Borsa Italiana

Digital Italian Sustainability Week

1-3 July 2020

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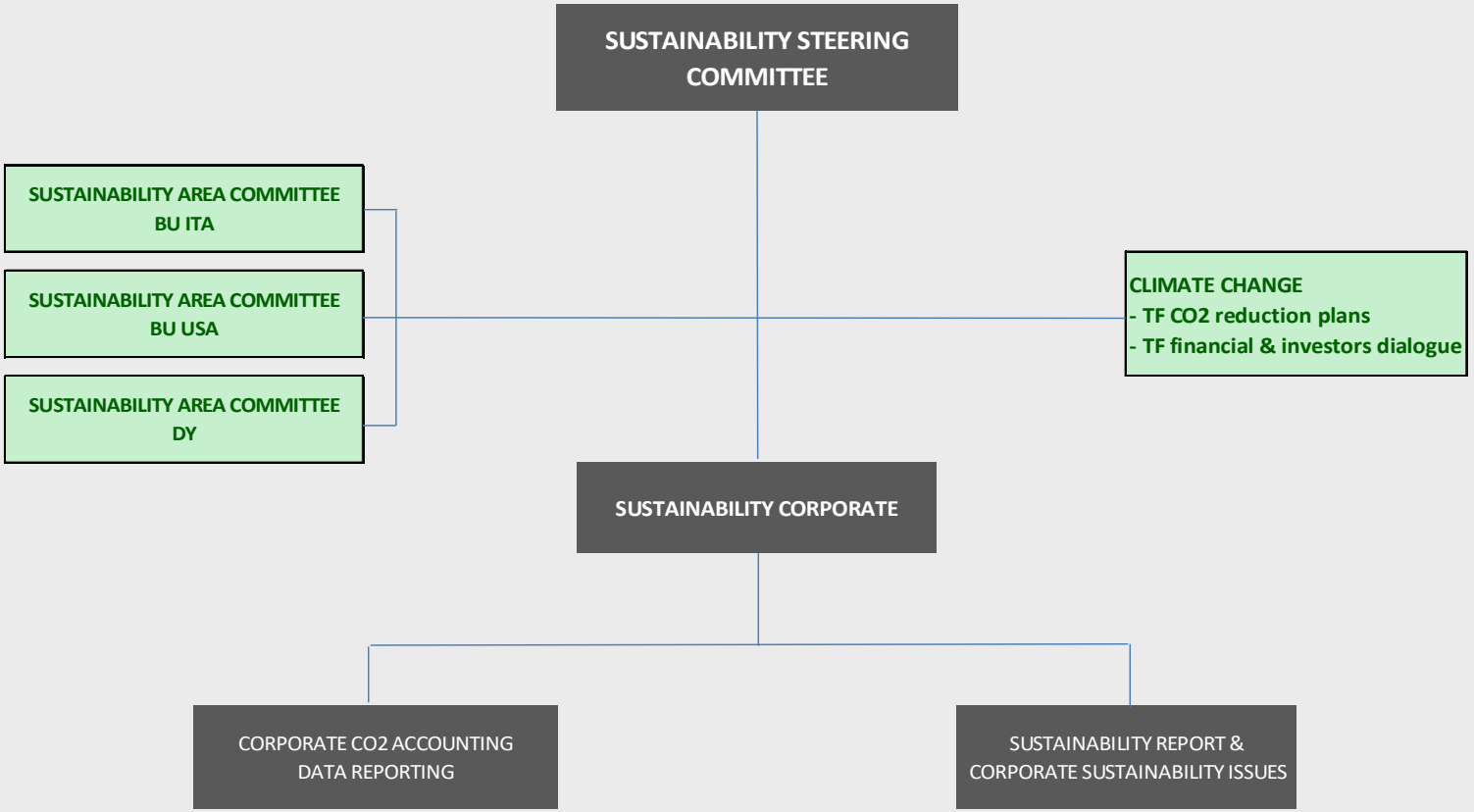
Executive Summary

- Cement and concrete: global market development
- Main challenge: climate change and the transition to a low carbon economy
  - European Green Deal
  - EU ETS phase IV
  - Carbon Border Adjustment
- Focus on CO_2 emissions

Buzzi Unicem ESG organization



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Cement and concrete: global market development

The world's population is expected to increase by 2 billion persons in the next 30 years, from 7.7 billion currently to 9.7 billion in 2050, according to a new United Nations report launched in 2019.

This will be accompanied by rapid urbanisation. The need for buildings and infrastructure continues to grow worldwide…

Estimated worldwide cement production in 2019 was 4,2 billion*, half of which in China.

Forecast production in 2030 is expected to be around 4,8 billion.

EU construction sector in 2018 accounted for Eur 1,6 trn (9% of GDP)

* *source: www.statista.com*

Main challenge: climate change and the transition to a low carbon economy

The reduction of manmade CO_2 emissions is key for achieving the Paris Agreement's climate goal signed by almost all countries worldwide.
Cement production is estimated to contribute for about 6% of global anthropogenic CO_2 emissions.

