



European Cultural Heritage Green Paper

Full Paper

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MARCH 2021

**Putting Europe's shared
heritage at the heart of the
European Green Deal**

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Foreword • Europa Nostra



HERMANN PARZINGER

EXECUTIVE PRESIDENT
OF EUROPA NOSTRA

We are proud to introduce the pioneering “**European Cultural Heritage Green Paper**” developed by Europa Nostra in partnership with ICOMOS and the Climate Heritage Network, and produced with the vital support of the European Investment Bank Institute. The Paper has also received invaluable input from members of the European Heritage Alliance 3.3. and has benefitted from the support of the Creative Europe Programme of the European Union.

This Paper makes a convincing plea that our cultural and natural heritage are key to achieving the ambitions of the European Green Deal and ensuring its lasting positive impact on Europe’s society and environment.

Responding effectively to climate change is the defining task of our time. The effects of climate change are visible in every corner of the world, and the scope and speed of this phenomenon are ever more evident and alarming. This is particularly the case in Europe, a small continent with a very high population density and a strong interdependence between people and their living environment. The rich and diverse landscape of our continent is also deeply intertwined with cultural heritage - be it tangible or intangible, urban or rural, inland or coastal. Climate change, consequently, affects the people and their living and working environments alike. Europa Nostra has therefore recognised climate action as a key priority in our policy agenda: we have supported and are active members of the Climate Heritage Network and we have proudly contributed to the United Nations Climate Summit in September 2019. This Paper confirms this strategic goal and commitment.

The pressing climate emergency is currently taking place amid an unprecedented health crisis caused by the outbreak of the COVID-19 pandemic. In such a context, an extraordinary challenge calls for extraordinary collective mobilisation and action.

We applaud the strong commitment of the European Union to place the European Green Deal at the very heart of Europe’s socioeconomic recovery in the aftermath of the COVID-19 pandemic. But we need to do more, faster and more resolutely. Every individual, every professional and economic sector, every policy realm, can do its bit to counter the climate and environmental emergency. **The EU leaders and institutions can count heritage in as an indispensable ally in this challenging endeavour.**

This Paper shows that the European Green Deal and cultural heritage are closely interconnected. The European Green Deal aims at limiting the temperature rise at 1.5°C, which is a crucial threshold to safeguard a large number of our heritage sites and avoid the loss of biodiversity in our natural environments. It is a fact that our shared cultural heritage - as every other aspect of our lives - is facing existential threats due to global warming.

But cultural heritage is also part of the solution. Many dimensions of the European Green Deal, such as building renovation, circular economy, the ‘farm to fork’ strategy and biodiversity have clearly related cultural aspects. As evidenced by this Paper, cultural heritage offers an immense potential to drive climate action, influence consumption patterns and support the transition towards a healthier, greener and fairer society and economy. Moreover, cultural heritage can be a catalyst for positive change, as it has the power to connect people to places, encourage a sense of belonging and foster social inclusion.

This is why cultural heritage is also an intrinsic and indispensable component of the New European Bauhaus initiative recently launched by European Commission President Ursula von der Leyen. Europa Nostra is honoured and proud to be among the first 13 partners of the New European Bauhaus initiative. We are aware of the great challenge and responsibility this entails, and we will strive to align all our activities to the values and aims of this innovative and transformative action. The publication and wide dissemination of this Paper is also part of this effort.

More broadly, cultural heritage can be a powerful drive for Europe's recovery, as it is linked to all current priorities of the European Union: from supporting education and the digital transformation to underpinning the tourism industry; from the creation of highly skilled and rewarding jobs to the regeneration of historic cities, villages and the countryside; and from fostering social cohesion to improving the physical and mental wellbeing of individuals and communities. We firmly believe therefore that cultural heritage is a vector for achieving the long-term vision and policy goals of the European Union, including the European Green Deal. **Cultural heritage is not just about preserving our past – it is about shaping our future.**

We are proud of the long-standing and invaluable partnership between Europa Nostra and the European Investment Bank Institute, which has been based for over seven years on a shared vision of cultural heritage as a driver of sustainable development. This Paper is yet another tangible result of this excellent cooperation. We are also delighted of the fruitful collaboration with ICOMOS and the Climate Heritage Network in the frame of this Paper and beyond. We owe a special gratitude to the leading author, Andrew Potts, Coordinator of ICOMOS' Climate Change and Heritage Working Group (CCHWG) for his outstanding expertise as well as to all other experts involved in one way or another. This Paper is the result of our collective knowledge, experience and commitment.

This Paper confirms our collective ambition to become forceful "Climate Pact Ambassadors". We are committed to widely disseminate it across the European heritage circles and convey it to decision makers at all levels: European and national, regional and local. We hope that it will be of particular interest to the New European Bauhaus initiative, to the shaping of the EU's Urban and Rural Agenda's as well to EU's strategy on Sustainable Development Goals. This Paper does not aim to provide all the answers nor address the manifold implications of the relation between cultural heritage and climate action in an exhaustive way. On the contrary, it puts on the table key questions which we hope will be the starting point and inspiration for further debate and action for heritage and climate stakeholders alike. We are confident that it will become a reference point in this topic and will lay the foundations for pertinent, robust and informed policies and action in this field.

With this Paper, we also wish to provide a policy and advocacy framework for the wide mobilisation of the cultural heritage community for the benefit of climate action in general, and for the success of the European Green Deal in particular. **But above all, we see it as the first step towards a sustained and beneficial cooperation between all the organisations involved, both public and private. Our firm commitment to support the mobilisation of cultural heritage stakeholders for climate action does not end here: this document is only the beginning!**

Prof. Dr Hermann Parzinger
Executive President of Europa Nostra

Foreword • ICOMOS



A handwritten signature in green ink that reads "T. Patricio".

TERESA PATRICIO

PRESIDENT OF
ICOMOS

The International Council on Monuments and Sites (ICOMOS) is proud to contribute to the implementation of the European Green Deal.

According to the 2020 UN Emissions Gap Report, human-caused greenhouse gas emissions (GHGs) are pushing the planet towards a temperature rise above 3°C this century, with catastrophic outcomes for people, planet, and heritage.

In response, the ICOMOS General Assembly in December 2020 declared a Climate and Ecological Emergency, calling for urgent collective action to safeguard cultural and natural heritage from climate change, including through adaptation responses but also implementation of a precautionary approach that pursues pathways for limiting global warming to 1.5°C over pre-industrial levels.

The European Green Deal is an ambitious initiative to drive climate action and respect the resources of the Earth. It reflects the precautionary approach ICOMOS believes is needed. For this reason, Europa Nostra and ICOMOS – two of the most influential transnational heritage organizations – have joined forces on this European Cultural Heritage Green Paper in order to offer our collective insight and know-how on cultural heritage as an essential component in a just transition to a sustainable and climate neutral Europe.

Europe's rich cultural heritage can support implementation of every element of the European Green Deal. Culture-based strategies can help heighten the ambition and capacity of communities to act, support climate adaptation and resilience, contribute to mitigation interventions to reduce GHG emissions, and address loss and damage from climate impacts.

Cultural heritage is particularly central to Green Deal strategies focused on Europe's urban and rural landscapes such as the Renovation Wave and the New European Bauhaus. A carrier of cultural and social values, the sustainable use and reuse of the built heritage reduces our ecological footprint and the environmental costs of demolition and construction. Heritage is a source of knowledge – structures that have survived centuries are the most sustainable, their full lifecycle footprint is minimal. Learning from traditional buildings, materials and skills supports innovation throughout the construction sector. ICOMOS hopes that the analysis provided in the Green Paper will inform development of the Renovation Wave and the New European Bauhaus.

Heritage is the key component in most European conventions and priorities. In 2018, Europe celebrated European Year of Cultural Heritage emphasizing its role in building the future of Europe. ICOMOS has been actively engaged in this effort, including through the elaboration of 'Quality Principles for EU-funded interventions with potential impact on cultural heritage.' These provide useful recommendations and selection criteria for all stakeholders directly or indirectly engaged in EU-funded interventions that could impact on cultural heritage, and can be used to strengthen the foundations for sustainable investment which is crucial to implementing the European Green Deal. For example, they can contribute a missing social and cultural dimension to the new EU Taxonomy Regulation, which is designed to classify environmentally sustainable activities.

ICOMOS is a global organisation of heritage experts from 151 countries, and is active all over Europe. With its International Scientific Committees and Working Groups that incorporate unequalled expertise, ICOMOS has a history in addressing the issues of climate change, sustainable development and climate neutrality.

ICOMOS is gratified that the authors have chosen to base the European Cultural Heritage Green Paper on the framework set forth in the 2019 ICOMOS Report 'The Future of Our Pasts: Engaging Cultural Heritage in Climate Action.' Designed to provide a benchmark against which heritage communities may measure their climate action, it is also a tool to help climate change policy makers increase their understanding of and engagement with cultural heritage. The European Cultural Heritage Green Paper advances these twin goals with recommendations aimed at both heritage operators and policymakers.

'The Future of Our Pasts' Report concludes that realizing the potential of cultural heritage to drive climate action requires both better recognition of the cultural dimensions of climate change and adjusting the aims and methodologies of heritage practice. ICOMOS' expert knowledge, and that of many others, can contribute to his endeavour. More research and skills training is required. Adapted solutions and standards will be required for the different types of cultural heritage which exist in order to achieve the best outcomes and to avoid irreversible mistakes.

ICOMOS looks forward to cooperating with the European Union Institutions and the opportunity to contribute our knowledge and expertise in this ambitious and essential journey.

Teresa Patricio
President of ICOMOS

Foreword • European Investment Bank Institute



**FRANCISCO
DE PAULA COELHO**

DEAN OF THE
EUROPEAN
INVESTMENT BANK
INSTITUTE

84% and 57%. The first number is the percentage of Europeans who consider cultural heritage as personally important as well as important for the European Union. It was revealed by the first ever Eurobarometer on the topic, undertaken during the first ever European Year of Cultural Heritage, in 2018.

The second is the percentage of Europeans who say that the post-pandemic economic recovery must take the climate emergency into account. It was revealed in early March 2021 by the annual EIB Climate Survey.

These two numbers explain why the EIB Institute decided to support this groundbreaking “Cultural Heritage Green Paper “ developed by our long standing partner Europa Nostra in partnership with ICOMOS and the Climate Heritage Network.

The EIB is the Bank of the EU. It was created by the Treaty of Rome, more than sixty years ago, to finance sound investment projects in a new common economic area then called the Common Market. Since then, the EIB has grown with the expansion of the European Union as every new Member State became a shareholder, and since then it has supported more than 12 000 investment projects, 90% of them in the EU, generating more than 3 EUR trillion in total financing.

The EIB is also the EU’s Climate Bank. It plays a leading role in mobilising the finance needed to reduce emissions, help countries adapt to the impacts of climate change and contribute to achieving environmental sustainability goals.

We like to say that climate is in everything we do. Because climate change has been for many years one of the EIB’s main financing priorities, representing €24,2 bn or 37% of our lending last year. Because every project the EIB considers, regardless of its priority, is screened carefully for its climate change impacts by our engineers and experts. But also because, in 2019, the EIB became the first international financial institution worldwide to stop financing fossil fuel investment projects while at the same time, presenting an ambitious plan to step up our work in support for the European Green Deal, launched by the European Commission to make Europe the first carbon free continent by 2050.

This Climate Bank Roadmap signals the urgency with which the EIB views the climate and environment crisis. It represents our commitment, as the EU’s climate bank, to align all our work with the Paris Agreement, support low-carbon technologies and resilience around the world, and help meet the United Nations’ Sustainable Development Goals.

In practice, the roadmap will guide our work for the coming years to increase EIB finance for climate action and environmental sustainability from about 30% today to at least 50% by 2025 and to support €1 trillion –one trillion!- of investment in climate action and environmental sustainability in the critical decade from 2021 to 2030.

The EIB will build upon the commitment to stop supporting traditional fossil fuel energy projects and extend it to other areas focusing on clean energy, innovative technologies and digitalisation, which will play a major part in modernising and decarbonising industries.

It will maintain leadership in the capital markets, where the EIB was the first institution to issue a green bond in 2007, and is still the largest supranational green bond issuer. And it will also, through the EIB Institute I have the honour to lead, support research activities with two university chairs, the first EIB Climate Chair at the European University Institute (EUI) in Florence, and the Sciences Po European Chair for sustainable development and climate transition.

The EIB lends to projects in over 100 countries around the world. Some € 7 billion go every year to projects in partner countries outside the EU and almost half of this amount is aimed at projects related to the fight against global warming. The fight against climate change and its impact, and the fight to promote and implement sustainable development must go hand in hand. And the fight for the climate goes hand in hand with the fight to protect cultural heritage.

The EIB has invested in cultural heritage over many years, for example supporting investments linked to the European Capital of Culture preparations in Plzen (Czech Republic), Pecs (Hungary) and Valletta (Malta); and in the Tunisian Medinas programme. It has financed the refurbishment or development of cultural heritage buildings directly, as well as through urban framework loans. Several urban regeneration projects include cultural heritage as important elements (recent examples are Katowice, Malta, Manchester or Lille).

The Institute has been active in this field since 2013, through our partnership with our friends from Europa Nostra. In the 7 Most Endangered programme we put the expertise of retired EIB staff, engineers, experts, to safeguard heritage sites in danger. We signed the Berlin Call to Action for Cultural Heritage at the end of the European Year of Cultural Heritage. And we decided to support this Paper on the European Green Deal and Cultural Heritage because we believe cultural heritage has the potential to provide the missing link between all Europeans and the EU Green Deal.

Cultural heritage is a key asset contributing to making Europe the world's no. 1 tourist destination. Tourism is the third largest socioeconomic activity in the EU, contributing 415 billion Euros to the EU GDP and employing more than 15 million people.

But cultural heritage is more than a "significant creator of jobs across Europe" as well as an "important source of creativity and innovation", it is also what brings Europeans together. Europeans take pride in cultural heritage. As Hermann Parzinger, President of Europa Nostra, writes in his essay "Togetherness", published in the "Big Ideas" series of the European Investment Bank: "Whether we like it or not we are all intrinsically connected to our past". This connection can also be the link for European citizens to the European Green Deal and the basis of our common and greener future.

Francisco de Paula Coelho
Dean of the European Investment Bank Institute

Preface

In December 2019, the European Commission put forward the European Green Deal. [1] This transformative agenda aims to combine a wide range of policies in order to solve an array of linked problems, among them an economic model that relies on the ever-increasing use of a dwindling set of resources, the need to distribute the benefits of Europe's growth in a fairer way, and the existential challenges posed by the twin crises of climate change and biodiversity loss. [2]

The development of the European Green Deal is occurring alongside the COVID-19 pandemic. The pandemic, climate change, and our planet's biodiversity crisis [3] all stem to some degree from a breakdown of our relationship with nature. [4] Far from side-lining the European Green Deal, the pandemic has amplified its relevance and urgency. It has also revealed some essential lessons, including that ecological problems are also social problems.

Another major lesson of the pandemic, which also strongly underlines the rationale for the European Green Deal, is that the way forward has to be defined despite national, local, and personal differences. Solving these problems calls upon Europeans to dare to re-imagine their future, to claim a different destiny: a more inclusive, greener, and overall better and stronger society.[5] But to re-imagine their future, Europeans must first rediscover and reassert their common ground and shared foundation. They must draw energy and inspiration from the sources of their *togetherness*. [6]

This raises a basic question: can Europeans come together to transform the very lifestyles that in recent years have united them around a common material existence? The answer, quite simply, is 'yes' for the basic reason that what it means to be European comes from something deeper than the shared experience of today's consumption patterns. It comes from a shared European heritage – that 'complex and multi-layered Gesamtkunstwerk, [7] created by past and current generations, which is the real cultural foundation on which Europe is built.

[1] European Commission, 'The European Green Deal,' COM(2019) 640, 11 Dec 2019 [hereinafter, the 'European Green Deal'].

[2] See generally Frans Timmermans, 'The European Green Deal as a growth strategy,' Speech, Bruegel Annual Meetings, Brussels, 1 September 2020, accessed 25 January 2021.

https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1551.

[3] IPBES, Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors)] (IPBES secretariat, Bonn, 2019).

[4] David M. Morens and Anthony S. Fauci, 'Emerging Pandemic Diseases: How We Got to COVID-19,' Cell Volume 182, Issue 5, 3 September 2020: 1077-1092, accessed 25 January 2021. [https://www.cell.com/cell/pdf/S0092-8674\(20\)31012-6.pdf](https://www.cell.com/cell/pdf/S0092-8674(20)31012-6.pdf).

[5] Timmermans, *supra* note 2.

[6] Hermann Parzinger, 'Togetherness - A new heritage deal for Europe' (European Investment Bank, 2020), accessed 25 January 2021. <https://www.eib.org/en/publications/eib-big-ideas-togetherness-a-new-heritage-deal-for-europe>.

[7] *Id.*

Culture and heritage are, precisely, what connects this complicated puzzle. Cultural heritage anchors people to places. It creates cohesion and connects people to each other in ways that enable common action. While climate change can impact and threaten cultural identities and practices, culture – from arts to heritage – is also a source of creativity, innovation and wisdom that can inspire and guide just transitions to low carbon, climate resilient futures.

Leveraging these strengths will require a stronger emphasis on the vital importance of European cultural values at all levels, including in environmental and economic policy. **In short, it means putting Europe's shared heritage at the heart of the European Green Deal.**

Europe's cultural heritage sector, which is extremely rich and diverse, is a ready partner in this urgent project, as clearly indicated in the European Heritage Alliance Manifesto launched on Europe Day – 9 May 2020. [8]

Broadening and where necessary adapting the work of cultural heritage stakeholders to achieve the sweeping social, environmental, and economic ambitions of the European Green Deal certainly will be a challenge – at least at first. The same is surely true for environmental colleagues as they grapple with mastering the vast cultural and social dimensions of transformative change.

But this too highlights a lesson from the COVID-19 pandemic: we all must learn and support one another. It is in this spirit of solidarity and shared commitment that this European Cultural Heritage Green Paper has been prepared. Its ambition is to inspire and mobilise the worlds of cultural heritage, environment, and all other sectors to join forces to contribute to resolute and transformative climate action and to ensure a better future for all.

[8] European Heritage Alliance, Manifesto, 'Cultural Heritage: a powerful Catalyst for the Future of Europe,' 2020. https://www.europanostra.org/wp-content/uploads/2020/09/20200915-EHA-MANIFESTO-layout_high-res.pdf. [Hereinafter, 'European Heritage Alliance Manifesto'].

Methodology and Acknowledgements

This European Cultural Heritage Green Paper was developed on the initiative of Europa Nostra in cooperation with the International Council on Monuments and Sites (ICOMOS). This Paper would have not been possible without the financial support and guidance of the European Investment Bank Institute (EIB Institute), which is gratefully acknowledged.

The project benefited from the advice of an Expert Advisory Group made up of six European experts, each of whom was assigned a topic within their area of expertise. A Steering Committee was also created to guide the project composed of representatives of Europa Nostra and ICOMOS.

The starting point for the preparation of this Green Paper was an earlier global report entitled 'The Future of Our Pasts: Engaging Cultural Heritage in Climate Action' released in 2019 by ICOMOS. [9] Part I of that report outlines the need for a positive, policy-based vision of the role of cultural heritage in responding to climate change and achieving the ambitions of the Paris Agreement. [10] The intention was to discuss heritage using the logic and vocabulary of climate action and climate science.

The preparation of this paper was also inspired by related discussions held during the European Cultural Heritage Summit on 30 October 2019 in Paris [11] and the European Conference on Fostering Cooperation for Cultural Heritage at Risk organised by the Croatian Presidency of the European Union on 26-28 February 2020 in Dubrovnik. [12]

In order to create this European Cultural Heritage Green Paper, an outline was initially prepared by correlating the core competencies and considerations of cultural heritage to key components of the European Green Deal using the policy framework established in the ICOMOS report. Subsequently, the outline was enhanced with input from the Expert Advisers. The enhanced outline was then shared with a variety of cultural heritage stakeholders, including members of both Europa Nostra and ICOMOS, as well as the members of the Climate Heritage Network [13] and the European Heritage Alliance. [14]

A significant amount of feedback was received through these consultations, which was used to develop a second draft of the Outline. That Outline was then shared and discussed with representatives of the European Commission Directorate General for Education, Youth, Sport and Culture.

[9] ICOMOS Climate Change and Cultural Heritage Working Group. The Future of Our Pasts: Engaging Cultural Heritage in Climate Action (ICOMOS, Paris, 2019)[Hereinafter, 'Future of Our Pasts'].

[10] Conference of the Parties, Adoption of the Paris Agreement, Dec. 12, 2015, U.N. Doc. FCCC/CP/2015/L.9/Rev/1 (12 December 2015)[Hereinafter, the 'Paris Agreement'].

[11] Europa Nostra, 'European Cultural Heritage Summit 2019 – European Policy Debate,' accessed 05 February 2021. <https://www.europanostra.org/european-policy-debate-in-paris-addresses-key-and-pressing-issues-related-to-cultural-heritage/>.

