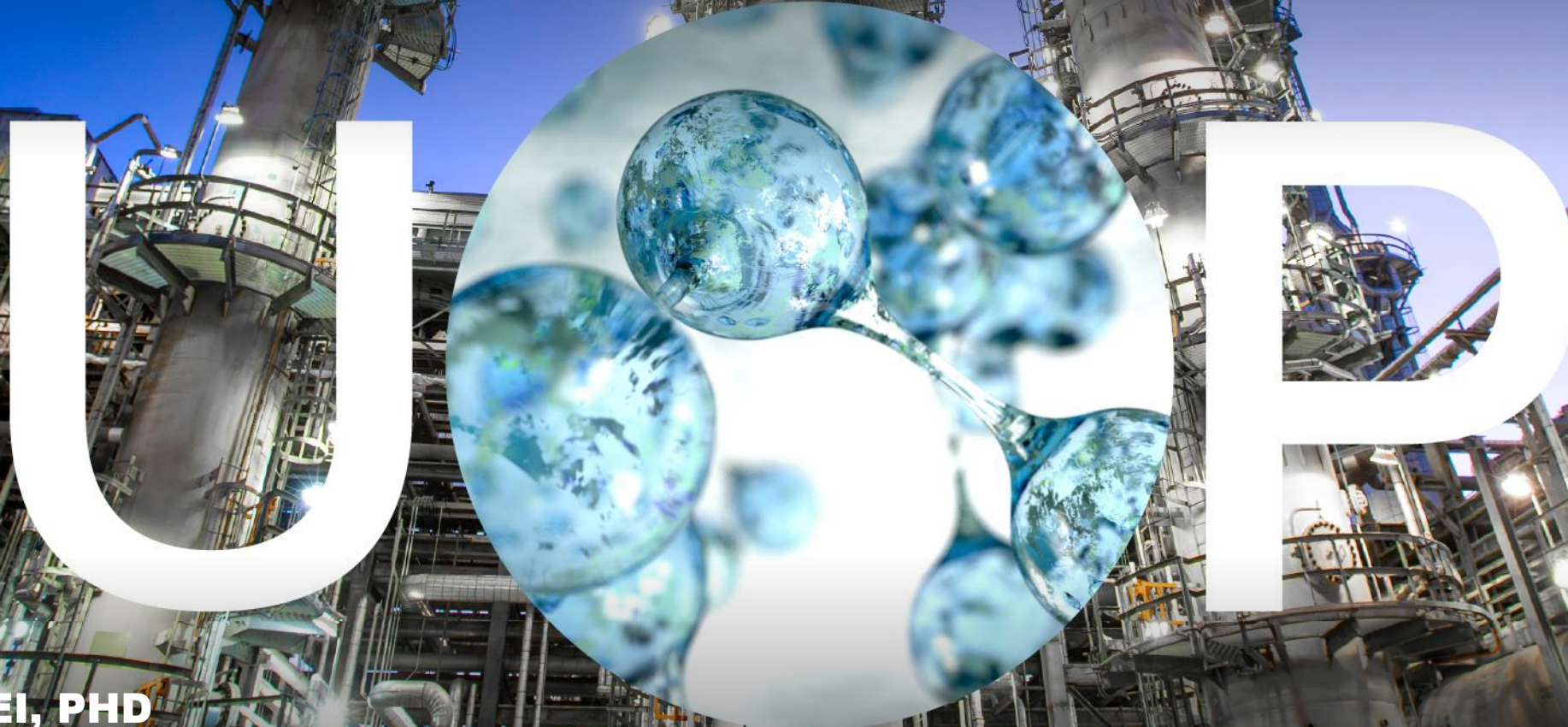


HONEYWELL UOP
THAILAND INTERNATIONAL CHEMICAL ENGINEERING
AND CHEMICAL TECHNOLOGY (TNChE) ASIA 2026
PROCESS TECHNOLOGIES FOR SUSTAINABILITY



ZHIHAO FEI, PHD
R&D DIRECTOR

16 June 2026

TNChE – Pattaya, Thailand

Honeywell
UOP

FORWARD LOOKING STATEMENTS

We describe many of the trends and other factors that drive our business and future results in this presentation. Such discussions contain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). Forward-looking statements are those that address activities, events, or developments that management intends, expects, projects, believes, or anticipates will or may occur in the future and include statements related to the proposed spin-off of the Company's Advanced Materials business into a stand-alone, publicly traded company and the proposed separation of Automation and Aerospace. They are based on management's assumptions and assessments in light of past experience and trends, current economic and industry conditions, expected future developments, and other relevant factors, many of which are difficult to predict and outside of our control. They are not guarantees of future performance, and actual results, developments and business decisions may differ significantly from those envisaged by our forward-looking statements. We do not undertake to update or revise any of our forward-looking statements, except as required by applicable securities law. Our forward-looking statements are also subject to material risks and uncertainties, including ongoing macroeconomic and geopolitical risks, such as lower GDP growth or recession, supply chain disruptions, capital markets volatility, inflation, and certain regional conflicts, that can affect our performance in both the near- and long-term. In addition, no assurance can be given that any plan, initiative, projection, goal, commitment, expectation, or prospect set forth in this presentation can or will be achieved. These forward-looking statements should be considered in light of the information included in this presentation, our Form 10-K and other filings with the Securities and Exchange Commission. Any forward-looking plans described herein are not final and may be modified or abandoned at any time.



