

European trends and situation on bitumen

Is current situation effecting availability and quality of bitumen

NaBin 2023 – Oslo

Krister Persson





Who



- Krister Persson
- TotalEnergies Marketing Norge AS
 - Situated in Sweden
- Market Manager Specialties Nordics
 - More than 30 years in the asphalt and bitumen industry.
(Skanska, Nynas and TotalEnergies)

- Why me?
- My colleague Jonathan Tinsley was unfortunately unavailable...



What



- Short on TotalEnergies
- Supply challenges and trends in the bitumen industry
- How will the current situation potentially effect the trends.

TotalEnergies Bitumen

The European leader on the bitumen market



4 Plants
100% TotalEnergies
Brunsbüttel (Germany) Preston (UK)
Kourim (Tzcek Republic) Scinawa (Poland)

4 Refineries
N°1 producer – supplier in Europe

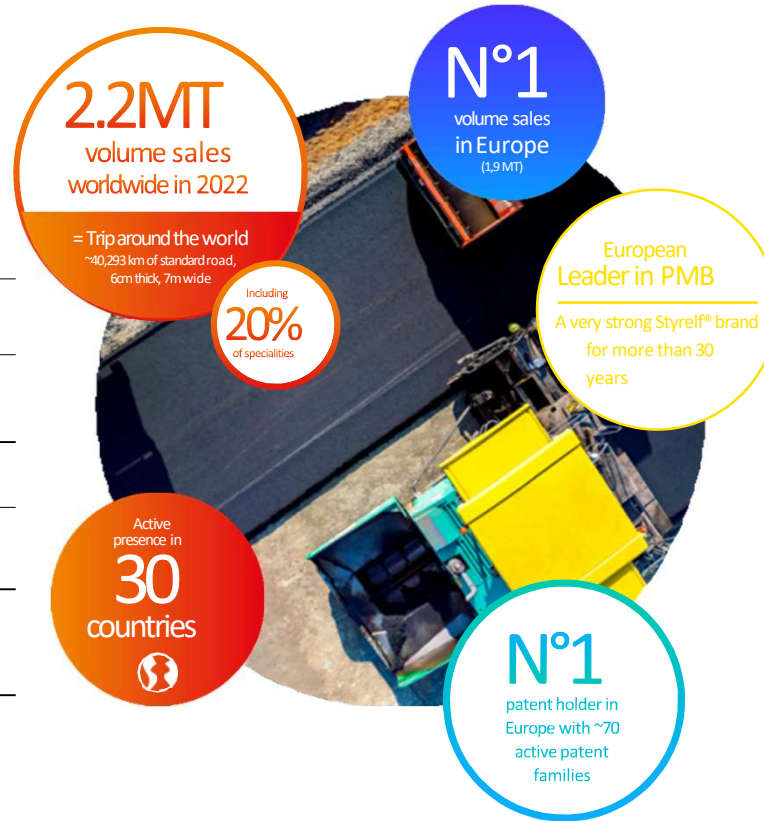
6 Manufacturing partners

12 Storage terminals

2 Time Charter Boats
+ ongoing study to build 2 of our own

1 Joint Venture in India
1 License Agreement in UAE

Bitumen Online (BOL)
a platform dedicated to the supply of bitumen, that simplifies forward fixed-price purchasing and ordering in Europe.



10 product ranges

- Altek
- Azalt
- Aqualt
- Styrelf
- Kromatis
- Modulotal
- Emulsis
- Regenis
- Covrex
- Stelox

