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Barcelona

Series **Culture**

1

Culture, the environment and the climate emergency

How to act in the field of local cultural policies
and management



Series **Culture**

The set of transformations caused by climate change in the natural environment is having increasingly evident effects and situations such as those caused by the continuous rise in temperature, the decrease in rainfall in the Mediterranean region, the increased risk of fires or the worsening of air quality, among others, are likely to increase if urgent action is not taken to reverse it. The purpose of this report is to provide local governments and other cultural actors with a broad perspective on the connections between culture, the environment and the climate emergency. Barcelona Provincial Council believes that all areas of public policy should incorporate a climate emergency perspective across the board. In this case, approaching it from the field of culture enables investigating and promoting ways of thinking and acting that contribute to mitigating its effects and to generating practices aimed at improving the balance of ecosystems.



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How to act in the field of local cultural policies
and management

This document is sponsored by the Centre for Cultural Studies and Resources (CERC) of Barcelona Provincial Council and drafted by the team at Innovación, Transferencia y Desarrollo (ITD).

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The graphics in the document have been created by ITD.

The team responsible for the report would like to thank all the people interviewed in the course of the project, as well as the members of the advisory group. More details about the participants and contributors can be found in the credits and acknowledgements section.

1st edition December 2021

© of the edition: Barcelona Provincial Council

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Production and publication: Barcelona Provincial Council Sub-directorate for Corporate Image and Institutional Promotion

Layout: Fotocomposició gama, sl

ISBN: 978-84-19091-47-5

Legal deposit: B 23398-22

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Foreword

This document is the result of a study promoted by the Department of Culture of the Barcelona Provincial Council, which analyses the relations between culture, the environment and the climate emergency from the perspective of cultural policies and management at local level.

This report is a response to the objectives of the current mandate of Barcelona Provincial Council: first, to promote the adoption in Catalonia of the agreements established by the New Urban Agenda and the Sustainable Development Goals (SDGs) for the eradication of poverty, the fight against inequality and injustice, and, second, to curb climate change. One of the priorities in this regard is to reinforce the powers of the municipalities in the Barcelona area so that they can be pioneers in implementing the actions set out in the 2030 Agenda and in integrating the SDGs into the political and management cycle, and also to provide them with the capacity to adhere to the initiatives that are being carried out in their region and at international level.

The set of transformations caused by climate change in the natural environment is having increasingly evident effects, to the extent that the term *climate change* is being abandoned in favour of *climate emergency* or *crisis*, which more forcefully reflect the magnitude of the consequences triggered by global temperature increases. The climate crisis affects the lives of everyone, and situations such as those caused by the continuous rise in temperature, the decrease in rainfall in the Mediterranean region, the increased risk of fires or the worsening of air quality, among others, are likely to increase if urgent action is not taken to reverse it.

Although Catalan public institutions (the Government of Catalonia, provincial councils, city and town councils and regional councils) have begun to define and apply strategies to combat climate change, they are generally carried out by departments more closely linked to the environment, waste management, transport, mobility, or even the economy. Nevertheless, Barcelona Provincial Council believes that, regardless of the way in

which this issue is specifically managed by these departments, all other areas of public policy should also incorporate a climate emergency perspective across the board.

Taking into account the climate emergency in fields such as education, health and culture enables the exploration and promotion of ways of thinking and acting that contribute to mitigating the effects of climate change and to generating practices aimed at improving the balance of ecosystems.

The overall objective of the project is to provide local governments in the Barcelona area with an overview and a practical framework that demonstrates the connections between culture, the environment and the climate emergency. The report identifies possible courses of action for municipalities – and other interested actors – who want to imbue their cultural policies with a perspective that connects culture and the environment, as well as to consider climate emergency issues when planning, designing and executing their public action in the cultural field.

JOAN CARLES GARCÍA CAÑIZARES
Executive Chairman of the Department of Culture

1. Introduction: context, objectives and methodology

1.1. Context and objectives

The effects of human activity on the natural system and the configuration of the Earth, and especially its impact on climate, have become an unavoidable issue in any deliberation on the future of our society. What we now call the *climate emergency* transforms the natural environment and ways of life, affects the viability of many existing practices and, as such, has an impact on all areas of public action.