AGENDA

I. UOP's Contribution to 100+ Year Refinery and Petrochemical (R&P) Industry Process Technology (PT) Development

II. UOP's View on PT Future Development and R&P Industry Transformation

III. UOP's PT Offering and in-Development for R&P Sustainability

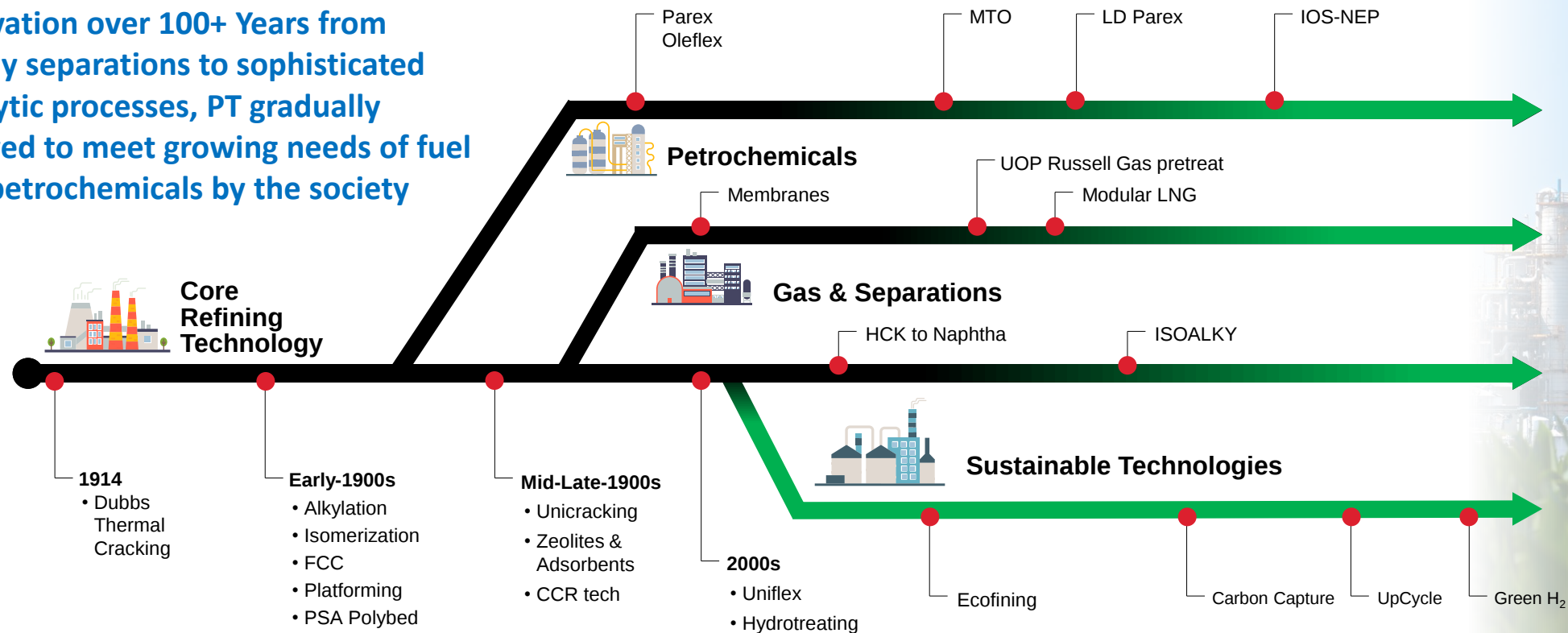
HONEYWELL UOP'S CONTRIBUTION

UOP Core Foundations

Enabling the Future of Sustainable Energy Technologies

UOP technology enhanced by services and digital offerings

Innovation over 100+ Years from simply separations to sophisticated catalytic processes, PT gradually evolved to meet growing needs of fuel and petrochemicals by the society



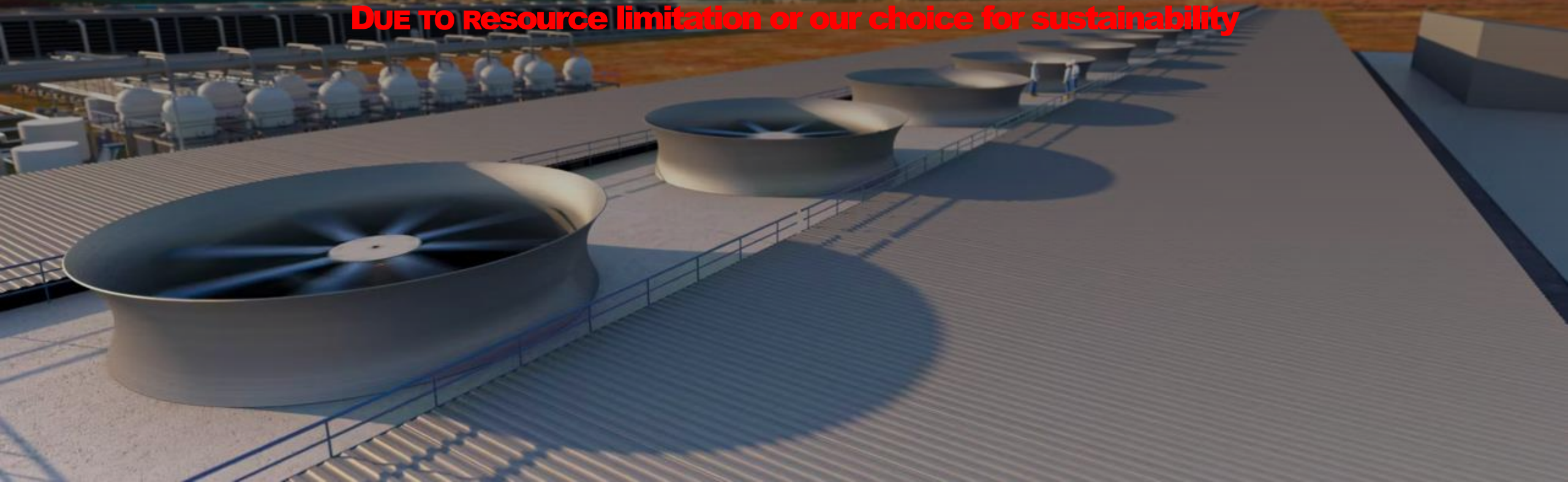
FUNDAMENTALS DRIVE OUR BROAD PORTFOLIO

R&P INDUSTRY FUTURE

1. World demands will increase

2. Products will have to come from many sources

DUE TO Resource limitation or our choice for sustainability



ENERGY DEMAND INCREASING

DIGITAL, RESILIENCE AND SECURITY

BloombergNEF anticipates a **32%** surge in worldwide energy demand by 2050.

