SpareBank 1 MARKETS

Market view - renewables

Comment on short-term EU ETS outlook

Was the "green bubble" the tech bubble of our time?

As tech stocks are once again feeling the pain, we find it fitting to address the frequent comparisons drawn between the tech bubble of the early 2000's and the rise and fall of renewable shares in 2020-2021

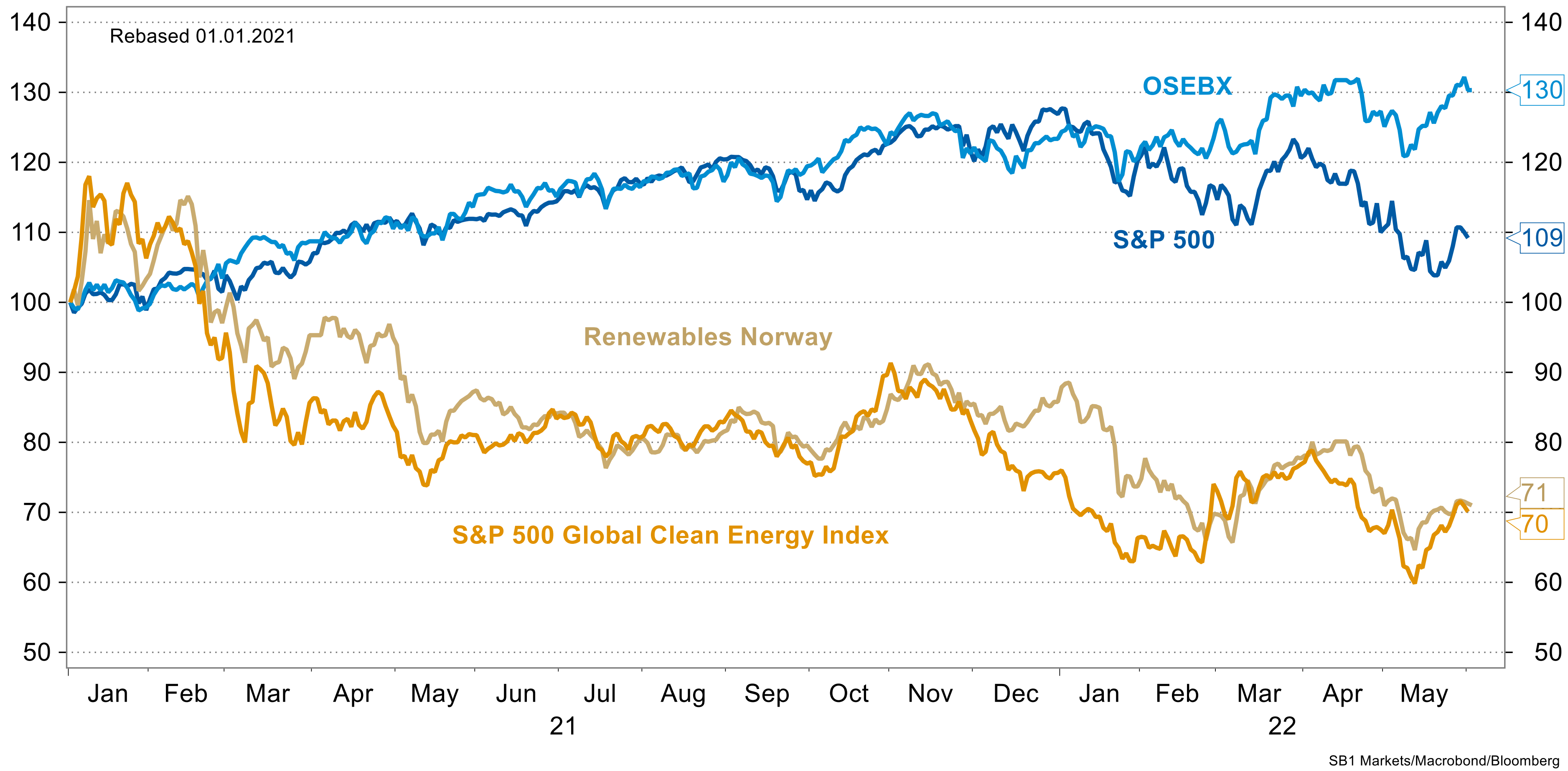
Source: ESGN Asia, Tech Pro Hub, SpareBank 1 Markets

SpareBank 1 MARKETS

Was this a “green bubble”, akin to that of the tech bubble?

Frequent readers of our weekly reports will recognize the chart below, showing the performance of renewable shares vs. the general market, in Norway and globally. Indeed, the past year and a half has been grim.

Renewables in Norway and globally vs. general market*



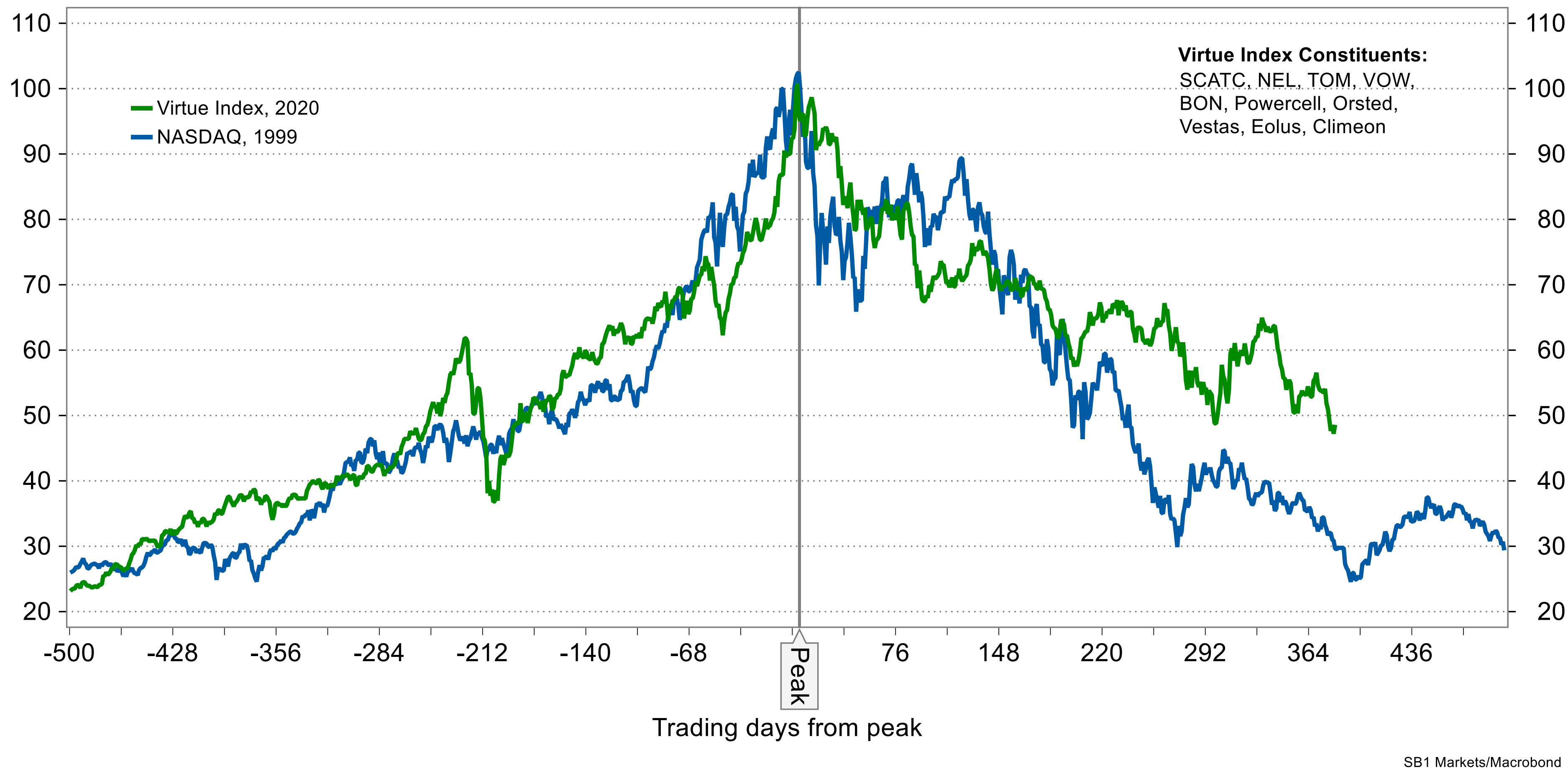
Source: Arover, SpareBank 1 Markets

SpareBank 1 MARKETS

Renewables have been on a path that certainly looks like the early 2000's tech bubble

