LCM 2023
THE 11TH INTERNATIONAL CONFERENCE ON LIFE CYCLE MANAGEMENT
6-7-8 september, 2023, Lille, France

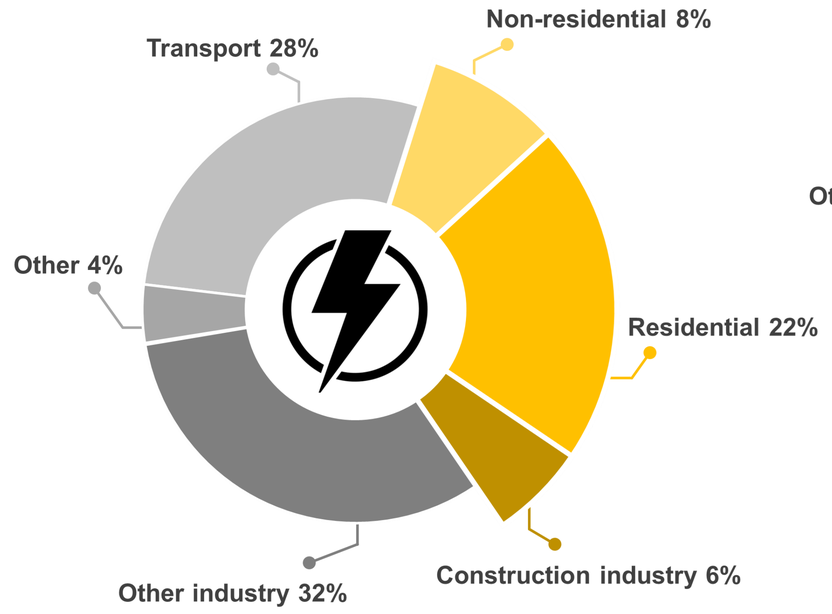
POLITECNICO MILANO 1863

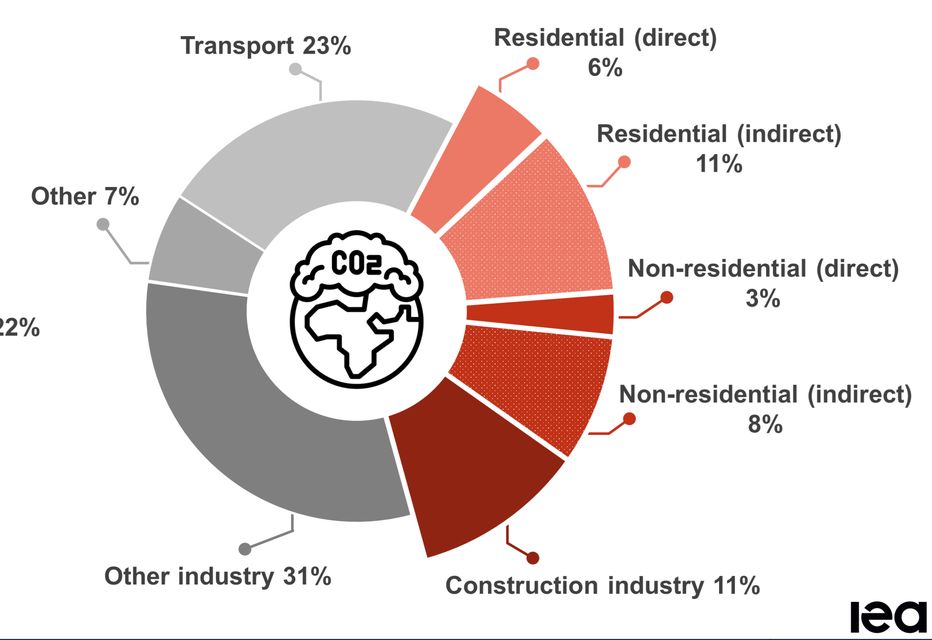
MAT4EN2 MATERIALS FOR ENERGY AND ENVIRONMENT

RETROFITTING OF ITALIAN VERNACULAR BUILT STOCK WITH BIO-BASED BUILDING MATERIALS: A VIABLE SOLUTION TO MITIGATE CLIMATE CHANGE EFFECTS?

