

Carbon Black

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CONSULTING

Nachhaltige Materialien & rCB



Video- und Contentproduktion

Themen

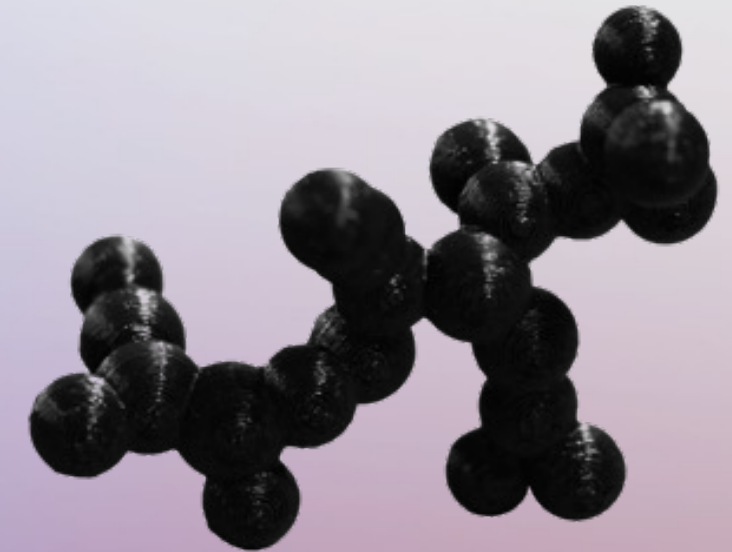
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Carbon Black

ASTM D3053 - 22

"Standard Terminology Relating to Carbon Black"

Carbon black, n-an engineered material, primarily composed of elemental carbon, obtained from the partial combustion or thermal decomposition of hydrocarbons, existing as aggregates of aciniform morphology which are composed of spheroidal primary particles which exhibit uniformity of primary particle sizes within a given aggregate and turbostratic layering within the primary particles.



3D-Aggregat Modell: Birla Carbon

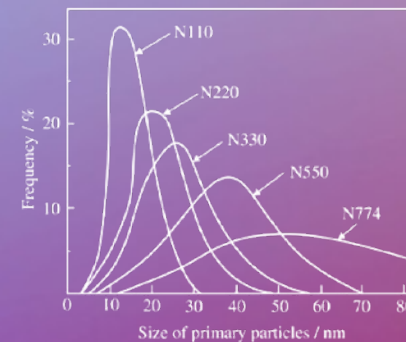


D1785 - 21

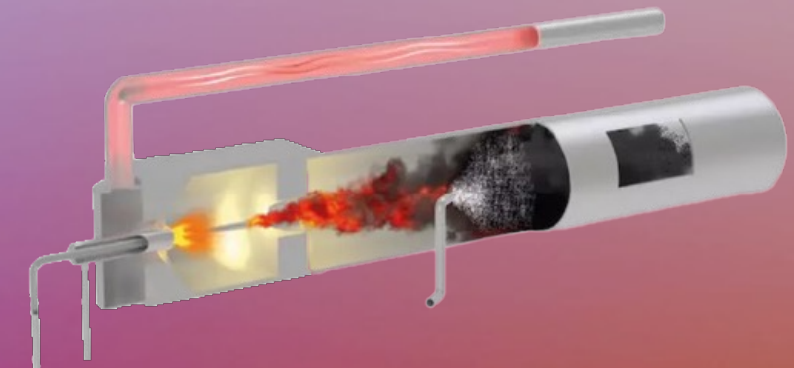
TABLE 1 Carbon Black Properties

NOTE 1.—The iodine adsorption number and oil absorption number values represent target values. A target value is defined as an agreed upon value on which producers center their production process and users center their specifications. All other properties shown are averages of typical values supplied by several manufacturers. Typical properties are dependent upon the target values and may vary from producer to producer at the same iodine adsorption and oil absorption numbers because of the differences in processing equipment.