SB1M Virtue index includes the "oldest" Nordic renewable shares

Dot.com and green boom around peak

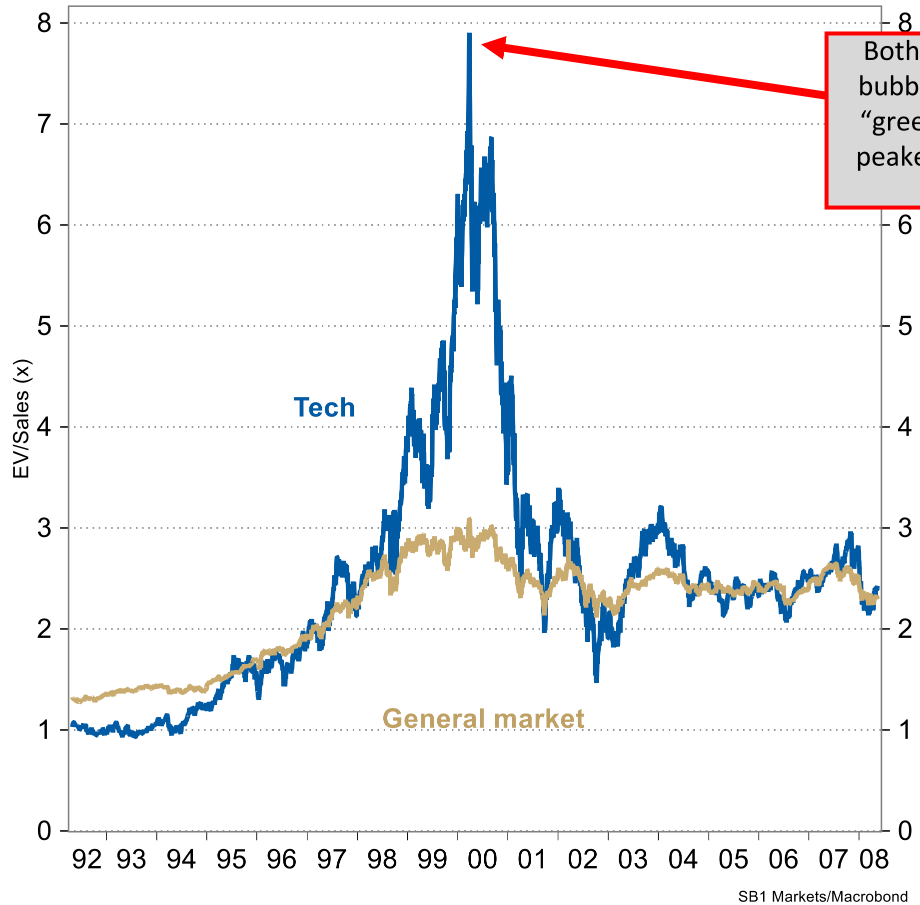


Source: SpareBank 1 Markets, Macrobond

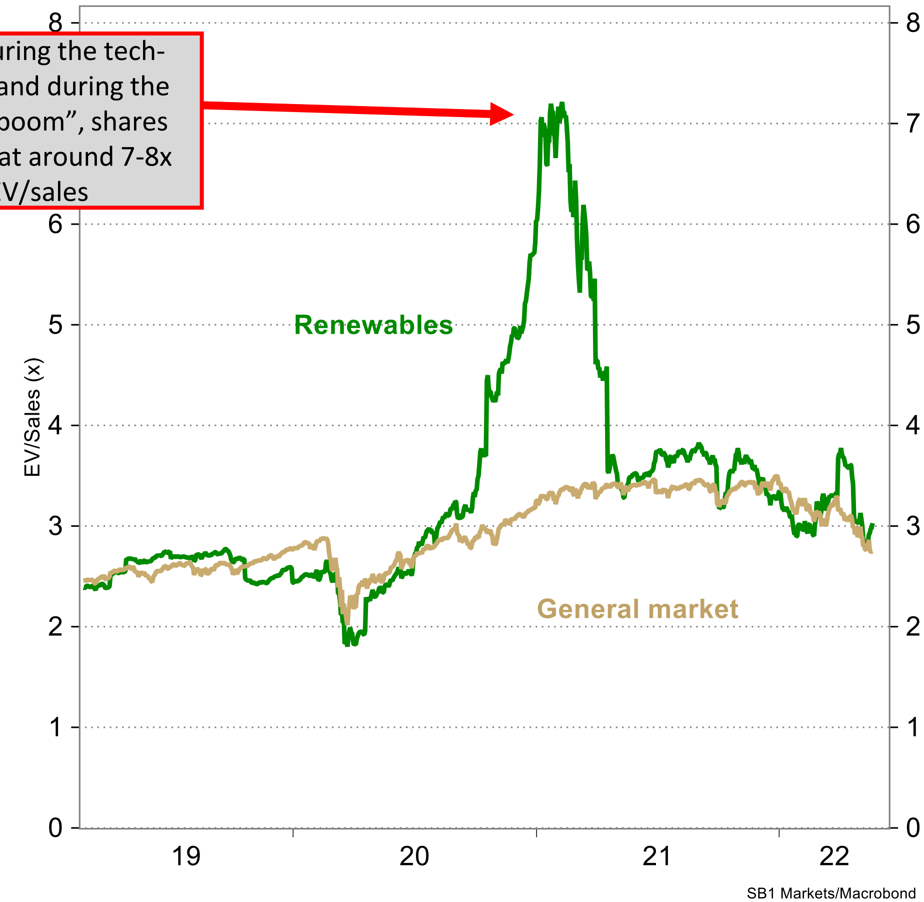
…and the resemblence is just as striking when looking at valuation

EV/Sales of renewables in 2021 peaked around the same level as that of tech stocks in 2000

EV/Sales – The Tech Bubble (12m trailing)



EV/Sales – The Green Boom (12m trailing)



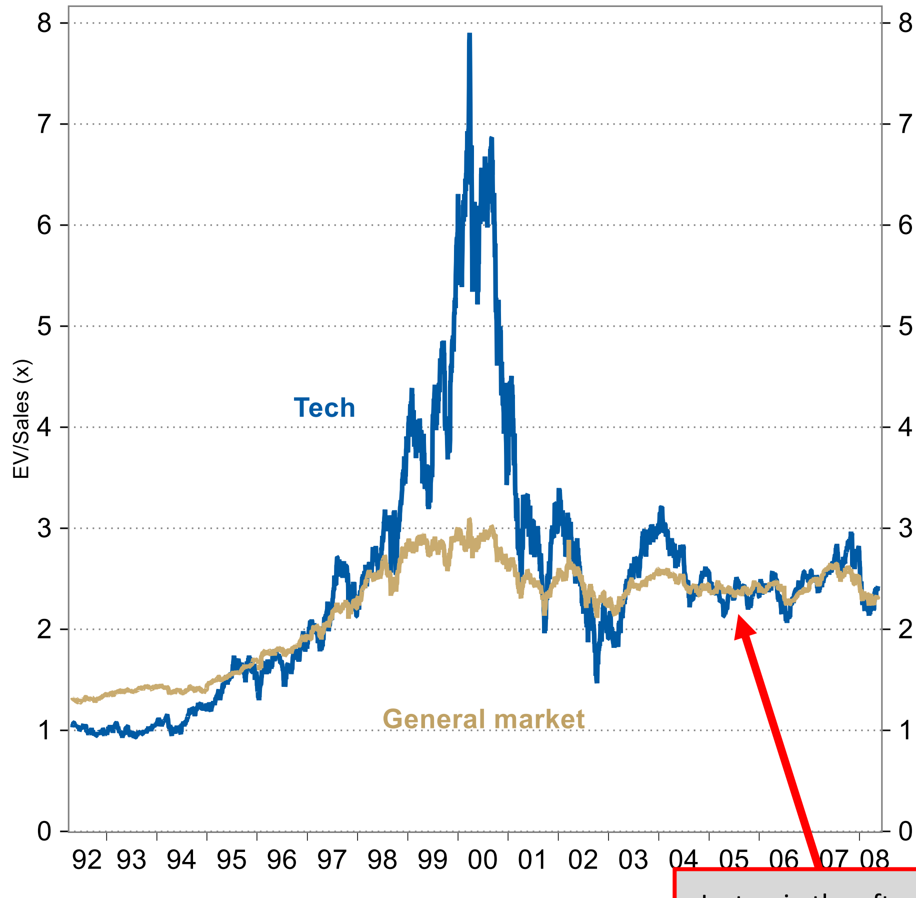
Renewables: S&P 500 Clean Energy Index
Tech: S&P 500 Information Technology Index
General Market: S&P 500

