

Roadmap de l'industrie extractive

M. César LUACES
FRADES

Directeur Général, ANEFA Chairman de
la Task-force Climate Change Mitigation
and Adaptation de l'UEPG





OBJECTIF : ZÉRO ÉMISSIONS NETTES EN 2050

**JOURNÉE ANNUELLE DE
L'INDUSTRIE EXTRACTIVE ET
CHAUFOURNIÈRE
LES SECTEURS CARRIER ET
CHAUFURNIER : ACTEURS DE
LA TRANSITION ÉNERGÉTIQUE**

**CHÂTEAU DE WANFERCÉE
VENDREDI 27 OCTOBRE 2023**



CÉSAR LUACES FRADES
CHAIRMAN

CLIMATE CHANGE ADAPTATION AND
MITIGATION TASK FORCE
AGGREGATES EUROPE - UEPG

ROADMAP FOR CLIMATE NEUTRALITY IN THE AGGREGATES INDUSTRY

NEUTRAL AGGREGATES 2050



UNE FEUILLE DE ROUTE INTÉGRÉE DANS LA STRATÉGIE EUROPEENNE DES GRANULATS

June 2023



Aggregates Europe – UEPG
Economic Committee

Climate Change Adaptation and Mitigation Task Force

Chairman and Coordinator of the document: César Luaces Frades



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003750

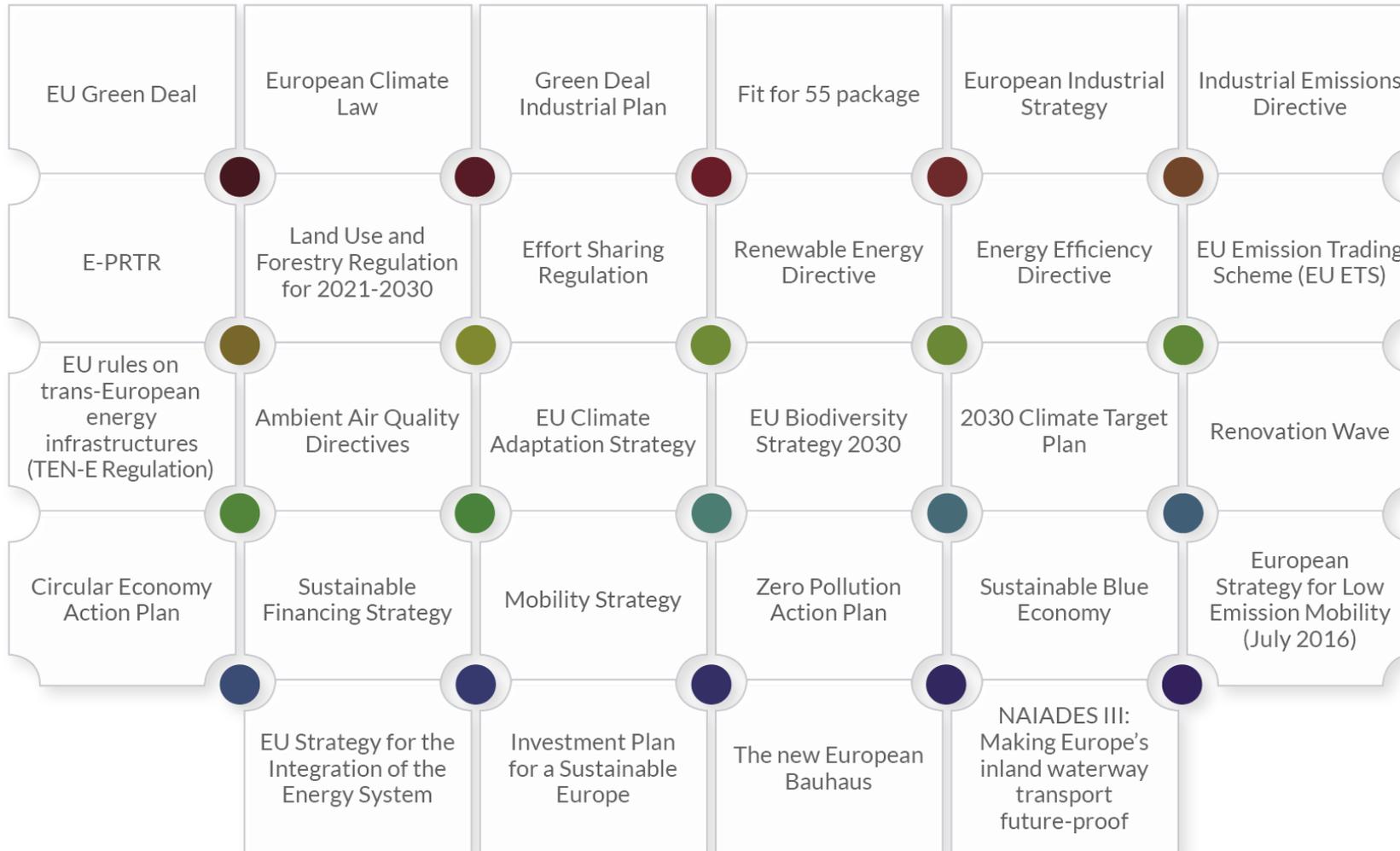
Aggregates Europe - UEPG, as a member of the International Advisory Board of the DIGIECOQUARRY Project (GA #101003750), has contributed to the preparation, dissemination of this document by endorsing it by its Board and launching it under its umbrella.

- Élaboré par la task force "Adaptation au changement climatique et atténuation de ses effets" (Climate Change Adaptation and Mitigation Task Force)
- Approuvé par la Commission économique (1ère), le Conseil d'administration (2ème) et l'Assemblée des délégués (3ème)
- Soutenu par notre président
- Contributions techniques de 10 pays
- 49 références techniques
- Lié à un projet H2020 de l'UE

CYCLE DE VIE DES GRANULATS

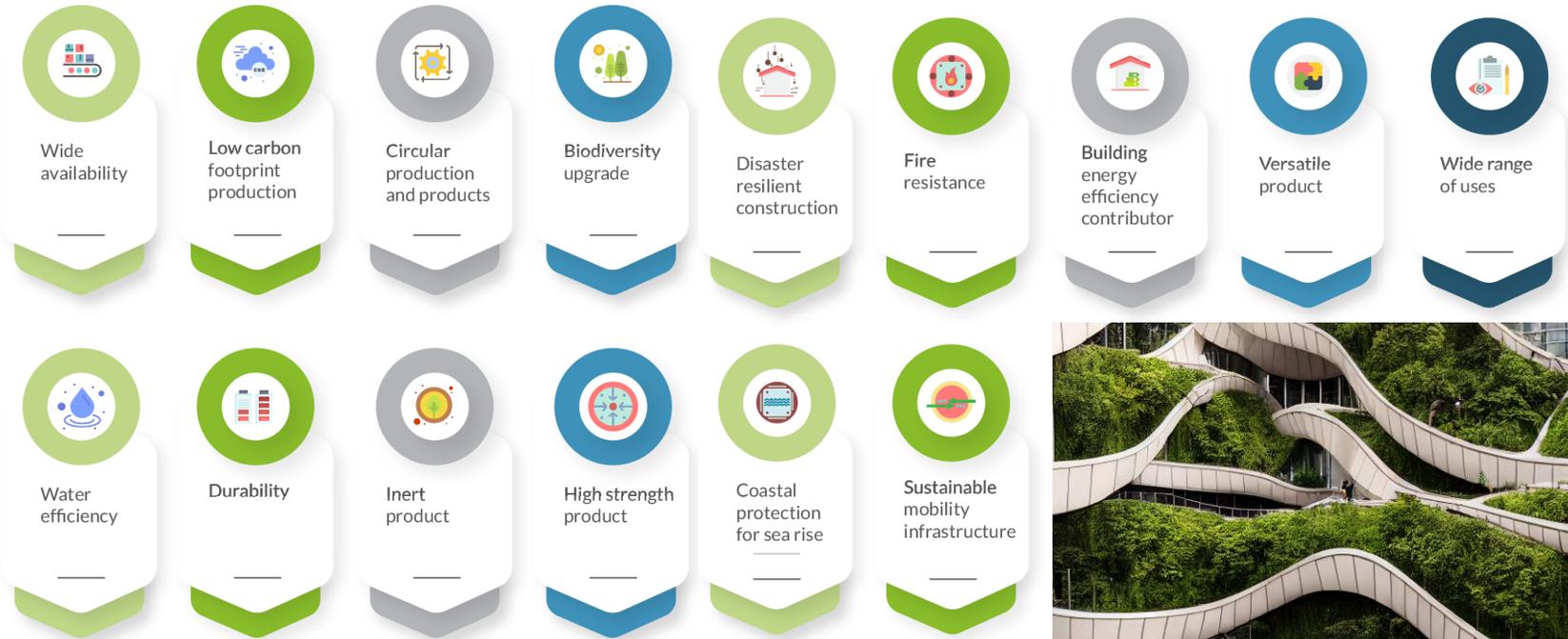


INITIATIVES DE L'UE EN MATIÈRE DE CHANGEMENT CLIMATIQUE LIÉES AUX GRANULATS



UN PRODUIT ESSENTIEL POUR L'ATTÉNUATION ET L'ADAPTATION AU CHANGEMENT CLIMATIQUE DANS L'UE ...