NICOLAS BERTOLDO | SERGIO SABBADINI | GIANLUCA RUGGIERI | CHIARA MOLETTI | GIOVANNI DOTELLI

IMPACT OF THE BUILDING SECTOR





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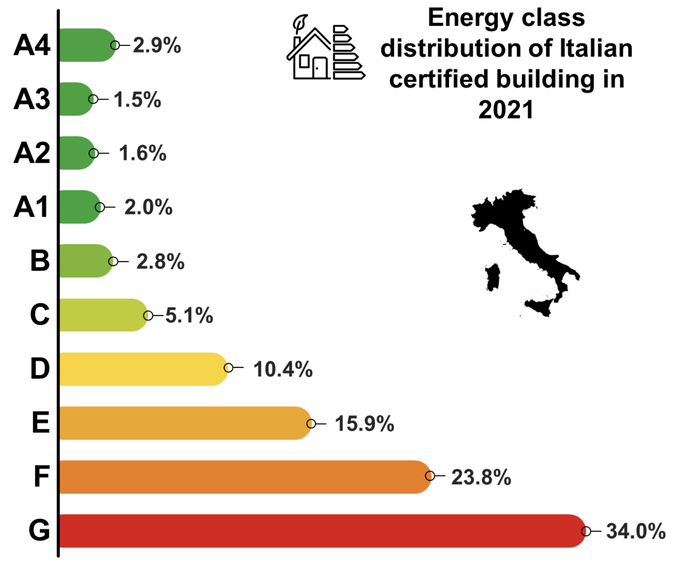
ITALIAN BUILDING STOCK



