



CCUS UPDATE

SCHWENK LATVIJA, BALTIC CARBON FORUM 2023

13 | 10 | 2023 | Riga

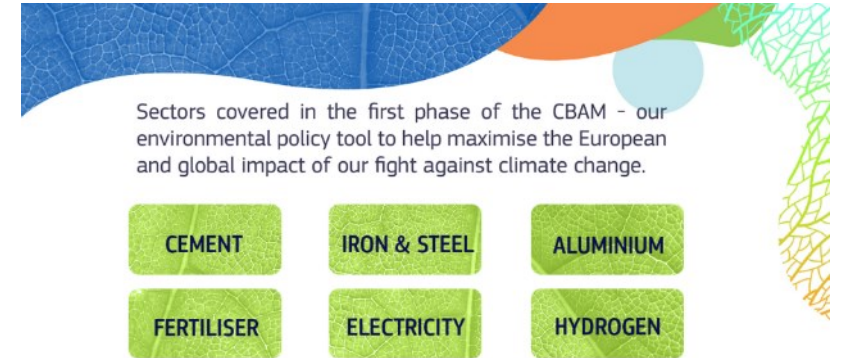


SCHWENK

WHO WE ARE

ENERGY-INTENSIVE, HARD-TO-ABATE, PROCESS INDUSTRY

- For more background – our Sustainability Report 2022
 - [SCHWENK Latvia sustainability report 2022.pdf](#)
- CBAM is in effect:
 - May 16, 2023: in EU Official Journal
 - Transitional phase started 1.10.2023.
 - First report on Q4 2023 due from importers by the end of Jan 2024
 - Financial effects as of 2026
- Net-Zero Industry Act is next
 - Includes national geological carbon storage capacity reporting
- Cement is among the hard-to-abate, CO₂-intensive sectors
 - EU ETS participant, largest in LV in 2022
 - Process emissions are ~2/3 of total
 - CEM industry: 7-8% of global human-caused emissions
 - CO₂ strategy is key to staying competitive in the CEM sector
 - CEM plant clinker lines have been closed in the Baltic region due to CO₂ costs in 2019-2020
 - Need a CC solution by 2030
- Carbon capture could massively increase our electrical power consumption
 - Monitoring several CC technological alternatives in coordination with our group
 - Possibly different methods need to be tested in parallel, to diversify technical development risk
 - Need to work on power supply upgrades
 - Last 2 years' energy price hikes
 - Renewable power supply

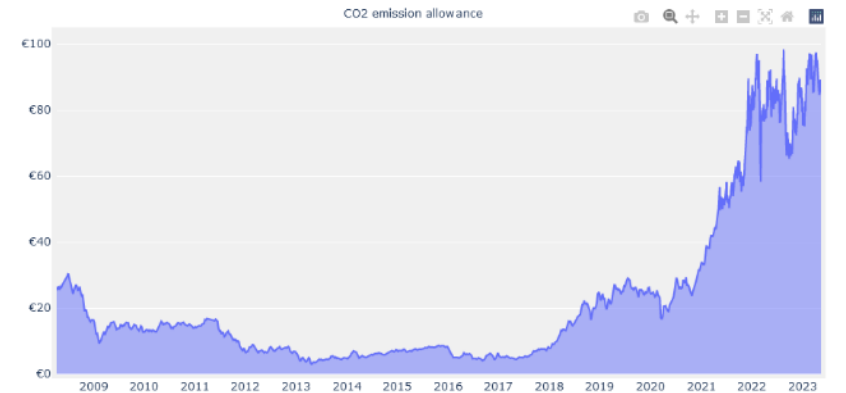


#EUGreenDeal



Source: https://taxation-customs.ec.europa.eu/green-taxation-0/carbon-border-adjustment-mechanism_en

Update: https://taxation-customs.ec.europa.eu/news/commission-consults-cbam-reporting-obligations-its-transitional-phase-1-october-2023-06-13_en

