT KICK OFF

Value addition

To increase ADNOC's international refined products market share

Value maximization by bottom of the barrel up gradation by commissioning Base Oil
Unit & RFCC and entry into specialized products like
Group II and III Base Oil,
Polymer Grade
Propylene, Alkylate, etc.

Zero Fuel Oil generation from the Refinery & Diversification into High valuable products like Anode Coke, Carbon Black

while producing high valuable **Propylene** from Propane streams

Increase Refining
Margin through
petrochemicals
integration Integrated Gasoline
Aromatics Project and
shifting feed to more
tougher, heavier, High
Sulfur Offshore crude.

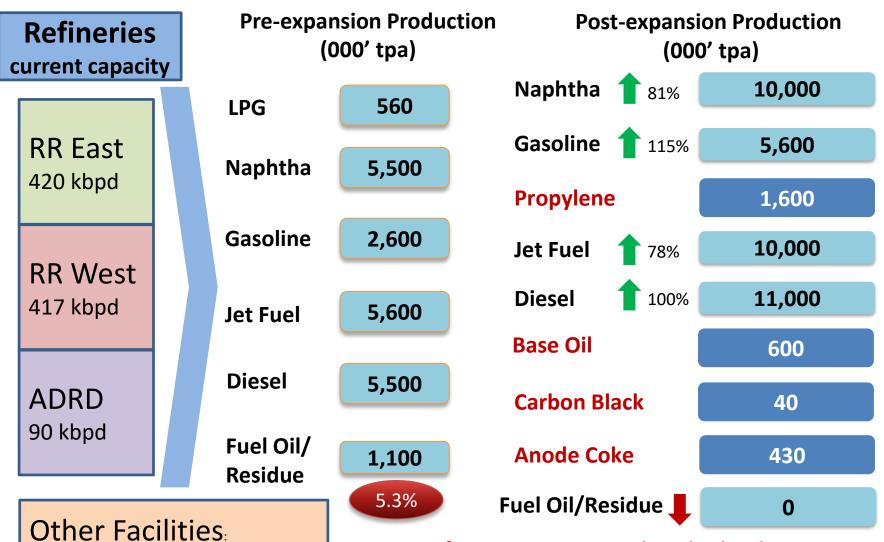
Takreer operates world's 4th LARGEST Refining Capacity in a given location at Ruwais

2010 2014 2016 2019 Beyond...

TAKREER'S REFINING CAPACITY



We Refine Right



Power – 660 MW

Desal Water – 14 MM Gallons/day

Waste Treatment (BeAAT) – 26 KMT/year

Refinery Expansion and Fuel Oil reduction
resulted in increase of more than <u>USD 10 billion</u>
per annum in Gross Product Worth

