



QUANTAFUEL



## Quantafuel vision and mission

### Vision

Quantafuel will be the world's most significant contributor to the sustainable reduction of plastic waste

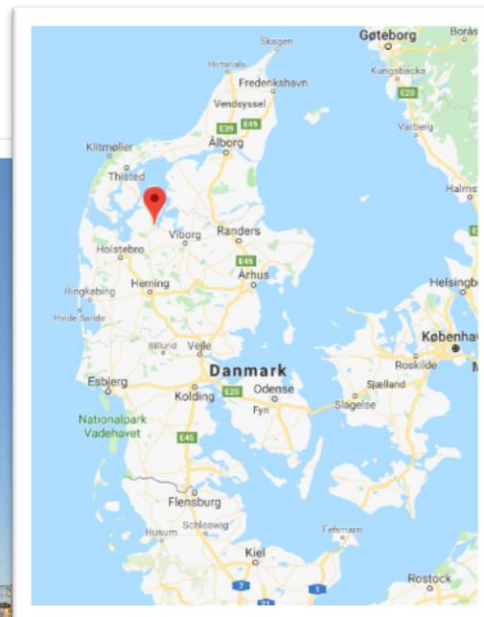
### Mission

Quantafuel will become the leading provider of low carbon products from plastic waste

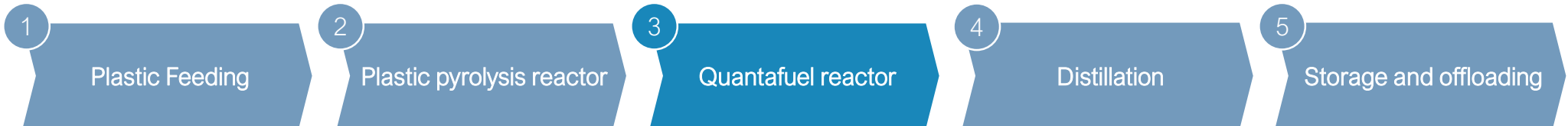
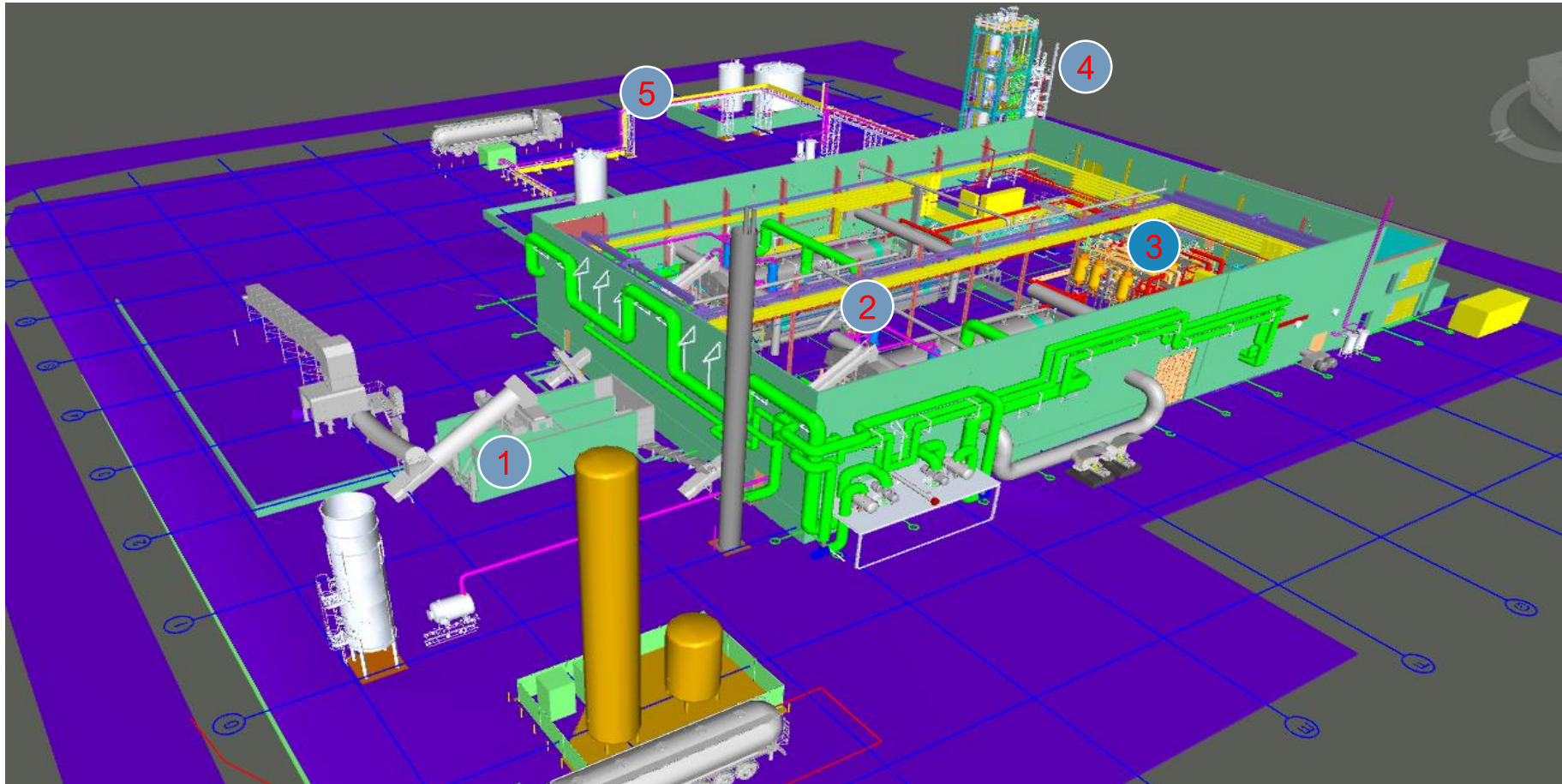


