



EUROPEAN UNION



Acropolis under snowstorm on 17 February 2021

STRENGTHENING CULTURAL HERITAGE RESILIENCE FOR CLIMATE CHANGE

WHERE THE EUROPEAN GREEN DEAL MEETS CULTURAL HERITAGE

EXECUTIVE SUMMARY OF THE REPORT OF THE EU OPEN METHOD OF COORDINATION (OMC) EXPERT GROUP OF MEMBER STATES – APRIL 2022

This document is addressed to a wide audience of policymakers and decision-makers at European Union, national, regional and local levels; heritage managers; and society as a whole.

PREAMBLE

The European Green Deal, presented by the President of the European Commission, Ursula von der Leyen, in December 2019, is Europe's response to the grand challenges posed to our societies by climate change and aims to make Europe the first climate-neutral continent by 2050. In line with commitments made under the Paris Agreement, it seeks to transform the EU into a modern, resource-efficient and competitive economy, with no net emissions of greenhouse gases by

2050, economic growth decoupled from resource use and no person or place left behind. However, cultural heritage was not explicitly mentioned in the Green Deal. Contemporaneously, in accordance with the Work-plan for Culture 2019-2022, an Open Method of Coordination group of Member States' experts on strengthening cultural heritage resilience for climate change was established. The group's mandate was to explore the contributions of cultural heritage to the European Green Deal and identify threats and gaps related to cultural heritage in the context of climate change.

1. ABOUT THE OMC EXPERT GROUP AND ITS MAIN OBJECTIVES

Cultural heritage is one of the pillars of European society and identity. For the **first time**, a group of experts was nominated by **25 EU Member States and 3 associated countries** to cooperate at European level on **the application of climate action to cultural heritage**. This group examined the state of play, gaps in knowledge and structural deficiencies at EU and Member State levels. The information gathered is shocking: cultural heritage is under attack from climate change at an unprecedented speed and scale. Yet EU Member States do not have proper policies and action plans in place to mitigate these attacks, nor does the EU. Besides, **cultural heritage is not only a victim; it can provide solutions to help Europe** to become a green, climate-neutral continent. A total of **83 best practice examples** collected from 26 countries demonstrate the potential of cultural heritage solutions in the context of climate change; they provide an invaluable source of inspiration and ideas to emulate. Through the setting up of the OMC expert group on strengthening cultural heritage resilience for climate change, cultural heritage has received a strong commitment from the highest political level for support in the fight against climate change.

2. THE UNPRECEDENTED SPEED AND SCALE OF CLIMATE CHANGE IS THREATENING CULTURAL HERITAGE

Climate change is directly and indirectly threatening all forms of cultural heritage, whether a world heritage site or a small pilgrimage chapel in the countryside, an old steelworks or a historic garden. The most evident threats stem from extreme climatic events – severe precipitation, long heatwaves, droughts, strong winds and sea-level rise – all of which will increase dramatically in the future, as predicted by the [Intergovernmental Panel on Climate Change](#). These events have immediate consequences, such as floods, forest fires and erosion, for Europe's tangible and intangible cultural heritage. **The impacts of catastrophic events are coupled with the slow onset of changes arising from deterioration processes.** Gradual climate change – continuous increase in temperature and fluctuations in temperature and humidity or fluctuations in freeze-thaw cycles – causes degradation and stress in materials, leading to a greater need for restoration and conservation. Biological degradation caused by microorganisms, for example in the form of mould and algal growth, and insect infestations

attacking the physical fabric of buildings and the collections of galleries, libraries, archives and museums are more likely to occur. Cultural heritage is also **vulnerable to maladaptation, when inadvertent loss or damage is caused by adaptation measures**. There is little in-depth knowledge about the impacts of the climate crisis on intangible heritage. The topic of rapidly increasing, **simultaneous or concurrent extreme events** is currently a subject of debate in climate science, but **the consequences of concurrent catastrophic events for the whole cultural heritage sector** have not yet been adequately dealt with or investigated – this is now a major source of concern.

