

The Knowledge HUB for Energy Efficiency in Historic Buildings

A Digital Platform for Sustainable Heritage Retrofit

ABSTRACT

The transition toward climate-neutral building stocks presents major challenges for the conservation of historic buildings. Balancing energy efficiency, sustainability, and heritage preservation requires interdisciplinary knowledge and accessible decision-support resources. The Knowledge HUB, developed by ICOMOS within the EU-funded FuturHist project, is a digital repository and collaborative platform that connects research, legislation, case studies, tools, and capacity-building materials related to sustainable retrofit solutions for historic buildings. The platform supports evidence-based decision-making and facilitates collaboration among heritage professionals, researchers, policymakers, and local communities. The Knowledge HUB is designed as a living and interdisciplinary platform that extends beyond the FuturHist project through continuous international collaboration and new contributions. By centralising knowledge resources and connecting stakeholders from the fields of heritage conservation, sustainability, and energy efficiency, the platform supports compatible retrofit solutions while contributing to climate action and the preservation of cultural heritage values. The HUB promotes reduced carbon emissions, improved decision-making processes, knowledge transfer across Europe and beyond.

WHY A KNOWLEDGE HUB?

The Challenge

- Knowledge on heritage retrofit is fragmented
- Difficult access to interdisciplinary resources
- Lack of centralised references
- Increasing pressure for energy retrofit
- Need to balance conservation & energy efficiency

The Solution

The HUB creates a shared digital platform for:

- Knowledge exchange
- Capacity building
- Evidence-based decision-making
- International collaboration
- Sustainable heritage retrofit

PLATFORM FEATURES:

- Curated and quality-checked resources
- Bibliographic records
- Full-text documents, videos
- Links to external resources
- Structured searchable categories
- Stakeholder-oriented search functions

TARGET GROUPS:

The Knowledge HUB supports:

- Heritage Professionals
 - Architects & engineers
 - Researchers
 - Energy consultants
- Authorities
 - Owners
 - Policymakers
 - Local communities

Knowledge HUB

About the Knowledge HUB

The Knowledge HUB, developed by ICOMOS as part of the EU-funded project FuturHist aimed at creating replicable retrofit solutions for the historic buildings of the future, is a digital repository designed to share resources on both existing and newly developed energy retrofit solutions that are compatible with the conservation of historic structures.

The HUB serves as a comprehensive reference for renovation projects, supporting heritage and energy professionals, researchers, and communities across Europe and beyond.

To that end, the HUB provides a wide range of materials, documents, and links to electronic resources, organised into the following categories:

- **Literature** – scientific papers, project deliverables, and guidelines
- **Legislation** – national and European frameworks
- **Best practices & case studies**
- **Capacity-building materials** – e-learning, webinars
- **Tools** – digital and methodological aids, standards

The database also includes bibliographic records on articles and books, as well as full-text documents and links to further electronic resources. To the best of our knowledge, all materials provided here are openly accessible. If you find any content that may not comply with publication or access policies, please contact us immediately.

By bringing together knowledge **on energy retrofitting of historic buildings** across different **topics, regions, and languages**, the HUB enables in Europe and beyond:

- Greater awareness and exchange of best practices on this subject,
- Learning and capacity-building for more efficient energy retrofit,
- A more informed decision-making process.

Search Resources

All Main Cate

All Topics

All Resource

All Regions

All Language

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Search text...

Search

Contribute to the Knowledge HUB

Would you like to add content? Please click here:

Contribute

Currently, there are 371 resources available.

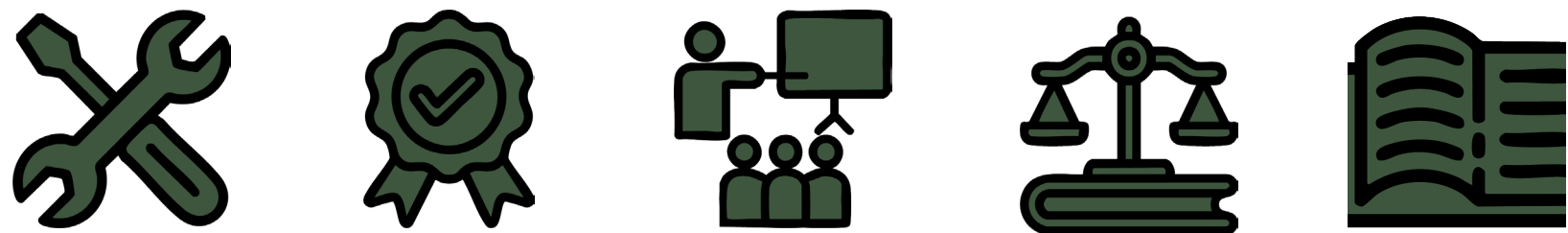
See all resource types

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UK Research and Innovation

FuturHist

STRUCTURE OF THE HUB:



Main Resource Categories

- **Literature** (Scientific papers, reports, guidelines)
- **Legislation** (frameworks, regulations, policies)
- **Best Practices** (case studies, lessons learned)
- **Capacity Building** (webinars, e-learning)
- **Tools** (desicion support systems, digital tools)

SEARCH FUNCTIONS:

Users can filter by:

- **Categories**
 - **Topics**
 - **Resource types**
 - **Regions**
- **Languages**
 - **Stakeholder groups**
 - **Free-text search**

Search Resources

All Main Cate

All Topics

All Resource

All Regions

All Language

All Stakehold

Search text...

Search

← Back to Knowledge Hub

Search Results

4 results found.

Comparative Life-Cycle Assessment of restoration and renovation of a traditional Danish farmer house.

Construction and operation of buildings are a major contributor to environmental impacts. Assessments of environmental impacts of buildings often focus on new buildings, while studies on the existing building stock often focus on energy efficiency renovation. However, historical and traditional ...

Year: 2022

Authors: Serrano, Teddy / Kampmann, Thomas / W. Ryberg, Morten

Source: Building and Environment Volume 219, 1 July 2022, 109174, 219.

Type: Articles, Best practice

Topic: Case Studies, Climate Adaptation, Energy Efficiency, Heritage Conservation, life cycle assessment, Retrofitting, Sustainability

Region: Denmark

Language: English

Open link

Details

Passive house renovation of a block of flats – Measured performance and energy signature analysis.

In order to reduce CO2-emissions it is necessary to reduce the energy use in the existing building stock significantly. Gadehavevej – a social housing built-up area consisting of 19 similar blocks of flats with nearly 1000 dwellings situated in Denmark ...

Year: 2021

Authors: Rose, Jørgen / Krøgh, Jesper / Furu Nielsen, Kasper

Source: Energy and Buildings Volume 256, 1 February 2022, 111679, 256.

Type: Articles

Topic: Case Studies, Climate Adaptation, Energy Efficiency, Retrofitting, Sustainability

Region: Denmark

Language: Danish

Open link

Details

Guidelines for handling construction cases involving listed buildings in Denmark

The Danish Agency for Culture and Palaces has developed professional guidelines for handling construction cases involving listed buildings in Denmark. These guidelines describe their practices to ensure consistent and transparent management and serve as a tool for case processing.

Authors: Slots- og Kulturstyrelsen

Source: Slots- og Kulturstyrelsen

Type: Guidelines

Topic: Energy Efficiency, Heritage Conservation

Region: Denmark

Language: Danish

Open link

Details

Test the platform, explore resources, and contribute new knowledge:

Learn more about ISCES:

THE KNOWLEDGE HUB AND MORE INFORMATION:

Learn more about FuturHist:

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