ASTM Classification	Target Values ^a		Typical Descriptive Values ^a					
	Iodine Adsorp- tion No. ^c D1610, g/kg (mg/g)	Oil Absorption No. D2414, 10 ⁻⁴ m ² /kg (cm ² /100 g)	Oil Absorption No. Sample D2403, 10 ⁻⁴ m ² /kg (cm ² /100 g)	Void Volume ^d D7954, 10 ⁻⁴ m ³ /kg (cm ³ /100 g)	NSA Multipoint D6656, 10 ⁴ m ² /kg (m ² /g)	STSA D6656, 10 ⁴ m ² /kg (m ² /g)	Tint Strength, D6295 %TBB	Pour Density, D1513, kg/m ³ (lb/ft ³)
N110	145	113	97	63	127	115	128	345 (21.5)
N116	180	113	97	63	137	124	128	345 (21.5)
N120	122	114	99	...	126	120	129	345 (21.5)
N121	121	132	111	70	122	114	119	320 (20.0)
N125	117	104	99	...	122	121	125	370 (23.0)
N134	142	127	103	70	143	137	131	320 (20.0)
N136	151	135	117	...	141	...	119	320 (20.0)
N210	115	78	75	...	123	123	123	440 (27.5)
N220	121	114	98	63	114	106	116	355 (22.0)
N231	121	92	86	55	111	107	120	400 (25.0)
N234	120	125	102	67	119	112	123	320 (20.0)
N238	145	100	85	...	122	111	120	380 (23.5)
N250	108	124	104	67	104	97	118	335 (21.0)



