

# CLIMATE SENSITIVE CONSERVATION OF COLLECTIONS

### **Operating challenges in Heritage Sector**

The challenges of the current operating context makes it increasingly difficult for museums to meet environmental guidelines for their collections



#### Fewer than 1 in 10 museums

have completed an analysis about challenges associated with climate change region.



## Climate change is making it harder to meet environmental guidelines

Hotter summers mean that it becomes increasingly difficult to maintain temperature control.



#### **Government Indemnity Scheme (GIS)**

The GIS environmental standards [3] have previously recommended that collections are maintained in certain condition ranges for temperature, relative humidity and light. These standards are currently under review and for more information see Arts Council England website [4].



## "70% of our energy bill is spent on climate control"

The rising costs of energy impacts on museums' ability to meet environmental guidelines because of the costs associated with running their mechanical environmental control.

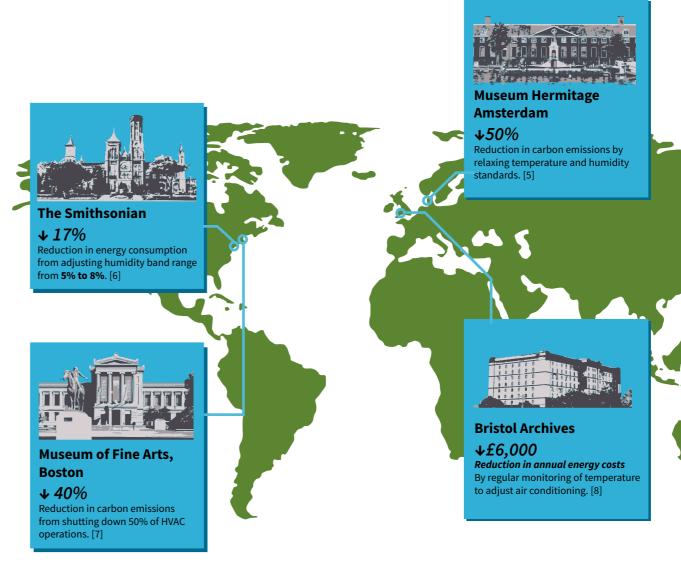
#### Introduction

Climate sensitive conservation of historic collections in the UK focuses on integrating sustainability and climate adaptation into heritage preservation. Key trends include the adoption of passive environmental controls, which reduce reliance on mechanical systems and promote natural ventilation, and energy-efficient retrofitting of historic buildings, balancing thermal comfort with the preservation of historical integrity.

British Standards such as BS EN 16893:2018 [1], which outlines specifications for building modifications and environmental strategies, and BS 4971:2017 [2], focusing on the care of archive and library collections, guide these efforts. These measures aim to protect historic collections from climate change impacts while ensuring their sustainability for future generations.

## What have others done to reduce emissions and save costs?

Adjusting controls of relative humidity and temperature can significantly reduce the environmental impact without significantly affecting conservation efficiency. Here's what others have done:



#### References

- The British Standards Institution. (2018). 'BS EN 16893:2018 Conservation of Cultural Heritage. Specifications for location, construction and modification of buildings or rooms intended for the storage or use of heritage collections'. Available at https://standardsdevelopment.bsigroup.com/ projects/2015-01060#/section (Accessed: 28 June 2024)
- The British Standards Institution. (2017). 'Conserva tion and care of archive and library collections'. Available at https://knowledge.bsigroup.com/ products/conservation-and-care-of-archive-and-library-collections?version=standard (Accessed: 28 June 2024)
- Arts Council England (2022). 'Government Indemnity Scheme'. Available at https://www.artscounciorg.uk/supporting-arts-museums-and-libraries/supporting-collections-and-cultural-property/government-indemnity-scheme#t-in-page-nav-1 (Accessed 28 June)
- Arts Council England (2024) GIS environmental con ditions review. Available at: https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/ supporting-collections-and-cultural-property/ government-indemnity-scheme/gis-environmental-conditions-review (Accessed: 5 July 2024).
- Impact of ASHRAE's museum climate classes on energy consumption and indoor climate fluctuations: Full-scale measurements in museum Hermitage Amsterdam. R.P. Kramer, H.L. Schellen, A.W.M. van Schijndel. Energy and Buildings (130). 2016. p294. Available at: https://doi.org/10.1016/j. enbuild.2016.08.016 (Accessed 28 June 2024)
- Bratasz et al, Toward Sustainable Collections
  Management in the Yale Peabody Museum: Risk
  Assessment, Climate Management, and Energy
  Efficiency. loc.cit., p.255 Available at: http://dx.doi.
  org/10.3374/014.059.0206 (Accessed 28 June 2024)
- Life Cycle Assessments of Loans and Exhibitions: Three Case Studies at the Museum Fine Arts, Boston, Journal of the American Institute for Conservation. 55:1. Sarah Nunberg, Matthew J. Eckelman & Pamela Hatchfield. 2016 Available at: https://doiorg/10.1080/01971360.2015.1112465 (Accessed 28 June 2024)
- Carbon Literacy for Museums Toolkit Trainer Manual. Carbon Literacy Project. 2022. p74 Available at: https://carbonliteracy.com/wp-content/uploads/2022/01/Museums-Overview.pdf (Accessed 28 June 2024)