



Ceramics of Italy for Sustainability

In numbers

www.ceramica.info/de/categoria-cer/nachhaltigkeit/

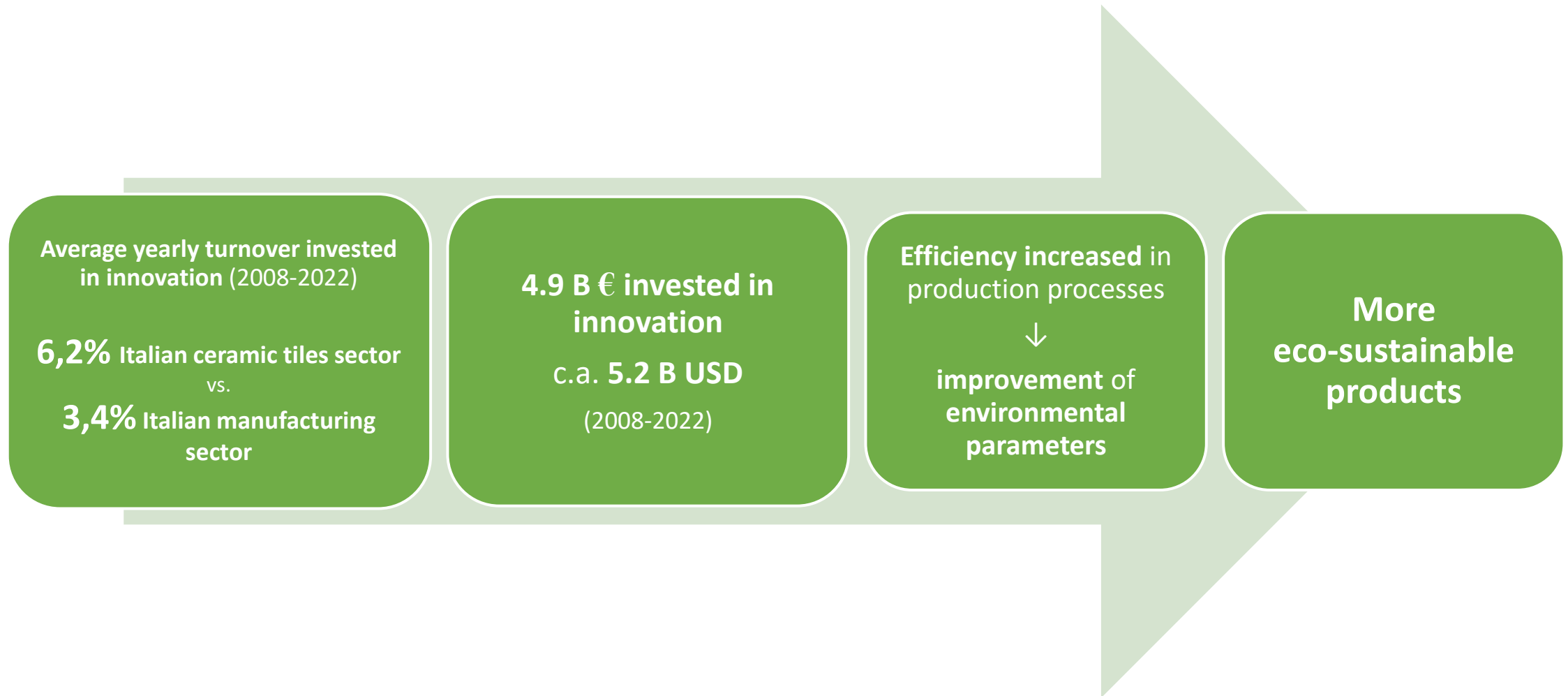


**Ceramic tile
production site
1950s**



**Ceramic tile
production site
nowadays**

The Italian ceramic tiles industry, always **seeking excellence** and ways to **improve itself**, has **invested heavily in innovation** over the years

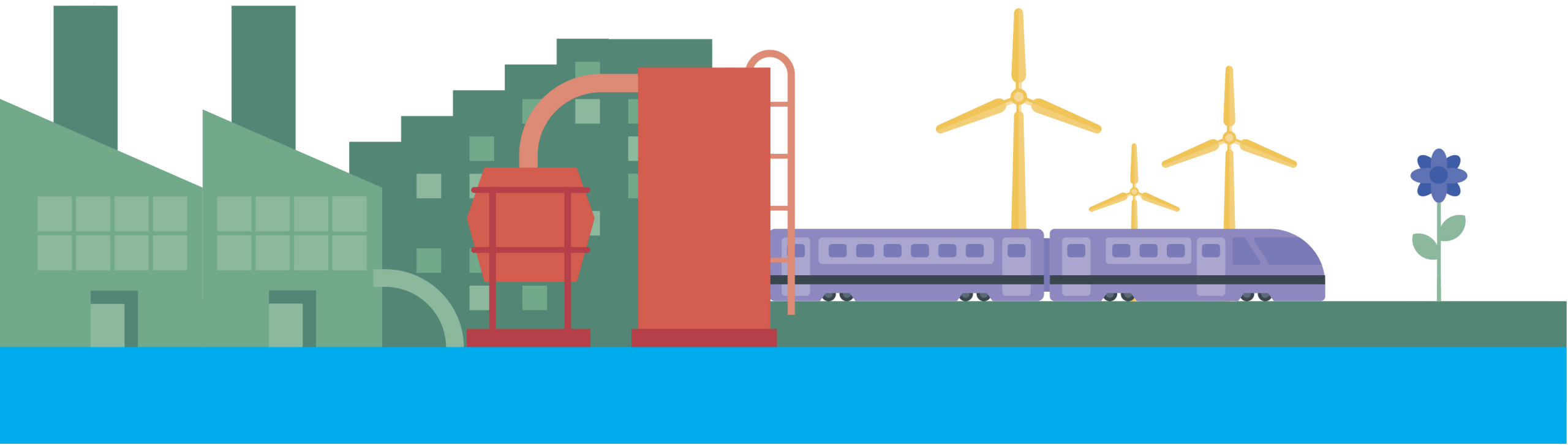


Why are Tiles a sustainable material?