PSD-Grafik: Tokai Carbon



Furnace Process Bild: Orion SA

Geschichte



1916 Bunbury Mischer

1918 Carbon Black ersetzt ZnO

1949 Radial-Gürtelreifen

1972 Kieselsäure in PCR-Lauflächen

2023 Zirkuläre Mischungen von Carbon Black und rCB

2022 Zirkulärer und erneuerbarer Carbon Black

2015 PAK-reduzierte Typen, Methanpyrolyse Carbon Black

2000 Saubere Extrusionstypen, hochverstärkendes Carbon Black (N100)

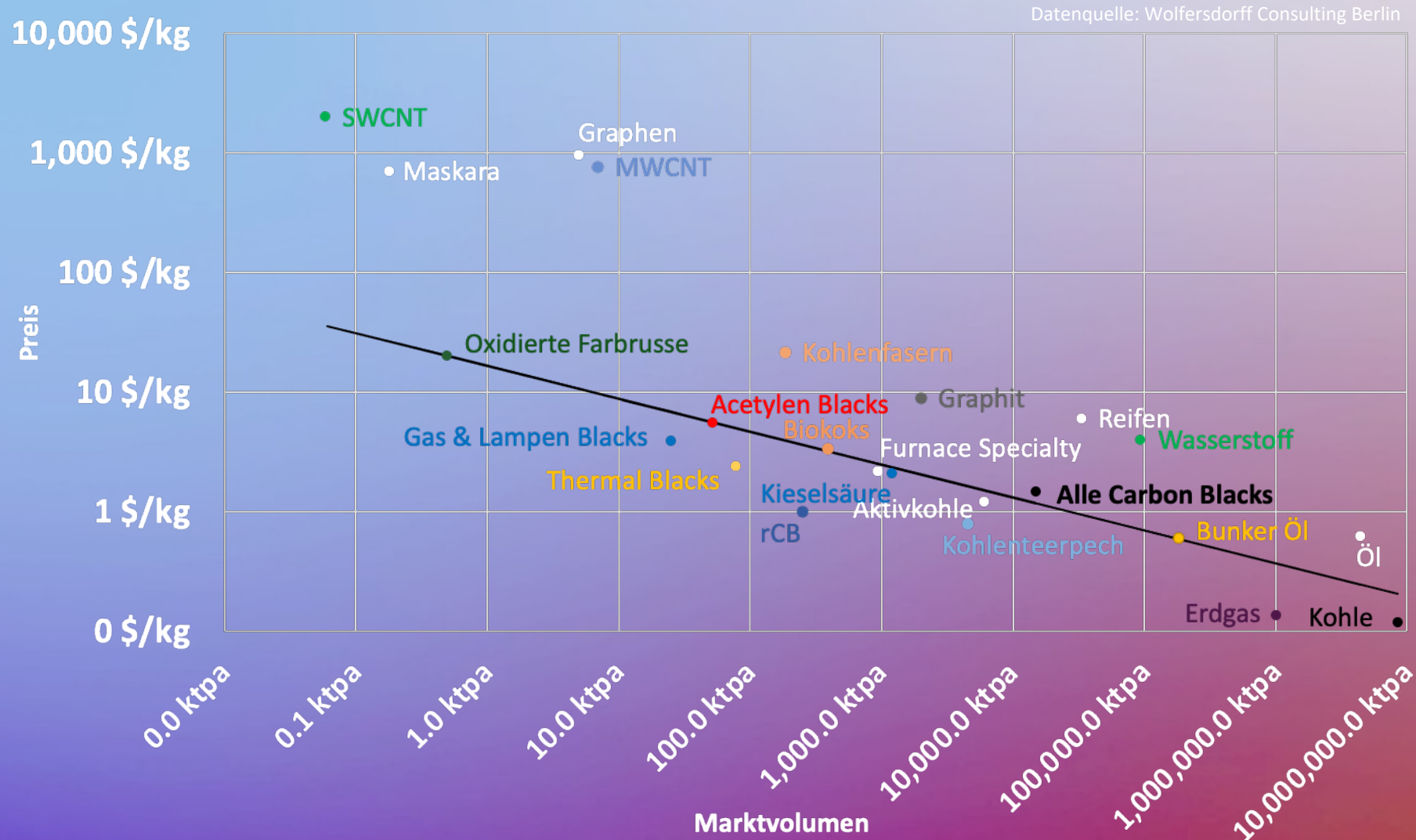
1980 Nachverbrennung in Energiezentren

1940 Furnace Prozess, halbverstärkendes Carbon Black (Öl, Phillips Petroleum)

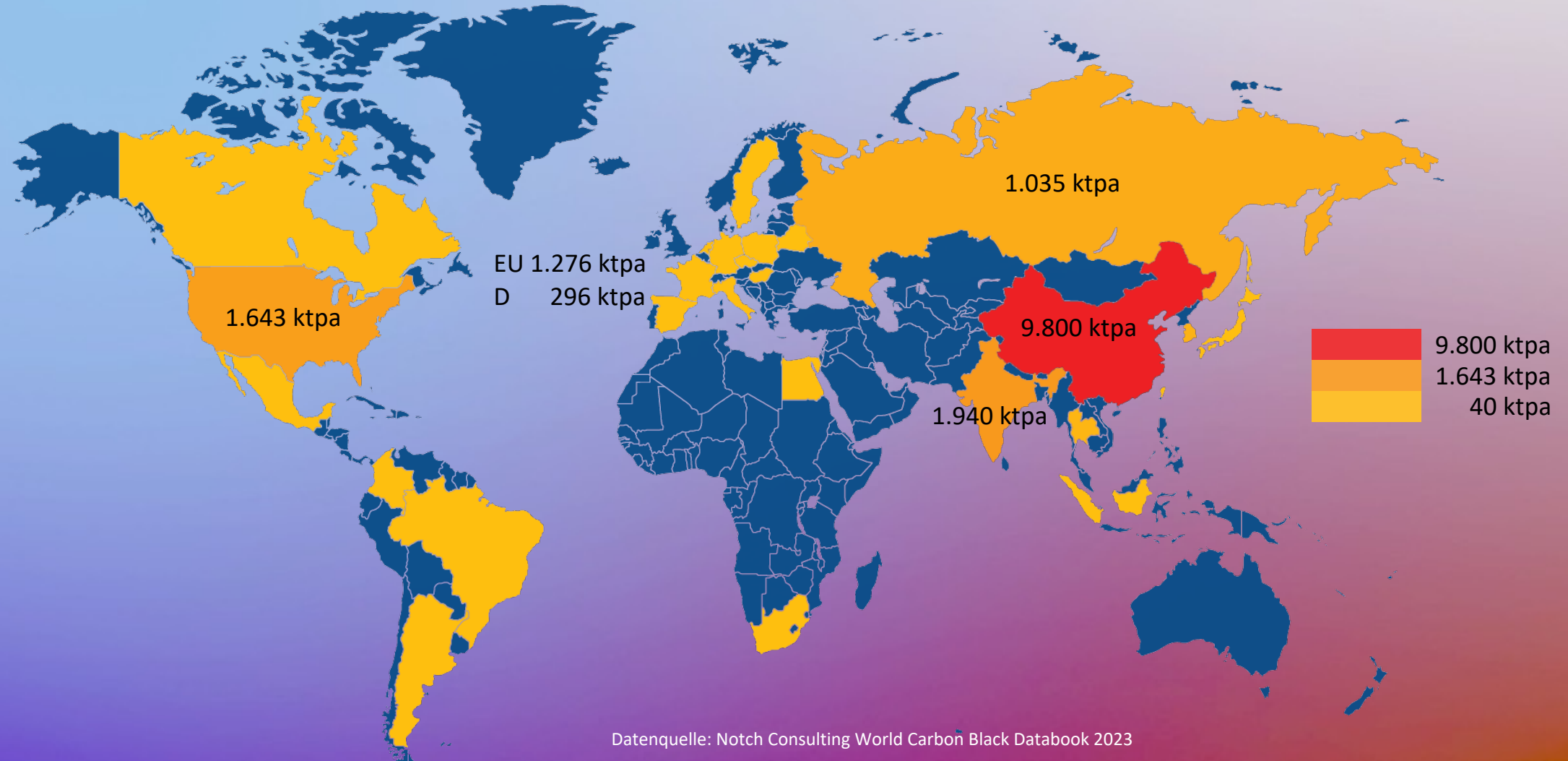
1934 Degussa CK-3 Gas Black Prozess (Öl)

