

LIFE MIBA Filler



LIFE MIBA Filler project has developed an innovative technology that produces a low-carbon binder from incinerator bottom ash (IBA) that can replace cement in concrete production.

Our process of advanced metal sorting, mineral grinding and further processing to create a cementitious product, provides both environmental and economic value to a global market.

Blue Phoenix
Resources reborn

LIFE MIBA Filler project aims to demonstrate a breakthrough climate-change mitigation technology for the concrete industry by replacing cement with a low-carbon binder. The EU is subsidizing the first demonstration plant under the project name LIFE MIBA Filler; project number: LIFE19 CCM/NL/001219.

Blue Phoenix works in collaboration with Kijlstra Bestrating for the implementation of LIFE MIBA Filler, and AVR as the Waste To Energy (WtE) partner.



**Blue
Phoenix**

AVR. 

Kijlstra
Bestrating

Our Mission

At Blue Phoenix, our mission is to build a sustainable future. Through LIFE MIBA Filler, we strive to contribute to reducing the environmental impact of the Energy-from-Waste (EfW) and construction industries. We are continuously developing to meet the highest standards of environmental management within our organization, and aim to bring the applications and benefits of our innovations to the global market.

LIFE MIBA Filler Process



Raw bottom ash input

The process starts with residue ash (bottom ash) from the EfW industry. The bottom ash is prevented from going into landfill and reduces the demand for primary mining.



Milling and screening

Through a process of sequential wet milling and screening, the bottom ash becomes a wet mineral fraction. Our closed-loop system means no water is discharged. After dewatering, the material is dried and the filler product goes into silo's.



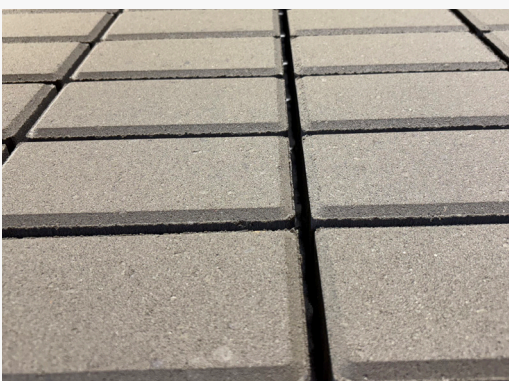
Filler product

The filler is now a fine dry powder that can be used as a cementitious binder in earth-moist concrete.



Improved metal recovery

Efficient metal sorting extracts more metals to be further processed into high-quality products



Replacing cement in concrete products

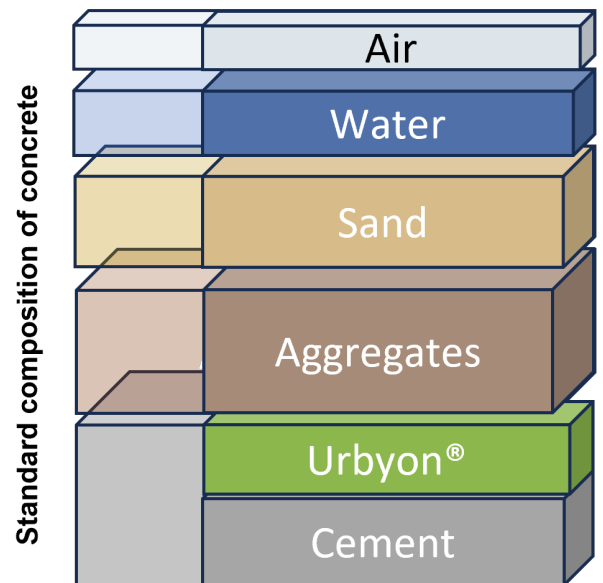
The low-carbon filler replaces cement in concrete, initially in non reinforced concrete products (Type 1).