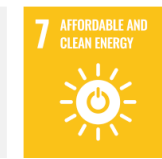
- Ceramic **does NOT BURN**
- Ceramic **does NOT DEFORM** or freeze and is unaffected by variations in temperature
- Ceramic is a **PRACTICAL** material for interiors and exteriors in public and private spaces
- It's **SAFE, HYPOALLERGENIC** and odourless and does not capture dirt or bacteria
- Ceramic is a supremely durable material that **DOES NOT AGE**: a ceramic floor is practically eternal and always looks as good as new
- Due to its exceptional hardness, ceramic is one of the surface covering materials with the highest **RESISTANCE to ABRASION**

Ceramic tiles **sustainability** in numbers: Process





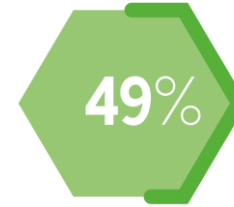
Efficiency



Lead (Pb) and fluorine (F) emissions removed by treatment plants



Dust emissions eliminated with abatement equipment
-70% since 1998
-50% since 2010

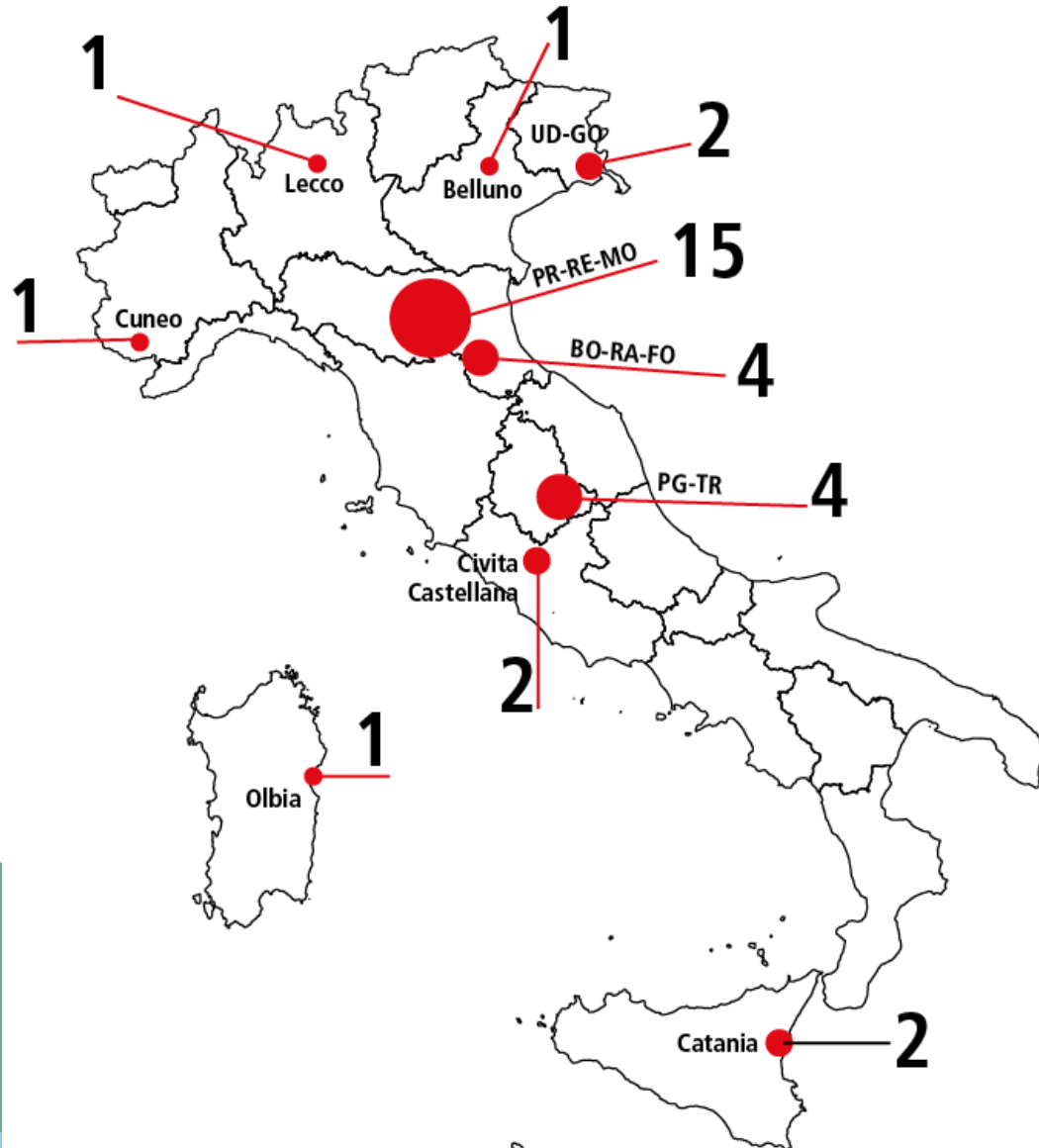


Energy needs fulfilled from cogeneration (30 plants) + photovoltaic (58 plants)





