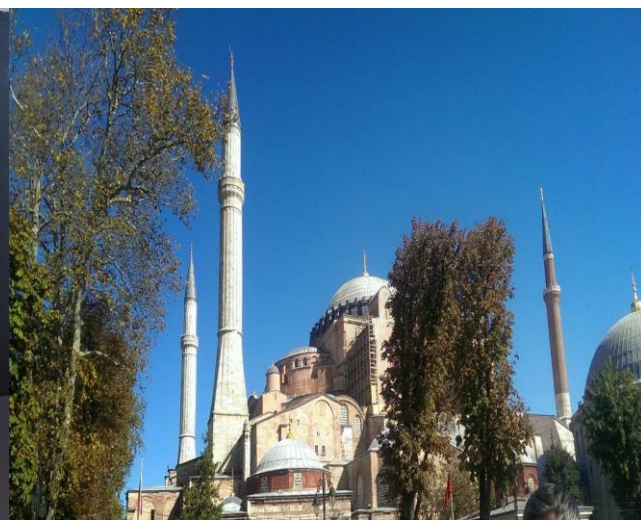




# EUROPEAN SUSTAINABLE RELIGIOUS HERITAGE

## Strengthening Cultural Heritage Resilience for Climate Change

Anne Grady, Seconded National Expert from National Museum of Ireland – Cultural Heritage  
CULT Committee, European Parliament,  
21 April 2023 - **Presenting in personal capacity**





# European Union's Competence

- Assists and complements the actions of Member States in preserving & promoting Europe's cultural heritage (art. 167 TFUE)
- Develops relevant policies and programmes
- Supports and promotes policy collaboration between Member States & stakeholders on cultural heritage e.g Creative Europe, ECOC, Horizon Europe, NEB, Horizon Europe

# Open Method of Co-ordination (OMC) Work Plan for Culture 2019 - 2022

Member States & associated countries appointed experts from ministries, institutes, boards and agencies

55 experts from 28 countries met over 18 months

Austria, Belgium, Croatia, Cyprus, Czechia, Estonia, Denmark, Finland, France, Germany, Greece, Hungary, *Iceland*, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, *Norway*, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden, Spain, *Switzerland* 25 + 3 (28)



# OMC group Cultural Heritage and Climate Change

Title - *Strengthening Cultural Heritage Resilience for Climate Change*

The mandate directly linked to UN SDG 13 “*Take urgent action to combat climate change and its impacts*”



# Objectives

Identify & exchange good practices & innovative measures for protection of cultural heritage (including both tangible & intangible)

Examine the current & emerging threats & impacts of climate change on cultural heritage

Examine contribution cultural heritage can make to mitigating & combatting climate change in line with European Green Deal's goals

# Outcomes

Lead to **awareness-raising**, **capacity-building** & **produce recommendations** to contribute to discussions & planning of climate change measures at European, national, regional & local level



# Cultural heritage/climate change in national policies

Responsibility lies with different ministries

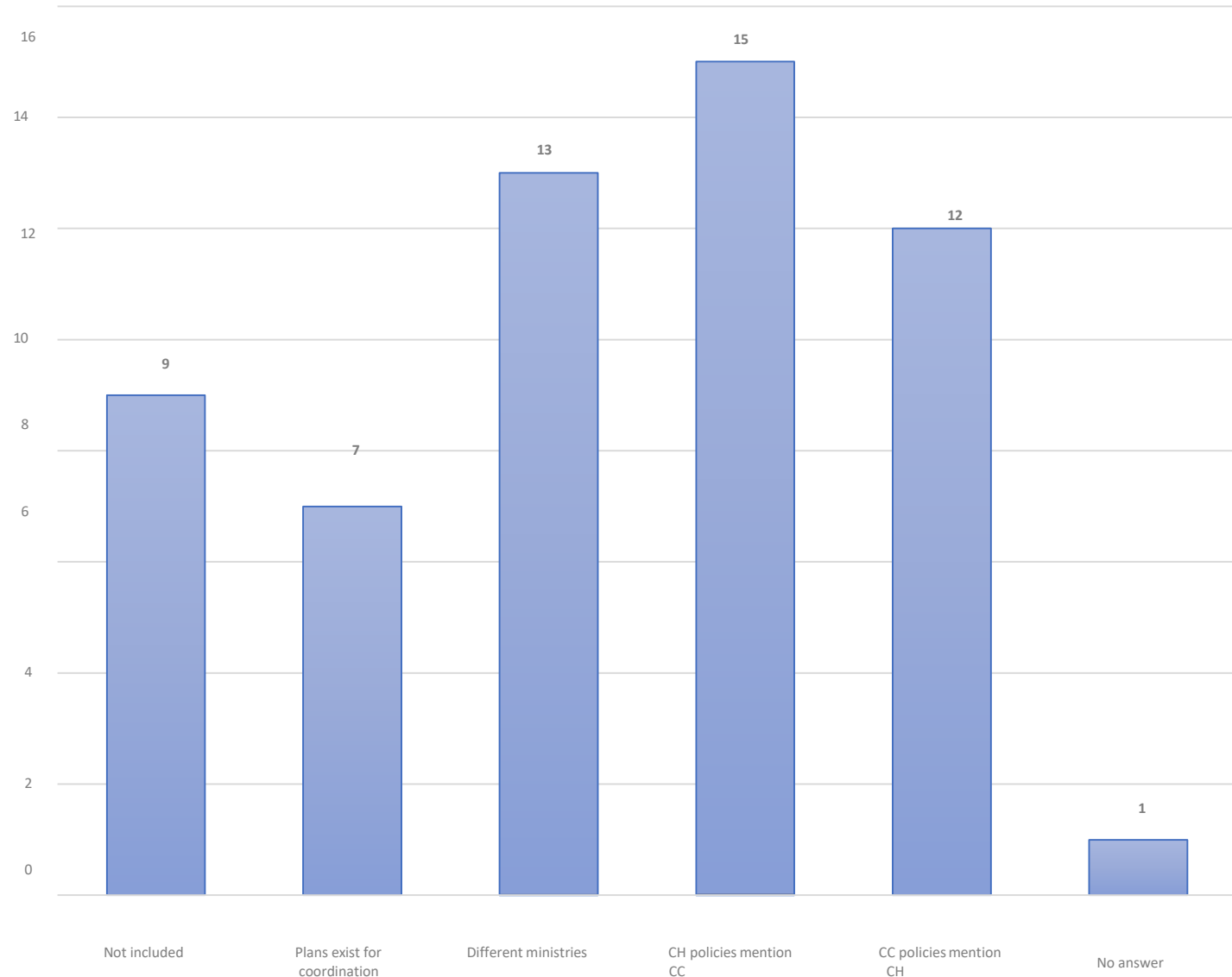
9 countries - no legal framework for cultural heritage & climate change