Aside from the consideration given to the issue in areas such as energy policies, care for natural areas, mobility, the promotion of a circular economy and waste management, other public policy areas must also adopt this perspective. And they must do so first because dealing with the climate emergency requires the adopting of a systemic vision and reviewing practices and ways of doing things that may be harmful to the planet and its ecosystems. And moreover, because reflecting on the issue in areas such as education, health and culture enables the exploration and promotion of ways of thinking and acting that contribute to mitigating the effects of climate change and to generating practices aimed at achieving the stability of the Earth's system and avoiding exceeding the nine planetary boundaries that the Stockholm Resilience Centre considers key to the habitability of the planet: climate change, ocean acidification, stratospheric ozone depletion, biodiversity loss and overexploitation of freshwater, among others.

In this critical context, where the interrelationships between cultural, social, environmental and economic aspects have become apparent, it is worth recalling that the links between culture and the climate emergency are manifold. When analysed in detail, it is clear that existing forms of production and consumption in many societies around the world have been built on the basis of certain cultural values and patterns (consumerism, disregard for what is traditional and natural, constant search for in-

novations, etc.) and, therefore, a cultural change is necessary to combine social behaviour with environmental conservation.

To put it in more positive terms, “sustainability is about re-inventing worlds, and is thus primarily a cultural project” (Kagan, 2015). Moreover, in terms of the more tangible and visible aspects of culture, the connections with the climate emergency range from traditional knowledge and practices related to the care of natural resources to the harmful effects that major events or the construction of large facilities, among others, can have on the environment, as well as the involvement of artists and creative collectives in awareness-raising and mobilisation actions in relation to the climate emergency.

The conclusion is therefore twofold. First, all public policies and related management processes must today take into account the climate emergency. And second, cultural aspects are key in this regard, for everything that they can contribute and change in terms of sustainability, and because they can act as vectors for communication, awareness-raising and transmission of practices and values. This twofold conclusion is the origin of this report. This study therefore offers an operational and practical framework for local governments in the province of Barcelona, and other interested actors, to demonstrate the interconnections that exist between culture, the environment and the climate emergency, and to identify courses of action, especially from the perspective of cultural management and policies at local level.

Ultimately, the aim is to provide municipal cultural services and other local cultural actors with practical guidelines for engaging in actions related to the environment, the ecological transition and the climate emergency. Among other things, this could involve providing input into local strategies or cross-cutting working groups in these areas, or adapting practices, developing programmes and projects, or responding to and speaking out for the demands of citizens in relation to the climate emergency.

Aware that the relationship between culture, the environment and the climate emergency is complex and requires new approaches and tools, the report has been drafted based on the following objectives:

- Describe in a comprehensible and detailed manner the interconnections between culture, the environment and the climate emergency, and translate these into a set of practices, projects and policies at local level.
- Identify existing experiences, such as in the province of Barcelona, in other municipalities in Catalonia or abroad, to illustrate the aforementioned set of practices.
- Define tools, recommendations and types of measures that can be taken by governments and other local cultural actors to strengthen the

link between culture, the environment and the climate emergency in the various areas of action identified.

1.2. Methodology

This report was commissioned by Barcelona Provincial Council's Centre for Cultural Studies and Resources (CERC) from Innovación, Transferencia y Desarrollo (ITD), a member of the Trànsit Projectes group, and is part of the CERC's Study Programme, which aims to provide local authorities with a series of conceptual tools and knowledge of the region to help them define policies and decision-making in the field of culture. The project was launched in November 2020 and went on for about eight months, until June 2021.