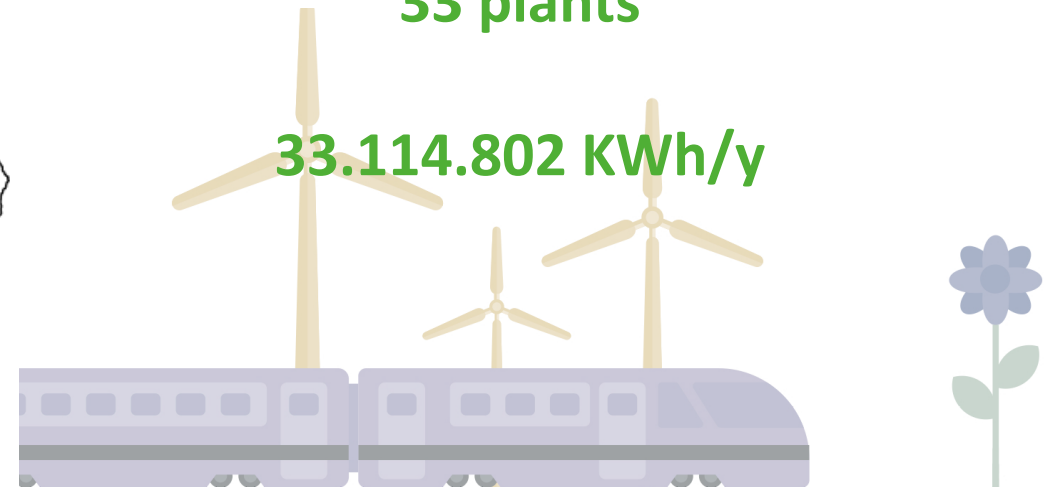
Efficiency



Photovoltaic capacity End 2022

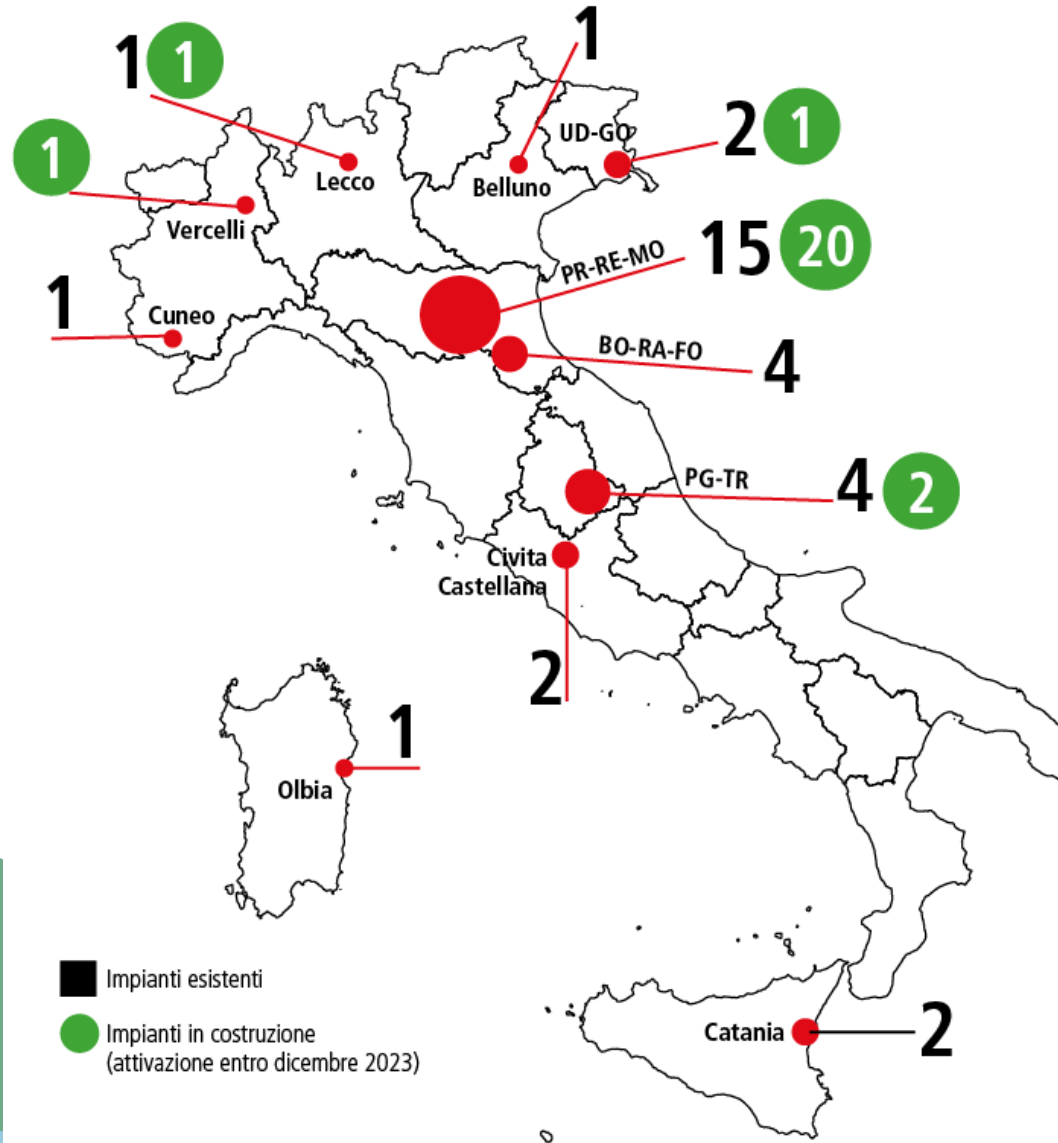
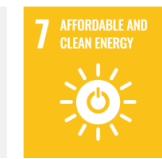
33 plants

