



The Circular Economy in Greece: the role of the cement industry

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“REDEFINING THE CSR VISION: Innovate, Circulate, Engage”
CIRCULATE: THE CIRCULAR ECONOMY AS A POSITIVE FORCE

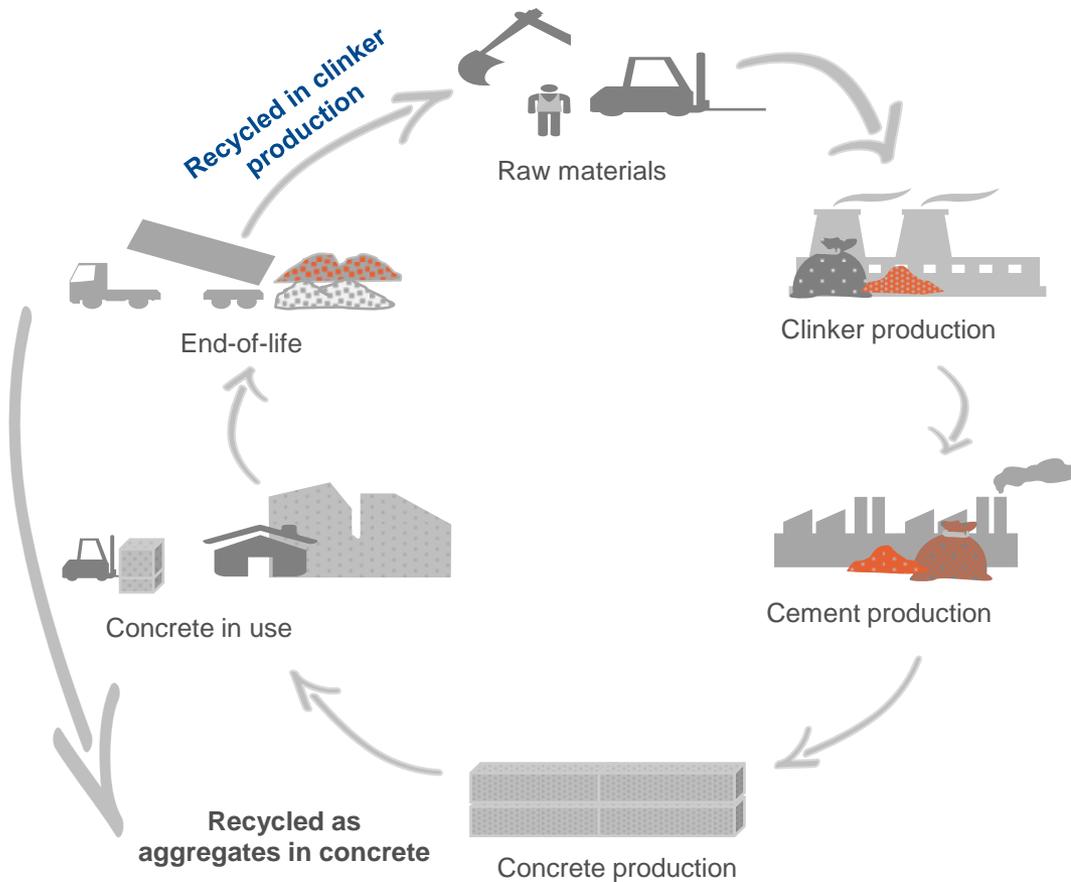
Circular Economy – a new model...

The EU approach

- **Take-Produce-Consume-Dispose approach coming to an end**
 - ✓ natural resources are finite and diminishing rapidly
- **Shift to Re-use-Repair-Recycle**
 - ✓ boost European competitiveness
 - ✓ foster sustainable economic growth
 - ✓ generate new jobs for the EU and Greece
- **Funding & Regulatory Framework**
 - ✓ €5.5 billion from structural funds
 - ✓ €650 million from Horizon 2020
- **Ambitious and extensive regulatory change on the way**



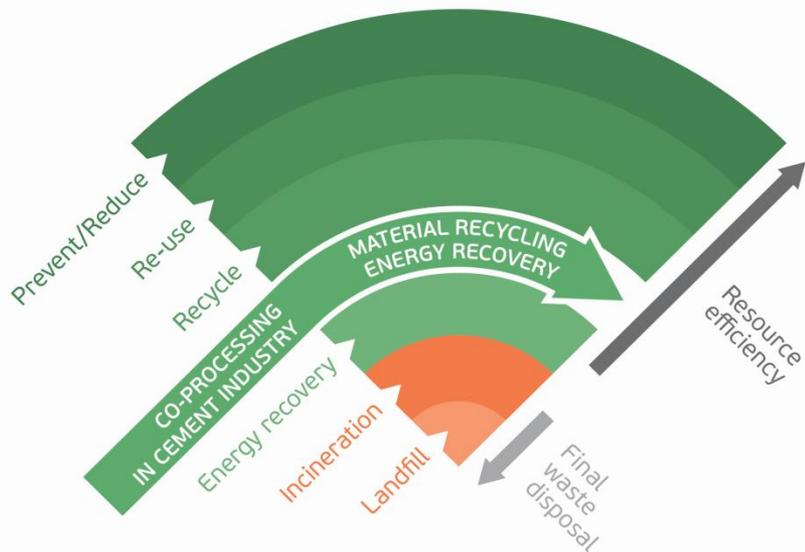
By moving to the Circular Economy, the cement industry can achieve sustainable development



How does the cement industry contribute to circular economy?

