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Results of COP 21 negotiations in Paris and its effects on the global cement & concrete industry

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Development (WBCSD)



Realização



Nations Unies

Conférence sur les Changements Climatiques 2015

COP21/CMP11

Paris France



December 12, 2015

The Paris Agreement

- A signal and a framework for action
- Ambitious and balanced, it aims at a complete decarbonation of worldwide economy by the century-end
- Adaptation and mitigation are considered at the same level in the agreement, together with finance
- A new mode of international cooperation, including states and non-states (business for instance, NGOs...)
- A permanent regime, with regular updates for reporting and adjusting ambitions

The elements of success

4 main points to achieve to consider a success

- A legally-binding agreement
- Nationally determined contributions (INDC)
- A financial and technologic package (to help the developing countries)
- An agenda of solutions (unilateral and multilateral agreements, in parallel of the UNFCCC process)
 - Reinforced action of economic stakeholders

The Agreement document

Consists of two parts

1) The decisions of COP21

- a) Applicable immediately**
- b) Period before 2020**
- c) Flexible : dispositions can be revised by future COP meetings**

2) The Paris Agreement

- a) Subject to ratification¹**
- b) Aims to remain into force until the objectives are achieved.
So no calendar references are included**

Good duo, to reconcile short, medium and longer term

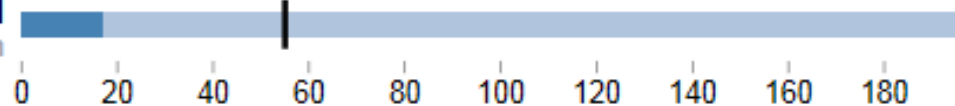
¹ Entry into force when a minimum of 55 states representing a minimum of 55% of worldwide emissions

Status of Ratification – As of June 6, 2016

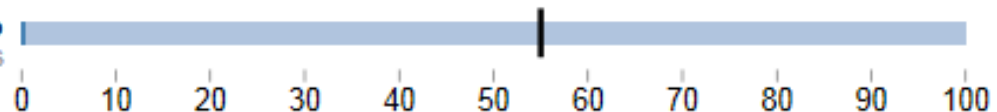
PARIS AGREEMENT - STATUS OF RATIFICATION

The Paris Agreement shall enter into force on the 30th day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

17 Parties have ratified
of 197 Parties to the Convention



Accounting for 0.04%
of global GHG emissions



[More information on the Paris Agreement](#)

Commitments by States - Evolution

1992

UNFCCC Adoption

Stabilize the GHG emissions to a level that will prevent any dangerous human-made perturbation of the climate



2009-2010

Copenhagen-Cancún

The objective of maintaining the temperature rise below the 2°C compared to pre-industrial levels



2015

Paris agreement – Annex – ARTICLE 2

- holding the increase in the global average temperature to **well below 2 °C above pre-industrial levels** and pursuing efforts to limit the temperature increase **to 1.5 °C above pre-industrial levels**,
- Increasing the **ability to adapt** to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development,
- Making **finance flows consistent** with a pathway towards low greenhouse gas emissions and climate-resilient development.

IPCC special report

mandated for 2018 to check if the 1.5°C target is achievable and under which conditions