33.114.802 KWh/y





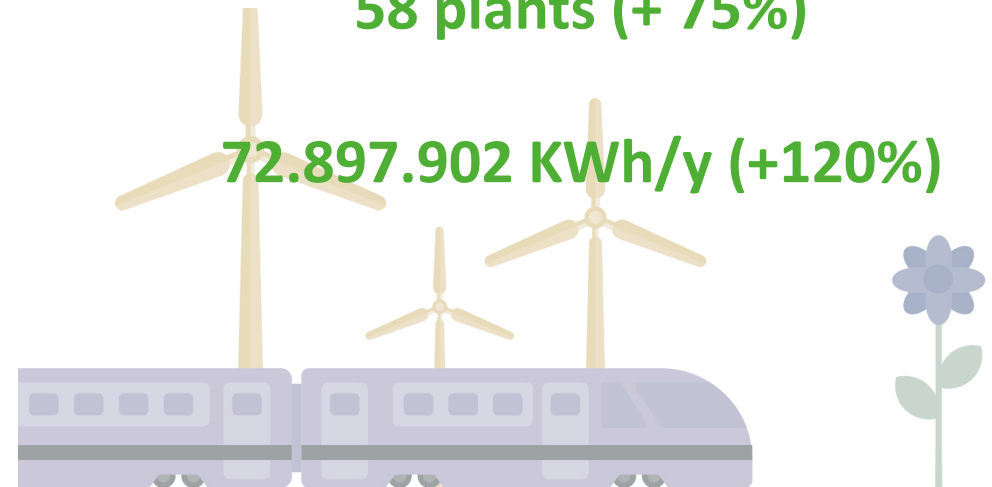
Efficiency



Photovoltaic capacity End 2023

58 plants (+ 75%)

72.897.902 KWh/y (+120%)





Reuse



96%



Sites without process water discharges
(full reuse)



Reduce the risk of surface groundwater pollution

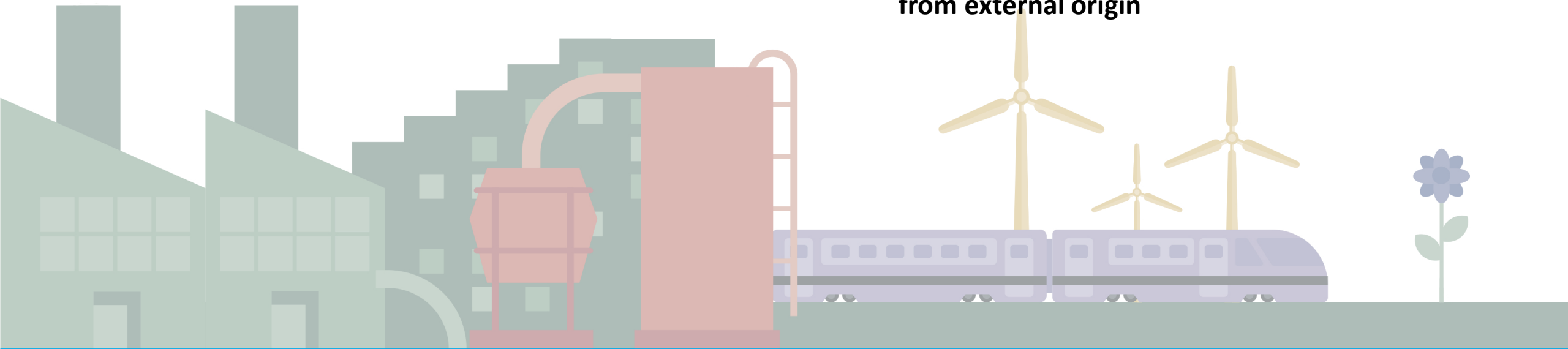
109%



Average water recovery factor
(ratio of reused to produced water)



The manufacturers also absorb wastewater from external origin





Recycling



99,9%

Reused production and purification waste within the production cycle
(in 1998 it was 89%)

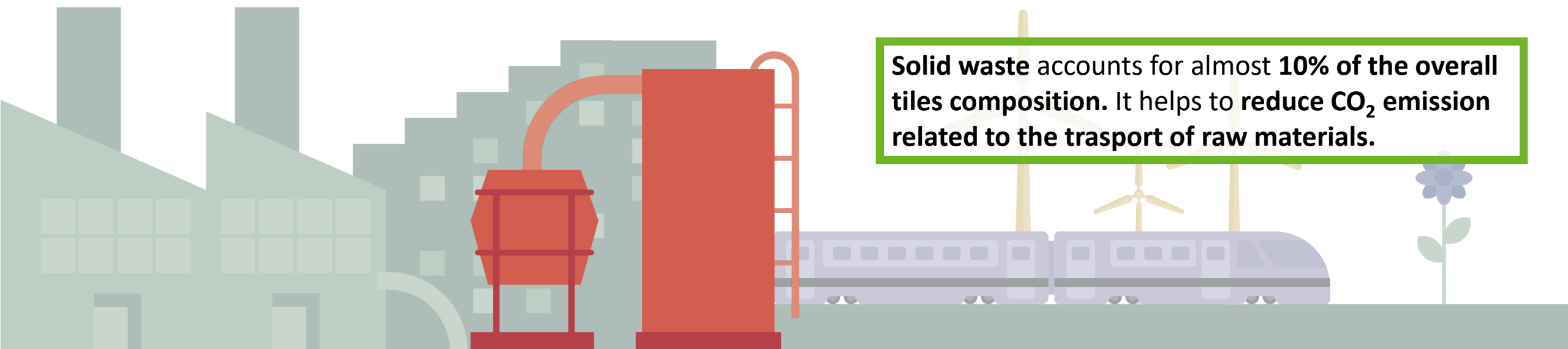
109%

Solid waste average recycling factor
(ratio of waste recovered to waste produced)



The sector also recovers waste from other sectors

Solid waste accounts for almost **10%** of the overall tiles composition. It helps to **reduce CO₂ emission** related to the **transport of raw materials**.