SpareBank 1 MARKETS

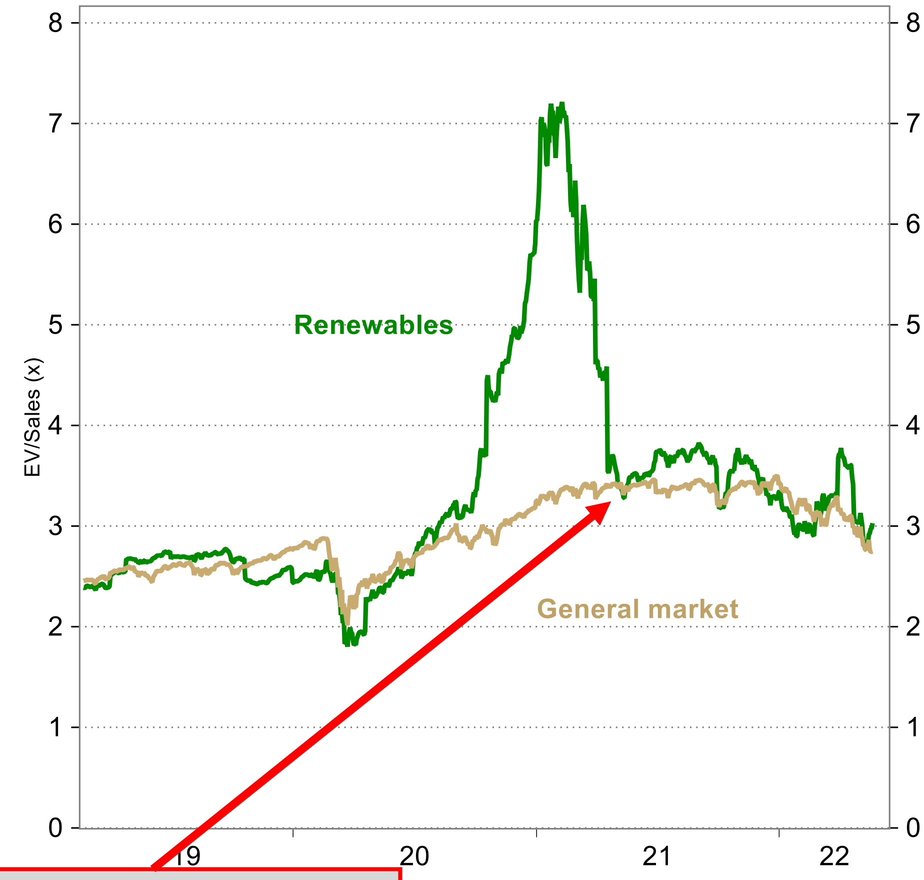
However, note that valuation is now back on par with the general market…

This is obviously somewhat simplified, as we are only looking at aggregate EV/Sales across indices

EV/Sales – The Tech Bubble (12m trailing)



EV/Sales – The Green Boom (12m trailing)



SB1 Markets/Macrobond

Just as in the aftermath of the tech bubble, valuation of renewables has come down to that of the general market.

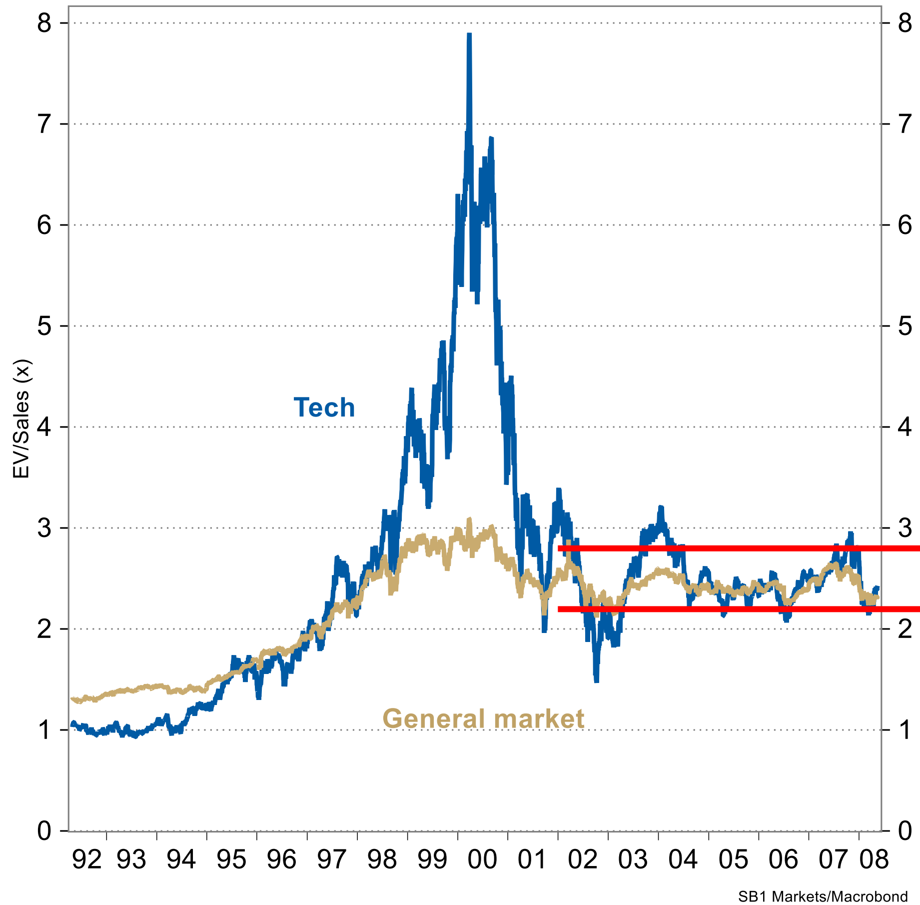
Renewables: S&P 500 Clean Energy Index
Tech: S&P 500 Information Technology Index
General Market: S&P 500

SpareBank 1 MARKETS

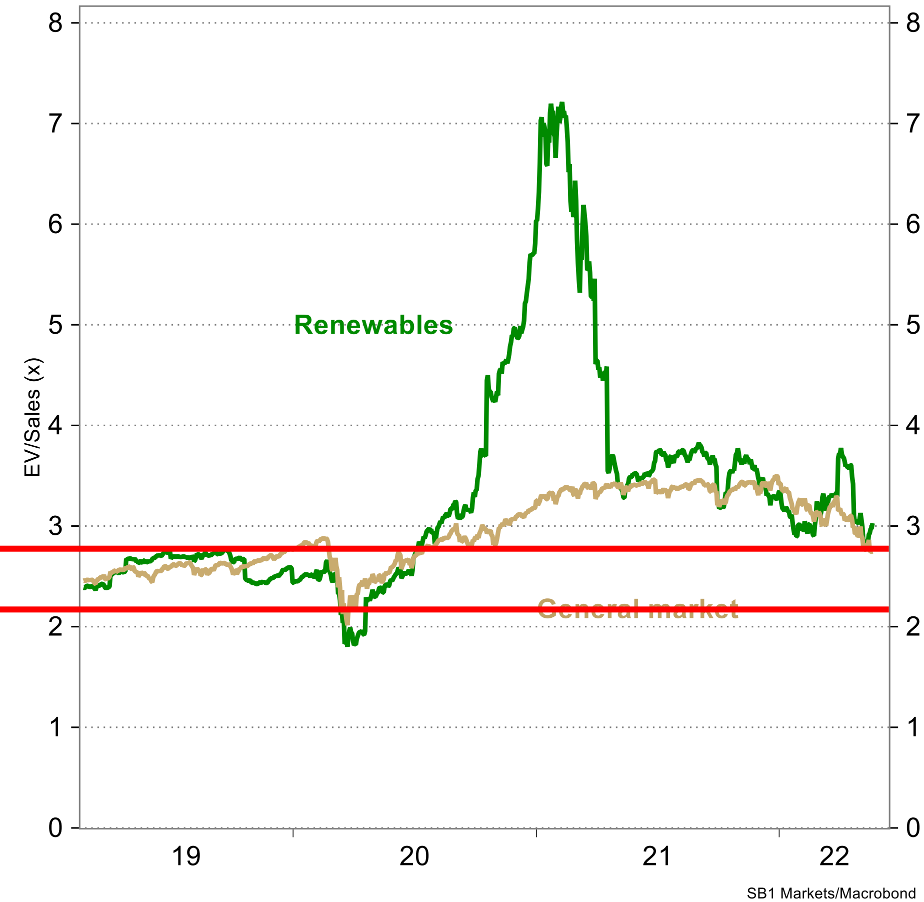
… but admittedly the general market is valued somewhat higher this time…

Hence, on the relative, renewables no longer seem overpriced

EV/Sales – The Tech Bubble (12m trailing)



EV/Sales – The Green Boom (12m trailing)



Renewables: S&P 500 Clean Energy Index
Tech: S&P 500 Information Technology Index
General Market: S&P 500

… and Fed('s model) indicate a continued soft sentiment for growth shares

The probability for a recession is 90% - and GDP will most likely decline through both '22 and '23!