- Large disponibilité
- Production à faible empreinte carbone
- Production et produits circulaires
- Amélioration de la biodiversité
- Réhabilitation des sites
- Efficacité de l'eau
- Durabilité
- Produits inertes
- Produits à haute résistance
- Contribution nette à la recarbonatation
- Construction résistante aux catastrophes
- Résistance au feu
- Contribution à l'efficacité énergétique des bâtiments
- Produit polyvalent
- Protection des côtes contre l'élévation du niveau de la mer
- Infrastructure de mobilité durable
- Large gamme d'utilisations



... ET POUR RÉALISER LES OBJECTIFS DE DÉVELOPPEMENT DURABLE

EU policies mainly contribute:

8 SECURE WORK AND ECONOMIC GROWTH 9 RESILIENT INFRASTRUCTURE AND INDUSTRIALIZATION 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

The raw materials initiative (2009)
The EIP on raw materials (2013)

8 SECURE WORK AND ECONOMIC GROWTH 9 RESILIENT INFRASTRUCTURE AND INDUSTRIALIZATION 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

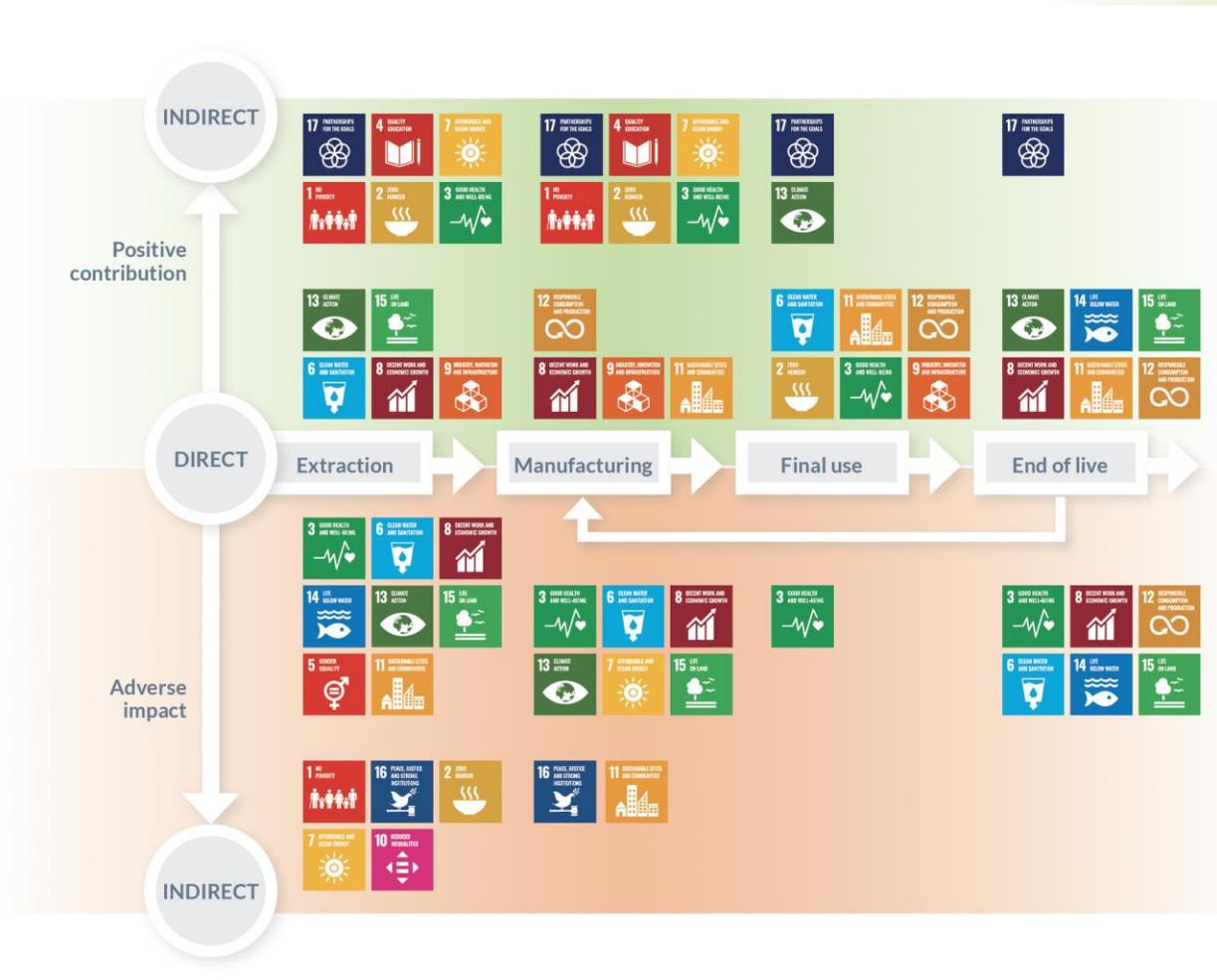
The European Pillar of Social Rights (2017)

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)