Research

60%

New products have been developed with high circularity characteristics and **recycling rate in excess of 60%**



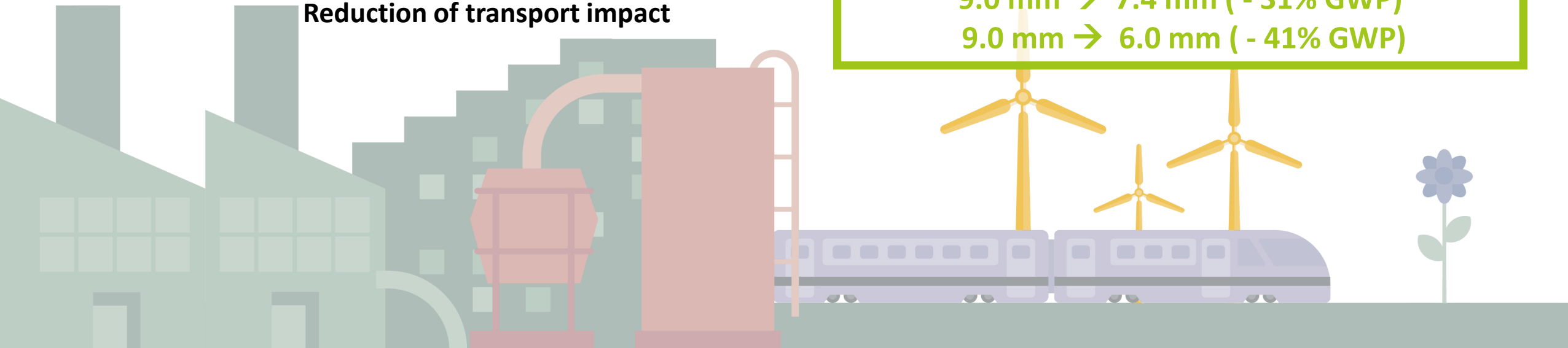
Less use of raw materials
Reduction of transport impact

Dematerialization: substantial R&D investment permitted to obtain thinner tiles and slabs maintaining the same mechanical performance peculiar of Italian ceramic products.

e.g. Thickness vs CO₂

9.0 mm → 7.4 mm (- 31% GWP)

9.0 mm → 6.0 mm (- 41% GWP)





Efficiency



83%

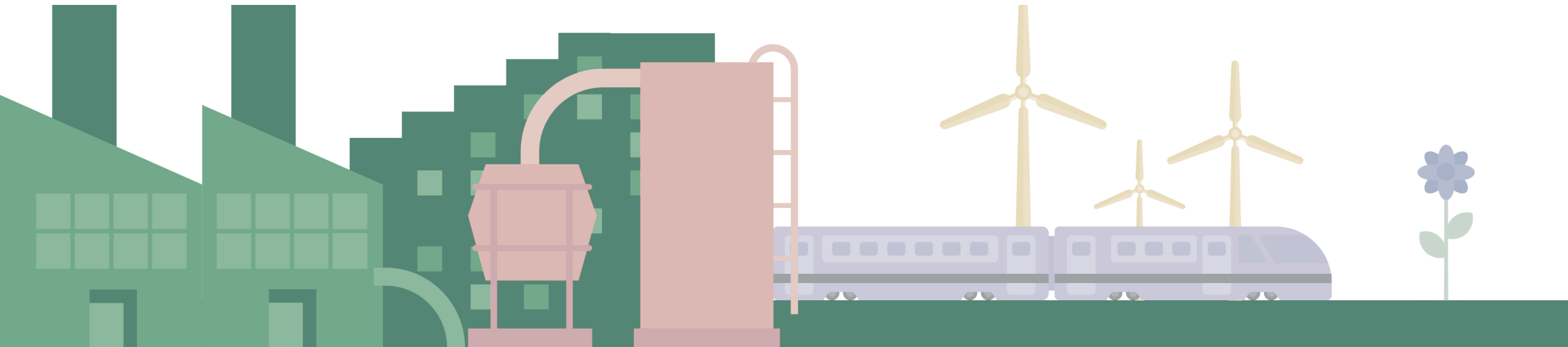
Plants with energy consumption lower than the value associated with BATs (Best Available Techniques)

