



Roadmap CO₂-neutrale Gesteinskörnung

FSKB-Herbsttagung „Bauwirtschaft in der Schweiz“, 27. Oktober 2023, Zürich, Schweiz

Aggregates Europe - UEPG vertritt die europäische Gesteinsindustrie

mit Abstand die größte nicht-energetische Rohstoffindustrie



The European [EU28+EFTA, 2018] aggregates demand is

3 billion
tonnes per year,

representing an annual turnover estimated at €15-€20 billion.



The European [EU+EFTA, 2018] average demand for aggregates is almost

6 tonnes
per capita per year.

The European Aggregates Industry comprises



15 000
companies (mostly SMEs),

producing aggregates at



26 000
sites across Europe,

with just on



187 000
people employed
(including contractors).



Antonis Antoniou Latouros
Präsident
Aggregates Europe - UEPG

KLIMANEUTRAL BIS 2050



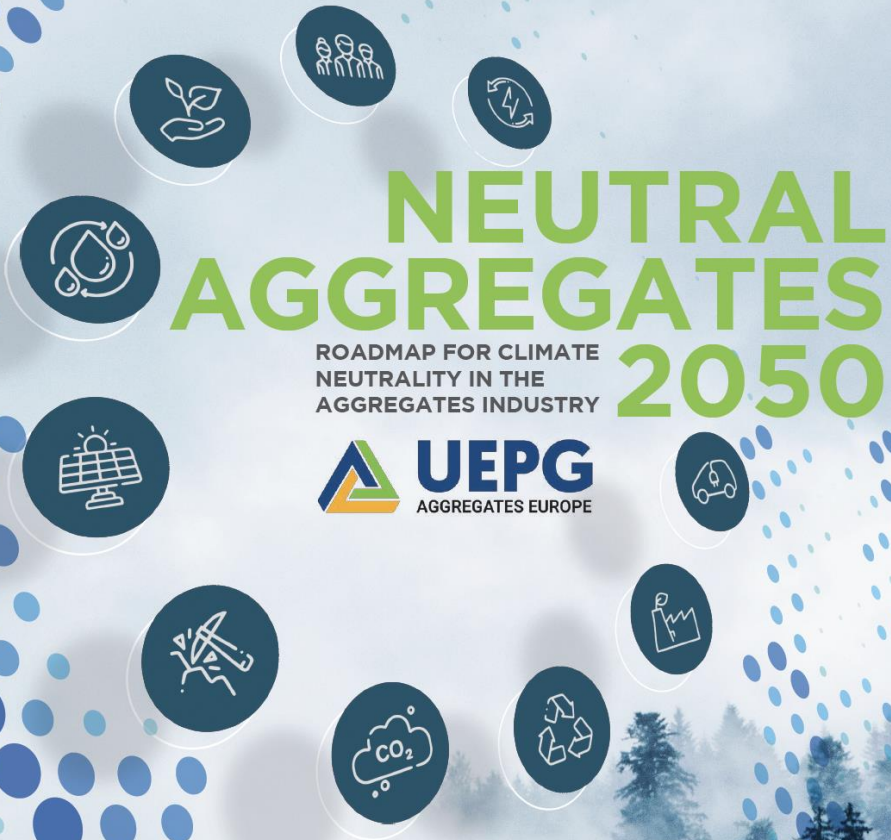
CÉSAR LUACES FRADES

Vorsitzender der

AGGREGATES EUROPE - UEPG Task Force
zur Anpassung und Eindämmung des Klimawandels


ROADMAP FÜR KLIMANEUTRALITÄT IN DER GESTEINSINDUSTRIE

KLIMANEUTRALE GESTEINSKÖRNERUNG 2050



**NEUTRAL
AGGREGATES
2050**

ROADMAP FOR CLIMATE
NEUTRALITY IN THE
AGGREGATES INDUSTRY

 **UEPG**
AGGREGATES EUROPE

June 2023



Aggregates Europe – UEPG
Economic Committee
Climate Change Adaptation and Mitigation Task Force
Chairman and Coordinator of the document: César Luaces Frades



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- Entwickelt von der Task Force zur Anpassung an den Klimawandel und zur Eindämmung des Klimawandels
- Genehmigt durch den Wirtschaftsausschuss (1.), den Vorstand (2.) und die Delegiertenversammlung (3.)
- Unterstützt von unserem Präsidenten



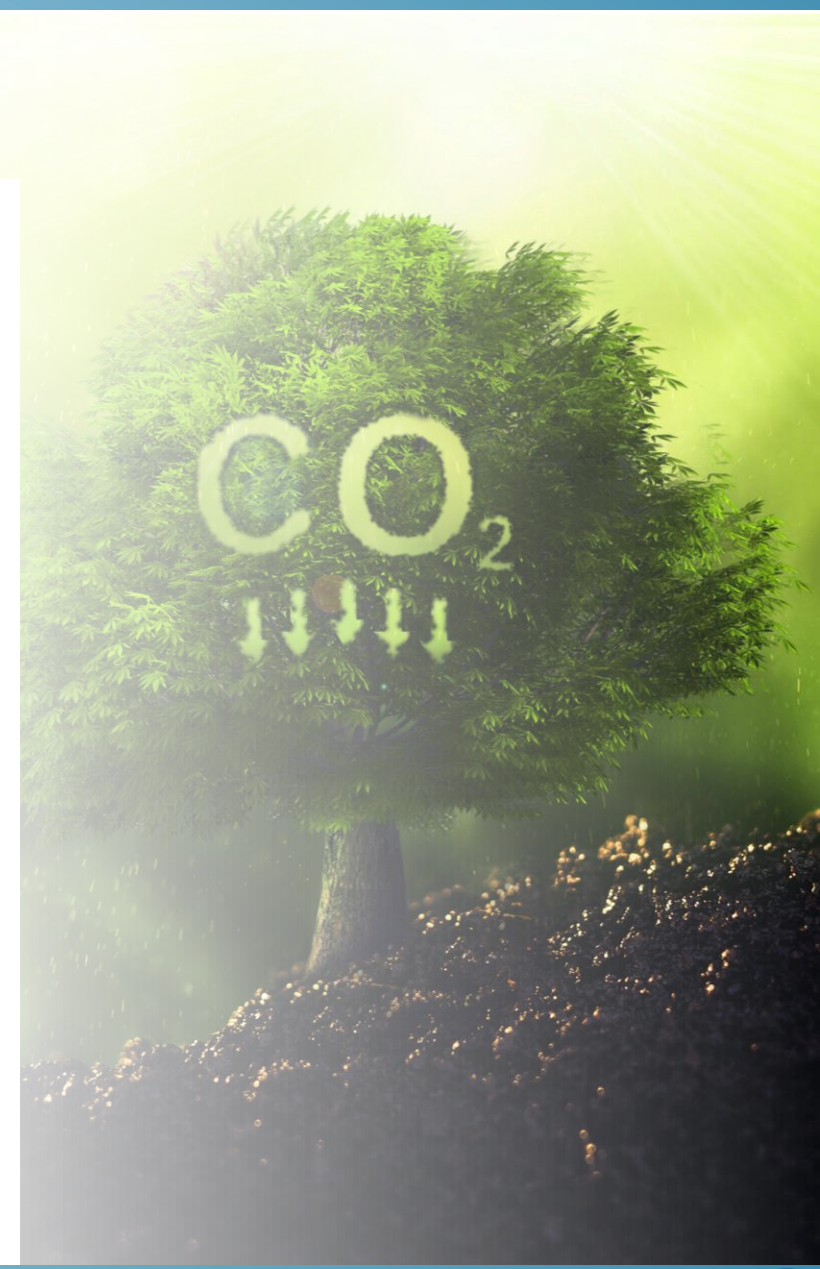
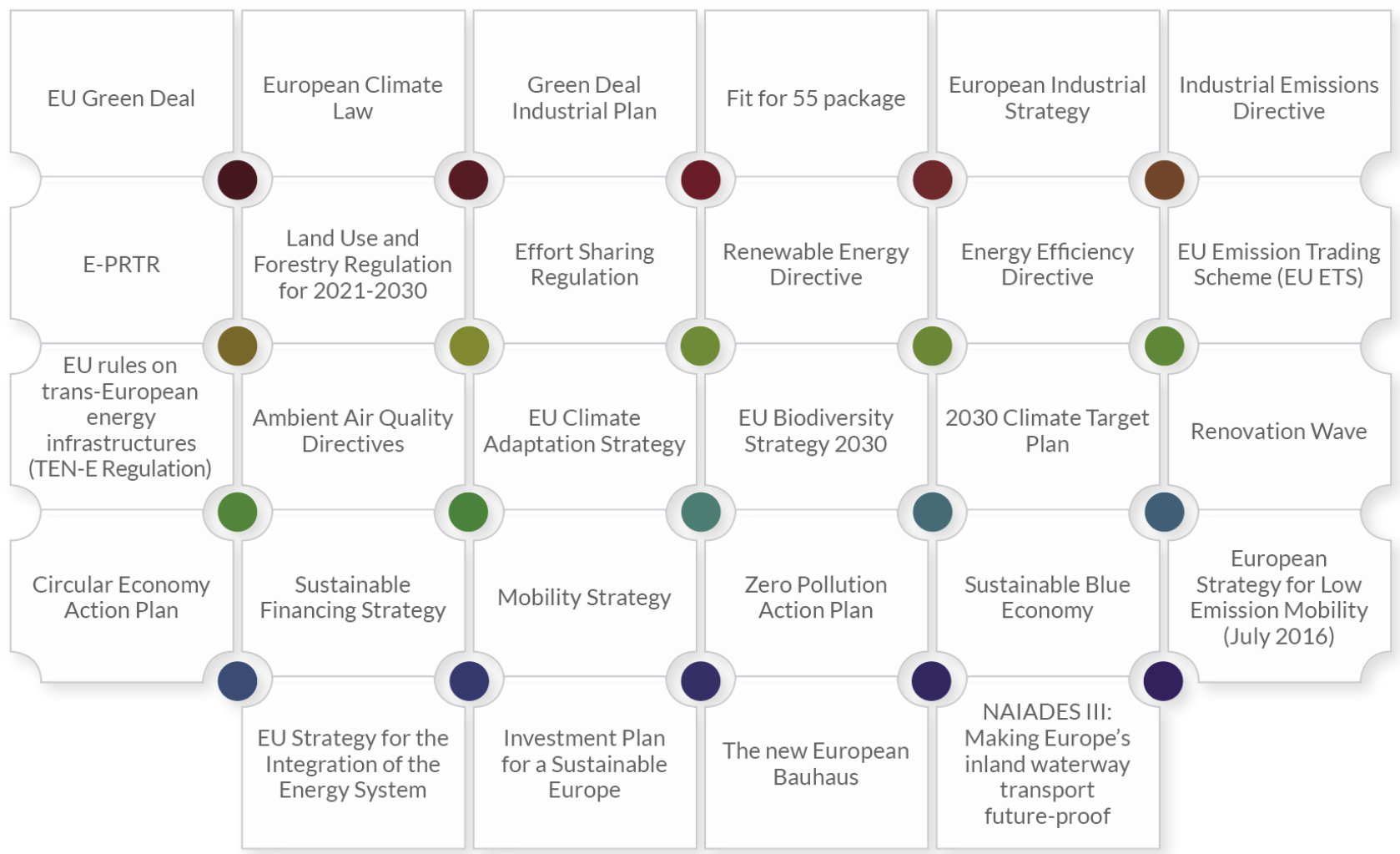
Antonis Antoniou Latouros
President of Aggregates
Europe – UEPG

