NEW POLYPROPYLENE (PP) PLANT IN THE UNITED STATES

DELTA DAY

SEPTEMBER, 24, 2020

Braskem

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This presentation includes forward-looking statements. These forward-looking statements are not solely historical data, but rather reflect the targets and expectations of Braskem's management. The terms "anticipate," "believe," "expect," "foresee," "intend," "plan," "estimate," "project," "aim" and similar terms are used to indicate forward-looking statements. Although we believe these forward-looking statements are based on reasonable assumptions, they are subject to various risks and uncertainties and are prepared using the information currently available to Braskem.

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AGENDA

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Roberto Simões (CEO)

Delta Presentation
Mark Nikolich (Olefins & Polyolefins North America VP)

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Q&A

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Introduction
Roberto Simões (CEO)

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Braskem America was formed in 2010 and since then, has invested and grown the business

Braskem America History - Main Milestones

2010

Beginning of Braskem's internationalization process with the **acquisition of Sunoco's Polypropylene (PP) business and I&T center (1 MMt/y)**

2011

Acquisition of DOW's PP business, (+550 kta in US)

2012

Acquired upstream propylene purification units at Marcus Hook

Signed landmark PDH[1] offtake agreement with Enterprise Products

2016

Expansion of Marcus Hook plant (+60 kta)

2017

Startup of a new Ultra High Molecular Weight Polyethylene (UHMWPE - UTEC) production plant, producing UTEC with a Braskem proprietary technology

2020

Strengthening PP leadership in North America

Start up of Delta, a world-class PP production facility

The start up of Delta, a world-class PP production facility is a major milestone in Braskem's global growth strategy

Source: Braskem. Note (1): PDH stands for Propane Dehydrogenation.

In the US, Braskem America purchases propylene from suppliers and produces PP, a second generation thermoplastic resin

Braskem America - Business Model

Third-parties

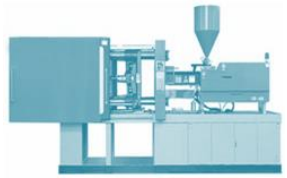
Suppliers*

Propylene

PP Plants
(non-integrated)

Braskem

PP (Customers)
(3rd Generation)



Plastic Converters

Finished products

End users

1 ton of propylene produces ~1 ton of PP

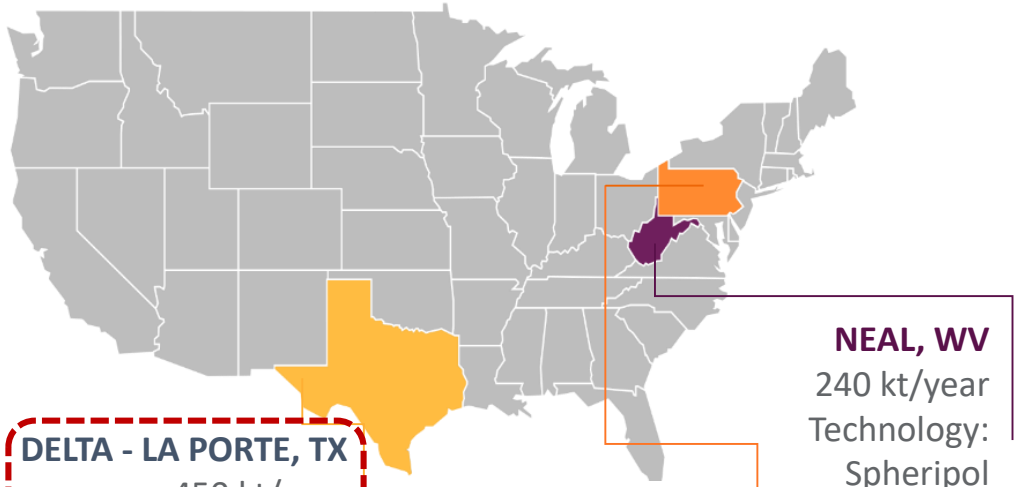
***Redundancy of supply and flexibility via a variety of propylene sources such as PDH's[1], refineries and crackers.**

Source: Braskem. Note (1): PDH stands for Propane Dehydrogenation.