Forecast Comparison

	2022		2023		2024		2025	
	Jun	**Mar**	**Jun**	**Mar**	**Jun**	**Mar**	**Jun**	**Mar**
GDP growth (Q4/Q4)	-0.6 (-3.6, 2.3)	0.9 (-0.8, 2.6)	-0.5 (-5.0, 4.0)	1.2 (-0.6, 3.1)	0.4 (-4.4, 5.3)	1.5 (-0.3, 3.4)	1.4 (-3.9, 6.5)	1.8 (-0.1, 3.6)
Core PCE inflation (Q4/Q4)	3.8 (3.3, 4.4)	2.8 (2.1, 3.6)	2.5 (1.7, 3.4)	2.2 (1.3, 3.1)	2.1 (1.2, 3.1)	2.0 (1.1, 3.0)	2.0 (1.0, 3.0)	2.0 (1.0, 3.0)
Real natural rate of interest (Q4)	0.9 (-0.4, 2.1)	0.0 (-1.3, 1.4)	0.9 (-0.5, 2.4)	0.4 (-1.1, 1.9)	0.9 (-0.7, 2.4)	0.6 (-1.0, 2.1)	0.8 (-0.9, 2.5)	0.6 (-1.1, 2.3)

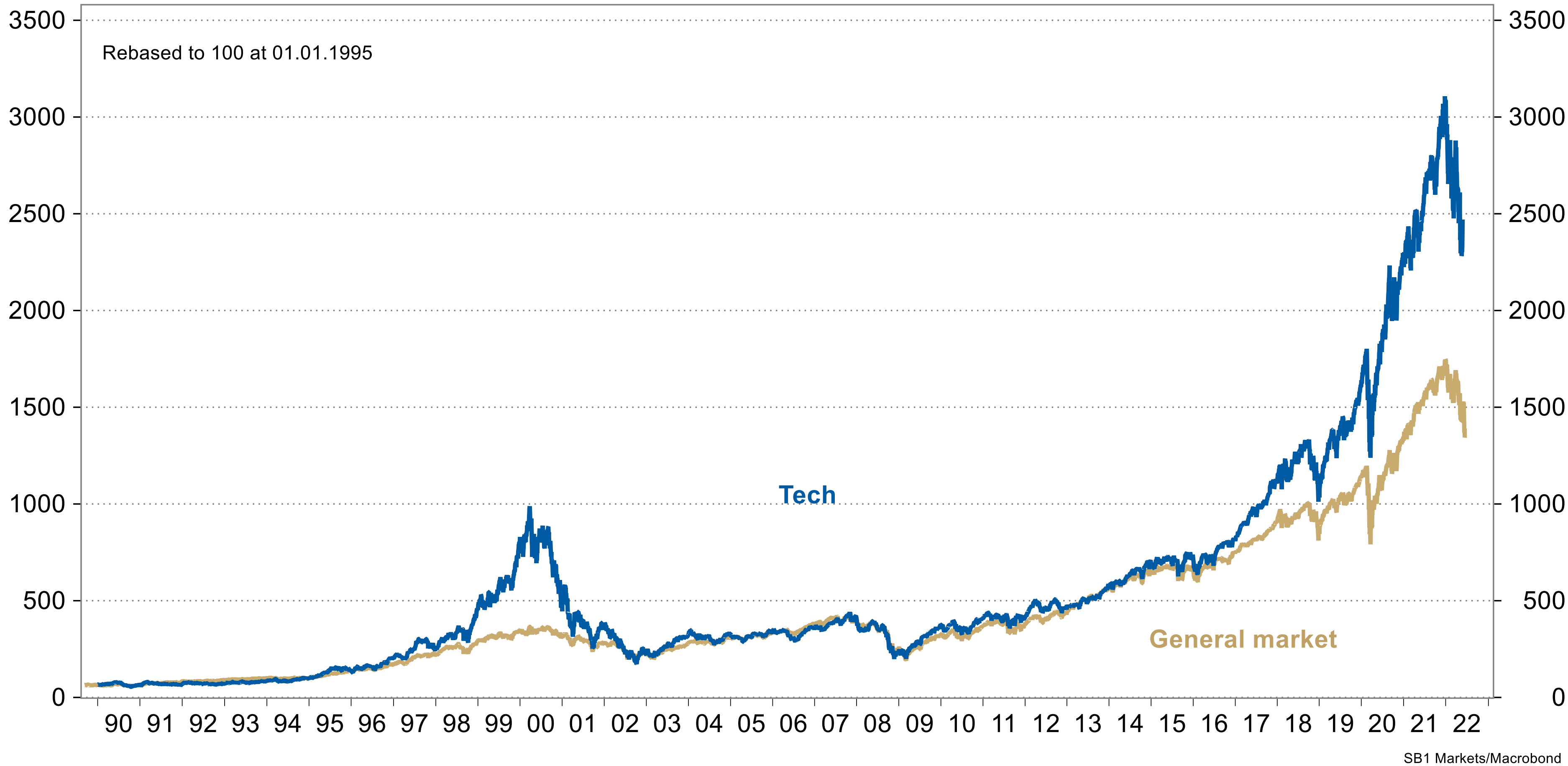
- To June from March, the centre forecast for Q4-2022 y/y GDP growth was revised down by 1.5 pp to -0.6%
- .. And the Q4-2023 y/y estimate was cut by 1.7 pp to -0.5%
- Thus, the Q4-2023 GDP level was revised down by 3.2%, and the level will be 1.1% below Q4-2021!
  - In addition, 2024 and 2025 was revised down by 1.1 pp and 0.4 pp, resp., in sum 1.5 pp. Grand total down 4.7% vs the March f'cast –
- If so, a not very deep, but a rather long-lasting recession – and a slow recovery thereafter
- The model forecast are way below the FOMC members' forecast: by end of 2023, the difference (in GDP level) is 4.5%!!

Source: FED, SpareBank 1 Markets

However, investing in the future proved wise the last time around

Tech has outperformed the general market by a landslide, despite being overvalued in 2000