5-6GJ

Energy consumption per ton.
In the 80s it was 12 GJ



Consequently **CO₂ emissions per m² decreased by -57%** since **1995**





Distribution

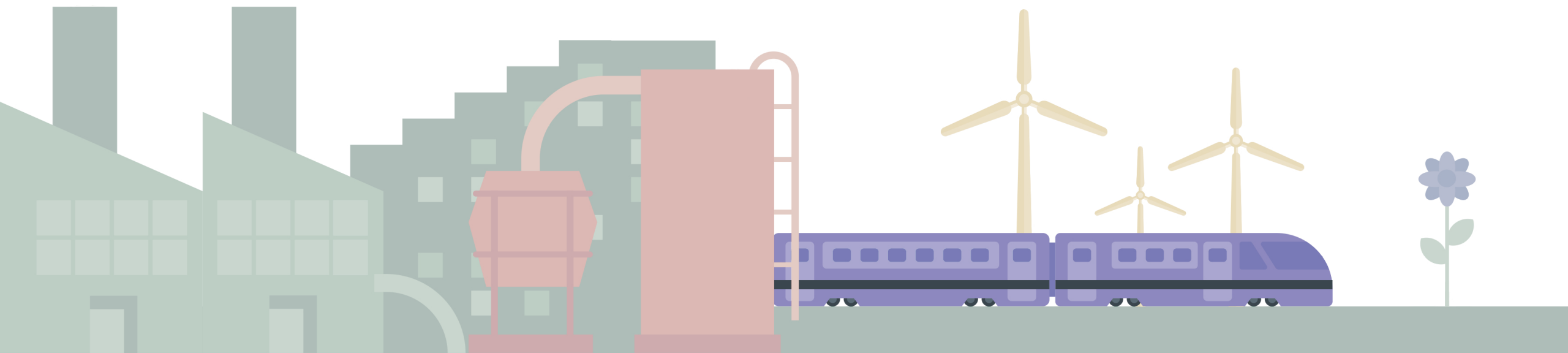


24%

Of supply and distribution flows is **transported via trains**

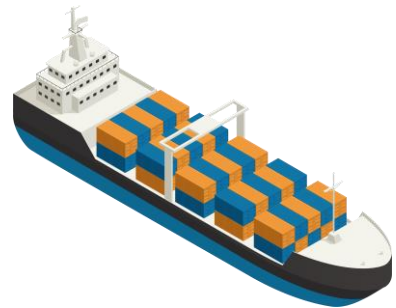


National average is 11%





Distribution



0.016 gCO₂/Kg*Km

x 1.7



0.027 gCO₂/Kg*Km

x 4.6



0.073 gCO₂/Kg*Km
Fully laden

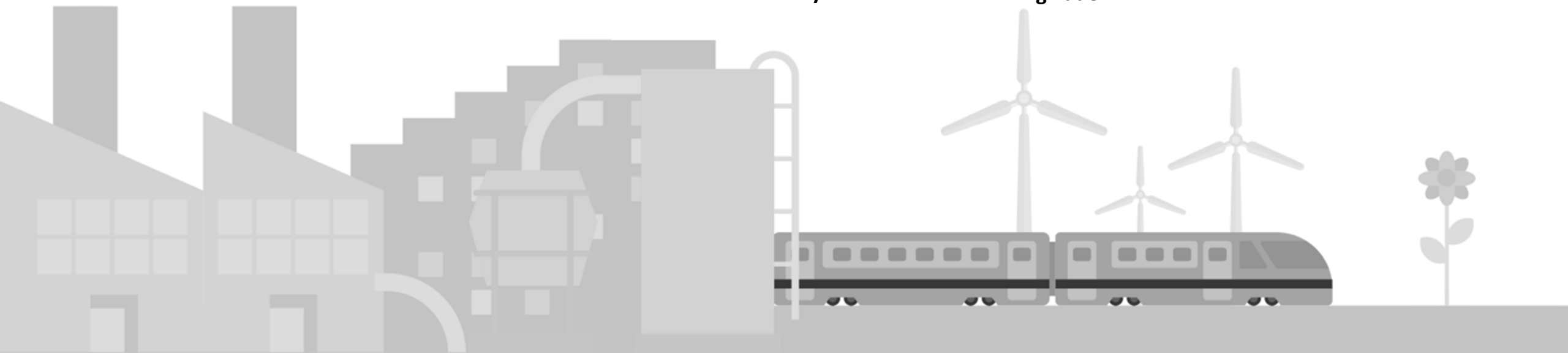
x 6.7

0.11 gCO₂/Kg*Km
Avg. laden

x 34



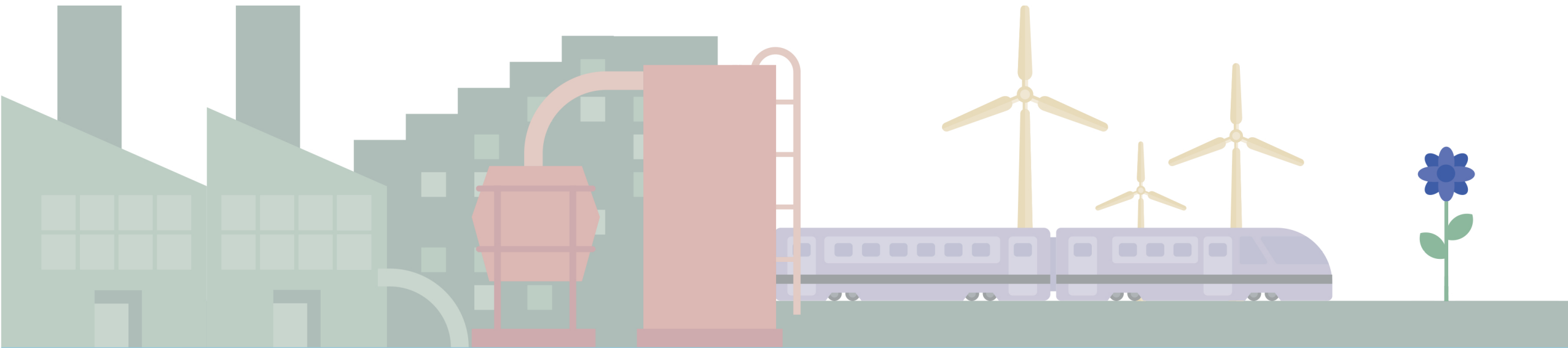
0.54 gCO₂/Kg*Km





Life cycle

Tiles are an inert material produced from **natural raw materials** that are **easy to dispose of** at the end of their life cycle



Italian ceramics
are certified by
the main
international
bodies



EPD (Environment Product Declaration)
Certified and independently verified Environmental Product Declaration, which transparently and objectively expresses the environmental performance of a product throughout its life cycle (LCA-Life Cycle Assessment).