1864 Channel-Prozess (Erdgas, 20% Partikelemission)

Carbon Black Marktlandschaft



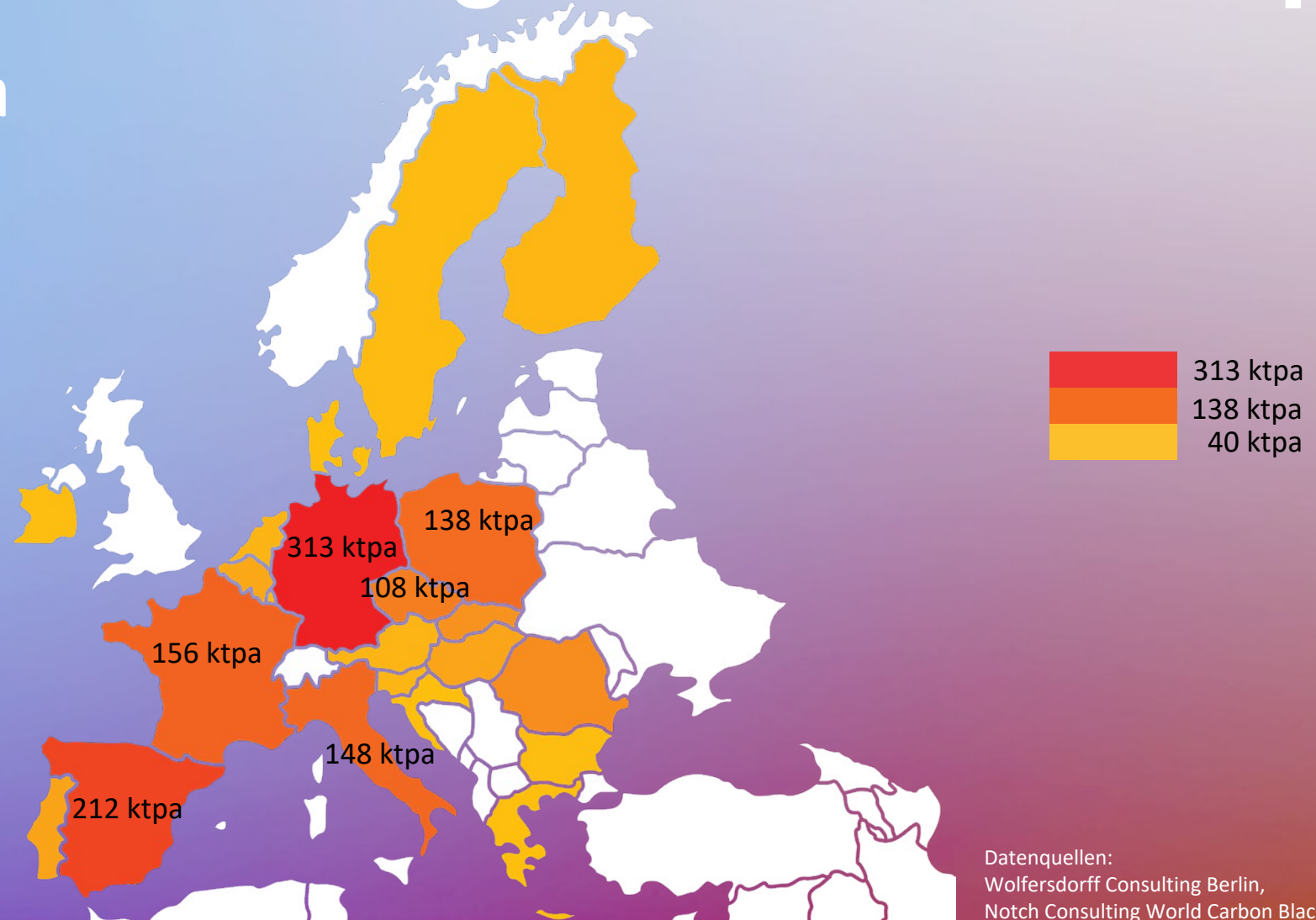
Carbon Black Kapazität '24 – 19.565 ktpa



