



FEBELIEC – 25th April 2022
Philippe Taranti, INOVYN Operations Manager Belgium/Germany



INOVYN is part of INEOS Group

INEOS

INEOS Group overview



\$61 bn Turnover



23,000 employees



35 Businesses



60 million tons of chemicals capacity



20 million tons of refinery products
(420,000 bbls/day)



26 million boe per annum

183

manufacturing sites worldwide

26 Countries

84 sites in Europe

77 sites in Americas

17 sites in Asia





INOVYN overview

INOVYN - key dimensions

Profile

4,300



PEOPLE

€3.5bn



TURNOVER

6

million tonnes per annum



PRODUCTION

17

MANUFACTURING
SITES
IN
8
COUNTRIES



150+



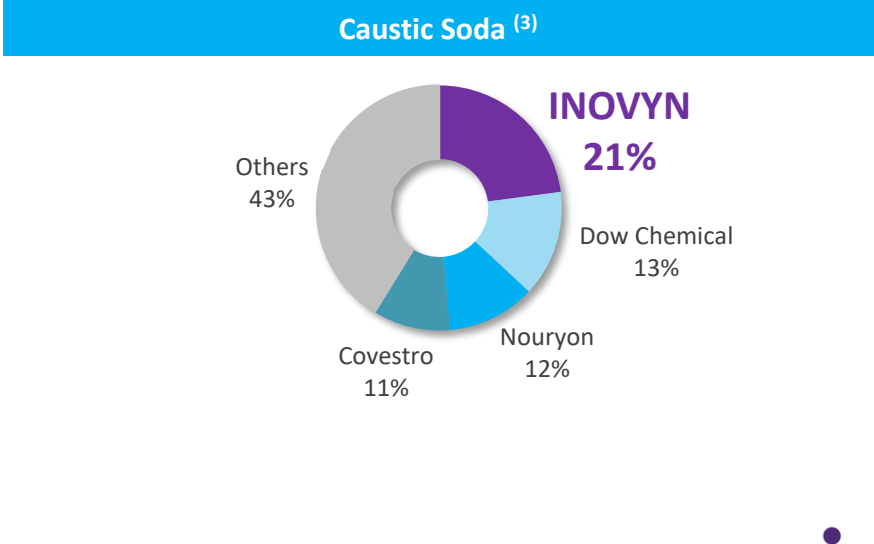
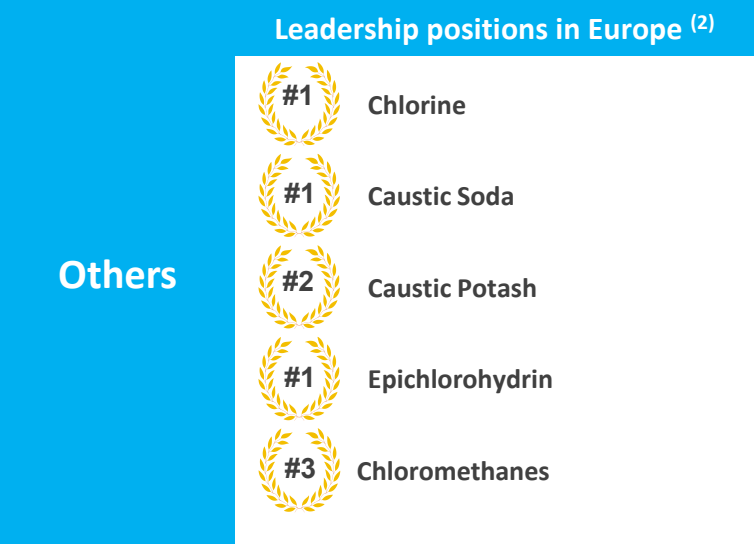
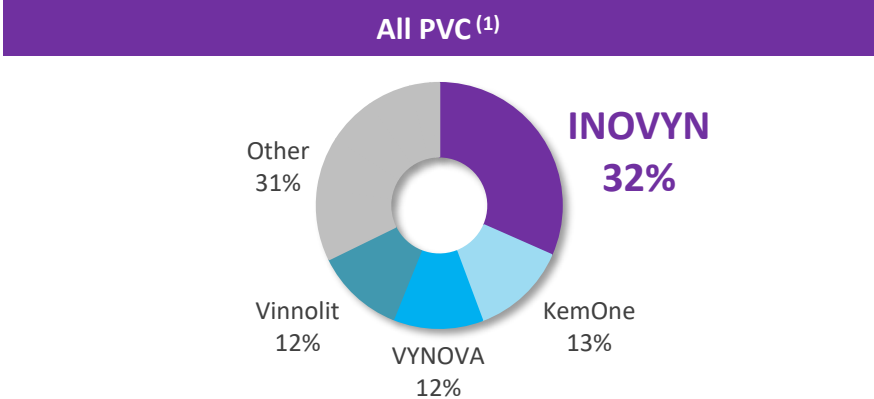
PRODUCTS &
GRADES