[12] Ministry of Culture of the Republic of Croatia, 'Fostering European Cooperation for Cultural Heritage at Risk Expert Conference, 26 – 28 February, Dubrovnik – Lazareti,' accessed 25 January 2021. https://min-kulture.gov.hr/UserDocsImages/arhiva/HRPRES2020/Final_Fostering%20European%20Cooperation%20for%20Cultural%20Heritage%20at%20Risk%20Conference%20programme.pdf.

[13] The Climate Heritage Network is a voluntary, mutual support network of hundreds of organisations around the world committed to increasing the role of arts, culture, and heritage in tackling climate change and achieving the ambitions of the Paris. www.climateheritage.org.

[14] The European Heritage Alliance is an informal platform of approximately 50 European and International networks active in the wider field of cultural heritage. www.europeanheritagealliance.eu.

In June 2020, an Online Consultation was open to the public and to all stakeholders willing to contribute to the European Cultural Heritage Green Paper. Through this consultation, numerous meaningful responses from all across Europe were gathered.

Based on the feedback received from all these relevant actors, several drafts of the Green Paper were developed. Those drafts were reviewed by the Expert Advisors as well as by other invited experts. From this, a near final version was prepared. This advanced version was previewed and discussed at a webinar held in November as part of the international Climate Heritage Week 2020 with the participation of Francisco de Paula Coelho, Dean of the EIB Institute and of Gijs de Vries, Senior Visiting Fellow at the London School of Economics and Political Science. [15]

The present Green Paper is therefore the result of a truly collaborative and inclusive process through which the knowledge and expertise of a wide variety of actors was mobilised and built upon. The project team wishes to thank all organisations and individuals who provided input into the preparation of the paper.

The Green Paper has two primary sets of audiences. It is addressed to heritage operators, including city, regional, and national heritage administrators and heritage organizations; heritage professionals and advocates; and to heritage scholars. This Green Paper is equally addressed to climate scientists and policymakers; to climate change and environmental professionals and advocates exploring how collaboration with the cultural heritage sector can deepen the impact of their work; and to public officials including energy, resilience, and climate change officials looking to understand the role of heritage in climate action.

It is sincerely hoped that this paper will trigger and inspire further research and action on the relevance of cultural heritage for each area of the European Green Deal. Special attention should be given to better understanding actions that could lead to real or perceived tensions between the goals of the European Green Deal and the European Union aim to 'respect its rich cultural and linguistic diversity, and ...ensure that Europe's cultural heritage is safeguarded and enhanced,' as provided in Article 3.3 of the Lisbon Treaty. [16]

Examples of contexts in which tensions have been noted include the siting of renewable energy infrastructure in cultural landscapes and the insertion of density into historic districts. The placement of solar panels on historic buildings can give rise to conflicts, as can the renovation of historic buildings for energy efficiency when undertaken in ways that are at odds with the conservation of heritage values. Other examples include the loss of multi-generational livelihoods tied to the carbon economy, and the need to reduce the GHG emissions associated with forms of mass tourism on which some cultural attractions depend. This paper reflects the firm conviction that in the case of such tensions, 'win-win' scenarios are both desirable and attainable: cultural heritage can help achieve the vital goals of the European Green Deal and, correspondingly, Europe's green transition can help safeguard and enhance Europe's cultural and natural heritage.

[15]Culture x Climate, 'Putting Cultural Heritage at the Centre of the European Green Deal: A preview of the European Heritage Green Paper,' accessed 25 January 2020.

<https://www.culturexclimate.org/event-list/regional-forums/europe-commonwealth>.

[16]Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007, OJ C 306, 17.12.2007, at page C306/11.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A12007L%2FTXT>.

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- Bruno Rossignol, Head of the Heritage and Climate programme, EIB Institute
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NOTE: This Green Paper follows the structure, headings and chapter arrangement of the European Commission's European Green Deal Communication. The length and scope of the various chapters of this Green Paper generally correspond to those of the European Green Deal itself [17], adjusted to allow for examination of the cultural heritage dimensions of each topic.

1. COMING TOGETHER TO TURN AN URGENT CHALLENGE INTO A UNIQUE OPPORTUNITY

The European Green Deal aims to tackle the climate and environmental challenges that are this generation's defining task. Climate change is one of the most significant and fastest growing threats to people and their cultural heritage worldwide. [18] Humans have already warmed the planet by about 1°C since the pre-industrial era. [19] The resulting impacts are currently displacing populations and damaging infrastructure, ecosystems, and social systems – including cultural heritage.

The European Green Deal is a response to these challenges. It aims to protect, conserve, and enhance the EU's natural capital, and protect citizens from environment-related risks and impacts. [20] Many of Europe's historical cities are directly threatened by the effects of climate change; likewise, a large part of Europe's 'green' heritage, including elements of its intangible heritage such as its food traditions, is severely impacted by the potential effects of environmental disasters. Climate science has established that every additional increment of warming is of consequence. [21] While 1.5°C of global warming will severely damage the planet's natural and human systems, the impacts of 2°C warming will be significantly worse. Limiting global warming to 1.5°C is thus crucial. The European Green Deal helps bring this ambition within reach. That is why Europe's cultural heritage needs the European Green Deal to succeed.

[17] The European Green Deal also includes sections on climate adaptation and on preserving and restoring ecosystems and biodiversity. Both of these are intended to be the subject of future phases of the European Heritage Green Paper. Climate change adaptation in human systems aims to minimise the adverse consequences of actual or expected climate change. This aim correlates closely to the core competencies and considerations of cultural heritage. See *Future of Our Pasts*, supra note 9, 35-45. The role of cultural heritage in addressing the biodiversity crisis is increasingly recognised. See Secretariat of the Convention on Biodiversity, 'Options for Possible Elements of Work on the Links Between Nature and Culture in the Post-2020 Biodiversity Framework,' 10 October 2019. <https://www.cbd.int/doc/c/9abf/3c28/2842fa5070ec8acad63d5ec4/sbstta-23-04-en.pdf>.

[18] *Future of Our Pasts*, supra note 9, 1.

[19] See generally IPCC, Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)] (World Meteorological Organization, Geneva, Switzerland, 2018). <https://www.ipcc.ch/sr15/chapter/spm/>. [Hereinafter, 'IPCC Summary for Policymakers'].

[20] European Green Deal, 2.

[21] IPCC Summary for Policymakers. See also Hans-Otto Pörtner, Co-Chair of IPCC Working Group II, quoted in IPCC Press Release, 'Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments,' 8 October 2018 ('Every extra bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes.'). https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/pr_181008_P48_spm_en.pdf.

The European Green Deal posits that the European Union has the ‘collective ability’ [22] to transform its economy and society to put it on a more sustainable path. The challenge is enormous; the emphasis on the collective dimension is critical. Climate scientists have taught us that limiting global warming to 1.5°C will require not just change but ‘rapid and far-reaching [23] system transitions on a nearly unprecedented scale. [24] Achieving this will require all of Europe working together, which means the project must capture the hearts and minds of Europeans. Europe’s shared values and common heritage offer undeniable potential to support these outcomes. This is why cultural heritage is essential to the success of the European Green Deal.

Realising the complementarity between shared European values and the imperative of the ecological transition is supported by important European precedents. Article 151 of the Treaty of Maastricht recognises the transversality of culture and establishes a formal relation between culture and other segments of European policy. The 2018 Decision of the European Parliament on the European Year of Cultural Heritage (EYCH) stressed the need to ‘encourage synergies between cultural heritage and environment policies by integrating cultural heritage into environmental, architectural and planning policies, and by promoting energy-efficiency. [25] These principles can guide the environmental, economic, and social integration upon which the European Green Deal depends.

The green transition will inevitably be disruptive, so care needs to be taken that it is fair. It must put people first, and pay attention to the regions, industries and workers who will face the greatest challenges. Since it will bring substantial change, active public participation and confidence in the transition is paramount if policies are to work and be accepted. Workers will need to learn and develop the skills required by the green transition. Leveraging the potential of craft, creative industries, and cultural heritage can support just outcomes and help deliver both a green transition and strengthened social inclusion.

Enhancing the place of culture and cultural heritage in the European Green Deal is also in line with the United Nations Sustainable Development Goals, the UN Habitat New Urban Agenda, the Sendai Framework for Disaster Risk Reduction, and other relevant international charters. [26] These documents acknowledge that natural and cultural heritage can contribute to, and are crucial enablers of, resilience and sustainable development. The Paris Agreement similarly recognises the positive contribution of local communities’ and Indigenous Peoples’ traditional knowledge in climate adaptation. [27]

[22] European Green Deal, *supra* note 1, 2 (emphasis added).

[23] IPCC Summary for Policymakers, *supra* note 19, 15.

[24] *Id.*

[25] Decision (EU) 2017/864 of the European Parliament and of the Council of 17 May 2017 on a European Year of Cultural Heritage (2018), OJ L 131, 20.5.2017, p. 1–9.

[26] See generally *infra* text at notes 163-168. For additional background, see generally United Nations, General Assembly, Resolution 72/229, Culture and sustainable development, A/RES/72/229 (20 December 2017), available from <https://undocs.org/en/A/RES/72/229>.

[27] Paris Agreement, *supra* note 10, Section 7.5 (‘Parties acknowledge that adaptation action ... should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems.’).

The cultural heritage sector is built on the principle of inter-generational equity; the commitment of living generations to pass on to the future the patrimony they inherited from the past. In 2018, the huge success of the EYCH showcased how cultural heritage can work to help 'leave no-one behind' and how it can support cross-border complementarity with beneficial effect for the implementation of policies in various sectors and among different networks. Today, facing the defining challenge of climate change, the cultural heritage world stands ready to apply these strengths of engagement, accessibility, and inclusivity to help achieve the ambitions of the European Green Deal.

The figure below illustrates the various elements of the European Green Deal. [28]



Figure 1: The European Green Deal, Source: European Commission

[28] European Green Deal, 3.

2. TRANSFORMING THE EU'S ECONOMY FOR A SUSTAINABLE FUTURE

2.1. Designing a set of deeply transformative policies

The European Green Deal aims to launch a set of policies that will transform the economy, industry, production and consumption, large-scale infrastructure, transport, food and agriculture, construction, taxation, and social benefits for Europe. [29] It promises a new growth strategy for Europe, one where environmental, economic, and social sustainability goes hand-in-hand. [30]

The integration of these themes reflects a much welcome, new direction in European policymaking, but one for which past ways of doing things will not always provide a ready guide. Clearly, new approaches that inspire people to support these aims will be needed. To be effective, this must include putting European values, culture, and heritage at the heart of the European Green Deal project and partnering with European arts, culture and heritage institutions, agencies, faith communities and organisations – public, private and non-profit – to make that happen.

The fire of 15 April 2019 at Notre Dame Cathedral in Paris showed that even the world's best-known and best protected sites are vulnerable. The enormous outpouring of support and solidarity after the ravages of the fire revealed that people around the world view Notre Dame both as a Parisian cathedral and as a monument that belongs to all, to be protected by all. [31] The earth is also on fire, in this case from global warming caused by the burning of fossil fuels and the cutting of the planet's forests. The threat this poses is visible across Europe's land- and seascapes, from Venice to Delos. Just as there is no 'Planet B,' there is no 'Venice B.' Now is the time to leverage the formidable connecting force of Europe's cultural heritage to win hearts and minds in support of transformative climate action.

Climate science tells us that adaptation and mitigation are necessary. What climate science cannot tell us is what options are most workable within any given human system. Cultural heritage can answer this question and indeed help to shape the acceptability of policy or system change. Influencing human behaviours – especially in transformative ways – requires addressing embedded cultural and social norms. Undertaking climate planning in a culturally appropriate, inclusive, and equitable manner and rooting it in the cultural values and identities of affected communities makes for more durable environmental action and resilience outcomes.

[29] European Green Deal, 4.

[30] Timmermans, *supra* note 2.

[31] Parzinger, *supra* note 6.

When mobilised, culture and heritage ministries and managing authorities, as well as heritage advocates and practitioners more broadly, can support needed cultural shifts in a variety of ways:

- The fields of climate and heritage policy are both accustomed to working with multi-decadal and even longer time scales. The Paris Agreement aims to achieve carbon neutrality by 2050 while heritage conservators aim to safeguard heritage for generations. The multi-generational timescales embedded in heritage planning make it a unique vehicle for highlighting to people the projected medium- and long-term impacts of future climate change and the consequences of failing to achieve proposed adaptation and mitigation pathways.
- Heritage conservation is the antithesis to the consumer society ethos of single-use disposability. It fights for the repair, use and reuse of existing buildings, landscapes, knowledge, and resources; an ethic of stewardship that can be scaled out as both a pattern and an example to champion and guide models of a circular economy.
- The collections of European libraries and other memory institutions and the knowledge embedded in European heritage evidence past adaptation to change and can illustrate the causes of, or responses to, climate change.

The European Green Deal notes that careful attention will have to be paid to potential trade-offs between economic, environmental, and social objectives. This includes real and perceived tensions between climate action and the conservation of heritage values (which themselves are also economic, environmental, and social assets). Maladapted activities that damage cultural rights, resources, and values can ultimately undermine environmental objectives. Advocates on all sides must seek to maximise 'win-win' outcomes for people and the planet whilst minimising conflicts between goals.

Recognising the value of cultural diversity and increasing the protection of cultural rights defenders also supports climate action, orientating it towards people-centred approaches. [32] The European Green Deal provides that the European Pillar of Social Rights will guide action in ensuring that no one is left behind. [33] The Council of Europe's European Landscape Convention [34] and Faro Framework Convention on the Value of Cultural Heritage for Society [35] should also be used to help achieve this objective and root the green transition in the European values of cultural diversity, human rights, and participatory democracy.

[32] See generally United Nations, General Assembly, 'Climate Change, Culture and Cultural Rights: report of the Special Rapporteur in the field of cultural rights,' A/75/298 (10 August 2020), available from <https://www.undocs.org/en/A/75/298>. [Hereinafter, 'Cultural Rights Report'].

[33] European Green Deal, *supra* note 1, 4.

[34] Council of Europe, European Landscape Convention, CETS No.: 176, 2005, available at <http://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680083746>.

[35] Council of Europe, Council of Europe Framework Convention on the Value of Cultural Heritage for Society, CETS No.: 199, 2000, available at <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/176>.

Despite the many cultural dimensions of climate action, the words 'art,' 'culture,' 'heritage,' and 'landscape' do not appear in the European Green Deal. There are signs that this omission is being addressed, and it must be addressed even more if the European Green Deal is to be successful. In September 2020, the European Commission launched its New European Bauhaus project. [36] European Commission President von der Leyen called the New European Bauhaus movement 'a bridge between the world of science and technology and the world of art and culture'. [37] It is about "a new European Green Deal aesthetic," that brings the European Green Deal "closer to people's minds and homes. And making tangible the comfort and attractiveness of sustainable living." [38]

The New European Bauhaus movement provides an important linkage between the European Green Deal and the realm of culture. Truly unlocking transformative change will require expanding that linkage to the full breadth of culture from arts to heritage in all their multi-dimensionality. [39] In so doing, one must avoid characterizing transformative action as solely a social and technological problem whose solutions lie in individual behavioural change and innovation. This approach puts a premium on novelty and misses the communal and collective aspects of climate action, and thus the full contribution that culture and heritage can make.

With the European Green Deal, Europe cannot afford to make this omission. As the European Green Deal already notes, "All EU actions and policies will have to contribute to the European Green Deal objectives." [40] **Count cultural heritage in.**

[36] European Commission, 'Bauhaus EU Factsheet EN,' 14 October 2020.

<https://ec.europa.eu/commission/presscorner/api/files/attachment/866593/Bauhaus%20EU%20factsheet%20EN.pdf>. [Hereinafter, 'Bauhaus EU Factsheet'].

[37] European Commission, 'Press statement by President von der Leyen on the New European Bauhaus,' Brussels, 14 October 2020. https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_20_1902.

[38] Id.

[39] This idea has been also conveyed by Europa Nostra to the President of the European Commission and her team in December 2020. Europa Nostra, 'Cultural Heritage as an integral dimension of the 'New European Bauhaus' initiative,' 18 December 2020. <https://www.europeanostra.org/cultural-heritage-as-an-integral-dimension-of-the-new-european-bauhaus-initiative/>.

[40] European Green Deal, 3.



Figure 2: Putting Europe's shared heritage at the heart of the European Green Deal

Increasing the EU's climate ambition for 2030 and 2050

According to recent climate science, in order to limit the planet's temperature increase to 1.5°C, at a global level net-zero CO₂ emissions need to be achieved around 2050. [41] In 2018 the European Commission set out its vision of how to achieve this target. [42] More recently, in line with the European Green Deal, the Commission has proposed the first European 'Climate Law' [43] in order to enshrine the 2050 climate neutrality objective in legislation. The Climate Law is also designed to set out the conditions for an effective and fair transition, to provide predictability for investors, and to ensure that the green transition is irreversible.

The IPCC has found that in order to limit global warming to 1.5°C, global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030. [44] The Climate Law proposed by the European Commission includes an increase in the EU's GHG reductions target for 2030 to 55% compared with 1990 levels. [45] The current target is 40%. In October, the European Parliament voted to support increasing the EU's climate target for 2030 to a 60% reduction in GHG emissions.

These gradations are important as they bear on progress to reduce the rate of global warming. The IPCC has warned that the warmer the planet gets, the more challenging adaptation becomes, [46] meaning the ability of places (including heritage sites) to successfully adapt may depend on the success of global GHG reduction efforts. Some experts have indicated that even the European Parliament's more ambitious target is not in line with achieving a 1.5°C temperature limit. [47] What is clear is that whether, when, and how the EU achieves net zero CO₂ emission is of profound consequence to the safeguarding of people and their living and working environments, including their cultural heritage.

Recommendation for policymakers and cultural heritage operators

- Improve and expand modelling of the projected impacts of global warming of 1.5 v 2°C on cultural resources and utilise the results to stress urgency and guide green transition decision making.

[41] IPCC Summary for Policymakers, supra note 19, 12.

[42] European Commission, 'A Clean Planet for all - A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy,' (COM)2018 773, 28 November 2018. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018DC0773>.

[43] European Commission, 'Amended proposal for a Regulation of the European Parliament and of the Council on establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999,' (COM)2020 563, 17 September 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0563&from=EN>. [Hereinafter, 'European Climate Law'].

[44] IPCC Summary for Policymakers, supra note 19, 12.

[45] European Commission, 'Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people,' COM(2020) 562, 17 September 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0562&from=EN>. [Hereinafter, '2030 Climate Target Plan'].

[46] IPCC Summary for Policymakers, supra note 19, 10.

[47] WWF, 'EU must put climate centre-stage as global spotlight brightens,' 08 December 2020. <https://www.wwf.eu/?uNewsID=1379391>.

Supplying clean, affordable, and secure energy



The production and use of energy across economic sectors accounts for more than 75% of the EU's GHG emissions. Decarbonising the energy system is thus critical to reaching the European Green Deal goal of climate neutrality by 2050. The new EU Strategy for Energy System Integration [48] released in July 2020 envisions a path to achieving this objective including reducing emissions by 50% to 55% by 2030 as an interim step. Other elements of the European Green Deal such as the Renovation Wave and the Circular Economy Action Plan, as well as possible revisions of the Renewable Energy Directive and Energy Efficiency Directive, also address the contribution of energy efficiency and renewable energy to higher climate ambition for 2030.

Taken together, this complex array of instruments illustrates the profound transformations required to achieve these ambitious goals. What cannot be lost, however, is that transformations are required not only in energy value chains but also in social value chains. Attention must be paid to the cultural dimensions of lifestyles and livelihoods, to the roots of innovation in creativity and knowledge, and to the social acceptance of change and the wellsprings of climate ambition. In short, powering a climate neutral economy will require engaging European culture and heritage.

The new EU Strategy states that delivering net-zero carbon, reliable and resource-efficient energy services at the lowest possible cost for society must begin with a more circular energy system, with 'energy-efficiency-first' at its core. [49] Energy efficiency reduces the financial and material costs associated with energy production, infrastructure and use, and this includes impacts on biodiversity and cultural heritage. As a result, the energy-efficiency-first pledge is a promise the cultural heritage sector must help the EU keep.

Consumer choice and human behaviour are important elements of realising energy efficiency goals. Because culture is embedded in dominant consumption patterns, culture-based strategies and the social sciences can give insights and solutions that make an essential contribution to reducing the consumption of energy. Cultural institutions and platforms are excellent vehicles for engaging citizens in the decarbonisation challenge as convinced actors in this transition. Europe's cultural heritage, much of it from pre-carbon eras, represents millennia-old living-lab experiments on ways to boost the zero-carbon economy through circular lifestyles.

[48] European Commission, 'Powering a climate-neutral economy: An EU Strategy for Energy System Integration, COM(2020) 299, 8 July 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0299&from=EN>.

[49] Id. at 5.

Cultural heritage approaches promote circularity by emphasizing an ethic of reuse and regeneration. For example, valorising the continuous maintenance and sensitive adaptive reuse of existing and historic buildings avoids energy-intensive new construction and land use, promotes waste-avoidance and preserves embodied energy [50] while generating additional positive economic, environmental, social and cultural co-benefits. These cultural dimensions should be included in new guidance being issued by the European Commission to Member States on how to make the energy-efficiency-first principle operational.