Electricity needs projected to rise by **75%** by 2050.

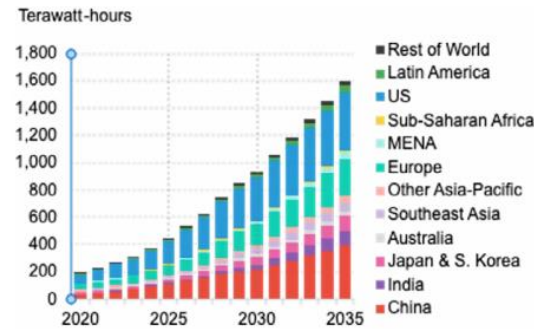
THE WORLD NEEDS MORE ENERGY THAN IT HAS TODAY

DRIVEN BY THE DEMANDS OF AI

AND CRITICAL INFRASTRUCTURE STABILITY

NEW TECHNOLOGY AND SOURCES NEEDED TO MEET ENERGY NEEDS

Global data center power demand outlook by market, 2015-2035, Economic Transition Scenario
BloombergNEF



The New York Times

Why Did the Lights Go Out in Spain and Portugal? Here's What We Know.

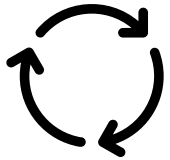
The authorities are still trying to determine the cause of a widespread blackout that left tens of millions of people without power for 18 hours.

POWER

Heathrow Airport Transformer Fire Prompts Urgent Inquiry, Exposes Cracks in Grid Resilience

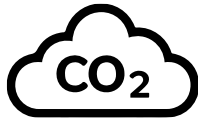
A RESILIENT ENERGY FUTURE REQUIRES AN “ALL OF THE ABOVE” APPROACH

Enhanced Efficiency



PROCESS EFFICIENCY

Maximizing yields and
minimizing utilities with
molecular precision



CARBON CAPTURE

Reducing CO₂
emission from energy
and industrial point
sources



LNG AND GRID RELIABILITY

Unlock LNG feedstocks
with end-to-end
technology and
automation



LOW C INTENSITY HYDROGEN

Low emission fuel for
hard to decarbonize
applications



RENEWABLE FUELS

Reducing diesel and
jet GHG emissions
>80%* from a variety
of feedstocks

Plus AI Supported Connected Service

COMMERCIALIZING TECHNOLOGIES FOR A SUSTAINABLE, RELIABLE ENERGY FUTURE

UOP EFFICIENCY INNOVATION ACROSS THE BOARD

TRADITIONAL REFINING AND PETROCHEMICALS

Increasing yield in Next Generation Hydrocracking catalysts

Increasing methanol Efficiency in methanol to olefins units

Enabling Energy Efficiency through the recovery of waste heat

~60%
of our new product R&D activity is directed towards sustainability-oriented outcomes.¹

RENEWABLES AND SEPARATIONS

Increased SAF yields and selectivities in renewable isodewaxing

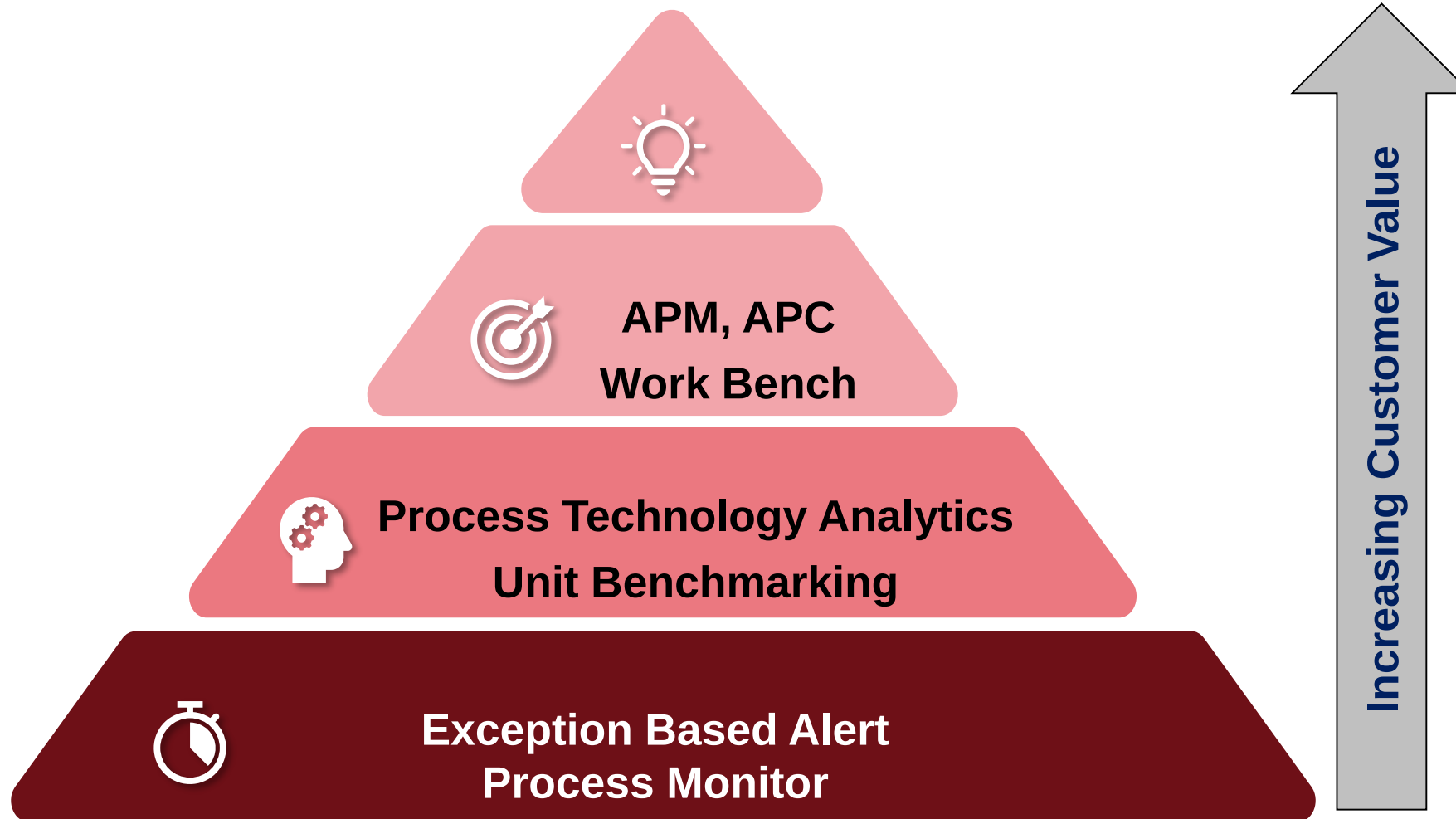
Improved flux and selectivities for natural gas membrane separations