Braskem America is the largest PP producer in North America with a modern Innovation & Technology Center supporting our clients

Braskem America – At a Glance

- **North American PP market leader;**
- **Six PP plants (including Delta)**: four in Texas (La Porte, Oyster Creek and Seadrift), one in Pennsylvania (Marcus Hook) and one in West Virginia (Neal);
- Total PP production capacity: **increasing from 1.6 MMt/yr to 2.1 MMt/y after Project Delta**
- **A UTEC** (UHMWPE[1]) plant in La Porte, Texas, **specialty** with **applications** in various markets;
- A **modern I&T Center** in Pittsburgh, Pennsylvania, which plays a critical role in our ability to deliver leading-edge polymers to our clients;
- Regional **headquarters** in Philadelphia, Pennsylvania.



NEAL, WV
240 kt/year
Technology: Spheripol

DELTA - LA PORTE, TX
450 kt/year
Technology: Unipol

PHILADELPHIA, PA
Headquarters

LA PORTE, TX
354 kt/year
Technology: Spheripol

MARCUS HOOK, PA
414 kt/year
Technology: Unipol

OYSTER CREEK, TX
336 kt/year
Technology: Spheripol

PITTSBURGH, PA
Innovation & Technology Center

SEADRIFT, TX
227 kt/year
Technology: Unipol

LA PORTE, TX
UHMWPE[1] plant (UTEC)

Source: Braskem. Note (1): UHMWPE stands for Ultra High Molecular Weight Polyethylene

Delta supports Braskem's feedstock and geographic diversification strategic objectives

Strategic Objectives	Ambition
Productivity and Competitiveness	Braskem as a first quartile operator
Feedstock and Supplier Diversification	Reach balance between liquid base and gas base, increasing flexibility
Geographic Diversification	Increase global capacity, with operations outside Brazil representing more than 50% of EBITDA
People, Innovation, Governance and Reputation	Recognition of Braskem as a global, sustainable, innovative and people-centered company
Capital Allocation / Financial Discipline	Maintenance of its strong liquidity position

Highlights:

- Delta contributes in terms **of feedstock and geographic diversification for Braskem**;
  - **Braskem progresses toward a more balanced feedstock profile between gas and oil based sources;**
  - Delta has the potential to contribute in **increasing the share of operations outside Brazil** in Braskem´s results;
- Thus, additional investment in the United States is a **natural step in our strategy.**

A SAFE performance is and will always be the focus of Braskem's operations, being a PERPETUAL AND NON-NEGOTIABLE VALUE IN OUR STRATEGY

Source: Braskem

Delta Presentation
Mark Nikolich (Olefins & Polyolefins North America VP)

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Delta is a world-class PP production facility that reinforces our PP leadership position in the region