FIRST PLANT UNDER CONSTRUCTION

# Europe's first plastic-to-liquid plant




Quantafuel with unique and proprietary catalyst and enabling small, efficient plant design constructed with tried and tested components





## Quantafuel turns a global environmental problem into low-carbon products



**Bill Gates**  • Following  
Co-chair, Bill & Melinda Gates Foundation  
5mo

The world is facing some big challenges. I'm always thrilled to read about companies that find bold solutions.



**How A Norwegian Clean Energy Company Is Combatting Marine Pollution From Plastics**  
[forbes.com](https://www.forbes.com)

32,429 Likes · 1,024 Comments

350 billion euro turnover, 1,5 million employees in Europe



Fastest growing man-made material



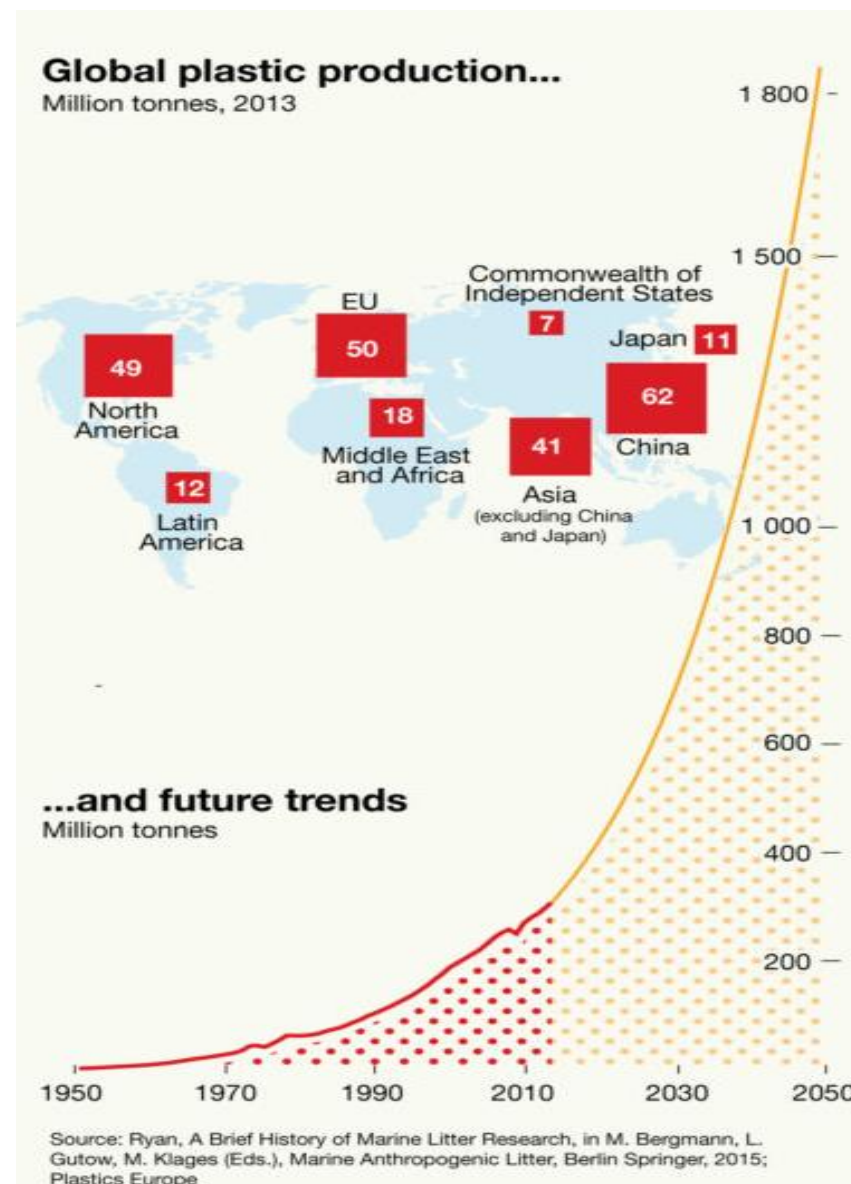
8 % of oil and gas production



8 million barrels every day – 4,2 x Norway's total oil production (1,64mb)



\$186bn invested in 318 new plastic production projects over the last 8 years.



Sources:

2009. U.S National Institute of Health. Hopewell et al. Plastic recycling: challenges and opportunities.  
World Economic Forum: The new plastics economy rethinking the future of plastics  
2018 Norwegian Petroleum Directorate – Production figures  
McKinsey&Company Petrochemicals 2030: Reinventing the way to win in a changing industry  