90% roads
10% industry, Mostly waterproofing membranes

4 Sustainable technologies
EC02, RC, Kromatis, Long Life
• Lower working temperatures
• Recyclability
• Durability

80% of the R&D budget dedicated to sustainable development projects

4 research labs

3 eco solutions labelled products

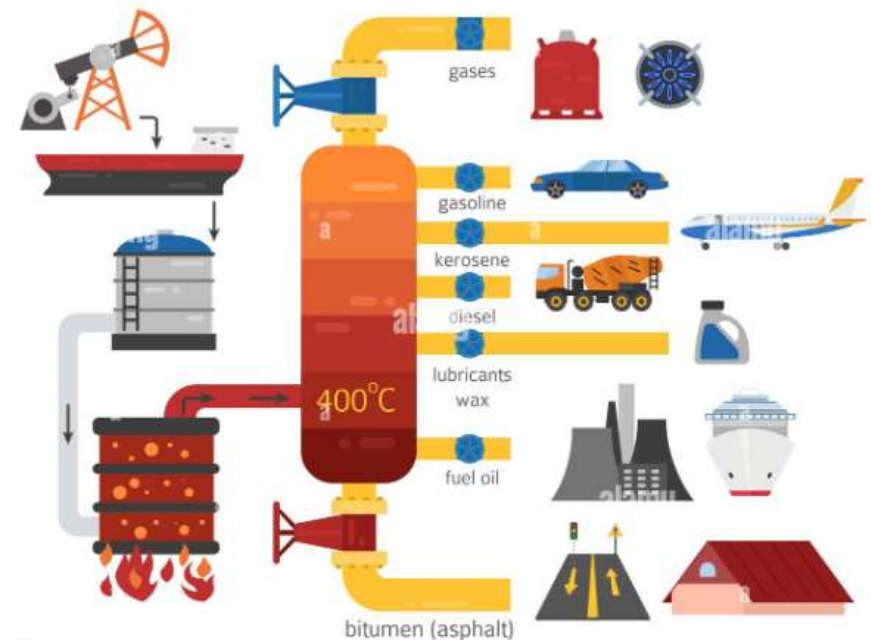
Global Key customers:



Bitumen production in the refineries



- Bitumen is produced from crude residue (bottom of the Barrel)
- In Europe there production is 15 million tons of bitumen produced in 74 refineries (out of 115 in total) (eurobitume.org)
- BTM production requires processing of heavy and high Sulfur (HS) Crudes (Sour crudes).
- BTM production are market environment driven, as :
 - its production is costly for the refineries (high variable costs; production & heated storages, etc)→ High energy prices drives the costs
 - HS crude availability is decreasing (sanctions on BTM adapted crudes like Iranian & Venezuelan and now Russians)→ competition on buying available high sulphur crude oils are high



Supply challenges 2019 until 2021 in a nutshell

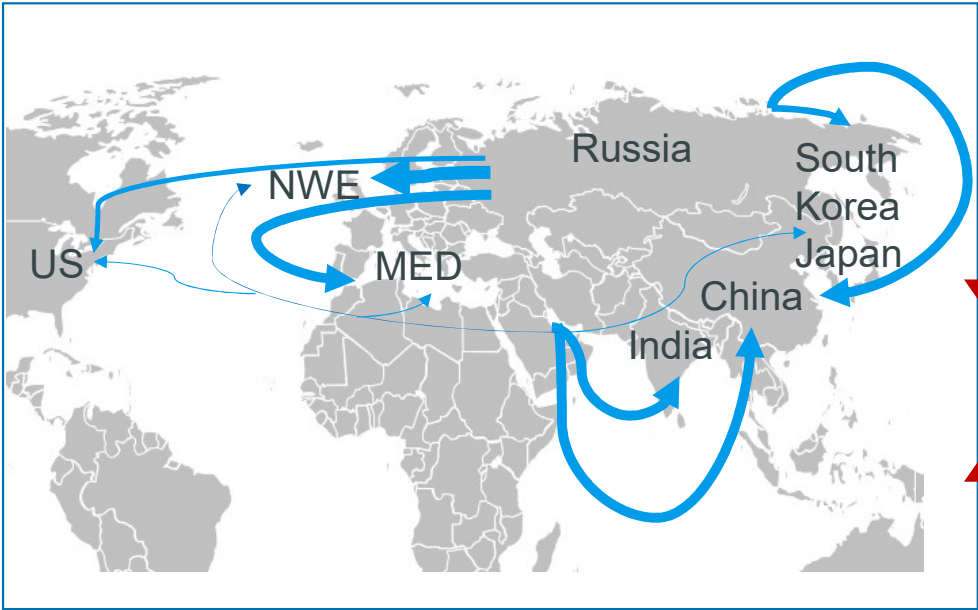


- IMO 2020→ Bitumen is an alternative to HSFO (High Sulfur Fuel Oil) production
 - Pricing of BTM; HSFO or Brent quotations? Conclusion: Bitumen is still a sustainable alternative to HSFO production and so it's pricing should stay on HSFO quotations.
- 2020-2021:
 - COVID Lock downs→ Demand Volatility
 - Some refineries closures or transforming in to depots and emerging of bitumen “champions refineries” (refineries more specified in producing bitumen)
 - imbalances in Europe addressed by larger trading activities including inter region arbitrages (MED to NWE)→ emerging of new Trading companies + depots
 - Increased exports of russian bitumen exports to Northwestern Europe (NWE) (NWE became longer on softer bitumen vs hard bitumen)