New PP Plant in the United States

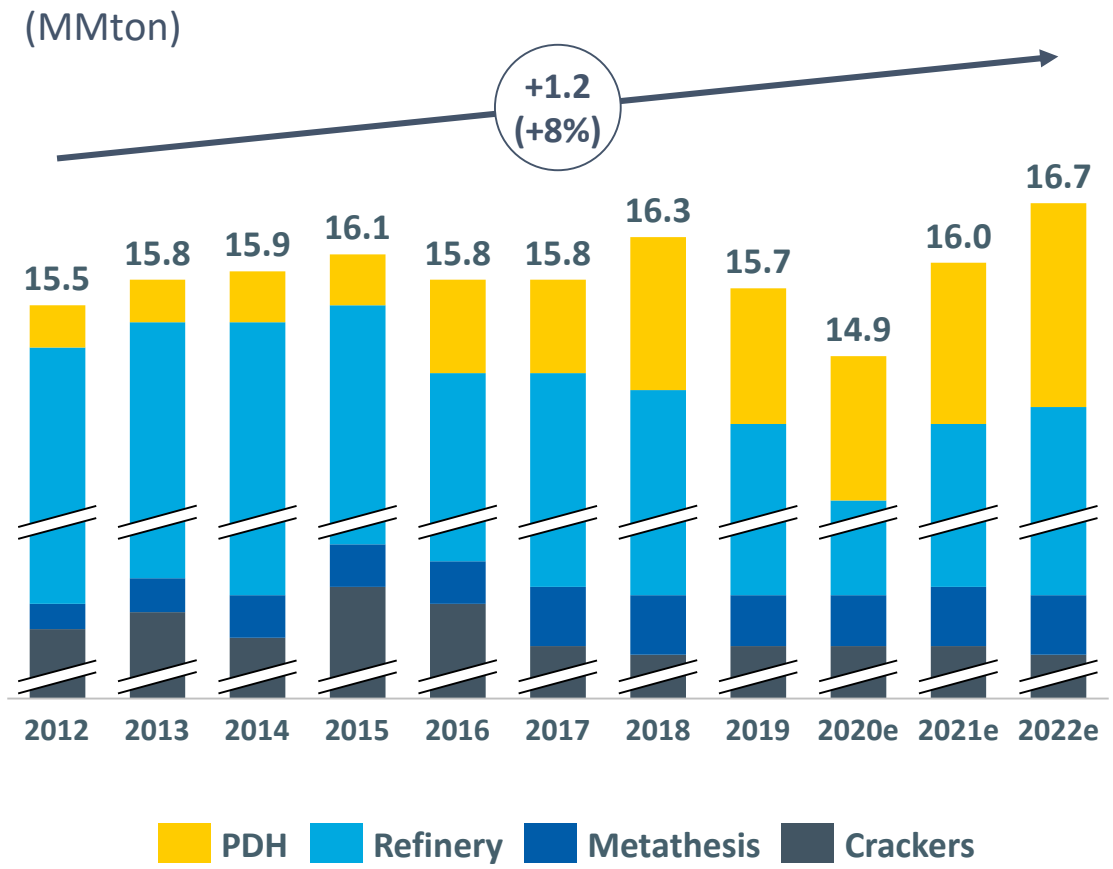
- **Capacity:** 450kta +
- **Total investment:** US$750 MM
- **Location:** Braskem America's largest facility
  - Proximity/Connectivity to propylene supply
  - Upgraded olefins and utility systems, also benefiting existing PP and UTEC lines on site
  - Lower operating costs (synergy with existing site)
  - Ability to produce full portfolio of PP grades
- **UNIPOL/GRACE Technology**
  - Proven PP technology with more than 50 operating lines in 18 countries licensed around the globe
  - Braskem has vast experience with the technology, currently operating 3 lines in US and 1 in Germany