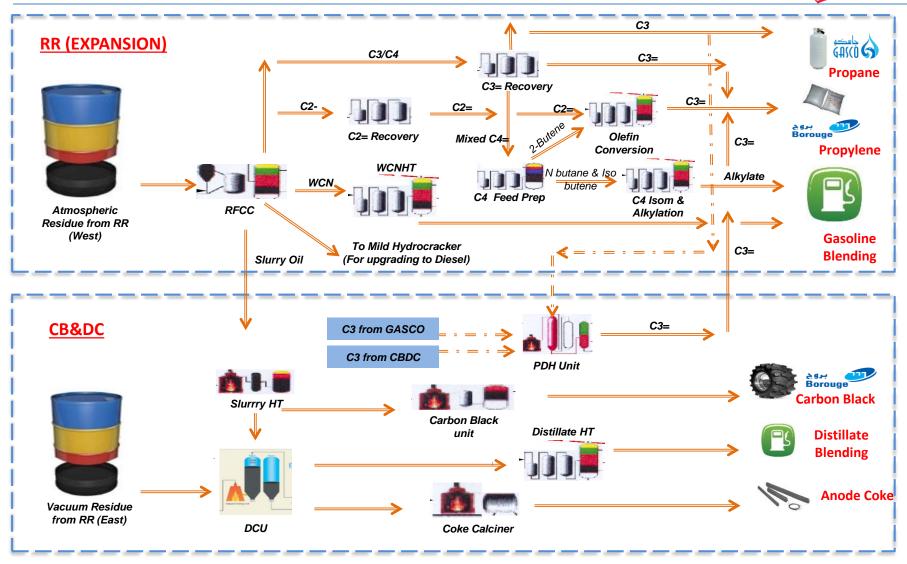


BOTTOM OF THE BARREL UPGRADATION



BOTTOM OF THE BARREL STRATEGY – HEART OF REFINERY & PETROCHEMICAL INTEGRATION



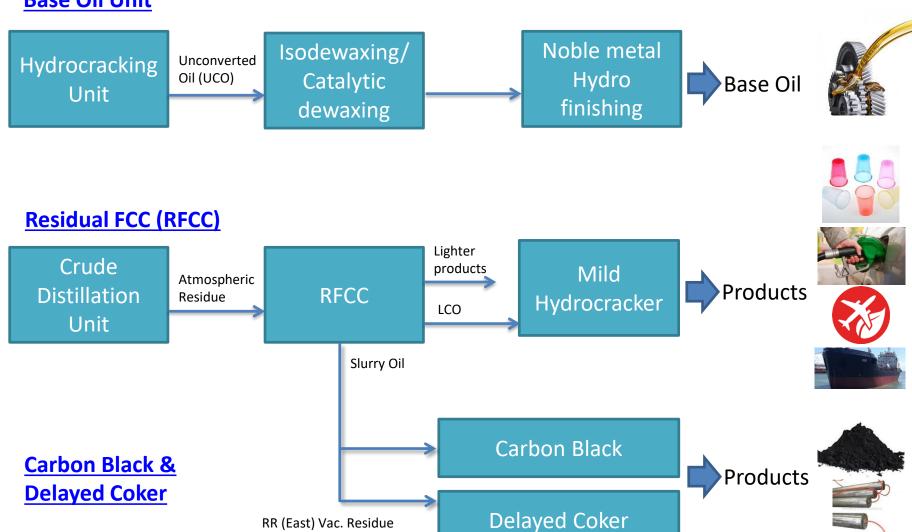


BOTTOM OF THE BARREL STREAMS ARE CONVERTED TO HIGH VALUABLE PRODUCTS – Processes involved