Adaptation

No fixed target
Need to build capacity and exchange information

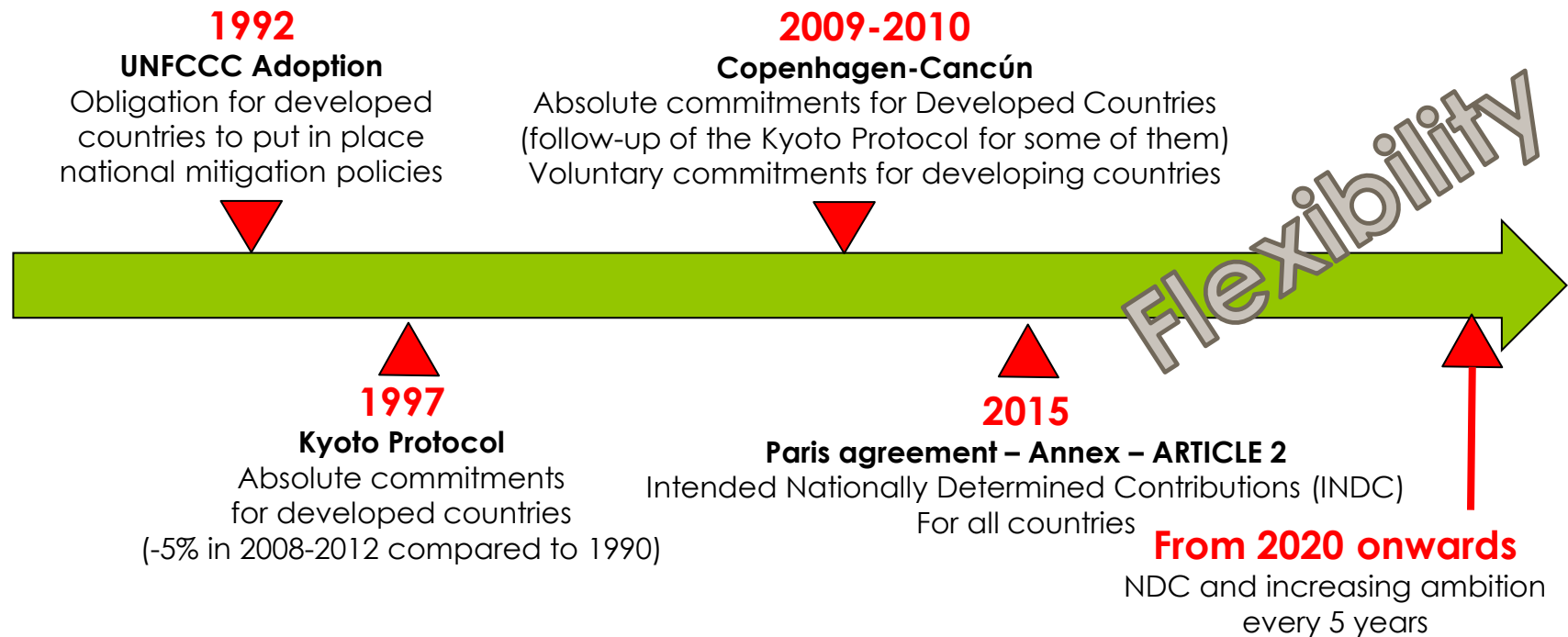
Finance

Strong signal to rethink the investment modes

Differentiation – National contexts

- **No reference anymore to Annex I and non-Annex I countries**
 - **System more flexible**
- **Countries are divided between developed countries and developing countries (including the least developed countries and small island developing States)**
 - **Some exception conditions exist for the least developed countries and small island developing States, due to the fact that their CO₂ emissions are small and that they will be the most affected by climate change**