Cultural heritage can also contribute to supply-side strategies. Encouraging the capture and reuse of waste heat within historic areas through horizontal exchanges such as positive energy blocks and district heating networks is another pathway to circular energy systems. [51] Many craft and creative enterprises already generate their own renewable energy and hold the potential to supply localised heat and power to others. [52]

Accelerating the use of electricity produced from renewable sources to power buildings is a key to integrated, decarbonised energy. Barriers such as building codes, lack of a skilled workforce for installation and maintenance, and lack of public and private financing have special implications for older buildings. Heritage authorities can proactively assist in developing scalable, affordable strategies for direct electrification of historic buildings, installation of heat pump systems, and, where appropriate, for sensitively accommodating microgeneration facilities (e.g., solar panels). The European Green Deal should support this work. Corresponding training programmes tailored to traditional construction methods should be added to the new European Skills Agenda, from which it is currently largely missing. [53]

The risk of energy poverty must be addressed for households that cannot afford key energy services to ensure a basic standard of living. Guidance being produced by the European Commission to assist Member States with energy poverty issues should address the special needs of households that occupy older and historic homes. Financing and tax schemes (such as Italy's 'eco-bonus 110%' scheme [54]), if adapted to the special requirements of historic buildings, can help these households to sensitively renovate their houses, reduce energy bills, and conserve both energy and heritage. Clarifying recommended historic treatments and permitting processes can also reduce the time and expense of such projects.

[50] The Cultural Heritage Counts For Europe Consortium, Cultural Heritage counts for Europe, Full Report (Krakow, International Cultural Centre, 2015). <http://blogs.encatc.org/culturalheritagecountsforeurope/outcomes/> 'Cultural Heritage counts for Europe.

[51] See e.g. the work of the Smart Connected Communities for Positive Energy Blocks in Cultural Heritage Areas Working Group of POCITYF, an EU-funded smart city project. <https://pocityf.eu/>.

[52] Council of Europe, 'European Heritage Strategy for the 21st Century, the Golden Collection of Good Practices,' June 2019, 53-54. <https://rm.coe.int/european-heritage-strategy-for-the-21st-century-the-golden-collection-/1680966dda>.

[53] See European Commission, 'European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience, (COM)2020 274, 1 July 2020, 7. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0274&from=EN>. [Hereinafter, 'New European Skills Agenda']. For example, see the Horizon 2020 project 'PRO-Heritage' which is training craftworkers to maintain historic buildings in ways that minimise carbon impact through selection of materials and performance. <https://www.pro-heritage.eu>.

[54] 110% (transferable) tax credit for energy efficiency (Ecobonus) on works taking place in the second half of 2020 until the end of 2021. Law Decree of March, the 17th, n. 18/2020.

The transition to climate neutrality requires smart generation and transmission infrastructure. To achieve the goals of the European Green Deal, the European Commission foresees a massive growth in net installed renewable energy generation capacity. Some scenarios [55] estimating a need for 5 to 8 times more solar, about 3.5 times more onshore wind, and more than 20 times more offshore wind capacity [56] by 2050, compared with today – although, as noted earlier, these needs depend to some degree on how well the energy-efficiency-first principle is realised. [57] Significant increases in transmission capacity will also be needed.

The European Green Deal notes that careful attention will have to be paid when there are potential trade-offs between environmental, and social objectives. This consideration must be extended to the objectives of preserving biodiversity and cultural heritage, by addressing the impacts of energy infrastructure on natural and cultural heritage and landscapes.[58] The needed expansion of renewable energy capacity can and should be attained while also protecting and enhancing cultural landscapes and heritage, as well as biodiversity, and securing a just transition and the quality of life and living environment for citizens and their communities.

At the EU level, a suitable platform is urgently needed to stimulate a constructive dialogue between environment and heritage conservation bodies and the renewables industry as well as more advanced and coordinated research on how to measure and mitigate the impacts of renewable energy infrastructure on communities and landscapes. Continuous dialogue and long-term collaboration can improve the siting of energy infrastructure in ways that minimise negative environmental and heritage impacts. In the longer term, the new Offshore Renewable Strategy [59] should encourage exploration of the coupling of offshore wind with transmission, thereby moving a larger share of transmission offshore.

[55] European Commission, 'In-Depth Analysis in Support of the Commission Communication COM(2018) 773, A Clean Planet for all A European long-term strategic vision for a prosperous, modern, competitive and climate neutral economy,' 28 November 2018, 77-78.

https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_analysis_in_support_en_0.pdf.

[Hereinafter, 'A Clean Planet for All In-Depth Analysis'].

[56] The new EU strategy on offshore renewable energy proposes to increase Europe's offshore wind capacity from its current level of 12 GW to at least 60 GW by 2030 and to 300 GW by 2050. The Commission aims to complement this with 40 GW of ocean energy and other emerging technologies such as floating wind and solar by 2050. European Commission, 'An EU Strategy to harness the potential of offshore renewable energy for a climate neutral future,' COM(2020) 741, 19 November 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0741&from=EN>. [Hereinafter, 'EU Strategy on Offshore Renewable Energy'].

[57] See A Clean Planet for All In-Depth Analysis, supra note 55, 55 ('The second scenario (1.5LIFE) relies less on the technology options of 1.5TECH, but assumes a drive by EU business and consumption patterns towards a more circular economy.'). Id. at 77-78 (addressing differentials in projected newly installed power generation capacities under various scenarios).

[58] See e.g. A Clean Planet for All In-Depth Analysis, supra note 55, 58 ('The resource potential for wind energy in Europe is very high. ... However, the actual long-term deployment of wind, and the possibility to access the full theoretical resource, will be highly dependent on competing land or sea-bed uses, including ... biodiversity conservation, tourism, transport activity or military uses.').

[59] EU Strategy on Offshore Renewable Energy, supra note 56.

The existing Trans-European Networks for Energy (TEN-E) Regulation provides a framework for the selection of infrastructure projects of common interest and informs 10-Year Network Development Plans (TYNDPs) at national and EU levels. These regulatory frameworks are now being reviewed to ensure consistency with the climate neutrality objectives. [60] In order to be truly smart, these updates should promote, as part of new, holistic planning approaches, an improved ability to avoid and mediate conflicts between two important objectives: the development of energy infrastructure and the safeguarding of the multiple values of our cultural heritage and landscape. The same could also be said for carbon capture projects.

The cultural dimensions of impact assessment methodologies should be improved. Screening tools being developed by the European Commission under the new EU Taxonomy Regulation [61] should elaborate upon how renewable energy infrastructure activities can substantially harm environmental objectives when they undermine cultural ecosystem services and cultural human rights. [62] Moreover, further guidance should be developed in the framework of the Taxonomy Regulation to better incorporate social objectives related to the safeguarding of cultural heritage, landscapes and protection of Indigenous Peoples. [63] These innovations will improve predictability and reduce expense and delay of energy infrastructure development while promoting the co-benefit of enhancing the natural and cultural values.

As energy infrastructure development increases, a corresponding increase in the capacity of heritage authorities and organisations to proactively and timely participate, from the outset, in the decision-making process on the design and siting of energy infrastructure, and to review related applications, is critically needed.

Traditional, community-scale sources of renewable energy production (e.g., geothermal and hydroelectric) also have a role to play in increasing the generation of renewable energy. Hydropower is the oldest form of renewable electricity production in the EU, accounting for around 10% of current electricity production. The European Commission has projected that its greatest growth potential is small hydropower. [64] While geothermal energy for both electricity and heat production is currently a marginal option in the EU's energy mix, there are a number of ongoing demonstration projects in the EU, including using low-temperature heat in advanced district heating networks. [65] If properly resourced and engaged, cultural heritage authorities and organisations can support increased production capacity in these sectors, including by prioritising identification, documentation, conservation, and dissemination of traditional and local knowledge and know-how about renewable energy production.

[60] European Commission, 'Future-proofing Europe's energy infrastructure: Revision of the TEN-E Regulation,' 15 December 2020. https://ec.europa.eu/commission/presscorner/detail/en/FS_20_2412.

[61] Council Regulation (EC) No. 2020/852 of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088, accessed 25 January 2021. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN>. [Hereinafter, 'Taxonomy Regulation'].

[62] See *infra*, Section 2.2.1.

[63] *Id.*

[64] A Clean Planet for All In-Depth Analysis, *supra* note 55, 59.

[65] *Id.*

As discussed earlier, the European Climate Law is expected to include a new 2030 binding CO2 reduction target. Based on this, EU Member States will update and revise their National Energy and Climate Plans (NECPs) in 2023 and 2024. [66] When Member States begin updating their NECPs, they should reflect not only changed economic circumstances but the cultural dimensions of realising clean, affordable and secure energy for Europe.

Key Recommendations

FOR POLICYMAKERS

- Support use of the renewable energy generated by craft and creative enterprises to supply localised heat and power to others; Encourage the capture and reuse of waste heat within historic areas through horizontal exchanges such as positive energy blocks as a pathway to circular energy systems.
- Support work by the heritage sector to decarbonise the heating and cooling of older and historic buildings through financing and training programmes tailored to traditional construction methods through the European Skills Agenda.
- Create a new EU level platform to stimulate a constructive dialogue between environmental and heritage conservation stakeholders and the renewables industry, as well as more advanced and coordinated research on how to measure and mitigate the impacts of renewable energy infrastructure on communities and landscapes.
- Increase the funding and capacity of heritage authorities and organisations to proactively and timely participate, from the outset, in the decision-making process on the design and siting of energy infrastructure, and to review related applications.
- Reflect cultural dimensions of realising clean, affordable and secure energy for Europe in new Member State National Energy and Climate Plans (NECPs) to be developed in 2023 and 2024.



[66] European Commission, 'An EU-wide assessment of National Energy and Climate Plans Driving forward the green transition and promoting economic recovery through integrated energy and climate planning,'



FOR CULTURAL HERITAGE OPERATORS

- Work to improve understanding of the cultural dimensions of energy efficiency and support operationalisation of the EU's 'energy-efficiency-first' principle in order to reduce the need for new energy production and infrastructure capacity.
- Fully engage citizens in the decarbonisation challenge as convinced actors in this transition.
- Develop scalable, affordable strategies to expand use of heat pumps and, as the energy grid greens, to accelerate electrification of older and historic buildings while safeguarding heritage values.
- Support traditional, community-scale sources of renewable energy production (e.g., geothermal and hydroelectric) by prioritising identification, documentation, conservation, and dissemination of traditional and local energy production knowledge and know-how.

► Case Study

Energy Isles Windfarm and Burgi Geos Promontory Fort (Scotland, United Kingdom)

Expanding renewable energy capacity while protecting cultural landscapes and heritage

By Keith Jones, The National Trust (England, Wales and Northern Ireland)

Working proactively with developers is key to safeguarding natural and cultural heritage while supporting the green transition of the electric grid. This should be a corner stone to gain the best outcomes for EU Green Deal objectives.

Historic Environment Scotland (HES) are a Charity and a Government Body, established to protect, understand, and share Scotland's historic environment. Scotland has declared a climate emergency and in response to that, in 2020 HES issued its own Climate Action Plan 2020-25, declaring that 'our historic environment has unique potential to inspire climate action.'

HES' role in renewable energy development is to promote consideration of the historic environment at all stages of planning, including engaging with emerging development proposals, providing advice, and reviewing development proposals at application stage. The key to their work is early engagement with potential developers, but also having a reputation for giving clear constructive advice.

An example of this can be seen with the windfarm proposal north of Yell on the Shetland Islands. The wind farm proposal included 29 turbines up to 200m in height. HES's advice focused on the potential impact on a Burgi Geos, a single scheduled monument comprised of a later prehistoric fort occupying a breath-taking promontory between precipitous 60m high cliffs on the Yell coast.

The proposed turbines would have been visible in their entirety within a few hundred metres of the fort. After an initial objection, HES suggested a clear path for mitigating these impacts in line with its Historic Environment Policy. After discussions with HES and other stakeholders, including Scottish Natural Heritage, the applicant improved the design by deleting some turbines and the objection was removed.

The availability of Government bodies and regulators to give competent, informed, and constructive advice as early as possible for potential energy projects is essential.

Further Reading

- Historic Environment Scotland, 'Heritage For All,' accessed 10 March 2020. <https://www.historicenvironment.scot/about-us/who-we-are/heritage-for-all/>.
- Historic Environment Scotland, Planning Performance Report 2019-2020, 2020, pg. 13. <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=cdf2047-c102-482c-8599-ac0900ea94a5>.

Mobilising industry for a clean and circular economy



The European Green Deal is premised on the idea that scaling up the circular economy can make a decisive contribution to achieving climate neutrality by 2050. About half of total GHG emissions and more than 90% of biodiversity loss and water stress come from resource extraction and processing of materials, fuels, and food. Europe's industry has started the shift to a circular economy but largely remains dependent on a linear throughput of new materials extracted, traded and processed into goods, and finally disposed of as waste or emissions. Only 12% of the materials it uses come from recycling. [67]

In November 2020, the European Commission released its new Circular Economy Action Plan [68] fulfilling a commitment made in the European Green Deal. The Plan seeks to accelerate the transition from a 'take-make-waste' extractive model to one of regenerative growth that aims to help keep resource use within planetary boundaries by reducing Europe's consumption footprint. It envisions a framework for sustainable products that provides new opportunities and jobs in the EU and beyond.

The Plan covers a variety of key aspects of regenerative growth including values chains, engineering, and markets. Missing, however, is any discussion of culture. Humans act as individual consumers, business owners and workers, but also exist within a human ecology, transacting within not only economic but also social frameworks. [69] These social and cultural aspects are needed to complete Europe's Circular Economy Action Plan. Incorporating them would bring the additional benefit of enlisting Europe's robust, human-centred culture and heritage sectors as co-creators of a cleaner and more sustainable Europe.

Culture informs our understanding of wellbeing, a holistic concept that encompasses emotional, social, cultural, spiritual, and economic needs. [70] Cultural knowledge guides the provisioning strategies people use to satisfy human needs, while cultural values mediate perceptions of the success of these efforts. [71] Today, traditional lifestyles developed over centuries of slow co-evolution of human communities and their environment compete with less place-adapted and more carbon-intensive contemporary patterns of living. Europe's heritage holds cultural values and practices, often rooted in pre-industrialised contexts, that address the satisfaction of human needs in ways de-coupled from GHG-intensive consumption.

[67] Eurostat, 'Circular economy in the EU Record recycling rates and use of recycled materials in the EU,' 39/2019, 4 March 2019. <https://ec.europa.eu/eurostat/documents/2995521/9629294/8-04032019-BP-EN.pdf/295c2302-4ed1-45b9-af86-96d1bbb7acb1>.

[68] European Commission, 'A new Circular Economy Action Plan For a cleaner and more competitive Europe,' COM(2020) 98, 3 November 2020. https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF.

[69] See generally United Nations Environment Programme, Emissions Gap Report 2020 (Nairobi, 2020), xxiv ('Lifestyle emissions are influenced by social and cultural conventions...'). <https://www.unep.org/emissions-gap-report-2020>. [Hereinafter, "Emissions Gap Report 2020"].

[70] European Heritage Alliance Manifesto, supra note 8.

[71] Emissions Gap Report 2020, supra note 69, 70, 75.

A cultural lens also reveals the need for a more multidimensional approach to the circular economy, emphasising both environmental and social sustainability. This approach would stress the relevance to geographically localised economies where each stage of the production/consumption/reuse cycle is tangible and engaging, reducing miles travelled, improving local value chains, and re-establishing diverse, local skills capacities. Creativity rooted in culture, together with an extractive attitude to nature, helped introduce carbon-based industrialisation; creativity, rooted both in past and contemporary culture, combined with a holistic approach to nature, can power the transition to a perpetually regenerative economy.

The Circular Economy Action Plan features a 'sustainable products' policy intended to support circularity across sectors. On 14 September 2020, the European Commission published its 'Sustainable Products Initiative,' which aims to revise the existing Ecodesign Directive in order to meet these objectives. [72] At the core of this initiative is an effort to widen the existing Ecodesign Directive to make its Ecodesign framework applicable to the broadest possible range of products. European craft and creative industries offer high-quality, bespoke, products and creative services, which should figure prominently in the new Ecodesign Directive alongside digitalisation and other strategies.

Key initiatives could include involving creative and craft actors, makers and innovators, as part of strategies to re-localizing production-consumption processes; extending sustainability labels/logos to craft products; promoting financing and other policies so that these products can reach the markets; and supporting craft and heritage institutions, including the knowledge held in the collections of the 'GLAM' sector (galleries, libraries, archives and museums, and other documentary heritage institutions) that sustain these traditions.

While the Circular Economy Action Plan is meant to guide the transition of all sectors, action will focus in particular on resource-intensive sectors, including construction and buildings. The built environment has a significant impact on many sectors of the economy, on local jobs and quality of life. GHG emissions associated with construction, including emissions related to raw material extraction, manufacture and transport of building materials, construction and demolition of buildings (so-called 'embodied energy' or embodied carbon' [73]), represent a significant portion of many countries' total national GHG emissions.

[72] European Commission, 'Sustainable products initiative,' Accessed 7 February 2021. <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12567-Sustainable-Products-Initiative>.

[73] See generally National Trust for Historic Preservation (USA), 'The Greenest Building: Quantifying the Environmental Value of Building Reuse,' 2011, 16, 20-21. <https://forum.savingplaces.org/viewdocument/the-greenest-building-quantifying>. [Hereinafter, 'The Greenest Building'].

It is essential that any strategy for a sustainable built environment [74] in Europe promote the use and adaptive reuse of existing buildings while also recognising the co-benefits associated with conserving heritage values where present. [75] Continuous maintenance and repair helps guarantee the longevity of existing buildings and is the optimum path to resource efficiency. Reusing and rehabilitating historic buildings sustains Europe's job-intensive craft and Baukultur traditions and promotes the traditional European way of life. These approaches avoid almost entirely the embodied carbon associated with corresponding new construction and are the ultimate circular economy strategies, especially when combined with the renovation of buildings for operational efficiency.

The use of GHG accounting protocols that exclude Embodied Carbon has obscured the full emissions reduction benefits associated with building reuse. This undermines efforts to decarbonise Europe's building sector. The European Green Deal should support adoption of Corporate Value Chain (Scope 3) GHG accounting and reporting standards, [76] and these should address not only emissions impacts of the value chain of new construction materials but also the emissions savings offered by building reuse compared to demolition and new construction.

Europe has enormous experience with the adaptive reuse of heritage buildings. [77] Promoting reuse at the scale needed to tackle the climate emergency will require unprecedented levels of coordination between the climate, heritage, energy, craft, development, finance, and skills sectors. Training and education should strengthen eco-design capacity among heritage professionals and the understanding of traditional buildings techniques in the construction sector. Land-use policy must be mobilised to valorise traditional dense and walkable settlement patterns in peri-urban areas while steering activity to underutilised existing buildings and cultural landscapes and promoting inclusive regeneration of historic districts, while safeguarding heritage values.

[74] The reuse of existing buildings and greater circularity in the construction economy interests with the complimentary EU 'Renovation Wave' initiative. The Renovation Wave is discussed in Section 2.1.4 of this Green Paper.

[75] See e.g. the Horizon 2020 project 'CLIC' on circular economy models for the adaptive reuse of cultural heritage (<https://www.clicproject.eu/>) and the Urban Agenda for the EU Partnership Circular Economy (<https://ec.europa.eu/futurium/en/circular-economy/handbook-sustainable-and-circular-re-use-spaces-and-buildings>).

[76] See generally Greenhouse Gas Protocol, 'Global Protocol for Community-Scale Greenhouse Gas Emission Inventories, An Accounting and Reporting Standard for Cities.' https://ghgprotocol.org/sites/default/files/standards/GHGP_GPC_0.pdf.

[77] Many successful examples can be found among the winners of the European Heritage Awards/ Europa Nostra Awards (<https://www.europeanheritageawards.eu/winners/>) and the EU Prize for Contemporary Architecture/Mies van der Rohe Award (<https://eumiesaward.com/>), as well as in the Golden Collection, supra note 52.

Multidimensional life cycle assessment (LCA) tools emphasising environmental, cultural, and social sustainability should be integrated at all levels in order to give a true picture of circularity as well the social costs of carbon. Expanded data collection and analysis about energy efficiency, materials use and waste, and water management in old and historic buildings is also needed in order to enable robust metabolism assessments. [78]

Waste prevention is a key aim of circularity. Culture and heritage address some of the non-material dimensions of human well-being like creativity and social participation. Integrated nature-culture approaches highlight linkages between the ecological and social functions of landscapes in ways that promote lifestyles in harmony with nature. [79] The new Comprehensive European Strategy on Sustainable and Smart Mobility [80] should enhance these culture-based synergies with the circular economy transition.

The European Commission has committed to reviewing the EU's material recovery targets by the end of 2024. [81] The Commission should include measures to increase salvage and reuse of heritage materials no longer being used in situ. Level(s), the EU's new Circular Economy framework for buildings design and the EU Construction and Demolition Waste management protocol, should guide user to apply these principles. Use of traditional and locally sourced materials in new construction should be encouraged, as should innovative incorporation of compatible new, bio-based and carbon sequestering materials into traditional buildings. New materials used in the renovation of older buildings should be low-carbon and durable. Use of EPDs (environmental performance declarations) should be expanded.