- Fachbeiträge aus 10 Ländern
- 49 technische Referenzen
- Verbunden mit dem EU-Projekt H2020

GESTEINSKÖRNRUNGEN - LEBENSZYKLUS



EU-INITIATIVEN ZUR KLIMANEUTRALITÄT RELEVANT FÜR GESTEINSKÖRNUNGEN



EIN ESSENTIELLER ROHSTOFF ZUR EINDÄMMUNG UND ANPASSUNG AN DEN KLIMAWANDEL...



Wide availability



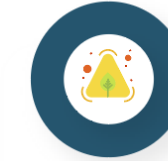
Low carbon footprint production



Circular production and products



Biodiversity upgrade



Site rehabilitation



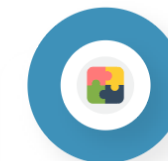
Disaster resilient construction



Fire resistance



Building energy efficiency contributor



Versatile product



Wide range of uses



Water efficiency



Durability



Inert product



High strength product



Net contributor to recarbonation



Coastal protection for sea rise



Sustainable mobility infrastructure



... UND ZUR ERREICHUNG DER NACHHALTIGEN ENTWICKLUNGSZIELE

EU policies mainly contribute:

- 8 SECURE WORK AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

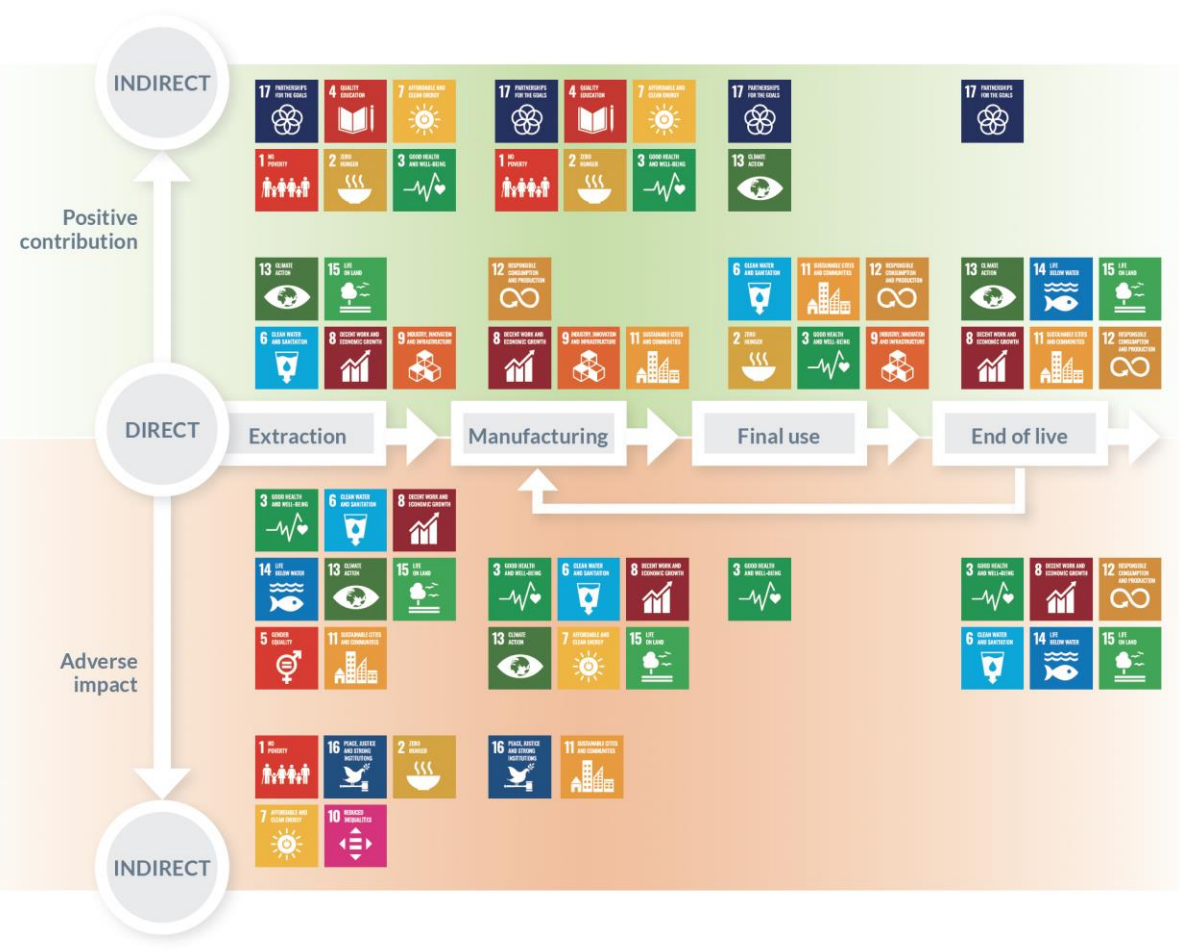
The raw materials initiative (2009)
The EIP on raw materials (2013)
- 8 SECURE WORK AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 15 LIFE ON LAND

Action Plan for the Circular Economy (2015)
- 1 NO POVERTY, 2 ZERO HUNGER, 3 GOOD HEALTH AND WELL-BEING, 5 GENDER EQUALITY, 8 SECURE WORK AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES

The European Pillar of Social Rights (2017)
- 7 AFFORDABLE AND CLEAN ENERGY, 8 SECURE WORK AND ECONOMIC GROWTH, 13 CLIMATE ACTION, 15 LIFE ON LAND

A new EU Forest Strategy (2013)
- 14 LIFE BELOW WATER

Regulation on conflict-area minerals (2017)



GESAMTPRODUKTIONSPROZESS UND CO₂-EMISSIONEN

A1 RAW MATERIAL SUPPLY



01

SITE PREPARATION

CO₂ (mobile machinery and temporary removal of vegetation)



02

EXTRACTION

CO₂ (mobile machinery and blasting (hard rock quarries only))



A2 RAW MATERIAL TRANSPORT



04

HANDLING, LOADING, AND INTERNAL TRANSPORT

CO₂ (mobile machinery diesel & electricity consumption)



A3 AGGREGATES PRODUCTION



05

TREATMENT PROCESSING PLANT

CO₂ (mobile machinery & electricity consumption)



06

AGGREGATES STORAGE

CO₂ (mobile machinery diesel & electricity consumption)



A4 AGGREGATES TRANSPORT



08

EXTERNAL TRANSPORT - DELIVERY

CO₂ (mobile machinery & electricity consumption)



03

SITE REHABILITATION & RESTORATION

CO₂ (mobile machinery) - CO₂ capture by reforestation



07

RECYCLING / CIRCULAR ECONOMY

CO₂ (mobile machinery & electricity consumption)



LEBENSZYKLUS VON GESTEINSKÖRNERUNGEN – UNSERE WERTSCHÖPFUNGSKETTE

Natural aggregates production – 1 day production + storage (from days to months)

External transport / delivery – 1 day

Integration in construction products – < 1 week

- Cement based (ready-mixed concrete/mortar/precast concrete)
- Bituminous based mixtures

Unbound aggregates – 1 day (bases/subbases/armourstone/railway ballast/other uses)

Construction Phase – 1 to few days (if storage on site)

- Buildings
- Civil works

Use phase – from >10 years to > 200 years. Average >100 years

- Durability
- Energy efficiency

Demolition phase – 1 to 2 months

Recycling / valorisation of C&DW and of industrial wastes – 1 day production + storage (from days to months)

- Adjustment of need of new natural aggregates, having a direct impact on the whole CO₂ emissions to satisfy the total demand of aggregates
- Recarbonation of recycled and artificial wastes / new products
- Use of fine materials as CO₂ sinks

Massenstrom: Enorme Mengen

Sehr große Wertschöpfungskette

Produkt mit sehr hoher Haltbarkeit

100 % recycelbar

Die Emissionen pro Nutzungsjahr sind sehr gering

DIE TREIBHAUSGASEMISSIONSKATEGORIEN FÜR GESTEINSKÖRNERUNGEN

Category 1: GHG direct emissions (idem scope 1)

- 1.1 Stationary combustion sources (Boiler fuels)
- 1.2 Mobile sources of combustion (Construction machinery, cars)
- 1.3 Non-energy processes (Decarbonation)
- 1.4 Fugitive emissions (Coolant leakage)
- 1.5 Biomass (soils, wood) (Deforestation, direct land change of use)

Category 2: Indirect emissions related to energy (idem scope 2)

- 2.1 Electricity consumption (generation of electricity by a power plant not included in the scope of the organisation)
- 2.2 Energy consumption other than electricity (turbine or boiler outside the perimeter)

Category 3: Indirect emissions associated with transport

- 3.1 Upstream transport (Internal transport between the deposit and the treatment processing plant)
- 3.2 Downstream transport (External transport of aggregates to the first user)
- 3.3 Home-to-work transport (transport to work for site employees)
- 3.4 Movement of visitors and customers (School children, controls, external visitors, administration, customers, etc.)
- 3.5 Business trips (Meetings, training, etc.)

