

**BETOLAR**

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# Introducing the World's Lowest- Emission Hollow-Core Slabs

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24<sup>th</sup> BIM Congress

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## Building the new era of sustainable living environments

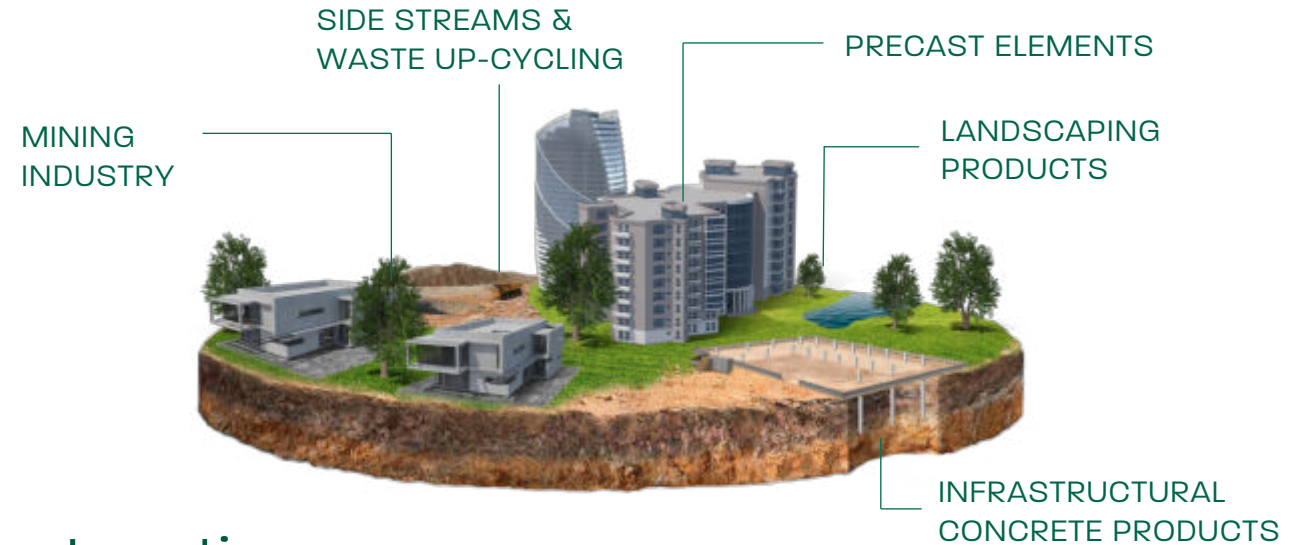
Betolar is a Finnish pioneering R&D and material technology company founded to reduce CO<sub>2</sub> emissions and consumption of natural resources.

### >Geoprime® Innovation

Geoprime is Betolar's 100% cement-free material technology solution that enables concrete manufacturing without cement and become ultra-low carbon emitter.

Betolar offers Geoprime as a **licence** agreement that includes a new concrete mix designs and R&D services for transferring production on to Geoprime.