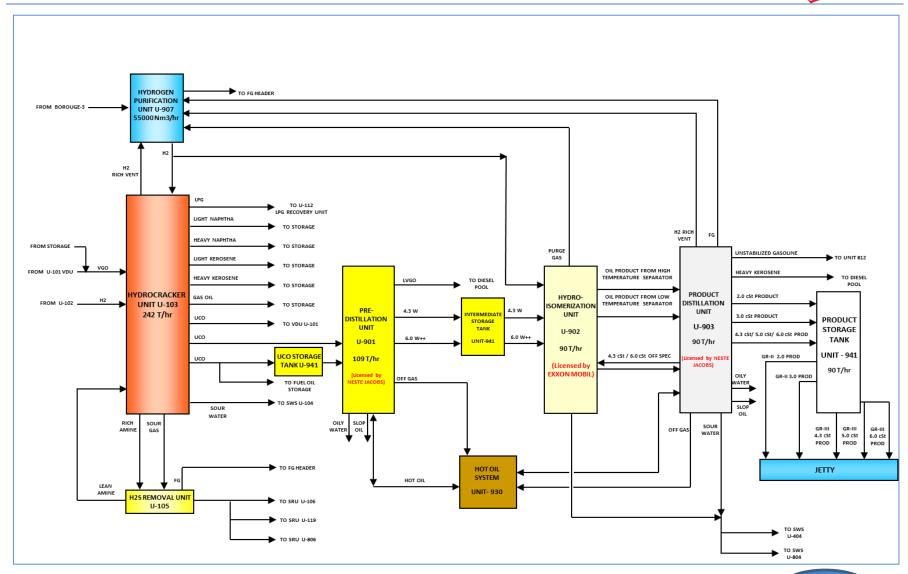
We Refine Right

Base Oil Unit



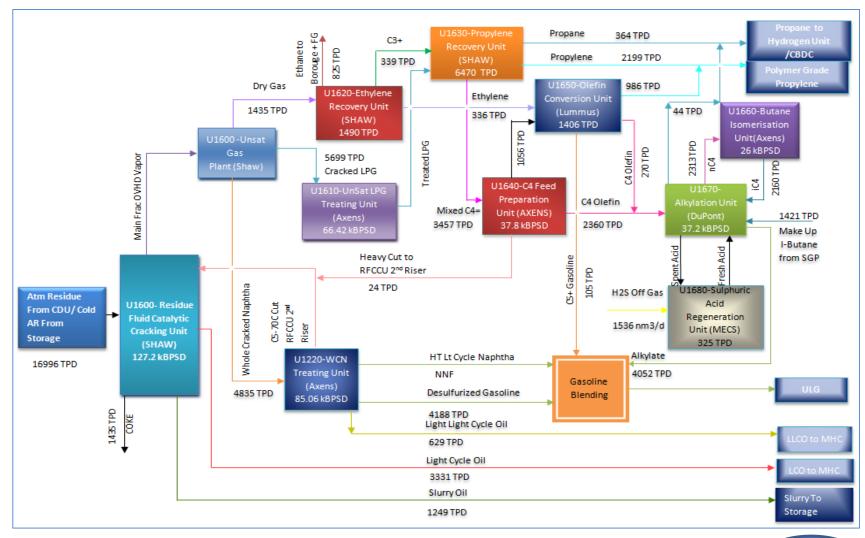
BLOCK FLOW DIAGRAM OF BASE OIL UNITS





BLOCK FLOW DIAGRAM OF RFCC UNITS

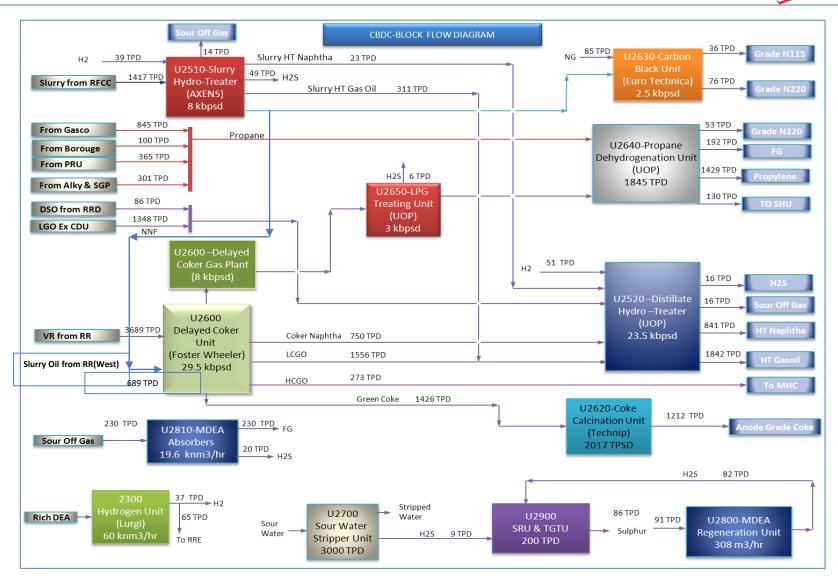








BLOCK FLOW DIAGRAM OF CBDC UNITS





STATE OF ART PROCESSES AND SCALE



RUWAIS REFINERY EXPANSION HAS STATE OF THE ART TECHNOLOGIES



We **Refine** Right

BASE OIL UNIT

Latest technology minimizing CAPEX & OPEX, improve catalyst life, quality base oil, higher Viscosity Index, low pour point, higher yields, producing Grp. II and III base oil stocks

RFCC

World's Largest unique Petroriser to boost Propylene Yield

SLURRY HYDROTREATER

First Licensed Unit in the world

CARBON BLACK Produces N-220 (UV Grade) & N-115 (Semi Conductive grade) carbon black

DELAYED COKER & CALCINER

Converts low value VR from RR-E and Slurry Oil to High Value Anode Grade Calcined coke

PROPANE DEHYDROGENATION

Converts Propane from RRE, RRW, GASCO, BOROUGE to Polymer Grade Propylene

ARDS (POCP)

12 reactors to de-sulphurize Atmospheric Residue from Upper Zakum crude and feed to RFCC



CONCLUSION



ALIGNED ACHIEVE LONG TERM STRATEGIC OBJECTIVE



Ruwais Refinery expansion project has helped ADNOC achieve its Strategic Objectives through:

- Value Maximization and improve profitability:
 - Reduction of Fuel Oil production
 - Production of quality feedstock for petrochemicals, Lube Oil & Coke
- Achieve improved performance & efficiency through optimal use of assets and natural resources – re-routing of heavier residues to upgrading units and processing of relatively distress crude oil in future
- Enhance technical knowhow of work force through use of state of art process & technology
- Contribute to Nation's Development



Thank You