The American Chemistry Council – Elements of the business of Chemistry

## The real problem with plastics

50% become waste the first 12 months - 2,2 Norways oil & gas production

The average use of a plastic bag is just 12 minutes

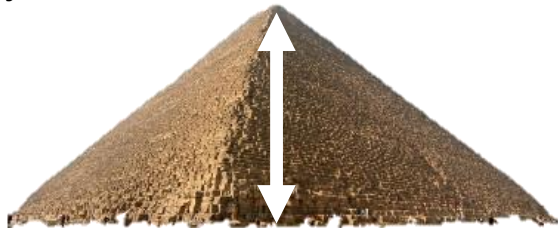
27 000 000 tons of waste is generated in the Europe every year, 1/3 of the waste is recycled.

60%-65%, 11 million tons, is plastics Quantafuel can utilize in our plants (600 X Skive 1)

Statue of Liberty  
93 meters high



Kheops Pyramide  
139 meters high



Amount of plastic waste equals X  
4,2 the Kheops Pyramide





# The plastic marked

Chaos for a better world



CHINA – «Plastic ban» on waste imports leads to plastic accumulating in ports and storages all over Europe and U.S.



Europe and US allocates waste from China to Southeast Asian countries like Thailand, Malaysia, Indonesia – leading to an immediate environmental crisis



Norway «saves the day» by proposing that the BASEL Convention is amended restricting free flow of plastic waste to poor countries with lacking infrastructure, resulting in +180 countries signing!



EU – as the **worlds largest plastic waste exporter** will be in trouble, as there is not enough traditional plastic recycling capacity and now they can't send it to Asian countries!  
USA – Did not sign the Basel agreement