EU is strongly committed.

- European Green Deal
- EU ETS system (phase IV)
- Carbon Border Adjustment

European Green Deal: How EGD impacts on our industry

CLIMATE & ENVIRONMENT	• CLIMATE NEUTRALITY BY 2050 • CIRCULAR ECONOMY • BIODIVERSITY
MARKETS	• SUSTAINABILITY PRODUCT • LOW CARBON PRODUCTS • GREEN FINANCE (TAXONOMY)
COMPETITIVENESS	• CARBON BORDER ADJUSTMENT

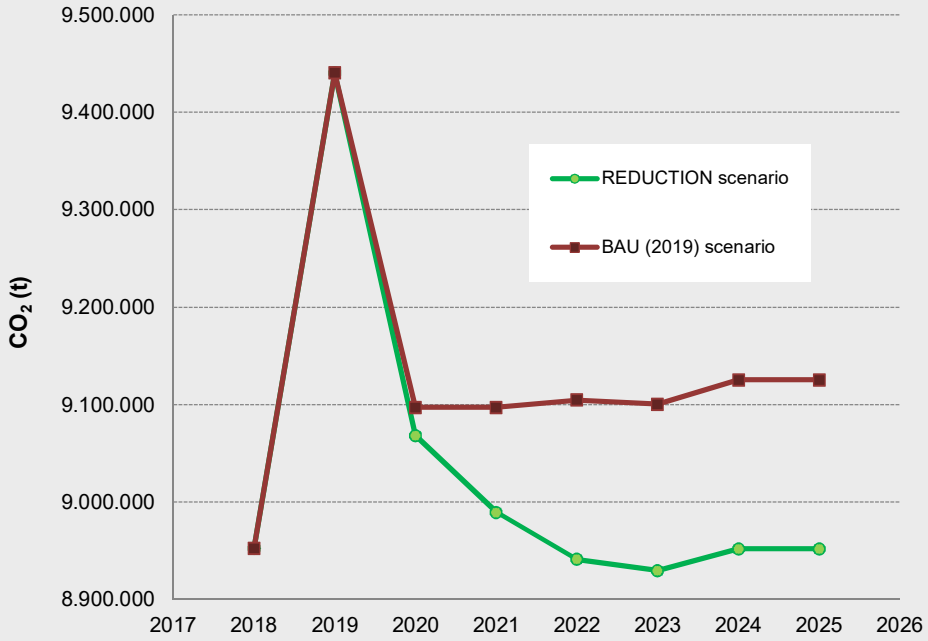
EU ETS phase IV (2021 – 2030)

HAL_1	⇒	(2021 – 2025) based on 2014-2018 production
HAL_2	⇒	(2026 – 2030) based on 2019-2023 production
Dynamic allocation adjusted.	⇒	yearly correction based on RA of 2 precedent years. Rule of >/< 15% HAL
Benchmark	⇒	(tbd by 2020 end) likely 706 Kg CO_2/t clk
Electricity indirect compensation	⇒	today cement excluded
Linear Reduction Factor	⇒	(2,2%)
Cross-Sectoral Correction Factor		

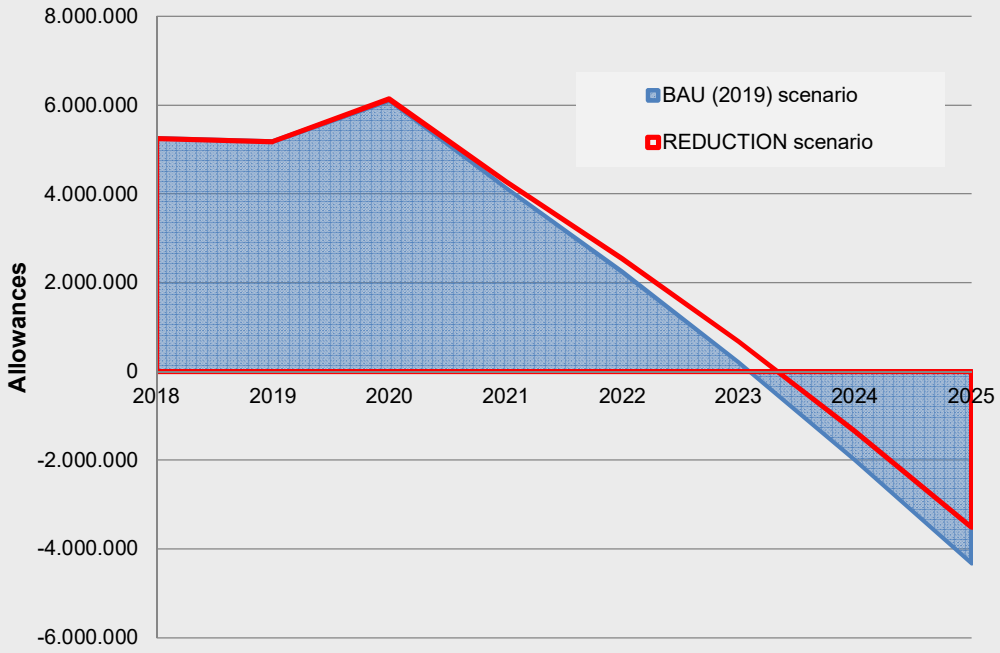
EU ETS phase IV (2021 – 2030)

