Futur*Hist*

An integrated typology-based approach to guide the **fut**ure development of E**ur**opean **hist**oric buildings towards a clean energy transition

The aim of Futur*Hist*

Futur*Hist* aims to improve the planning process for energy retrofits of historic buildings, develop innovative, replicable solutions, and shift the focus from individual buildings to building typologies.

We want to contribute to decarbonising historic buildings by developing sustainable heating, ventilation, and cooling strategies. Also, by implementing durable and sustainable insulation systems based on natural materials.

The expected outcome is to reduce energy demand by at least 60%, preserving historical and cultural heritage values.

Demonstration is at the heart of Futur*Hist*. The simplified approach and novel solutions developed will be applied and tested in our five demo cases

Linköping

KÖPPEN-GEIGER CLIMATE CLASS
snow, fully humid, warm summer (Dfb)

TIME OF CONSTRUCTION
1830

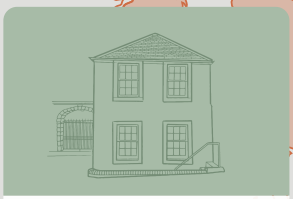
CONSTRUCTION TYPE
plastered brick walls, pitched roof with timber structure

Edinburgh

KÖPPEN-GEIGER CLIMATE CLASS
warm temperate, fully humid, warm summer (Cfb)

TIME OF CONSTRUCTION
19th century (≈1819)

CONSTRUCTION TYPE
ashlar and rubble stone masonry, M-shaped slate roof

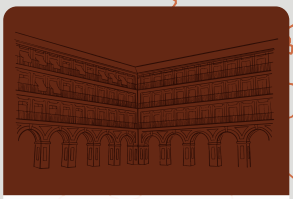


Edinburgh

KÖPPEN-GEIGER CLIMATE CLASS
warm temperate, fully humid, warm summer (Cfb)

TIME OF CONSTRUCTION
18th century (≈1770)

CONSTRUCTION TYPE
harled rubble stone masonry, pitched slate roof

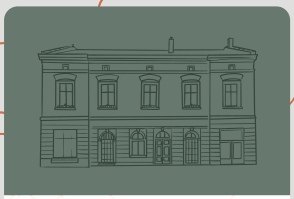


Córdoba

KÖPPEN-GEIGER CLIMATE CLASS
warm temperate, summer dry, hot summer (Csa)

TIME OF CONSTRUCTION
1683

CONSTRUCTION TYPE
solid brick walls, pitched roof with timber structure and clay tiles



Kraków

KÖPPEN-GEIGER CLIMATE CLASS
warm temperate, fully humid, warm summer (Cfb)

TIME OF CONSTRUCTION
first half of 19th century

CONSTRUCTION TYPE
solid brick masonry, timber roof covered with metal sheets

4 research and innovation areas

Insulation systems based on natural materials

© Florian Berger / Eurac Research

We develop

- prefabricated lime-based insulating panels
- self-healing exterior plaster
- prefabricated panels made of biochar and clay
- insulating plaster made of biochar and clay

HVAC and RES solutions

© www.creba.fr

We develop

- innovative HVAC packages adapted to retrofit historic buildings
- guidelines for the adoption and implementation of renewable energy sources in historic buildings

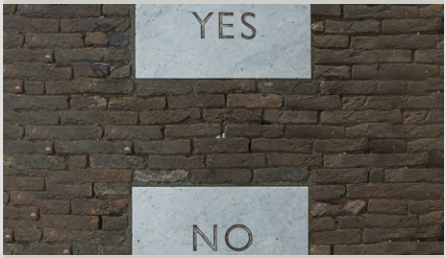
Windows retrofit

© Florian Berger / Eurac Research

We aim at

- preserving the diversity of historic windows
- promoting durability and reducing environmental impact
- testing existing and retrofitted windows to assess the energy performance improvement

Decision-making toolkit



© Florian Schmetz / Unsplash

We develop

- a toolkit tailored to typologies researched in Futur*Hist* considering aspects like climate, construction materials, and heritage significance

Futur*Hist* in numbers

BUDGET
4.5 million €

DURATION
January 2024 – December 2027

CONSORTIUM
15 partners and 3 associated partners from 9 countries

Visit website:
futurhist.eu

COORDINATOR

eurac research

BUILD Department of the Built Environment Aalborg University

Junta de Andalucía
Consejería de Fomento, Articulación del Territorio y Vivienda
Agencia de Vivienda y Rehabilitación de Andalucía

Calchèra San Giorgio
Materia e Colore

Cracow University of Technology

ERIKarkitekter

Edinburgh World Heritage

holz manufaktur
ROTTWEIL

ICOMOS
international council on monuments and sites

INTBAU

natürlich bauen
Architektur Beratung Material Handwerk Workshops

SENDZIMIR
FOUNDATION

Svenska kyrkan
LINKÖPINGS STIFT

universität innsbruck

University of Strathclyde Glasgow

UPPSALA UNIVERSITET

white

Zarząd Budynków Komunalnych w Krakowie

Co-funded by the European Union

UK Research and Innovation

Co-funded by the European Union and the UK Research and Innovation. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.