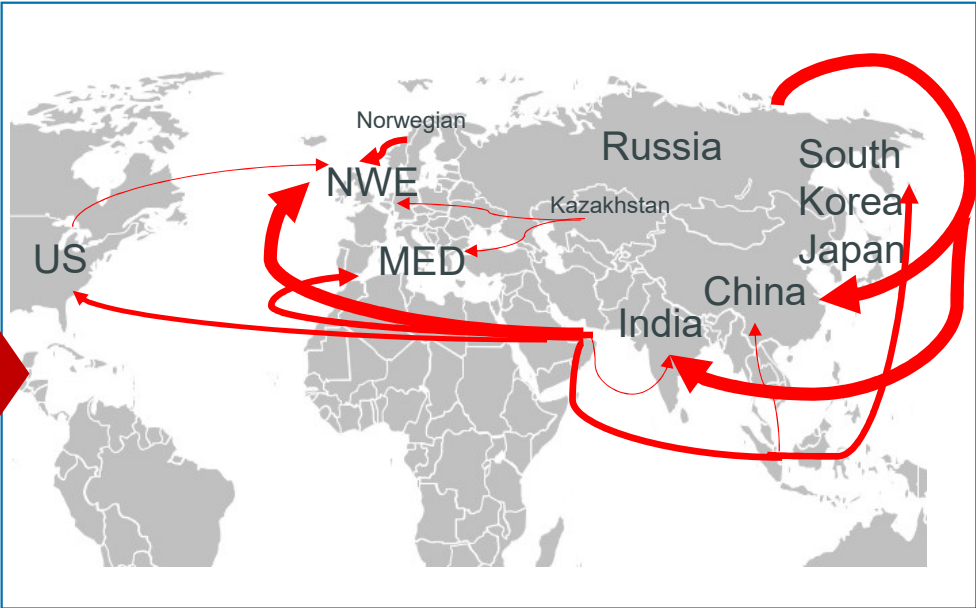
Supply challenges increases after Ukraine crisis - Globally



BEFORE Russia-Ukraine Crisis



AFTER Russia-Ukraine Crisis → European Sanctions on Russian Crude (from 5 dec 2022)



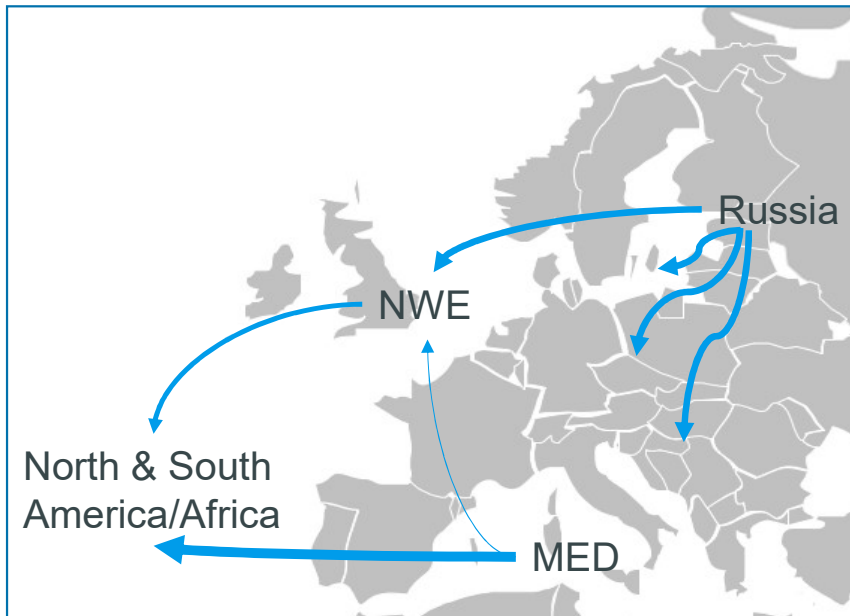
Supply challenges increases after Ukraine crisis - NWE



TotalEnergies

AFTER Russia-Ukraine Crisis → European Sanctions on Russian Oil products from 5 Feb 2023; Bitumen not Included Bitumen included as of May 2023.