Safety record: 0.65/million hours

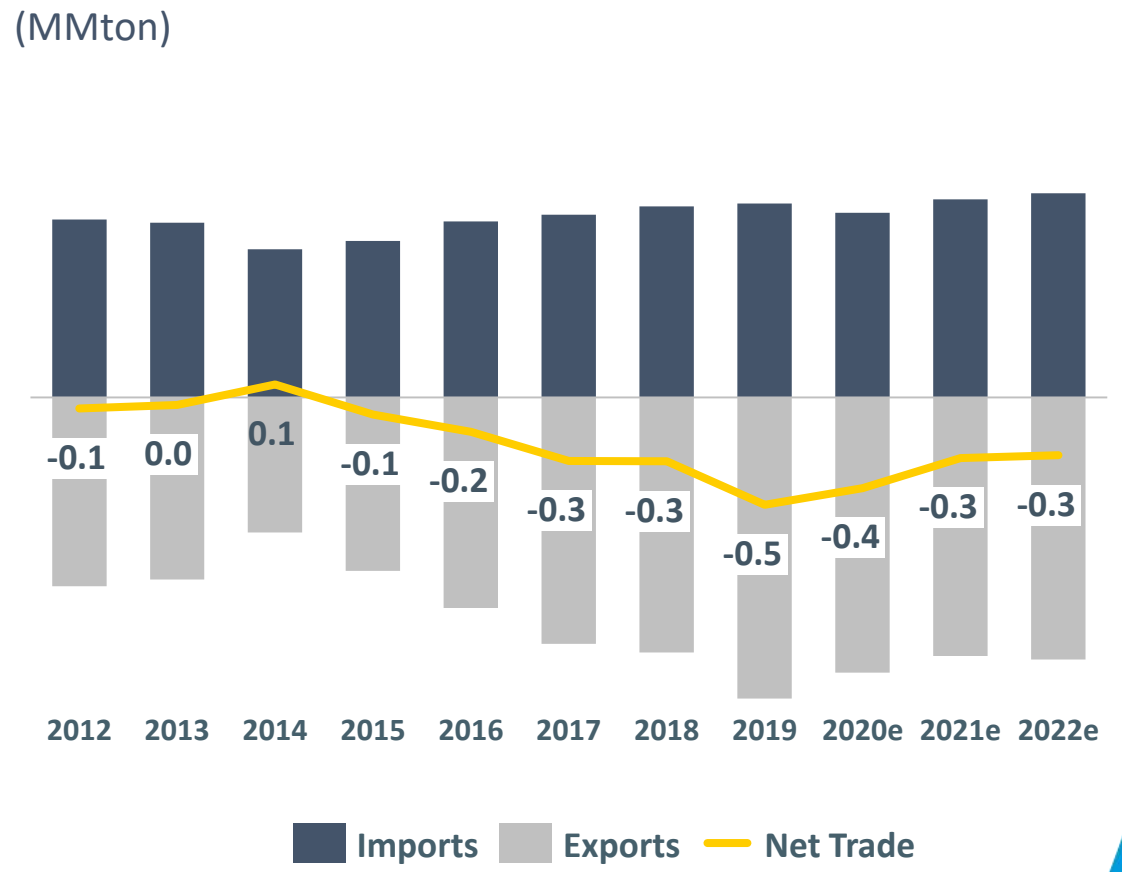
Source: Braskem

Propylene availability has been growing in NAM due to PDH capacity additions, supporting competitive feedstock for PP producers