3. LACK OF AWARENESS AND LACK OF ACTION IN EU MEMBER STATES AND AT THE EU LEVEL

Out of the 28 countries having taken part in this expert group, **nine do not have any legal framework for heritage and climate change**. 15 countries stated that their cultural heritage policies mention climate change, and only 12 countries stated that cultural heritage is present in climate change policies. In general, at national level, different ministries are in charge of the two topics (13 responses). **Only seven countries mentioned that there are plans to coordinate the two areas of work:** Ireland, Greece, Italy, Cyprus, Slovenia, Finland and Sweden.

4. ADAPTATION AND MITIGATION MEASURES IN LINE WITH THE GREEN DEAL

Making cultural heritage fit for climate change while avoiding maladaptation is the monumental challenge of today for all types of cultural heritage, from archaeological sites and built heritage to landscapes and movable heritage. This requires **careful (budgetary) planning and a holistic approach that takes into account the whole life cycle and embedded, or grey, energy to reach net zero** without losing heritage qualities. This will entail small changes, such as continuous maintenance and monitoring, and larger adaptations, such as installing alternative energy sources and/or smart retrofitting to avoid waste. Historic buildings, settlements and cultural landscapes, together with traditional knowledge, are an inspiration in terms of sustainable living, the circular economy and resource efficiency.



Half-timbered building in Bad Windsheim (Germany) after extreme rainfall on July 15, 2021 © Freilandmuseum Bad Windsheim

Nevertheless, so far, there have been **no economic assessments capturing the full range of costs of climate change impacts on European cultural heritage**. Neither do we have a full picture of the wider range of benefits to European societies arising from investments in the capital that cultural heritage offers. The OMC expert group strongly believes that the costs of action are lower than the costs of inaction. Therefore, we must act now and include cultural heritage in all mainstream policies and funding programmes.

Climate actions for heritage resilience involve a **strategic choice to invest in new forms of development**. Opportunities exist at EU and national levels to finance and invest in cultural heritage. However, making the most of these opportunities will require a radical change in the cultural heritage sector – a change in mindset. Most current processes and methods will have to be altered; we must make available and use new and traditional technologies, change institutional behaviour, create adequate business models, revise city and rural planning processes, and ensure efficient resource management. It is **more climate friendly to maintain, repair, reuse and retrofit than to demolish and build new**, and this fact must be widely communicated.

5. RESEARCH: THE INDISPENSABLE DRIVER TO MAKE HERITAGE CLIMATE RESILIENT

The **role of research and innovation** in protecting cultural heritage from climate change by making Europe's heritage climate resilient **is paramount**. The 83 best practice examples collected by the OMC expert group members clearly demonstrate that research is the most important driver of action to help heritage to fight against climate change. **Researchers were the first** to draw attention to the threats posed by climate change to cultural heritage, after the **European Commission launched, in 2003, the world's first call for research projects** to investigate the impacts of climate change on outdoor cultural heritage. In 2008, there followed research to study the **impacts on indoor cultural heritage** and the **future energy demands of built heritage** by coupling climate models with building simulation. Research and innovation, especially at national level, are an integral part of the mandate of this expert group. An evaluation of the state of play of research shows that there is still a need to identify and better understand the most severe threats. We need to understand their potential impacts, and good practices and innovative measures to prevent or mitigate them, so that we can safeguard all forms of

European cultural heritage from climate change. In addition, we need to know the costs involved in making heritage resilient to climate change. The **OMC expert group recognises the unique role that research has played and will continue to play** in promoting cultural heritage in the context of climate change discussions, actions and research development, and its contributions to science diplomacy.