The Circular Economy Action Plan states that sectoral initiatives may be extended to other 'product groups' as well. Arts and culture venues, museums, libraries, archives, monuments, and heritage sites are highly visible organisations and institutions across Europe whose products and services touch millions, including as cultural tourism destinations and through festivals, fairs, tours, and events. To capture this potential, the EU Ecodesign framework should be expanded to the culture and heritage sector. A new EU Culture and Heritage Sector Ecolabel could drive adoption of GHG mitigation measures and green procurement for cultural institutions and attractions, and the extension of LCA approaches and carbon offsetting strategies to cultural tourism.

[78] The 2018 revisions to the Energy Performance of Buildings Directive includes efforts to address heritage buildings. Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0844&from=EN>. [Hereinafter, '2018 EPBD Revisions']. See *infra*, text at note 97.

[79] Andrew Potts, 'An Urgent Journey: Realizing the Potential of Integrated Nature-Culture Approaches to Create a Sustainable World,' *The George Wright Forum*, vol. 34, no. 2, pp. 229-237 (2017). <http://www.georgewright.org/342potts.pdf>.

[80] European Commission, 'Sustainable and Smart Mobility Strategy – putting European transport on track for the future,' COM(2020) 789, 9 December 2020. https://eur-lex.europa.eu/resource.html?uri=cellar:5e601657-3b06-11eb-b27b-01aa75ed71a1.0001.02/DOC_1&format=PDF.

[81] See generally text at *infra* note 110 (discussing Life Cycle Assessment in buildings).

Circularity is an essential part of a wider transformation of industry towards climate-neutrality and long-term competitiveness. In a world of planned obsolescence and mass consumerism, craft and heritage start-ups have high potential to deliver breakthrough Green Deal innovation. Contemporary craft design, applied arts, as well as traditional and heritage craft producers should be embraced within the new SME Strategy [82] and included as 'climate and resource frontrunners' eligible for support in developing commercial applications and markets.

Digital technologies are a critical enabler for attaining the sustainability goals of the European Green Deal in many sectors, including culture. At the same time, the carbon emissions associated with Information and Communications Technology (ICT) are on par with those of the aviation industry and only a small amount of all disposed ICT hardware is properly recycled. The European Green Deal recognizes that the digital sector needs to 'put sustainability at its heart'. [83] Arts, cultural, and heritage organisations should be empowered to measure the carbon and environmental footprint of their ICT activities so they can better contribute to reducing its negative impacts. This can include switching to hosting organisations powered by 100% renewable energy, prolonging the lifespan of devices, or procuring new, energy-efficient, and easy to repair devices.

Key Recommendations

FOR POLICYMAKERS

- Incorporate social and cultural aspects into Europe's Circular Economy Action Plan and enlist Europe's robust, human-centred culture and heritage sectors as co-creators of a cleaner and more sustainable Europe.
- Include European craft and creative industries, products, and services in the new Ecodesign framework as part of the Circular Economy Action Plan's Sustainable Products Initiative.
- Measure and value the GHGs avoided through the use and adaptive reuse of existing buildings while also recognising the co-benefits associated with conserving heritage values in the built environment.
- Support expanded use of traditional and locally sourced materials in the construction sector and strengthen the understanding of traditional buildings techniques as tools to mitigate GHG emissions and support resilience in architecture.
- Valorise traditional, dense, and walkable settlement patterns in peri-urban areas; steer activity to underutilised existing buildings and cultural landscapes; and promote inclusive regeneration of historic districts, while safeguarding heritage values.



[82] European Commission, 'An SME Strategy for a sustainable and digital Europe,' COM(2020) 103, 10 March 2020. https://ec.europa.eu/info/sites/info/files/communication-sme-strategy-march-2020_en.pdf.

[83] European Green Deal, supra note 1, 9.



- Emphasise multidimensional Life cycle assessment (LCA) models addressing both environmental and social sustainability.
- Launch a new 'EU Culture and Heritage Sector Ecolabel' as part of the EU Ecodesign framework to capture the potential of arts, culture and heritage venues and sites, whose products and services touch millions.
- Embrace contemporary craft design, applied arts, as well as traditional and heritage craft producers within the new SME Strategy and include them as 'climate and resource frontrunners' eligible for support in developing commercial applications and markets.
- Include in European policies integrated nature-culture approaches that highlight linkages between the ecological and social functions of landscapes in ways that promote lifestyles in harmony with nature and decouple waste generation from economic growth.

FOR CULTURAL HERITAGE OPERATORS

- Promote an ethic of stewardship and reuse as an element of green transition and emphasise European cultural values and practices that address the satisfaction of human needs in ways de-coupled from GHG-intensive consumption in heritage practice, including documentation and interpretation.
- Help design a new EU Culture and Heritage Sector Ecolabel as part of the EU Ecodesign framework, including cultural institutions, tourism destinations, and festivals, fairs, tours, and events.

Strengthen eco-design capacity among heritage professionals, including by updating academic curricula.

- Support innovative incorporation of new, bio-based and carbon sequestering materials compatible with traditional design in connection with the renovation of older and historic buildings.
- Prioritise low-carbon and durable choices when new materials are used in the renovation of older buildings. Expand use of EPDs (environmental performance declarations) in renovations.

► Essay

The role of cultural heritage in circular economy action

By Dr Antonia Gravagnuolo [1], CNR IRISS Institute for Research on Innovation and Services for Development, National Research Council, Italy

Through active conservation, adaptive reuse, refurbishing, retrofitting, enhancement and valorisation, cultural heritage can substantially contribute to the implementation of a human-centred circular economy in cities and regions.

The circular economy model mimics the autopoietic organizational model of nature, in which materials are reused as inputs for new life cycles through circular metabolisms, rather than treated as waste. The circular economy is grounded on ecology, as it aims to promote and conserve biodiversity and ecosystems as a precondition for wellbeing. It is characterized by an enriched, 'complex' ecological, economic, social, and cultural value (Fusco Girard, 1987; Fusco Girard and Nijkamp, 1997). By recognizing intrinsic non-instrumental values as the trigger for instrumental use values (Fusco Girard, 2019; Fusco Girard and Vecco, 2019), the circular economy shifts the focus from financial return 'only' to 'blended' financial and societal return. The circular economy is thus a re-generative economy, able to become generative of multiple impacts.

In the circular economy perspective, cultural heritage represents:

- A long term resource. Cultural heritage represents the tangible and intangible element of permanence in evolving cities and territories, the memory of the urban-territorial system which conveys historic and cultural values, local identity, aesthetic, education and spiritual values, a genius loci recognized and re-interpreted by local communities over centuries or millennia, linking past, present and future generations (Fusco Girard, 2018).
- An engine of environmental regeneration. Cultural heritage is the urban-territorial asset which entails the longest time horizon, through attribution of different meanings, uses and re-uses over time. Historic buildings, sites and landscapes represent cultural capital able to generate employment while promoting environmental regeneration, social cohesion and wellbeing (Cultural Heritage Counts for Europe, 2015). Heritage can be an engine of circular urban and territorial regeneration through quality interventions oriented to energy efficiency, renewable energy generation, materials reuse, and integration of nature-based solutions. (Fusco Girard, 2019).

[1] This essay results from the Horizon 2020 CLIC project research (www.clicproject.eu). The author acknowledges the fundamental conceptual contribution of prof. Luigi Fusco Girard, Scientific Coordinator of the CLIC project, and the CLIC research Consortium synthesized in the Deliverable D2.7 - CLIC Framework of Circular Human-Centred Adaptive Reuse of Cultural Heritage.

- A driver of employment. Cultural heritage has a high potential to generate employment in circular economy related sectors. The building construction sector can generate jobs through conservation, reuse and maintenance works, enhancing traditional skills sustaining long-term specialized employment. The adoption of materials passports, life-cycle assessments, and urban metabolisms assessments can enhance eco/circular-design of planned interventions, employing professionals in the preparation, planning, design and implementation of heritage projects. Creative, innovative, and productive uses of cultural heritage also generate employment, enhancing place's attractiveness (Fusco Girard, 2019).
- A connective infrastructure promoting synergies and cooperation. Cultural heritage and landscape express a long and intimate relationship between communities and places, including their natural settings. Heritage conveys cultural values that have an emotional potential to bring together people and communities around common memories, even in controversial history cases. The circular economy model can be interpreted as a relationships economy that reduce costs and enhance multidimensional productivity and impacts of economic activities (Gravagnuolo et al., 2017; Fusco Girard, 2019). Cultural heritage can become a catalyst for multi-stakeholder partnerships and (heritage) community creation at local level, promoting trust as the primary value for collective care of "common goods" (Horizon 2020 CLIC project, 2017-2021).

Focusing on the human rights dimension, ecosystem health, human health and wellbeing, cultural heritage strongly suggests a human-centred circular economy in the European Green Deal.

Further Reading

- Horizon 2020 CLIC project (2017-2021), Circular models Leveraging Investments in Cultural heritage adaptive reuse, Accessed 10 March 2021. <https://www.clicproject.eu/>.
- Fusco Girard L. (2020), From pandemic to a new economy: towards a circular economy and circular city, Horizon 2020 CLIC project. Available at: <https://www.clicproject.eu/editorial-from-pandemic-to-a-new-economy-towards-a-circular-economy-and-circular-city-article-by-luigi-fusco-girard/>.
- Fusco Girard L. (2019), Implementing the circular economy: the role of cultural heritage as the entry point. Which evaluation approaches?, BDC Bollettino del Centro Calza Bini, 19, 2/2019, pp. 245-278. Available at: <http://www.serena.unina.it/index.php/bdc/article/view/7269>.
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- Gravagnuolo A., Fusco Girard L., Saleh R., Ost C. (2017), Evaluation criteria for a circular adaptive reuse of cultural heritage, BDC Bollettino del Centro Calza Bini, 17, 2/2017, pp. 185-216. Available at: <http://www.serena.unina.it/index.php/bdc/article/view/6040>.

Building and renovating in an energy and resource efficient way



The carbon footprint currently associated with satisfying the timeless human need for housing in which to live and spaces in which to produce and interact is enormous. [84] Buildings are responsible for about 40% of the EU's total energy consumption, and for 36% of its GHG emissions from energy. [85] If the EU is to achieve the 55% cut in net GHGs proposed in the European Climate Law, the European Commission has said by 2030 the EU should reduce buildings' GHG emissions by 60%. [86]

To address this urgent need, in October 2020 the Commission presented its Renovation Wave for Europe [87] strategy. Its objective is to at least double the annual energy renovation rate of residential and non-residential buildings by 2030 and to foster deep energy renovations, resulting in 35 million building units renovated by 2030. Given its scale, the project should be shared across Europe, sustained by the mobilisation and ownership of cities, local authorities, stakeholders, national governments, and citizens. [88]

The benefits of including Europe's cultural heritage sector in this mobilisation are manifest. Nearly all cities and villages have historic centres with a vast older building stock. Giving these buildings new life through renovations that combine the safeguarding of heritage values with new energy-efficient technologies would unlock enormous economic vitality. Conserving the energy, information, craft, and artistry embodied in Europe's existing buildings, sites and landscapes has always been central to the work of Europe's cultural heritage sector. The heritage sector is therefore an important constituency of the Renovation Wave. This constituency is already deeply committed to circular economy principles, including craftspeople, artisans, conservators/restorers, architects, engineers, managers, owners, scholars, and researchers.

[84] See generally Gibran Vita et al, 'Connecting global emissions to fundamental human needs and their satisfaction,' 2019 Environ. Res. Lett. 14 014002. <https://iopscience.iop.org/article/10.1088/1748-9326/aae6e0/pdf>.

[85] European Commission, 'A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives,' COM(2020) 662, 14 October 2020.

https://ec.europa.eu/energy/sites/ener/files/eu_renovation_wave_strategy.pdf. [Hereinafter, the 'Renovation Wave']. These figures refer to the use and operation of buildings, including indirect emissions in the power and heat sector, but not their full life cycle. The embodied carbon in construction is estimated to account for about 10% of total yearly greenhouse gas emissions worldwide, see IRP, Resource Efficiency and Climate Change, 2020, and UN Environment Emissions Gap Report 2019.

[86] Renovation Wave, 1.

[87] Id.

[88] Id. at 26.

'Heritage' is mentioned (too) briefly in the new Renovation Wave, primarily as something to be safeguarded. [89] A focus on this aspect is certainly needed. The cultural values carried by Europe's historic buildings offer enormous co-benefits. [90] Prior energy efficiency renovation initiatives have sometimes resulted in the needless loss of these assets and even the degradation of building performance, [91] through indifference to cultural heritage co-benefits and ignorance of the workings of traditional building systems.

The Renovation Wave so far includes no specific proposals on how to marry heritage safeguarding with its other objectives. Its final conclusion is that 'in 10 years, the buildings of Europe will look remarkably different.' [92] In terms of reducing energy needs and waste, this transformation is much needed. But what of the character and feel that makes Europe's landscapes so attractive to inhabitants and visitors alike? If these are lost, then Europe will lose its distinctiveness, its Europeanness. The good news is that win-win outcomes that both safeguard Europe's distinctive heritage values and decarbonise the built environment are readily achievable.

The Renovation Wave also currently lacks an affirmative vision of how Europe's cultural heritage can support and accelerate achievement of its objectives. Cultural heritage focuses not only on structures but on the mindsets and behaviours behind the ways people build and use buildings in order to understand their durability and capacity to adapt. It embodies time-tested technologies, the product of place-adapted innovation (often from the era before construction was addicted to oil) that still offer contemporary climate solutions. To succeed, the Renovation Wave must embrace these cultural and heritage co-benefits of renovation as well.

Building renovation is also fundamental for post-Covid19 economic recovery and this is particularly true in the job-intensive heritage context. The repair, adaptive reuse, and regeneration of the historic building stock involves making use of traditional building construction techniques, craft and local knowledge in combination with sustainable innovations. This in turn requires heritage experts, artists, and a variety of craft workers and trades. **Sensitively retrofitting Europe's historic buildings while preserving Europe's unique selling point - its cultural heritage - provides an extraordinary opportunity to promote a post-COVID19 economic recovery. It can and should be a lighthouse project in the Next Generation EU initiative, advancing simultaneously climate action, just transition and social cohesion.**

The Renovation Wave states that the level of renovations of existing buildings in the EU 'remains persistently low and shallow.' [93] At the current pace, cutting carbon emissions from the building sector to net-zero would require centuries. To kick-start a large-scale deployment of renovation all over Europe, **the Renovation Wave identifies seven key areas of intervention and critical lead actions. Each of these areas intersects with the safeguarding of cultural heritage conservation.** Understanding and responding to these seven intersections is key to breaking down barriers and accelerating renovations rates for older and historic buildings while fulfilling the Renovation Wave's commitment to safeguarding cultural heritage, thus contributing to people's quality of life as well as to sustainable development.

[89] Id. at 4, 14, and 26.

[90] See supra Preface, paragraph 5.

[91] See Historic England, 'Energy Efficiency in Historic Buildings, How to Improve Energy Efficiency,' June 2018 ('The unintended consequences of getting energy efficiency measures wrong (or doing them badly) include: harm to heritage values and significance, harm to human health and building fabric, and failure to achieve the predicted savings or reductions in environmental impact.').

[92] Renovation Wave, 25.

[93] Id at 4.

1. Strengthening information, legal certainty and incentives for public and private owners and tenants to undertake renovations. The Renovation Wave notes that the starting point of a sustainable renovation is always an individual decision, balancing expected benefits and costs. Yet, today, information on the current energy and resource profile of buildings is insufficient. To address this, the European Commission has committed to propose mandatory minimum energy performance standards as part of the revision of the 2012 Energy Performance of Buildings Directive (EPBD) [94] by the end of 2021. One necessary question is whether and how these new minimum standards should apply to historic buildings?

In order to address this question, it is important to understand the variety of shapes, geographies, and ownership structures of the historic building stock. A large proportion of historic buildings (an estimated 40%) [95] is owned by private owners who need to invest out of their own pocket to renovate these buildings. They range from farm buildings or rental facilities for businesses and families to houses with an important historical and cultural value that can be visited or which serve as concert venues. They are often the backbone of rural communities providing common goods such as food, but also affordable housing. These are rarely single buildings but rather often form part of valuable cultural landscape.

Another complexity is that officially protected buildings are subject to special protection rules imposed by national legislation that can limit the permissible interventions that can be made in such buildings.

Aware of this reality, the European legislators adopted a reasonable and pragmatic measure in 2012 EPBD stating that Member States may decide not to set or apply their minimum energy performance requirements to:

'buildings officially protected as part of a designated environment or because of their special architectural or historical merit, in so far as compliance with certain minimum energy performance requirements would unacceptably alter their character or appearance;' [96]

Amendments to the EPBD adopted in 2018 [97] added a statement that 'research into, and the testing of, new solutions for improving the energy performance of historical buildings and sites should be encouraged, while also safeguarding and preserving cultural heritage.' [98] Such research and testing reflect a practical next step in efforts to improve the energy performance of historic buildings.

[94] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings, OJ L 153, 18.6.2010, p. 13–35 [Hereinafter, the '2010 EPBD Directive'], as amended. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010L0031&from=EN>. A similar 'exemption' provision can be found in the Energy Efficiency Directive. Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, L315/14 (Article 5, Section 2(a)). <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0027&from=EN>.

[95] European Commission, Study of "Heritage Houses for Europe" (Publications Office of the European Union, Luxembourg, 2019), 37. <https://www.europeanlandowners.org/heritage-houses-for-europe/study/>.

[96] EPBD Directive at page L153/19 (Article 4, Section 2(a)).

[97] 2018 EPBD Revisions, *supra* note 78.

[98] *Id.* at L156/77 (Clause 18).

When the EPBD is again revised, the possibility for Member States to exempt designated buildings should be retained. However, this should not be seen as a means of circumventing the need for every building in Europe to be as energy and resource efficient as possible under the given circumstances. This includes officially protected buildings as well as those that have historic and local significance but may not be designated.

This is firstly as a contribution to tackling the climate emergency. But at the same time, Member States should be urged to proactively help owners of officially protected buildings to do whatever is possible, in compliance with heritage protection laws, to apply impacting measures. Indeed, officially protected buildings, especially iconic ones which are also owned by the State, can play a special role in contribute to climate action as their sensitive renovation sends a valuable signal. Resource efficiency is also a matter of good stewardship. Improving the energy performance of historic buildings reduces operating costs and enhances their attractiveness for continued use. All in all, while significant work has already been done in Europe to promote energy efficiency in the historic built environment, more is needed. [99]

In general, the European Green Deal states that where there are potential trade-offs between economic, environmental and social objectives, the EU will respond by making 'consistent use of all policy levers.' This is exactly such a case. The European Commission and built heritage stakeholders (both public and private) should work together to find win-win solutions. These should include new guidance that supports the development of alternate pathways to energy performance based on smart, 'whole house' planning and performance assessment, adapted to the needs and values of historic buildings and traditional building systems. While some protected buildings cannot be brought into compliance without an unacceptable level of change, other protected buildings can be with the right package of interventions. [100] Indeed, some traditional building systems (i.e. thermal massing) are already inherently energy efficient if properly maintained. Much research has already been done in Europe on these issues and that work, and any future research, should guide any further policy development. [101]

[99] For example, a 2019 122-page assessment of EU Member States long-term renovation strategies lists only three examples of efforts to engage with historic buildings (Croatia, Luxemburg and Slovenia). Castellazzi L. et al., Assessment of second long-term renovation strategies under the Energy Efficiency Directive (Publications Office of the European Union, Luxembourg, 2019).

<https://publications.jrc.ec.europa.eu/repository/bitstream/JRC114200/kjna29605enn.pdf>.

[100] Giorgia Rambelli, Cristina Garzillo, 'Recommendations for Local Governments. Integrating Energy Efficient Retrofit of Historic Buildings into Urban Sustainability,' 2014.

http://www.3encult.eu/en/deliverables/Documents/WP2_D2.3_20140111_P21_Proposal%20of%20generic%20repliable%20factors.pdf. ('The refurbishment of historic buildings to lower energy demand is necessary, possible and economically feasible.'). A. Gonzalez, P. Bouillard, C. A. Román and M. Stevanovic. 'Keeping the Historical Heritage Alive: Methodology for the energy renovation of the historic residential stock of the east extension in Brussels.' (2013). <https://www.semanticscholar.org/paper/KEEPING-THE-HISTORICAL-HERITAGE-ALIVE%3A-Methodology-Gonzalez-Bouillard/207f99e1a7feed406a855195bc37efc96caec9e5>.

[101] See e.g. Advanced Tools for Low-carbon, high-value development of historic architecture in the Alpine Space (ATLAS), Historic Building Energy Retrofit Atlas (HiBER ATLAS), NOAH's Ark, Climate for Culture, Energy Efficiency for EU Historic Districts' Sustainability (Effesus), Efficient Energy for EU Cultural Heritage (3ENCULT), Robust Internal Thermal Insulation of Historic Buildings (RIBuild), and Energy-Efficient Buildings (EeB) PPP.

The Renovation Wave also proposes that public and privately-owned social infrastructure, like public administrative buildings, cultural institutions, and schools -- many of which hold cultural heritage values -- spearhead the renovation wave, serving as a role model and reference point for the 'co-benefits that become immediately visible to the public.' [102] Spotlighting energy performance in such iconic historic buildings can indeed signal in a powerful way the importance communities assign to reducing GHG emissions. [103] The Commission will issue guidance on the Energy Efficiency First principle in early 2021 to help public authorities address these matters.