Tech (Nasdaq 100) vs. general market (S&P 500) since the 1990



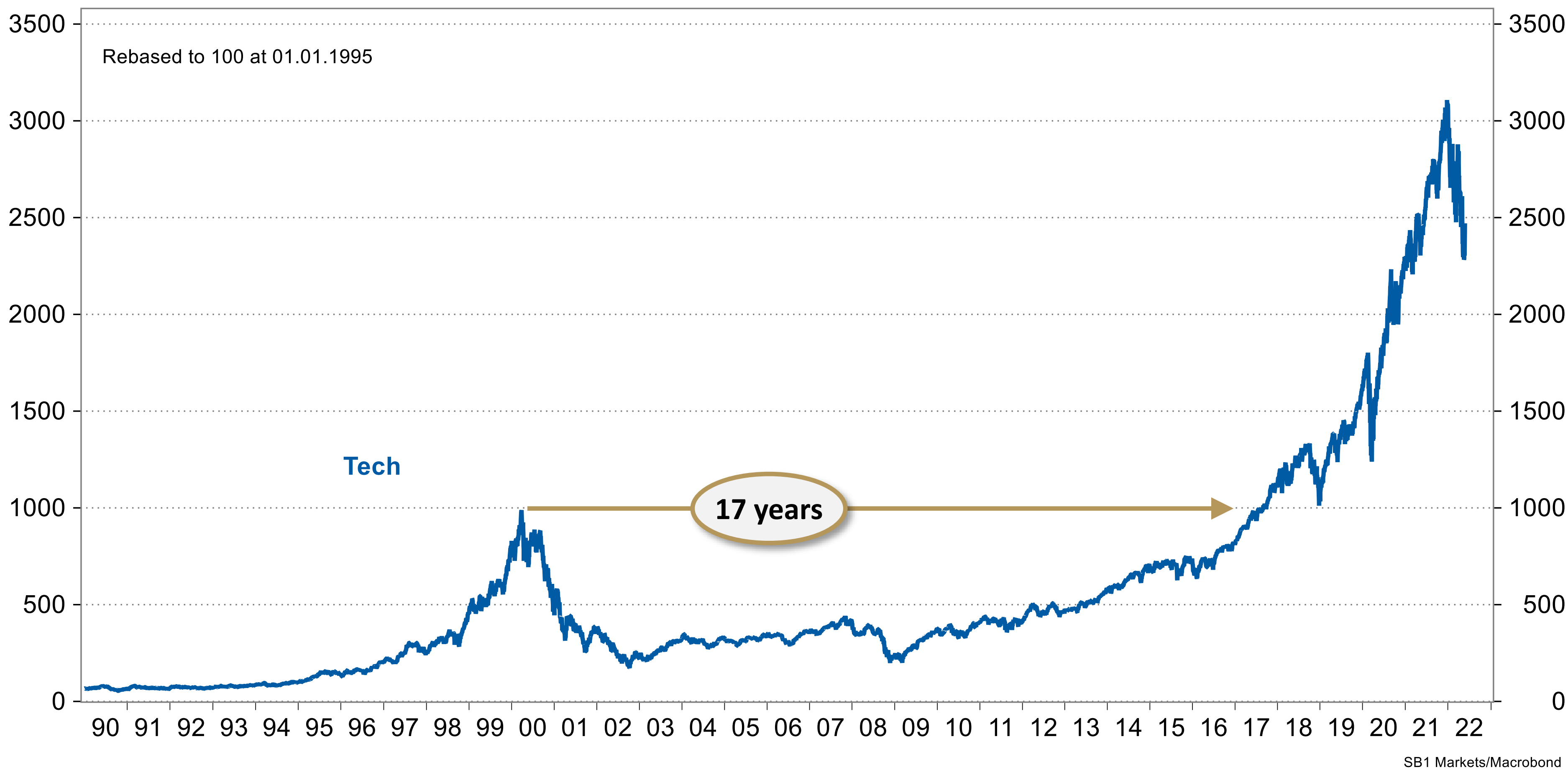
Tech: S&P 500 Information Technology Index
General Market: S&P 500

SpareBank 1 MARKETS

Then again, it took 17 years before tech stocks were back at the peak of 2000

Will it take that long for renewables to recover as well?

Tech (Nasdaq 100) since the 1990



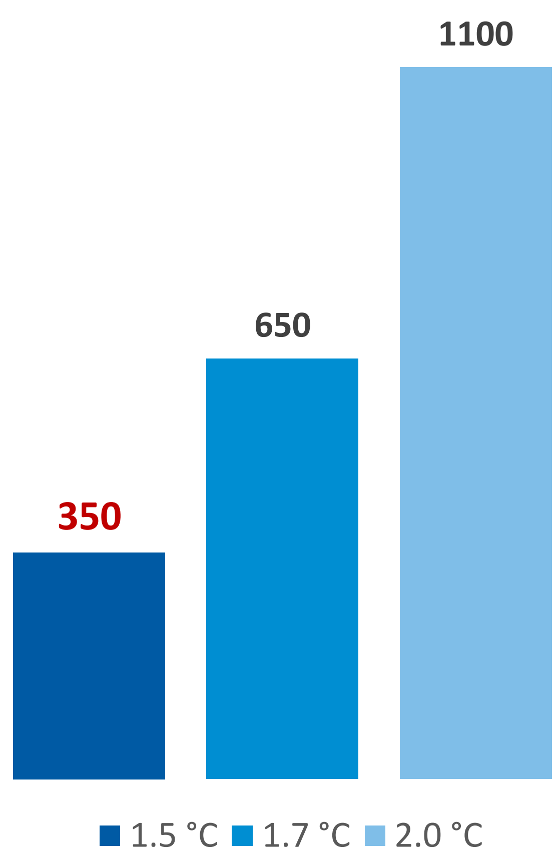
Tech: S&P 500 Information Technology Index
General Market: S&P 500

SpareBank 1 MARKETS

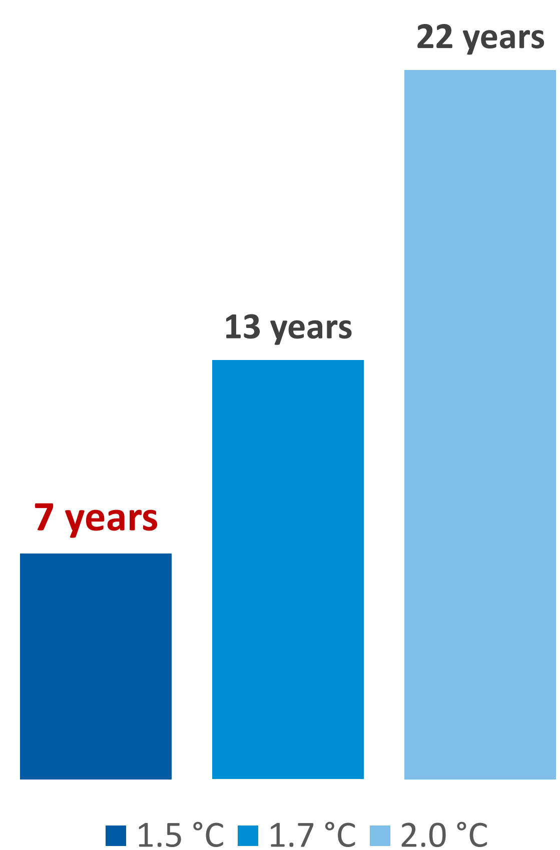
We believe <u>sound</u> renewable shares can recover more quickly

Reason 1: We are running out of time to lower emissions. This urgency was not there after the tech bubble.

Remaining CO_2 budget, Gt CO_2



Years left at current emissions run-rate (50 Gt/p.a.)



Sources: International Panel on Climate Change (IPPCC), SpareBank 1 Markets

SpareBank 1 MARKETS

We believe sound renewable shares can recover more quickly

Reason 2: Renewables are enjoying strong regulatory tailwind, as represented by rising emission costs

EU ETS CO2 price (EUR/ton)

Source: Macrobond, SpareBank 1 Markets

We believe sound renewable shares can recover more quickly

Reason 3: Irrespective of share prices, underlying momentum in various renewable sectors is rock-solid

Growth in announced renewable projects from 2020 to 2021 (by capacity)