Category 4: Indirect emissions associated with purchased products

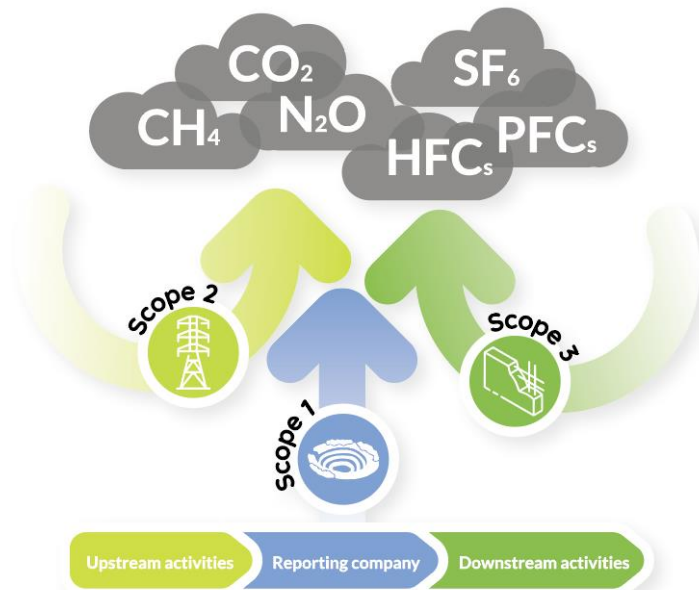
- 4.1 Purchases of goods (Supplies, goods required for the production)
- 4.2 Capital assets (Vehicles, machinery, IT equipment, buildings and other infrastructure)
- 4.3 Wastes management (Collection and treatment of wastes and effluent from the perimeter of the organisation)
- 4.4 Upstream leased assets (Production, use, maintenance, end of life of goods which are rented by the site to third parties)
- 4.5 Purchases of services (Activities giving rise to the production of a service - banks, consultancy, technical studies, etc. - purchased by the site)

Category 5: Indirect emissions associated with sold products

- 5.1 Use of sold products (Production of energy and materials consumed throughout their duration of life by the products sold during the reporting year by the site)
- 5.2 Downstream leased assets (Production, use, maintenance, end of life of goods - vehicles, machinery, buildings, etc. - which belong to the quarry and are rented to third parties who are the users)
- 5.3 End of life of sold products (Collection and treatment - recycling, etc. - at the end of the life of products sold during the reporting year by the site)
- 5.4 Financial investment (Activities and projects financed by the site)

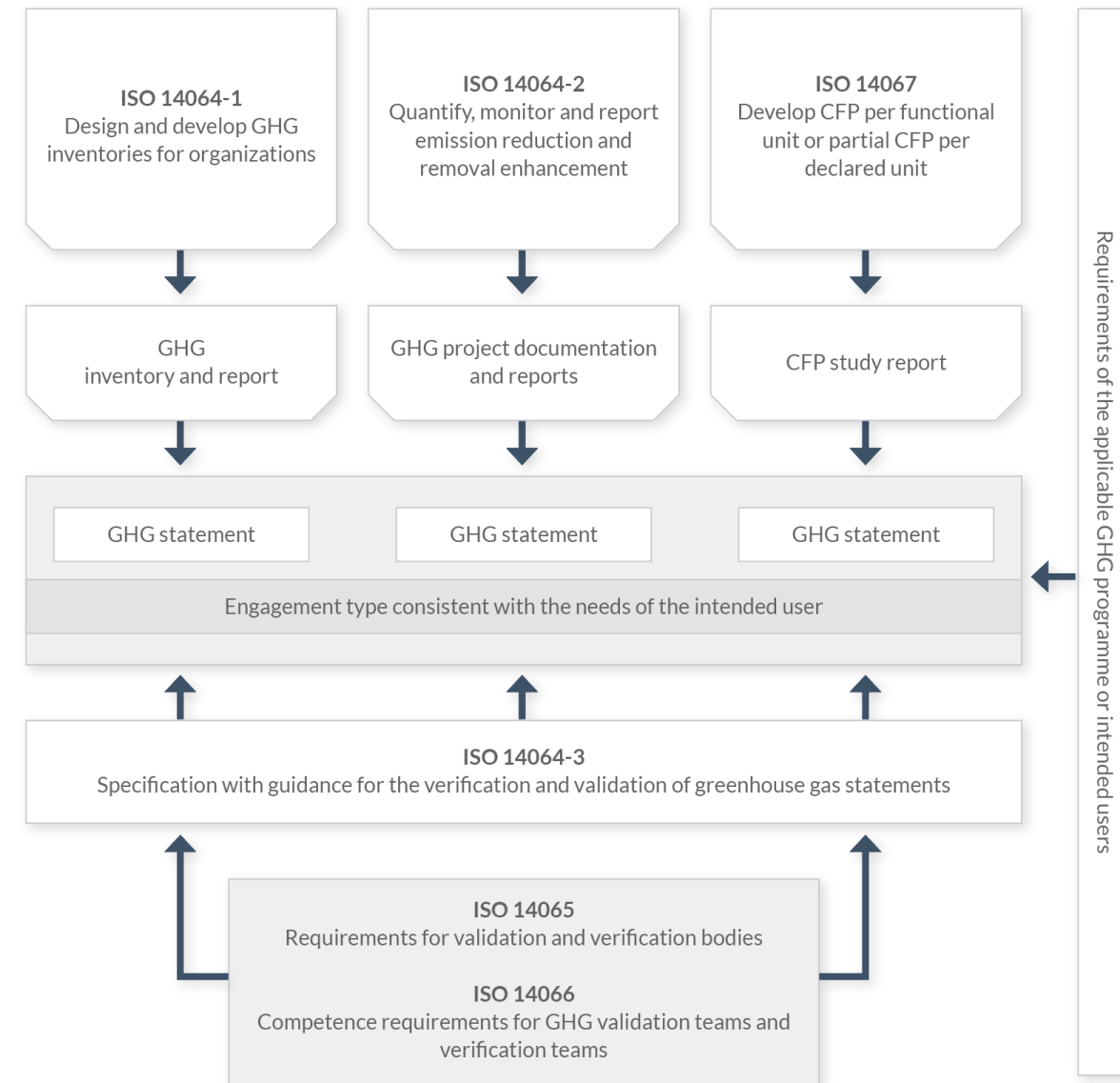
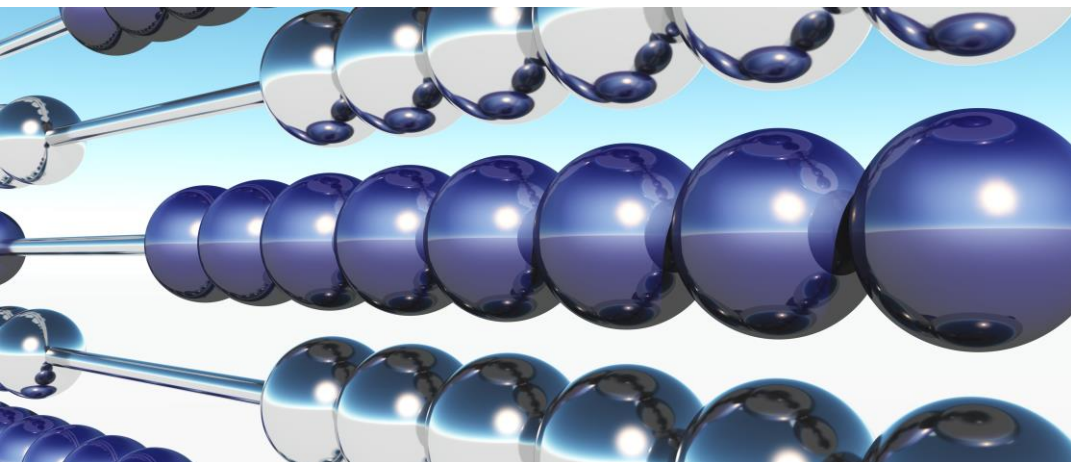
Category 6: Other indirect emissions

- 6.1 Other emissions (Sources of indirect emissions resulting from the activities of the quarry, and which cannot be counted in one of the previous items)



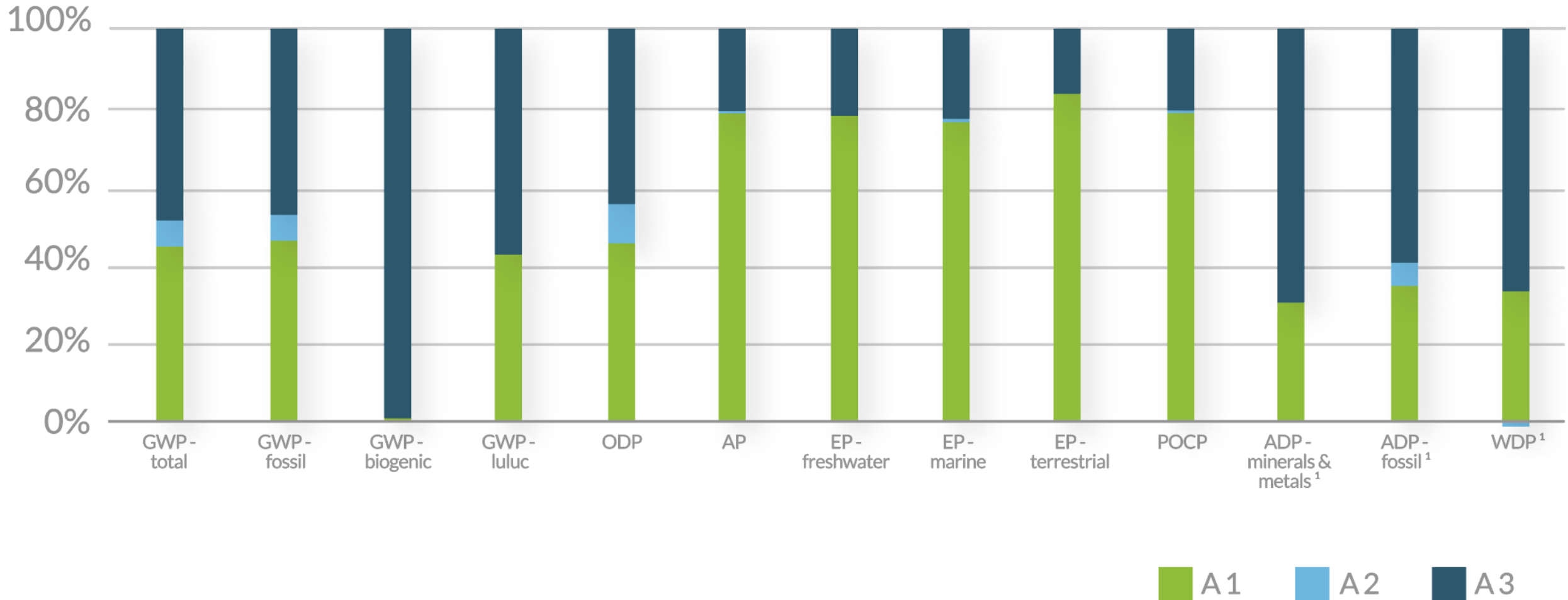
ZUVERLÄSSIGE UND STANDARDISIERTE METHODEN ZUR CO2-ÄQ.-BERECHNUNG

- EN ISO 14025:2010 Umweltkennzeichnungen und -erklärungen - Umwelterklärungen Typ III - Grundsätze und Verfahren (ISO 14025:2006)
- 15804:2012+A2:2020. Nachhaltigkeit von Bauwerken - Umweltproduktdeklarationen - Grundregeln für die Produktkategorie Bauprodukte