7 countries - some plans exist for coordination of climate change & cultural heritage

15 countries - cultural heritage policies mention climate change

12 countries - climate change policies mention Cultural Heritage

Examples:  
Ireland & Italy





# STRENGTHENING CULTURAL HERITAGE RESILIENCE FOR CLIMATE CHANGE

WHERE THE GREEN DEAL MEETS CULTURAL HERITAGE

EU OMC Member States' expert group  
Final Report & Executive Summary, September 2022

# Inspiration – Good Practice Examples

**83 case studies from 25 countries** – mainly tangible cultural heritage

1/3 research projects

## Key points

Cultural heritage is threatened by climate change - but also offers solutions and inspiration to the climate crisis

Role of research and innovation in making Europe's heritage climate resilient is paramount – multidisciplinary approach is key

Traditional buildings are sustainable & climate friendly. More climate friendly to upgrade/repair than to demolish & rebuild

Continuous monitoring and maintenance is vital





# Sweden - checklist for property owners, unique church towns

Each church town is different

Gammelstad – one of best preserved example of a ‘church village’

424 wooden houses clustered around early 15th century stone church, used on Sundays and for religious festivals to house worshippers from surrounding countryside when they could not return home (UNESCO World Heritage Site)

Production of short concise brochure:

- easy to use checklist – documents status of the cottage
- presents eleven areas of possible issues - described in text along with pictures
- offers examples of what property owners can do in relation to monitoring & in event of damage e.g drainage, frost, growth of mould, fungus etc.



# Norway - environmental monitoring

Monitoring climate impact on wooden and stone buildings from the medieval age – and two UNESCO World Heritage Sites - Røros and Bryggen

Programme started in 2017 - monitoring climate impact over a period of 35–50 years – by Norwegian Institute for Cultural Heritage Research

Will provide knowledge to form the basis for better management of these valuable medieval buildings – and also other traditionally built buildings

Medieval Garmo Stave Church, Lillehammer – good example of monitoring development of climate impact

© 2015, Dagfinn Rasmussen, Directorate for Cultural Heritage



# Portugal- artificial intelligence system

(Sistema de Inteligência Artificial para o Património)

Three buildings are the focus for developing an artificial intelligence (AI) prototype for monitoring heritage buildings in Northern Portugal:

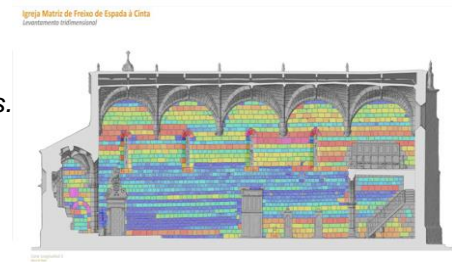
- Freixo de Espada à Cinta Church
- Vila Nova de Foz Côa Church
- Torre de Moncorvo Church

Satellite data, together with 3D scanning and alphanumerical data are being used to develop an AI prototype for monitoring potential changes in the positioning of the buildings and minor structural movements.