Replacing cement in concrete products

Cement manufacture is an energy intensive industry targeted by the EU Emissions Trading System (ETS). The concrete industry has the target to reduce 40% of their CO₂ emissions by 2030 and 80- 95% by 2050. The development of alternative binders is a top priority of the industry. Such alternatives can lead to a significant reduction in GHG emissions from resource extraction, processing, and transport. LIFE MIBA Filler technology implements actions with an impact on energy and greenhouse gas (GHG) intensive industrial production.

a. ECHA EC number: 939-997-0

b. CROW-CUR Recommendation 128



Urbyon® replaces 35-45% of CEM I

Our Contribution

The LIFE MIBA Filler project addresses:

- ▶ Waste Framework Directive (2008/98/EC) by promoting the upcycling of bottom ash to cement filler,
- ▶ Landfill Directive (1999/31/EC) as waste is diverted from landfills and turned into a resource
- ▶ Directive on the management of waste from extractive industries (2006/21/EC) by reducing the extraction of limestone and metal/metal ore.

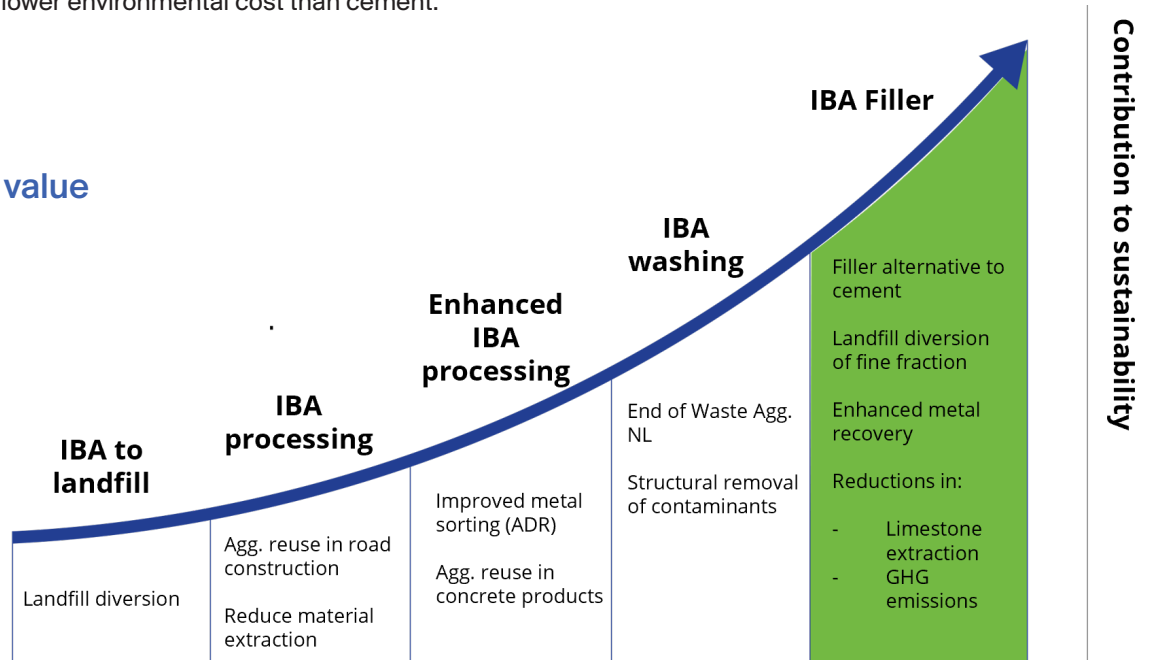




Low Carbon Filler

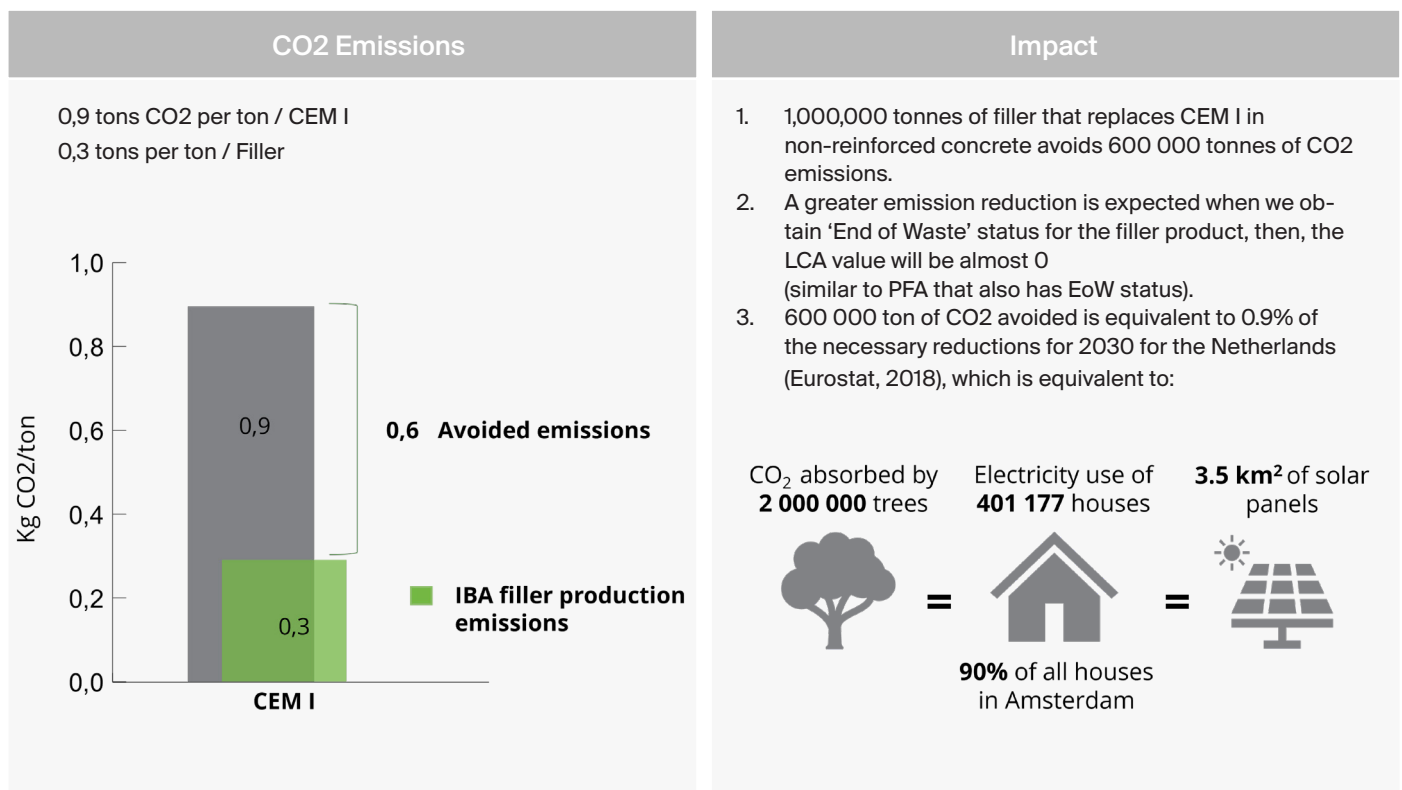
The project's low carbon filler enables a shift from landfilling of municipal solid waste and bottom ash to producing a binder with a lower environmental footprint than cement. It is an example of innovative technology that facilitates growth and urbanization but at a lower environmental cost than cement.

Economic and environmental value



Sustainable Applications

LIFE MIBA Filler demonstrates an innovative technology with the potential to reduce GHG emissions, biodiversity loss, and land-use change across three sectors: the concrete, metal, and waste industries. A substantial part of the emissions from the concrete sector are related to the production of cement. This process requires massive amounts of limestone and energy for clinker calcination. CEM I is the most significant contributor to GHG emissions in concrete production. Replacing CEM I has the highest impact on reducing GHG emissions and the footprint of concrete products.





Contact Information

LIFE MIBA Filler

AVR Duiven

Rivierweg 20

6921 PZ

Phone: +31 (0)88 56 11 600

Email: info@lifemibafiller.eu



Visit us at

www.lifemibafiller.eu

www.linkedin.com/blue-phoenix



**Co-funded by
the European Union**

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.