Estimated trend **first half** phase IV period
(reduction scenario includes CO_2 reduction projects and >/< 15% rule)

BU area ETS
CO_2 emissions



Allowances net balance



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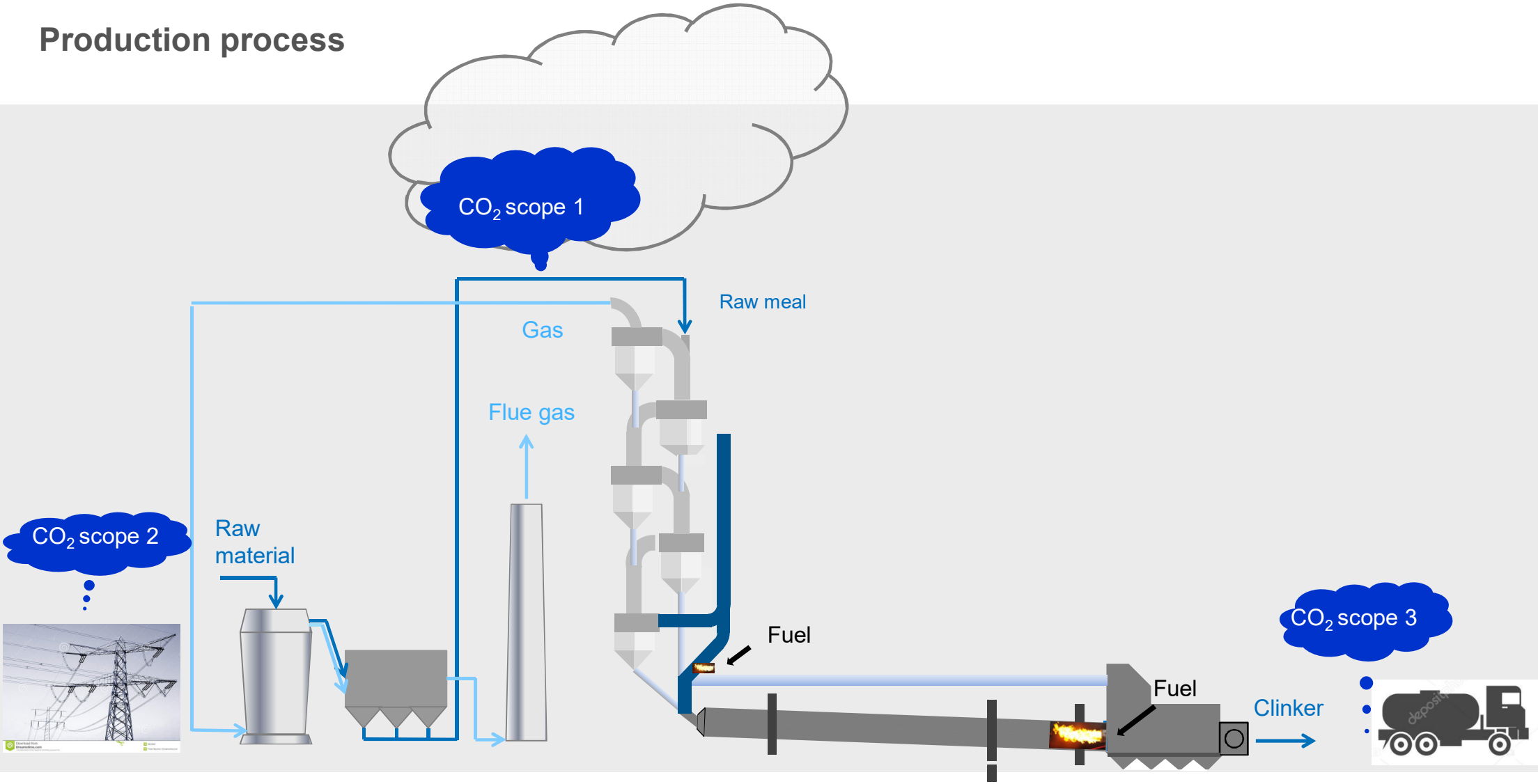
Carbon Border Adjustment (ongoing discussion…)

The goal is to link climate protection with maintaining competitiveness of the European economy…..