NAM Propylene Production



NAM Propylene Trade Balance - Net Trade

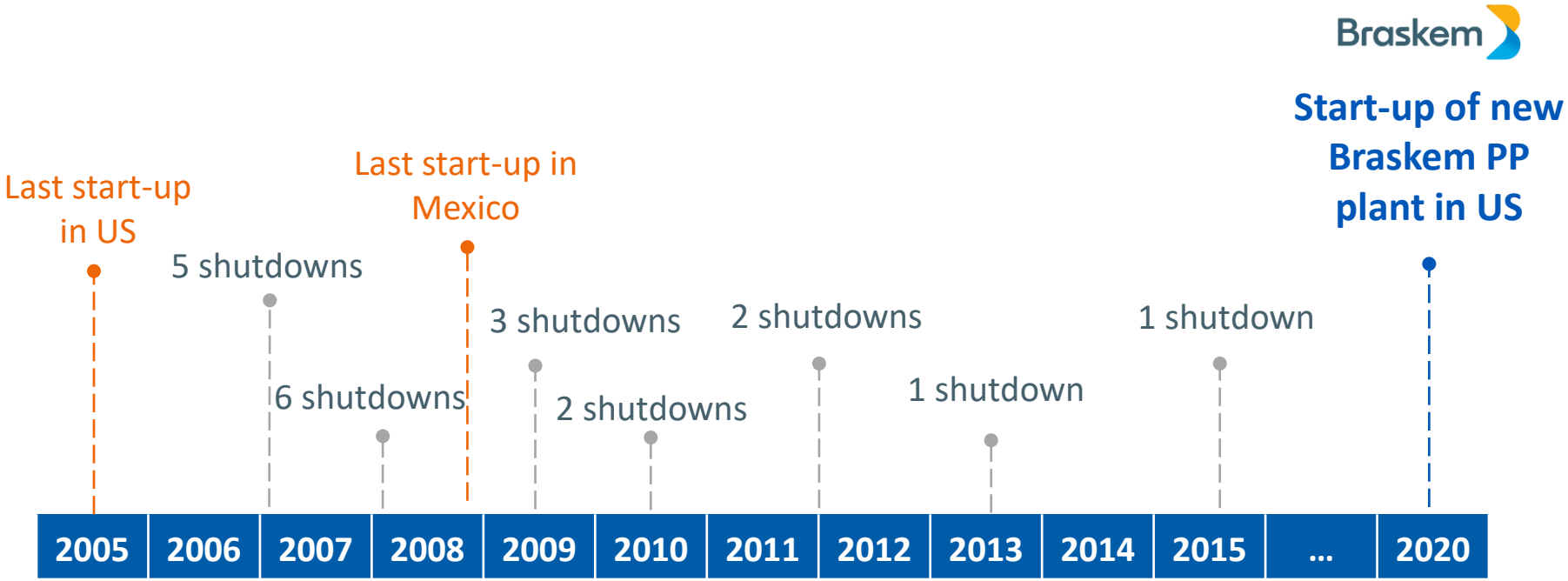


There are several propylene suppliers in the region, with diverse production alternatives (PDH[1], refineries, crackers and metathesis)

Source: External Consulting Firms. Note (1): PDH stands for Propane Dehydrogenation.

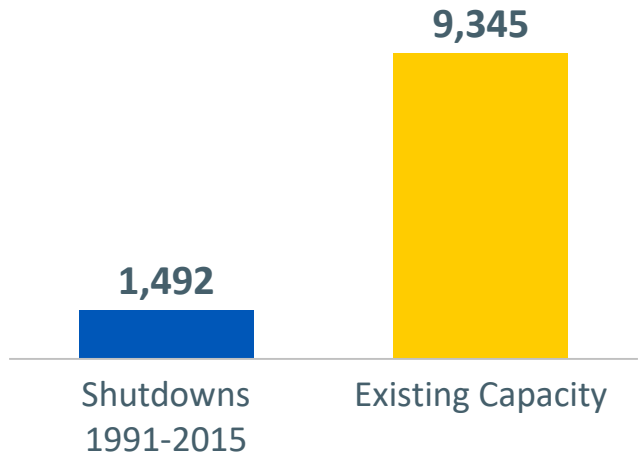
In NAM, several PP capacity shutdowns have taken place since the last start up in US

Industry Addition/Closing of capacities in North America



North America PP Capacity

(Million Tons)



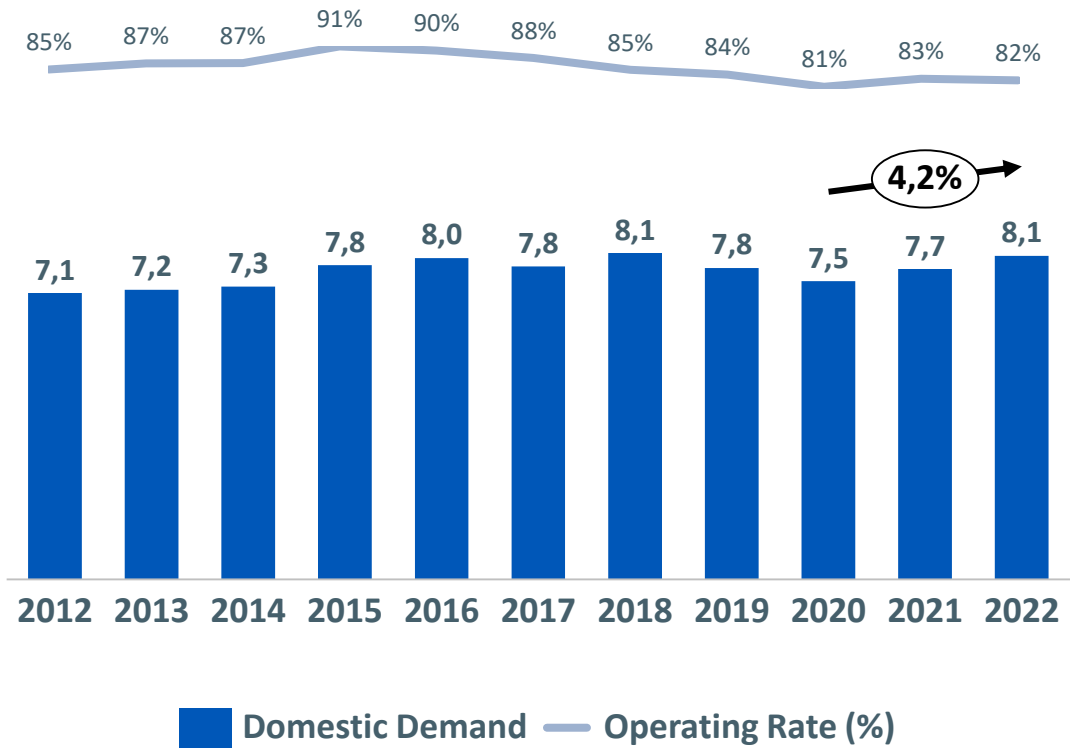
- **No new PP capacity additions** in the region since 2008
- **Shutdowns of 1.4 million tons of PP capacity** between 1991-2015
- New **Braskem PP plant will be the first one to startup** in the region since 2008