### >Betolar's Customer Segments



### >Locations

 **About us**  
HQ in Finland, personnel >60

Listed on the Nasdaq First North Growth Market since 2021

 Current main market areas: EMEA, India & SEAP



# Time to shift focus from energy efficiency to material selection

## SHARE OF BUILDING'S LIFE CYCLE EMISSIONS\*



Low carbon materials



Pre-fabricated modules



Sorting and recycling



Renewable energy



Efficient machinery



Geothermal heating



Waste heat recovery



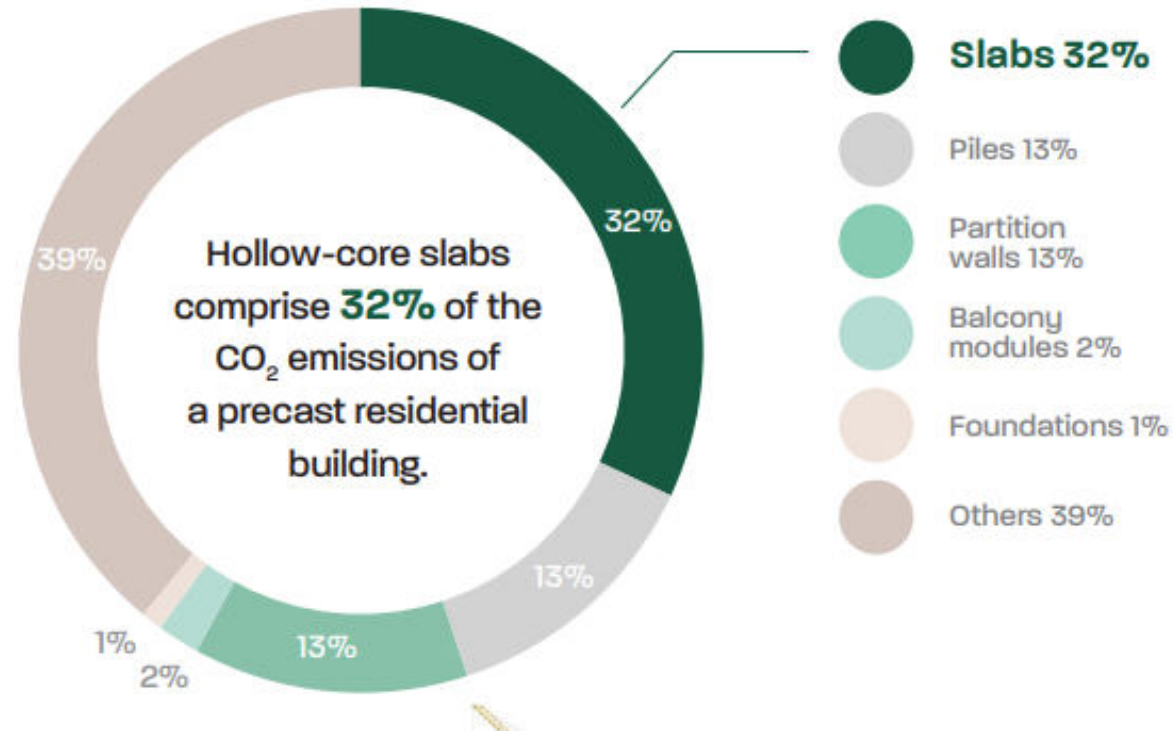
Local energy networks



Efficient cooling systems

## Why pay attention to Hollow-Core Slabs?

Hollow-core slabs contribute significantly to a building project's CO<sub>2</sub> emissions



Available now

# GEOPRIME Hollow-Core Slab

World's lowest-emission  
hollow core slabs.



Compatible with  
existing production  
facilities

CONSOLIS  
PARMA

Tested and verified  
with a leading  
industrial player

CO<sub>2</sub>

32%

of the CO<sub>2</sub> emissions in  
precast residential building



~75%

Lower emissions compared to  
conventional product



Compliant  
(EN 1168)

Minimum required 5% cement  
by European Standards



Circular Materials

Slag binders and alternative  
materials in development

## CO<sub>2</sub> Emission Comparison - O37 HCS

| Product                     | A1-A3<br>Raw Materials, Transport,<br>Production, Energy etc. | CO <sub>2</sub> Saving<br>compared to<br>reference | Unit                                    |
|-----------------------------|---|--|---|
| Generic O37<br>Conservative | 87,3  | -  | kg CO <sub>2</sub> /m <sup>2</sup>      |
| Generic O37<br>Typical      | 72,8  | ~17 %  | kg CO <sub>2</sub> /m <sup>2</sup>      |
| Parma OPC                   | 64,6  | ~26 %  | kg CO <sub>2</sub> /m <sup>2</sup>      |
| Parma Low<br>Carbon         | 41,7  | ~52 %  | kg CO <sub>2</sub> /m <sup>2</sup>      |
| <b>Geoprime HCS</b>         | <b>20,8</b>   | <b>~76 %</b>                                       | <b>kg CO<sub>2</sub> /m<sup>2</sup></b> |

Values are taken from public EPD calculations, Betolar's A1 & A2 calculations from Betolar database A3 from Consolis Parma's EPD.



Geoprime Hollow-Core Slab saves up to 266,000 kg of CO<sub>2</sub> emissions in a typical 7-storey, precast apartment building.



Thank you!

Q&A

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