	EU Commission
Description	Legislative proposal to introduce a carbon tax for a few sectors, very likely with cement and perhaps electricity production. This carbon tax is not to be combined with free allocations. The carbon tax could be implemented for EU producers as full auctioning and for importers as a real tax with default/average benchmark values for the performance assessment.
Free allocations	Lost?
Implementation	2025 / 2026 ?
Sector(s)	Cement + Electricity (?)

Production process



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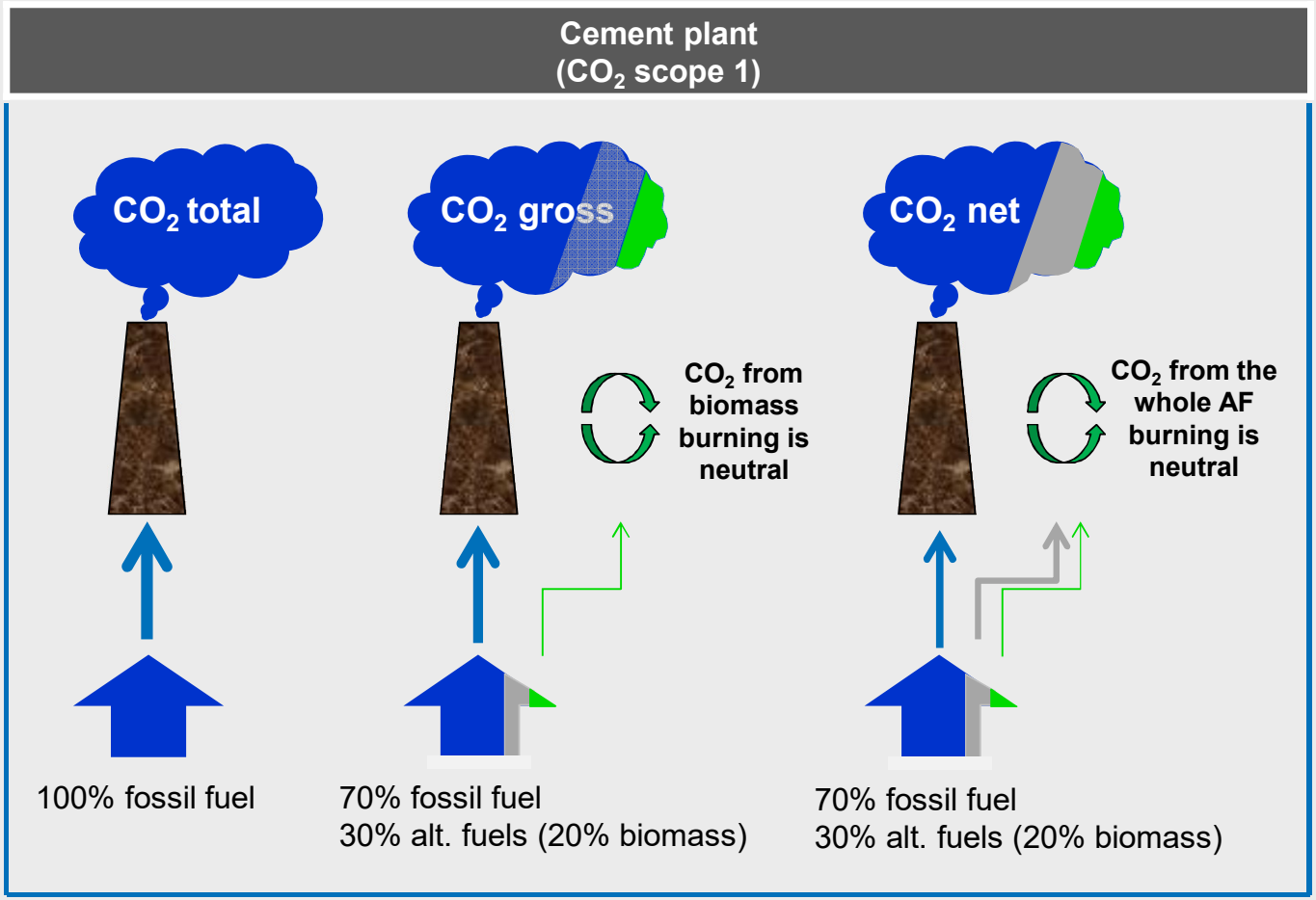
CO_2 emission scope, GROSS and NET…..