Datenquelle: Notch Consulting World Carbon Black Databook 2023

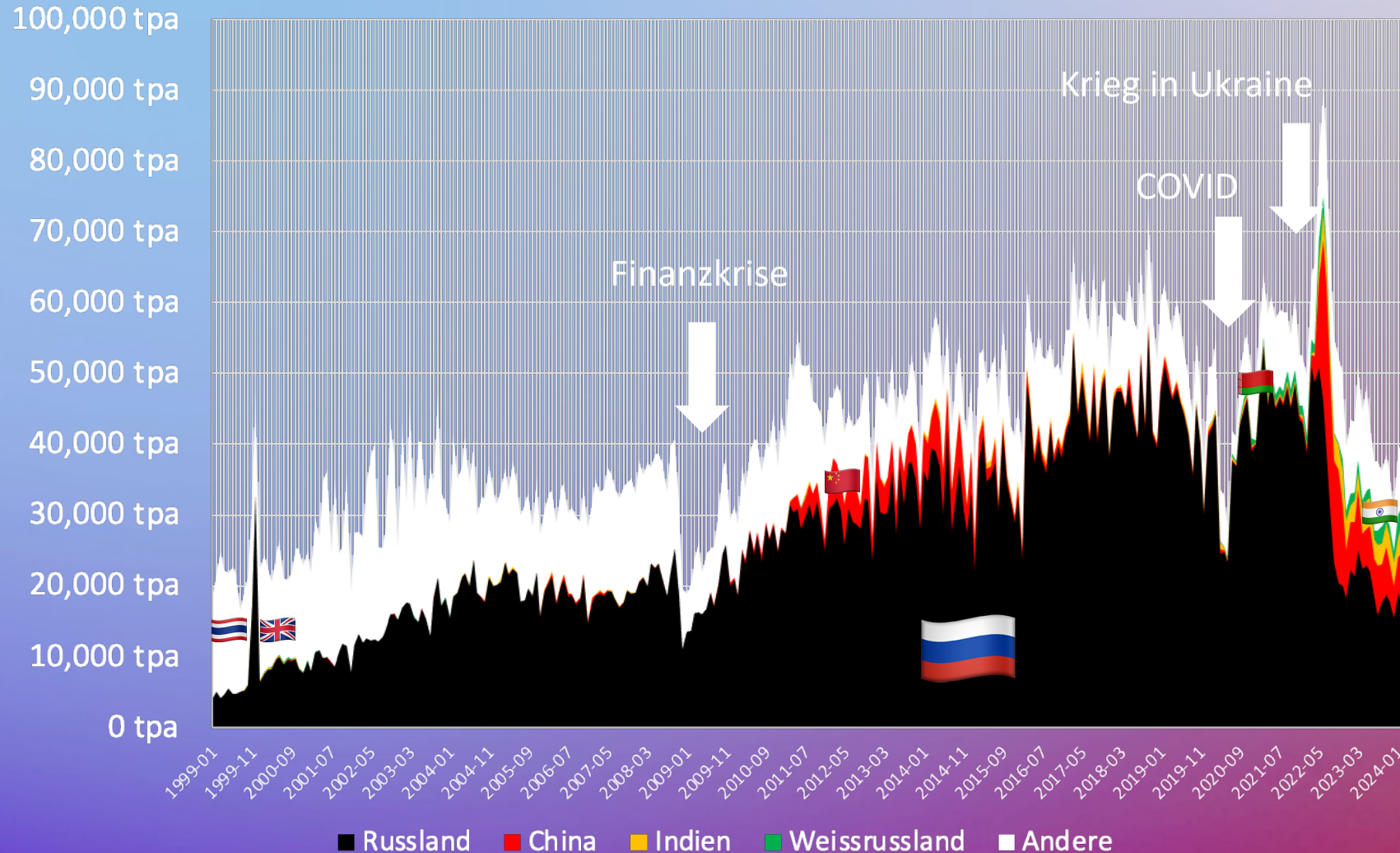
Carbon Black Nachfrage '24f – 14.870 ktpa