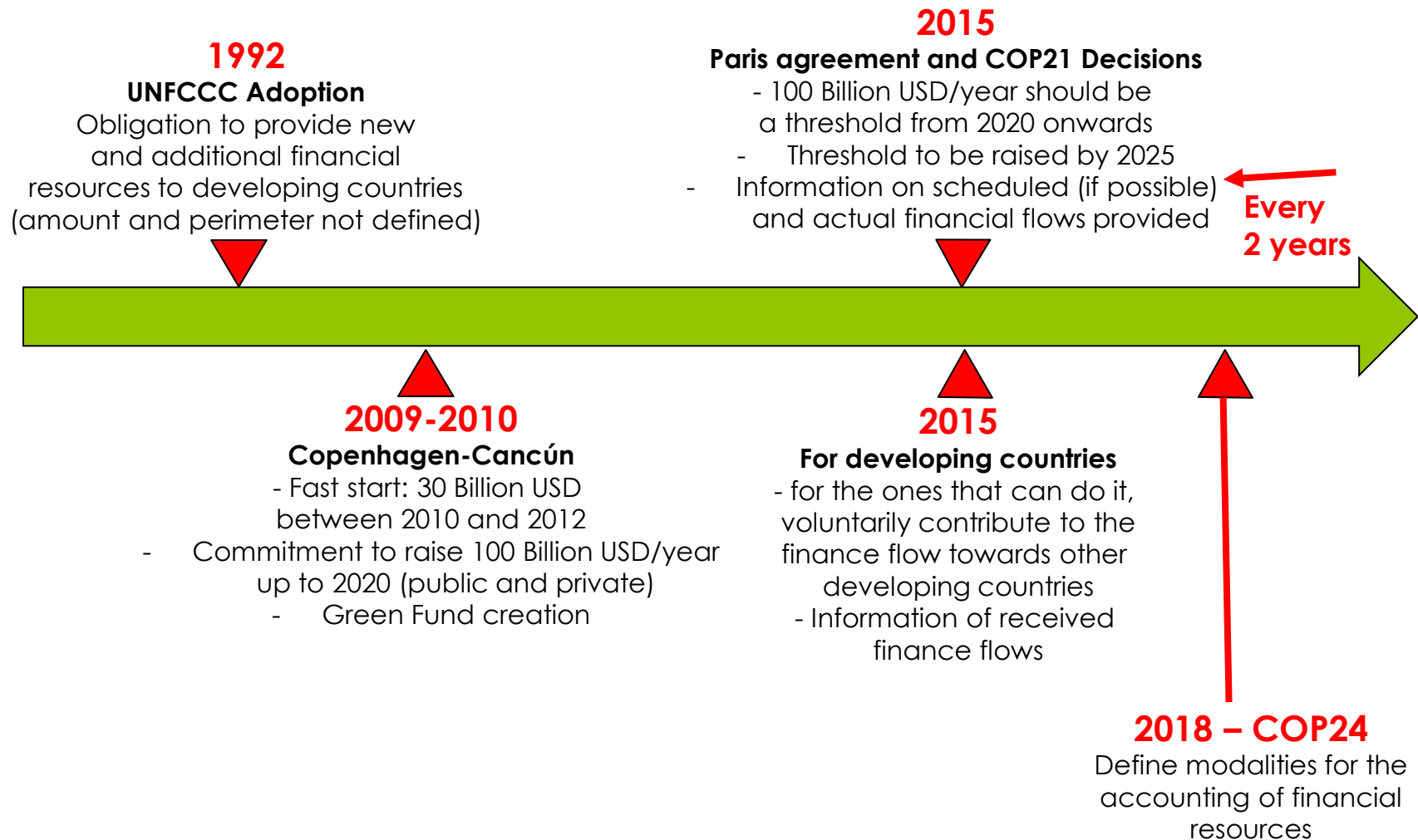
Mitigation commitments - Evolution



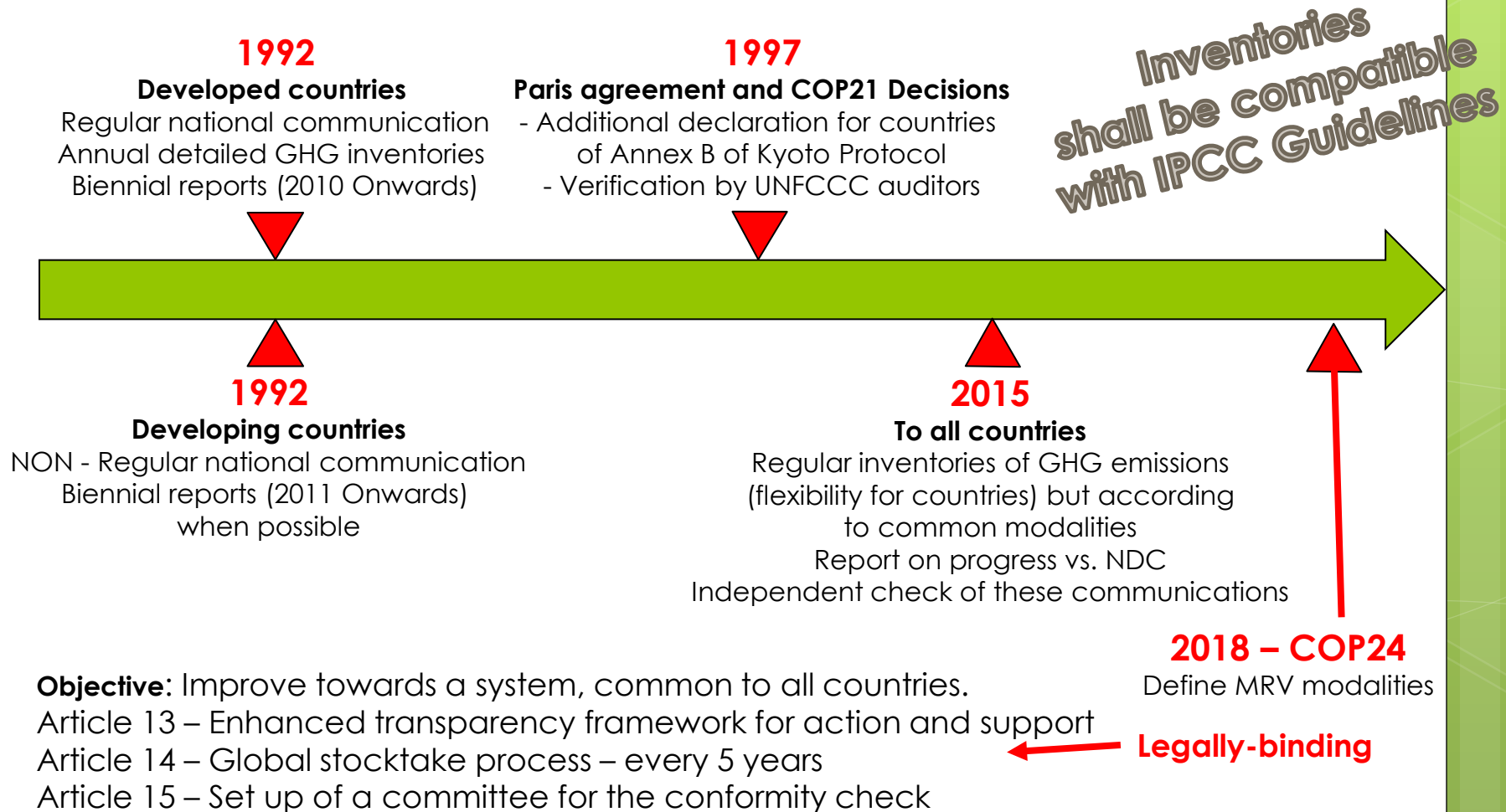
Objective: Parties aim to reach **global peaking of greenhouse gas emissions as soon as possible**, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as **to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century**, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

Article 4

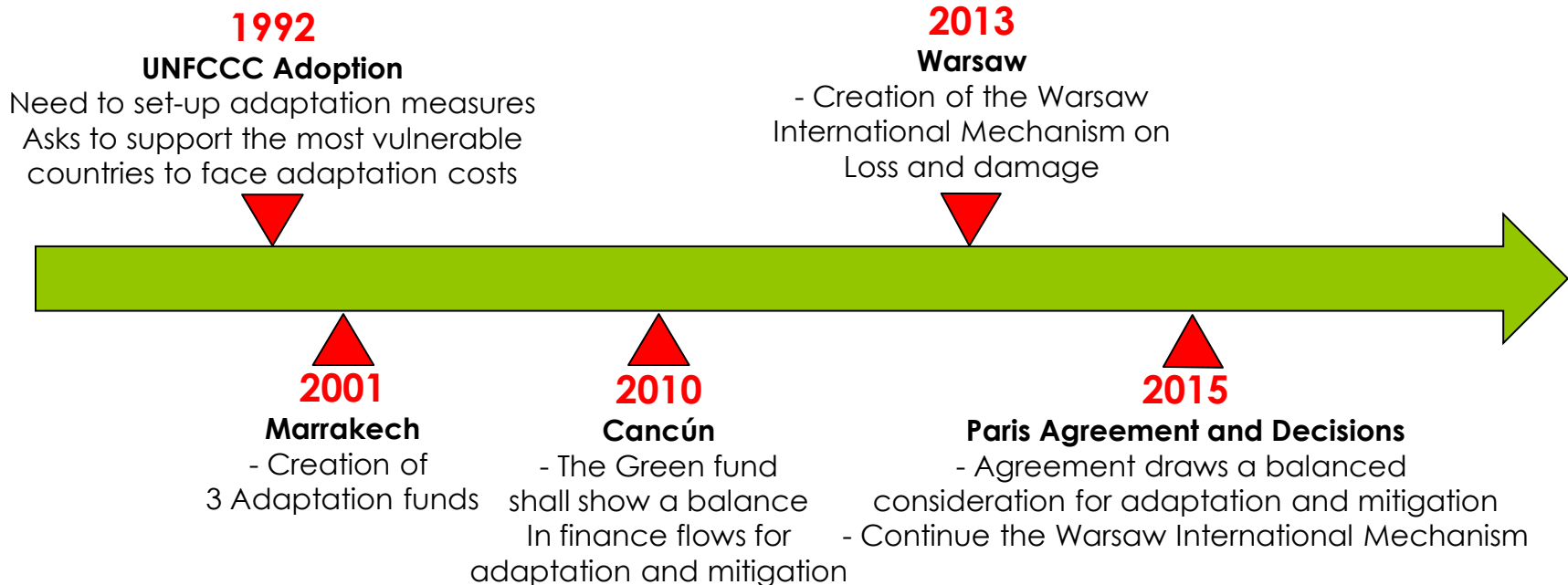
Finance mechanisms (North/South)