Buzzi Unicem CO_2 emission 2019	(t)
scope 1 GROSS	**19.930.001**
Kg CO_2 **gross** scope 1/t cem.ous	**688**
scope 1 NET	**18.448.321**
Kg CO_2 **net** scope 1/t cem.ous	**637**

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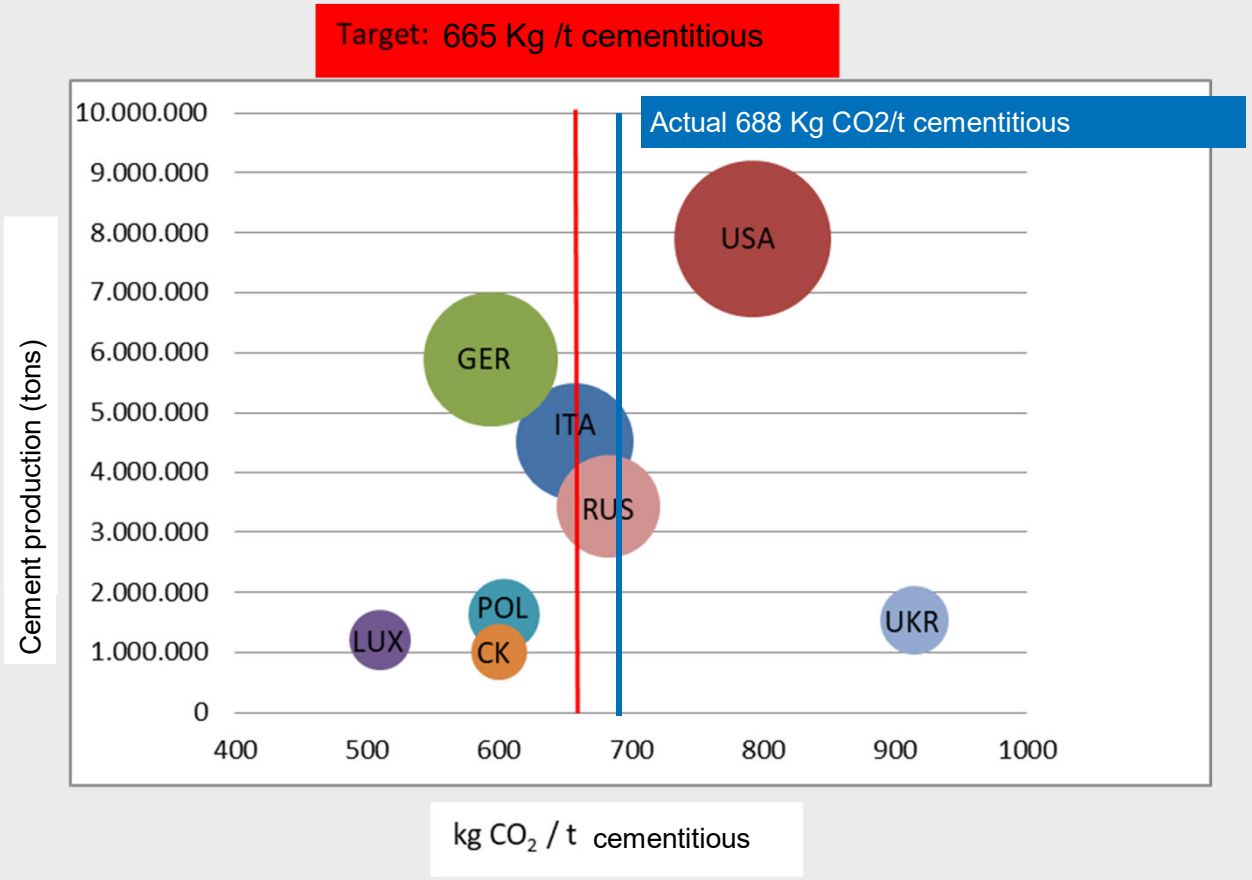
Breakdown CO2 emissions 2019 per country