PROCESSUS DE PRODUCTION DES GRANULATS ET ÉMISSIONS DE CO₂

Approvisionnement en matières premières

A1 RAW MATERIAL SUPPLY

Transport des matières premières

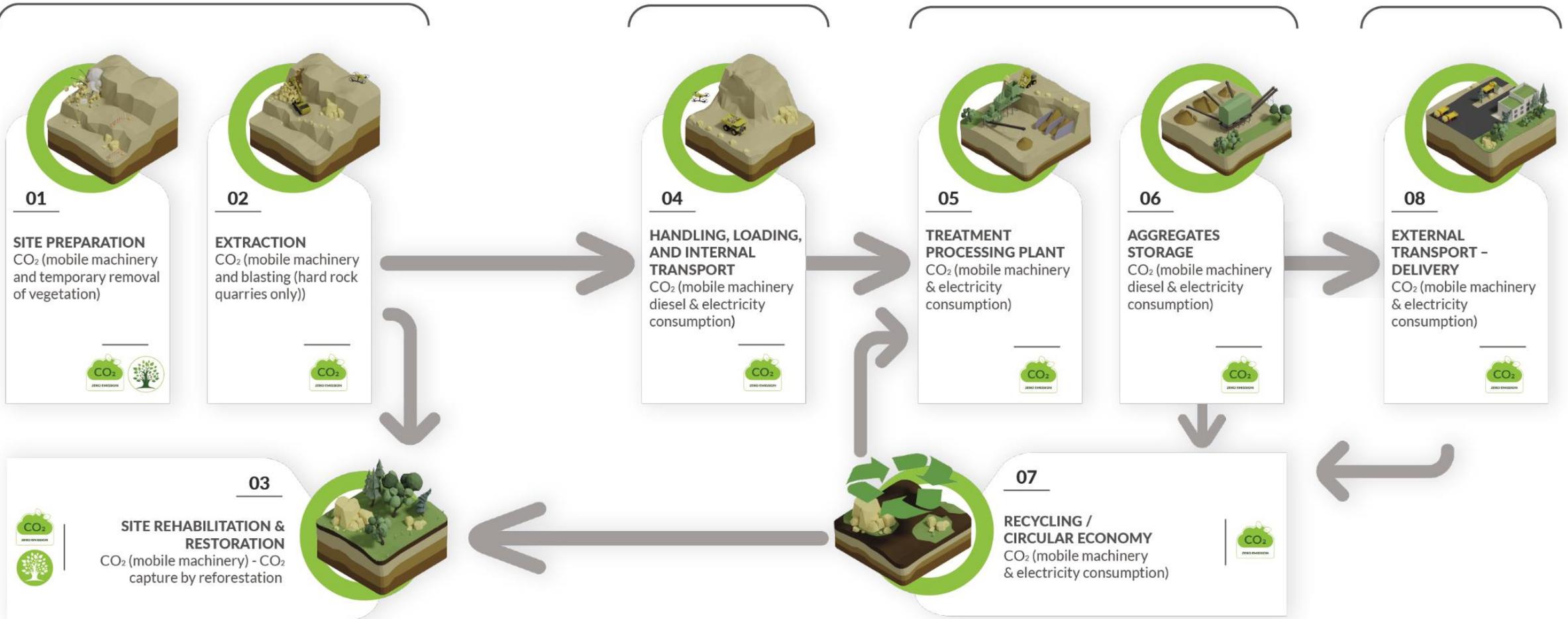
A2 RAW MATERIAL TRANSPORT

Production de granulats

A3 AGGREGATES PRODUCTION

Transport externe de granulats

A4 AGGREGATES TRANSPORT



CYCLE DE VIE DES GRANULATS - NOTRE CHAÎNE DE VALEUR

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

Plus grande quantité de produits à livrer

Énorme chaîne de valeur

Produit très durable

100% recyclable

Les émissions par année d'utilisation sont très faibles

LES CATÉGORIES D'ÉMISSIONS DE GAZ À EFFET DE SERRE POUR LES GRANULATS

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

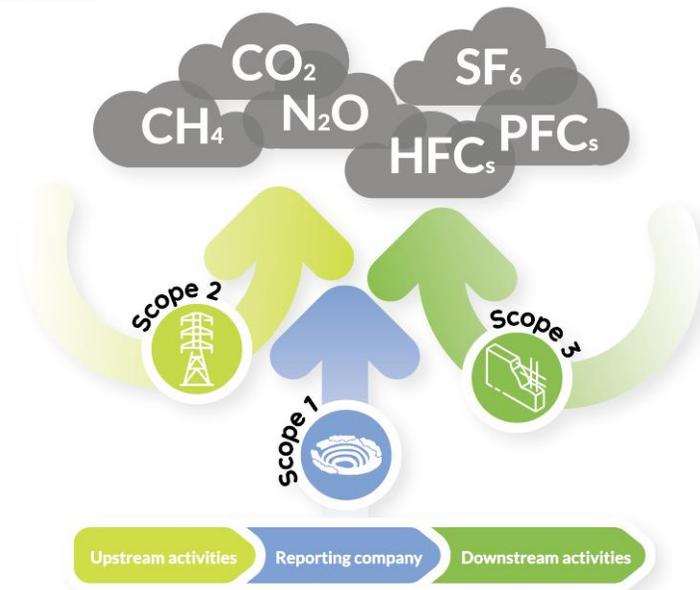
- 4.1 Purchases of goods (Supplies, goods required for the production)
- 4.2 Capital assets (Vehicles, machinery, IT equipment, buildings and other infrastructure)
- 4.3 Wastes management (Collection and treatment of wastes and effluent from the perimeter of the organisation)
- 4.4 Upstream leased assets (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)

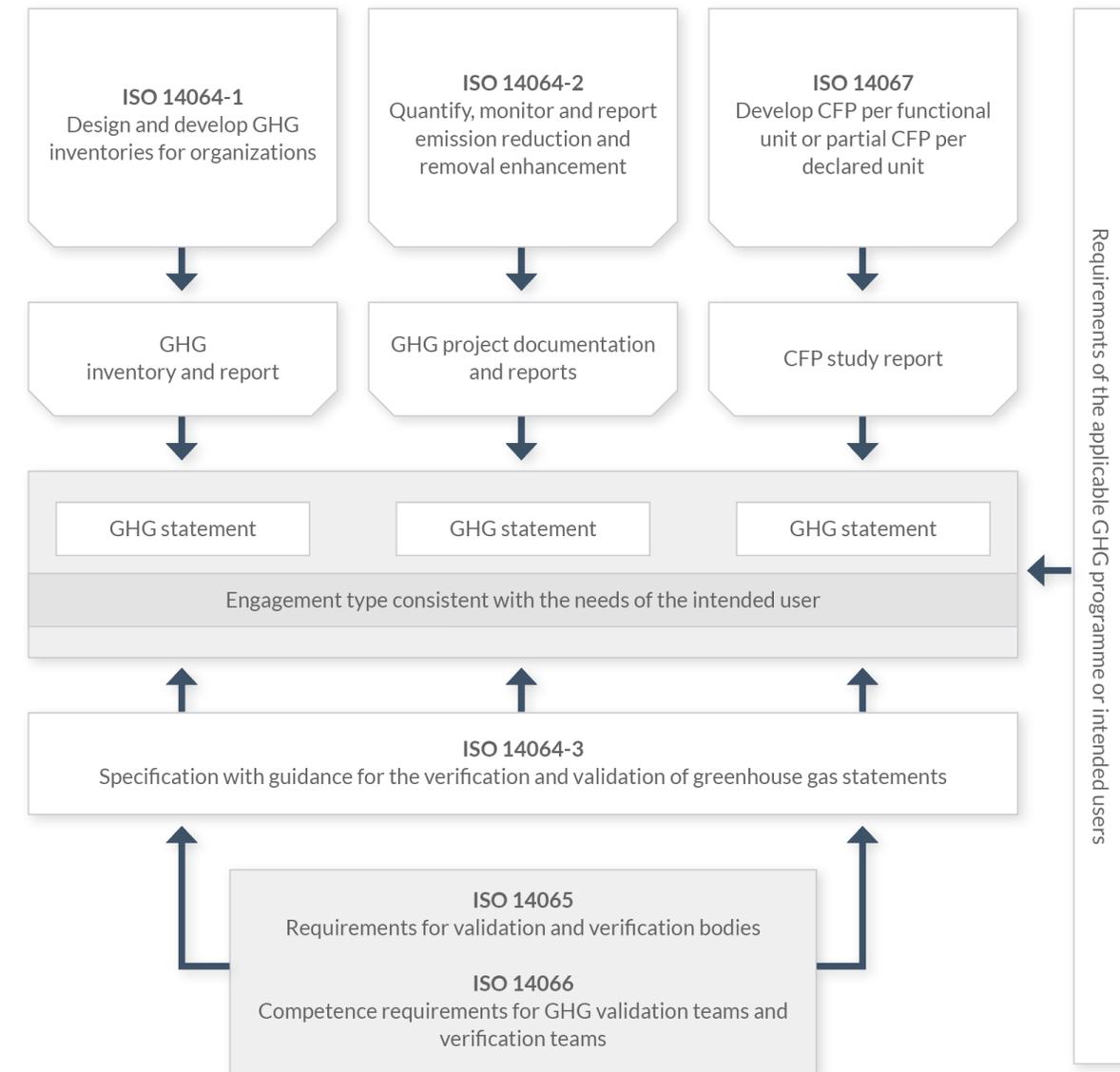
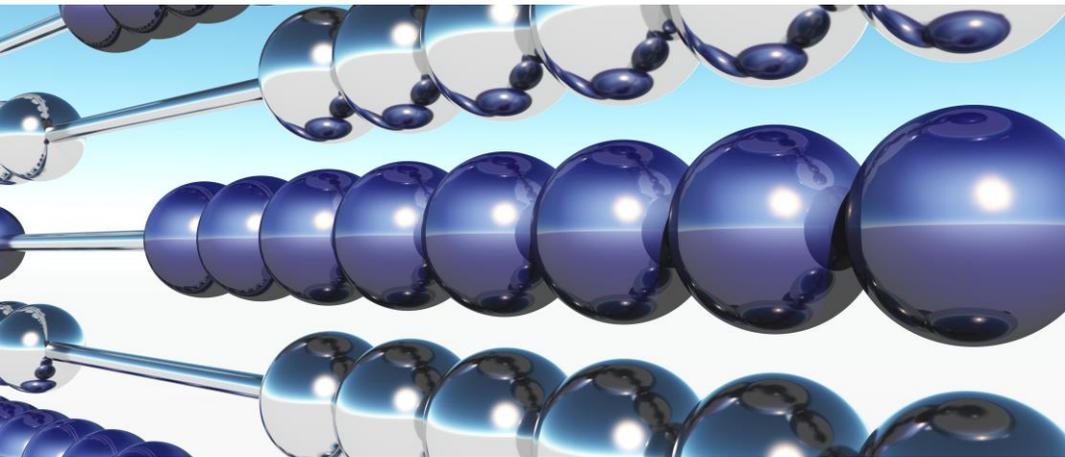
Category 6: Other indirect emissions

- 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)



