Dimensional Energy

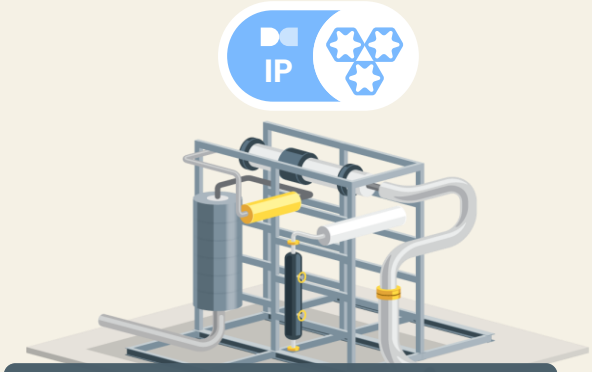
We make cleaner molecules to move the world

with patented technologies that convert carbonaceous feedstocks into high-performance, low-impact hydrocarbons.

We focus on advancing the core technologies at the heart of synthetic hydrocarbon production to support bankable projects.

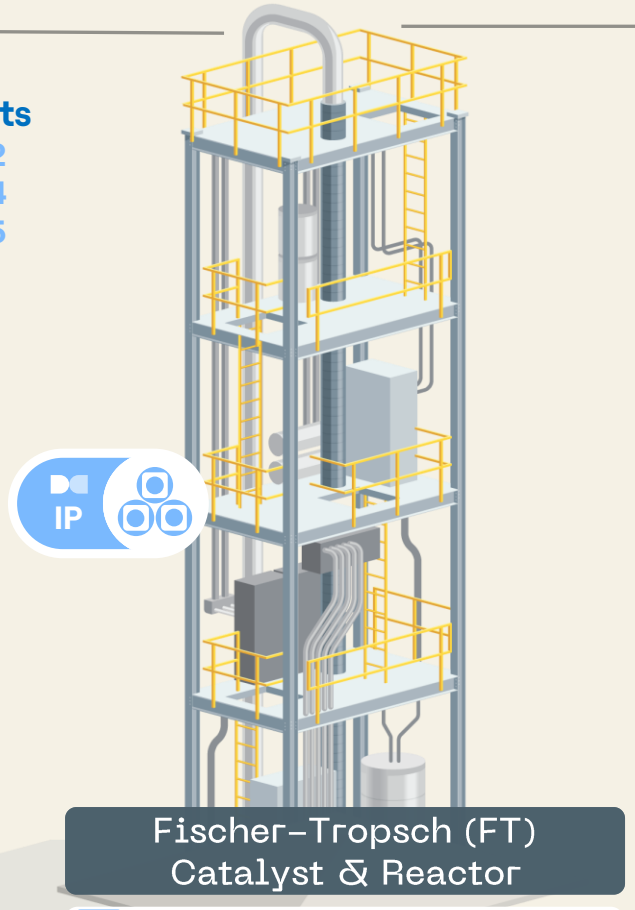
12 Patents Pending

3 US Patents
12,377,402
12,303,874
12,042,785



Syngas Catalyst & Reactor

Our Reverse Water-Gas Shift process technology converts carbon dioxide and hydrogen into syngas. This makes it possible to make oil from air or pt. source emissions.



Fischer-Tropsch (FT) Catalyst & Reactor

Our Fischer-Tropsch process technology makes synthetic oil from many feedstocks and supports a range of offtake products.

What markets demand synthetic hydrocarbons?

Aviation & Freight

Commitments and mandates spur demand for sustainable aviation fuel (SAF) and diesel.