Transparency obligations – Articles 13-14-15



Loss and damage – Article 8



Article 8 of the Agreement does not provide a basis for any liability or compensation. So liability and compensation for loss and damage are not included in the Paris agreement. The Executive Committee of the Warsaw International Mechanism shall establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts of Parties to develop and implement comprehensive risk management strategies.

Pre-2020 Period

- The Paris agreement focuses on mitigation objectives for 2030 onwards.
- Reinforcement and scaling-up of cooperative actions aimed at reducing GHG emissions
- Importance of non-Parties stakeholders (such as businesses) is officially recognized
 - *Welcomes* the efforts of non-Party stakeholders to scale up their climate actions, and *encourages* the registration of those actions in the Non-State Actor Zone for Climate Action platform
 - Section V of COP21 Decision dedicated to non-Parties stakeholders

COP21 Decisions – Section V

COP21

- 134. *Welcomes* the efforts of all non-Party stakeholders to address and respond to climate change, including those of civil society, the private sector, financial institutions, cities and other subnational authorities;
- 135. *Invites* the non-Party stakeholders to scale up their efforts and support actions to reduce emissions and/or to build resilience and decrease vulnerability to the adverse effects of climate change ...;
- 136. *Recognizes* the need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change, and *establishes* a platform for the exchange of experiences and sharing of best practices on mitigation and adaptation in a holistic and integrated manner;
- 137. *Also recognizes* the important role of providing incentives for emission reduction activities, including tools such as domestic policies and carbon pricing;

LPAA

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Innovation

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Cities & Subnationals Private Finance Business Innovation Building Short Lived Climate Pollutants

COP 21 Paris | INNOVATION - 8th December 2015

INNOVATION

02:30 HD :: vimeo

GOVERNMENTS AND PRIVATE SECTOR COMMIT TO INCREASE R&D FOR LOW-CARBON TECHNOLOGIES

PRESS RELEASE / 11 DEC. 2015

Cement Sustainability Initiative
Cutting Global CO₂ Emissions from Cement Production

More Cooperative Initiatives Coming Soon

NAZCA

VISIT PORTAL

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Laurence Tubiana @LaurenceTubiana
Accélérer l'action, mobiliser tous les acteurs : fière de porter l'héritage de l'Accord de Paris en étant nommée championne #cop21 #champion
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Vidéo #LPAA - Événement Polluants à courte durée de vie: vimeo.com/148141851#climat @WM8tweets #COP21 pic.twitter.com/u0i2MaQ2eO
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UN Climate Action @UNFCCC
Bringing the #ParisAgreement into force - next steps after the historic event goo.gl/R29XK #COP21 @UN pic.twitter.com/ygm1bYUa
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UN Climate Action @UNFCCC
Now online: Official Report of Paris @UN Climate Conference #COP21

International panel on Innovation



News - 2015

Cementos Argos representing the green voice of the cement sector at LPAA thematic day on innovation

Paris, 8 December 2015



WBCSD/CSI-led panel on cement LCTPi

News - 2015

Cement sector contributing to low carbon development through collaboration

Paris, 8 December 2015





Low Carbon Technology Partnership Initiative (LCTPi) – Cement

A **WBCSD**-led movement as the voice of business on sustainability issues

- Building up towards the **UNFCCC COP21 meeting in Paris** (Dec 2015)
- Elaborating sectoral statement of ambition and an action plan of technical solutions to reduce CO₂ emissions through partnerships
- The **CSI** is coordinating input from the **cement sector**

Ambition: Scale up emission reduction in the range of 20 to 25% CO₂ in 2030 compared to business as usual

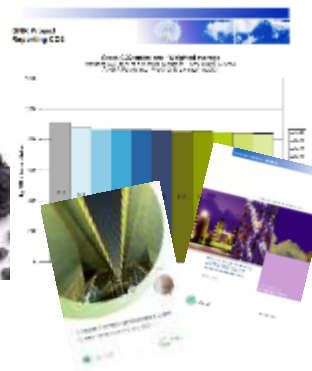
Enhancing **energy efficiency** of the cement manufacturing process



Reducing **clinker / cement ratio**



Scaling up **use of alternative fuels**



Scaling up coverage and implementation of the **CSI tools** (GNR, technology roadmaps) globally, with a focus on China

Engaging the full value chain to maximize **avoided emissions** by usage of concrete