EU27 1.474 ktpa



Datenquellen:
Wolfersdorff Consulting Berlin,
Notch Consulting World Carbon Black Databook 2023

EU Carbon Black Importe 1999 - 2024



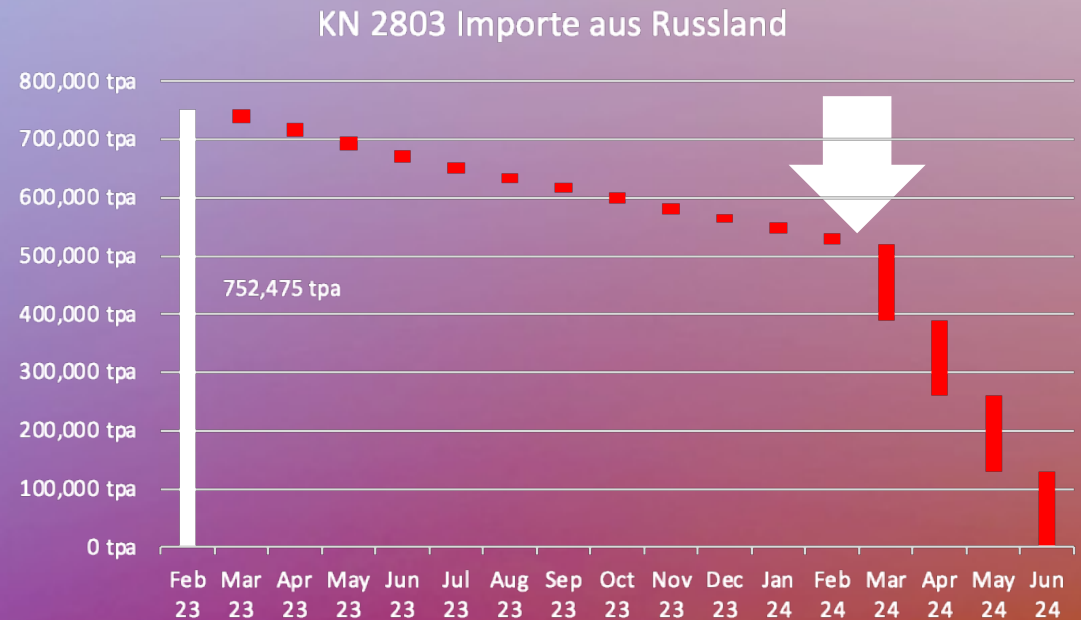
Datenquelle: Eurostat, KN Code 2803

Russland-Kontingent nicht ausgenutzt

Verordnung (EU) 2023/427 des Rates vom 25. Februar 2023 zur Änderung der Verordnung (EU) Nr. 833/2014 des Rates über restriktive Maßnahmen angesichts der Handlungen Russlands, die die Lage in der Ukraine destabilisieren