Source: External Consulting Firms

The expectation is that PP operating rates remain healthy and imports will be reduced

NAM PP Market

Domestic Demand (MMt) and Operating Rate (%)



Domestic Demand expected to grow ~4.2% in the next years (2020-2022) with reduced reliance on imports

NAM PP Capacity Addition

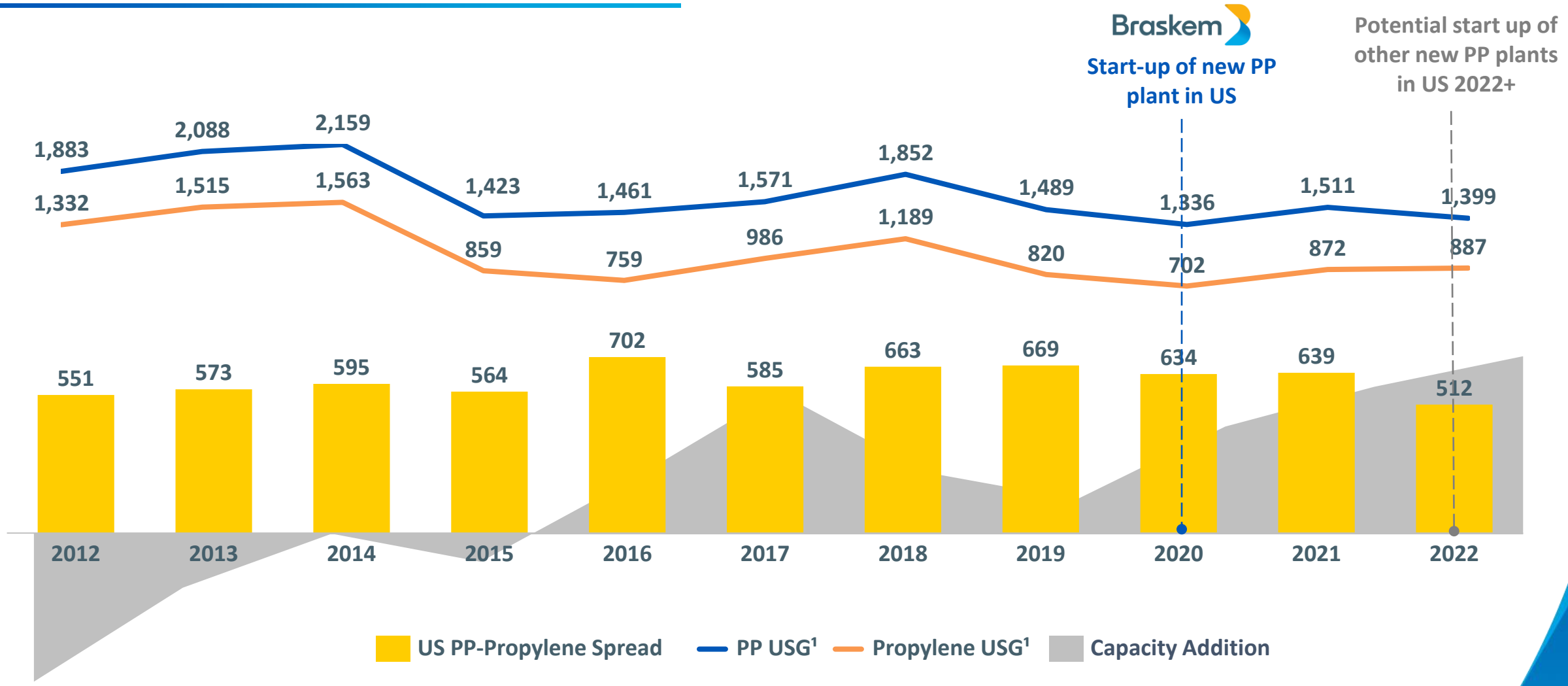
(Kt)

