

# INEOS Olefins & Polymer Europe North

*Rob Ingram, CEO*

*Investor Day 2022*

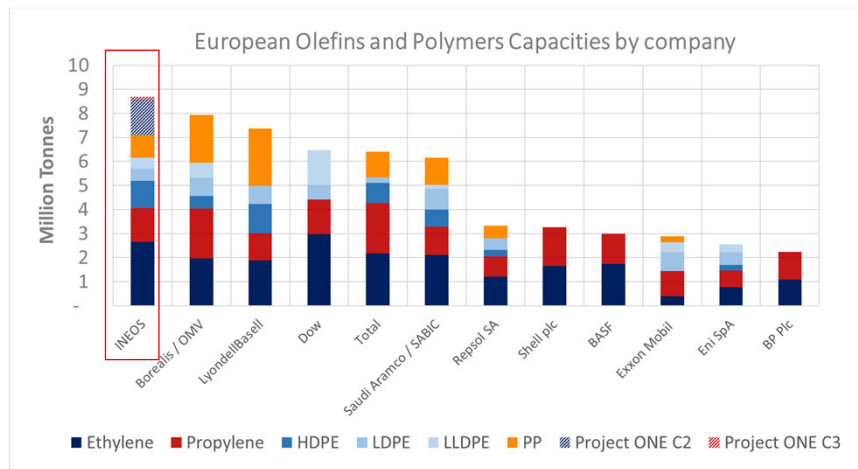
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## Agenda

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Overview  
Sustainability  
Project ONE  
Performance 2021  
Performance 2022 YTD  
Outlook

## O&P Europe: Scope and Scale



Divided into 3 divisions for management purposes

- O&P Europe North, O&P Europe South, O&P Europe UK.

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## O&P Europe: Product Flows

Manufacturing Process				Markets	
Raw Materials	Cracker			Derivatives	INEOS Integration
Ethane	Ethylene	→		Polyethylene	✓
				Ethylene oxide	✓
				Ethyl acetate	✓
Propane	Propylene	→		Alpha-olefins	✓
				Polypropylene	✓
				Propylene oxide	✓
Butane	Butadiene	→		Acrylonitrile	✓
				Isopropanol	✓
				N-butanol	✓
Naphtha	Aromatics	→		PIB	✓
				Ethyl Benzene	✓
				Styrene	✓
				Polystyrene	✓

■ O&P activity

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## O&P Europe North: Scope & Scale

### Turnover 2021 :

- €5.25 BN

### Production 2021 :

- 2140 KT of olefins and aromatics
- 1344 KT of polyolefins

2900 personnel

Head office in Rolle, Switzerland



**INEOS Insight**  
Ethane 'Dragon' ship  
Offloading at Rafnes Cracker, Norway

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## O&P Europe North: Scope and Scale

### 2 Cracker Complexes:

Highly diversified feedstocks :

- Naphtha and butane into Koln
- Ethane and propane for Rafnes

Well located facilities:

- Köln: integrated site, pipelines to EU market
- Rafnes: Coastal with deep sea access

Supply to the full portfolio of INEOS derivatives.

### R&D and Innovation Centre:

- Product and application development
- Focus on Sustainability and Circularity
- Catalyst development
- Plant & proprietary technology support