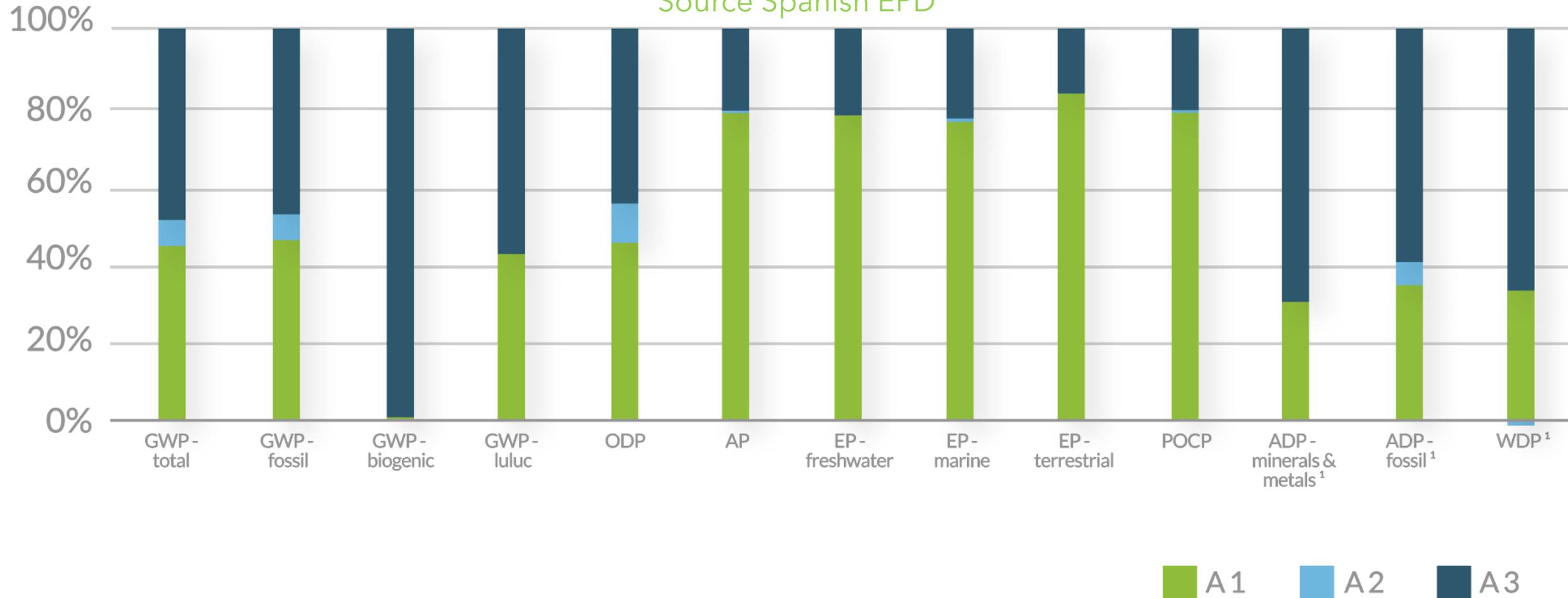
MÉTHODES FIABLES ET NORMALISÉES POUR LE CALCUL DU CO₂-eq

- EN ISO 14025:2010 Étiquettes et déclarations environnementales - Déclarations environnementales de type III - Principes et procédures (ISO 14025:2006)
- 15804:2012+A2:2020. Durabilité des ouvrages de construction - Déclarations environnementales des produits - Règles de base pour la catégorie des produits de construction



Répartition de chaque paramètre de la DEP entre les différentes étapes du processus de production des granulats naturels

Source Spanish EPD

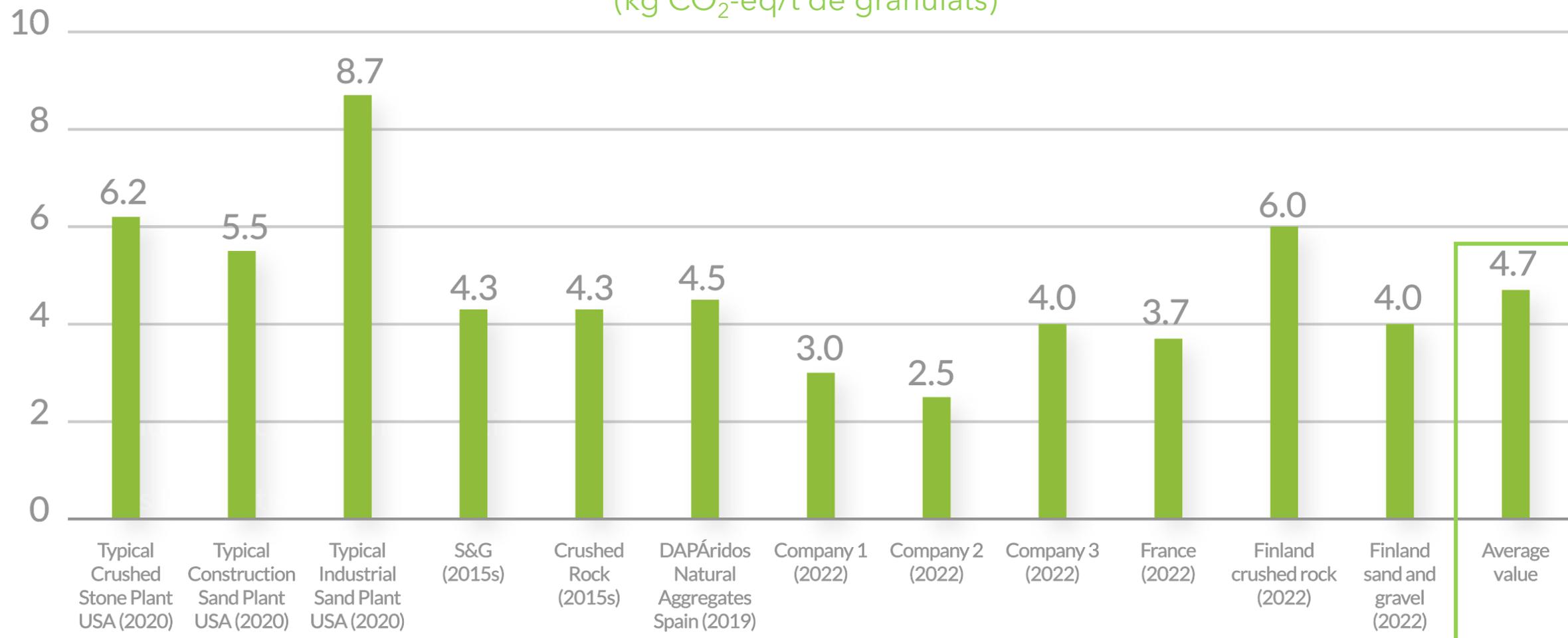


CO₂-eq ÉMISSIONS LIÉES À L'APPROVISIONNEMENT EN MATIÈRES PREMIÈRES, AU TRANSPORT ET À LA FABRICATION DE GRANULATS (A1+A2+A3)

Émissions équivalentes de CO₂ pour les granulats

Diverses sources

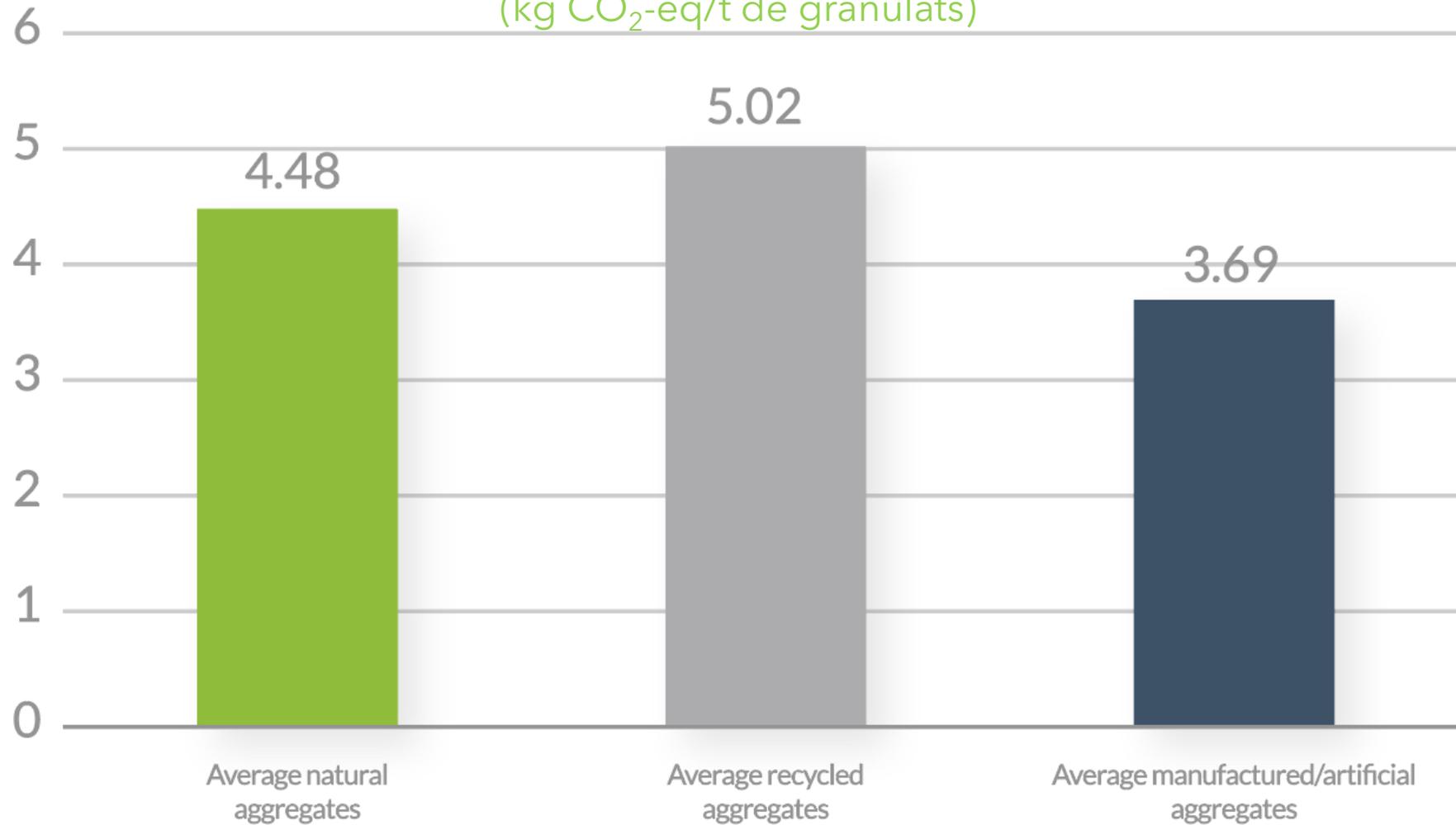
(kg CO₂-eq/t de granulats)