Consumer Goods

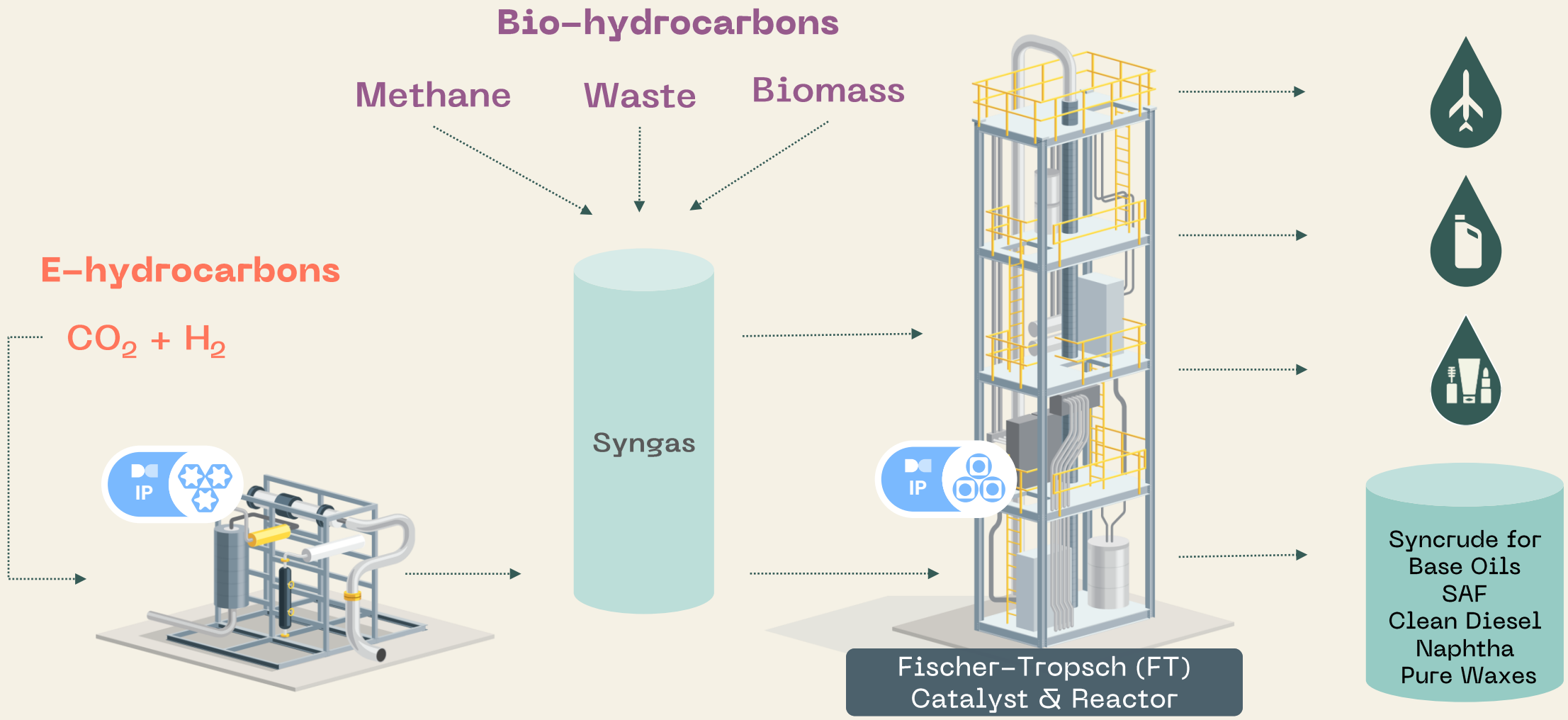
Synthetic wax and naphtha are ingredients in thousands of products: adhesives, candles, cosmetics, plastics, polishes and sealants.

Lubricants

Group III+ base oils are critical components for quality lubricants necessary for newer engines and to replace dwindling supplies.

Dimensional

Our FT makes Syncrude from syngas from any carbonaceous feedstock. We have RWGS for CO_2 and expertise to work with all syngas technologies.



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We operate two successful installations and have several commercial projects in development.

TUCSON TECHNOLOGY CENTER AND PILOT PLANT

PROFILE

- 20 KG/DAY COMMISSIONED SEPT 2022
- ALL UNIT OPERATIONS FOR PTL INTEGRATED
- LAB TO PILOT INNOVATION CENTER
- WORKFORCE DEVELOPMENT
- LONG TERM TESTING FOR CATALYSTS

AMRIZE CEMENT RICHMOND, B.C. FOAK PT SOURCE DEMONSTRATION

PROFILE

- 1 BBL/DAY COMMISSIONED MAR 2025
- COMMERCIAL INTEGRATION
- CATALYST OPERATING ENVELOPE ESTABLISHED
- CATALYST POISON RESILIENCY ESTABLISHED
- PREMIUM OFFTAKE CONTRACT IN PLACE
- BOEING FUNDING FEASIBLITY TO SCALE THIS PROJECT TO COMMMERCIAL

We recently closed the first commercial sale of our patented FT technology, generating significant upfront revenue this year.