Excluding Delta, start up of new PP plants in US expected only for 2022 onwards

Source: External Consulting Firms. Note (1): DBN stands for Debottlenecking

US PP-Propylene spread should remain healthy, even after the startup of new PP capacities

US PP-Propylene Spread (US$/t)



Source: External Consulting Firms. Note (1) USG stands for US Gulf

The new PP plant in the United States will replace imports in the North America domestic market and will scale up regions exports

- Braskem will position the new facility's domestic production capabilities to not only **replace imported polypropylene volumes in the North American domestic market**, but also to **scale up our exports supporting structural global demand** with existing global clients

Domestic Preparations

- Leveraged 130 kta of Brazilian PP imports as seed volume
- Prequalified grades equivalent to 250 kt of annual demand
- Connected to all major suppliers (5 pipelines)
- Leveraged across existing SG&A

International preparation for global exports

- Set up new Charleston Export Hub for export oriented business
- Leverage Global Supply Chain and Client Base with Braskem's units in Europe, Brazil and Asia office
- Qualified 100 kta of opportunities in PAC and Europe

Source: Braskem

Video of the new PP plant in the United States

Delta Financials
Pedro Freitas (CFO)

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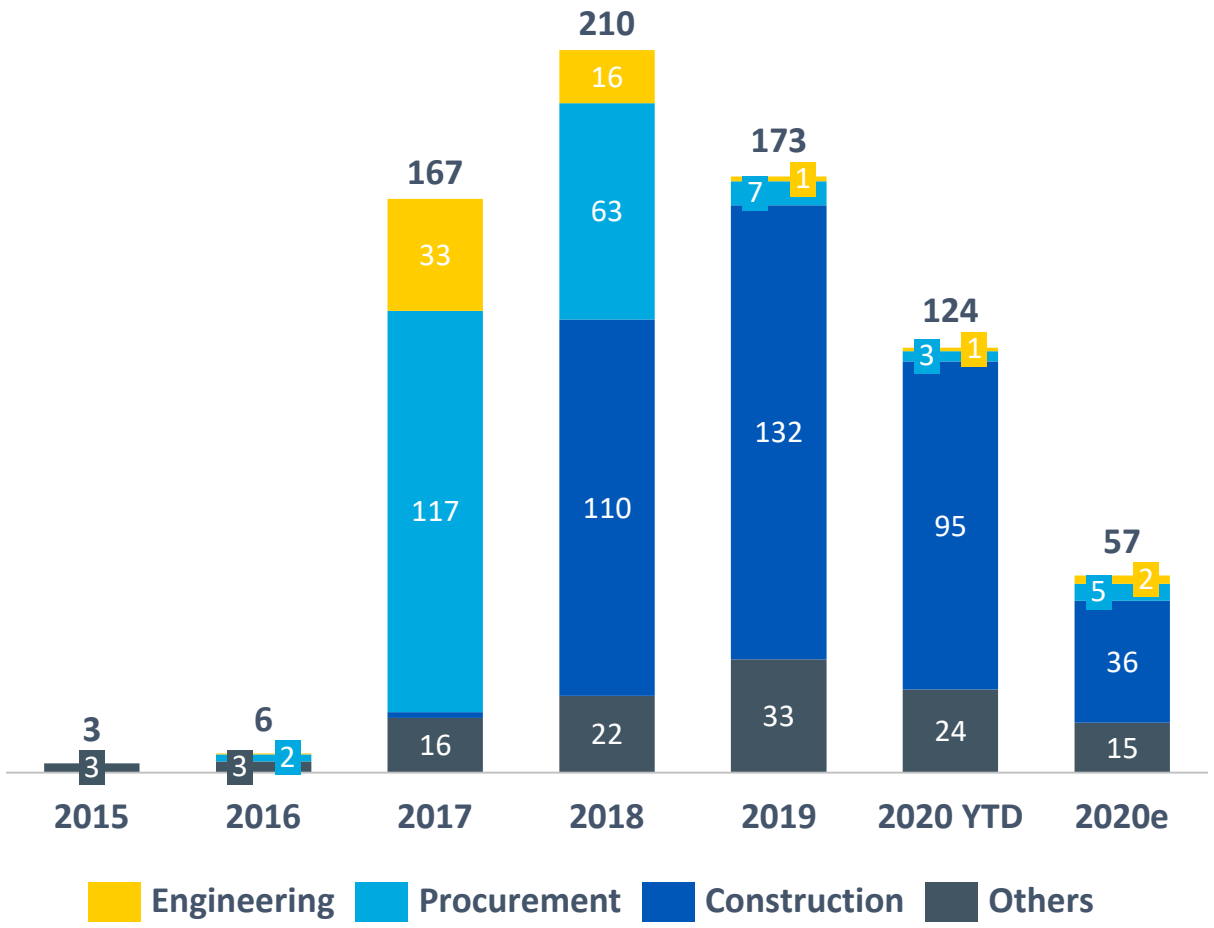
Braskem committed approximately $750 million in investment towards the design and construction of the new facility