New PSA designs that **reduce energy intensity**

CONTINUOUS IMPROVEMENT AND INNOVATION DRIVES ENERGY SAVINGS

CONNECTED SERVICES

UOP DIGITAL OFFERINGS



**Digitally Enabled
Performance+
Offerings**

PROCESS MONITOR FOUNDATIONAL FOR PERFORMANCE + SERVICES

KEY COMPONENTS | PERFORMANCE+SERVICES



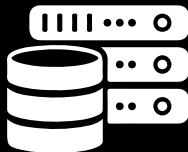
CONTINUOUS MONITORING

Comprehensive, near real-time health and performance diagnostics



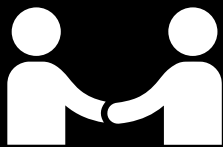
KPI TRACKING & ALERTS, IMPROVEMENT OPPORTUNITIES

Trend visualization, machine learning models, analysis to identify bad actors and associated events, opportunities insights



KNOWLEDGE CAPTURE & GUIDED ANALYTICS

Embedded process know-how, models to support optimization & operations with actionable insights



COLLABORATIVE DISCUSSIONS WITH TECHNOLOGY EXPERTS AND PERFORMANCE MANAGERS

SMEs, Process Engineers, Operations, Planning, and reliability personnel discuss issues and actionable insights with UOP technical experts in the context of constraints, objectives, priorities



PROACTIVE RECOMMENDED AND SUPPORTED ACTIONS

Evaluate and execute operational or technology changes and realize benefits

Process Monitor
(PM) & Global Solutions Command & Control Center L1-L4 dashboards
500+ units connected
110+ customer sites

Exception Based Alerts (EBAs) & Benchmarking
(minimum 5 units)

Process Technology Analytics (PTAs)
CCR Platforming (2) - deployed
Penex – deployed
PSA – deployed
Oleflex – deployed
FCC
Ecofining

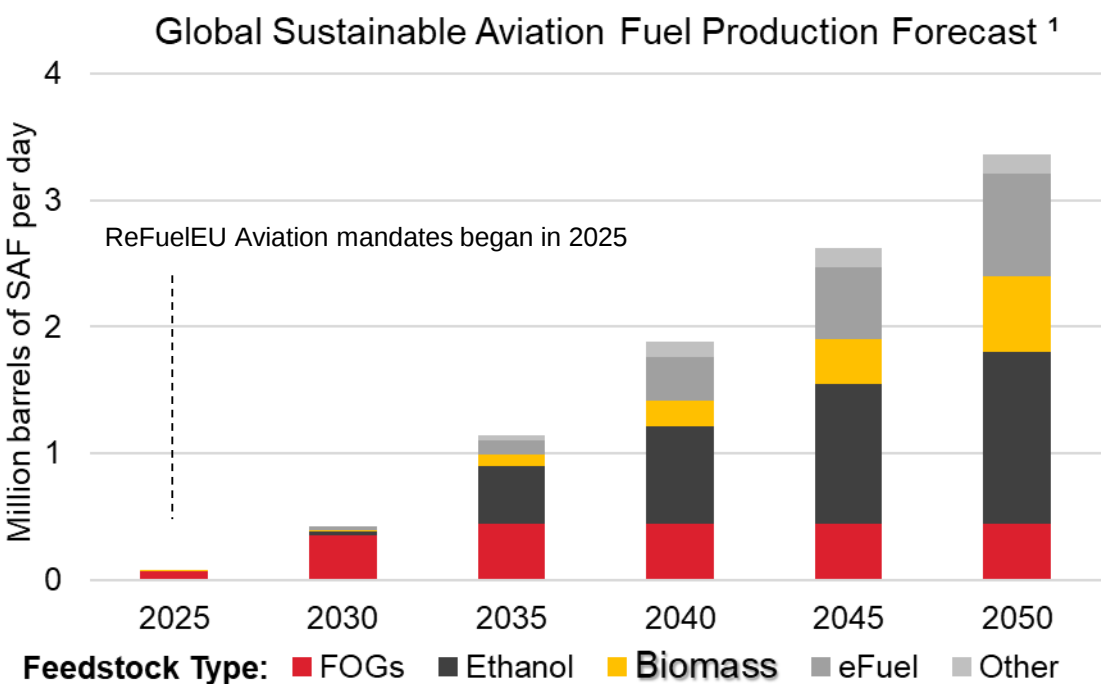
Consultation & Site Visits
Web-based & Classroom Blended Learning
Connected Competency Offerings