The **proposed EU Smart Readiness Indicator (SRI)** presents similar issues. The SRI will allow for rating and communicating the smart readiness of buildings and building units to economic operators and other stakeholders. It allows for the assessment of the capabilities of a building to adapt its operation to the needs of the occupant and of the grid and to improve its energy efficiency and overall in-use performance. The 2018 revision of the EPBD, which helped launch the SRI initiative, notes that 'research into, and the testing of, new solutions for improving the energy performance of historical buildings and sites should be encouraged, while also safeguarding and preserving cultural heritage.' [104]

Building on such research, **the SRI methodological framework used to calculate the smart readiness score for historic buildings should be tailored to their particular conditions.** The implementing and delegated acts of the Commission on the SRI [105] provide that the certificates used to communicate the smart readiness indicator of a building can include 'recommendations on how to improve the smart readiness of the building or building unit taking into account, where relevant, the heritage value.' [106] Implementation of this scheme provides an important opportunity for energy efficiency and heritage experts to work together to promote good practices.

The Commission will also propose stronger rules on **Energy Performance Certificates (EPCs)**. The quality of existing EPCs has been an issue. Modelling developed for new construction sometimes fails to understand how older buildings 'behave'. This can lead to maladapted outcomes that degrade traditional climate-friendly features, waste precious materials, and damage heritage values. **As the EPC framework is updated, data and models should be tailored to the actual characteristics of older and historic buildings.**

[102] Renovation Wave, 23.

[103] Future of Our Pasts, supra note 9, 56.

[104] 2018 EPBD Revision, supra note 78, L156/77(18).

[105] Commission Delegated Regulation (EU) 2020/2155 of 14 October 2020 supplementing Directive (EU) 2010/31/EU of the European Parliament and of the Council by establishing an optional common European Union scheme for rating the smart readiness of buildings, C/2020/6930, 14 October 2020, OJ L 431, 21.12.2020, at p.24. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R2155&from=EN>.

[106] See Paris A. Fokaidis, Christiana Panteli, and Andri Panayidou, 'How Are the Smart Readiness Indicators Expected to Affect the Energy Performance of Buildings: First Evidence and Perspectives,' Sustainability 12, no. 22: 9496, Section 4.3. <https://doi.org/10.3390/su12229496>.

2. Ensuring adequate and well-targeted funding. Building renovation is one of the sectors facing the largest investment gap in the EU. To overcome this, the Renovation Wave proposes to increase EU funding by providing more grants, technical assistance, project development support and loans. Many private owners of heritage buildings, both residential and commercial, lack the resources to maintain their buildings' heritage features and undertake energy renovations. Funding for publicly owned buildings and monuments is also needed. **Any extension of building performance standards to heritage buildings must be accompanied by commensurate public incentives that fill these gaps. Simple means and models for combining heritage grants and energy efficiency subsidies to fund appropriate energy renovations are also needed.**

InvestEU should develop financial products targeted to the sensitive renovation of Europe's built heritage for energy efficiency within the InvestEU Social Investment and Skills Window as well as the Sustainable Infrastructure Window. The Commission can support the design of financial schemes tailored to the owners and occupants of historic buildings utilising appropriate heritage criteria and supporting capital cost recovery and payback. Examples include eco-bonus incentive schemes, energy service company (ESCO) models, [107] tax incentives for energy-related refurbishment and rehabilitation tax credits. **The newly established European Initiative for Building Renovation should support financing for owners of heritage buildings.**

Public Heritage agencies will need increased funding in order to support energy efficiency efforts across Europe's historic built environment and efficiently process a greater volume of approval applications resulting from the Renovation Wave.

3. Increasing the capacity to prepare and implement projects. Preparing a good renovation project, matched with the best financing sources available, can be difficult. The task can be even more complicated when the building holds historical values. Thus, technical assistance is going to play a key role for the expected increased rates and quality of renovation. To scale up technical assistance, the Commission, together with the EIB, will help Member States to design national or local programmes replicating the European Local Energy Assistance (ELENA) model. In addition, they will support setting up standardised one-stop shops for delivering tailored advice and financing solutions designed to accompany homeowners or SMEs throughout the preparation and implementation of projects.

A significant body of recommended treatments and strategies already exist for achieving specified performance levels in historic buildings whilst respecting heritage values. [108] These new technical assistance platforms should be used to scale these strategies up and out and fill existing gaps. The new European Urban Initiative designed to strengthen integrated and participatory approach to sustainable urban development should also address cultural heritage specificities and concerns.

[107] For a case study of the application of the ESCO model to a historic office building, see Dana Schneider and Paul Rode, 'Energy Renaissance,' Spring 2010. <https://www.hpbmagazine.org/content/uploads/2020/04/10Sp-Empire-State-Building-New-York-NY.pdf>.

[108] See supra note 101.

4. Creating Green Jobs, Upskilling Workers and Attracting New Talents. The Renovation Wave expressly acknowledges that specific skills are needed for the safe management of historical buildings and safeguarding their heritage value. Even before the Renovation Wave, there was already recognition that the supply of next-generation skilled craft workers is severely depleted. [109] Heritage trades, skills, and education need to be linked to the demands of the Renovation Wave. For example, Vocational Education and Training (VET) and Continuous Vocational Education and Training (C-VET) will be needed to enhance skills and know-how in traditional design and construction.

The Skills Agenda and its upcoming Pact for Skills should bring together relevant construction and heritage stakeholders to help achieve these objectives. Next Generation EU funds, the European Social Fund, and the Just Transition Fund can also be targeted to craft and heritage trades. Upskilling and reskilling of conventional architects and installers working with older buildings are also needed to ensure that energy efficiency audits, certifications and monitoring are tailored to the performance of traditional building systems.

5. Creating a sustainable built environment. In order to strengthen the sustainability of the construction sector, the Renovation Wave commits the Commission to develop by 2023 a roadmap for reducing whole life-cycle carbon emissions in buildings. As discussed in the Circular Economy section, Lifecycle Analysis approaches (LCA) used in Renovation Wave programmes as well as green procurement initiatives must allow for the possibility that repair and reuse of existing buildings and components may sometimes, and even more often, be the best option.

For instance, replacing high-quality historic wooden windows (which, with appropriate maintenance, have lasted hundreds of years) with plastic or even aluminium windows, may save some energy in a short time, however, on a life-cycle basis, they often consume more energy and resources, while degrading heritage values. The adaptive reuse and renovation of an existing building can be a better option than the construction of a new net zero building. [110] This also points to the need to promote the role of routine maintenance and good conservation practice in reducing GHG emissions and increasing resilience. The Renovation Wave should promote wider use of tools for predictive maintenance and preventative conservation.

Building Information Modelling (BIM) improves transparency and reduces costs and resource use. The Commission will provide a recommendation to promote BIM in public procurement for construction and provide a methodology to public clients to conduct cost-benefit analysis for the use of BIM in public tenders. These recommendations should include tools adapted to historic buildings and traditional building systems.

[109] See European Commission, Directorate-General for Education, Youth, Sport and Culture, *Fostering cooperation in the European Union on skills, training and knowledge transfer in cultural heritage professions* (Publications Office of the European Union, Luxembourg, 2019). <https://op.europa.eu/en/publication-detail/-/publication/e38e8bb3-867b-11e9-9f05-01aa75ed71a1>.

[110] A. Duffy, A. Nerguti, C.E. Purcell, Peter Cox, 'Understanding Carbon in the Historic Environment, Scoping Study Final Report, Prepared for Historic England,' 17 October 2019. <https://historicengland.org.uk/content/docs/research/understanding-carbon-in-historic-environment/>; The Greenest Building, *supra* note 73.

Research must also spur innovation in the construction sector. In the preparation of the Horizon Europe Programme, the Commission is considering a Public-Private Partnership on People-Centric Sustainable Built Environment (Built4People) and a dedicated Mission on Climate-Neutral and Smart Cities. Built4People has so far engaged with the historic built environment and this approach should be continued in Horizon Europe.

6. Placing an Integrated, Participatory and Neighbourhood based Approach at the Heart of the Renovation Wave. The Renovation Wave acknowledges that fully reaping its potential in terms of co-benefits requires an integrated approach. However, its focus in this regard is on technology, overlooking entirely the cultural dimensions of the built environment and the many quality of life co-benefits that the Renovation Wave can deliver. Europe's historic built environment embodies European identity as a repository of historical, cultural, and social memory. The values these places carry should drive and enable sustainable development by supporting social cohesion, wellbeing, creativity, tourism, and intercultural dialogue. It is critical that the Renovation Wave internalises these co-benefits as part of its strategy.

The Renovation Wave should also promote the use of low-carbon, climate-adapted 'inherently sustainable features' of traditional building technologies in conventional rehabilitation projects. Transferring traditional passive design solutions developed in the south to northern regions experiencing increasing heat due to a changing climate is one strategy. In addition, use of traditional building methods and traditional land management practices in cultural landscapes can improve resilience to climate change impacts, for example by promoting low-carbon, proven approaches to water and flood risk management.

The Renovation Wave must also be a lever to address energy poverty. Europe's older and historic buildings house a proportion of its lower income populations, who struggle to meet the cost of maintaining their share of Europe's heritage. Financing solutions should be developed for these households through the use of grants, subsidised renovation measures or the use of energy savings for repayment (limiting upfront investment to available grants). The new Affordable Housing Initiative for 100 lighthouse projects can help by featuring the adaptive reuse of historic buildings for affordable housing.

Synergies for renovation become evident when scaled up to district and community approaches. Aggregating projects at this level may lead to zero-energy or even positive energy districts. Older and historic neighbourhoods offer rich potential as positive energy districts, especially when cultural heritage authorities are included in the planning. [111]

Finally, the European Commission has committed to engaging all relevant stakeholders through the High-Level Forum on construction, with supportive actions to regenerate European neighbourhoods through cultural, economic and social vitality. This initiative should incorporate the heritage and Baukultur sectors.

[111] See supra, note 51.

7. The New European Bauhaus. As announced by European Commission President von der Leyen in her State of the Union speech on 16 September 2020, [112] the Commission has launched the New European Bauhaus in tandem with the Renovation Wave to nurture a new European aesthetic that combines performance with inventiveness. The New European Bauhaus will act as an incubator for innovation and creativity to drive sustainable design across Europe and beyond, that is also appealing and affordable for citizens. [113]

Since the idea of a New European Bauhaus is focused on the design and the aesthetics of Europe's future living environment, it must duly take into consideration the current shape and historic character of Europe's cities, villages and rural areas, where the future green projects will be implemented. Europe's cultural heritage offers an inspiring framework for social cohesion which contributes to the wellbeing of citizens and their communities. Historic buildings and their surrounding landscape shape and nurture our feeling of "home". It provides a vital bridge between our sense of belonging and the need to embrace new ways of life. For all these reasons, heritage, both cultural and natural, must be recognized as an asset and integral component of the New European Bauhaus initiative. [114]

The New European Bauhaus initiative should also be understood in relation to the **Davos Declaration [115] for the promotion of a 'high quality Baukultur for Europe'** signed by European Ministers of Culture in the context of the 2018 European Year of Cultural Heritage. This Declaration emphasizes the importance of the quality of the built environment for shaping a greener and more sustainable common future. Cultural heritage, in this respect, offers models and practices that are sustainable and resilient by nature. The New European Bauhaus should be a forum for contributing such ideas to the Renovation Wave in order to achieve higher quality standards in terms of environment protection, innovation, and quality of life, while reinforcing the sense of local identity.

The New European Bauhaus is designed to be an interdisciplinary project and network that will create experimental spaces where art, culture, science, and technology can mingle. The Heritage world has a huge amount of experience to offer, as each cultural heritage project entails, by definition, a strong partnership between a wide range of actors and disciplines, from designers, architects, engineers, urban planners, and historians, to local and regional authorities, grassroots organisations, as well as highly qualified workers and craftsmen. The announcement on 5 March 2021 that Europa Nostra has been selected among the first 13 partners of this initiative is a step in the right direction.

[112] European Commission, 'State of the Union Address by President von der Leyen at the European Parliament Plenary,' 16 September 2020. https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1655.

[113] See supra, text at note 38.

[114] Europa Nostra, 'Cultural Heritage as an integral dimension of the "New European Bauhaus" initiative,' supra note 39.

[115] Swiss Confederation, 'Davos Declaration 2018.'

https://davosdeclaration2018.ch/media/Brochure_Declaration-de-Davos-2018_WEB_2.pdf.

Key Recommendations

FOR POLICYMAKERS AND HERITAGE OPERATORS

- Enlist the heritage sector in the Renovation Wave by mobilising craftspeople, artisans, conservators/restorers, architects, engineers, managers, owners, heritage scholars, and researchers.
- Utilise new guidance on the Energy Efficiency First principle to help public authorities address renovation of public and privately-owned social infrastructure, like cultural institutions and schools, to address energy performance standards while safeguarding cultural values.
- Promote energy and resource efficiency in all historic building while working collaboratively to prepare guidance that supports the development – especially with regard to officially designed buildings – of new approaches to energy performance standards that allow alternate pathways to compliance based on smart, “whole house” planning and performance assessment, adapted to the needs and values of historic buildings and traditional building systems.
- Ensure adequate treatment of heritage buildings within the new EU Smart Readiness Indicator, with a tailored scheme for the smartness assessments of services installed in (officially protected) historic buildings.
- Match any extension of building performance standards to heritage buildings with commensurate public incentives. The InvestEU Social Investment and Skills Window and the Sustainable Infrastructure Window should support the design of financial schemes tailored to the owners and occupants of historic buildings, while the newly established European Initiative for Building Renovation should support financing for owners of heritage buildings.
- Increase funding of public heritage agencies in order to support energy efficiency efforts across Europe’s historic built environment.
- Promote the role of routine maintenance and good conservation practice in reducing GHG emissions and increasing resilience.
- Address energy poverty by developing financing solutions for lower income populations who occupy historic housing. Feature the adaptative reuse of historic buildings for affordable housing in the Affordable Housing Initiative for 100 lighthouse projects.





- Include cultural heritage in the new European Urban Initiative.
- Link heritage trades, skills, and education to the demands of the Renovation Wave including through enhanced Vocational Education and Training (VET) and Continuous Vocational Education and Training (C-VET). Utilise the Skills Agenda and Pact for Skills to bring together relevant construction and heritage stakeholders to help achieve these objectives.
- Include tools adapted to historic buildings and traditional building systems in new Building Information Modelling (BIM) methodology.
- Incorporate the heritage and Baukultur sectors in the expanded High-Level Forum on construction.
- Duly integrate the full breadth of culture - from arts to heritage - in all the multi-dimensionality elements of the New European Bauhaus and include cultural heritage representatives in the co-designing and co-steering of this initiative.

► Case Study

The Fraunhofer Centre for Conservation and Energy Performance of Historic Buildings at the Benediktbeuern Abbey

Advancing the renovation wave and reaping the co-benefits of heritage conservation

By Dr Johanna Leissner, Fraunhofer-Gesellschaft

The work at the Fraunhofer Centre exemplifies how research and practice tailored to traditional building systems can bring new life to old buildings, making them fit for purpose in a changing climate for the benefit of generations to come.

The Old Cooperage at the historic Benediktbeuern Abbey complex in Upper Bavaria had been “condemned to death” – its demolition, and the construction of a new building, already planned. A required examination by the Bavarian State Office for the Preservation of Monuments, however, found that the existing roof truss originated from the Baroque time around 1760. This finding halted the demolition, to the shock of the monastery management, who now had to find a new solution to the old building.

Meanwhile, the Fraunhofer Institute for Building Physics IBP had decided to establish a demonstration centre and was looking for a site that could serve as a model for its applied research: How to renovate and restore old buildings according to heritage values while improving energy efficiency and adapting to climate change. The decision to locate the new Centre in the Old Cooperage turned out to be a win-win for Benediktbeuern Abbey and the Fraunhofer IBP alike.

Financing secured from the Fraunhofer-Gesellschaft, the Free State of Bavaria and private foundations as well as innovative enterprises enabled a state-of-the-art renovation. Using a living lab concept, the initial restoration has been followed by in-depth onsite monitoring and research. In 2016 the Fraunhofer Centre for Energy Efficient Renovation of Old Buildings and Preservation of Historical Monuments Benediktbeuern officially opened.

The Centre brings together experts from the fields of monument conservation and building physics to discuss topics such as energy efficiency, sustainability, economy and ecology, renewable energies, and urban planning. Research and testing stress both historical and innovative materials and techniques.

Further Reading

- <https://www.denkmalpflege.fraunhofer.de/>

Accelerating the shift to sustainable and smart mobility^[116]



Transport accounts for a quarter of the EU's GHG emissions, and still growing. To achieve climate neutrality, the European Green Deal calls for a 90% reduction in transport emissions by 2050. Road, rail, aviation, and waterborne transport will all have to contribute to the reduction. Achieving sustainable transport, the European Green Deal observes, means putting users first and providing them with more affordable, accessible, healthier, and cleaner alternatives to their current mobility habits. Moreover, as the EU's new Sustainable and Smart Mobility Strategy notes, '[p]ublic and social acceptance is key for a successful transition' to smart mobility. [117]

Although the Smart Mobility Strategy does put a focus on individual users including issues of affordability and fairness, as well as the social conditions of transport workers, it largely overlooks the communal, cultural and heritage dimensions of mobility. Putting users first, however, also means engaging with the cultural and creative aspects of mobility. [118] Addressing these cultural dimensions also centres other elements of the mobility equation including tourism, transportation heritage and urban planning and territorial development. It also helps place in context critical issues of 'mobility culture' including travel behaviour and underlying user perceptions and satisfaction.

For example, the European Green Deal aims to boost the use and efficiency of transport systems. One pillar of the strategy is to incentivize transport users to make more sustainable choices. The incentives the Strategy contemplates are economic, complemented by improved information to users. [119] Fostering the cultural dimension of commuting platforms and services, including between rural, peri-urban, and urban areas, is another means to this end. This includes understanding and engaging with social and cultural factors that affect peoples' lifestyles and form the values and preferences that comprise local mobility culture, including local and territorial mobility patterns and practices. Enhancing the digital and bricks-and-mortar experience in public mobility services through cultural and heritage-related content and information sharing also can boost sustainability and transit use. [120]

[116] This Green Paper uses the term 'mobility' in the broad sense in which it is used in the EU Smart Mobility Strategy, which in turn draws on the 2030 Climate Target Plan, *supra* note 45. The term includes all transport sectors including road, rail, aviation, and waterborne transport, as well as multimodal public transport and active mobility such as walking and cycling. 2030 Climate Target Plan, 5, 9.

[117] EU Smart Mobility Strategy, *supra* note 80, 13.

[118] See generally UCLG Community of Practice on Mobility, 'Manifesto, The future of mobility,' 12 November 2019. https://www.uclg.org/sites/default/files/en_manifesto_mobility.pdf. (Discussing 'Creative Mobilities' initiative and underscoring 'the cultural function of urban mobility').

[119] *Id.* at 11.

[120] See generally Anne Leemans et al., *Low carbon stations for low carbon cities* (YellowdesignFoundation, 2015). https://www.ydesignfoundation.org/wp-content/uploads/2016/05/LowCarbonStations_report_v12_lr.pdf.

The EU transport system and infrastructure needs to be made fit to support new sustainable mobility services that can reduce congestion and pollution, especially in urban areas. Historic districts typically embody dense, walkable, mixed-use traditional settlement patterns that encourage public transit, walking and cycling, and reduce vehicle miles travelled (VMTs). Traditional, sustainable uses of public spaces promote local food production and regional gastronomy heritage, all of which shorten food supply chain, as well as greening and general liveability (including cooling inner-city spaces with more trees and less asphalt). Preserving these features in historic districts and incorporating them into land use planning and peri-urban development is a powerful GHG mitigation strategy.

These traditional approaches to land use should be valued as an important element of climate-neutral and smart cities and included in sustainable urban mobility plans. [121] The design of sustainable mobility solutions, including on-demand and shared mobility as well as intermodal transportation and integrated transport systems, should also facilitate equitable access for all to a diversity of cultural activities, notably festivals, fairs, natural and cultural heritage sites and practices, while securing the right to move for all citizens. Promotion and protection of cultural routes and landscapes should be incorporated into mobility infrastructure planning, as should access by electric public transport, [122] foot, and bicycle to cultural destinations.

The EU should in parallel ramp-up the production and deployment of sustainable alternative transport fuels. The Commission will support the deployment of public recharging and refuelling points where persistent gaps exist, notably for long-distance travel and in less densely populated areas. These strategies should be coordinated with parallel initiatives to support the repopulation of historical villages and rural regions poorly served by mobility services, by developing recharging infrastructure in rural areas and also through smart mobility digital solutions.

Maximising the low carbon benefits of historic districts can also mean promoting good practices to sensitively facilitate increases of the population density of the historic built environment, especially in connection with Transit Oriented Development (TOD). Use of Historic Urban Landscape methodologies should be expanded to address real and perceived conflicts between heritage conservation and densification.

[121] Emissions Gap Report 2020, *supra* note 69, at 74 ('High-density, mixed use urban forms that emphasize access by modes of transport other than cars are beneficial from an emissions perspective, and also enable more equitable participation in employment, cultural and entertainment activities (Kenworthy 2006)').