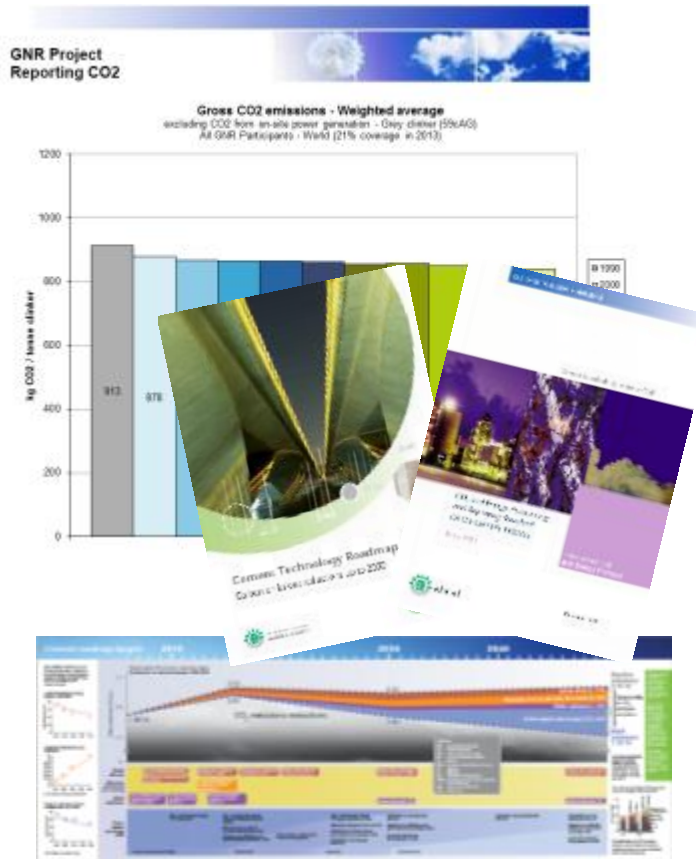
Evaluating **cross-sectoral initiatives** to scale up capture, use & storage of carbon

Developing **new cement** clinkers with lower energy & calcination requirements



Key partners: International Energy Agency (IEA), International Finance Corporation (IFC), national trade associations

7 levers for action in cement LCTPi



Enhancing coverage of the sector's CO₂ and energy database via implementing **CSI tools**:

- CO₂ and Energy Accounting and Reporting Standard for the Cement Industry

www.wbcsdcement.org/CO2protocol

- Getting the Numbers Right (GNR) database

www.wbcsdcement.org/GNR

- Global Cement Technology Roadmap

www.wbcsdcement.org/technology

25 members around the world



15 Communication Partners



The Spanish Cement Association



Arab Union for Cement & Building Materials



Association of Cementitious Material Producers



Association
Canadienne
du Ciment



**CEMENT INDUSTRY
FEDERATION**

Cement Industry
Federation Australia



Brazilian Cement Association



Mineral Products Association



Cement Manufacturers' Association



Turkish Cement
Manufacturers'
Association

Scaling up coverage and implementation of the CSI tools

“Getting the Numbers Right” (GNR)

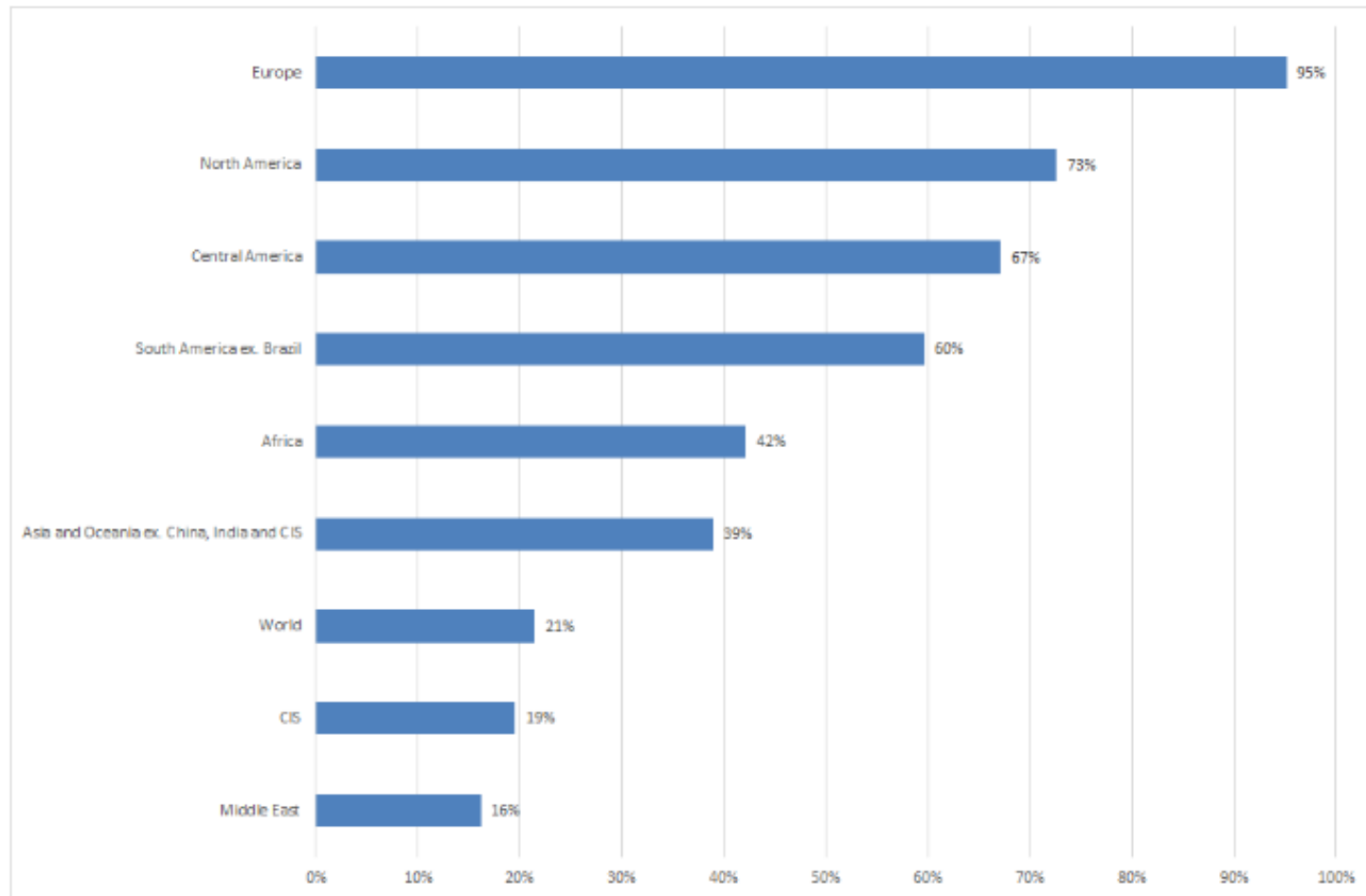
Representative statistical information on the energy and CO₂ performance of clinker and cement production, worldwide and regionally, to serve the needs of internal and external stakeholders.