EPD

- **Sectoral EPD**
- **More than 30 EPD product companies** (tiles, bricks, sanitaryware)



You can find it at:

- **Confindustriaceramica.it**
- **IBU-epd.com**
- **EPDitaly.com**
- **Eco-platform.org**

**Current tiles sectoral
EPD
2023**

**76 companies
84 plants
82,6% Italian Tile
Production**



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EPD

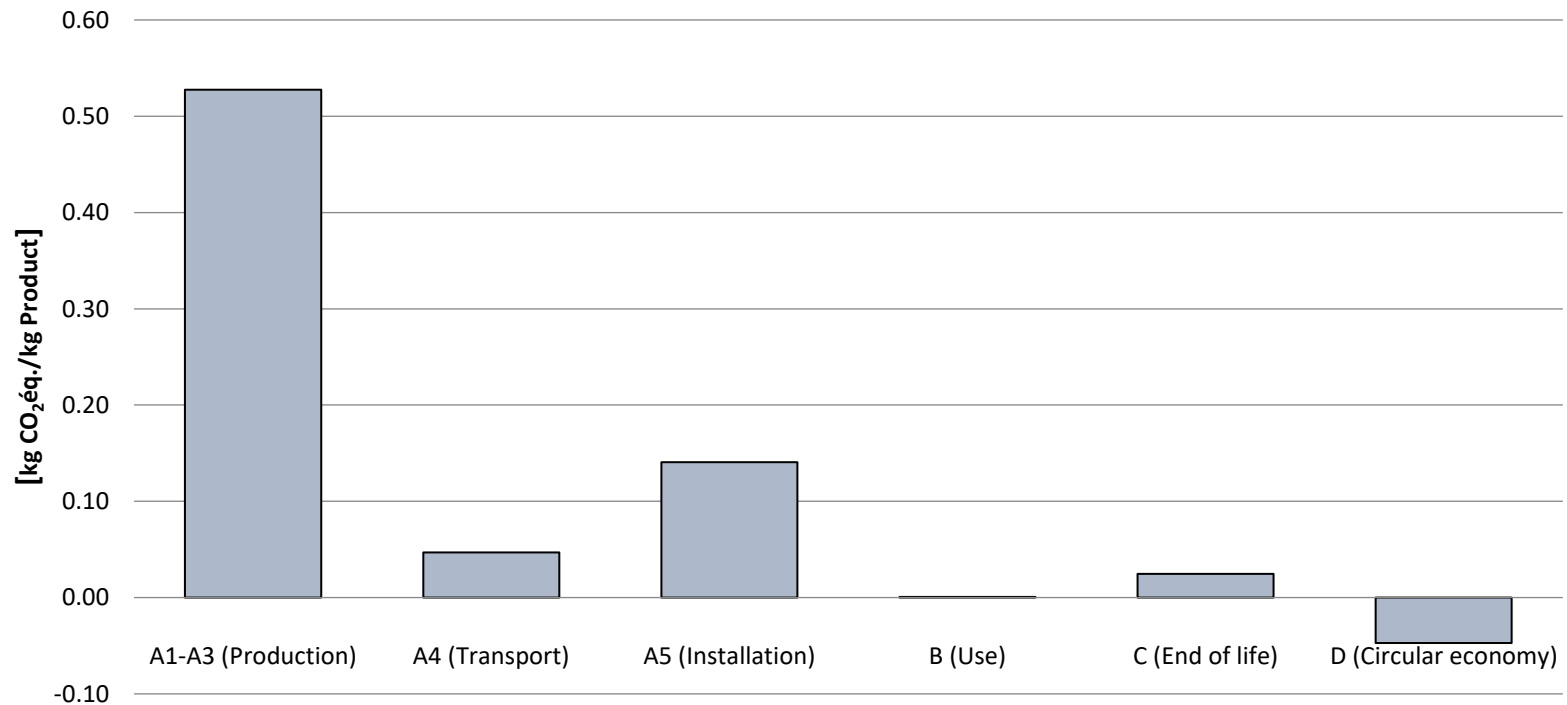
- *Sectoral EPD*
- *28 EPD product companies* (21 tiles, 3 bricks, 2 sanitaryware)

Confindustria Ceramics monitor its own environmental performance through the years

