Climate2Preserv

Sustainable Climate Management Strategy to Preserve Federal Collections

Contract - B2/202/P2/Climate2Preserv

SUMMARY

Context

Cultural heritage institutions face the challenge of preserving collections while reducing energy consumption. Strict climate control standards lead to high operating costs and energy use. Recent research advocates for relaxed climate specifications based on risk assessment, but practical implementation guidance remains limited.

Objectives

The project developed a flexible methodology for climate and energy optimization in Belgian Federal Scientific Institutions through case studies at KMSKB-MRBAB (system performance), Wiertz Museum (building envelope), and CINEMATEK (collection vulnerability). The interdisciplinary team included KIK-IRPA, KU Leuven and The University of Liège and specialized architecture firms.

Conclusions

Climate2Preserv produced three integrated deliverables: the Climate2Preserv Handbook providing guidance across buildings, systems, collections, and energy domains; the Collection Environment Assessment Model (CEAM), an open-source tool for predicting energy savings; and templates supporting measurement planning and more. Case studies demonstrated energy savings of 10-50% through strategic setpoint adjustments and system optimization while maintaining preservation standards. The methodology addresses six sector challenges including stakeholder fragmentation, limited analytical capacity, and value-based constraints in historic buildings. Outputs are available online through open repositories and the KIK-IRPA website, and have been shared through international conferences and ICCROM's Our Collections Matter initiative, with continued dissemination planned.

Keywords

Cultural heritage preservation, energy optimization, climate control, sustainable collections management, preventive conservation