The team responsible for this report, in permanent contact with the CERC, designed a methodology adapted to the nature of the objectives set. The following aspects are worth mentioning in particular:

- **Phase 1: contextualisation and advice.** During the initial phase of the project, CERC and the research team assessed and agreed on the overall expectations and focus of the report. They met with the Technical Office for Environmental Education and Promotion of the Barcelona Provincial Council Department of Environment Services Management Office to explore issues of common interest within the framework of the project and to learn about the experiences of the Department for Climate Action to which this Technical Office belongs. In addition, the project's expert advisory group, consisting of seven people with expertise in various subjects of interest to the project, was set up to accompany the process of drafting the report and provide input. The project's expert advisory group was made up of the following people:
 - Gemma Carbó, Director of the Museum of Rural Life in L'Espluga de Francolí, of the Carulla Foundation.
 - Vanesa Freixa, illustrator, cultural manager and promoter of the rural environment.
 - Jordi Juanós, Director of the Plant-for-the-Planet Foundation.
 - Blanca Martínez de Foix Romance, Head of the Technical Office for Environmental Education and Promotion, Barcelona Provincial Council.
 - Jordi Pascual, Coordinator of the Committee on Culture of United Cities and Local Governments (UCLG).
 - Laia Sanahuja, management technician of the Business Development Service, Catalan Institute for Cultural Companies (ICEC).

- Ana Villagordo, consultant in environmental communication projects, creative strategy and conscious consumption.

The expert advisory group met for the first time in mid-December 2020 and again in July 2021 to assess the draft report and provide input.

- **Phase 2: Bibliographic analysis.** Given the existence of a substantial bibliography and significant initiatives on the topics addressed, the work process involved identifying and analysing documentation on culture, the environment and the climate emergency, especially the most fundamental references for local cultural management and policies. The information reviewed has been incorporated mainly in the second chapter of the report and has also been used for the preliminary identification of the initiatives analysed in the third chapter. Some practical references have also been included in the toolkit for action in the last chapter.
- **Phase 3: project analysis and interviews with key actors.** On the basis of the information collected, a list of some 20 significant projects in terms of the project's topics of interest was drawn up in February 2021, selected from a larger list of around 50 initiatives. Overall, the selected projects cover a diverse range of approaches to the relationship between culture, the environment and the climate emergency (conservation and appreciation of heritage in rural environments); artistic explorations of the environment and the climate emergency; participatory and environmental education projects; cross-cutting local policies and strategies; etc.), as well as different models of organisation and process management. Thus, between February and April, interviews were held with the leaders of most of the identified projects.¹ The information collected is mostly included in the third chapter of the report. Some observations from the discussions have also been incorporated into the more general reflections in the second chapter and the recommendations and tools presented in the last chapter.
- **Phase 4: preparation of the final report.** The last phase of the work process was the preparation of an initial draft report by the research team between April and May 2021, which was subsequently assessed and revised based on input from CERC and the project's expert advisory group.

1. The list of interviewees is included in the credits and acknowledgements section.

Thus, the report resulting from the project consists, after this initial chapter, of a second chapter that analyses the relationship between culture, the environment and the climate emergency, and which aims to facilitate its comprehension in simple language. The third chapter provides several types of measures, accompanied by an explanation of the significant issues in each case and examples in the form of specific policies, programmes and projects. Finally, the last chapter includes recommendations and tools to help put into practice, in local cultural management and policies, the reflections and observations made in the previous sections.

Phases



Methodology

Contextualisation and advice

- >> Assessment and consensus on the overall expectations and focus of the report
- >> Setting up of the project's expert advisory group

Bibliographical analysis

- >> Identification and study of documentation on culture, the environment and the climate emergency, especially the most relevant references for local cultural management and policies

Project analysis and interviews with key actors

- >> Drawing up of a list with some twenty significant projects in terms of the project's topics of interest
- >> Holding of interviews between February and April with the leaders of most of the projects identified

Preparation of the final report

2. Interconnections between culture, the environment and the climate emergency

This chapter aims to provide accessible information on the environment and the climate emergency to non-experts. It also introduces a number of useful concepts and references regarding the links between culture, the environment and the climate emergency, and reviews some useful institutional frameworks in this regard, from the international level to the Catalan context.