Émissions d'équivalent CO₂ pour les granulats naturels, recyclés, et artificiels

ARTIFICIELS

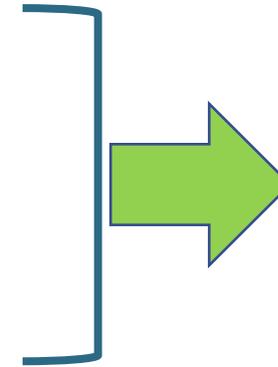
Source EPD Spanish Aggregates Federation
(kg CO₂-eq/t de granulats)



CO₂-eq ÉMISSIONS LIÉES À L'APPROVISIONNEMENT EN MATIÈRES PREMIÈRES + TRANSPORT + FABRICATION DE GRANULATS + TRANSPORT EN AVAL (A1+A2+A3+A4)

A1+A2+A3 : **4.7 kg CO₂-eq/t** de granulats **NATURELS** (52.8%)

A4 (transport en aval) : **4.2 kg CO₂-eq/t** de granulats (47.2%)



8.9 kg CO₂-eq/t de granulats



- Valeur moyenne :

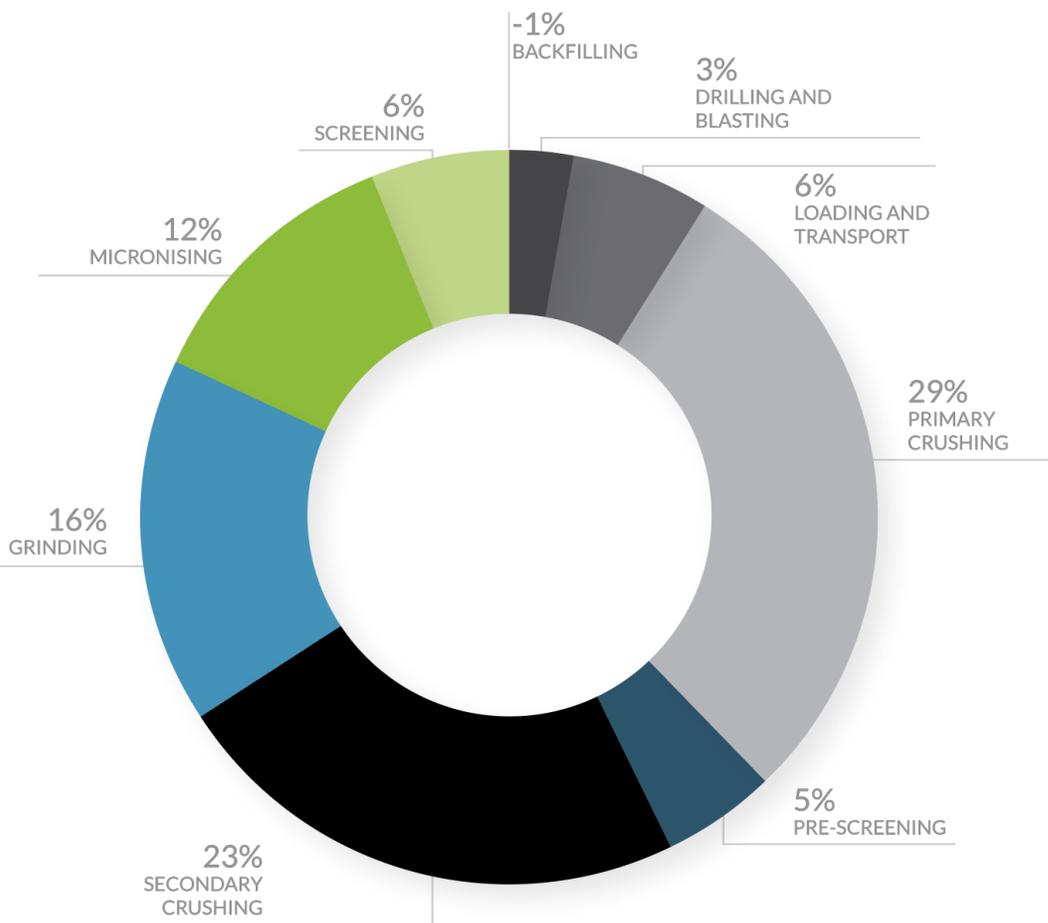
- Granulats de roche dure : 4.8 kg CO₂-eq/t
- Sables et graviers : 4.6 kg CO₂-eq/t.

- La variabilité des résultats ne nous permet pas de conclure, en règle générale, que les granulats provenant de sablières et de gravières ont toujours une empreinte CO₂ inférieure à celle des granulats provenant de carrières de roches concassées, car cela dépend des nombreuses circonstances particulières de chaque site.

ROCHES CONCASSÉES

(kg CO₂-eq/t de granulats)

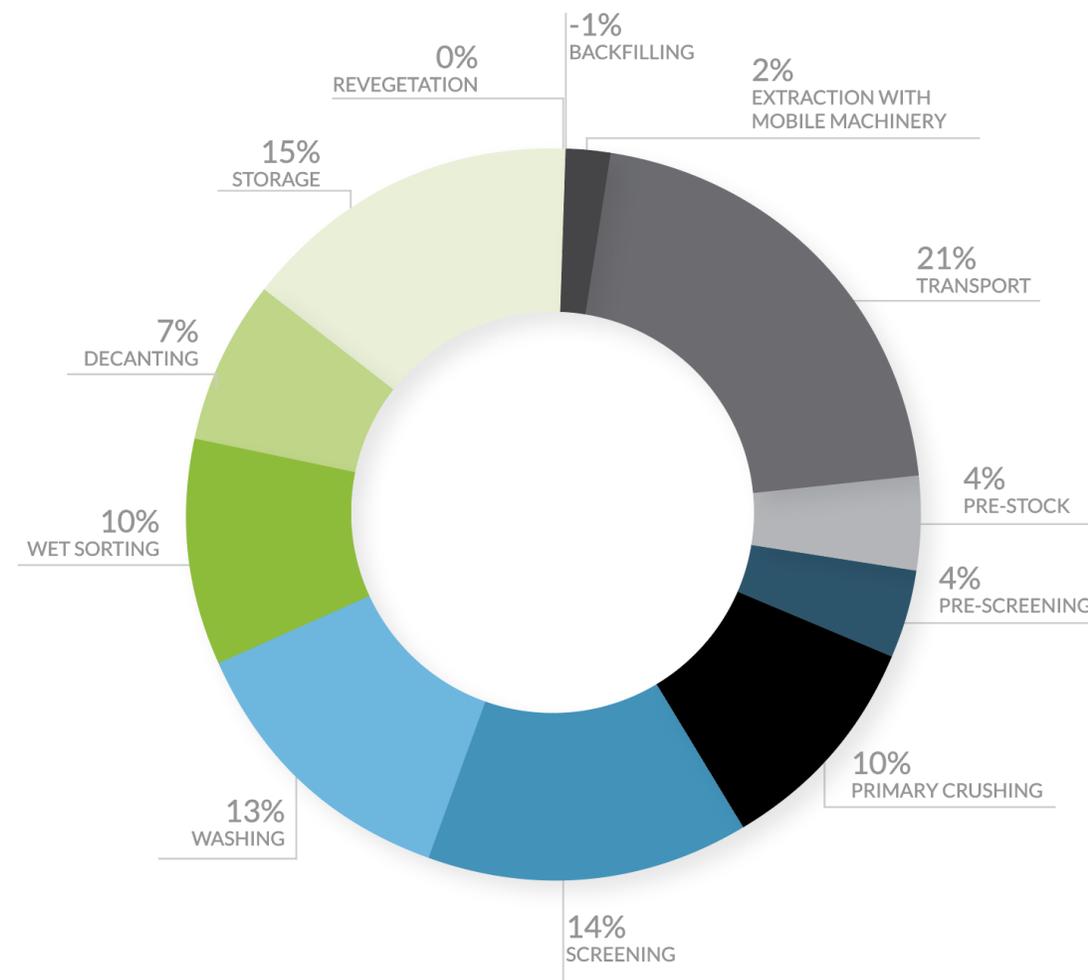
Source EDP Spanish Aggregates Federation