- The most comprehensive public database on CO₂ and energy information for any industry
- Based on the approach of voluntary reporting, the database complies with anti-trust laws and is managed by an independent 3rd party
- Using a common protocol for transparency in measurement, reporting and analysis
- Delivers uniform, accurate and verified data so that the industry can understand its own current and future performance potential

www.wbcscement.org/GNR

GNR coverage

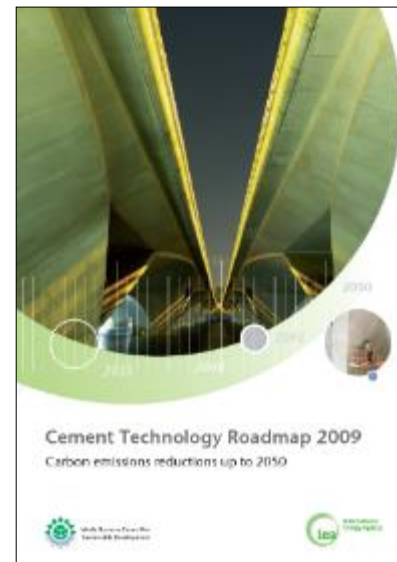
Share of regional cement production included in GNR database
(% of cement production, 2013)



Scaling up coverage and implementation of the CSI tools

Cement Technology Roadmaps

- Partnership with International Energy Agency (IEA)
- First industry-specific roadmap
- Launched in December 2009
- Roadmap for CO₂ emissions reductions potential up to 2050
- Based on 38 technology-specific papers by European Cement Research Academy (ECRA)



www.wbcsdcement.org/technology

- Energy efficiency
- Alternative fuels
- Clinker substitution
- CCS

Regional roadmaps



ess as for the Global Roadmap in



nologies
nd political workshops to
knowledge and build capacity
in the country

7 levers for action in cement LCTPi

Enhancing **energy (electrical & thermal) efficiency** of the cement manufacturing process

- Appropriate and regular **training** to ensure optimum efficiency in operations
- Investment in **research & development** over long term ➡ Creating public-private partnerships



- **Phasing-out inefficient** long-dry kilns and wet production processes in both developed and developing countries
- Strengthening **international cooperation**
- Developing and implementing **international standards** for energy efficiency and CO₂ emissions in the cement industry
- **Sharing best practice policies** for the promotion of energy efficiency and CO₂ emissions reductions in the cement industry



7 levers for action in cement LCTPi

Scale the collection, availability, pre-treatment and usage of alternative fuels and raw materials

- Promotion of co-processing in cement kilns in **developing countries** and enable **widespread expertise** in using alternative fuels
- Partner with other industrial sectors to raise the **availability of suitable waste** streams for the cement industry
- Review and potentially update **legislations**, to ensure the use of alternative fuels and biomass is incentivized by policy, not limited
- Development of a **resource use indicators**
- Promotion of social acceptance via ensuring operators follow common sets of guidelines to guarantee adequate processes

Version 2 published in 2013



www.wbcsdcement.org/fuels



7 levers for action in cement LCTPi

Reducing the **clinker/cement ratio** and develop low-carbon cements

- **R&D**
 - ➔ processing techniques in assessing substitution material properties
 - ➔ new cements & cementitious materials research initiatives
 - ➔ processing techniques for potential clinker substitutes that cannot currently be used due to quality constraints
- Develop and **cross-reference roadmaps for different industries** to enable forecasting of the effects of mitigation technologies in one industry impacting mitigation potential in others
- Establish good practice guidelines and **increase acceptance**
- Promote **alternative sources of funding** for low-carbon technologies
- Provide **international training** with national standardisation bodies and accreditation institutes

7 levers for action in cement LCTPi

Engaging the full building and infrastructure value chain in local markets and maximize **avoided emissions** by usage of cement and concrete products

- ➡ Necessary to increasingly base the selection of building materials and solutions on an assessment of **impacts over the full life-cycle** of buildings and infrastructure projects
- ➡ Covering extraction of raw materials, processing, transportation, construction, use phase and end-of-life (demolition / reuse) (cradle-to-grave / cradle-to-cradle)



7 levers for action in cement LCTPi

Developing **new cement** with lower energy & calcination requirements

- Research on new cements that sequester CO_2 through a carbonization reaction while hardening
➡ crucial elements consistent with the action on **reducing the clinker / cement ratio and develop low-carbon cements**



7 levers for action in cement LCTPi

Evaluating **cross-sectoral initiatives** to scale up capture, use & storage of carbon