6. EDUCATION AND TRAINING: VITAL PREREQUISITES FOR MASTERING THE FUTURE

Education is of primary importance in understanding the **profound role that cultural heritage plays in European societies**. Cultural heritage is the treasure trove of European memory, inspiration, well-being and economic development; it offers enjoyment, comfort and truth. Heritage education provides insights into and an understanding of the world we live in, as it is grounded in the past and provides the tools to enable us to imagine the future. It empowers us to make **moral, spiritual and intellectual sense** of the world, in the face of **fake news, conspiracy theories and 'alternative facts'**. In armed conflicts, the first to suffer are people, but **cultural heritage is also targeted for destruction**, as it forms a visible **pillar of identity and community solidarity**. Given the importance of cultural heritage, it is **vital to start as early as possible to spark enthusiasm for it in young children**, to show them how exciting and interesting heritage is and that it can be explored using fun and innovative tools such as games and immersion through virtual reality in heritage worlds of the past and future.

In general, **cultural heritage has not yet been systematically included in the national education systems** of Member States, and the link between cultural heritage and climate change is addressed in hardly any education systems. This is a **missed opportunity, as heritage can be used as a vehicle to communicate information on climate change and all its consequences for European societies**. The role of and risks to cultural heritage could be integrated into climate change education. Overall, climate change education remains largely focused on technical/functional and sometimes also economic aspects, while cultural and social aspects are neglected. In order to change this, the promotion of specific projects and **teaching programmes and awareness raising of teachers** must be strengthened, which is a task for both education and the cultural heritage preservation sector.

Regarding the professionals responsible for implementing climate adaptation measures for heritage, it is essential to **build capacity through training, upskilling and imparting expertise in new knowledge and technologies** while **revitalising traditional, forgotten skills**. Our ancestors have much to teach us about coping with limited resources, using local materials and adapting to heatwaves, cold spells and floods.

7. AWARENESS RAISING AND OUTREACH: EUROPE TALKS CLIMATE CHANGE AND CULTURAL HERITAGE

Awareness of the vulnerability of cultural heritage and the increasing threats posed by climate change to European heritage **is still very low in the heritage community and even lower in wider society and at the political decision-making level**. This lack of awareness could heighten the indirect impacts of climate change on heritage. However, **heritage has the power to touch people's hearts**, as it resonates with their sense of identity, values and world view. Therefore, this report addresses the combined efforts by the EU, national governments and bodies, museums, heritage and academic institutions, charities, community organisations, non-governmental organisations, businesses, craft companies and – especially importantly – the media to **spread the message about what is at stake and how heritage can help solve the climate crisis**. The setting up of this **OMC expert group was a first and important step towards achieving the necessary changes**.



Estonia, Ecomess of the Centre of Sustainable Renovation and Partners 2014, Tallinn. Photo: Toomas Tuul, 21.09.2014

8. GAPS AND STRUCTURAL DEFICIENCIES IMPEDING THE GREEN DEAL

In order to enhance the protection of cultural heritage against climate change, it is necessary to **identify existing gaps and obstacles**. It was a very difficult and laborious task for the OMC expert group to find the right contacts to provide the information needed. Major **weaknesses are the fragmentation of the sector**, which lacks an efficient structure, and the fact that there is **little exchange, cooperation and coordination** with regard to climate change issues. These weaknesses are exacerbated by insufficient research programmes mainly at national level. The group identified major gaps and structural deficiencies.

There is a lack of:

- awareness of cultural heritage in the context of climate change in policymaking and integration of cultural heritage into mainstream climate change policies at EU and Member State levels;
- knowledge about the scale and dimensions of climate change damage and loss of cultural heritage;
- a coherent methodology for obtaining reliable information, quantitative data (e.g. showing how many sites are under immediate and long-term threats) and deep knowledge about rates and forms of decay affecting indoor, outdoor and underwater tangible heritage, loss of intangible heritage and future climate prospects at local level;
- incentives / tax reductions / support specifically for cultural heritage to adapt to or mitigate the effects of climate change at EU and national levels;
- resources (financial and human) at all levels of cultural heritage bodies to research, develop policies and implement actions to protect cultural heritage;
- quantitative data on the costs and economics of adaptation/mitigation measures for cultural heritage in times of climate change at national and EU levels;
- a website or platform at European level to provide information on the state of the art and progress;
- an inventory and central entry point covering damage to / loss of / risk to cultural heritage as a result of climate change at national and EU levels (a heritage climate change risk map);
- a permanent task force or forum for discussion and mutual exchange;