SABLES ET GRAVIERS

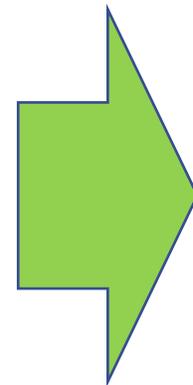
(kg CO₂-eq/t de granulats)

Source EDP Spanish Aggregates Federation



FAIBLES ÉMISSIONS DE CO₂-eq ... MAIS CONSOMMATION GRANULATS TRÈS ÉLEVÉE

- En appliquant les valeurs moyennes obtenues (4,7 kg CO₂-eq/t) aux 3,078 milliards de tonnes de granulats fournis chaque année (2021), on peut estimer que le secteur des granulats (UE + Royaume-Uni + AELE) produit annuellement environ **14,5 millions de tonnes de CO₂-eq**, soit **0,35 % des émissions de l'UE** rapportées par l'AEE (2018).



Engagement de l'industrie des granulats à réduire ses émissions de CO₂-eq pour atteindre zéro émissions en 2050 (objectif de l'UE)



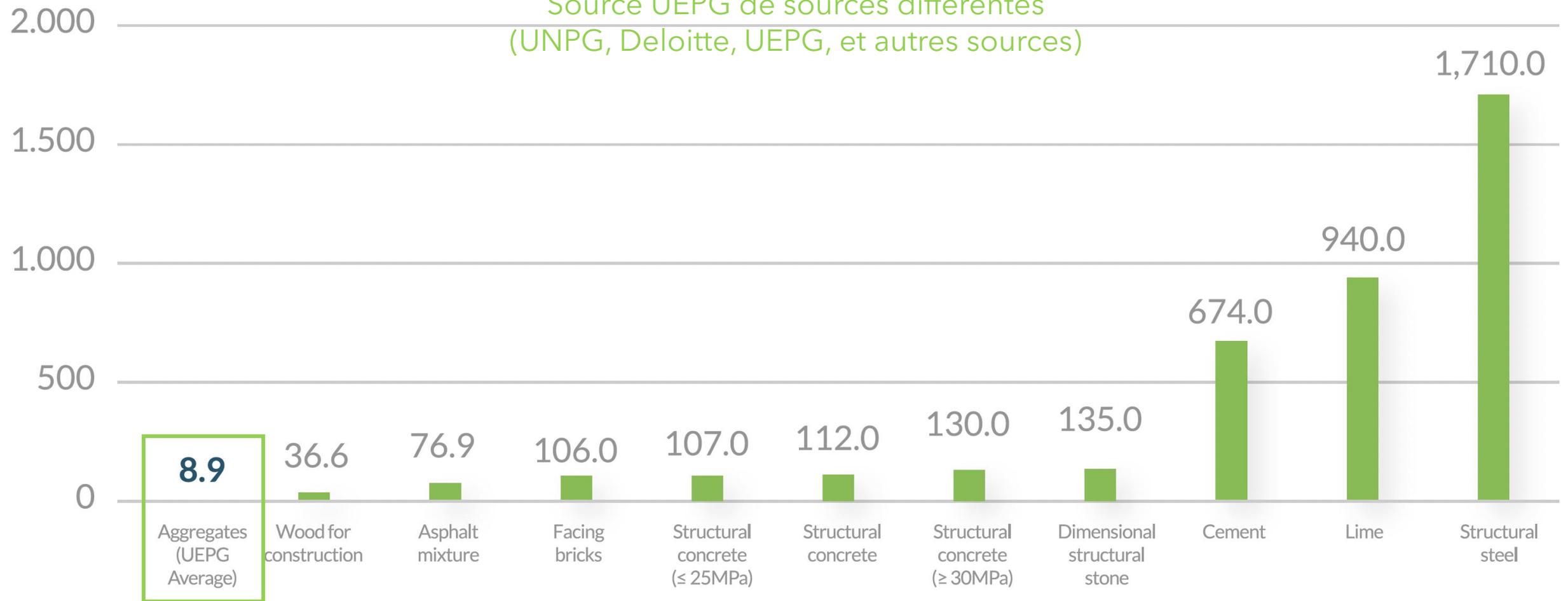
- Étant donné que notre industrie fournit à chaque citoyen européen une moyenne de 5,8 tonnes de granulats par an, cela représente **27,3 kg de CO₂-eq/habitant par an**.
- Comparaison :
 - **Voyage de Paris à Bruxelles pour un passager :**
 - **69 kg CO₂-eq** en avion (+152%)
 - **59 kg CO₂-eq** en voiture à essence (+116%)
 - **52 kg CO₂-eq** par voiture diesel (+90%)
 - **Smartphone: 95 kg CO₂-eq/unité** (+247%) pendant sa production.
 - **Consommation énergétique liée aux équipements électriques et électroniques (EEE) des citoyens : 940 kg CO₂-eq / an** (+3,333%) pour une maison individuelle.



FAIBLES ÉMISSIONS DE CO₂-eq PAR RAPPORT À D'AUTRES PRODUITS DE CONSTRUCTION

kilogrammes d'émissions d'équivalent CO₂ par tonne pour les différents produits, y compris le transport moyen (A1 to A4)

Source UEPG de sources différentes
(UNPG, Deloitte, UEPG, et autres sources)



Comparative Analysis of the Global Warming Potential (GWP) of Structural Stone, Concrete and Steel Construction Materials. Kerr, J. et al. (2022); Declaraciones Ambientales de producto de hormigones. ANEFHOP. (2022); Environmental Product Declaration. TARMAC (2016); CEMBUREAU (2020) + 7 kg CO₂e / t for cement transport. Eula (2015)



Que pouvons-nous **faire** ?

Quelle est **notre contribution** ?

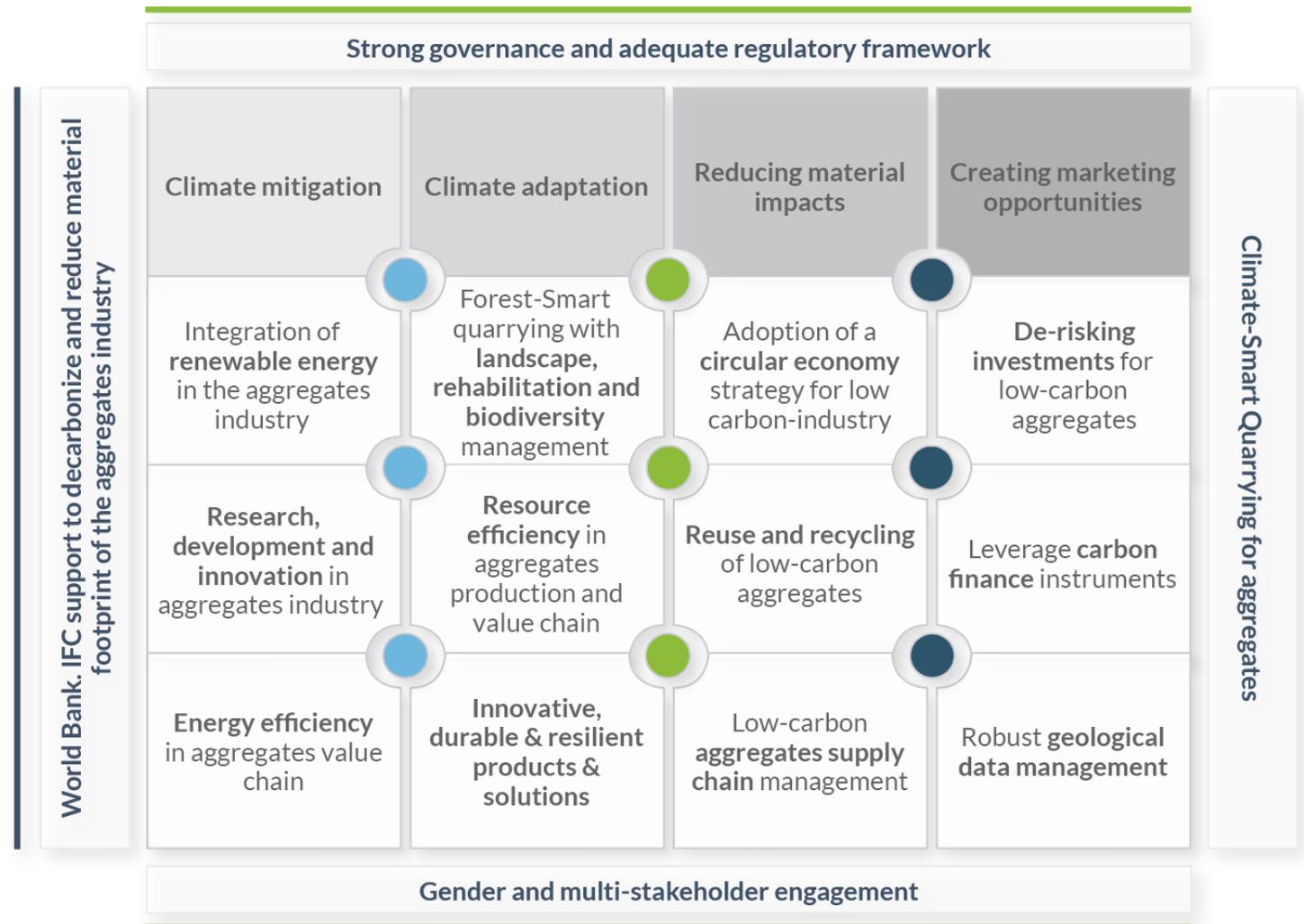
De quoi avons-nous **besoin** en matière de politiques publiques ?