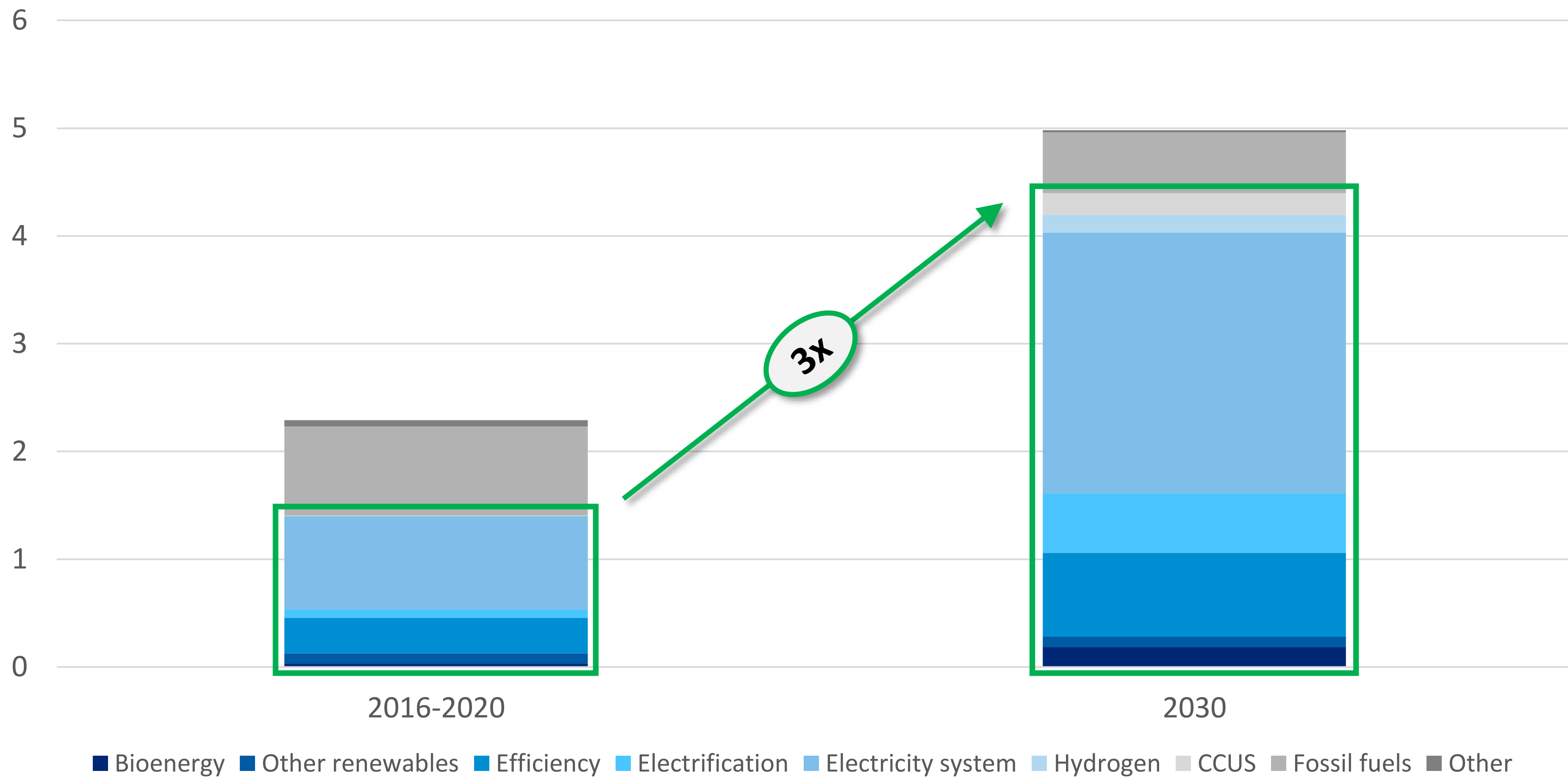
Sources: Rystad Energy; Ørsted, TrønderEnergi, Scatec, NEL

SpareBank 1 MARKETS

We believe sound renewable shares can recover more quickly

Reason 4: We are still heavily underinvested in renewables

Annual investments required per technology in IEA's Net Zero Emissions scenario, USDbn



Source: IEA, SpareBank 1 Markets

Market view - renewables

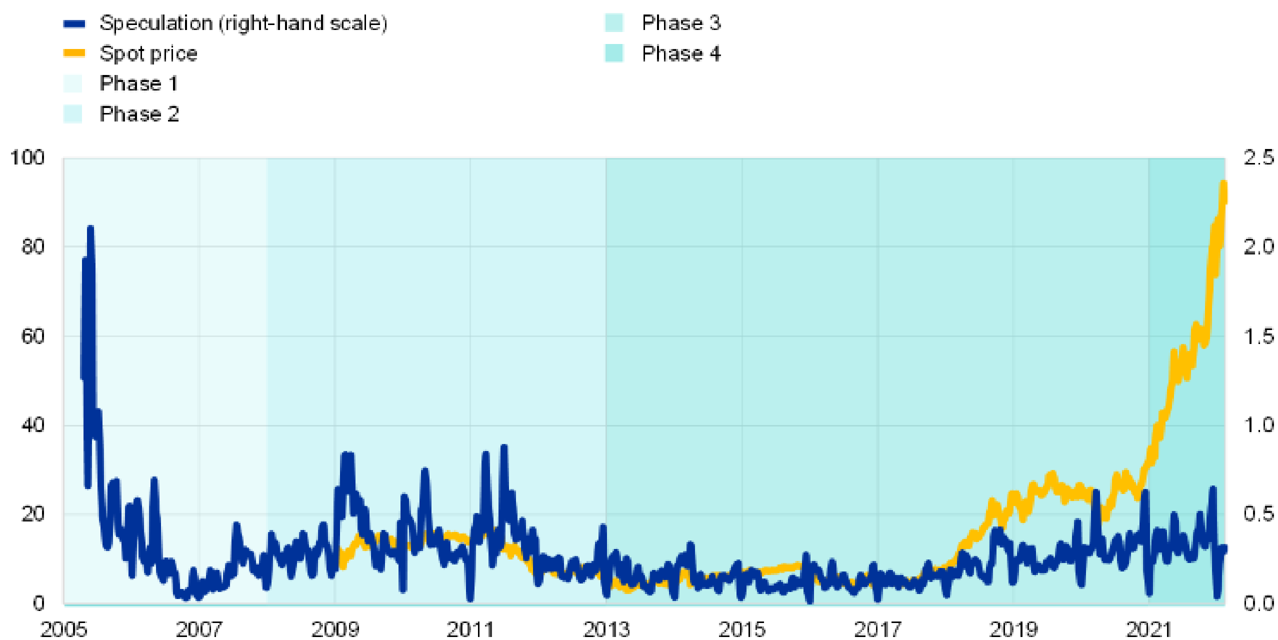
Comment on short-term EU ETS outlook

The degree of speculation in the EU ETS market is still not particularly high

This implies that actual supply/demand should be reflected in the spot price

Speculation in the EU ETS futures market

(index)



Sources: Refinitiv and ECB calculations.

Notes: The chart shows a two-week moving average of a speculation measure, defined as the ratio between the volume and open interest of futures contracts expiring in December. Volume and open interest are measured at the weekly level: for each week the cumulative volume from Monday to Friday is considered, whereas the weekly open interest is the open interest registered on a Friday. The latest observation is for 11 February 2022 (weekly data).

Comments

- A proxy for the extent of speculation in any given market can be created by dividing the traded volume by the volume of open positions.
- The reasoning behind this is that high levels of speculation leads to increased volume traded, but without a corresponding increase in the volume of open positions, since speculative positions are generally closed quickly.
- The ECB has created such a proxy for the EUA market. The conclusion is that, although speculation increased slightly as the EUA price rallied in 2018-2019, the current level of speculation is still relatively moderate, and lower than during earlier phases of the ETS.

Source: Refinitiv, ECB, SpareBank 1 Markets

Lowered economic activity may be offset by increased emissions in the power sector

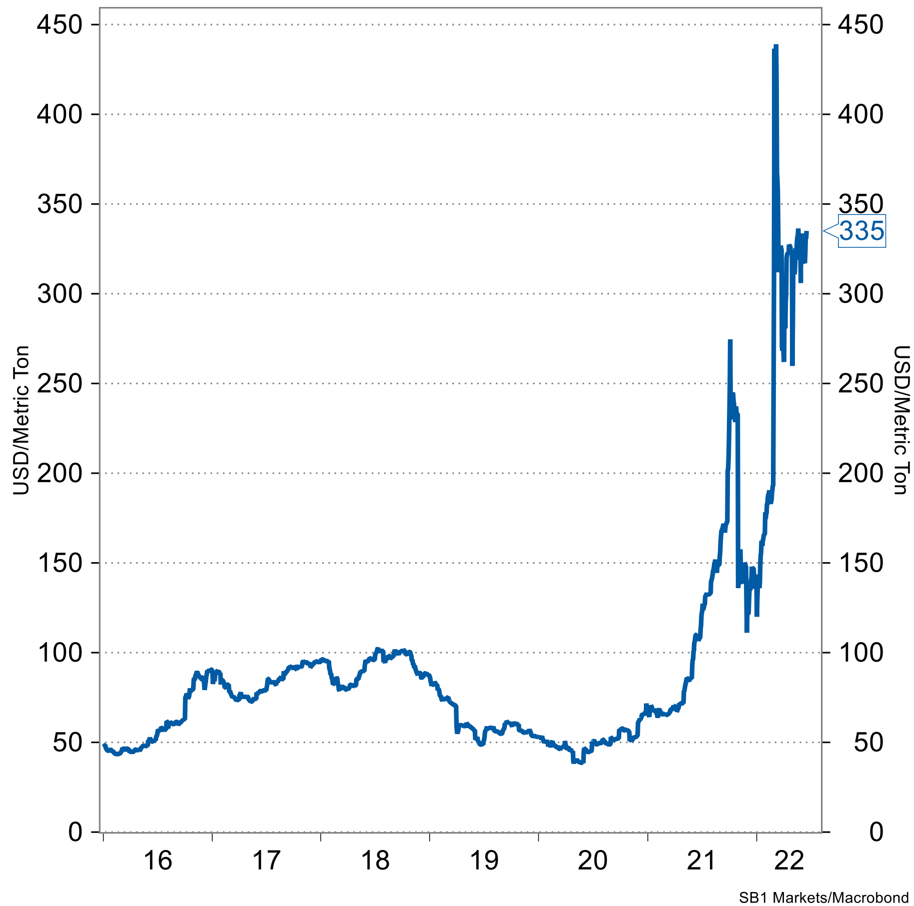
A recession will lower industrial activity and correspondingly most likely also emissions related to this