**120** million tonnes will have to be allocated between 2019-2030

**78%** of plastic waste exports goes to poor countries without proper recycling industry

**55%** of plastic waste must be recycled in the EU to meet mandate in waste directive – by 2025

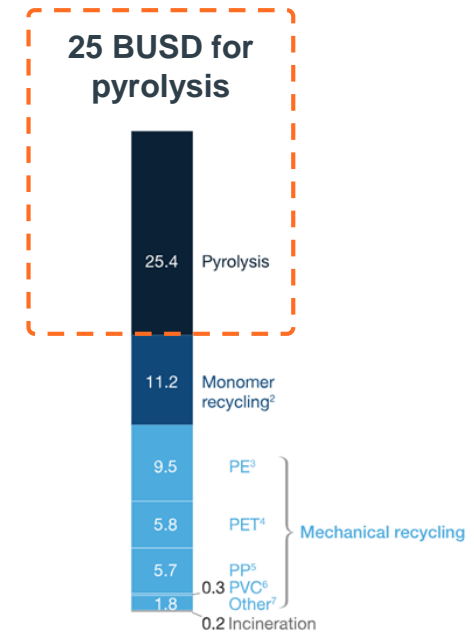
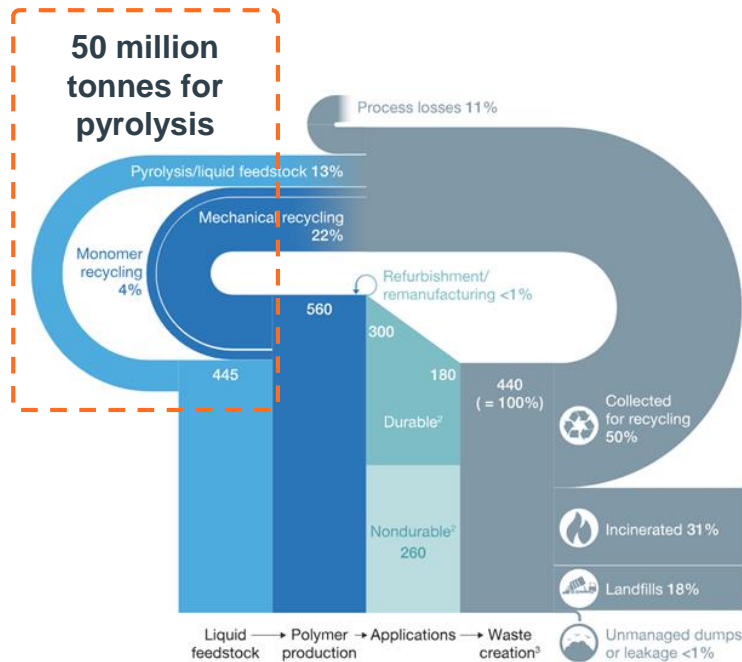
**157 000** shipping-containers from US to Asia in 2018



# Chemical recycling expected to become a major industry and source of profit

2030: > 200 million tonnes plastic reused

2030: “Alternative reuse” of plastic biggest profit growth



# Global players scrambling for developing their position

## Oil majors

Company examples



Stated ambition

**NESTE**

*"Neste targets to process more than one million tons of plastic waste annually by 2030."*

See major opportunities in alternative fuels

## Chemical majors

Company examples



Stated ambition

**سابك**  
**sabik**

*"We are supporting greatly the mechanical recycling of plastics, but we believe that the long term sustainable circular economy will lie in chemical recycling."*

Expect chemical recycling to become a major factor

## Recycling majors

Company examples



Stated ambition

**REMONDIS®**  
WORKING FOR THE FUTURE

*"REMONDIS has initiated a project to develop and operate so-called chemical recycling facilities."*

Need to increase recycling – require chemical recycling

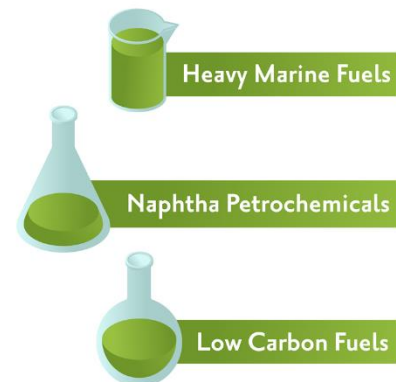


Quantafuel is pioneering the plastic recycling / reutilisation industry – giving previously incinerated plastic waste a second life

Converting plastic waste...

...in a local plant in Skive...

...producing high-quality, synthetic products



**Re-use plastic waste**  
which is otherwise incinerated

**90 % reduction in  
GHG emission**  
in production

**Reduce local emissions** from  
consumption ( $NO_x$ ,  $SO_x$ , *particles*)

## Alignment to build out large scale plants



- Largest independent oil trader
- 231 BUSD revenue
- 357 million tonnes shipped yearly
- 7 million barrels per day
- 6800 ship voyages
- 250 ships at sea at any time
- Global presence



- European refinery group
- Owned by Vitol
- Owns two refineries in Europe
- Largest biofuel trader in ARA
- Storage and logistics around Europe



Will start preparation for two large scale projects – goal of 5

## Antwerpen

- Aligned to start preparation for two large sites
- Antwerpen and Bayern
- 100.000 ton + capacity per location
- Pre-engineering, site allocation, permitting, feed-stock supply, location, budgets
- 50/50 JV structure Vitol – QF
- 2 X 100 MUSD investment
- FID right after Skive
- Pre-project financed by Vitol



## Bayern



Thank you!

Contact: [Thomas.Tharaldsen@Quantafuel.com](mailto:Thomas.Tharaldsen@Quantafuel.com)