Verteilung jedes Umweltproduktdeklarations-Parameters auf die verschiedenen Stufen des Produktionsprozesses natürlicher Gesteinskörnungen

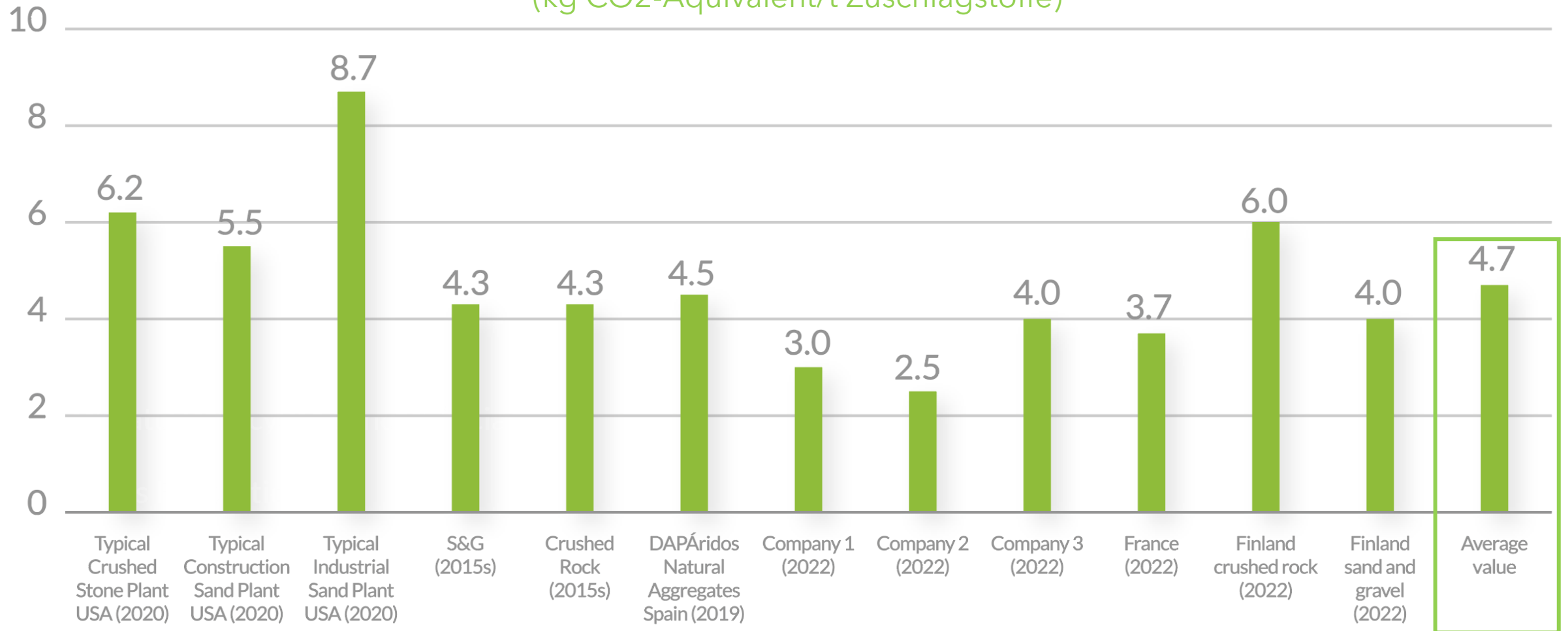
Quelle: Spanische Umweltproduktdeklaration



CO₂-ÄQ-EMISSIONEN AUS ROHSTOFFVERSORGUNG + TRANSPORT GESTEINSKÖRNINGSHERSTELLUNG (A1+A2+A3)

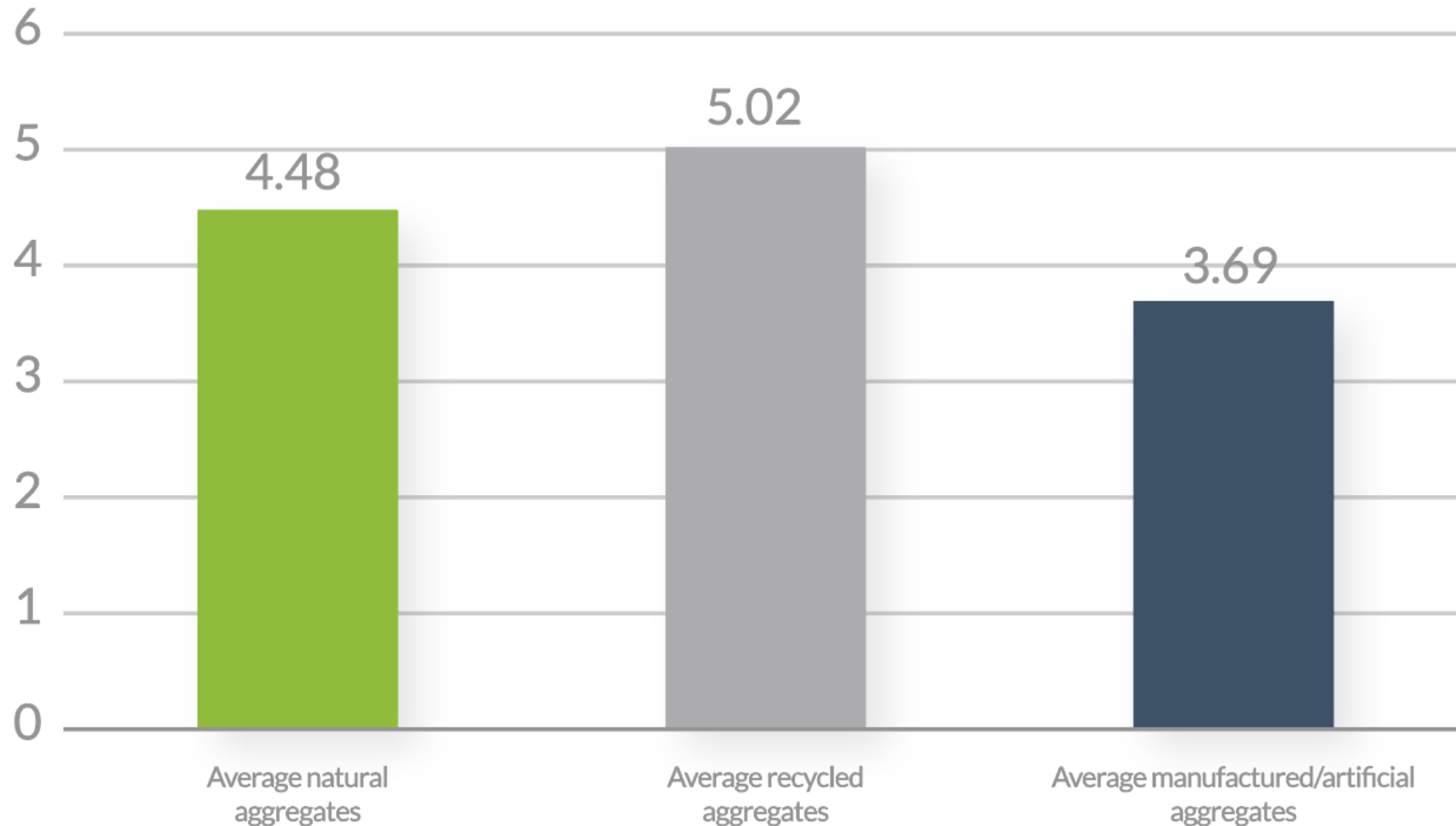
CO₂-äquivalente Emissionen für Gesteinskörnungen

Verschiedene Quellen
(kg CO₂-Äquivalent/t Zuschlagstoffe)



CO₂-äquivalente Emissionen für natürliche, recycelte und künstliche Gesteinskörnungen.

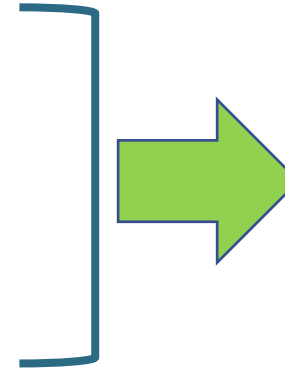
Quelle: Umweltproduktdeklaration Spanischer Gesteinsverband
(kg CO₂-Äquivalent/t Gesteinskörnung)



GESTEINSKÖRNRUNGsherstellung (A1+A2+A3)

A1+A2+A3: **4,7 kg CO₂-Äq/t**
Primärgesteinskörnungen (52,8%)

A4 (Weitertransport): **4,2 kg CO₂-Äq/t**
Gesteinskörnungen (47.2%)