Italian ceramics are certified by the main international bodies



- **Transparency**
- **Durability**

Global warming potential trough «Italian tiles»Life Cycle



Source: Italian Ceramic Tiles – Confindustria Ceramica Sectoral wide EPD

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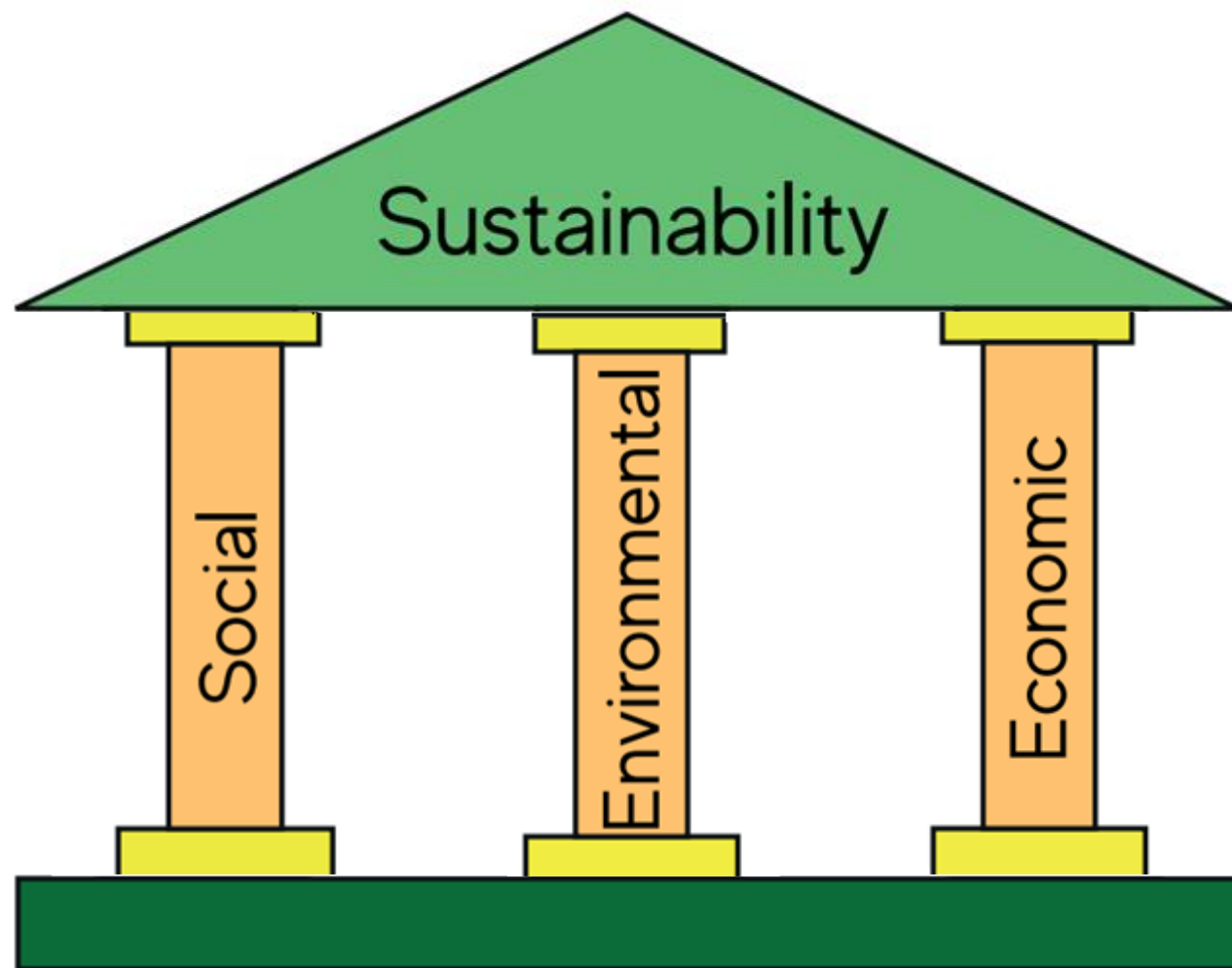
| | | | |
|---|---|---------------------------|--|
|  | <p>EPD (Environment Product Declaration) Certified and independently verified Environmental Product Declaration, which transparently and objectively expresses the environmental performance of a product throughout its life cycle (LCA-Life Cycle Assessment).</p> | <p>EPD</p> | <ul style="list-style-type: none"> • <i>Sectoral EPD</i> • <i>More than 30 EPD product companies (tiles, bricks, sanitaryware)</i> |
|  | <p>ISO 14001: International standard that certifies the implementation of an environmental management system by organizations.</p> | <p>ISO 14001</p> | <p>+50 production site</p> |
| | <p>ISO 50001: International standard on the implementation of a management system aimed at preventing accidents in the occupational safety and health area</p> | <p>ISO 50001</p> | <p>+10 production site</p> |
| | <p>ISO 17889-1: A new international standard dedicated to defining the sustainability characteristics of ceramic tiles.</p> | <p>ISO 17889-1</p> | |

The **first international ISO standard** on product sustainability.

In 2021, the **ISO 17889-1 product standard**, which certifies the **sustainability** of ceramic tiles, was published.

Developed following a life-cycle analysis approach, it takes into account environmental, economic and social aspects

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The standard is made up of **38 indicators**
with a rewarding **scoring mechanism**



which allows the products level of sustainability to be evaluated

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A product complies with the standard if, in addition to complying with the mandatory requirements (15), it obtains a **minimum score of 117.5** among the voluntary criteria (23).

Italian ceramic tiles are already compliant with the new ISO 17889-1 with an **average score of 124/130** and peaks of 128/130.



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EPD

- **Sectoral EPD**
- **More than 30 EPD product companies (tiles, bricks, sanitaryware)**



ISO 14001: International standard that certifies the implementation of an environmental management system by organizations.

ISO 14001

+50 production site

ISO 17889-1: A new international standard dedicated to defining the sustainability characteristics of ceramic tiles.

ISO 17889-1

ISO 50001: International standard on the implementation of a management system aimed at preventing accidents in the occupational safety and health area

ISO 50001

+10 production site



EMAS: Voluntary Eco-Management and Audit Scheme, promoted by the EU, which aims to foster the continuous improvement of the environmental performance of organisations, based on the ISO 14001 Standard model, with some additional requirements.

EMAS

+20 production site



LEED (Leader in Energy and Environmental Design): the most widespread international voluntary standard for the certification of energy performance and sustainability of buildings. Ceramic tiles are «LEED Compliant» and can contribute to obtaining various LEED credits that are useful for building certification.

GBC Italia

US GBC



The ceramic tile is not a finished product but it expresses its technical performance and aesthetic qualities when its **installation** is carried out **by trained and qualified professional installers**

If **correctly installed** a ceramic tiled floor has outstanding technical and aesthetic qualities and lasts forever.

Adequate **training** is essential for the installation of these innovative products as they are very different from traditional tiles and require the use of special equipment and procedures.



The sustainability of Ceramics comes through installation

“ Italian Ceramics uses energy from cogeneration and photovoltaics for half of its electricity needs. ”

Decarbonization is sustainability.

FIND OUT MORE

“ Italian Ceramics is produced in a very short time but lasts over 50 years. ”

Durability is sustainability.

FIND OUT MORE

“ Italian Ceramics fully reuses its process water. ”

Saving water is sustainability.

FIND OUT MORE

“ Italian Ceramics reduces, reuses and recycles production waste. ”

Circular economy is sustainability.

FIND OUT MORE

“ Italian Ceramics does not release harmful substances into living spaces. ”

Safety is sustainability.

FIND OUT MORE

“ Italian Ceramics does not favor the proliferation of bacteria. ”

Health is sustainability.

FIND OUT MORE

“ Italian Ceramics communicates its performance in the sector-wide Environmental Product Declaration. ”

Transparency is sustainability.

FIND OUT MORE

“ Italian Ceramics measures the sustainability of products with ISO 17889-1. ”

Certification is sustainability.

FIND OUT MORE

Danke für Ihre Aufmerksamkeit

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