Performance Reviews

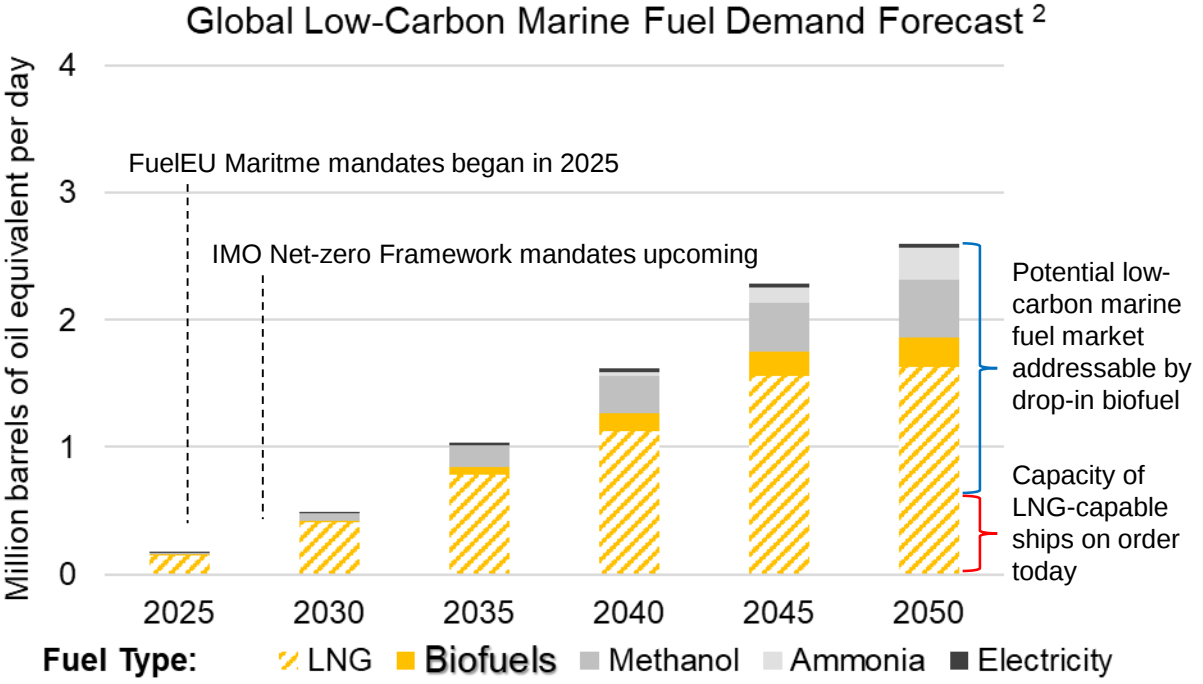
RENEWABLE FUELS GROWTH & OPPORTUNITIES

GLOBAL RENEWABLE FUEL POLICIES:

- 69 countries passed new renewable fuel policies in the past 10 years
- 107 countries with active renewable fuel policies
- 126 participating states in CORSIA
- 108 to participate in IMO Net-Zero Framework



Availability of Fats, Oils & Grease feedstocks limited after 2030



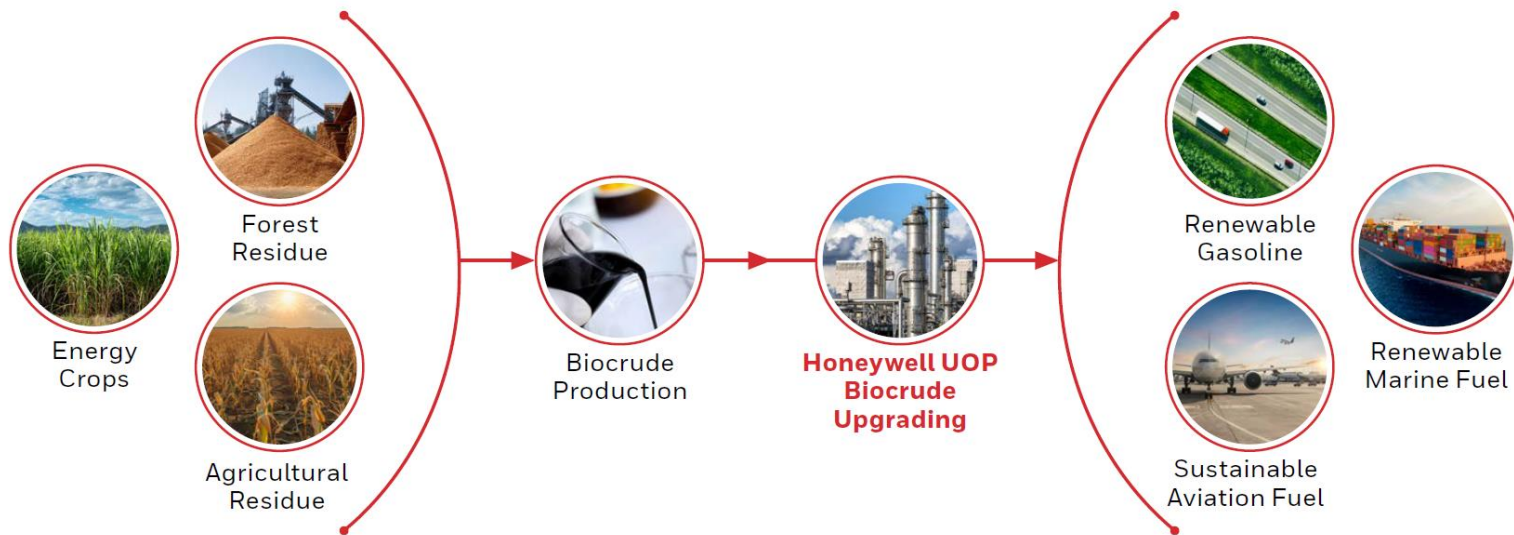
Low-carbon alternative marine fuel market still nascent, opportunity for Biofuels to displace LNG adoption