8,9 kg CO₂-Äq/t
Gesteinskörnungen



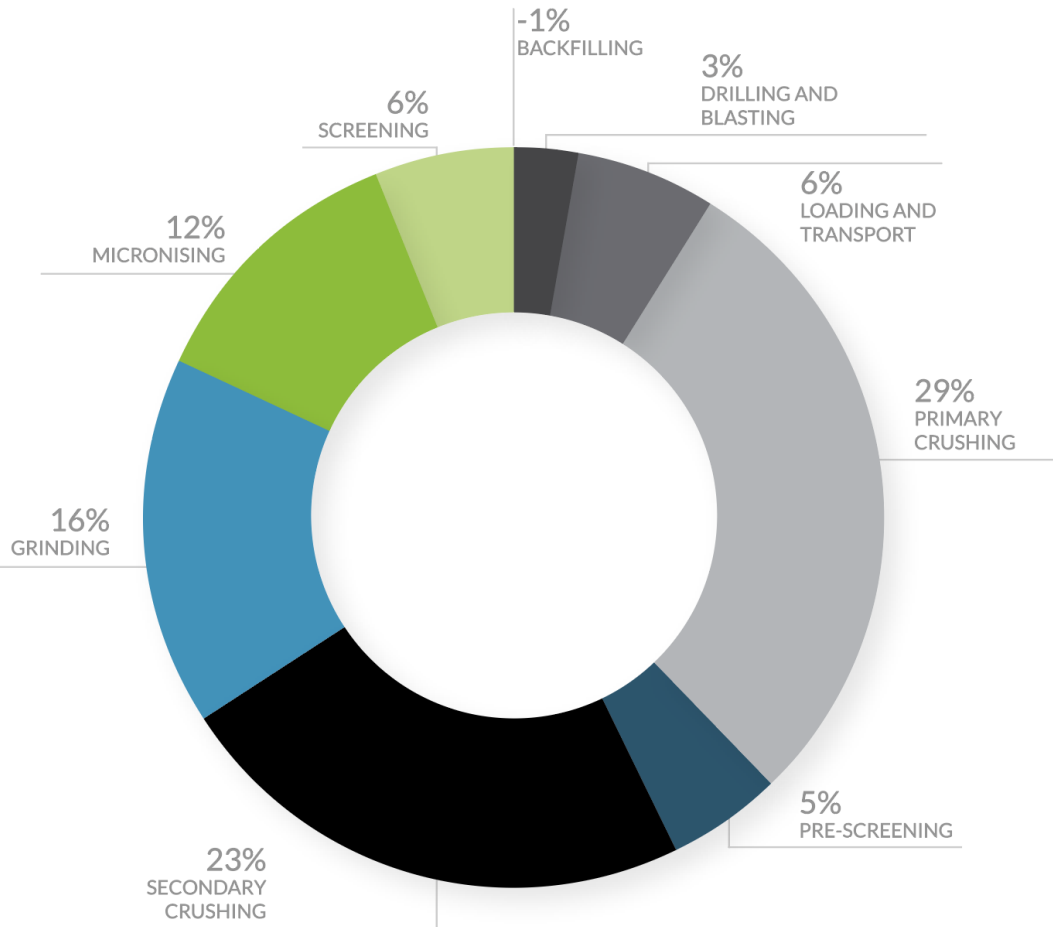
Durchschnittswert:

- Hartgestein: 4,8 kg CO₂-Äquivalent/t
- Sand und Kies: 4,6 kg CO₂-Äq/t.
- Aufgrund der Variabilität der Ergebnisse lässt sich nicht pauschal darauf schließen, dass Gesteinskörnungen aus Sand- und Kiesgruben immer einen geringeren CO₂-Fußabdruck haben als solche aus Steinbrüchen, da dies von den vielen besonderen Gegebenheiten des jeweiligen Standorts abhängt.

SCHOTTER

(kg CO₂-Äq/t Gesteinskörnungen)

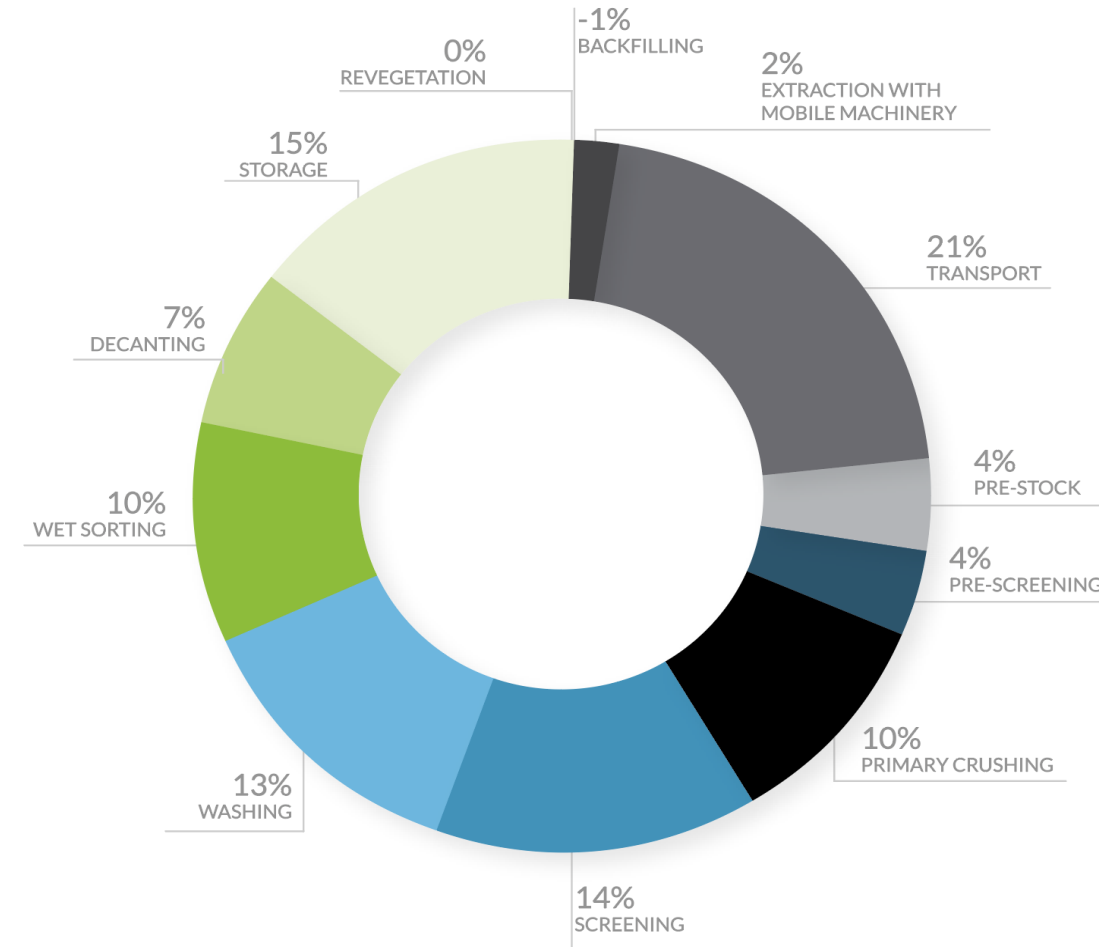
Quelle: Umweltproduktendeklaration Spanischer Gesteinsverband



SAND UND KIES

(kg CO₂-Äq/t Gesteinskörnungen)

Quelle: Umweltproduktendeklaration Spanischer Gesteinsverband



- Wendet man die ermittelten Durchschnittswerte (4,7 kg CO₂-Äq/t) auf die jährlich (2021) gelieferten 3,078 Milliarden Tonnen Gesteinskörnungen an, kann geschätzt werden, dass die Gesteinsindustrie (EU + UK + EFTA) jährlich etwa **14,5 Millionen Tonnen CO₂-Äquivalent** ausstoßen, das sind **0,35 %** der von der Europäischen Umweltagentur (2018) gemeldeten **EU-Emissionen**.



Verpflichtung der Gesteinsindustrie, eine CO₂-Äquivalent-Reduzierung zu erreichen, um im Jahr 2050 klimaneutral zu sein (EU-Ziel)



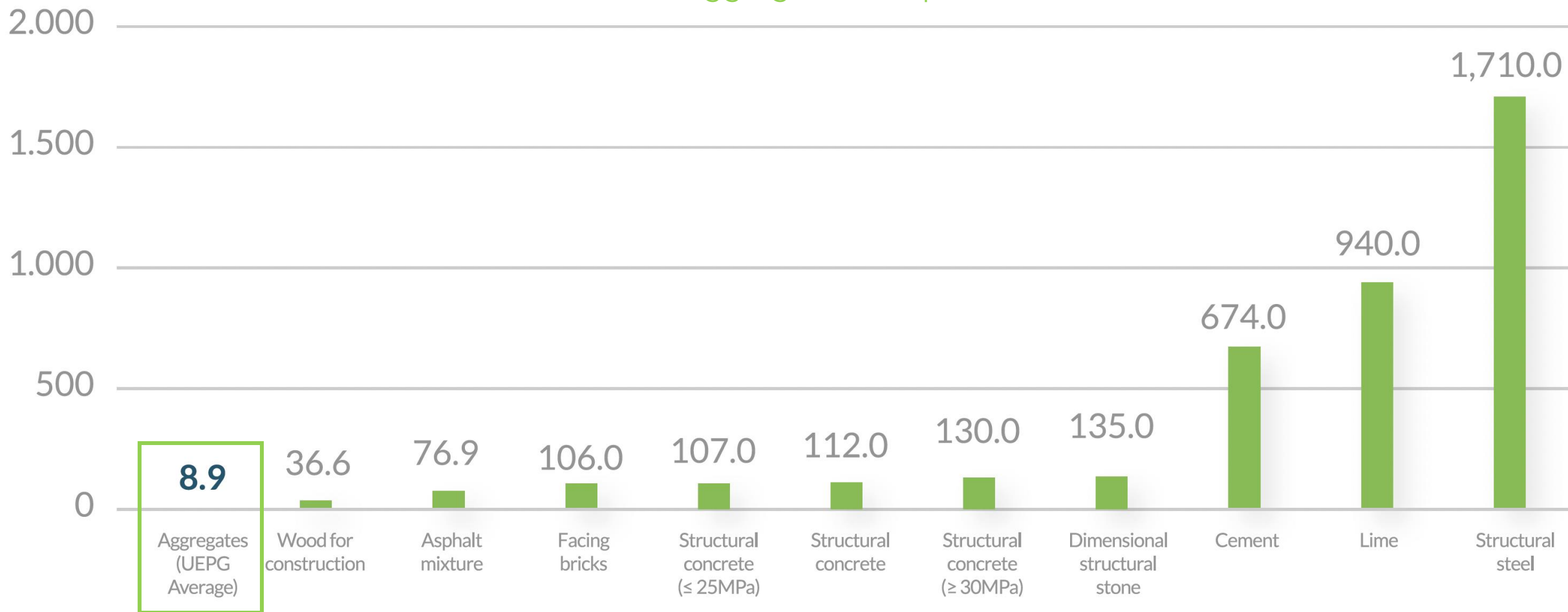
- Wenn man davon ausgeht, dass unsere Industrie jeden europäischen Bürger mit durchschnittlich 5,8 t Gesteinskörnungen/Jahr versorgt, ergibt sich daraus ein CO₂-Äquivalent von **27,3 kg/Einwohner/Jahr**.
- Vergleich:
 - **Einzelreise von Paris nach Brüssel für einen Passagier:**
 - 69 kg CO₂-Äquivalent per Flugzeug (+152 %)
 - 59 kg CO₂-Äquivalent durch Benzinauto (+116 %)
 - 52 kg CO₂-eq durch Dieselauto (+90 %)
 - **Smartphone:** 95 kg CO₂-Äq/Einheit (+247 %) bei der Herstellung
 - **Verbrauch von Elektro- und Elektronikgeräten (EEE) der Bürger:** 940 kg CO₂-Äq./Jahr (+3.333 %) für einen Einzelhaushalt.