Source: Quartz, SpareBank 1 Markets

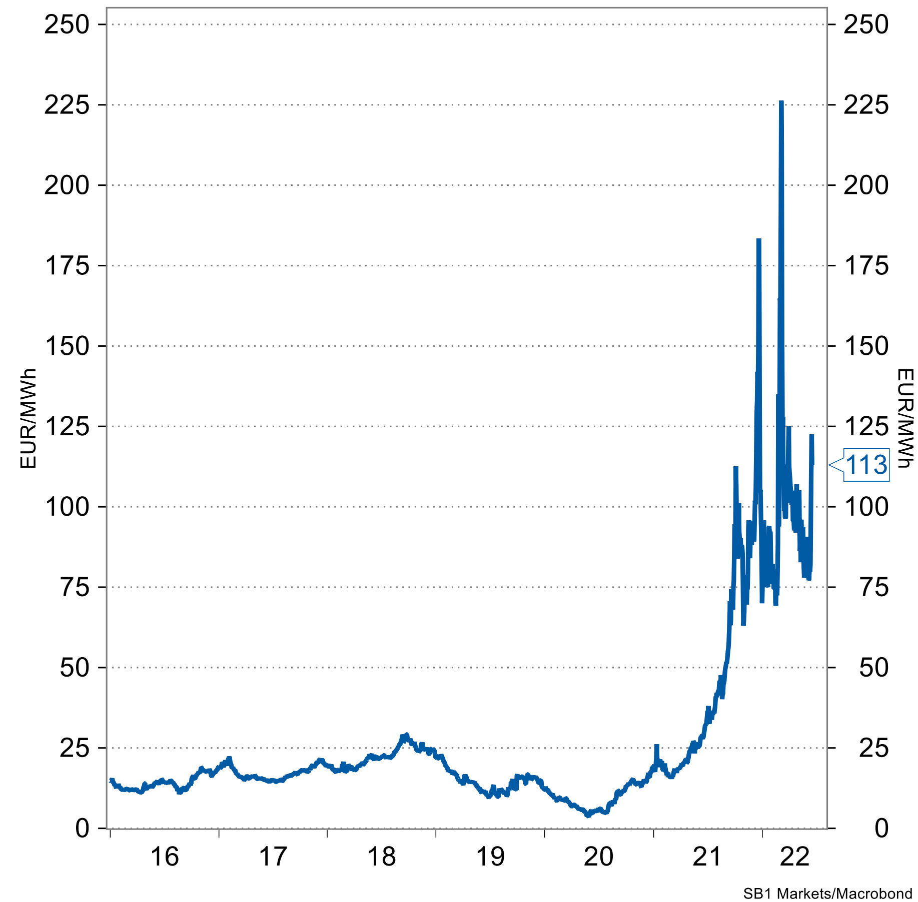
Both coal and gas prices are at extreme levels

Gas prices rallied this week, as Russia lowered supply to Europe

Coal price (Rotterdam)



Gas Price (Dutch TTF)

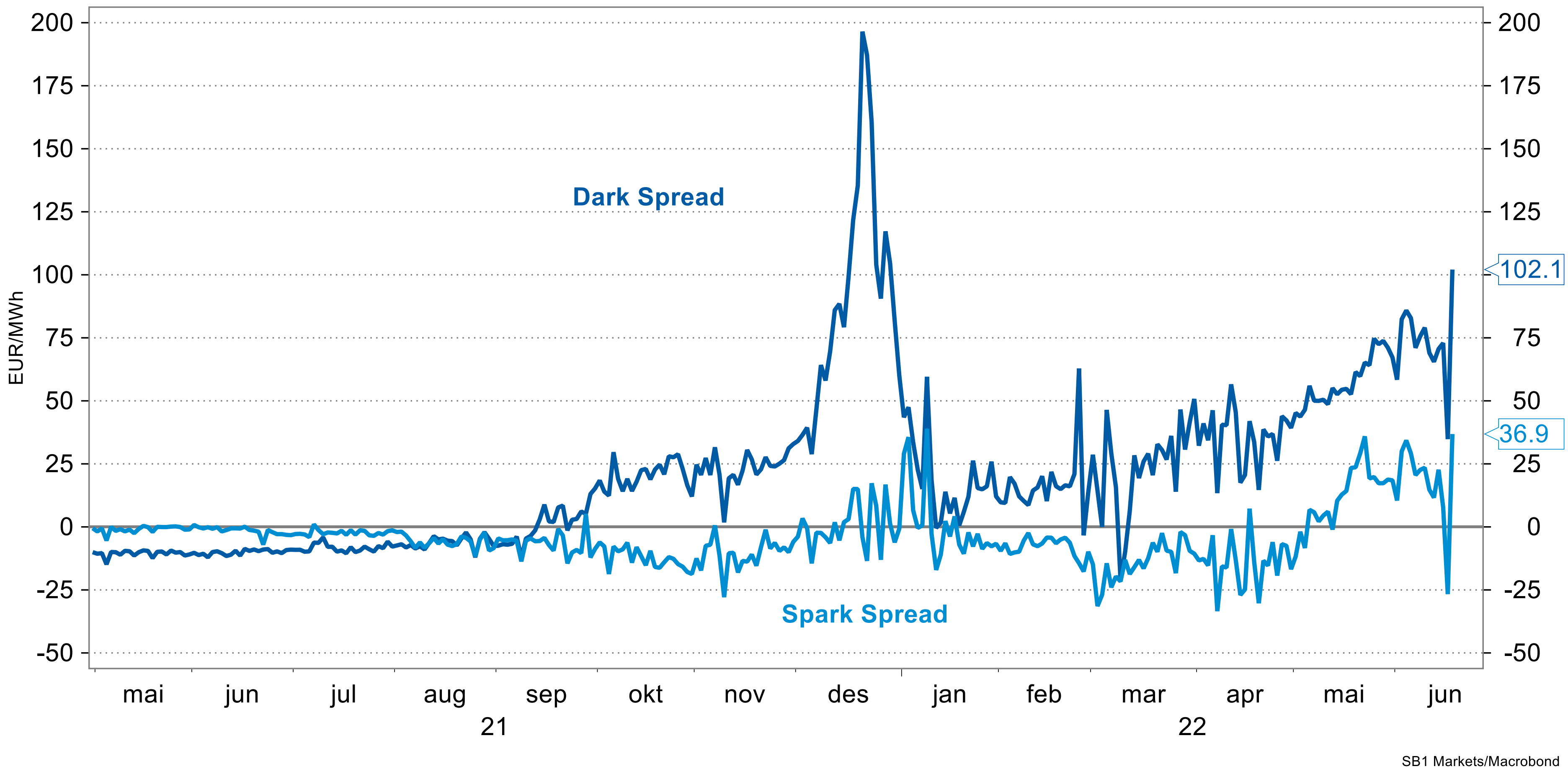


SpareBank 1 MARKETS

…but burning coal is still highly cost competitive relative to gas…

This remains supportive for the EUA price, as burning coal entails higher emissions and more demand for allowances

German Dark & Spark Spread



Note: Spark/Dark spread = the difference between the price received by a generator for electricity produced and the cost of gas/coal needed to produce that electricity
Source: SpareBank 1 Markets, Macrobond, Bloomberg