INOVYN™PVC
BIOVYN®
METHOKLONE™
CERECLOR™



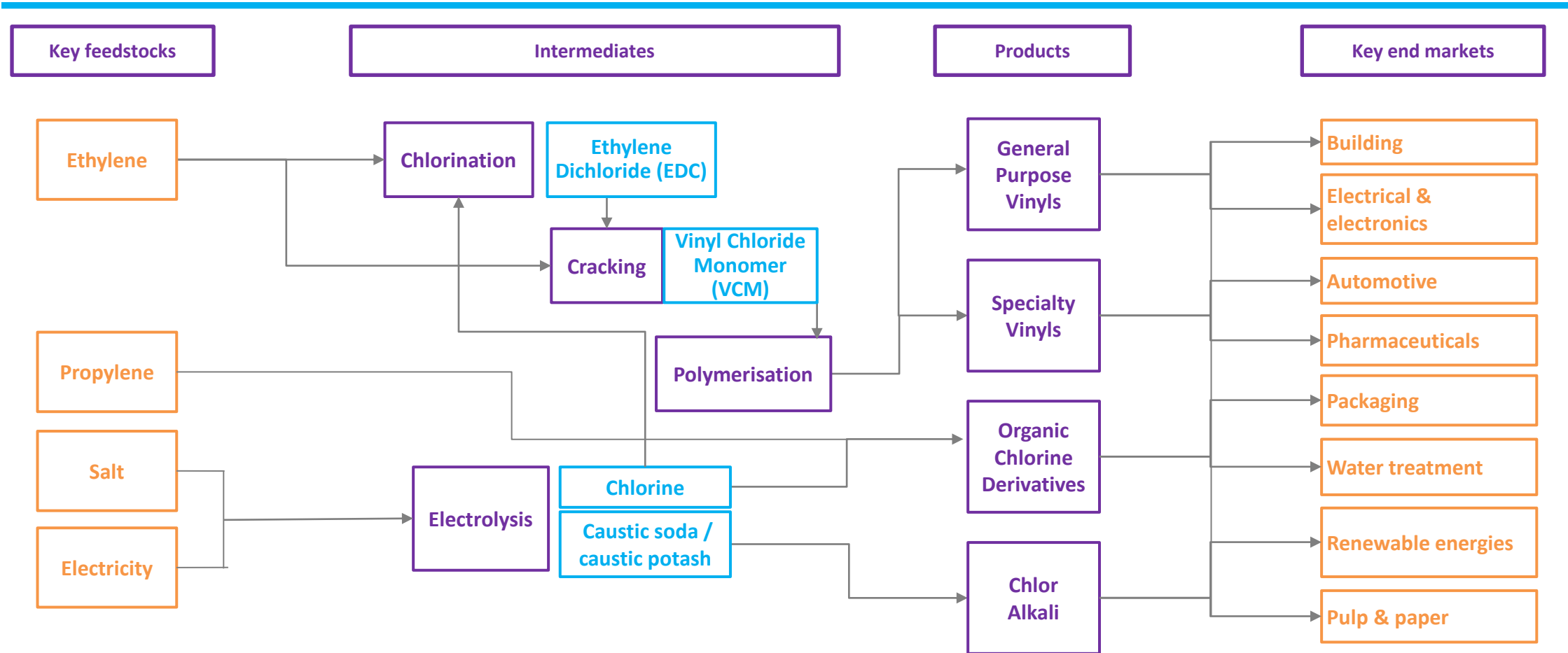
KEY BRANDS

INOVYN is the European leader



Source: IHS, company information
 1. Capacity market share for EEA (2017), excluding Oltchim
 2. Based on management estimates for merchant market share
 3. Merchant market share for caustic soda liquor (EEA 2016)