### 4 LDPE Lines

- 300 customers
- Sales in 51 countries

### 1 m-LLDPE Line

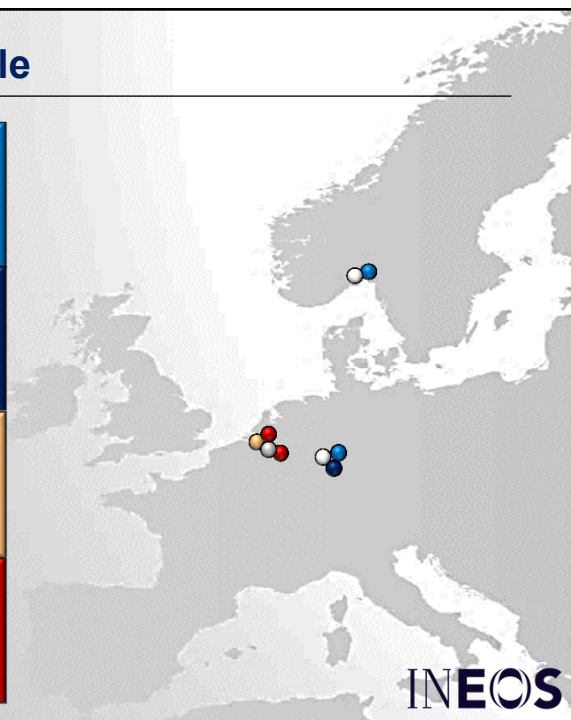
- 187 customers
- Sales in 32 countries

### 2 HDPE Lines

- 466 customers
- Sales in 70 countries

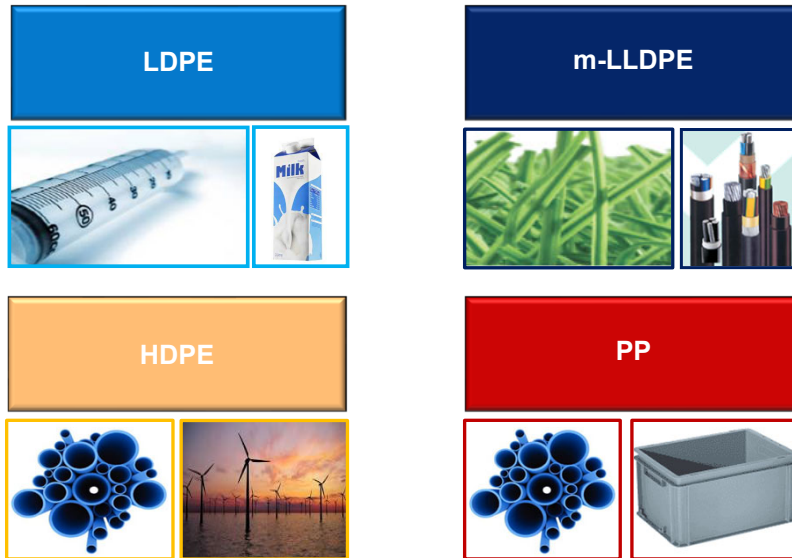
### 2 PP lines

- 468 customers
- Sales in 58 countries



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## Typical Polyolefin Applications



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## Sustainability & Circularity

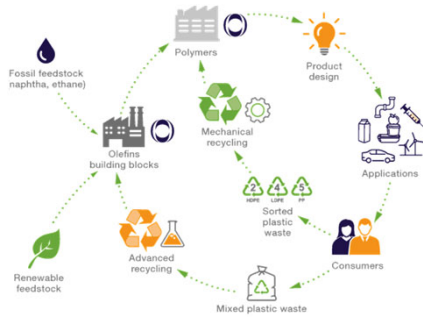


- To address circularity and sustainability, INEOS O&P North address each link in the value chain
- All sustainability benefits are backed up by robust 3<sup>rd</sup> Party certification

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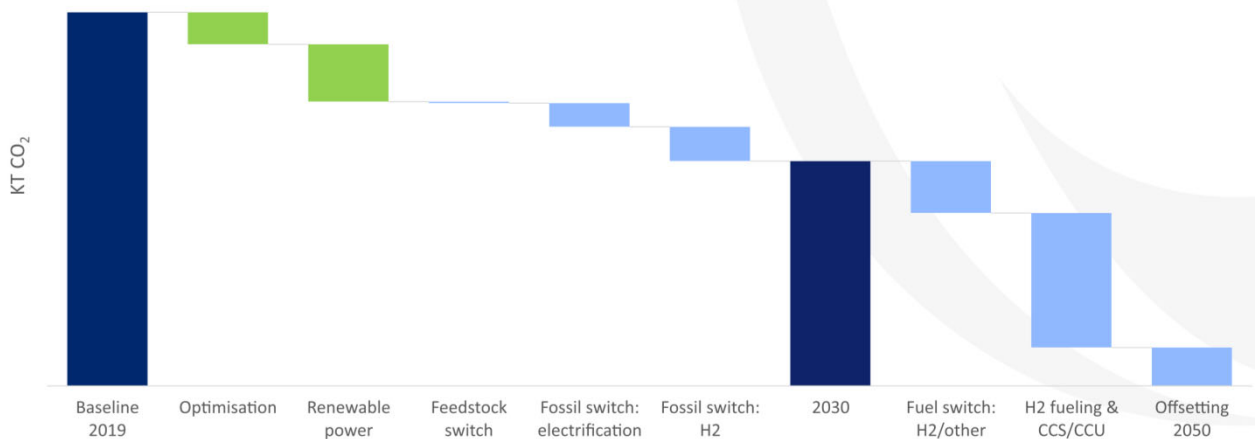
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## Sustainability and Circularity



- **Fossil feedstock**
  - Expansion in to low carbon production with Project ONE
- **Polymers**
  - ~25% of 2021 production using renewable energy from PPAs
- **Product Design**
  - New pilot facilities to redesign packaging for recyclability
- **Applications**
  - Diversification of product mix, increasing percentage of durables
- **Post consumer recyclates**
  - Offtake agreements with multiple recyclers.
  - **Recycl-IN** polymers with >50% recycled content for HD, LD, LL, & PP
  - Investments in improving sorting selectivity e.g. digital watermarking
- **Advanced recycling of mixed plastic waste**
  - Feasibility study for a large-scale plant in progress
  - Signed offtake agreement for 2022 supply
- **Renewable feedstocks**
  - Offtake agreements. More in development.
- **Certification of all sustainability claims using ISCC & RSB**
  - Full certification of sites in German and Belgian completed.