Closed

Deal Profile
Customer 02

1100 bpd
Daily production

Revenue

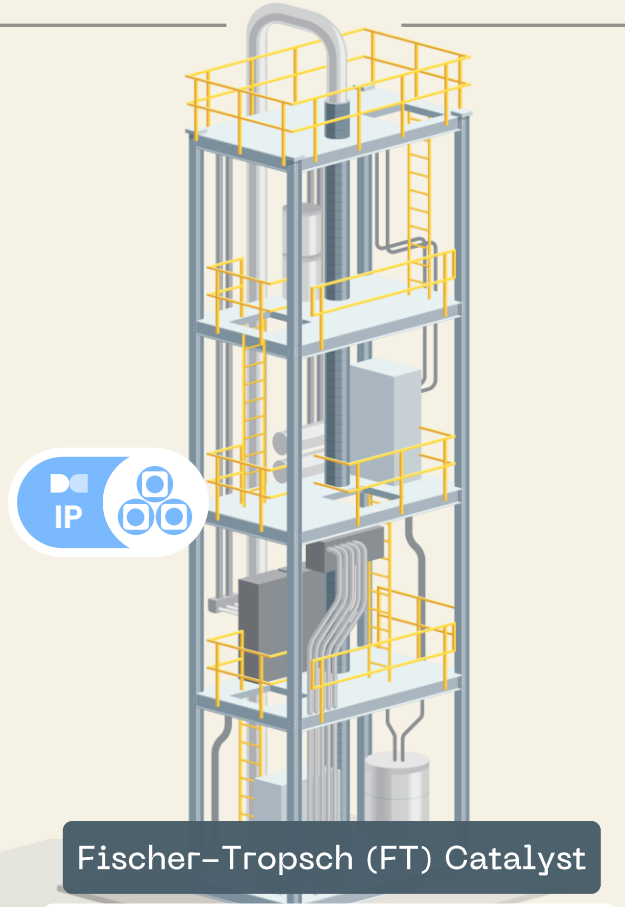
Site License

Catalyst Manufacture

Ongoing Royalty

Blended margin of 40% for Dimensional

Products & Services



FT Tech License, Catalyst Sales, & Production Royalties

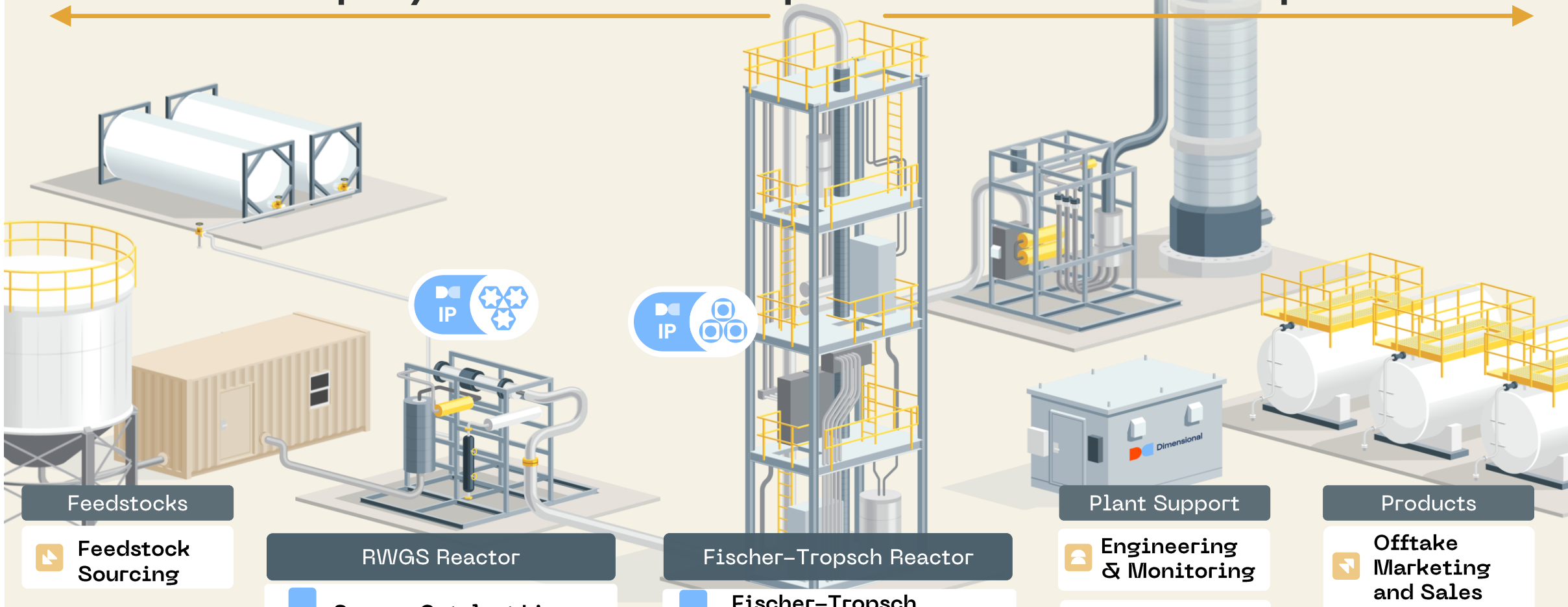
Fischer–Tropsch Catalyst & Reactor

Why we beat the competition:

1. **Durability**
   Our catalyst lasts longer, increasing uptime and revenues
2. **Productivity**
   High yields and throughput
3. **Expertise**
   Tailored, collaborative services to ensure project success
4. **Price**
   Better performance and long-term value for the price

Dimensional

With licenses for our proprietary technologies, we also offer various services to support development and operations of successful projects from our expert team and trusted partners.