CAPEX Disbursement (US$ million)



- The **Linde Group** served as the lead EPC[1] contractor bringing significant EPC[1] experience with the UNIPOL Process Technology
- Total **investment** in project Delta is approximately **US$750 million (less than 10% over schedule/budget);**
- The **investment was funded** with the support of ECAs (Export Credit Agencies) **Euler Hermes and Nexi.**

EULER HERMES

US$225 MM

NEXI
Nippon Export and Investment Insurance

US$225 MM

Source: Braskem. Note (1): EPC stands for Engineering, Procurement and Construction.

Modelling Delta's contribution to the company's results should be simple, given the characteristics of its business model

Modelling Steps Suggestion

Net Revenue (US$ MM)

- **Production (Kt)** → Production Capacity (kt) x Operating Rate (%);
- **Sales Volume (Kt)** → Same as production, selling PP both in the domestic market and also exporting;
- **Sales Price (US$/t)** → PP US International Reference (US$/t) and exports depends on the region;

COGS (US$ MM)

- **Feedstock Consumption (Kt)** → Production (Kt) x 1.01 (yield);
- **Feedstock Cost (US$ MM)** → Feedstock Consumption (Kt) x Propylene US International Reference (US$/t);
- **Cost ex-Feedstock (US$ MM)** → Polymerization Cost[1] per unit (~US$200/t) x Production (Kt);

SG&A (US$ MM)

- For modelling simplification, **SG&A** could be projected as a **% of Net Revenue**, which should be low, because the new facility leverages the existing infrastructure in La Porte, Texas (a range of 2-3% of Net Revenue).

Source: Braskem
Note (1): Based on External Consulting Firms. It considers catalyst, utilities, total fixed costs and local logistics.

Closing Remarks
Mark Nikolich (Olefins & Polyolefins North America VP)

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Closing Remarks

- Delta reinforces **Braskem America's leading position in North American PP market** and as the third largest PP producer in the world;
- The investment highlights **Braskem America's capability to execute large-projects** and **our commitment as a PP supplier** not only today, but also in the next decades;
- **First quartile project safety performance** and excellent execution (cost and schedule) in challenging environment;
- Our expectation is that the **ramp-up process will take place through 2020** and, in 2021, the plant is expected to operate at its name plate production capacity;
- In terms of **ESG**, Delta was developed directly in-line with **Braskem's commitment to sustainability** and attention to **eco-indicators**;
- Finally, the start up of Delta is a **major milestone,** further enhancing Braskem's ability to differentiate and deliver product to meet our clients' specific needs.

Thank you Delta Project Team!

Delta Project team ground breaking in 2017

Q&A

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