[122] See UITP (Union Internationale des Transports Publics), 'Design charter for innovative electric buses,' accessed 12 February 2020. <https://www.uitp.org/publications/design-charter-for-innovative-electric-buses/>.

Before the COVID-19 pandemic, mass tourism had become a heavy burden and even a threat to a number of historic cities as well as cultural and natural heritage sites. Venice is a striking example, [123] where the twin threats of GHG intensive mass tourism and climate change-induced sea level rise have reached alarming levels. The survival of Venice and its lagoon cannot be viewed as just a Venetian problem or an Italian issue. Achieving a sustainable Renaissance of Venice could in fact be one of the goals, and even a symbol, of the European Green Deal. [124] This means embracing within the European Green Deal a new European strategy for more sustainable and responsible tourism that combines measures to reduce the risks of mass tourism (including the cruise industry) with efforts to reduce its carbon footprint.

As one of the world's largest and fastest growing industries, tourism's carbon footprint is an expanding component of mobility-related GHG emissions. [125] Cultural tourism is a visible driver of tourism emissions. [126] The Mobility Strategy does not address tourism directly although it does speak generally to the need to 'work on' measures 'aimed at reaching' science-based global emission reduction goals for aviation, and the need to develop 'disruptive technologies to bring zero-emission vessels and aircraft to the market.' [127] Working with culture and tourism stakeholders would help complete this strategy while emphasising sustainable tourism approaches that allow cultural destinations to generate positive economic and social benefits for local communities. This includes a just transition for regions overly dependent on unsustainable models of GHG intensive tourism.

As a starting point, there is an immediate need to refine, and expand the use of, tools for monitoring and measuring the GHG emissions attributable to tourism, including cultural attractions. Current approaches are difficult to compare, because they use different system boundaries and allocation principles, omitting or including lifecycle emissions and GHGs other than CO₂. What economic activities, services, and products should be included? How should the emissions from air travel, including the warming effect from the impacts on the atmosphere of aircraft flying at altitude (i.e., radiative forcing), be quantified and how should they be allocated between departure and arrival locations? These questions must be resolved, and cultural tourism managers and authorities should participate in those conversations.

[123] See generally Europa Nostra, 'Venice Lagoon: The Most Endangered site in Europe,' 16 March 2016. <https://www.europanostra.org/venice-lagoon-endangered-site-europe/>.

[124] See also Parzinger, *supra* note 6.

[125] See generally M. Lenzen, Y.Y. Sun, F. Faturay, et al, 'The carbon footprint of global tourism,' *Nature Clim Change* 8, 522–528 (2018). <https://doi.org/10.1038/s41558-018-0141-x>.

[126] See generally A. Markham, E. Osipova, S.K. Lafrenz Samuels, A. Caldas, *World Heritage and Tourism in a Changing Climate* (United Nations Environment Programme, Nairobi, Kenya and United Nations Educational, Scientific and Cultural Organization, Paris, France, 2016), pp 18-24. <https://www.ucsusa.org/resources/world-heritage-and-tourism-changing-climate>. [Hereinafter 'World Heritage and Tourism'].

[127] EU Smart Mobility Strategy, 5.

Ultimately, the GHGs emissions from cultural tourism and its contributing service components must be reduced. Promoting regional, lower-carbon itineraries, slow travel, and tourism as a 'cultural and learning' experience are promising strategies. [128] Sustainable mobility solutions to access tourism destinations and new strategies that develop alternative storytelling on how to discover and re-discover territories, generating higher quality experiences and greater enjoyment for visitors and for locals, should also be explored.

Digitalisation of art and cultural heritage can play an important role in reducing GHG emissions. It has been estimated that about 59% of the global population has internet access, [129] which means that online virtual exhibitions and other digitized content can be enjoyed by a wide audience. People can have access whenever they want without the need to travel. By providing content with open licensing, organisations can make their data and digitized works available for educational purposes and allow people to reuse them to make new art works. Such licenses can also allow works to be shared by others beyond the cultural sector, so an even broader audience is reached.

To secure policy coherence, investment in digital services and infrastructures should respect the principles of the green transition and the protection of the environment, in line with the European Union Council conclusions on Digitalisation for the Benefit of the Environment. [130] Parallely, considering the still persistent digital divide within Europe and beyond, access to culture opportunities for all and to rights of cultural expressions should remain the guiding principle of policies and measures for culture, from local to the European level, while strengthening digital services and infrastructures and capacity-building in digital skills both for professionals and audiences. In the cultural heritage context, this will require investment in digital services and infrastructures as well as in training and capacity-building for digital skills.

Cultural heritage destinations can also showcase mitigation strategies, educate visitors about climate change, and support behavioural changes towards greener practices. [131] These and other climate compatible development strategies should be incorporated into cultural tourism promotion and management plans for both public authorities and private stakeholders.

[128] Future of Our Pasts, supra note 9, 55 (Sections 3.6.1 to 3.6.8 and 3.7.1); World Heritage and Tourism, supra note 126, 29.

[129] Simon Kemp, 'Digital 2020: October Global Statshot,' 20 October 2020. Datareportal. Hootsuite. Accessed 30 November 2020. <https://datareportal.com/reports/digital-2020-october-global-statshot>.

[130] Council of the European Union, 'Council conclusions on Digitalisation for the Benefit of the Environment,' 11 December 2020. <https://data.consilium.europa.eu/doc/document/ST-13957-2020-INIT/en/pdf>. See generally supra text at footnote 83.

[131] Future of Our Pasts, supra note 9, 55-56.

Key Recommendations

FOR POLICYMAKERS

- Help the new Sustainable and Smart Mobility Strategy put users first by adding a focus on the communal, cultural, and heritage dimensions of mobility and engaging with the creative aspects of mobility.
- Foster the cultural dimension of commuting platforms and services by partnering with the culture sector to enhance the digital and bricks-and-mortar experience in public mobility services through cultural and heritage-related content and information sharing in order to boost transit use.
- Reduce congestion and pollution, especially in urban areas, by including strategies in sustainable urban mobility plans designed to safeguard the dense, walkable, mixed-use features of historic districts and promote such traditional settlement patterns in land use planning and peri-urban development.
- Work with culture and tourism stakeholders to emphasise sustainable tourism approaches that allow cultural destinations to generate positive economic and social benefits for local communities while reducing tourism's carbon footprint.

FOR HERITAGE OPERATORS

- Work with transportation planners to include in the design of sustainable mobility solutions measures to facilitate equitable access for all to a diversity of cultural activities, notably festivals, fairs, natural and cultural heritage sites and practices, while securing the right to move for all citizens.
- Reduce the GHGs emissions from cultural tourism and its contributing services, including by promoting lower-carbon itineraries, slow travel, alternative storytelling and other strategies.
- Invest in digital services and infrastructures as well as in training and capacity-building for digital skills in the cultural heritage sector to promote digitalisation of art and cultural heritage to reduce GHG emissions.
- Utilise cultural heritage destinations to showcase mitigation strategies, educate visitors about climate change, and support behavioural changes towards greener practices.

► Case Study

Van Gogh Bicycle Path (Netherlands)

NCF Gares & Connexions - Culture programme (France)

Improve biodiversity and climate adaptation while safeguarding cultural resources that contribute to identity, cohesion, and other co-benefits

By Dr Valeria Marcolin, Creative Mobilities Alliance

Van Gogh Bicycle Path (Netherlands)

In 2014, in collaboration with the Municipality of Eindhoven, artist Daan Roosegaarde created the Van Gogh Bicycle Path, a luminous bike path that relies on solar-powered LED lights and interprets the classic painting *Starry Night* by Vincent Van Gogh, who spent part of his life in Eindhoven.

In this project, technology builds an energy neutral landscape, inspired by heritage to create a unique contemporary art-based mobility experience. The public art project was launched on the 125th anniversary of the death of Vincent Van Gogh with the support of the Province of Brabant, the city of Eindhoven, the Van Gogh Heritage Foundation, and the city of Nuenen. As part of the project, stones were covered in a special smart coating that soaks up solar rays and glows like stars at night. The Van Gogh Bicycle Path is a part of the SMART HIGHWAY project of interactive and sustainable roads of tomorrow by Daan Roosegaarde and Heijmans Infrastructure, whose aim is to make smart roads using light, energy, and information that interact with the traffic situation.

Connexions - Culture programme (France)

SNCF Gares & Connexions was created as an SNCF branch in 2009. Highlighting the role of railway stations as urban and territorial hubs, Gares & Connexions considers heritage, arts, and culture as key tools for its development, stations identity and place-making strategies, and users experiences. Train travel is promoted as an ecological transport mean that also allows for breaking geographical and social barriers. The branch is committed to promote equality and diversity: democratizing culture by facilitating its access throughout the territory and preserving the tangible and intangible heritage values of stations are among its structural interventions. More than 10 million users travel daily through more than 3,000 stations in France on their journeys. From passengers to audiences, they discover art works and live cultural expressions: exhibitions, concerts, conferences, festivals.

Future Reading:

- Studio Roosegaarde, 'Van Gogh Path, The light emitting bicycle path which glows at night inspired by Van Gogh *Starry Night*,' accessed 10 March 2021. <https://www.studioroosegaarde.net/project/van-gogh-path>.
- SNCF, 'ARTS ET SCÈNES, UN ENGAGEMENT MULTIPLE,' 20 July 2020. <https://www.sncf.com/fr/groupe/culture/arts-scenes-engagement-multiple>.
- SNCF, 'L'entreprise qui réinvente les gares, SNCF Gares & Connexions est un acteur majeur de la vitalité urbaine,' accessed 10 March 2021. <https://www.garesetconnexions.sncf.fr/entreprise/culture>.
- On the promotion the rescue, restoration and operation of Europe's railway heritage, see also FEDECRAIL, https://www.fedecrail.org/en/index_en.html, accessed 10 March 2021.
- More good practices available at : www.creative-mobilities.org. « Creative Mobilities" was launched in 2017 in Grenoble (France) as an international platform of experts and practitioners fostering synergies between culture and mobility policies and actors for sustainable urban and territorial development.

From 'Farm to Fork': designing a fair, healthy and environmentally-friendly food system



The European Green Deal aims to make European Food the global standard for sustainability. At the heart of this ambition is its 'Farm to Fork Strategy' released in May 2020. [132] This strategy seeks to address the challenges of sustainable food systems by building on the inextricable links between healthy people, healthy societies, and a healthy planet. It recognises that a shift to a sustainable food system can bring climate, environmental, health, and social benefits; offer economic gains; and contribute to economic recovery. It also acknowledges the significant role that agroecological transformation will play in underpinning a food systems transformation. [133]

The Farm to Fork Strategy describes itself as a new 'comprehensive approach to how Europeans value food sustainability.' [134] It aspires to: create a 'favourable food environment,' acknowledges the 'social and ethical issues' of food, and describes how urbanised societies yearn to 'feel closer to their food.' [135] Yet despite these values-based formulations, the current Farm to Fork Strategy does not expressly address European agricultural, gastronomical or food heritage.

Europe's diverse food cultivation heritage and traditional agricultural practices developed and used over centuries can inform the integrated actions set out in the Farm to Fork Strategy as well as those set out in the proposed new EU 2030 Biodiversity Strategy. [136] Agroecology principles already recognise that valuing local and traditional knowledge and linking it with scientific information has the unique potential to succeed where current systems are failing. [137] Europe cannot afford to overlook the power of cultural heritage to support sustainable food systems, especially in view of the magnitude of the challenges.

Food systems remain one of the key drivers of climate change and environmental degradation. There is an urgent need to reduce dependency on pesticides and antimicrobials, reduce excess fertilisation, increase organic farming, improve animal welfare, and reverse biodiversity loss. Between 1990 and 2017, agriculture was also responsible for 10.3% of the EU's GHG emissions. [138] Europe's new Climate Law sets out the objective for a climate neutral Union in 2050 and there is an equally urgent need to ensure that agriculture, fisheries, and aquaculture contribute appropriately to this process.

[132] European Commission, 'A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system,' COM(2020) 381, 20 May 2020. https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF. [Hereinafter, 'Farm to Fork'].

[133] Farm to Fork, 15.

[134] Farm to Fork, 2.

[135] Id.

[136] European Commission, 'EU Biodiversity Strategy for 2030, Bringing nature back into our lives,' COM(2020) 380, 20 May 2020. https://eur-lex.europa.eu/resource.html?uri=cellar:a3c806a6-9ab3-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF.

[137] EU Food Policy Coalition, 'A 10+3 Agroecology Approach to Shape Policies and Transform EU Food Systems,' January 2021. https://foodpolicycoalition.eu/wp-content/uploads/2021/01/Policy-paper_mainstreaming-agroecology-in-EU-policies.pdf. See generally, Food and Agriculture Organization of the United Nations, 'The 10 Elements of Agroecology, Guiding the Transition to Sustainable Food and Agricultural Systems' (United Nations, Rome, 2018). <http://www.fao.org/documents/card/en/c/I9037EN/>.

[138] European Environment Agency, 'Annual European Union greenhouse gas inventory 1990-2017 and Inventory report,' 2019, Table ES-5, p.515. These figures do not include CO₂ emissions from land use and land use change.

Ensuring sustainable food production is at the core of the strategy to build a food chain that works for consumers, producers, climate, and the environment. [139] This means ensuring that the food chain (including food production, transport, distribution, marketing and consumption) has a neutral or positive environmental impact. The Farm to Fork Strategy notes that farmers, fishers, and aquaculture producers need to transform production methods 'more quickly, and make the best use of technological, digital, and space-based solutions.' [140] Europe's technology, however, includes not only new discoveries but also traditional agricultural knowledge and production craft know-how. Properly engaged, the cultural heritage sector can help to unlock this potential by prioritising the identification, documentation, and preservation of learning from traditional agricultural technologies and techniques that support sustainability in contemporary food systems.

This includes traditional land and soils management; use of native plants; and traditional agricultural practices for fertilising, irrigation, tillage, arboriculture, crop rotation/companion planting and 'green manuring.' [141] These traditional agricultural practices can reduce the use of chemical pesticides and save water, while traditional livestock management and animal husbandry approaches can both contribute to decarbonisation and promote greater animal welfare. Traditional knowledge can also support and enhance effective afforestation, forest preservation and landscape restoration in Europe, to help increase the absorption of CO₂. [142]

Promoting the transfer of these heritage technologies at scale will be key and this includes carefully evaluating the potential to shift traditional practices to new regions. As a result of climate change, knowledge and techniques previously used in the south can become relevant in the north in view of changing temperatures, precipitation, seasonality, and related changes to threats such as pests.

The circular bio-based economy aims to harness the power of bioscience and biotechnology to providing food, feed, and products like furniture, paper, bio-based textiles, and bio-energy while preserving natural resources. The Farm to Fork Strategy describes this sector as still a largely untapped potential for European farmers and their cooperatives. Future bioeconomy innovation agendas need to include a focus on culture in addition to new technologies and novel manufacturing processes. [143] Existing models of landscape conservation and governance can be used to promote circular territorial metabolisms in historic rural landscapes. This would enhance synergies between territorial actors to promote efficient use of water, energy, wastes and materials, for example waste-to-energy, organic fertilizers, and recovery of heating from production processes.

[139] See generally, Ellen MacArthur Foundation, 'Five benefits of a circular economy for food,' 16 October 2020, <https://medium.com/circulatenews/five-benefits-of-a-circular-economy-for-food-21c3654f4393>.

[140] Farm to Fork, supra note 132, 5.

[141] See generally, Slow Food, Europa Nostra et al., 'Food is Culture, Policy Brief on food and Cultural Heritage,' October 2020. https://multimediarark.slowfood.com/wp-content/uploads/2020/10/1_Policy_Brief.pdf. [Hereinafter, 'Food is Culture Report'].

[142] For a discussion of the cultural heritage dimensions of carbon dioxide removal (CDR) strategies, see Future of Our Pasts, supra note 9, at 52-53. The need to develop methodologies to mediate real and perceived conflicts between heritage conservation and CDR projects is also noted. Id.

[143] International Advisory Council on Global Bioeconomy, 'Expanding the Sustainable Bioeconomy – Vision and Way Forward. Communiqué of the Global Bioeconomy Summit,' 2020, 10. https://gbs2020.net/wp-content/uploads/2020/11/GBS2020_IACGB-Communique.pdf.

Strategies for preserving and regenerating rural territories can be enhanced by marrying circular economy models with heritage conservation and the sustainable use of traditional land, water, agricultural, and forest management systems. [144] Such approaches would improve the multi-functionality of these systems to support sustainable fishing, agriculture, and rural development. Coastal and island communities, a distinctive part of European cultural heritage, are facing sea level rise and ocean acidification, declining fishing industry, and over-tourism. These areas along with their associated marine ecosystems should also be included in culture-based schemes to promote climate-resilient development and enhance biodiversity and ecosystem services.

Sustainable food systems also rely on seed security and agricultural bio-diversity. [145] Traditional agro-biodiversity species, varieties, and breeds are part of the cultural and natural capital in European regions. Industrial agricultural systems tend to reduce the variety of species cultivated, while the enhancement of agro-biodiversity and the maintenance of diverse, traditional species help to increase the overall resilience of local agriculture. This also improves ecosystems and human health with benefits for the environment and local communities. The European Commission should take measures to support this diversity and to ensure easier market access for traditional and locally adapted varieties.

The market for organic food is set to continue growing and organic farming needs to be further promoted. The Commission has committed to putting forward an Action Plan on organic farming to reach the objective of at least 25% of the EU's agricultural land under organic farming by 2030 and a significant increase in organic aquaculture. The heritage of traditional farming, animal husbandry, and crop cultivation practices is closely aligned with organic farming and should figure in the new Action Plan.

While the topic is complex, the European Green Deal expresses the aspiration that the new post-2020 Common Agricultural Policy (CAP) focus on the European Green Deal by helping farmers to introduce new practices and evolve towards more sustainable models. If well designed, it could be a step towards the remuneration of public goods and environmental services. Heritage offers many agricultural practices beneficial for addressing climate change and the environment and these should be incorporated into Eco-Schemes aims and in national (and regional) CAP Strategic Plans.

More broadly, the Green Architecture of CAP would be enhanced by leveraging the benefits derived by producers and rural communities from culture, land, and heritage conservation and from the cultural and environmental services that arise from the use of heritage systems. These cultural dimensions should be included in payment schemes for ecosystem services, eco-labelling, pay for result, pay for action and other incentive mechanisms. Utilising agroecology elements to guide Member States as they draw up National Strategic Plans (NSP) and design their CAP interventions would help advance these objectives.

[144] See, e.g., Food and Agriculture Organization of the United Nations, 'GIAHS Globally Important Agricultural Heritage Systems,' accessed 25 January 2021. <http://www.fao.org/giahs/en/>.

[145] Food is Culture Report, supra note 141, 7.

Within this context, preserving and restoring the land, freshwater and sea-based resources on which the food system depends will be key. Existing programmes designed to identify and safeguard agricultural heritage systems and their associated landscapes, biodiversity, and knowledge systems should be expanded as part of this effort. Doing so would improve biodiversity and climate adaptation and mitigation while safeguarding cultural resources that contribute to identity, cohesion, tourism, and other co-benefits. Improved land use planning that supports traditional land use patterns and boundaries between rural and urban places would also help.

These measures also enhance resilience of regional and local food systems. Craft and heritage approaches and local and traditional products and gastronomy advance this objective by encouraging seasonal and local food consumption. Such approaches also favour local distribution channels that create shorter supply chains, reducing dependence on long-haul transportation. Supporting local traditions of urban farming/gardening also contributes to the resilience of local foods systems.

A second pillar of the Farm to Fork Strategy is ensuring food security, nutrition, and public health. This includes healthy, sustainable diets and affordable food. Farm to Fork notes that current European food consumption patterns are 'unsustainable from both health and environmental points of view.' [146] Reversing the rise in overweight and obesity rates across the EU is critical. Previously, modern research had a tendency to separate investigations about health outcomes and environmental impacts. Fortunately, cross-disciplinary relationships are bringing these discussions together. To better realise this integration, Farm to Fork initiatives should incorporate the cultural traditions and preferences of Europe's diverse regions as well as the health benefits of traditional European diets.

Linking healthy diets to intangible heritage grounds these efforts in the cultural identity and continuity of local communities. It promotes social exchange and links to the vital role in cultural spaces, festivals and celebrations, bringing together people of all ages, conditions and social classes. This in turn provides an engaging element to the effort to make it easier for consumers to choose healthy and sustainable diets that will benefit them and reduce health-related costs for the public sector. An example is the Mediterranean Diet which in 2013 was inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity. [147] The Mediterranean Diet represents both a healthy dietary pattern and a sustainable one, promoting sustainable agriculture and protecting traditional landscapes. [148]

[146] Farm to Fork, supra note 132, 13.

[147] UNESCO, 'Mediterranean Diet,' accessed 25 January 2021. <https://ich.unesco.org/en/RL/mediterranean-diet-00884>.