- ❖ Sustainable construction
- ❖ Adaptation to climate change
- ❖ Co-processing – Recovery of materials and energy

Co-processing has benefits for the environment, the economy and society



ENVIRONMENT

- Non-renewable natural resources conserved
- Greenhouse emissions reduced
- Landfill reduced
- Zero ash production

COMPETITIVENESS

- Low CO₂ cost
- Low fuel cost
- Import of fuels reduced

SOCIETY

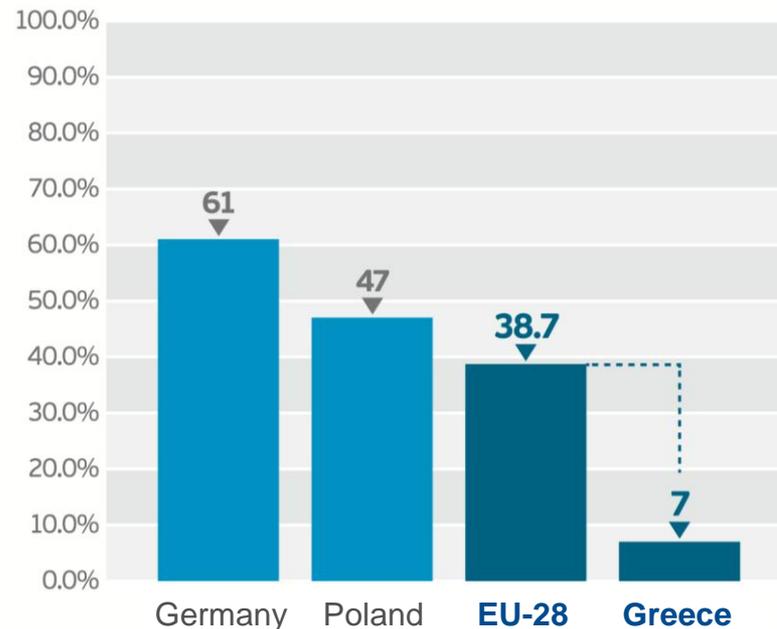
- Safe, low cost waste management solution
- Jobs maintained/created
- Growth – GDP increase

- ✓ **Recycling:** conserving 5.5 million tons of raw materials
- ✓ **Energy recovery:** conserving 6 million tons of fossil fuels & reducing CO₂ emissions by 16 million tons

Data: Cembureau, 2013

Current thermal substitution rates very low in Greece

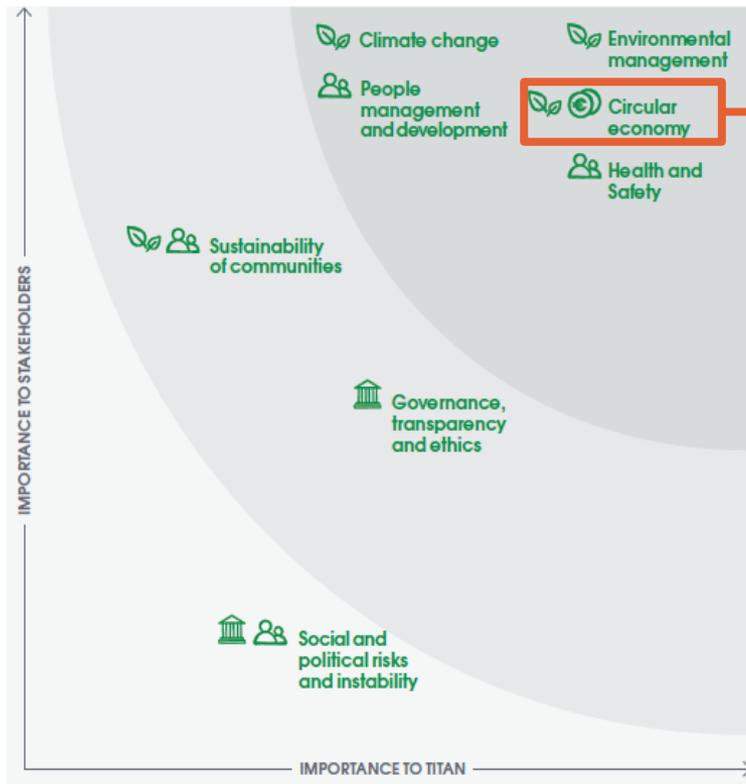
Regulatory framework and lack of structural reforms are the main barriers