2.1. Concepts and key issues

One of the difficulties faced within the cultural sphere is understanding the dimensions surrounding the debate on the climate emergency due to its complexity. The scientific terminology used is sometimes abstract and distant, and instead of bringing people together and encouraging them to get involved and take part in a necessary reflection from a global and interdisciplinary point of view, it can sometimes generate discomfort or disorientation among cultural professionals when it comes to participating in certain debates.

In reality, as explained above, the climate emergency is an issue that concerns everyone, which is why it is important that we are all familiar with specific concepts and terminology. Therefore, the aim of this section is to address, using more accessible language, concepts that can provide tools to better understand the climate emergency and the ecological transition. The following is an attempt to clarify some of these key concepts and, why not, to make them our own and integrate them into our everyday vocabulary.

2.1.1. Sustainable development

The link between culture and the environment in general, and more specifically with the climate emergency, can be related to the broad concept of

sustainability or *sustainable development*. This term was used by a group of United Nations experts in the mid-1980s to refer to development “that meets the needs of the present without compromising the ability of future generations to meet their own needs”. (World Commission on Environment and Development, 1987)²

Whereas thirty-five years ago, thinking about sustainable development was primarily a matter of thinking about the future, today, thinking about sustainability has a direct bearing on the development of today’s generations: good examples of this include climate change (progressive increase in temperature, frequency and increasing number of extreme weather events, etc.), as well as unexpected phenomena such as the COVID-19 pandemic, whose origin and spread can be linked, according to several studies, to human activities, such as land use, agricultural expansion and intensification, and unsustainable trade, production and consumption, which increase contact between wildlife, livestock, pathogens and people (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [IPBES], 2020).

Most thinking on sustainable development has addressed the environmental dimension and the achievement of a balance between ecological, economic (the search for sustainable growth, green growth or degrowth, for example) and social aspects (how to ensure development that combines the inclusion of all people, secures them basic resources and at the same time respects the environment). The 2030 Agenda for Sustainable Development, the UN document guiding global action in this area today, explicitly sets out “sustainable development in its three dimensions – economic, social and environmental”. (United Nations. General Assembly, 2015: Preamble). (See Sidebar 1.)

Sidebar 1. The 2030 Agenda and the Sustainable Development Goals

The 2030 Agenda for Sustainable Development is a document that was approved in September 2015 by the UN General Assembly, the body that encompasses all the state governments around the world. It re-

2. The terms *sustainable development* and *sustainability* are used synonymously in this report. This option is quite common, although some authors have indicated that *sustainable development* often has more institutional connotations and refers to balance between economic and environmental aspects, while *sustainability* implies an ethical vision, more focused on the interdependence of social and environmental aspects. See, *inter alios*, Dessein *et al.* (2015) and Throsby (2017).

placed the Millennium Development Goals (MDGs), which had guided international development action between 2000 and 2015, setting new targets for the 2015-2030 period. Specifically, the 2030 Agenda includes 17 Sustainable Development Goals (SDGs), which are broken down into a total of 169 targets.

During the previous period, the MDGs, which had a narrower thematic range, were aimed at promoting development in the countries of the so-called *global south* (or least developed countries), while the 2030 Agenda understands that sustainable development today is a challenge for all the countries in the world, both in terms of their development cooperation actions and within their own territories. For this reason, many Catalan city councils and institutions such as Barcelona Provincial Council, the Government of Catalonia and the Government of Spain have adopted strategies and plans derived from the SDGs and apply them to all their policies.

Among the 17 SDGs, there is not one that focuses primarily on culture. However, there are several references to cultural aspects scattered throughout the document, for example: on the need for education to promote the appreciation of cultural diversity and of culture's contribution to sustainable development (target 4.7); the existence of economic and employment policies that support creativity and innovation (target 8.3); sustainable tourism that promote local culture and products (targets 8.9 and 12.b); the safeguarding of cultural and natural heritage (target 11.4), and ensuring public access to information (target 16.4).

For more information, see: <https://sdgs.un.org/>

In any case, both in the general discussion on sustainable development and on the 2030 Agenda, numerous works have underlined the significant role of culture. In this regard, the anthropologist John Clammer (2016) considers that, if contemporary culture, characterised by consumerism and disregard for the environment, poverty and inequalities, is at the root of the planetary crisis, it is necessary to talk about culture in order to respond to it.