GERINGE CO₂-ÄQ-EMISSIONEN IM VERGLEICH ZU ANDEREN BAUPRODUKTEN

Kilogramm CO₂-äquivalente Emissionen pro Tonne für verschiedene Produkte, einschließlich durchschnittlichem Transport (A1 bis A4)

Quelle: UNPG, Deloitte, Aggregates Europe - UEPG, und weitere



Vergleichende Analyse des Treibhauspotenzials (GWP) von Baumaterialien aus Stein, Beton und Stahl. Kerr, J. et al. (2022); Declaraciones Ambientales de producto de hormigones. ANEFHOP. (2022); Umweltproduktdeklaration. Asphalt (2016); CEMBUREAU (2020) + 7 kg CO₂e/t für den Zementtransport. Eula (2015)

Was können **wir**
unternehmen?

Was ist **unser Beitrag?**

Was **brauchen wir** von der
Politik?

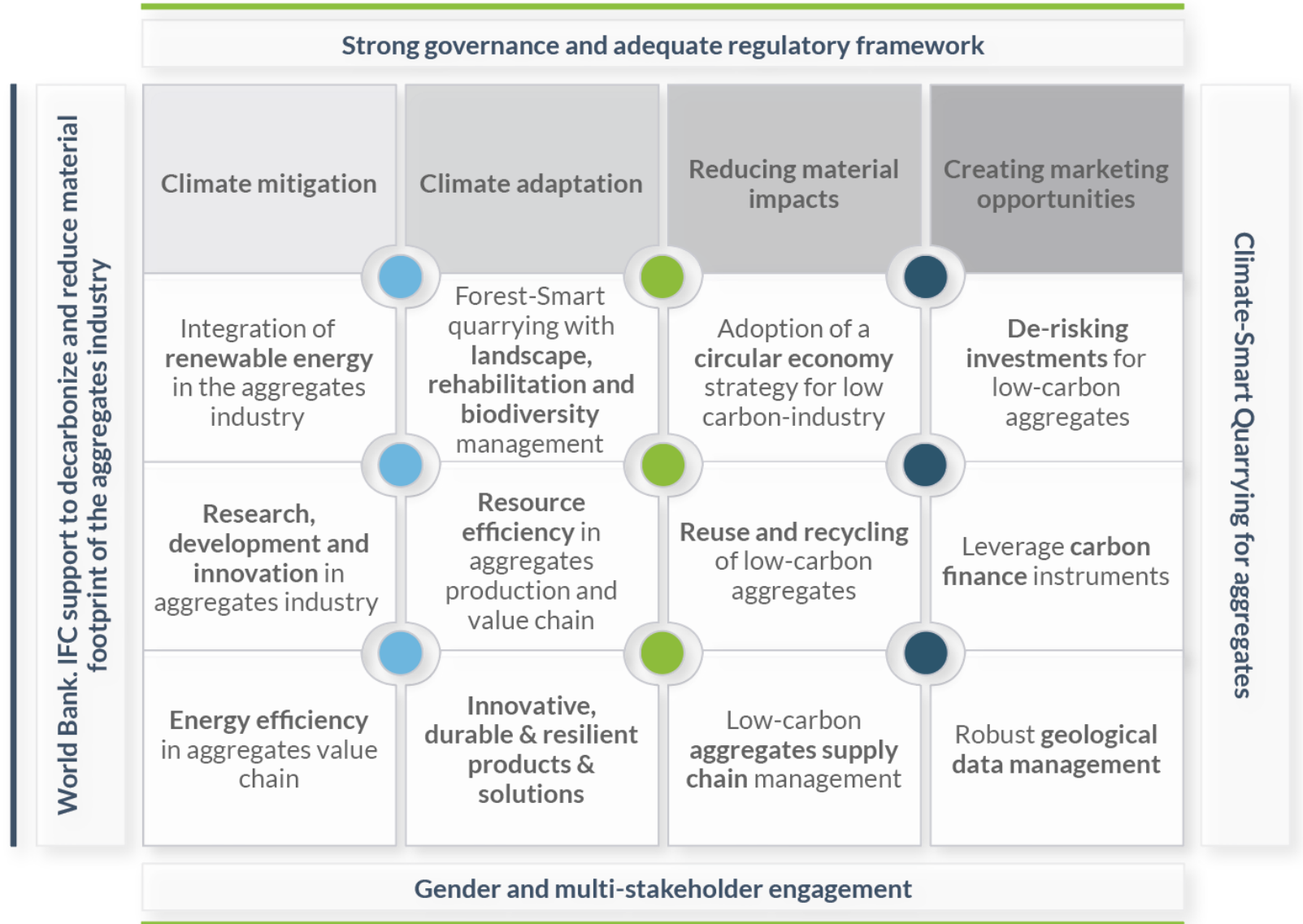
Wie sieht **unser Zeitplan** aus?

Was können wir den Verbänden,
Unternehmen & Standorten

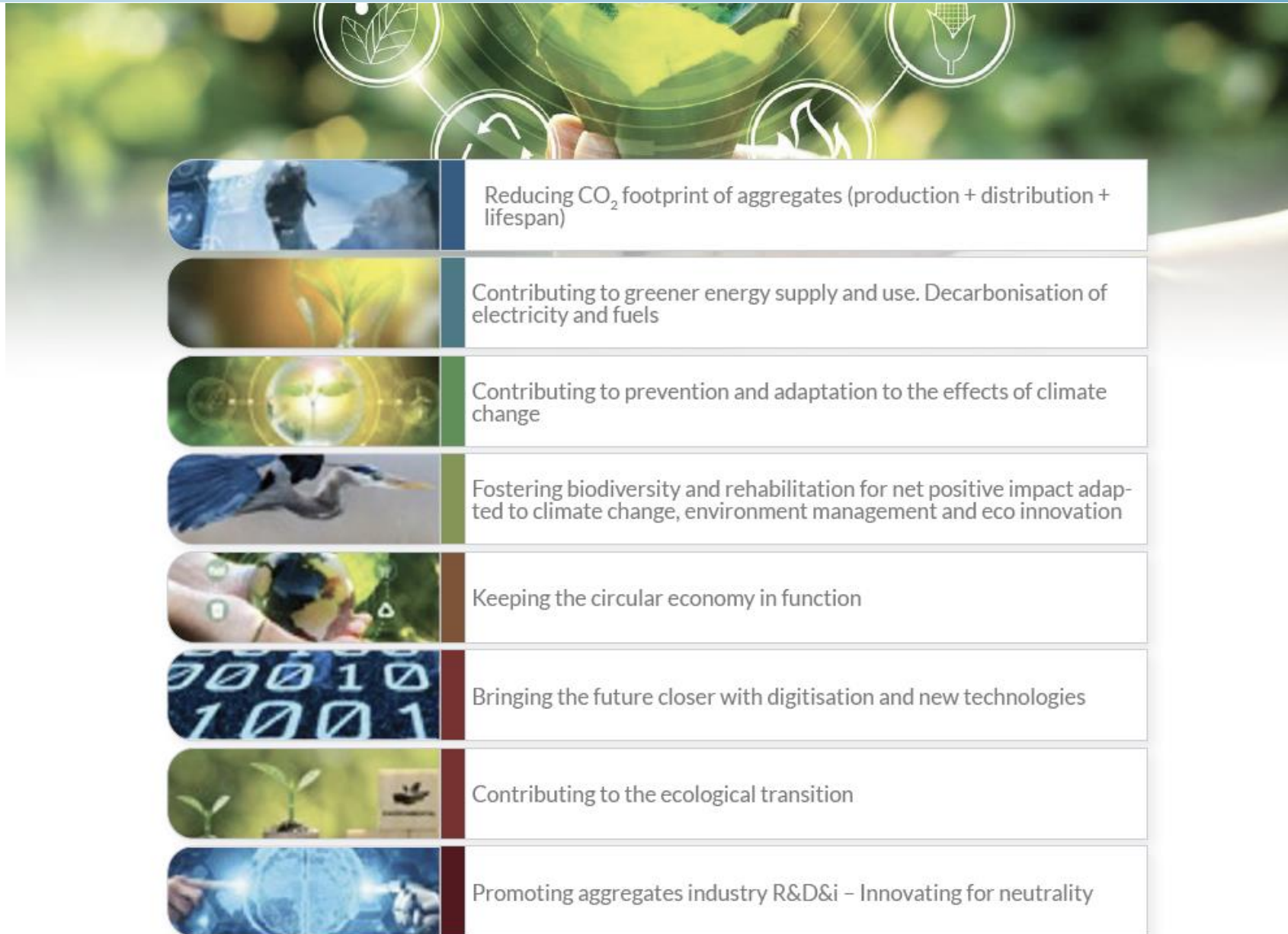
empfehlen?



AUSRICHTUNG AN DEN KLIMAINTELLIGENTEN BERGBAU-BAUSTEINEN DER WELTBANK



WAS KÖNNEN WIR UNTERNEHMEN?



100+ Aktionslinien

14

18

17

10

11

17

11

9

WAS KÖNNEN WIR UNTERNEHMEN?

Reducing the CO₂ footprint of aggregates (production + distribution + lifespan)

Although the CO₂ emissions per tonne of aggregates are very low, further reducing its carbon footprint is a priority. To achieve this, the aggregates industry is able to:

- Aggregates companies
- Aggregates associations
- Public administrations
- Client industries
- Suppliers
- Accademia, Technological Centres, etc.
- Environmental NGOs

Include the CO ₂ emissions dimension when designing new sites.						
Work in a sustainable way to maintain a network of sites that provide local access to resources, thus reducing transport distances. Local supply is a key issue. Access to local resources by land-use planning and permitting procedures. Guaranteeing the supply of local aggregates to meet the needs arising from the prevention and mitigation of climate change effects.						
Progressively introduce low-carbon technologies in aggregates production when developed, available and affordable. Process improvements to minimise CO ₂ generation by combustion (Electrification, Hydrogen, etc.). Taking benefit from lower CO ₂ equipment and technologies delivered by machinery and goods suppliers.						
Apply smart design to the sites to minimise the energy requirements in the process (short transport distances, use of gravity, substitution of mobile equipment by conveyor belts, etc.).						
Enhance blasting practices to reduce electrical energy consumption in the treatment plant.						
Increase efficiency in aggregates production (energy, water, management of the geological deposit, etc.).						
Improve equipment maintenance in order to increase its lifetime as well as reduce the equipment's replacement needs and therefore its associated CO ₂ footprint.						
Develop a Life Cycle Analysis and Environmental Product Declarations (EPD) and make aggregates carbon calcula						

Wer macht was?