The INOVYN value chain





The importance of electricity for INOVYN



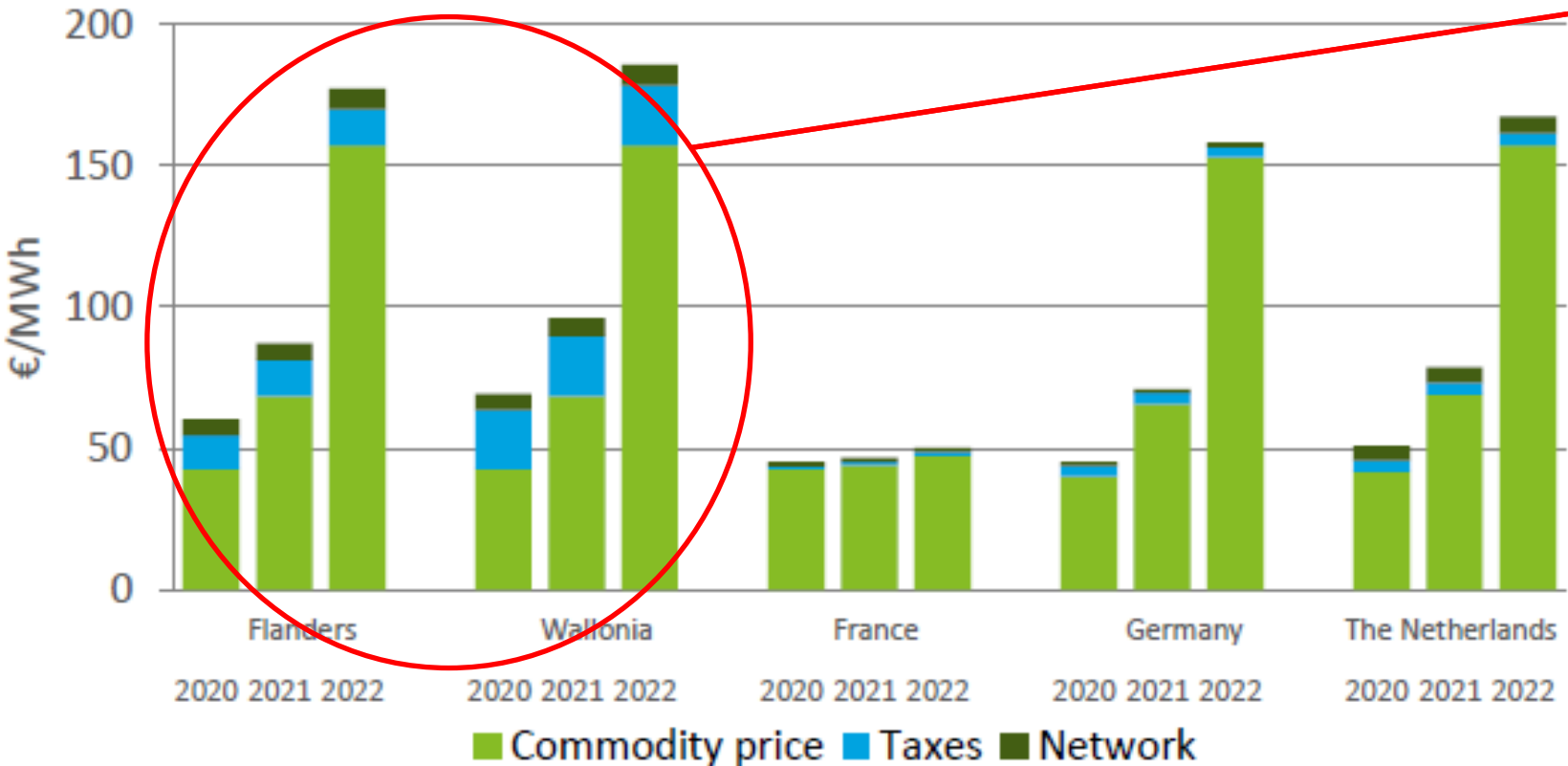
inovyn
An INEOS company

The importance of electricity for INOVYN

- INOVYN electricity consumption (typical GWh/y) :
 - Europe : 6250
 - Belgium : 2050 Lillo (Li) : ~1200 GWh/y, Jemeppe (Je) : ~850 GWh/y (~50 GWh/y net)
 - France : 1200
 - Germany : 500
- European investments/projects since INOVYN creation in 2016 :
 - 2016 : Jemeppe (BE) : acquisition of the local cogeneration unit
 - 2017 : Antwerp (BE) : capacity conversion of electrolysis from NaOH to KOH
 - 2018 : Tavaux (FR) and Rheinberg (DE) : **capacity expansion of electrolysis**
 - 2019 : Jemeppe (BE) : capacity conversion from PVC commodities to PVC specialties