[148] See generally Walter Willett, Johan Rockström, Brent Loken, Marco Springmann, Tim Lang, Sonja Vermeulen, et al., 'Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems,' *The Lancet Commissions* 393, issue 10170 (2 February 2019), 447-492. [https://doi.org/10.1016/S0140-6736\(18\)31788](https://doi.org/10.1016/S0140-6736(18)31788). The report sets out a universal healthy 'reference diet' which is similar to the traditional Mediterranean diet in that it is low in red meat and largely plant-based.

Research and innovation (R&I) are key drivers in accelerating the transition to sustainable, healthy, and inclusive food systems. It is critical, however, that R&I include not only technological but social innovation (including agroecology) and that the knowledge and know-how of small-scale producers is harnessed. Cultural heritage offers a host of solutions and market opportunities and these should be included in R&I efforts. A new Horizon Europe partnership for 'Safe and sustainable food systems for people, planet and climate' will put in place R&I governance mechanism to deliver innovative solutions providing co-benefits for nutrition, quality of food, climate, circularity and communities. Cultural heritage safeguarding and the related elements of identity, cohesion, and creativity offer another set of related co-benefits that should be examined.

This should include a reappraisal, from a climate action perspective, of Europe's diverse range of cultural landscapes as multifunctional resources including associated cultural knowledge, traditions, practices, expressions of local communities' identity and belonging, and the cultural values and meanings attributed to those landscapes by past and contemporary peoples. These approaches would also complement the Agricultural Knowledge and Innovation Systems (AKIS), involving all food chain actors.

Finally, the Farm to Fork Strategy provides that the Commission will ensure tailored solutions to help SME food processors and small retail and food service operators. Developing the growing market for craft food products and services should be a part of this, as should promoting financing and quality assurance policies for traditional agricultural products. This would allow such product to reach the market at more affordable prices and with greater consumer confidence. Food-related craft and traditional agricultural heritage practices should also be included in the updated European Skills Agenda.

Key Recommendations

FOR POLICYMAKERS

- Support farmers, fishers, and aquaculture producers to transform agricultural production methods by re-introducing and employing traditional agricultural knowledge and production craft know-how.
- Utilise traditional knowledge to support and enhance effective afforestation, forest preservation, and landscape restoration projects in Europe to help increase the absorption of CO₂ while also minimising adverse impacts on heritage resources from such projects.
- Fully use models of landscape conservation and governance to promote circular territorial metabolisms in historic rural landscapes through synergies between territorial actors for the efficient use of water, energy, wastes and materials, for example promoting waste-to-energy, organic fertilizers, and recovery of heating from production processes.





- Support traditional agro-biodiversity species, varieties, and breeds to ensure easier market access for traditional and locally adapted varieties.
- Incorporate heritage agricultural practices beneficial for addressing climate change and the environment into Eco-Schemes aims and into national (and regional) Common Agricultural Policy (CAP) Strategic Plans, as part of the new post-2020 CAP.
- Support craft and heritage approaches and local and traditional products and gastronomy to enhance resilience of regional and local food systems and encourage seasonal and local food consumption and local distribution channels.
- Incorporate cultural heritage safeguarding and the related co-benefits of identity, cohesion, and creativity in new Horizon Europe partnership for 'Safe and sustainable food systems for people, planet and climate.'

FOR HERITAGE OPERATORS

- Prioritise the identification, documentation, and preservation of learning from traditional agricultural technologies and techniques that support sustainability in contemporary food systems.
- Enhance strategies for preserving and regenerating rural territories by marrying circular economy models with heritage conservation and the sustainable use of traditional land, water, agricultural, and forest management systems.
- Expand existing programmes designed to identify and safeguard agricultural heritage systems and their associated landscapes, biodiversity, and knowledge as part of initiatives to preserve and restore the land, freshwater and sea-based resources on which the food system depends.
- Promote incorporation of the cultural traditions and preferences of Europe's diverse regions as well as the health benefits of traditional European diets into efforts to ensure food security, nutrition, and public health and promote healthy, sustainable diets.

► Case Study

The Slow Food Prud'homie (France)

Improve biodiversity and climate adaptation while safeguarding cultural resources that contribute to identity, cohesion, and other co-benefits

By Madeleine Coste and Yael Pantzer, Slow Food

The Prud'homie community of artisan fishermen on the French Mediterranean coast is a flagship example of Slow Food's work to prevent the disappearance of local food cultures and traditions at risk of extinction. The Prud'homie designates a group of fishermen coming together to jointly manage the resources of the sea in a sustainable way. It is based on a community model that has evolved from medieval trade guilds which have been managing French marine resources for over ten centuries.

Prud'homies play an essential role in the control and conservation of marine zones, preserving a historic cultural model and contributing to everyday port life. Their aims include preserving fish stocks and regulating fishing equipment, restricting total catch, regulating specialization and intensification, encouraging fishers to be versatile and use low intensity fishing gear. The fishermen sell most of the 80 distinct species that they catch directly at the dock.

Prud'homies are represented by the Prud'hommes who are elected by the fishermen themselves, who share their power with the general assembly. They are responsible for organizing fishing in their area, managing common assets, resolving conflicts between fishermen, and maintaining the quality and extent of the marine areas under their authority. There are currently 33 Prud'homies along France's Mediterranean coast and the Slow Food community is composed of the Sanary-sur-Mer and the La Seyne-sur-Mer-Saint Mandrier Prud'homies. Slow Food is working to ensure the survival of this fishing model and is making sure that the community can expand to include more fishers in the project. In 2021 the community will expand its infrastructure at the dock, in order to strengthen its cold chain and be able to include more fishers and staff.

This deeply culturally engrained local governance system stands as a model for how local communities can cope with the challenges of the climate change and biodiversity crises. It contributes to several of the other Farm to Fork objectives, including the protection of coasts while delivering healthy and sustainably produced fish to local citizens, the preservation of local biodiversity, the strengthening of fisheries management in the Mediterranean, and the enhancement of the resilience of local food systems.

Further Reading

- Slow Food Foundation for Biodiversity, 'Mediterranean Prud'homies,' accessed 10 March 2021. <https://www.fondazione Slow Food.com/en/slow-food-presidia/mediterranean-prudhomies/>.
- L'Encre de Mer, Elisabeth Tempier, 'un petit film de Slow Food sur la prud'homie de La Seyne sur Mer à visionner gratuitement sur internet le lundi 14 décembre à 12h,' 11 December 2020. <http://www.l-encre-de-mer.fr/>.
- Elisabeth Tempier, 'La gestion collective de droits d'usage par les Prud'homies méditerranéennes de patrons pêcheurs, un modèle pour l'avenir,' Projet de recherche EnCommuns, January 2018. https://drive.google.com/file/d/1Qczfnd-db2xB7XKc0FfxRM8_kke9wgsW/view.

2.2. Mainstreaming sustainability in all EU policies

Pursuing green finance and investment and ensuring a just transition

The European Commission has estimated that achieving the current 2030 climate and energy targets will require €260 billion of additional annual investment, [149] about 1.5% of 2018 GDP. [150] The magnitude of the investment challenge requires mobilising both the public and private sectors. Pilot projects and other initiatives that address the cultural dimensions of ecological transition and build on the craft and other endogenous capacities of local communities and regions should be financed. Scaling up ‘triple bottom line’ and ‘social investment’ models that link communities, their traditions, livelihoods and cultural heritage to the ambitions of the European Green Deal is one way forward.

In addition, funding should be unlocked in order to allow cultural heritage ministries, boards and other authorities to scale up and proactively engage with European Green Deal initiatives. For example, heritage offices will need increased funding in order to process a greater volume of construction approval applications resulting from the Renovation Wave. As clean energy infrastructure developments further increase, a corresponding increase in the capacity of heritage authorities to proactively aid in design, siting, and permit review is critically needed. These investments will support implementation of the European Green Deal, improve predictability, and reduce expense and delay, while promoting the co-benefit of conserving natural and cultural values.

Public funding alone will not be enough and so the private sector will be key to financing the green transition. Financial products and solutions tailored to historic resources should be included. Examples include incorporating the benefits of historic building reuse into labels for sustainable financial products, such as green mortgages, green loans and green bonds and into whole life-cycle carbon assessments linked to financing for circular solutions. Facilitating the pooling of financing instruments made to support green transitions for historic buildings and craft and creative industries as collateral for the issuance of covered bonds is another solution.

[149] European Commission, ‘United in delivering the Energy Union and Climate Action - Setting the foundations for a successful clean energy transition,’ COM(2019) 285, 18 June 2019, 17.

https://ec.europa.eu/energy/sites/ener/files/documents/recommendation_en.pdf.

[150] These estimates are conservative, as they do not consider, for instance, the investment needs for climate adaptation or for other environmental challenges, such as biodiversity. They also exclude the public investment needed to address the social costs of the transition and the costs of inaction.

Work is currently under way to strengthen the foundations for sustainable investment by means of a new EU taxonomy for classifying environmentally sustainable activities. In order to promote truly sustainable outcomes and encourage co-benefits, this taxonomy must address the social and cultural dimensions of sustainability. While these cultural and social dimensions are not currently well enough developed in the taxonomy conversation, [151] the new EU Taxonomy Regulation [152] adopted in 2020 does include some entry points.

As the European Commission undertakes its delegated tasks under the new Regulation, it should keep a focus on these points by elaborating upon the role of cultural heritage in contributing to environmentally sustainable activities, including cultural ecosystem services and circular economy, and on how harm to these objectives can arise through economic activities that undermine cultural human rights. [153] The new Taxonomy Regulation also promises that 'further guidance on activities that contribute to other sustainability objectives, including social objectives, might be developed at a later stage.' [154] This work should begin immediately and cultural dimensions should be included.

Europe's green transition must also be just and inclusive. It must put people first, and pay attention to the regions, industries and workers who will face the greatest challenges. Since it will bring substantial change, active public participation and confidence in the transition is paramount if policies are to work and be accepted. Achieving equitable and just outcomes demands a focus on people and the co-production of solutions. Rooting just transition initiatives in the culture, heritage, creative industries, craft, and knowledge of local communities will help assure wider acceptance of change and more durable and effective outcomes.

The cornerstone of these efforts within the European Green Deal is the Just Transition Mechanism, [155] including a Just Transition Fund [156] which is a part of the Sustainable Europe Investment Plan and InvestEU. The Fund's stated objective is 'alleviating the economic and social costs the transition towards a climate neutral economy implies,' with a focus on territories facing serious socio-economic challenges. [157]

[151] See generally, EU Technical Expert Group on Sustainable Finance, Final report of the Technical Expert Group on Sustainable Finance, March 2020, 51 ('The TEG considers that a fully realised Taxonomy should incorporate the following additional dimensions (i.e., in addition to the aspects already developed in detail): ... Social objectives, in addition to environmental objectives, to identify substantial contributions in addition to minimum safeguards).

https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf.

[152] Taxonomy Regulation, supra note 61.

[153] See generally Cultural Rights Report, supra note 32.

[154] Taxonomy Regulation, supra note 61, at L 198/14. The new 'European Quality Principles for EU-Funded Interventions with potential impact upon Culture Heritage' provides a starting point for this work. See ICOMOS, European Quality Principles for EU-funded Interventions with potential impact upon Cultural Heritage - Revised edition (ICOMOS International, Paris, November 2020). <https://openarchive.icomos.org/id/eprint/2436/>.

[155] European Commission, 'The Just Transition Mechanism: making sure no one is left behind,' accessed 25 January 2021. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/just-transition-mechanism_en.

[156] European Commission, 'Commission welcomes the political agreement on the Just Transition Fund,' 11 December 2020, https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2354.

[157] European Commission, 'Proposal for a Regulation of the European Parliament and of the Council establishing the Just Transition Fund, COM(2020) 22, January 14 2020, 7. https://eur-lex.europa.eu/resource.html?uri=cellar:b82780d8-3771-11ea-ba6e-01aa75ed71a1.0003.02/DOC_1&format=PDF.

The Just Transition Fund will primarily provide grants to finance three types of projects: [158] 1) Economic revitalisation, including investments in SMEs leading to economic diversification and reconversion and enhancing the circular economy, 2) Social support including upskilling and reskilling of workers, and 3) land restoration. Support will be linked to promoting transition towards low-carbon and climate-resilient activities.

Creative capital, culture and heritage will be indispensable to a just transition and must be recognised in the administration of the Just Transition Mechanism. Culture also can support development of territorial just transition plans. For example, grounding social dialogue around transition in local cultural knowledge and tradition can help authorities to listen to and learn from communities, rather than only aiming to 'modernise' them.

Cultural heritage operators can help encourage local co-creation of transition planning by supporting community-based prioritisation and documentation of the effects of structural changes, for example by taking account of impacts on losses of traditional livelihoods and other elements of cultural significance. Cultural institutions such as libraries and other heritage institutions can serve as platforms for bringing communities together to elaborate such plans. The Council of Europe's 2005 Faro Framework Convention on the Value of Cultural Heritage for Society provides a framework for this work.

Transition plans should also encourage activities that recognise the historic contributions of affected regions, communities, groups, and sectors to the prosperity Europe has enjoyed. Workers, trades, and entrepreneurs that drove the carbon economy fuelled modern Europe. Memorialising these contributions to the Anthropocene can also facilitate moving beyond them by transition to a post-carbon economy. Cultural heritage can support this outcome by documenting, valuing, and celebrating Europe's carbon-heritage in ways that support the pride of local communities and tangible and intangible traditions, for example through community archiving.

Craft heritage and traditional livelihoods can support contemporary re-skilling and economic diversification for job creation and enhanced economic, environmental, and social resilience. Involving craft chambers and organisations, and related VET and CVET, in reskilling, will aid in this process. Opportunities such as these should be included in the updated European Skills Agenda and Pact for Skills and supported within the Just Transition Mechanism. Areas dependent on unsustainable levels of GHG intensive models of tourism also should be eligible for the Just Transition Mechanism and this too will deeply implicate cultural heritage policy.

[158] Id. at 14.

Key Recommendations

FOR POLICYMAKERS

- Mobilise public finance for culture-based green strategies through pilot projects and initiatives that address the cultural dimensions of ecological transition and build on the craft and other endogenous capacities of local communities and regions.
- Include financial products and solutions tailored to historic resources in private sector financing schemes.
- As part of its delegated tasks under the new EU Taxonomy Regulation, the European Commission should elaborate upon the role of cultural heritage in contributing to environmentally sustainable activities, including cultural ecosystem services and circular economy, and on how harm to these objectives can arise through economic activities, include those that undermine cultural human rights.
- Include creative capital, culture, and heritage in the administration of the Just Transition Mechanism and in territorial just transition plans.
- Work with cultural heritage operators to ground social dialogue around just transition planning in local cultural knowledge and traditions.
- Include regions dependent on unsustainable levels of GHG intensive models of tourism in Just Transition Mechanism.

FOR CULTURAL HERITAGE OPERATORS

- Seek out 'triple bottom line' and 'social investment' models that link communities, their traditions, livelihoods, and cultural heritage to the ambitions of the European Green Deal.
- Work with the financial sector to incorporate the benefits of heritage conservation (including historic building reuse) into labels for sustainable financial products, such as green mortgages, green loans and green bonds and into whole life-cycle carbon assessments linked to financing for circular solutions.
- Support community-based prioritisation and documentation of the effects of structural changes, for example by taking account of impacts on losses of traditional livelihoods and other elements of cultural significance.
- Utilise cultural institutions such as libraries and other heritage institutions as platforms for bringing communities together to design a just transition.
- Elaborate how the aims and methodologies set out in the Council of Europe's 2005 Faro Framework Convention on the Value of Cultural Heritage for Society can support a just ecological transition.
- Incorporate craft heritage and traditional livelihoods in contemporary re-skilling and economic diversification for job creation and enhanced economic, environmental, and social resilience.

Greening national budgets and sending the right price signals

National budgets are expected to play a key role in the transition. A greater use of green budgeting tools will help to redirect public investment and taxation to green priorities and away from subsidies at odds with a green transformation. Well-designed tax reforms can boost economic growth and resilience to climate shocks and help contribute to a fairer society and to a just transition. They play a direct role by sending the right price signals and providing the right incentives for sustainable behaviour by producers, users and consumers.

At the national level, the European Green Deal will create the context for broad-based tax reforms. This should include cultural heritage considerations. For example, tax incentive schemes aimed at owners of historic buildings can help them to undertake improvement to buildings' energy performance whilst respecting their heritage values. There is a need to ensure rapid adoption of the Commission's proposal on value added tax (VAT) rates currently on the table of the Council, so that Member States can make a more targeted use of VAT rates to reflect increased environmental ambitions and this should extend to the rehabilitation of historic buildings and other cultural activities that support circular economy outcomes.

Key Recommendations

FOR POLICYMAKERS AND CULTURAL HERITAGE OPERATORS

- Include heritage considerations in national level, Green Deal-based tax reforms, for example, by expanding tax incentive schemes aimed at owners of historic buildings.

Mobilising research and fostering innovation

New technologies and innovation are critical to achieve the objectives of the European Green Deal. At the same time, the pursuit of 'novel' solutions should not obscure the enormous potential of traditional knowledge and know-how and craft skills as contemporary climate technology. [159] Both the application of these types of knowledge to contemporary contexts and the application of 'disruptive' technology to traditional contexts should be pursued. Valorisation of not only cutting-edge research but also application-oriented research, such as that conducted by craft trade institutions, as well as the leveraging of creative industries, would mobilise all efforts and ideas for sustainability and the reduction of GHGs.

Such balanced efforts should be supported by accompanying research and innovation projects both on European and Member State levels and scaled out via enabling policies and instruments. For example, the full range of instruments available under the Horizon Europe programme should be marshalled to support research, development, and entrepreneurship on the scalability of craft and heritage knowledge as contemporary climate technology. This research can also support a shift in the perception and recognition of entrepreneurs in the craft and cultural heritage fields relative to participation in climate actions. Research and innovation can also support the adaptation of traditional land use (agriculture, horticulture and gardens) to address and respond to the twin contemporary crises of biodiversity loss and climate change. Open access and open science approaches in relevant disciplines will maximise the reach of this work.

Dedicated funding, equity investment, and business acceleration services should be provided via the European Innovation Council to start-ups, craft and other SMEs looking to scale proposals rooted in the European craft sector, the creative industries and traditional knowledge as breakthrough Green Deal innovations.

Craft, Baukultur and cultural heritage should be treated as circular innovations within the European Regional Development Fund, particularly through smart specialisations (acknowledged by both the new Circular Economy Action Plan as well as the 2018 New European Agenda for Culture) to complement private innovation funding and support the whole innovation cycle with the aim of bringing solutions in these areas to the market. Cultural heritage, traditional knowledge, and craft strategies should also be included in the four 'Green Deal Missions' in order to help deliver large-scale changes in areas such as adaptation to climate change, oceans, cities, and soil.

In order to capitalise on the strength of Europe's culture sector, cultural heritage entrepreneurship should play a crucial role within the 'knowledge triangle' (business, education and research) of the European Institute of Innovation & Technology (EIT)'s new Culture and Creative Industries (CCI) Knowledge and Innovation Community (KIC). In addition, transversal relations should be developed between the CCI and the EIT Climate-KIC. The inclusion of 'cultural heritage facing climate and environmental change' as a new priority order in the JPI CH Strategic Research and Innovation Agenda 2020 provides a valuable opportunity to encourage interdisciplinary approaches and foster partnerships to advance understanding of the role cultural heritage can play in achieving the ambitions of the European Green Deal. [160]

[159] See generally, United National Framework Convention Technology Executive Committee, Developing and Enhancing Endogenous Capacities and Technologies, Technology Stakeholders' Perspectives (United Nations, Bonn, 2018), available from <https://unfccc.int/ttclear/endogenous>.

[160] Joint Programming Initiative on Cultural Heritage and Global Change, 'Strategic Research and Innovation Agenda 2020,' 2020. http://jpi-ch.eu/wp-content/uploads/2156_JPI-Cultural-Heritage.pdf.

The European Institute of Innovation and Technology can also be utilised to promote collaboration among higher academic and higher vocational education institutions, research organisations and companies to support technology and knowledge transfer of heritage technologies in connection with climate change, sustainable energy, food for the future, and smart, environmentally-friendly and integrated urban transport. The objectives of decarbonisation, circularity, and sustainability should similarly be emphasised in VET, CVET and Higher VET in order to mobilise the innovative modalities of traditional craft trades in support of European Green Deal objectives.

Key Recommendations

FOR POLICYMAKERS AND CULTURAL HERITAGE OPERATORS

- Valorise application-oriented research, such as that conducted by craft trade institutions, as well as the leveraging of creative industries, in research and innovation efforts for sustainability and the reduction of GHGs.
- Support research, development, and entrepreneurship on the scalability of craft and heritage knowledge as contemporary climate technology through the Horizon Europe programme.
- Ensure, via the European Innovation Council, dedicated funding, equity investment, and business acceleration services to start-ups, craft and other SMEs looking to scale proposals rooted in the European craft sector, the creative industries, and traditional knowledge as breakthrough Green Deal innovations.
- Recognise craft, Baukultur, and cultural heritage initiatives as circular innovations within the European Regional Development Fund, particularly through smart specialisations. Duly include cultural heritage, traditional knowledge, and craft strategies in the four 'Green Deal Missions' in order to help deliver large-scale changes in areas such as adaptation to climate change, oceans, cities, and soil.
- Grant cultural heritage entrepreneurship a crucial role within the 'knowledge triangle' (business, education, and research) of the European Institute of Innovation & Technology (EIT)'s new Culture and Creative Industries (CCI) Knowledge and Innovation Community (KIC), while also developing transversal relations between the CCI and the EIT Climate-KIC.