Energy class distribution of Italian certified building in 2021

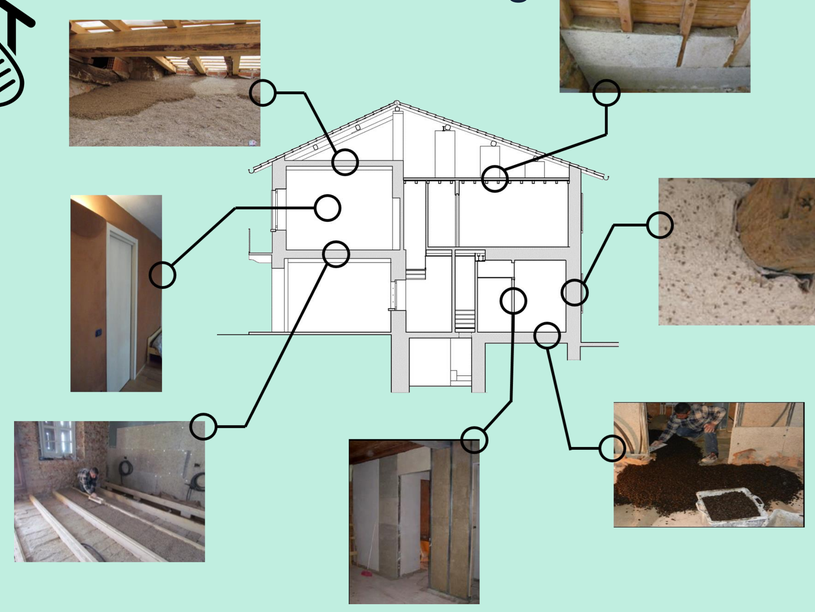
ENEA

CASE STUDY

Farmstead of Casatenovo (LC), Italy

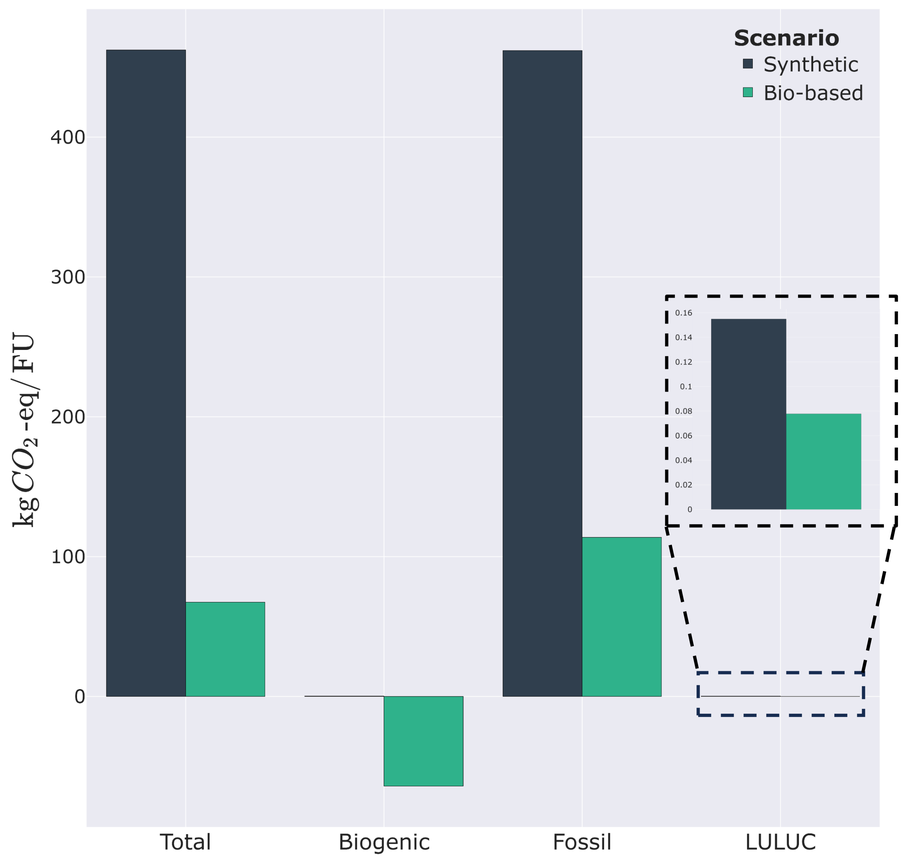
A1 certificate

Bio-based retrofitting

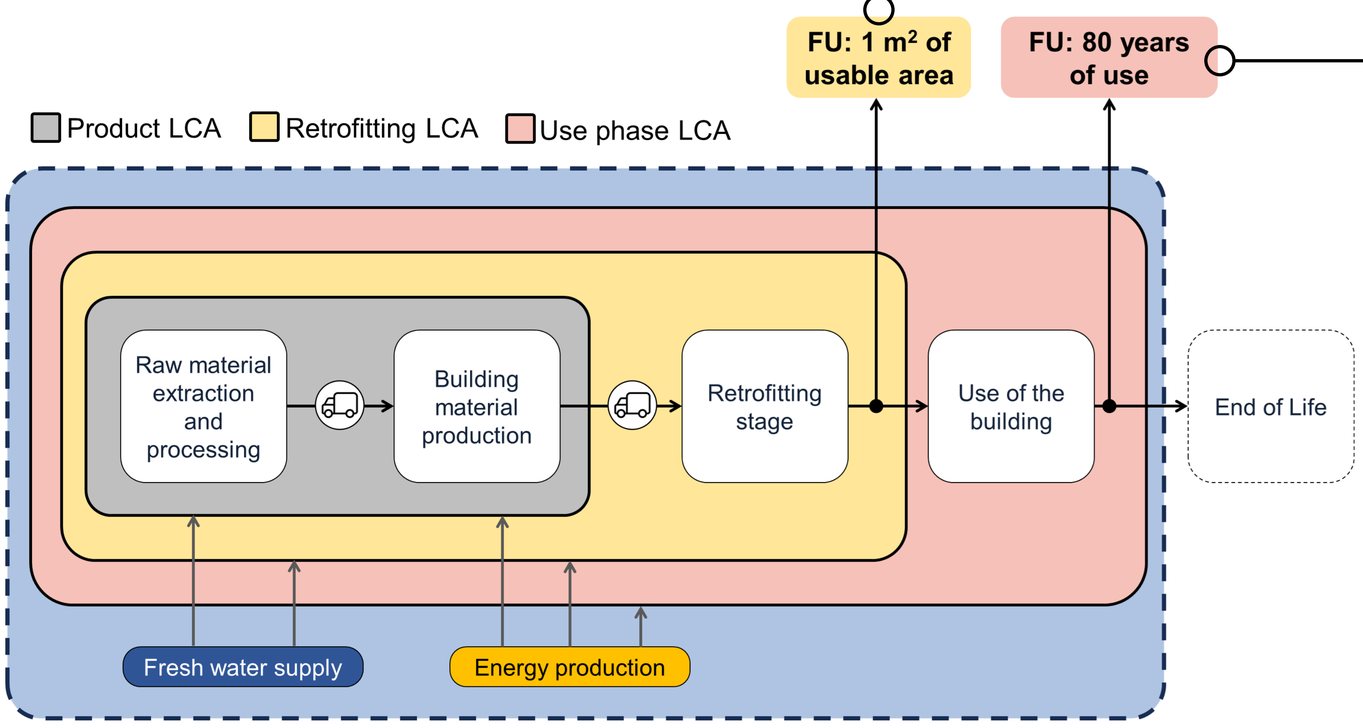


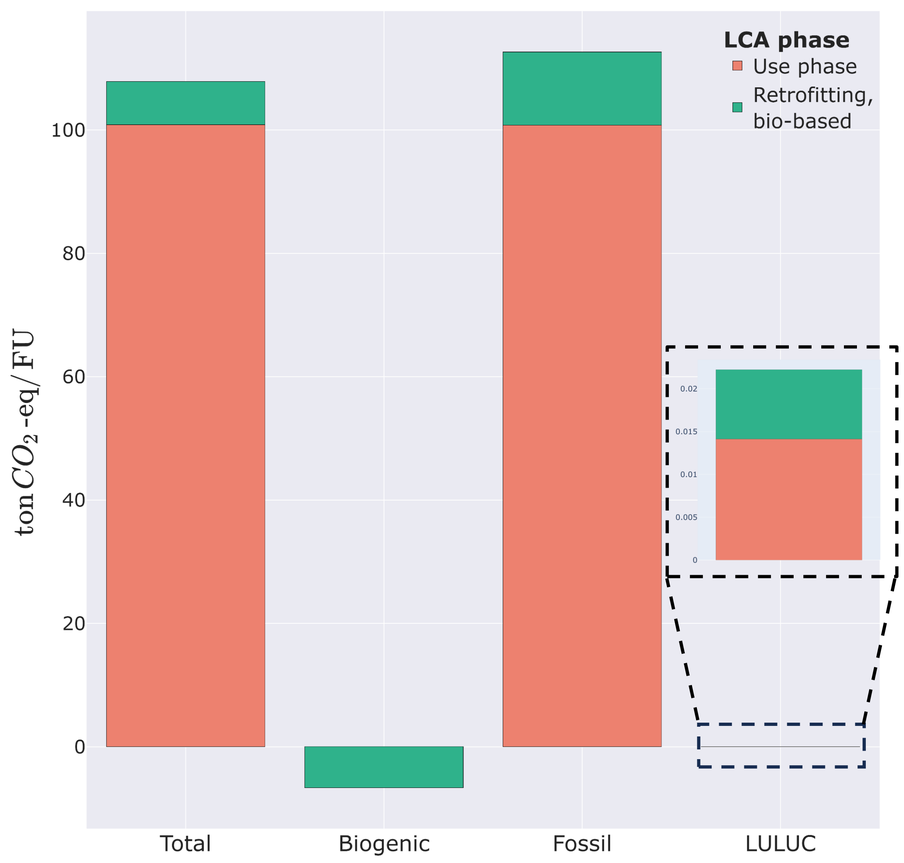
Synthetic retrofitting

RESULTS



SYSTEM BOUNDARY





LCI sources:
- EPDs
- ecoinvent v. 3.9.1

Brightway

EF v3.0 EN15804

CONCLUSIONS & FUTURE DEVELOPMENT

Employing **bio-based** materials for retrofitting projects can be an effective solution to stock carbon and to mitigate climate change impact of the building industry;

- Dynamic LCA
- Consequential LCA
- Evaluate other retrofitting projects

REFERENCES & SUPPLEMENTARY INFORMATION

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