Stenungsund (SE) : capacity conversion of electrolysis
 - 2020 : Rafnes (NO) : **capacity expansion of the electrolysis** and vinyls chain
Jemeppe (BE) : capacity expansion of the vinyls chain
 - 2021 : Stenungsund (SE) : capacity expansion of PVC production
 - 2023 : Rafnes (NO) : **capacity expansion of the electrolysis**
Rheinberg (DE) : capacity expansion of the VCM production
 - 2024 : Antwerp (BE) : capacity expansion of EDC production
 - 2025 : Jemeppe (BE) : **marginal capacity expansion of the electrolysis, but project questioned due to electricity cost**
Rafnes (NO) : capacity expansion of the VCM production

Deloitte 2022 study for JEMEPPE : confirmation of 2020/2021

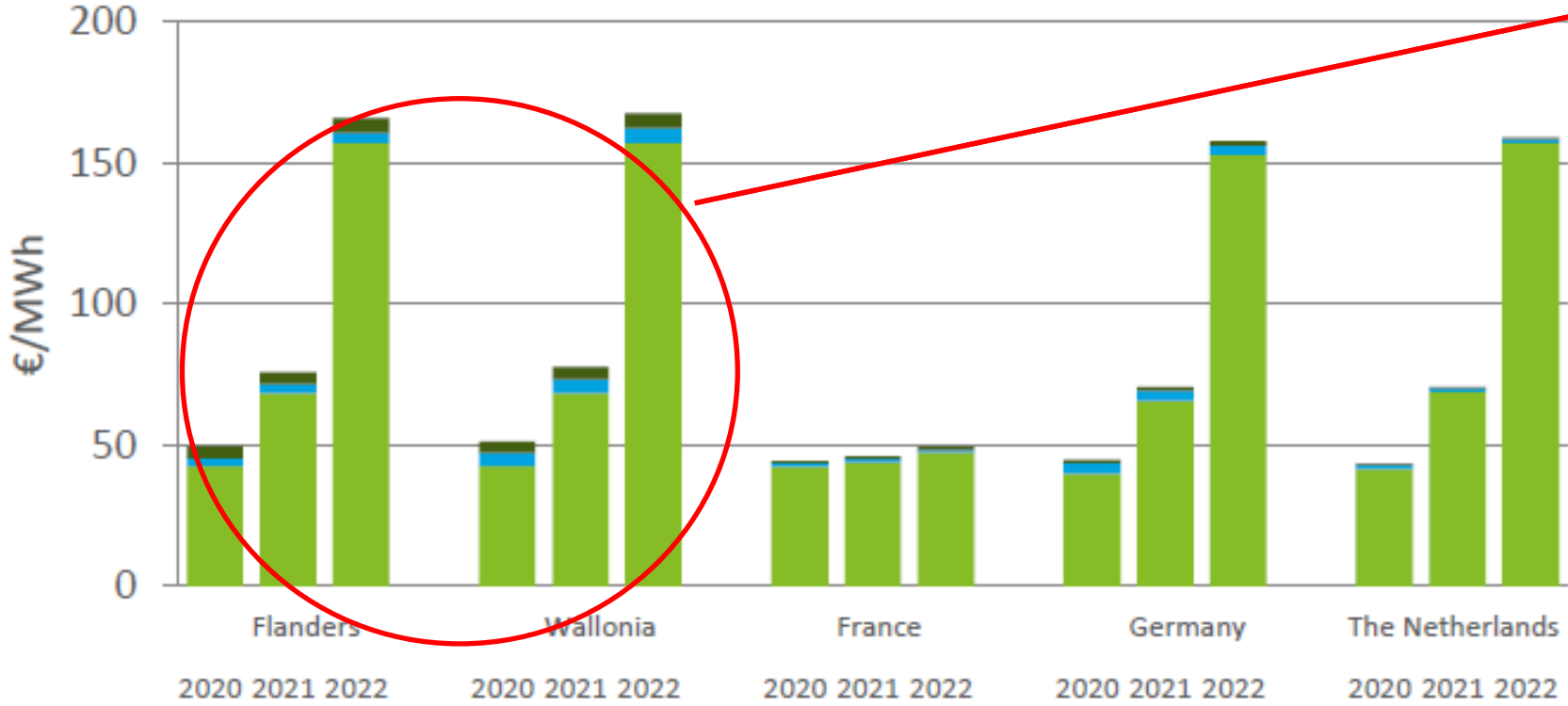
All-in electricity prices for baseload profiles (100 GWh)