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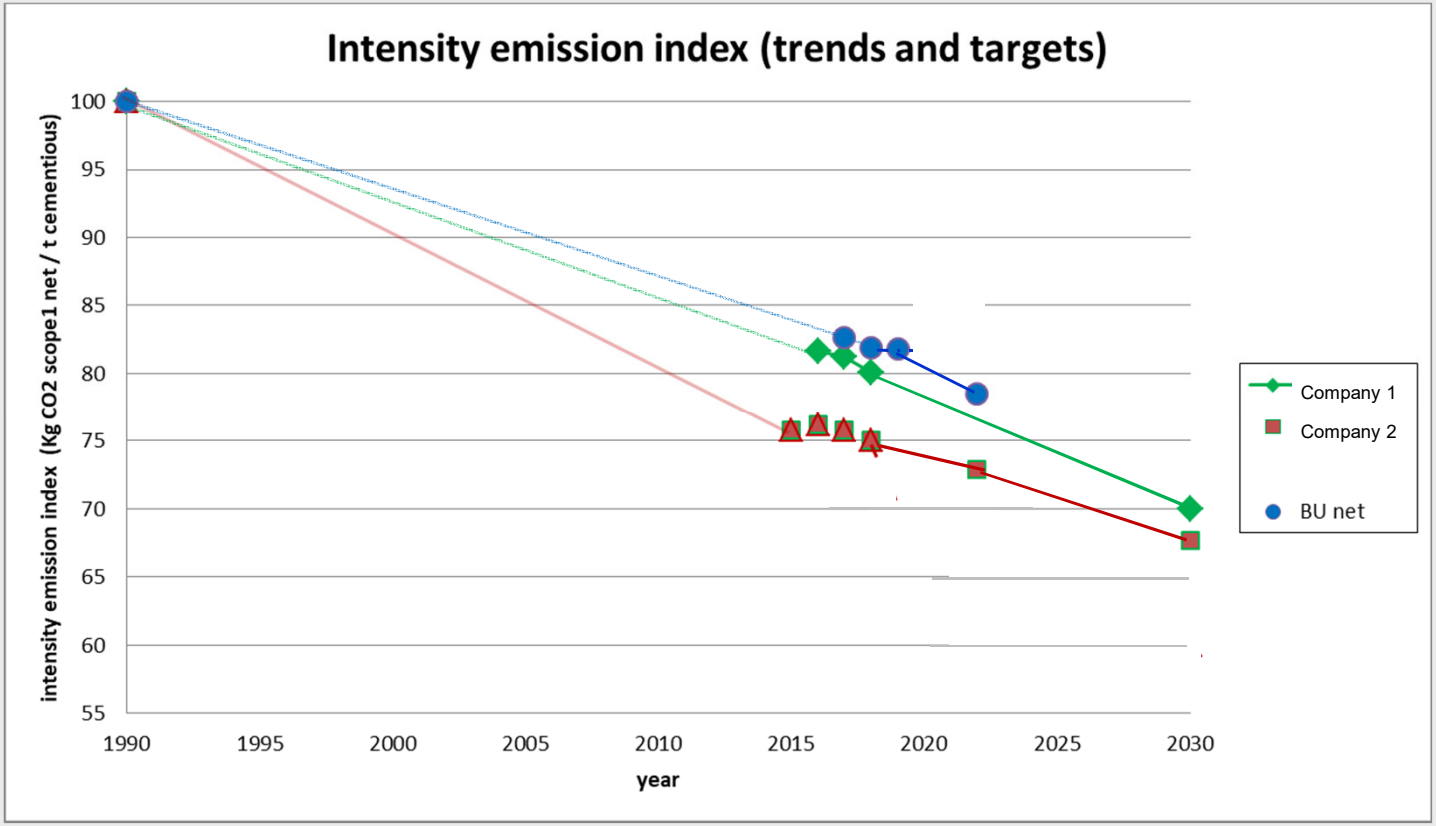
Benchmark : scope 1 relative net CO_2 emission



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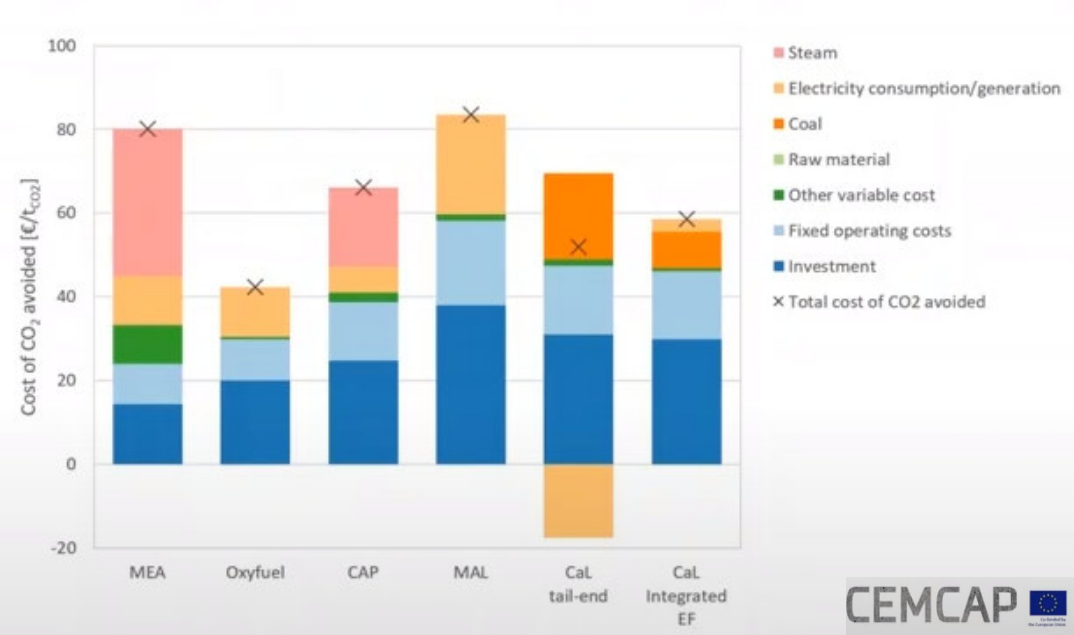
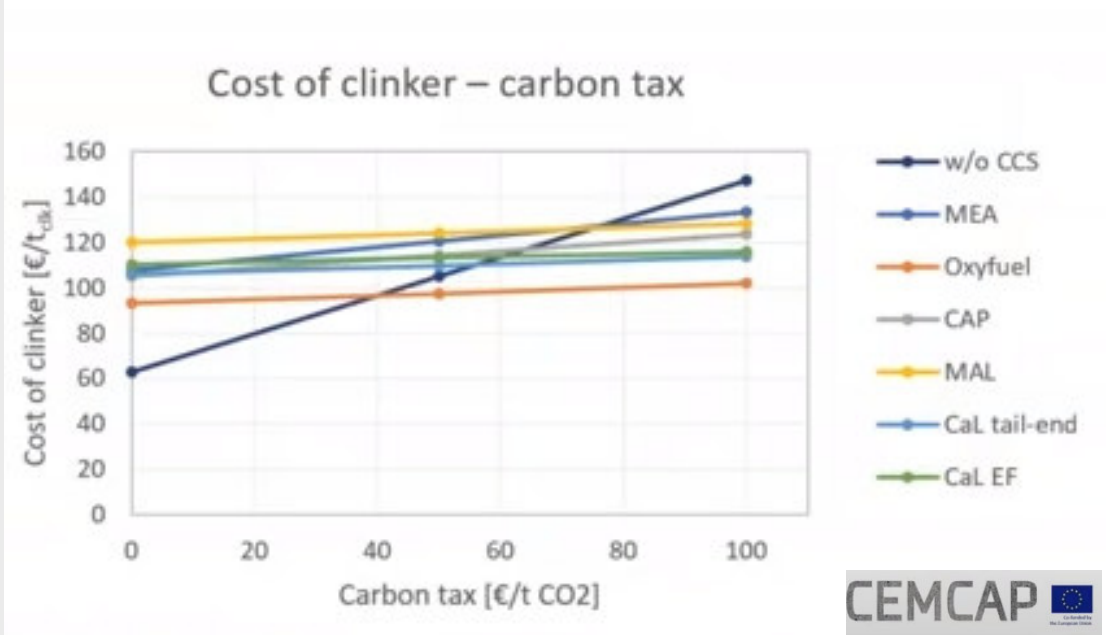
Solutions for de-carbonization…