Kontingent für KN Zoll-Code
2803: 752,475 Tonnen

Datenquelle: EUR-Lex, Eurostat KN Code 2803

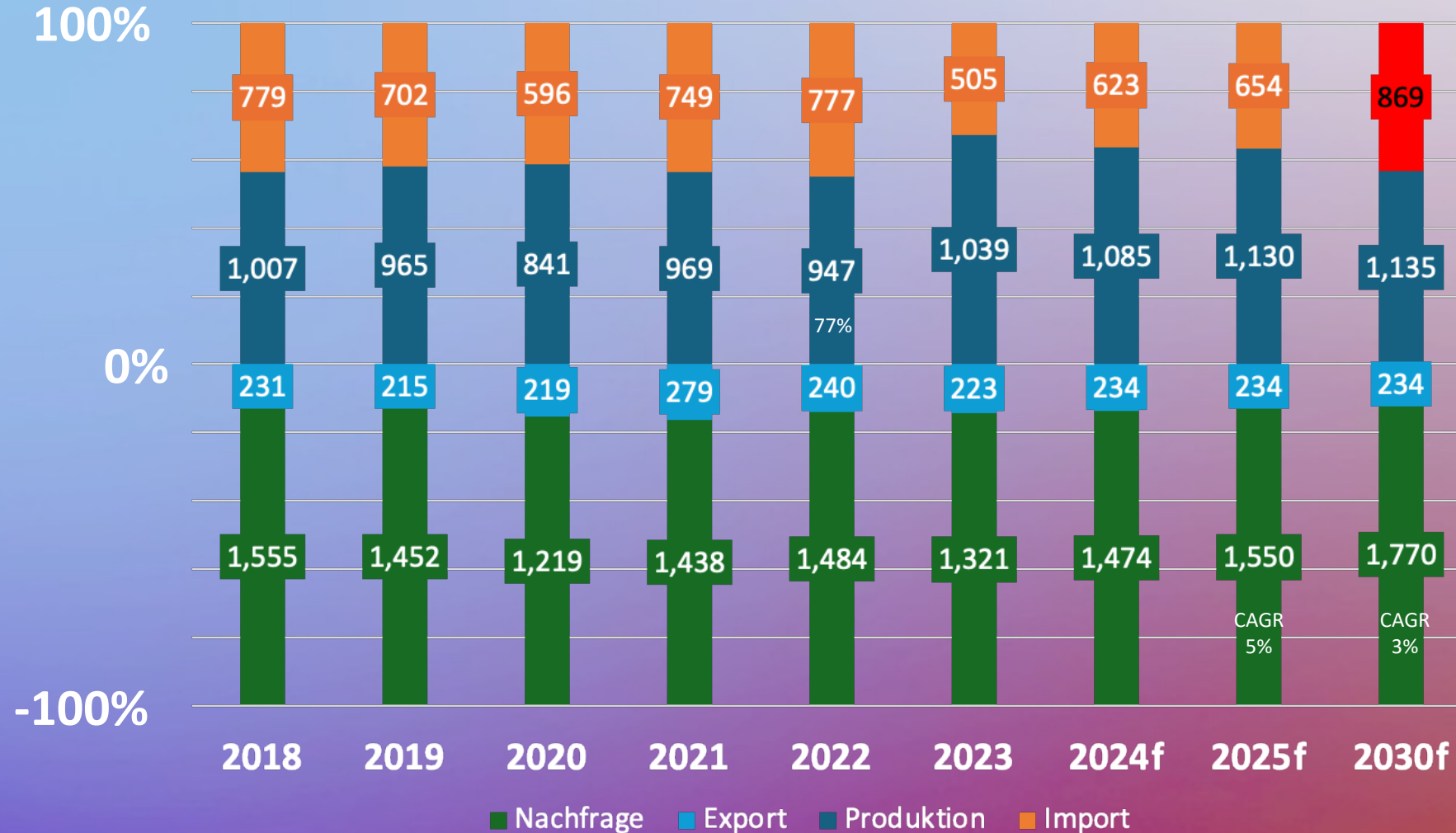


Reifenindustrie-Schließungen

Goodyear Fürstenwalde und Fulda
(~29 ktpa CB, 1.500 Arbeitsplätze)

Michelin Homburg, Karlsruhe und Trier
(~52 ktpa CB, 1.800 Arbeitsplätze)

Wann wird Carbon Black knapp?