FUTURE RENEWABLE FUEL DEMAND WILL OUTPACE CURRENT FEEDSTOCK AVAILABILITY

1. Internal Honeywell market analysis
2. BloombergNEF, 2025 Marine Fuel Outlook

NEW TECHNOLOGY HELPS UNLOCK THE POTENTIAL OF BIOMASS

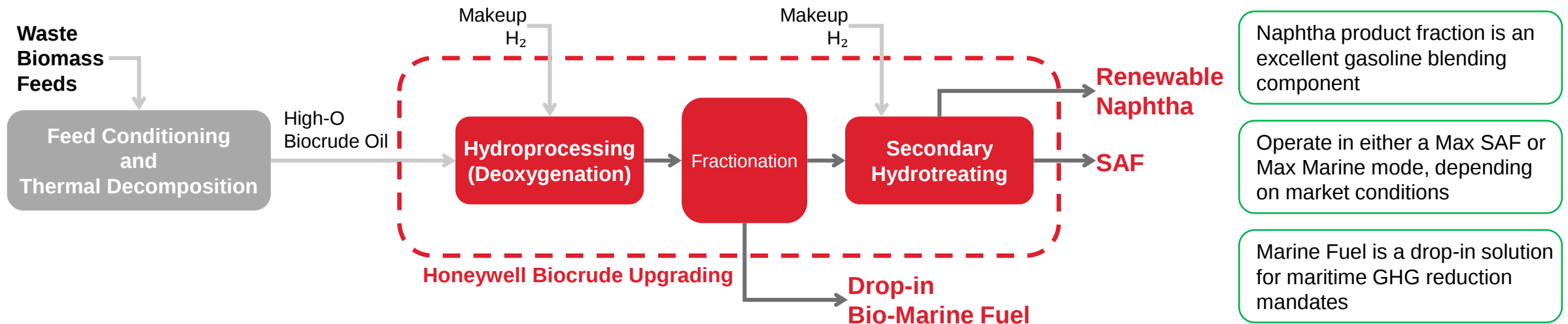
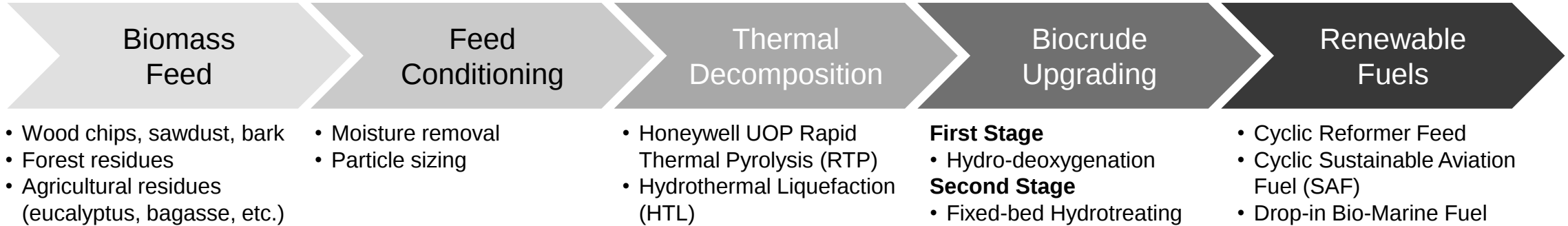
- Global renewable fuel commitments are already outpacing traditional feedstock capacity
- Woody biomass feeds from agriculture, forestry, and other industries can be an abundant and inexpensive alternative feedstock
- Widespread adoption of biomass as a feedstock has been limited due to processing challenges
- Honeywell UOP's Biocrude Upgrading technology can help unlock the potential of solid biomass by enabling an efficient conversion of historically challenging biocrude feeds into drop-in transportation fuels



PATHWAY BENEFITS

- Utilize abundant & inexpensive lignocellulosic biomass
- Higher liquid yields than once-through gasification or fermentation
- Bio-oil intermediates enable hub-and-spoke approach

UOP BIOCRUDE UPGRADING PATHWAY & PROCESS



UPGRADED BIOCRUDE FUEL PROPERTIES

Renewable Naphtha Product

Property	Units	Value
Density at 15°C	g/mL	0.773
Vapor Pressure	psi	8.5
N + 2A	vol%	68
RON	AKI	72
RON, after Reforming	AKI	100+