- Identify **costs and benefits** of carbon **capture & utilisation** (CCU), transforming CO₂ and CO into fuels and other applications
- **Measure** the CO₂ emissions from **manufacturing processes and products**
- **Cooperate** with other proactive energy-intensive sectors **to facilitate the implementation** of existing and breakthrough technologies
- Promote appropriate **regulatory framework** and **financial incentives** mechanisms
- Expand efforts by government and industry to **educate and inform the public and key stakeholders** about carbon capture & storage (CCS)
- **Investigate linkages** into existing or integrated networks and **enhance collaboration** by building local and global partnerships



steel



cement



chemicals



CSI's work in sustainability with concrete

Superior properties of concrete make it a **superior construction and infrastructure material**

- Concrete is the most widely used construction material
- Versatile material with important properties: strength, durability, flexibility, thermal mass, affordability
- CSI is working on:
 - Methodology for **Environmental Product Declaration (EPD)** for concrete
 - Criteria for **responsible sourcing** of concrete

Product Category Rules (PCR) for unreinforced concrete

- The common methodology underlying the issuance of an **Environmental Product Declaration (EPD)**
- Official registration under the **International EPD® System** (Environdec) in 2012 & 2013



CSI developed tool to produce EPDs

- Ready for use** by concrete producers worldwide
- Training** on-going via e-learning modules
- Working with Portland Cement Association (PCA) to adapt the tool to allow companies operating in the US market **to produce EPDs according to the US-specific PCRs** developed by the Carbon Leadership Forum (CLF)

EPDs and RSS: Why have both?

With the headline objective to provide **reliable and transparent information**

EPDs provide **quantitative** information about the environmental impact of concrete and are used in performing life-cycle-analysis of buildings or projects.

RSS provides **qualitative** information that identifies and promotes responsible practices throughout the concrete supply chain addressing both social and environmental impacts of the business.

EPDs and RSS together provide **a complete look at the material and the company**, fulfilling requests for reliable and transparent data satisfying sustainable supply chain requirements (concrete producers, professionals & architects), providing reliable and transparent information on the process and the products to the construction market.

“Sourcing concrete with confidence”

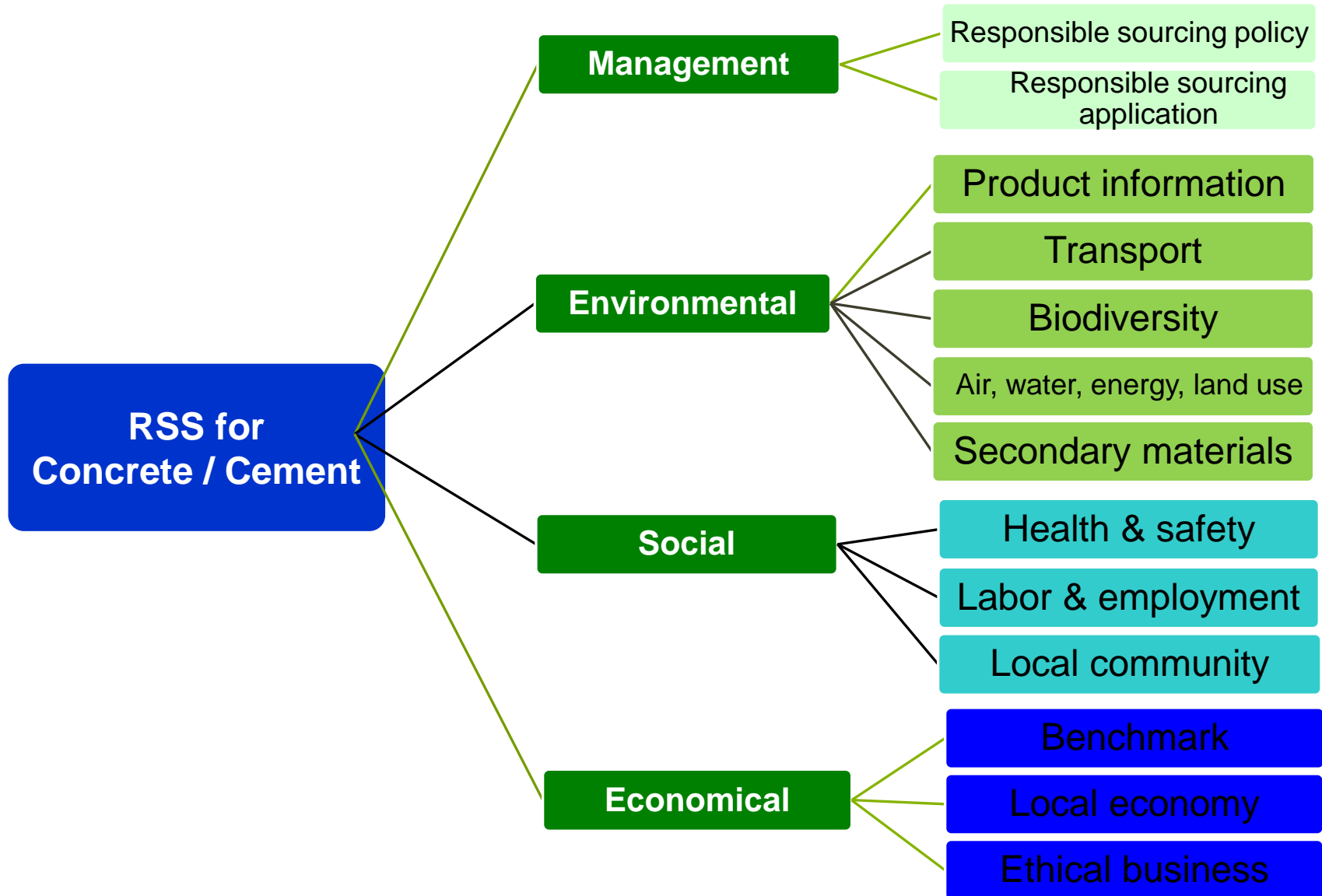


A Global Responsible Sourcing Certification System
for the Concrete and Cement Industry

Founding members





Content of the system



Evaluate externalities of the cement & concrete sector

“To scale-up the CSI’s actions towards sustainable development, building on the measurement, verification and reporting activities undertaken during the first decade of existence of the initiative and expanding the scope of its evaluation to societal impacts and benefits of cement and concrete, in a life-cycle approach.”