- contact persons and experts, at local, regional, national and EU levels, who can respond to enquiries;
- cooperation at national level – pointing to a need for exchange between ministries, administrations and planning bodies on cultural heritage and climate change;
- regard for cultural heritage concerns in the activities of other ministries and authorities when dealing with climate actions;
- cooperation between experts working in cultural heritage, climate change, economics and the humanities;
- active participation and integration of wider society and engagement of the younger generation in cultural heritage and the climate crisis;
- continuous long-term monitoring of cultural and natural heritage to document the evolution of changes;
- scientists and climate change experts in cultural heritage institutions (ministries and authorities);
- quantitative data on the contribution of historic buildings to the Green Deal / CO₂ saving (i.e. a holistic approach and life cycle analysis).

Considering all the above, the OMC expert group agreed on the **recommendations** listed below.

RECOMMENDATIONS

PREAMBLE

Our cultural heritage is being damaged and lost as a result of climate change, which is advancing at an unprecedented speed and scale. At the same time, cultural heritage offers green, sustainable solutions to the climate crisis. One key solution is the renovation of old buildings, which has been proven to be more climate friendly than demolition. Research and innovation are indispensable drivers of change that can make substantial contributions in the fight against climate change. Adaptation and mitigation measures must be in line with quality principles to ensure the protection of cultural heritage, avoiding maladaptation resulting in a cultural heritage crisis. Appropriate measures will stimulate climate resilience, economic recovery and skills development in line with the European Green Deal. Europe's joint effort, which has already produced good practice examples, will be a source of inspiration for other regions of the world.

RECOMMENDATIONS FOR THE EUROPEAN UNION AND MEMBER STATES

The open method of coordination (OMC) expert group makes the following 10 recommendations.

1. The European Commission must emphasise the importance of cultural heritage in times of climate crisis and propose new actions at European level to adapt cultural heritage and enable it to mitigate climate change in a new Commission communication, for instance in an update to the new European agenda for culture.
2. The European Commission must ensure structured cooperation at all levels of governance between EU directorates-general responsible for climate change and/or cultural heritage.
3. The European Commission must develop and regularly update, together with the Member States and associated countries, a European climate change cultural heritage risk assessment map by 2025.
4. The European Commission must initiate a full review of the economic costs of climate change adaptation/mitigation solely for cultural and natural heritage.
5. The European Commission must establish a common European platform for exchange, discussion, expertise and knowledge sharing about the impacts of climate change on cultural heritage and its contributions in the fight against climate change, providing a central entry point for cultural heritage in times of climate change.
6. National-/regional-level and local-level administrations must include cultural heritage and the cultural domain in all actions and plans addressing mitigation of and adaptation to climate change. Actions must be undertaken to fully integrate culture and cultural heritage issues into environmental sustainability and climate policymaking both at national/regional/local levels and international level.
7. National and regional authorities must build capacity and multidisciplinary expertise to ensure the safeguarding of cultural heritage against climate change through education, training and upskilling at all levels. The European Commission, through relevant EU-funded programmes, could support these initiatives.
8. National authorities must recognise the importance of research as the indispensable driver to advance the cultural heritage sector. In addition to EU-funded programmes, governments must initiate research programmes at national level to enhance knowledge sharing and cooperation between cultural heritage experts and climate science to create data collection mechanisms, collect and analyse data, and develop tools, infrastructures, best practices and strategies.
9. National-/regional-level and local-level governments and institutions must encourage investment immediately and incentivise the safeguarding of cultural heritage against climate change through monetary and fiscal policies.
10. The ministries and administrations of Member States and associated countries and local and regional authorities must ensure cooperation at all levels of governance and in relevant policy domains, especially in planning bodies, between those responsible for climate change actions and those responsible for cultural heritage.

▶▶ The full report with a detailed presentation of the case studies is available on the website of the Publications Office of the European Union (<https://doi.org/10.2766/44688>).

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