Feedstocks

- Feedstock Sourcing

RWGS Reactor

- Syngas Catalyst License & Process Technology

Fischer–Tropsch Reactor

- Fischer–Tropsch Catalyst License & Process Technology

Plant Support

- Engineering & Monitoring
- Financing Partnerships

Products

- Offtake Marketing and Sales
- Product Upgrading

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We have an extensive IP portfolio covering core elements of syngas production, hydrocarbon production, product upgrading, and process integration.

Syngas Catalyst and Reactor

Syngas Catalysts & Reactor

10 Patents pending covering:

– Catalyst composition
- Reactor materials and coatings
– Reactor process

Fischer–Tropsch Catalyst

Fischer–Tropsch Catalyst & Reactor

–3 Granted patents
–1 Continuation pending
–1 PCT Application pending
–Covers reactor, catalyst composition, and feedstock processing

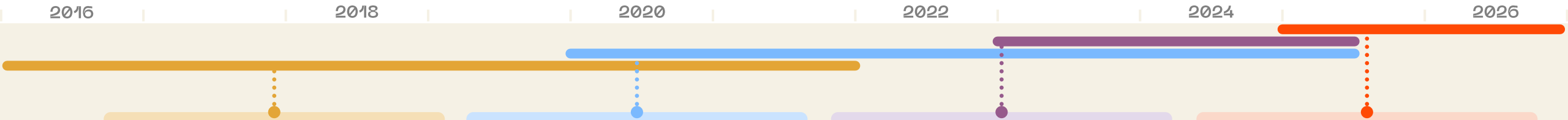
Plant Operations

Data, Analysis & Automation

Trade secrets around software and controls for optimization of operations and process integration to maximize output or reduce feedstock cost.

9 active patent families

Key partners have supported our growth at each milestone. Today we have a derisked capital light business model. We are ready technology to deploy globally.



INNOVATE

ACCOMPLISHMENTS:

- Grant funding
- Catalyst innovation
- IP patent portfolio initiated
- Tech pathway established

Cornell Engineering · NSF · Shell · U.S. Department of Energy · XPRIZE Carbon Removal · arpa·e

DEMONSTRATE

ACCOMPLISHMENTS:

- Seed funding
- FOAK Pilot: CO_2 to fuels and ingredients
- 20,000+ hours of technology
- SAF certified; engine tested

Elemental Impact · United · chloe capital · New Climate Ventures · The University of Arizona

COMMERCIALIZE

ACCOMPLISHMENTS:

- Series A
- FOAK Co-location: Point-Source CO_2
- Offtake sales
- TRL 9 established

Microsoft · envisioning partners · RockCreek · Delek US · LAFARGE · Svante

DEPLOY

ACCOMPLISHMENTS:

- First technology license
- Revenue earned
- Innovation partnerships
- Customer pipeline build
- SAF test flight

Boeing

UNDER NDA

Dimensional


DEFT
Dimensional Energy
TECH
Now licensing our new
DEFT Catalyst Technology
and integrated services for
bankable, buildable projects.

Fischer Tropsch Catalyst – Inventor Dr. Raphael Espinoza

- 3 Catalyst Patents Issued
  - 12,377,402
  - 12,303,874
  - 12,042,785
- 1 Pending continuation
- 1 Pending PCT

- **Dr. Rafael Espinoza** leveraged 50 years' experience and 60 patents in Fischer-Tropsch catalyst development to design his strongest low-temperature, cobalt catalyst. This catalyst delivers predictable high performance, robust mechanical strength, and thermal stability with precise control of porosity to maximize long carbon chains, product slate flexibility and yields.

- Formulation owned by DE. Successfully tolled by manufacturing scaleup partner.