Activating education and training

Cultural heritage, creative industries, and craft are well placed to engage with pupils, students, teachers, parents, and the wider community on the changes needed for a successful transition to a low carbon, climate resilient future. Our cultural heritage is what makes us European, as it reflects our varying and shared values, cultures, and memories. It feeds both a sense of belonging to a local community and the sense of cohesion and solidarity that can support the capacity and the will for ambitious climate action. It provides knowledge and know-how for the development of grassroots initiatives on climate change and environmental protection. Culture and heritage are also uniquely situated to help communicate about climate change.

Unlocking this potential requires that those working in the environment and climate fields have an understanding of the cultural dimensions of climate change and climate action and so training on these topics should be enhanced. Circular economy and sustainable and low-carbon approaches should be emphasised in VET and CVET and those curricula should promote an understanding of culture, craftsmanship, and local entrepreneurial responsibility in society.

Improving education, communication, and training for heritage professionals and decision makers about climate change and its various impacts will be key. Training on how to communicate about climate change, including how to effectively assess and explain to other the impacts of climate change on cultural heritage would help immensely.

Maximising engagement by creative industries and cultural heritage with transformative climate action also calls for developing new curricula and dimensions in the education and training of those working in and with these fields, which go beyond the 'usual' competences and skills of those fields. These new dimensions should include climate change-related topics like understanding climate modelling and the downloading of climate scenarios, as well as other transversal, multidisciplinary topics to support entrepreneurship and innovation, such as management, communication, fundraising and ethics. The climate action implications of new forms of heritage such as digitised collections and born-digital heritage should also be addressed.

These and other measures can support a dramatic increase in messaging on climate change matters by cultural institutions, including galleries, libraries, archives, and museums, culture and heritage boards and agencies, craft chambers, and cultural heritage organizations, sites, and constituencies. This can include popular culture figures and also local communities' leaders and traditional knowledge holders, whose commitment to the multigenerational sustainability of their communities positions them to become effective climate action influencers.

The power of cultural heritage to serve as a vector for climate communications can further be realised by incorporating attention to climate adaptation and GHG reduction into programs, tours, exhibitions, cultural routes, and other projects (e.g., European Heritage Days, the Journées européennes des métiers d'art, European Artistic Craft Days, Europäische Tage des Kunsthandwerks). This would reinforce the role of creativity, culture, and heritage in social cohesion, social integration, and equity in support of local engagement on climate action.

Culture and heritage institutions can also serve as platforms for listening to communities and providing open opportunities to inspire voluntary participation in advocacy and collective climate action. Public cultural institutions like libraries and museums have traditionally been hubs of multicultural exchange and knowledge-sharing and this function should be leveraged in support of the European Green Deal.

Heritage conservation efforts also lend themselves well to citizen science, community observations, and other initiatives aimed at developing knowledge of the interactions between climate and weather events and local cultural resources and practices. Examples include citizen monitoring of impacts of slow onset events (e.g., sea level rise) on coastal archaeology and other cultural heritage resources. The fruits of such efforts can serve both as a planning tool and to mobilise climate action.

Education efforts should reinforce the role of documentary heritage, including in digital form, as well as memory institutions, such as libraries and archives, which preserve and provide access to this heritage, as vectors for climate education, and sources of knowledge in support of climate action and science.

Every place has a climate story. [161] Developing these stories about iconic places and including information about climate change in the interpretation of cultural sites can enhance public understanding of the threat and the challenge of climate change, emphasise the importance of urgent action, and build social cohesion and resilience. This is nowhere more the case than at Europe's World Heritage, European Heritage Label, and other iconic heritage sites, which possess a 'signalling' power that is unique. [162]

[161] See generally Marcy Rockman, Marissa Morgan, Sonya Ziaja, George Hambrecht, and Alison Meadow, *Cultural Resources Climate Change Strategy* (Washington, DC: Cultural Resources, Partnerships, and Science and Climate Change Response Program, U.S. National Park Service, 2016), 30-31.

https://www.nps.gov/subjects/climatechange/upload/NPS-2016_Cultural-Resoures-Climate-Change-Strategy.pdf.

[162] *Future of Our Past*, supra note 9, 56.

Key Recommendations

FOR POLICYMAKERS AND CULTURAL HERITAGE OPERATORS

- Enhance training on the cultural dimensions of climate change and climate action for those working in the environmental and climate fields.
- Maximise engagement by creative industries and cultural heritage with transformative climate action by developing new curricula and dimensions in the education and training of those working in and with these fields.
- Dramatically increase messaging on climate change matters by cultural institutions, culture and heritage boards and agencies, craft chambers, and cultural heritage organizations, sites, and constituencies. Incorporate attention to both climate adaptation and GHG reduction into programs, tours, exhibitions, cultural routes, and other projects
- Use cultural institutions as platforms for listening to communities, while providing open opportunities to inspire voluntary participation in advocacy and collective climate action.
- Reinforce the role of documentary heritage, including in digital form, as well as memory institutions, such as libraries and archives, as vectors for climate education, and sources of knowledge in support of climate action and science.
- Leverage the signalling power of Europe's World Heritage, the European Heritage Label, the European Heritage Awards/Europa Nostra Awards, the 7 Most Endangered Programme and other iconic heritage sites, to enhance public understanding of the threat and challenge of climate change, emphasise the importance of urgent action, and build social cohesion and resilience.

3. THE EU AS A GLOBAL LEADER (and listener!)

The global challenges of climate change and environmental degradation require a global response. The European Green Deal pledges that the EU will promote and implement ambitious environment, climate, and energy policies across the world. It provides that the Commission and the High Representative of the Union for Foreign Affairs and Security Policy will work closely with Member States to mobilise all diplomatic channels for 'green deal diplomacy' focused on sustainable development. The time is ripe to expand the EU's external relations action to include culture and heritage-based strategies for implementing the Paris Agreement, achieving the aims of the European Green Deal, and localising the SDGs.

The Paris Agreement remains the indispensable multilateral framework for tackling climate change. The submission of new National Determined Contributions (which were called for by December 31, 2020), the UN Framework Convention on Climate Change Conference of Parties (COP26) in Glasgow in November 2021, and the upcoming global stocktake in 2023 represent key inflection points for climate action. The UN Sustainable Development Goals (SDGs) represent a shared vision to end poverty, rescue the planet and build a peaceful by 2030 that should complement the Paris Agreement. With just 10 years to go, the 2020s represent a critical 'Decade of Action' for the SDGs.

These and other key global frameworks already recognise the role of cultural heritage as an enabler and driver of sustainable development, [163] sustainable urbanism, [164] disaster risk reduction, [165] and climate action. [166] A notable example is SDG Target 11.4, which provides that strengthened efforts to protect and safeguard the world's cultural and natural heritage make for more inclusive, safe, resilient, and sustainable cities and human settlements. [167] The climate change goal, SDG13, similarly provides multiple entry points for cultural heritage, [168] including Target 13.1 on strengthening resilience and adaptive capacity and Target 13.3, which calls for improving awareness-raising and human and institutional capacity on climate change mitigation and adaptation.

[163] See, e.g. United Nations, General Assembly, 'Transforming our world: the 2030 Agenda for Sustainable Development,' A/RES/70/1 (25 September 2015), available from https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E, SDG Targets 8.9 and 11.4).

[164] See, e.g. New Urban Agenda (2016), Sections 38, 45, 60, 97, 124 and 125. <https://habitat3.org/the-new-urban-agenda/>.

[165] See, e.g., Sendai Framework for Disaster Risk Reduction 2015-2030, Sections 16, 19(c), 19(d), 24, 29 and 30. <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>.

[166] See supra note 27.

[167] UN SDGs, supra note 163, page 22/35. As a transversal theme, culture plays a role in every SDG. In addition to SDG 11 and 13, cultural dimensions are especially pronounced with targets like inclusive and equitable quality education (SDG4); sustained, inclusive and sustainable economic growth (SDG8); lifestyles in harmony with nature (SDG12); conservation and sustainable use of ecosystems and their services (SDG15) and peaceful and inclusive societies (SDG16). See generally, Potts, supra note 79, 231; Culture2030Goal campaign, Culture in the Implementation of the 2030 Agenda (Barcelona, Paris, Harare, Sydney, Montreal, The Hague and Brussels, September 2019). http://agenda21culture.net/sites/default/files/culture2030goal_high.pdf.

[168] See [ICOMOS Climate Change and Heritage Working Group], 'NGO Input Survey 2019 – SDG13 [Report on the Cultural Heritage Dimensions of Implementing SDG13],' 2019. <https://public.3.basecamp.com/p/z9CYZC4Wn4bJsUDewZxgighF>.

The Global Strategy for the European Union's Foreign and Security Policy [169] has identified cultural diplomacy as a new field for EU joined-up external action. The European Commission's 2018 European Agenda for Culture similarly includes plans to strengthen Europe's international cultural relations to promote the role of culture in identity and cohesion, socio-economic development, and nurturing peaceful relations. The Council conclusions on the Work Plan for Culture 2019-2022 [170] include both 'Sustainability in cultural heritage' and 'International cultural relations' as priorities.

To achieve these goals, the European Consensus on Development, [171] which is a part of EU response to the UN 2030 Agenda, already recognises the role of culture as both an enabler and an important component of development, facilitating social inclusion, freedom of expression, identity building, civil empowerment and conflict prevention, while strengthening economic growth. [172] This should be extended to fully recognise the role of cultural heritage in climate resilient development pathways. Cultural heritage should be embedded within its 'People, Planet, Prosperity, Peace, Partnerships – 5Ps' framing as a crosscutting element and in particular within 'Planet-Protecting the environment, managing, natural resources and tackling climate change' and 'People-Human development and dignity.'

The recently announced Open Method of Coordination (OMC) group of Member States' experts on Strengthening Cultural Heritage Resilience for Climate Change [173] presents an opportunity to advance this aim. The group has committed to addressing and emphasising the international dimension of its assigned topic, with a focus on the Paris Agreement and SDG13. The newly published Brainstorming Report on Culture and the Sustainable Development Goals, [174] organised in the framework of the Structured Dialogue between the European Commission and the culture sector, is an important contribution to examine the challenges and opportunities for culture in Europe in relation with the SDG13.

[169] European Union, 'Shared Vision, Common Action: A Stronger Europe A Global Strategy for the European Union's Foreign And Security Policy,' June 2016. https://eeas.europa.eu/sites/eeas/files/eugs_review_web_0.pdf.

[170] Council of the European Union, 'Council conclusions on the Work Plan for Culture 2019-2022,' 15 November 2018. <https://data.consilium.europa.eu/doc/document/ST-13948-2018-INIT/en/pdf>.

[171] 'The New European Consensus on Development 'Our World, Our Dignity, Our Future,'" Joint Statement by the Council and the Representatives of the Governments of the Member States Meeting Within the Council, the European Parliament and the European Commission,' 2017. https://ec.europa.eu/international-partnerships/system/files/european-consensus-on-development-final-20170626_en.pdf.

[172] Id. at 16.

[173] Council of the European Union, 'Open Method of Coordination (OMC) group of Member States' experts on Strengthening Cultural Heritage Resilience for Climate Change- Final mandate,' 12 October 2020. <https://data.consilium.europa.eu/doc/document/ST-11535-2020-INIT/en/pdf>.

[174] Voices of Culture, 'Brainstorming Report Culture and the UN Sustainable Development Goals: challenges and opportunities,' February 2021. <https://voicesofculture.eu/wp-content/uploads/2021/02/VoC-Brainstorming-Report-Culture-and-SDGs.pdf>

European and global cultural networks should be involved in the elaboration and delivery of these processes. The Horizon 2020-funded project ILUCIDARE provides a model. In 2019, Paris-based ICOMOS released 'The Future of Our Pasts: Engaging Cultural Heritage in Climate Action' [175] which seeks to comprehensively outline ways in which cultural heritage intersects with the ambitions of the Paris Agreement. As the EU works to engage more intensely with partners to help them to implement their NDCs and devise more ambitious climate strategies, the Future of Our Pasts is a roadmap to how culture can help. The Cultural Relations Platform, funded by the Partnership Instrument (Service for Foreign Policy Instruments) supporting EU engagement in international cultural relations, could also support engagement on climate issues.

Italy will host the G20 Summit in 2021 and has already promised to make cultural heritage and climate change a part of the work plan. This is a valuable opportunity to use cultural heritage as a vector to enhance the aims of the European Green Deal, feeding into COP26.

In parallel, the EU will step up bilateral engagement with partner countries and, where necessary, establish innovative forms of engagement. This will require tailor-made geographic strategies that reflect different contexts and local needs. Integrating local culture and heritage into these engagements would do just that by helping to assure people-centred, participatory culturally appropriate approaches to climate action.

The ecological transition for Europe can only be fully effective if the EU's immediate neighbourhood also takes effective action. Efforts to promote a green agenda for the Western Balkans and environment, energy, and climate partnerships for the Southern Neighbourhood and within the Eastern Partnership should include cultural heritage. Creative Europe and its specific 'window' calls (e.g., Cultural Cooperation Projects in the Western Balkans), the upcoming WB Culture programme, and the Innovation Agenda for the Western Balkans, as well as the Instrument for Pre-Accession Assistance (IPA), all provide opportunities. This can be done by including cultural heritage and climate issues in IPA 'Chapters' of the *acquis* regarding environment, social policies and employment, as well as education and culture, science and research.

Africa presents another key opportunity. Africa and Europe can each learn from the culture, heritage, and traditional knowledge of the other in order to advance their shared interests in implementing Agenda 2030, tackling the climate emergency, and ensuring food security. Integrating cultural heritage rights-based approaches (RBAs) [176] into the EU's NaturAfrica [177] initiative would enhance its aim of tackling biodiversity loss by helping to protect the rights of, and empower, the Indigenous Peoples and vulnerable local communities which are often best placed to support protected areas. Similar opportunities exist around the world, including between the EU, Latin America, and the Caribbean.

[175] Future of Our Pasts, *supra* note 9.

[176] See ICOMOS, 'Our Common Dignity Initiative - Rights-based Approach,' accessed 25 January 2021. <https://www.icomos.org/en/focus/our-common-dignity-initiative-rights-based-approach/57947-our-common-dignity-initiative-rights-based-approach>.

[177] European Green Deal, *supra* note 1, 20-21.

To sustain all these initiatives, the full support of the European Commission, the High Representative, and their services, including the European External Action Service (EEAS), should be given to drawing up a comprehensive step-by-step approach to international cultural relations. This document should include cross-cutting European Green Deal diplomacy and broader strategic communications with respect to the Paris Agreement and the 2030 Agenda. In addition, cultural focal points in EU Delegations should be trained on the cultural dimension of climate action and the dissemination of best practices regarding cultural heritage and climate change.

In addition, the New European Bauhaus is envisioned as a hub for global networks and experts, including a commitment that its Second Wave in 2023 will include 'Bauhaus projects and network in and outside Europe.' [178] This presents an opportunity to network Europe's rich cultural heritage, vibrant culture, and creative industries as well as the strong craft and SME sector with peers around the world in support of bringing the European Green Deal to life.

Key Recommendations

FOR POLICYMAKERS

- Expand the EU's external action to include culture and heritage-based strategies for implementing the Paris Agreement, achieving the aims of the European Green Deal, and localising the SDGs, building on the Global Strategy for the European Union's Foreign and Security Policy, the European Commission's 2018 European Agenda for Culture and the Council's Work Plan for Culture 2019-2022.
 - Fully recognise the role of cultural heritage in climate resilient development pathways, embedded within the 'People, Planet, Prosperity, Peace, Partnerships' framing of the European Consensus on Development.
 - Include cultural heritage and climate issues in efforts to promote a green agenda for the Western Balkans and environment, energy, as well as climate partnerships for the Southern Neighbourhood and within the Eastern Partnership.
 - Integrate cultural heritage rights-based approaches (RBAs) into the EU's NaturAfrica initiative to enhance its aim of tackling biodiversity loss by helping to protect the rights of, and empower, the indigenous peoples and vulnerable local communities which are often best placed to support protected areas.
- ↓
- Train the cultural focal points in EU Delegations on the cultural dimension of climate action and the dissemination of best practices regarding cultural heritage and climate change.

[178] Bauhaus EU Factsheet, supra note 36.



FOR CULTURAL HERITAGE OPERATORS

- Prioritise incorporation of culture and heritage into the EU's work to address the intersections of climate change, conflict, food insecurity as well as displacement and migration, and to support a just transition globally.
- Leverage the G20 Summit 2021 to advance cultural heritage as a vector to enhance the aims of the European Green Deal, feeding into COP26.
- Engage the European Commission, the High Representative, and their services, including the European External Action Service, in drawing up a comprehensive step-by-step approach to international cultural relations, including cross-cutting European Green Deal diplomacy and broader strategic communications with respect to the Paris Agreement and the 2030 Agenda.
- Utilise the New European Bauhaus Second Wave as an opportunity to network Europe's rich cultural heritage, vibrant culture, and creative industries as well as the strong craft and SME sector with peers around the world in support of implementing the European Green Deal objectives.

► Essay

Culture heritage in 'green deal diplomacy'

By Dr Jermina Stanojev, Independent expert / Uppsala University

'Green deal diplomacy' links the two policy domains of foreign affairs and climate policy. Adopting an overarching approach to international cultural relations and cultural heritage that embraces cross-cutting European Green Deal diplomacy would trigger competitive thinking and open up a discussion on the cultural dimensions of global challenges.

'Green deal diplomacy' links the policy domains of foreign affairs and climate policy. Adopting an overarching approach to international cultural relations and cultural heritage that embraces cross-cutting European Green Deal diplomacy would trigger competitive thinking and open up a discussion on the cultural dimensions of global challenges. This approach would induce growth in multiple policy areas including not only climate, cultural heritage, governance, but also technology and innovation. In an increasingly knowledge driven world, this should lead to changes in the roles of diplomats, on one hand, and on the other hand shift towards more proactive, rather than reactive, actions of culture and cultural heritage organizations and enterprises, artists, advocacy groups, educational institutions and others to promote this link, nationally even more important - internationally.

There is no research and advocacy tradition on which this approach can be built. It will require bringing together insights from several disciplines in newly blended frameworks. Within these frameworks, trends in the fields of climate and cultural heritage, particularly in the field of international relations (including changes in the mechanisms and institutions for global governance) must be discussed and explored. The potential result could be a new future for international cultural relations, one where sustainability and cross-cutting governance can be explored and concretely promote sustainability, both nationally and internationally.

The issues tackled within the European Green Deal are global issues, therefore, they require an answer at the global level. Climate change is currently impacting cultural heritage globally and cases in one country cannot and should not be isolated from another country or a continent. Despite advances in the understanding of the relationship between climate change impacts and cultural heritage, there are barriers that hamper upscaling the topic and a global response to this issue when it comes to cultural heritage – from both, governmental and non-governmental sectors.

The focus of international cultural relations should be expanded to include the Paris Agreement, New Urban Agenda, the 2030 Agenda for Sustainable Development and its Sustainable Development Goals and other relevant international frameworks, while cultural heritage, cultural diversity, culture and creative sectors within Europe should systematically embrace present external strategies for climate action.

Pressing global environmental issues have been tackled by some cultural and cultural heritage organisations. An increasing number of artists are addressing issues of climate change in their artistic practices, too. Most of these initiatives use arts and culture primarily to raise awareness about the impact of climate change and align their practices with principles to minimise or neutralize their own impact. However, climate change has to be tackled on diverse scales - from each cultural good to each cultural heritage landscape, from cities and regions to countries, from authorities to non-governmental organisations and private sector, individuals and networks, through continuous exchange with peers - internationally and intergenerationally.

Although climate change has been confirmed as one of the most significant and fastest growing threats to people and their cultural heritage worldwide, the response has not been aligned yet globally and politically. In an increasingly complex world, this requires a progressively complex response from all levels.

Further Reading

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4. CONCLUDING REMARKS

'All EU actions and policies will have to contribute to the European Green Deal objectives.' [179] 'Intense coordination' will be required 'to exploit the available synergies across all policy areas.' [180] If these words from the European Green Deal are true, they must surely apply to cultural heritage.

Cultural heritage offers immense and virtually untapped potential to support just transition to the low carbon, climate resilient futures envisioned by the European Green Deal. Given the nature and scale of the challenges, how heritage operators conceive of heritage and how it is managed must take onboard the imperatives of the climate emergency. New, multi-disciplinary approaches will be required if the full potential of heritage is to be realised. While the culture and heritage fields must intensify their climate action, so too must those responsible for implementing the European Green Deal intensify their engagement with the cultural dimensions of climate action if the objectives of the European Green Deal are to be achieved.

This Green Paper is designed to provide a benchmark against which the culture and heritage fields may measure their work to advance the European Green Deal as well as a tool for climate policymakers to increase their engagement with the culture field. The vision is to help create bridges and cooperation across heritage, culture, sustainability, climate science and climate action, to inspire and stimulate new approaches so that Europe may achieve its green transition – together.

[179] European Green Deal, *supra* note 1, 3.

[180] *Id.*

FURTHER READING

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Mobilising industry for a clean and circular economy

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