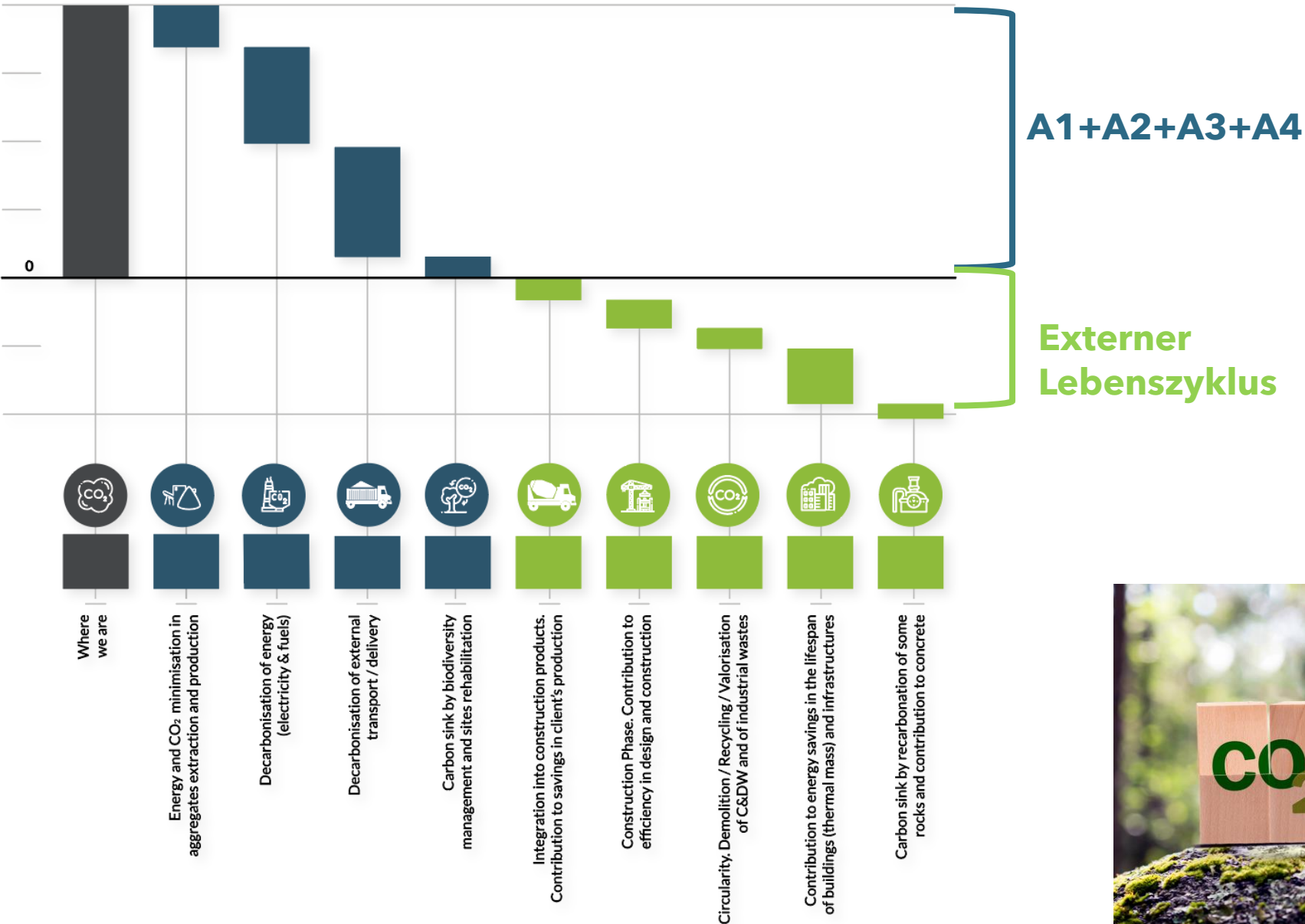
- Aggregates companies
- Aggregates associations
- Public administrations
- Client industries
- Suppliers
- Accademia, Technological Centres, etc.
- Environmental NGOs

Further develop "Greener aggregates, better performance"	Reduce the energy footprint of aggregates and those products where aggregates are incorporated, in collaboration with client industries.							
Improve logistics systems for intermodal systems that combine trucks, rail, ship								
Deliver aggregates for green construction								
Demonstrate how the new projects can contribute to climate change.	Optimise consumption by working with mobile equipment and processing plant manufacturers to determine the right size of mobile fleets and of the treatment facilities based on actual needs.							
Develop a collaboration roadmap for aggregates industries to develop greener and more sustainable products								
Contribute to recarbonation of concrete or even some natural/artificial aggregates								
<ul style="list-style-type: none"> • Accelerated carbonation of aggregates to capture of high industrial quality CO₂ released in manufacturing and its incorporation into products and applications. • Natural aggregates such as basalt when crushed can also be re-carbonated when exposed to certain temperature and pressure conditions. 								

WAS IST UNSER BEITRAG?

	LEADER	INTERACTION WITH OTHER GROUPS	SITUATION 2023	SITUATION BY 2050
Energy and CO ₂ minimisation in aggregates extraction and production				
Decarbonisation of energy (electricity & fuels)		 		
Decarbonisation of external transport / delivery		 		
Integration into construction products. Contribution to savings in client's production				
Construction Phase. Contribution to efficiency in design and construction				
Circularity. Demolition / Recycling / Valorisation of C&DW and of industrial waste		 		
Contribution to energy savings in the lifespan of buildings (thermal mass) and infrastructures		 		
Carbon sink through biodiversity management and sites rehabilitation				
Carbon sink through recarbonation of some rocks and contribution to concrete		 		

WAS IST UNSER BEITRAG? - GESCHÄTZE LEISTUNG



Unser Beitrag kann zu einer insgesamt positiven CO₂-Bilanz führen ...

... aber dies ist vorerst nur eine Schätzung, die weiter untersucht und quantifiziert werden muss



Zusammenarbeit mit öffentlichen Verwaltungen

1 The aggregates industry and public administrations should cooperate and work closely together to find ways to enable its evolution and progress towards the common goal of climate neutrality.

2 A fair transition to zero net emissions must preserve the competitiveness and employment of the aggregates industry.

Wettbewerbsfähigkeit und Beschäftigung erhalten

Langfristige und solide Strukturpolitik

3 Long-term and sound structural policies are needed to support the investments necessary to achieve climate neutrality in a largely SME-based but highly capital-intensive industry.

4 The achievement of the aggregates industry's climate neutrality objectives will be linked to the success of cross-cutting energy decarbonisation public policies and to the availability and affordability of emission-neutral technologies, within sufficient timeframes to allow their progressive deployment on quarries.

Verfügbarkeit und Bezahlbarkeit emissionsneutraler Technologien

7 Politikbereiche



SME

	Transversal policies for a fair policy framework
	Construction products policies
	Aggregates specific policies
	Infrastructures policies
	Public awareness policies
	Technological policies
	Financial policies

WAS BRAUCHEN WIR VON DER POLITIK? - FORDERUNG NACH POLITIKBEREICH



Transversal policies for a fair policy framework

Establish long-term strategies and objectives.

Maintain regulatory coherence and stability.

Set realistic CO₂ reduction policies and targets, reflecting the period of the 'transition to net zero' and adapted to the availability and maturity of technologies which have to be widely available on the market and not in experimental stages.

Improve governmental and EU support for the transformation of the aggregates sites and their machinery and equipment, as this is an industry essentially composed of SMEs, where investments have a specific medium and, above all, long term timetable.

Develop policies that support the industry transition, particularly given their role of delivering low-carbon infrastructure.

Adopt material and technology neutrality in construction, in construction products regulations, standards, in the industry and in green public procurement.

Create institutional frameworks for industry-scale technology initiatives (managing and implementing projects, financing mechanisms, partnership rules and governance models). Collaborate with other stakeholders, to promote cooperation among countries and their public and private sectors to pool funding and knowledge.

Reform the electricity market design, to make industries and consumers benefit from the lower costs of renewables.

Support programmes to develop the needed skills for a people-centred green transition, with a view to launch upgrading and retraining programmes in strategic sectors such as raw materials.



Construction products policies

Encourage and recognise EPD and LCA systems based on a full life cycle approach from cradle to grave.

Focus on maximising the different properties of building materials like their durability, recyclability, thermal inertia, or re-carbonation potential.

Continue to prioritise technical construction properties (stability, fire protection and environmental compatibility of a structure) when selecting the appropriate building material in the future.

Promote climate-friendly planning of construction projects, employing digital methods such as Building Information Modelling (BIM).

Strengthen and establish, in collaboration with industry, building regulations and specifications aimed to achieve carbon neutrality of the built environment over its entire life cycle, including during the use phase and at the end of life of residential, non-residential, and infrastructure applications.

Enhance the development and deployment of low-carbon solutions in the construction sector that consider a life cycle approach, by including them in public procurement policies.

Require the development of infrastructure projects to be accompanied by construction materials resource assessments and supply audits to provide greater visibility of construction material needs.



Aggregates specific policies

Adopt policies to ensure local access to resources to reduce transport distances by integrating the nature and geographical location of aggregates deposits into a concerted regional planning to favour a reduction in climate impact due to the increase of transport distances. Local supply is a key issue to minimise the impacts of transportation. Then, review and adapt the land-use planning policies to allow a long-term strategy.

Adopt flexible and simple permitting procedures (also for renewable energy infrastructure on site).

Streamline the access to additional primary and secondary raw materials to build the essential and adapted infrastructure.

Develop a fair level playing field with aggregates from other non-EU countries.



Infrastructures policies

Create the infrastructure for a circular and carbon-neutral environment.

Boost the supply, distribution, availability, and affordability of renewable energy (electricity, hydrogen, etc.)

Improve the infrastructure for bulk material transport to minimise road transportation impact.



Public awareness policies

Promote public policies to foster the awareness of the raw materials industry.