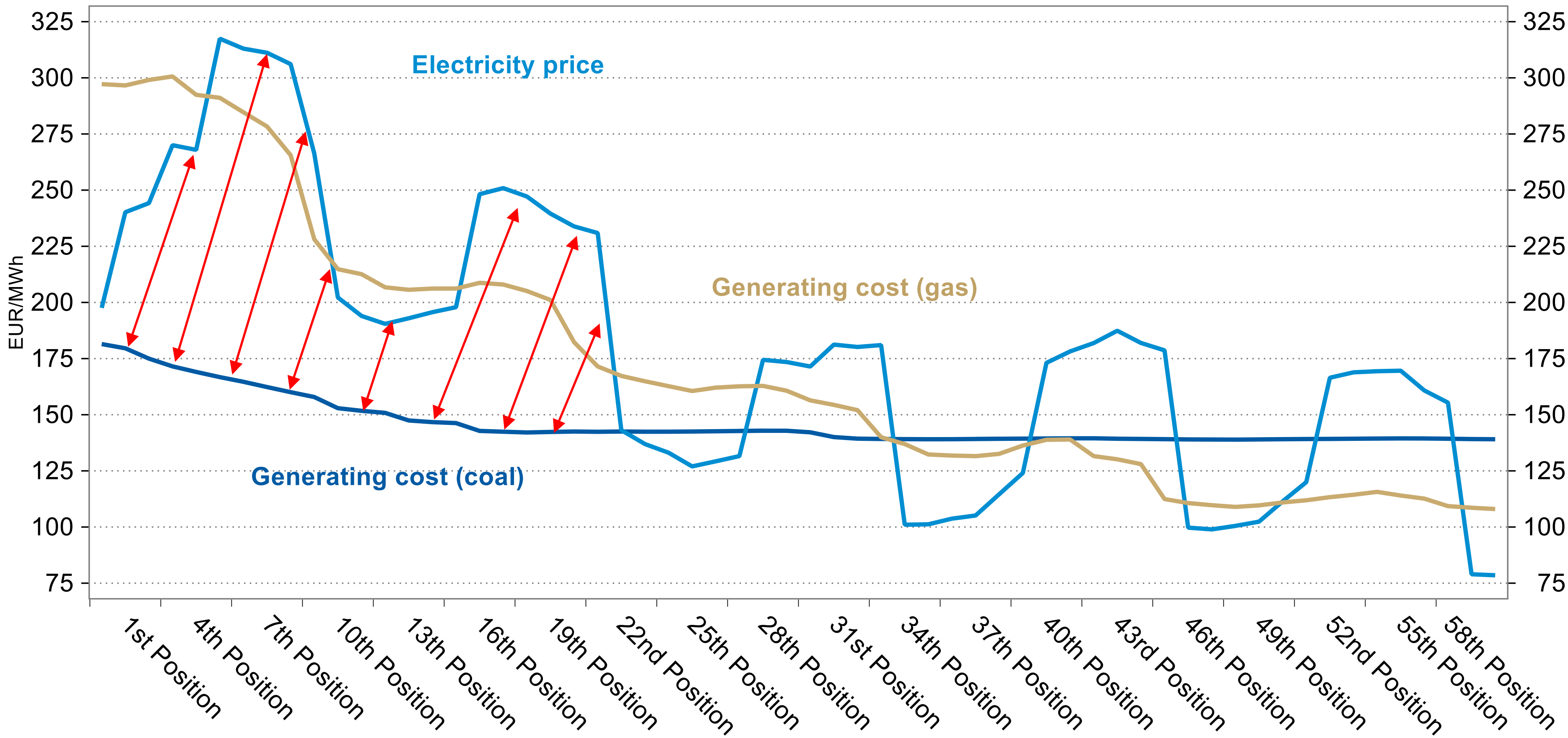
1 tonne coal ~= 3 tonnes CO_2 = 3 EU ETS allowances

SpareBank 1 MARKETS

…and the market believes coal power will be cheaper for the next two years…

Hence, emissions from the power sector are expected to remain high

Forward-looking power generation costs and power price (Germany)



SB1 Markets/Macrobond

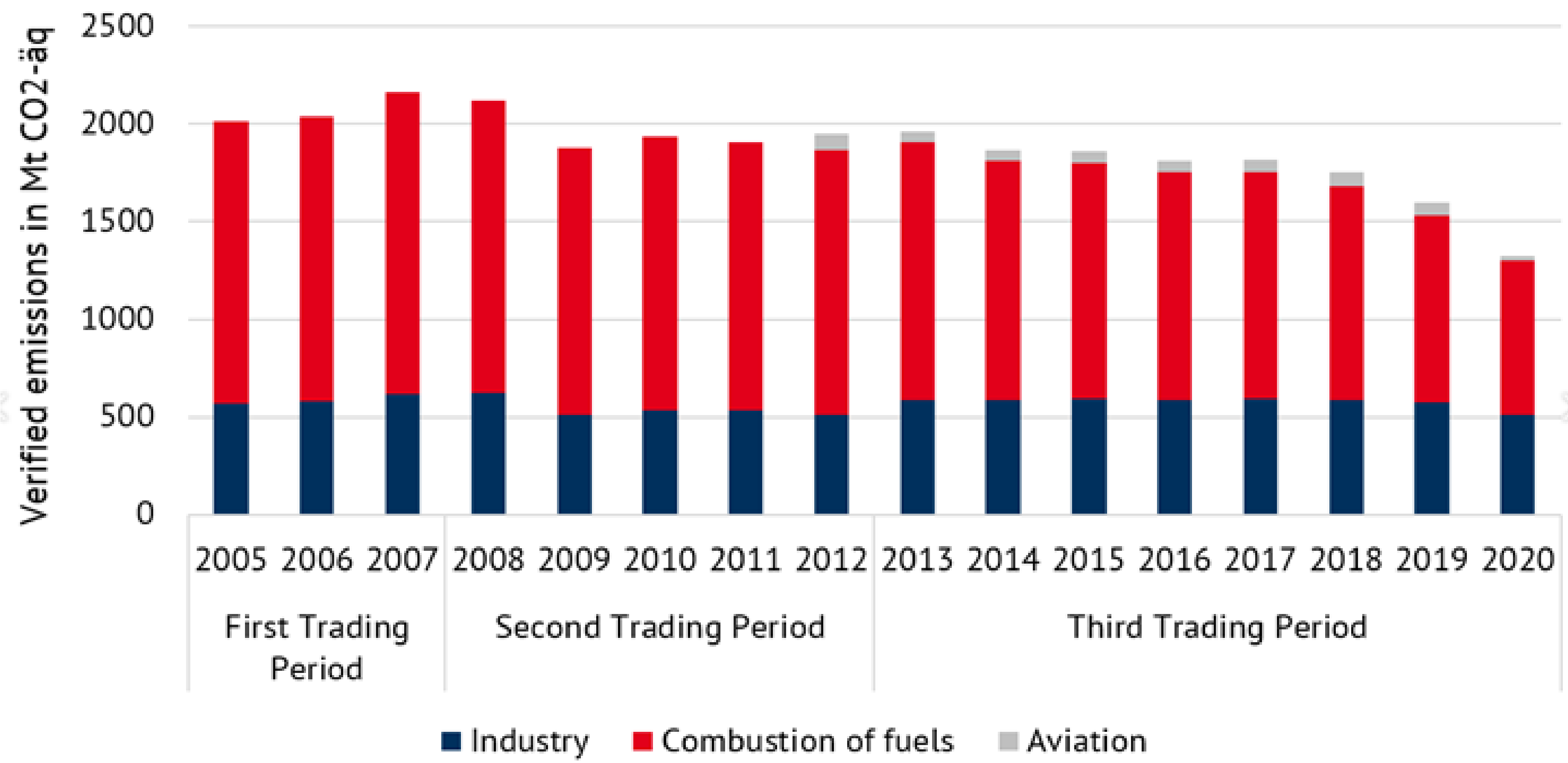
Note: The chart is based on future prices for electricity (German base), gas (Dutch TTF) and coal (Rotterdam). We assume 45% net efficiency for both coal and gas power plants. Cost of CO2 emissions (EUA prices) are included in the calculation.

SpareBank 1 MARKETS

… supportive of short-term EU ETS price as power accounts for >50% of system emissions

Combustion of fuels is *mainly* related to power stations

EU ETS emissions by source (GtCO2eq)



Source: European Commission, SpareBank 1 Markets

SpareBank 1 MARKETS

So, in our view, the >EUR80/t may remain over the next couple of years

… which should incentivize the industry to move forward with carbon capture projects!

EU ETS CO2 allowance price (EUR/ton)

Source: SpareBank 1 Markets, Macrobond, Bloomberg