Quel est notre **calendrier** ?

Que pouvons-nous

recommander aux associations, aux entreprises et aux sites ?

ALIGNEMENT SUR LES ÉLÉMENTS DE BASE DE L'EXPLOITATION MINIÈRE INTELLIGENTE SUR LE PLAN CLIMATIQUE DE LA BANQUE MONDIALE



QUE POUVONS-NOUS FAIRE ?

100+ Action lines

- | | | |
|---|---|-----------|
|  | 1. Réduire l'empreinte CO ₂ des granulats (production + distribution + durée de vie) | 14 |
|  | 2. Contribuer à un approvisionnement et à une utilisation plus écologiques de l'énergie. Décarbonisation de l'électricité et des carburants | 18 |
|  | 3. Contribuer à la prévention et à l'adaptation aux effets du changement climatique | 17 |
|  | 4. Favoriser la biodiversité et la réhabilitation pour un impact positif net adapté au changement climatique, à la gestion de l'environnement et à l'éco-innovation | 10 |
|  | 5. Maintenir l'économie circulaire en fonction | 11 |
|  | 6. Rapprocher l'avenir grâce à la numérisation et aux nouvelles technologies | 17 |
|  | 7. Contribuer à la transition écologique | 11 |
|  | 8. Promouvoir la R&D&i de l'industrie des granulats - Innover pour la neutralité | 9 |

Qui fait quoi ?

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:

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 cal						

Reduce the energy footprint of aggregates and those products where aggregates are incorporated, in collaboration with client industries.

--	--	--	--	--	--	--

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.

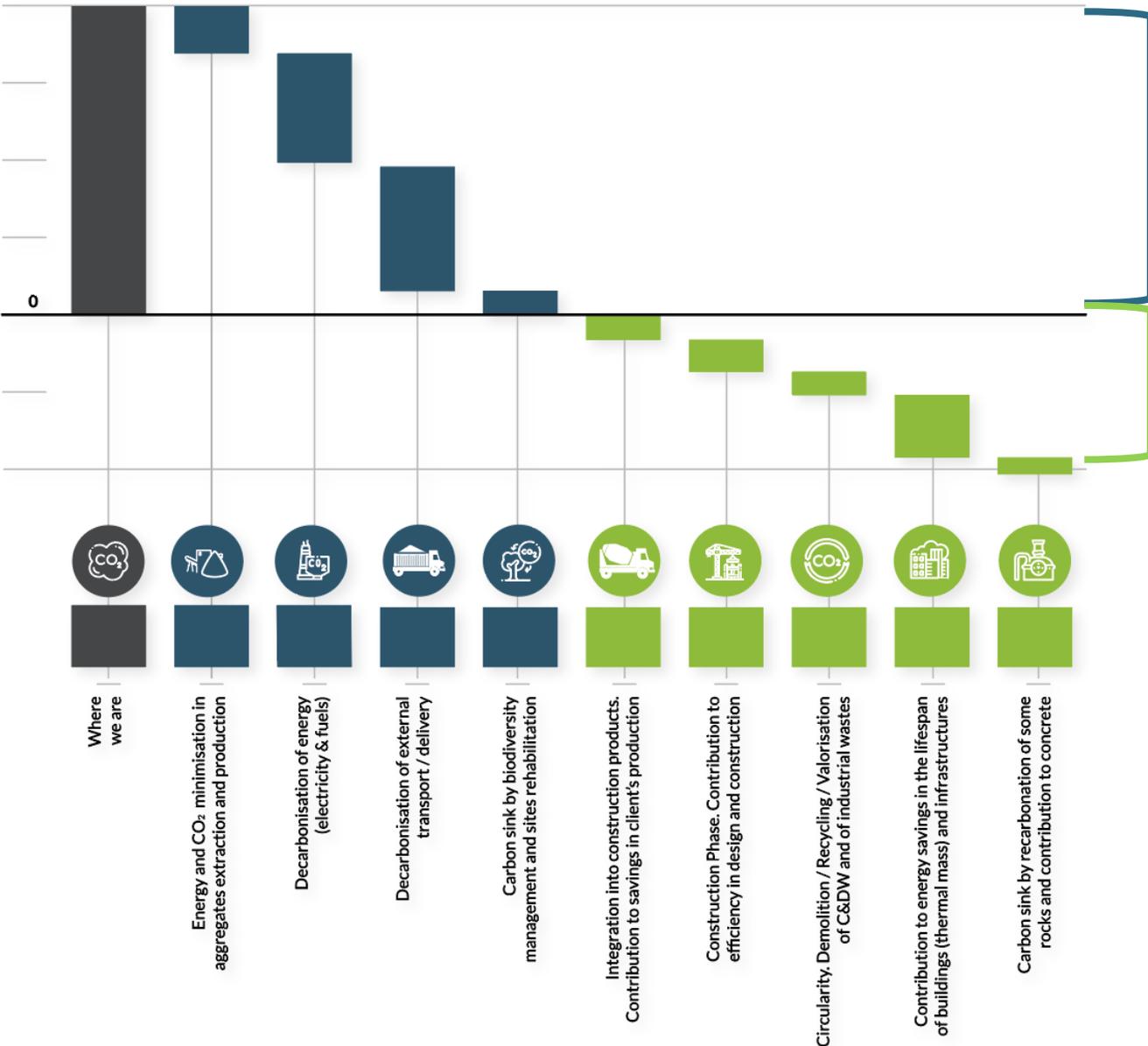
--	--	--	--	--	--	--

Contribute to recarbonation of tar or even some natural/art						
<ul style="list-style-type: none"> Accelerated carbonation 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. 						

QUELLE EST NOTRE CONTRIBUTION ?

	LEADER	INTERACTION WITH OTHER GROUPS	SITUATION 2023	SITUATION BY 2050
Minimisation de l'énergie et du CO ₂ dans l'extraction et la production de granulats				
Décarbonisation de l'énergie (électricité et carburants)		 		
Décarbonisation du transport externe / de la livraison		 		
Intégration dans les produits de construction. Contribution aux économies dans la production du client				
Phase de construction. Contribution à l'efficacité de la conception et de la construction				
Circularité. Démolition / Recyclage / Valorisation des déchets de C&D et des déchets industriels.		 		
Contribution aux économies d'énergie pendant la durée de vie des bâtiments (masse thermique) et des infrastructures		 		
Puits de carbone par la gestion de la biodiversité et la réhabilitation des sites				
Puits de carbone par la recarbonatation de certaines roches et contribution au béton		 		

QUELLE EST NOTRE CONTRIBUTION ? - PERFORMANCE ESTIMÉE



A1+A2+A3+A4

Cycle de vie externe

Notre contribution peut conduire à un bilan CO₂ positif à l'échelle mondiale ...

... mais ce n'est qu'une estimation qui doit être étudiée et quantifiée dans les prochaines années.



Coopération avec les administrations publiques

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.

Préserver la compétitivité et l'emploi

Des politiques structurelles rationnelles et à long terme

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.

Disponibilité et accessibilité financière des technologies neutres en termes d'émissions



Politiques transversales pour un cadre politique équitable



Politiques relatives aux produits de construction



Politiques spécifiques aux granulats



Politiques des infrastructures



Politiques de sensibilisation du public



Politiques technologiques



Politiques financières

DE QUOI AVONS-NOUS BESOIN EN MATIÈRE DE POLITIQUES PUBLIQUES ?