BEFORE Russia-Ukraine Crisis



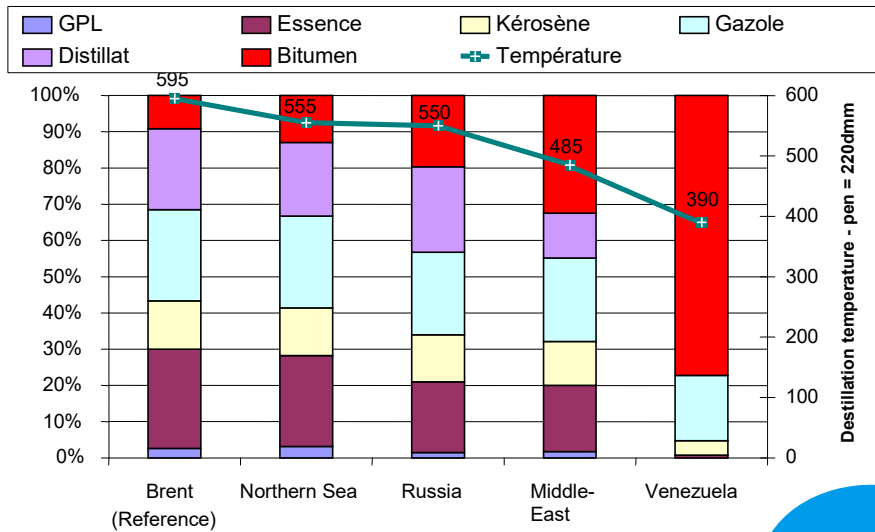


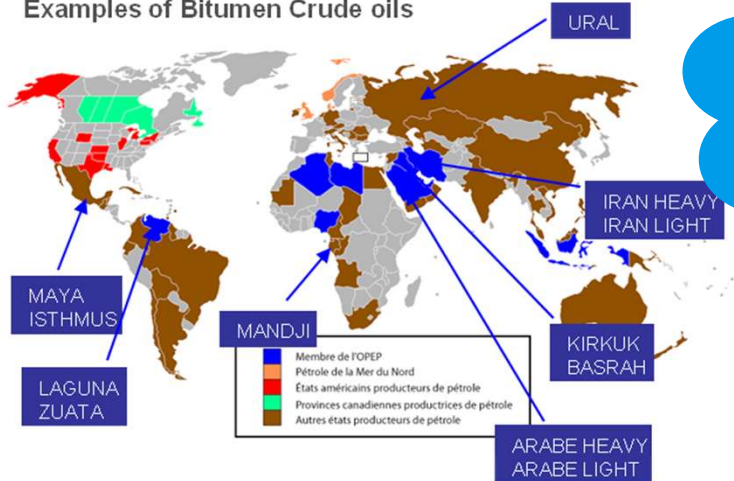
Table 1. Crude basket used for the LCI review in 2020 and 2021 update

Crude source	2021 LCI (%) - used in this study (same values as 2020 LCI)	Average European crude oil consumption (2019)
Former Soviet Union (FSU)	30%	36%
South & Central America	15%	3,65%**
Middle East	45%	16,5%
Europe	10%	15%
Africa	0%	21%
North America	0%	7,85%
Total	100%	100%



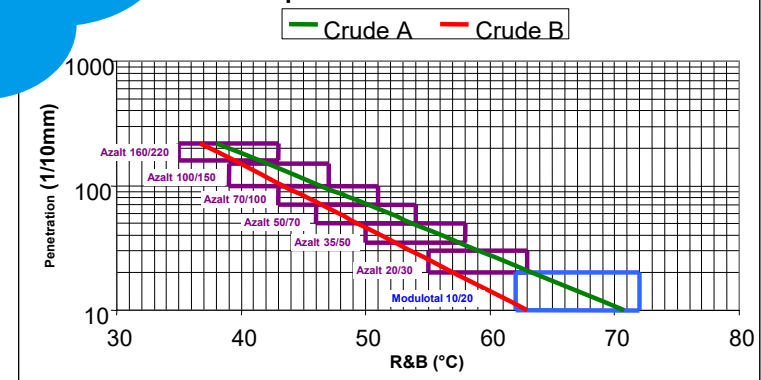
	Destillation					Oxidation		
	Vakuum återstod	185	99	44	12	84	46	9
Penetration vid 25 °C	285	185	99	44	12	84	46	9
Asphaltenes vikt-%	9,1	9,9	10,5	11,3	12,5	15,2	17,3	22,9
Resins vikt-%	18,6	16,7	18,2	17,7	21,3	21,0	22,1	21,5
Aromatics vikt-%	51,2	53,0	52,4	58,4	53,8	47,6	45,0	40,5
Saturates vikt-%	16,2	15,1	14,1	11,2	9,4	16,2	15,6	15,1

Examples of Bitumen Crude oils



1300 crude oils in the world, 10% suitable for bitumen.. (eurobitume.org)

EN 12591 specifications - Penetration vs R&B



What happens beyond ?



- What will the effects be short and longterm with the current situation in the **Middle East** ?
- What will happen with the **war in Ukraine** and sanctions/and availability of russian crudes?
- What happens when the refineries are moving towards **decarbonization** and more refineries are transformed in to **biorefineries**.
- If the crude oils comes from "harder" sources will it have an effect on the market if we are moving towards using softer bitumen in order to incorporate more **recycled materials** in order to reduce the **carbon footprint**?
- And what will then happen **with the cost of asphalt** ? ?

From April 2020 to May 2022 delta of 500 USD/ton for "bitumen" index (HSFO).
With 6% in asphalt – 30 USD/ton asphalt.
(source: Platts)