~ mandate of CEOs of CSI members in Nov 2013

-  work plan to develop a framework for the sector to measure (qualitatively first, then quantitatively as much as possible) and, when possible and relevant, monetize its **integrated values for society**
-  Evaluation at the social, environmental and economic levels; all along the full value chain

Why are we doing this?

We need **appropriate metrics** to measure real impacts on society and environment (triple bottom-line approach)

- **full life cycle impact** of our products (cement – concrete sector and engaged partners)
- **impacts** beyond company boundaries
- **positive and negative** impacts

In order to help companies to make more informed decisions and to take up further commitments.

The CSI is committed to adopt a credible and robust approach

Deliverables from the qualitative phase

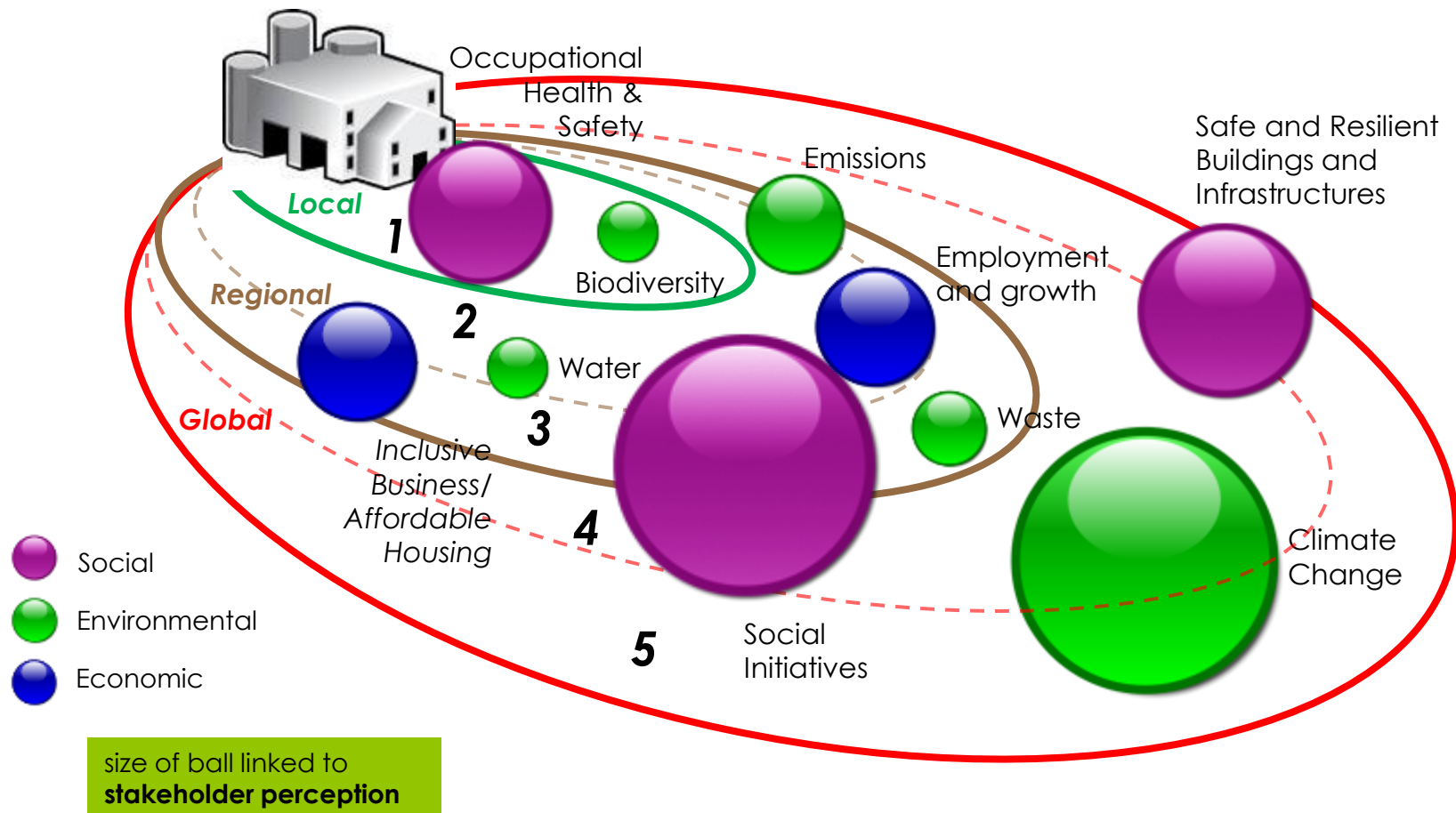
11 categories of impacts were considered:



- A matrix of main drivers of improvement was developed to further prioritize impacts

Deliverables from the qualitative phase

Mapping of impacts in terms of scale of influence



Thank you

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*CSI is a member-led program of the
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