*Freixo de Espada à Cinta Church: three-dimensional mapping. Height of rows.*

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©FAUP/CEAU/HUGO PIRES



# Spain - Preventive Conservation Research Project

Purpose to create a diagnostic tool for curators and scientists working on conservation of heritage collections

Allows staff to know the risk situation due to changing weather conditions and possible measures to adopt

Brings together recent experimental knowledge and techniques on how different environmental factors affect works of art (oil paintings on canvas in particular)

Same time - developing a digital platform for making preventive conservation decisions



# Cyprus - mountainous areas of Larnaca and Limassol Districts

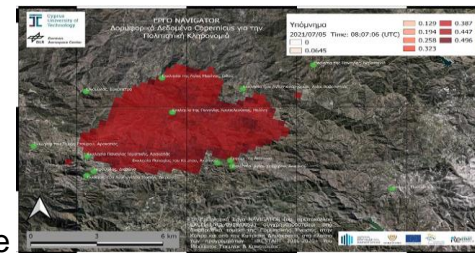
Numerous monuments with different character (Byzantine and post-Byzantine churches, medieval bridges, fountains, traditional buildings - some UNESCO World Heritage Sites etc.)

Mapping these areas is crucial for the protection of these monuments and their natural settings

Monitoring natural hazards from space-based observations - carrying out research activities

In the event of fire, timely information on current fire parameters vital to make informed decisions – use of satellite imagery to detect exact location & intensity of fire

Providing tangible outcomes to local stakeholders



# Ireland - Ballinskelligs Priory, County Kerry

Popular tourist destination and contains cemetery still in use by local community

Part of site already lost – conducting maintenance and repair of ruins of two churches, a cloister garth and large hall (12<sup>th</sup> century), risk due to storm damage and coastal erosion resulting from climate change

1950s defence sea wall deteriorating

Climate change risk assessment of site

Continuing series of repairs to the historic fabric in order to make it more resilient to the challenges of climate change. (repainting existing walls in lime mortar, grouting the walls & carrying out repairs to the wall tops)

The Discovery Programme – Centre of Archaeology, Innovation & Heritage Science carries out a digital drone survey to monitor coastal erosion



# Italy - Venetian cultural heritage

Venice - developing ways of managing hydraulic defence tools

Resilience continues to be necessary for survival

**Territorial scale:** floating barriers to close the lagoon from the Adriatic Sea during severe high tides

**Urban scale:** repair of waterway edges; external floor raising; floating barriers to protect against waves; hydraulic regulation around buildings; monitoring and alerting systems

**Architectural scale:** door and window barriers; internal floor raising; materials decay and maintenance; hydraulic regulation inside buildings; electrical systems solutions

Complex example - Saint Mark's Basilica - often flooded with salt water. The Procuratoria di San Marco (the ancient office managing the basilica's protection) collaborating with the stataal & local public administrations to address effects of climate change on the monument, conduct necessarily upgrading availing of traditional methods and new techniques

InSAR Satellite remote sensing of 90 bell towers of the city



# Croatia - Art of Drystone Walling

- Drystone walls - attraction in their own right – harmony with environment
- Skills are part of intangible heritage (Inscribed UNESCO Representative List of the Intangible Cultural Heritage of Humanity in 2018).
- Play a vital role in preventing floods and avalanches
- Combat erosion – enhance biodiversity
- Training and education of techniques - focus on young people





## Summary

### Climate change threatens all forms of cultural heritage

- Data – mostly on immovable heritage (Lack of qualitative & quantitative data)
- Very little on intangible heritage
- Threats - severe precipitation (floods), heat waves, droughts, sea level rise

### Key messages from 10 Recommendations (examples)

- Requirement for a structured cross-sectoral cooperation at all levels
- Introduce digital platform – exchange knowledge, share expertise
- National/regional authorities – initiate training programmes, research projects, invest, incentivise actions by monetary & fiscal policies
- Need for data on economic costs for adaptation & mitigation of cultural heritage



# Awareness Raising

Unprecedented interest in group

Presentations throughout the EU – including FRH

COP26 (November 2021)

CULT Committee of European Parliament (October 2022)

Interest from the US National Parks Service (Workshops December 2022)

British Museum (Hartwig Fischer, Director)





# ***Safeguarding for future generations***

***“The greenest building is the one already built”***

***Carl Elefante, President of the American Institute of Architects (2007)***



# Additional information

[Strengthening Cultural Heritage Resilience for Climate Change Report](#)

[Climate Heritage Network Action Plan 2022-2024](#)

[Pre-announcement collaborative research action by JPI on cultural heritage and climate and the Belmont forum](#)

[OMC Group Stormy times:cultural courage for change](#)

[OMC High-quality architecture and built environment for everyone](#)

[CulturEU Funding Guide](#)

[Workshop-on-complementary-funding-for-cultural-heritage](#)

[European Year of Skills 2023](#)

[New European Bauhaus](#)

[ICOMOS updated Quality Principles for EU-funded interventions with potential impact on cultural heritage](#) and [Abridged version](#)

[European Cultural Heritage Green Paper, Europa Nostra in cooperation with ICOMOS & Climate Heritage Network, with input of members of European Heritage Alliance](#)

[Commission Cultural Heritage Expert Group](#)

[Eurostat statistics cultural employment in the cultural sectors](#)

[EU-assistance-ukraine\\_en](#)