## O&P North CO<sub>2</sub> Reduction Roadmap



## Project ONE

1450 KTa ethane cracker and propylene splitter to be constructed in Antwerp

Will have less than half the CO<sub>2</sub> footprint of a traditional European naphtha cracker

Designed for minimum emissions

- Use of hydrogen rich fuel gas
- Carbon capture ready
- Powered with 100% renewable energy.

Plan for Carbon neutrality within 10 years

Permit received in December 2021, appeal expected to end Q2.

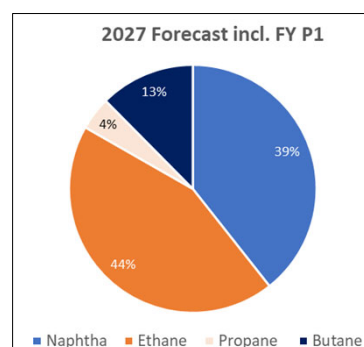
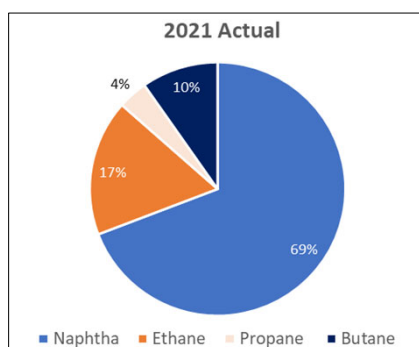
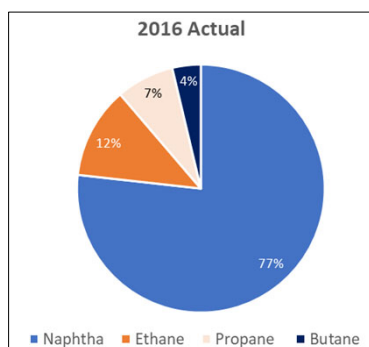
FID passed in March 2022, subject to final completion of the permit process.

Start-up planned for second half 2026

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## Feedstock Mix



Ethane and Butane  
supply chains

Project ONE

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## Performance 2021

### SHE

- 2021 OSHA rate of 0.12 vs world class rate of 0.18

### Reliability

- Olefins 99.5 %
- Polymers 96.4 %

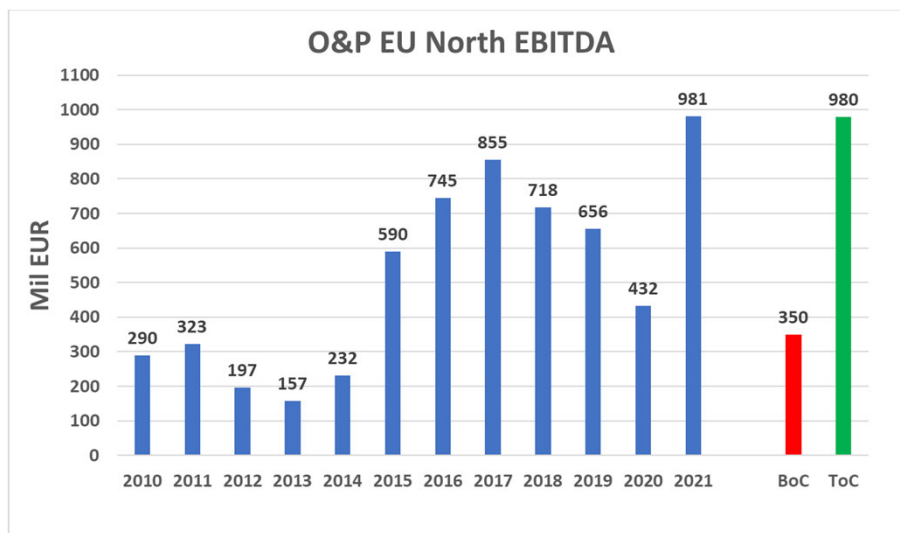
### EBITDA : € 980 M

- Olefins € 450 M
- Polymers € 306 M
- Trading & Shipping € 182 M
- Cologne Energy € 27 M

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## O&P Europe North : EBITDA Evolution



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## Performance Q1 2022

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### SHE

- OSHA rate 0.00 with zero recordable incidents in Q1

### Reliability

- Olefins 99.0 %
- Polymers 95.4 %

### EBITDA

- Olefins 74 M€
- Polymers 87 M€
- IT&S 51 M3
- Energy 5 M€
- **Total OPN 217 M€**

Rafnes first turnaround for 10 years.

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## Outlook

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We expect a high oil and gas environment to persist

- US imports give a strong advantage
- Rafnes benefits from a wide ethane to naphtha spread
- Unintegrated Naphtha crackers face severe margin pressure

Continued disconnection between regional prices, driven by:

- Supply chain disruption
- Renewed COVID lockdowns

Risk of demand destruction in second half 2022

- High prices and inflationary pressure
- Risk of recession

Cessation of O&P sales to Russia has had minimal impact

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