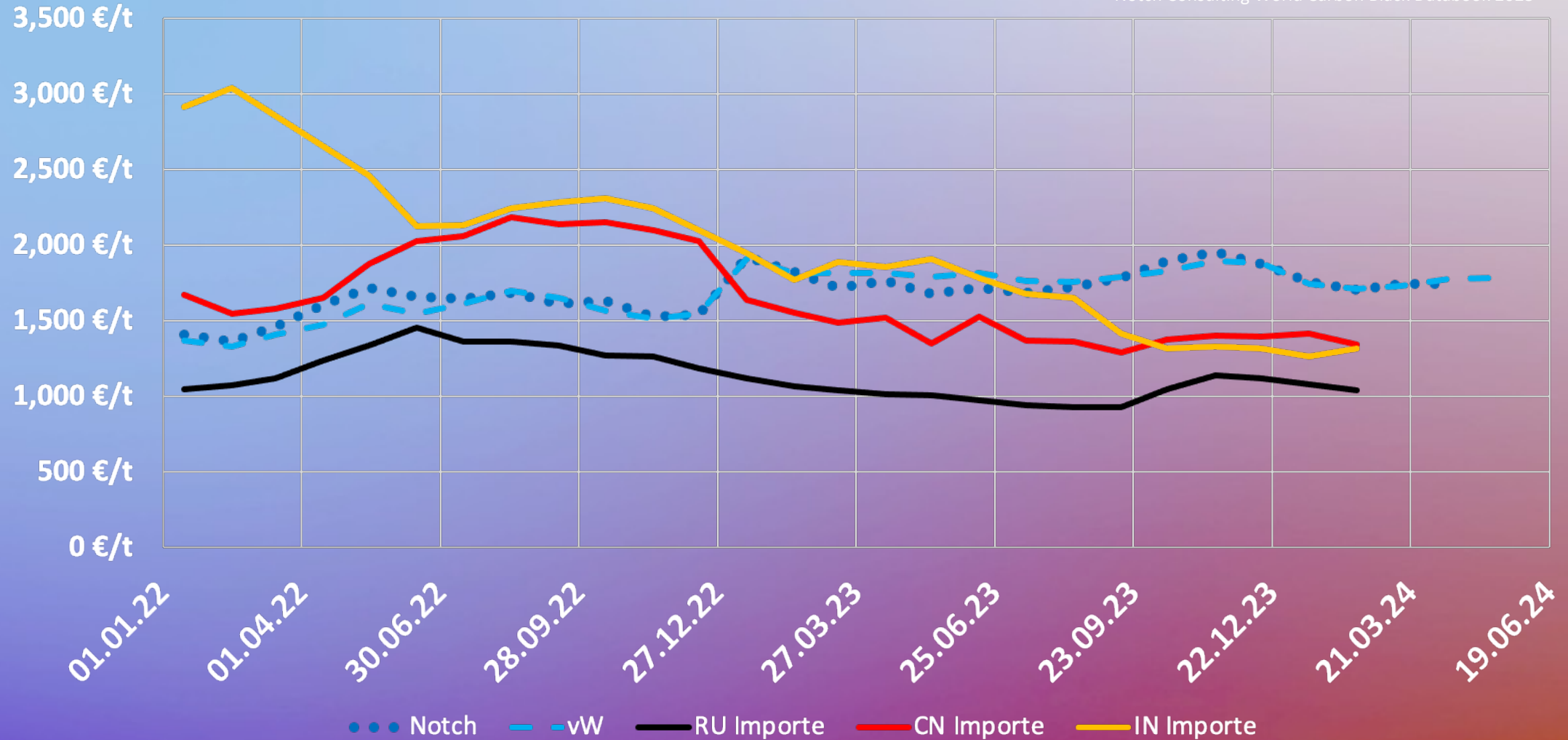
Basierend auf Daten vom Notch Consulting World Carbon Black Databook 2023, Eurostat KN Code 2803

EU Carbon Black Preise

Datenquellen:

Wolfersdorff Consulting Berlin, Eurostat KN Code 2803

Notch Consulting World Carbon Black Databook 2023



Nachhaltiges Carbon Black

- recovered Carbon Black (ASTM D36, Klassifizierung „R2426“)
- TOP Carbon Programm
- Zirkulärer Carbon Black (TPO, z.B. Massenbilanz)
- Erneuerbarer Carbon Black (Tallöl, z.B. Massenbilanz)
- Methanpyrolyse Carbon Black (Monolith)
- Dekarbonisierung als Service (Levidian, Graphen)

Nächste Veranstaltungen

- Carbon Black World (13/15. Mai), Workshop Net Zero
- rCB Konferenz EU, Amsterdam (5./6. November)
- rCB Konferenz Asien, Qingdao, China (14./15. September)

Vielen Dank! – Fragen & Antworten