A difference of 20 €/MWh is equivalent to 2 M€/y for 100 GWh/y

Deloitte 2022 study for LILLO : confirmation of 2020/2021

All-in electricity prices for baseload profiles (1000 GWh)



A difference of 10 €/MWh is equivalent to 10 M€/y for 1000 GWh/y

Deloitte Belgium

Commodity price Taxes Network

Belgium Electricity Competitiveness in 2022

- Additional short/medium terms risks vs EU/WW competition :
 - **Capacity Remuneration Mechanism financing (Federal)**
 - **Indirect CO2 emissions compensation (EU) :**
 - Limitation of eligible activities for compensation
 - Reduction of compensation emission factor (EF) vs other EU countries
 - **Direct CO2 emission : impact of current CO2 price increase**
 - **Security of Supply in case of delay of 2 GW nuclear extension**

Belgium Electricity Competitiveness in 2022

Short/medium terms risks (M€/y) :	Lillo (1200 GWh/y)	Jemeppe (50 GWh/y)
– CRM financing (diverging estimations)		
• Haulogy study (250 M€/y)	+4.3	+0.2
• PwC study (614 M€/y)	+10.6	+0.5
– Indirect CO2 emission compensation (CO2 @ 80 €/t)		
• (a) : reduction of eligible activities	+0.6	+4.8
• (b) : (a) & EF reduction (0.76 -> 0.37 t CO2/MWh) (FR : 0.51, DE : 0.75, NL : 0.50, ...)	+23.8	+14.3 (*)
(*) in case of max compensation in Wallonia vs EU rules		
– Direct CO2 emission cost increase (CO2 @ 80 €/t today vs 40 €/t last year)		
• Emission not covered by free allocations	+2.5	+11.4

Belgium Electricity Competitiveness in 2022

- **Conclusion :**

- **Deloitte 2022 study : 2020/2021 conclusion mainly confirmed**

- Handicap of 2~10 M€/y for Inovyn sites in BE vs neighboring countries (FR, NL, DE, ...)

- **From 2022 : additional major risks for Belgium electricity competitiveness**

- Up to +~25 M€/y vs 2020 for 50 GWh/y baseload consumption with local CHP
- Up to +~35 M€/y vs 2020 for 1200 GWh/y baseload consumption

→ Urgent need to restore Belgium competitiveness of electricity price for industrial consumers !