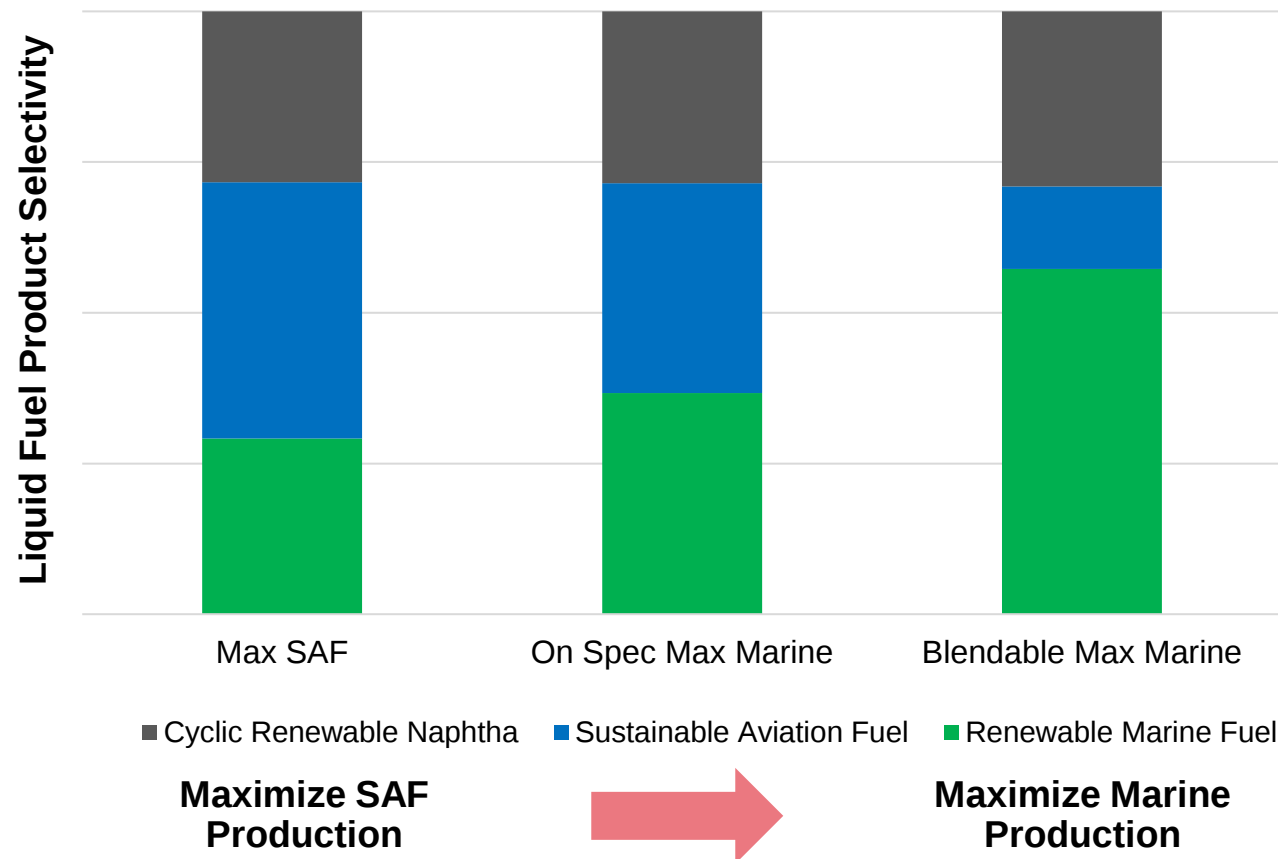
Renewable Jet Product

Property	Units	Value
Density at 15°C	g/mL	0.814
Total Acidity	mg KOH/g	0.006
Flash Point	° C	41
Cloud Point	° C	< -60
Freeze Point	° C	< -70
Viscosity at -40°C	mm2/s	5.1

Renewable Marine Fuel

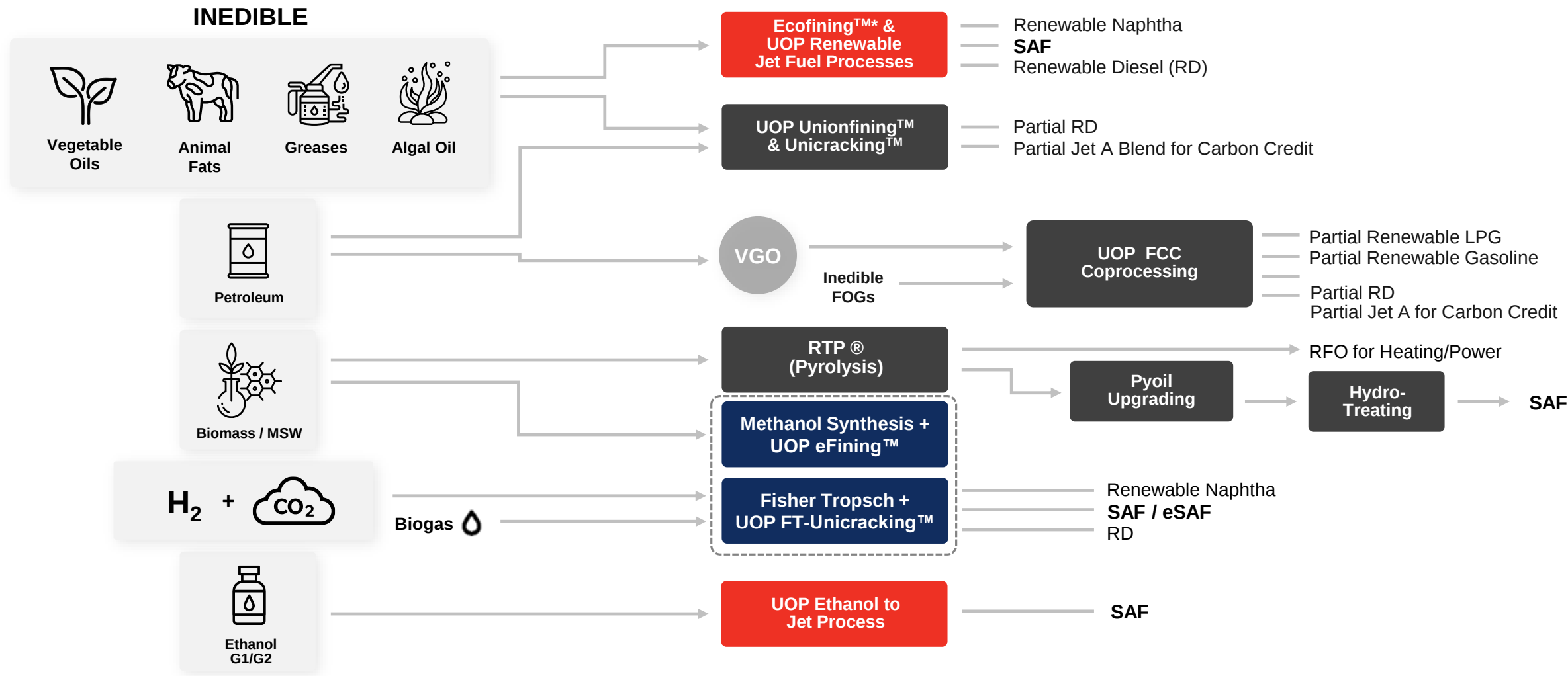
Property	Units	Value
Density at 15°C	g/mL	0.970
Total Acidity	mg KOH/g	2.4
Flash Point	° C	61
Kinematic Viscosity at 50°C	mm2/s	11.6

Product Flexibility



FLEXIBLE PRODUCT DISTRIBUTION TO ADDRESS MARKET FLUCTUATIONS

PATHWAYS TO SAF PRODUCTION



EVOLVING INTO NEW AREAS

With a century of innovation behind us, we are eagerly looking to the next opportunities to shape the future with novel UOP materials, catalysts, membranes, and processes.