CLINKER CEMENT CONCRETE CONSTRUCTION CARBONATION	CEMBUREAU The European Cement Association	factors influencing feasibility: low * very high *****							
	2050 CARBON NEUTRALITY ROADMAP (Kg CO2/t cement)	**performance and market acceptance**	**standards**	**availability of supplementing materials/fuels**	**permits**	**nimby**	**R&D**	**increase of cost production**	**capex**
cements with a lower clinker content	-72	***	***	*****				*	**
alternative fuels with biomass content	-71			**	***	*****		*	**
technical update (BAT)	-61								*****
new cements with lower carbon footprint	-17	***	***	***	*		*****	*	**
carbon capture	-280				***	*****	*****	*****	*****
concrete recipe optimization	-52	**	*****	***				**	*
H2 + electrification	-19			*****			**	*****	*****
decarbonated raw materials	-27			*****					**
carbon neutral trasnsport	-17			*****					***
CO2 uptake	-51								
already achieved up to 2017 since 1990	-116								
total	**-783**								

CC: estimated capex and opex for a typical 1 Mt cement plant





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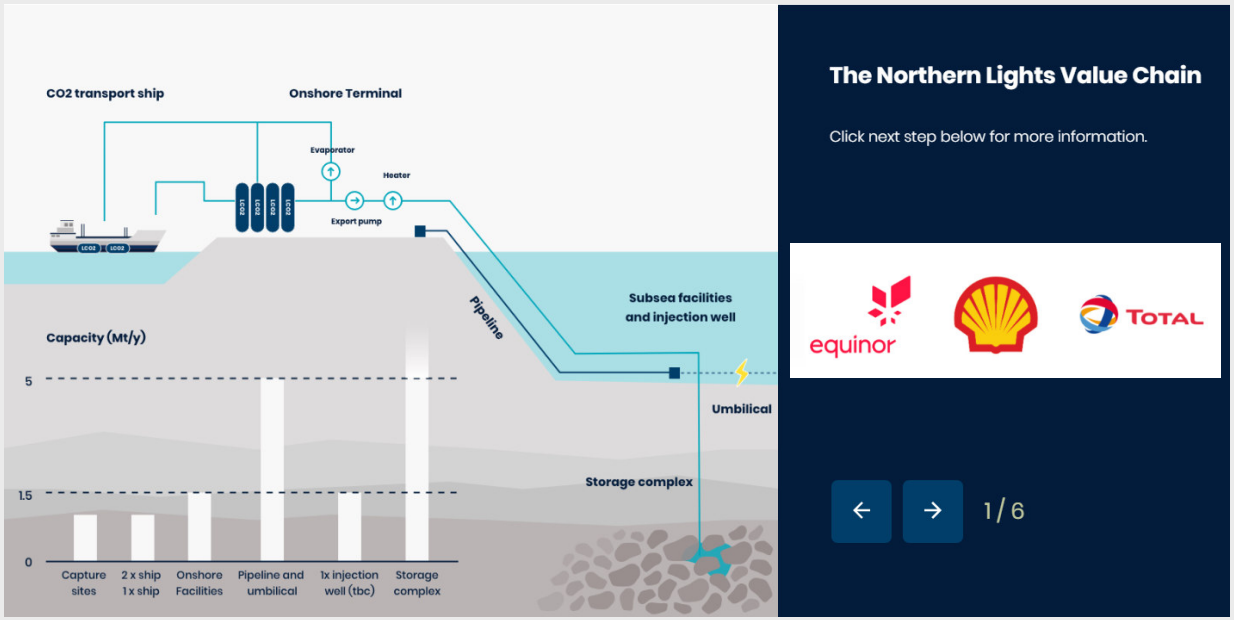
…but CO_2 capture it is not enough! (1)