- Performance verified and validated

Fischer-Tropsch Technology Strategy

- Innovation that meets the world where it is today
  - Drops into existing infrastructure
  - Addresses reliability and economics necessary for bankable projects
  - Equal or better than state of the art practiced today
  - Pairs with upgrading technology to:
    - Provide maximum yield for drop in products
    - Minimize fuel gas production -> maximize C5+ liquid HC yields
- Energy Security and flexibility to achieve diverse set of goals depending on customer focus

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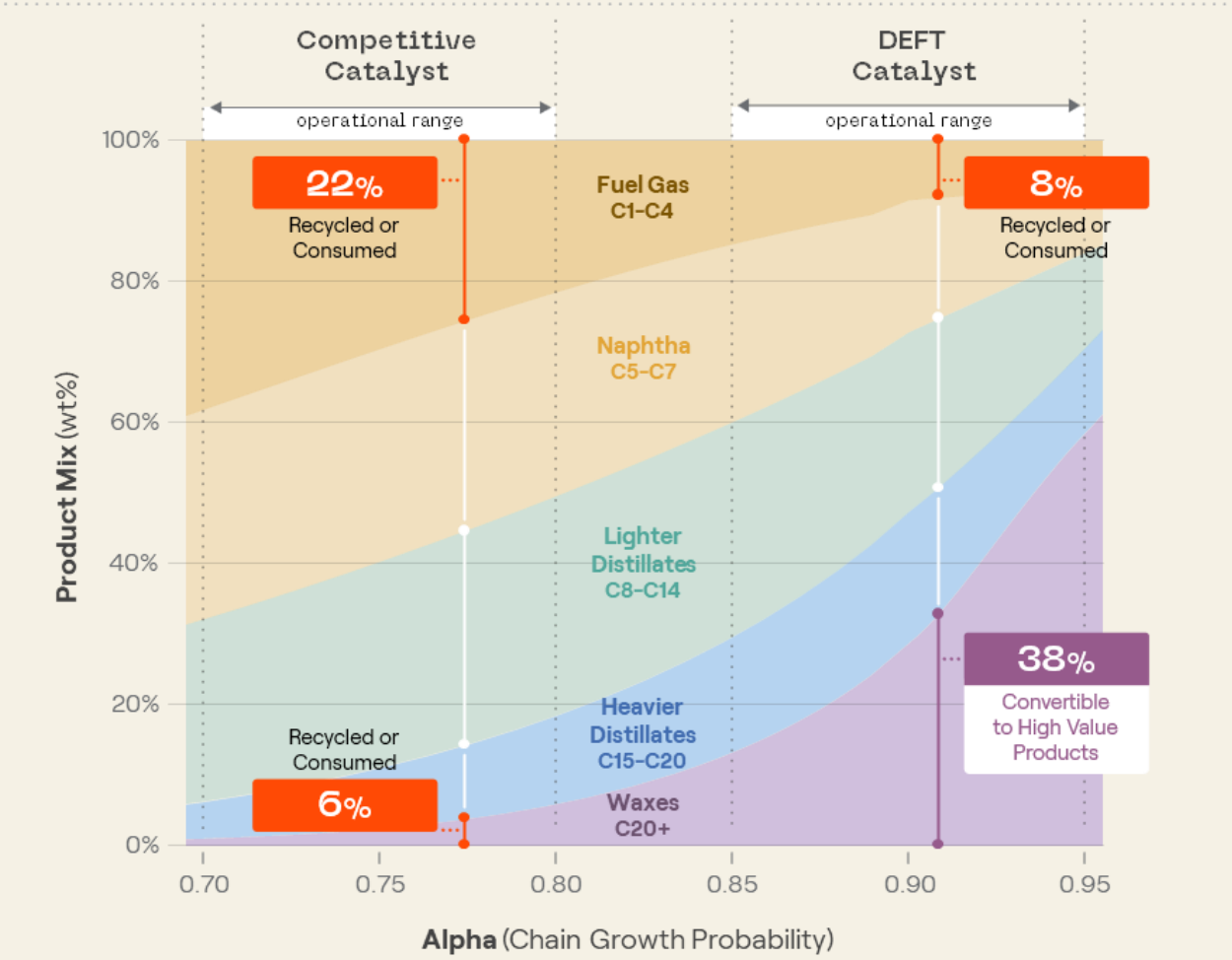
Alpha is a Key Consideration (Raw Product Mix based on Alpha)

This figure compares the impact of alpha on product yields from the FT reactor, showing the DEFT catalyst operates above 0.9 alpha, whereas other catalysts operate below 0.8. Operational ranges are indicative based on alpha carbon distribution and may vary within the range on project-by-project basis.



High alpha catalysts deliver:

- Highest yields for high value products
- Lowest production of <C5 molecules which is essential for power to liquids balance of plant that relies on electricity instead of fired heaters
- Lowest system complexity and risk

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