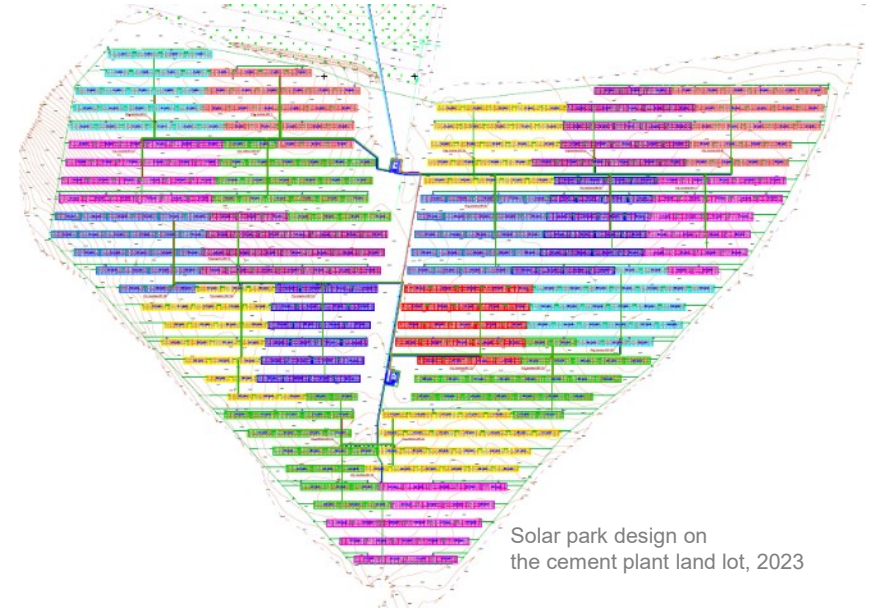


Source: Sandbag, <https://sandbag.be/index.php/carbon-price-viewer/>

WHAT IS BEING DONE AND PLANNED

INFORMAL EXPANDED ROADMAP

- Recent focus: Alternative fuels development
 - Scope 1 emissions
 - Includes process heat re-use (SRF dryer)
 - Continuous investment has ensured our competitiveness in the Baltic region
 - Diminishing returns on investment at close to 100% of the realistically achievable AF rate
- Now: Further emissions reduction measures
 - Clinker factor reduction
 - More difficult from a production technology perspective
 - CC, either process-integrated or tail-end
 - Renewable power: Scope 2 emissions, possibly improves EPDs
- First step is solar
 - Adjustability of scale; standard equipment
 - External park 6.3 / 5 MW built by September 2023: up to 5% of consumption
 - Internal park, similar capacity, to launch in 2024
 - Possibly 1 smaller DSO-connected park in 2024/25
 - Challenges with integrating PPA supply into existing power supply contract
- Medium-term target is wind
 - As public acceptance and regulations improve
 - For CC power supply



Solar park design on the cement plant land lot, 2023



Solar park near Broceni cement plant, Summer 2023

DRAFT CLIMATE LAW

WORK IN PROGRESS

- Draft Climate law:
 - Public consultation during 4.09.-18.09.2023
 - Discussion 28.09. – 12.10.2023 via https://tapportals.mk.gov.lv/legal_acts/7987de45-93fd-45e3-ac4c-948251c622d9
 - Sets an emissions reduction target -17% by 2030 (vs. 2005) in energy, transport, industry, agriculture, waste management
- No separate CC target, though CCU is now allowed
 - Articles 44 and 45
 - «Capturing, transporting, storing and using carbon dioxide is allowed in the territory of Latvia. [...] geological storage of carbon dioxide in geological structures, as well as in the vertical water layer is prohibited.»
 - We have submitted a joint letter asking to change the wording from an *a priori* geological CS prohibition to at least allowing geological research, to enable informed decision-making regarding CS.
 - The annotation to Article 44:

The prohibition is set taking into account that special research to assess the suitability of underground structures for the safe storage of carbon dioxide has not been performed.

*At the same time, by this draft law, it is determined to **develop a conceptual report** and a decree by the Cabinet of Ministers (§ 8 of the transitional regulations) **in order to decide on further actions regarding the geological storage of carbon dioxide in the territory of Latvia**, its exclusive economic zone and the continental shelf.*
- Our perspective: new primary research, up to CO₂ test injections, is needed to make informed policy decisions
- Net-Zero Industry Act may require further updates to the Climate Law and its subordinated legal enactments
 - Target 50 mta storage in the EU by 2030
 - Member states to
 - Enable CO₂ storage permit applications with max 18 months processing (Article 13)
 - Within 6 months as of NZIA adoption to submit to the EC prospective CO₂ storage sites (Article 17)
 - Within 3 months to publish where in the member state CO₂ storage can be permitted



**FOR FUTURE
GENERATIONS**



**MORE THAN THE
SUM OF OUR PARTS**



**TWO STEPS
AHEAD**