Initial investment: NOK 6.9 bn (Eur 641 m) https://www.equinor.com/en/news/2020-05-northern-lights.html

5,0 Mt/y CO_2 capture, transport and storage



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…but CO_2 capture it is not enough! (2)

Energy	22,90 Mt
Steel	7,40 Mt
Cement	3,44 Mt
	33,74 Mt

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CCS situation: where are we now?

Good news…

- Various CC options available although not all with the same level of technical readiness (TRL).
- Storage and utilization solutions potentially available.
- EU financing.

Bottlenecks

- High costs
- Lack of infrastructure
- Not enough renewable energy / H2
- NIMBY sindrome

What do we need to go forward?

- High costs entail risk of carbon leakage. We need rules for maintaining our competitiveness.
- Infrastructure projects and support for storage still missing.
- Renewable energy supply.
- New liaisons and new alliances between energy intensive industry and big emitters.
- Stakeholder dialogue to prevent/limit NIMBY.

Relevant CO_2 reduction projects realized/scheduled to meet our 2022 reduction target

	Project	Location	Capex (€m)
Cement with a lower clinker content	New cement mill, New separator, Slag deposit Clinker/slag handling system	Russia, Russia, Italy USA	14,0 3,0 2,2 1,0
Alternative fuels with biomass content	CSS storage and feeding, AF storage, drying, feeding	Italy, Germany, Poland Czechia USA	4,3 10,0 2,8 1,3 5,5
Technical update and efficiency	New dry line (Maryneal) Kiln inlet air seal	USA	340,0 0,2
New cements with a lower carbon footprint replacing CEM I	CSA Calcined clays	Italy, Germany, USA Europe, Ukraine	*Initial stage* *Initial stage*
Carbon capture	pilot CaO looping, Oxyfuel project (partnership 25%)	Italy, Germany	10,0 BU share 25,0
			Total 419,3

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Climate Change Disclosure – Feedback of Investors and Analysts

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Materiality Matrix

2019 Assessment

10 January 2020

Rating Legenda
0 = not relevant
1 = low
2 = moderate
3 = high
4 = very high
5 = extremely sensitive

#	Material topics for discussion	Questions	Investor's Rating
1	Risk Management and Governance	a) How important is the disclosure of risks related to currency, cash and cash equivalents, insurance and sales under our Risk Management approach?	3,4
		b) How important is the disclosure of risks related to climate change under our Risk Management approach?	4,2
		c) How important is the disclosure of risks related to other environmental issues under our Risk Management approach?	3,2
		d) How important is the disclosure of risks related to social and governance issues under our Risk Management approach?	3,4
		e) How important is the ESG integration in current management structure and/or Board composition?	3,6
2	Climate Change	a) How important is the disclosure of CO_2 reduction target to 2030?	4,5
		b) How important is the disclosure of CO_2 reduction target to 2050?	3,4
		c) How important is the disclosure of the impact of annual capital expenditures on CO_2 emissions?	4,0
		d) How important is the disclosure of CO_2 related cost increases in the P&L ?	4,4
		e) How important is the disclosure of progresses of CO_2 reduction plans by Country?	3,4
		f) How important is the disclosure of R&D expense allocated to carbon capture projects?	3,4
3	Access to information	a) How important is the disclosure of quantified amount of capital expenditure we are planning to invest in the reduction of its environmental impact in the next 5 year?	4,3
		b) How important is the disclosure of data breakdown by Country available under our Sustainability Report?	3,1
		c) How important is the disclosure of KPIs (e.g. CO_2) and Country benchmarks?	3,5
		d) How important is the quantified material Enviornmental metrics published?	3,6
		e) How important is the quantified material Social metrics published?	3,1
		f) How important is the quantified material Governance metrics published?	3,4
		g) How important is the trade off between ESG spending and cashflow?	4,0

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