New Membranes



Utilizing our expertise and infrastructure, UOP is inventing new polymers, electrolytes, and membranes for electrochemical reactions such as for energy storage, CO₂ reduction/conversion, and green H₂ production.

Biomass to Chemicals



Untangling the complexity of lignocellulosic biomass can result in maximum carbon conversion to the fuels and chemicals on which the world has come to rely. We are studying multiple routes to convert whole biomass via thermal and physical and chemical methods.

CO₂ Conversion



Carbon dioxide is a thermodynamically stable molecule that requires a reductant to be converted into value-added chemicals. Regulations in some parts of the world are encouraging the use of biogenic CO₂ as a feedstock for fuels and chemicals. Novel catalysts will be required to enable this technology.

Material Circularity



As the demand for renewable electricity increases, so will a new stream of high value materials destined for landfills unless efficient, circular technology is developed. UOP is studying novel routes and materials for the extraction and recycling of critical minerals and other building blocks.

UOP IS WORKING ON THE NEXT GENERATION OF TECHNOLOGY BREAKTHROUGHS

TECHNOLOGY COLLABORATION SUPPORTING THE SPEED OF CHANGE

History of Technology Collaboration



UOP TECHNOLOGY COLLABORATIONS

- RFCC
- Sulfolane (aromatics extraction)
- Detal (LAB solid catalyst alkylation)
- MTO (methanol to light olefins)
- OCP (naphtha range olefins to light olefins)
- EcoFining (Renewable Diesel & SAF)
- ISOALKY (ionic liquid alkylation)
- RTP (Biomass pyrolysis)
- OXO-D (Butadiene from Butene)
- ASCC (solvent based CO₂ capture)
- JRC (Joint Research Center)

Ashland Pet
Shell
Cepsa
Hydro
Total
ENI
Chevron
Enslyn
TPC
Univ of Texas
Sinopec



NEW OPPORTUNITIES

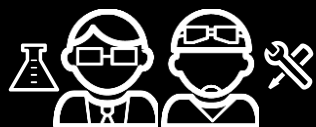
New technology vectors = new technology companies

Enabled by new vectors such as:

Bio-Based Fuels
Bio-Based Chemicals
E-Fuels/Power to Liquids
CO₂ Capture – Process, Post Combustion and DAC
CO₂ Conversion

Many players bringing new ideas to industry but many challenges for quickly scaling up new process technologies

Collaboration can significantly accelerate commercialization



2,000
Engineers and
scientists



Largest
process licensing
organization
in the world



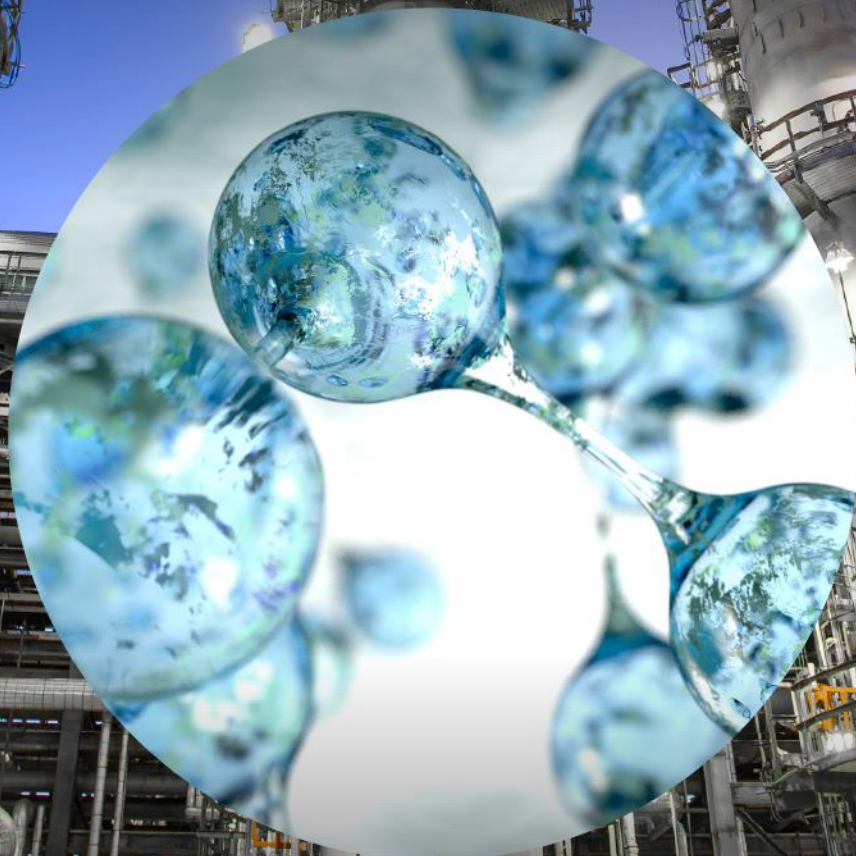
Tools
developed and scaled to
move quickly from concept
to design with low risk



Experience
From developing over 70
processes and **hundreds** of
catalysts and adsorbents

THANK YOU

UOP



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