Politiques transversales pour un cadre politique équitable

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.



Politiques relatives aux produits de construction

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.



Politiques spécifiques aux granulats

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.



Politiques des infrastructures

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.



Politiques de sensibilisation du public

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.



Politiques technologiques

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.



Politiques financières

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.



UEPG

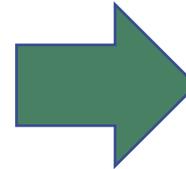
Aggregates Europe - UEPG internal actions



Interactions with Aggregates Europe - UEPG Committees, TFs and WGs



Collaboration, synergies, and unity of action



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; ...



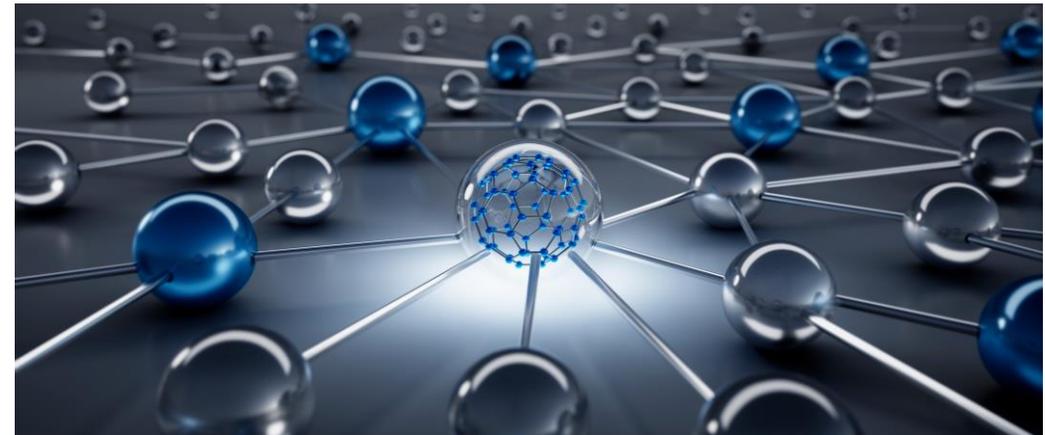
Key Performance Indicators



Recommendations to aggregates associations



Recommendations to aggregates companies & sites



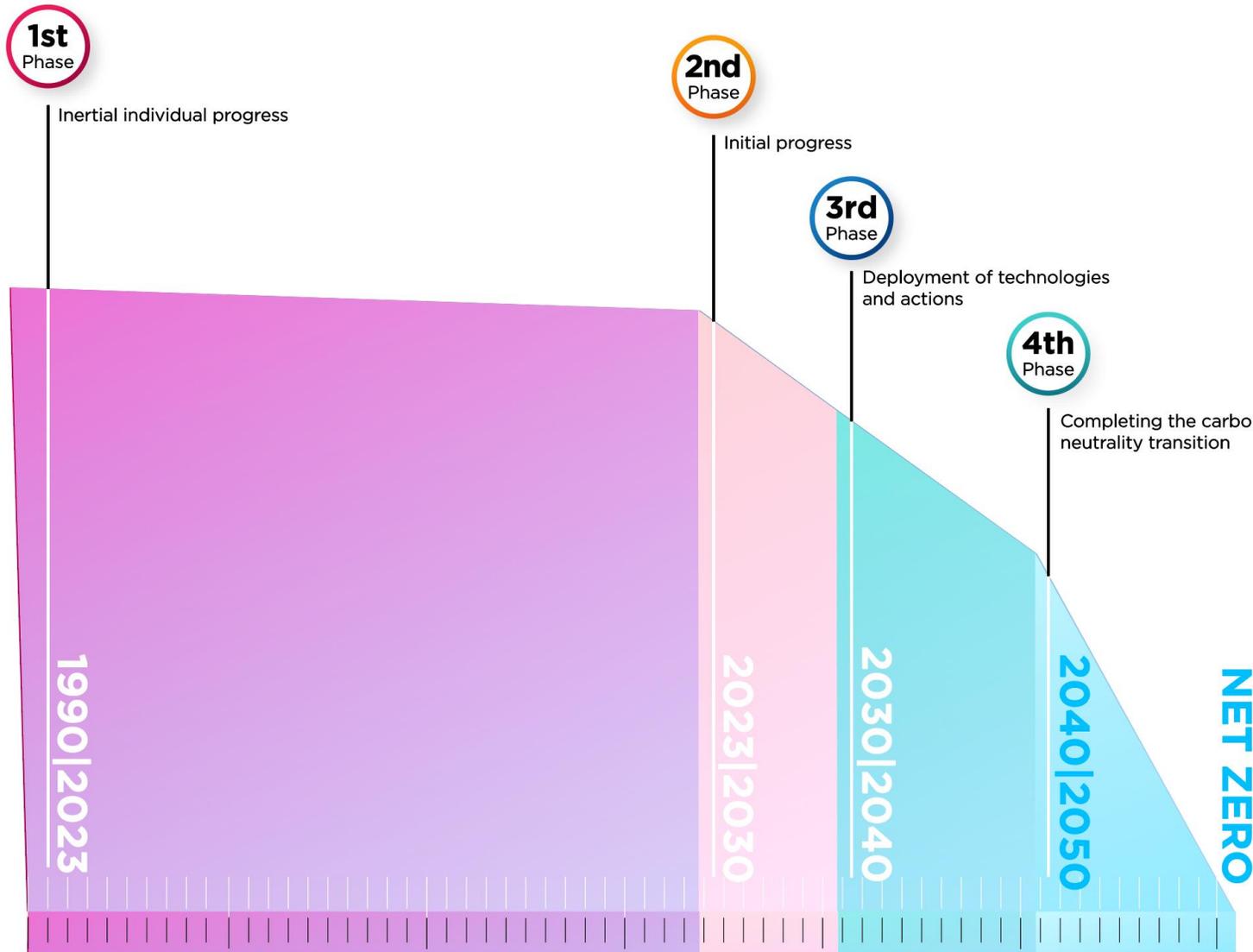
Collaboration & synergies

KPI

Recommendations

Notre voie verte vers 2050 en 4 phases :

- 1st Phase: 1990 - 2023: Progression individuelle inertielle
- 2nd Phase: 2023 - 2030: Premiers progrès
- 3rd Phase: 2030 - 2040: Déploiement de technologies et d'actions
- 4th Phase: 2040 - 2050: Achever la transition vers la neutralité carbone



- Faible émission de carbone par tonne ... mais gros volume
- Les granulats sont un produit essentiel pour l'atténuation et l'adaptation climatique de l'UE et pour les objectifs de développement durable.
- Notre contribution peut conduire à un bilan CO2 positif à l'échelle mondiale.
- Nous sommes une industrie de PME, ... donc l'atteinte du zéro net d'ici 2050 dépendra de .. :
 - Politiques structurelles équilibrées et à long terme préservant la compétitivité et l'emploi
 - La disponibilité et de l'accessibilité financière des technologies neutres en termes d'émissions
 - La collaboration, synergies et unité d'action
- Les associations doivent expliquer à leurs entreprises combien il est important de commencer **maintenant** !
 - La planification stratégique des investissements à long terme est cruciale pour les entreprises

QUELLE EST LA PROCHAINE ÉTAPE ?

- La feuille de route peut être traduite par les membres.
 - Le dessin peut être réutilisé moyennant un certain coût par langue.
- Diffusion par les associations membres
- Action de lobbying pour expliquer les préoccupations et ce dont nous avons besoin de la part de chaque secteur politique pour être dans les temps.
- Un document d'orientation Aggregates Europe - UEPG sur la **gestion efficace de l'énergie dans les sites de granulats** sera publié en 2024.
- La feuille de route sera **réexaminée d'ici 2026**, avec davantage de contributions de la part des membres et pour l'aligner sur les nouvelles politiques et les nouveaux objectifs de la Commission et du Parlement européen.

COMMENT TÉLÉCHARGER LA FEUILLE DE ROUTE ?

NEUTRAL AGGREGATES 2050



Publication
Download



11 Why are aggregates essential for carbon neutrality? What can we do?



uepg.eu



Download
8 pages brochure





OBJECTIF : ZÉRO ÉMISSIONS NETTES EN 2050

JOURNÉE ANNUELLE DE
L'INDUSTRIE EXTRACTIVE ET
CHAUFURNIÈRE
LES SECTEURS CARRIER ET
CHAUFURNIER : ACTEURS DE
LA TRANSITION ÉNERGÉTIQUE

CHÂTEAU DE WANFERCÉE
VENDREDI 27 OCTOBRE 2023



CÉSAR LUACES FRADES
CHAIRMAN

CLIMATE CHANGE ADAPTATION AND
MITIGATION TASK FORCE
AGGREGATES EUROPE – UEPG