Πηγή: World Business Council for Sustainable Development/Cement Sustainability Initiative; "Getting the Numbers Right" (GNR) database <http://www.wbcscement.org/index.php/key-issues/climate-protection/gnr-database>

TITAN: Sustainable Development at the core of our business strategy

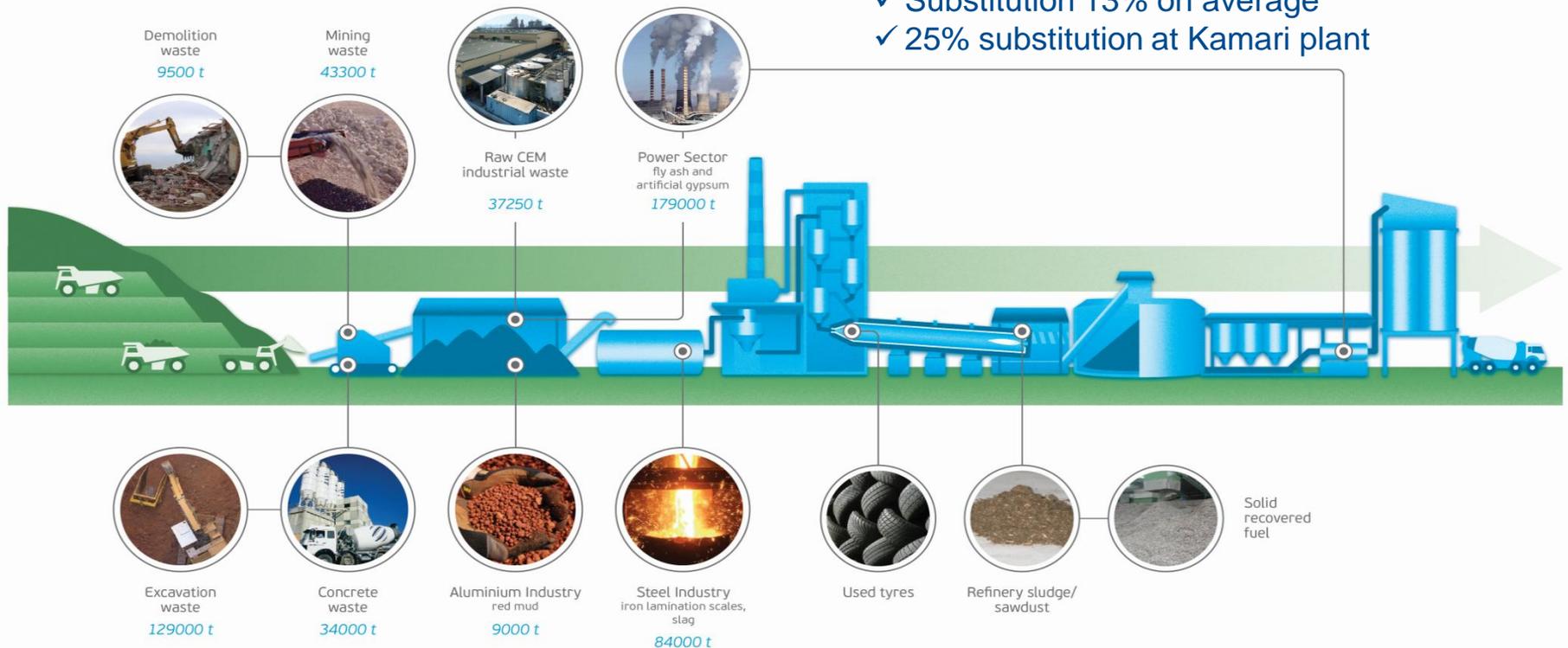
Alignment with the UN Sustainable Development Goals



TITAN-Greece: the Circular Economy operations already in practice

Use of alternative raw materials and secondary fuels in cement production

- ✓ In 2014, almost 530.000 tons of industrial by-products were used as **alternative raw materials**
- ✓ 87.000 tons of waste were used as **secondary fuels**
 - ✓ Substitution 13% on average
 - ✓ 25% substitution at Kamari plant



As a result, we conserved:

- ✓ 50.000 tons of CO₂
- ✓ 50.000 tons of coal equivalent

The Circular Economy in Greece...

An opportunity

- **The cement industry can lead the way and become an example**
- **Leverage the opportunity to help the long awaited investment cycle recommence for business in Greece, as and when the needed fiscal and structural reforms take place**
- **Transform the issue of successfully managing natural resources and waste from a field of confrontation to an area where cooperation and win-win solutions can be established**