Recognise the aggregates industry's role as a net and relevant contributor to climate change mitigation and adaptation.

Natural recarbonation recognition for the entire life cycle.

Develop a clear scheme of carbon removal certificates.

Reach a new consensus in the politics, economics, science, and civil society area on the development of a climate-neutral technology mix for the future.



Technological policies

Incorporate into the EU R&D&i system the most relevant needs for climate change impact.

Boost the development of industrial vehicles (trucks, mobile machinery, etc.) powered by renewable energy sources and make them available and affordable.

Deploy low-carbon operating standards adapted to aggregates.

Set ambitious standards for buildings' energy performance. Encourage and promote digitisation.

Support collaborative research programmes or networks among companies, equipment suppliers, research institutes and governments to pool R&D and demonstration resources, and public-private partnerships on emissions reductions.

Adapt underground mining techniques to aggregates, not always technically possible, much more complex, and costly to operate, but with the advantages of much less disturbance to soil and vegetation and being able to be closer to market in complex environments, reducing transport emissions.



Financial policies

Speed up investment and financing for clean tech innovation, production, and deployment by making available EU and national public funds and private finance to meet investment needs.

Improve Sustainable Finance to include investments in adapting our built environment to climate change. In particular, integrate aggregates under EU Taxonomy Compass.

Support R&D&i and innovation through public funding and risk sharing investment mechanisms.

Promote tax exemptions to encourage the use of green energy in industrial processes (Energy Taxation Directive) or indirect cost compensation mechanisms.

Make economic incentives open to all types of technology.

Comprehensive policy package along the entire aggregates value chain to provide the right incentives and create an environment in which the industry can be geared to the needs of climate neutrality.

Mitigate risks through investment mechanisms that use private funding for low-carbon innovative technologies and through promotion of private-public partnerships.

Promote alternative sources of funding for innovative low-carbon technologies in the aggregates industry, including export credit agencies and multilateral development banks.



Aggregates Europe - UEPG

Aggregates Europe - UEPG -
Interne Aktionen



Interaktionen mit Aggregates Europe - UEPG-Ausschüssen, Task Force und AGs



Aggregates industry

- UEPG Member associations (UNPG; MPA; FdA; ...)
- Aggregates companies



Clients

- Cement; Mortar; RMx Concrete; Precast Concrete; Asphalt mixtures
- Construction industry



Other extractive industries

- NEEIP, ERMA, EIT RM, ...



Other sectors

- Identify other with similar issues (as partners for negotiations)



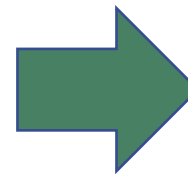
Suppliers

- Machinery; Explosives; Energy; ...



Zusammenarbeit & Synergien

Zusammenarbeit, Synergien und Konsistenz im Handeln



KPI

Wichtige Leistungsindikatoren



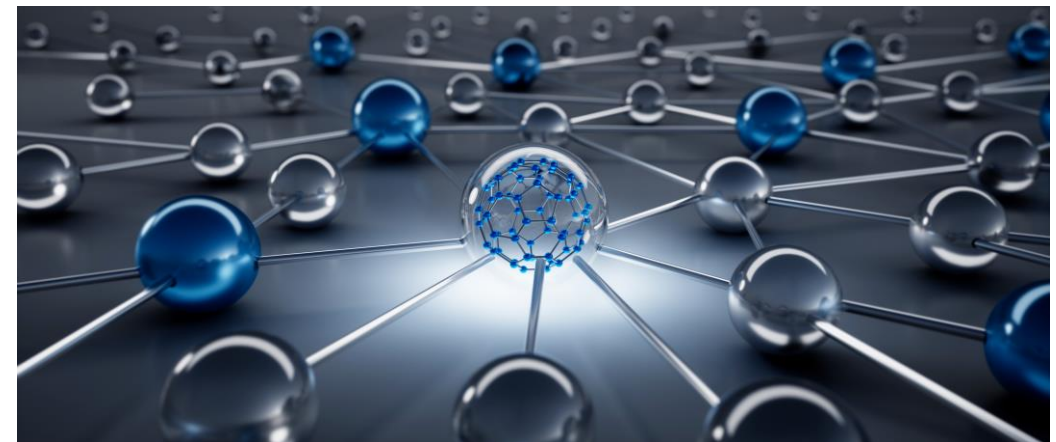
Empfehlungen für Gesteinsverbände



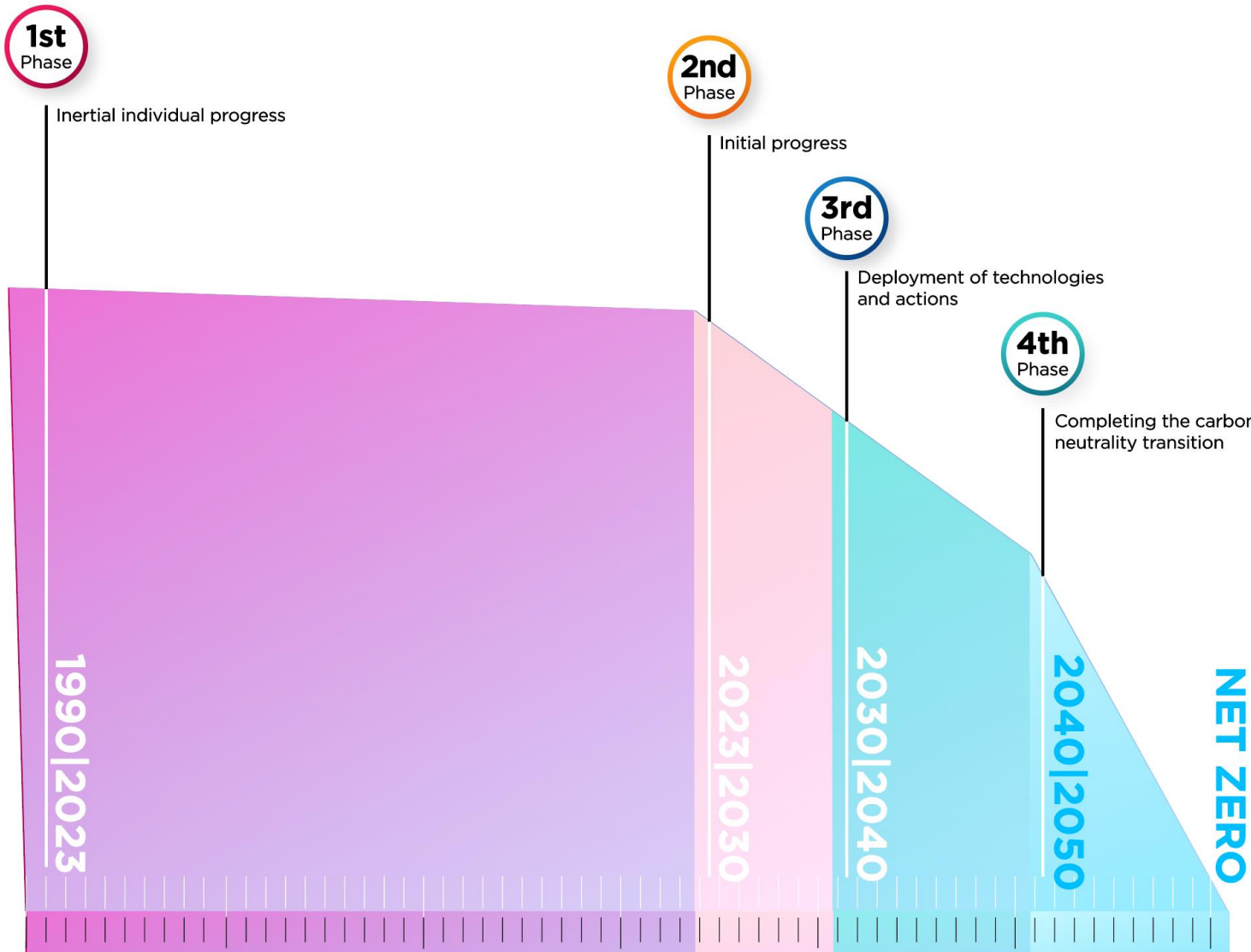
Empfehlungen für Gesteinskörnungshersteller & Standorte



Empfehlungen



Unser grüner Weg bis 2050 in 4 Phasen:



1. Phase: 1990 - 2023: Langsamer und individueller Fortschritt

2. Phase: 2023 - 2030: Erste Fortschritte

3. Phase: 2030 - 2040: Einsatz von Technologien und Maßnahmen

4. Phase: 2040 - 2050: Vollendung des Übergangs zur CO₂-Neutralität

- Geringer CO₂-Ausstoß pro Tonne ... aber großes Volumen/Tonnage
- Gesteinskörnungen sind ein wesentliches Produkt für den Klimaschutz und die Anpassung an den Klimawandel in der EU sowie für die nachhaltigen Entwicklungsziele der Vereinten Nationen
- Unser Beitrag kann zu einer insgesamt positiven CO₂-Bilanz führen
- Wir sind eine Branche von KMUs, ... das Erreichen von Netto-Null bis 2050 hängt also von Folgendem ab:
 - Langfristige und solide Strukturpolitik zur Erhaltung der Wettbewerbsfähigkeit und Beschäftigung
 - Verfügbarkeit und Bezahlbarkeit emissionsneutraler Technologien
 - Zusammenarbeit, Synergien und Konsistenz im Handeln
- Verbände müssen ihren Unternehmen klarmachen, wie wichtig es ist, **jetzt anzufangen!**
 - Eine langfristige strategische Investitionsplanung ist für Unternehmen von entscheidender Bedeutung

- Die Roadmap steht den Mitgliedern zur Übersetzung zur Verfügung
- Lobby-Maßnahmen, um Bedenken zu erläutern und darzulegen, was wir von jedem politischen Bereich benötigen, um das Ziel zu erreichen
- Im Jahr 2024 wird ein Aggregates Europe – UEPG-Leitfaden zum **effizienten Energiemanagement an Zuschlagstoffstandorten** vorgelegt
- Der **Fahrplan wird bis 2026 überprüft**, wobei mehr Beiträge von den Mitgliedern eingehen und er an die neuen Richtlinien und Ziele der EU-Kommission und des Parlaments angepasst werden soll

NEUTRAL AGGREGATES 2050



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8 pages brochure



Aggregates Europe - UEPG Roadmap Klimaneutrale Gesteinskörnungen 2050



Ihre Stimme in Europa!



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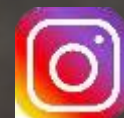
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