In a similar vein, albeit with a more constructive perspective, Australian artist and activist Jon Hawkes (2001) reminds us that the debate on sustainability, and what needs to be passed on to future generations, is inevitably marked by values, and is therefore a cultural debate. Hawkes is known for proposing culture as the fourth pillar of sustainable development, alongside the environmental, economic and social dimensions. In

his proposal, cultural aspects, in addition to values, include creativity, diversity, participation in cultural activities and innovation, and should act as a filter or a framework for other local policies, in order to assess, as is done in other areas (the environmental impact of new infrastructure, for example), the impact of policies and programmes on cultural values and capacities.

The cross-cutting approach proposed by Hawkes and what has often been called a *holistic, systemic* or integrated view of development, is related to the calls to overcome the divide between culture and nature that have inspired much of Western thought in recent centuries. In this regard, the interdependence between human action and natural ecosystems that has continued to thrive in indigenous cultures and in some rural societies, and the associated knowledge and practices, takes on huge significance in the face of the planetary crisis (see, for example, Latour, 2015; Escobar, 2019). In terms of cultural management and policies, this raises fundamental questions about how cultural action relates to knowledge and practices linked to nature.

Furthermore, reflecting on the interdependence of the environmental, social, economic and cultural dimensions of sustainable development also involves questioning aspects such as economic models: if, as Clammer and many others claim, consumerism and capitalism are at the root of the planetary crisis, it is inevitable that any reflection on sustainable development will also raise questions related to production and consumption models, and the other economic aspects that derive from these (labour relations, fiscal policies, etc.).

A number of works have sought to translate these ideas into practical guidelines. The most obvious result of the consideration of culture as the fourth pillar of sustainable development is probably the work of the Committee on Culture of the international organisation United Cities and Local Governments (UCLG), translated first in the *Agenda 21 for culture* (2004) and then in the practical guide *Culture 21: Actions* (2015) (see sidebar 2). Both documents, which have been endorsed and used by numerous local governments and other organisations on all continents, underline the parallels between biodiversity conservation and cultural diversity. They emphasise the importance of local cultural policies, the commitment to the cultural rights of all people and the need to explore the cross-cutting nature of all policies and processes related to sustainable development. And, in the context of globalisation, they reinforce the link between local cultural action and global challenges, and promote international cooperation initiatives in the field of cultural policies and processes.

Sidebar 2. The relationship between culture and the environment in *Culture 21: Actions*

A decade after the *Agenda 21 for culture*, a document that was a policy statement emphasising the importance of local cultural development in times of globalisation, UCLG promoted a report, *Culture 21: Actions*, which provided an update to the former and gave it a more operational focus, in order to facilitate its implementation and to assess its values and commitments. This report was approved in 2015. It contains 100 specific actions connecting culture and sustainable development in cities and towns, grouped into nine commitments or thematic areas.

One of the nine commitments deals with the relationship between culture and the environment and proposes actions related to the conservation of traditional knowledge and practices linked to the sustainable use of natural resources, the involvement of cultural entities in environmental awareness-raising activities and the existence of strategic plans and working groups that connect local policies on culture and the environment, among other things.

For more information, see: http://www.agenda21culture.net/sites/default/files/files/documents/multi/c21_2015web_cat.pdf

These insights on the link between culture and sustainable development and the prominence that the SDGs have gained in recent years, both in policy statements and in influencing public spending priorities, explain why the role of culture in relation to the SDGs and the 2030 Agenda has gradually received more attention. A number of publications have argued that culture can contribute to achieving all the SDGs, even where the text of the 2030 Agenda does not mention it.

With regard to the SDGs most directly related to environmental issues (SDG 6, focusing on water; SDG 7, energy; SDG 12, sustainable consumption and production; SDG 13, climate change; SDG 14, seas and oceans, and SDG 15, land ecosystems), these contributions have highlighted the role of traditional knowledge and practices, considered part of an intangible cultural heritage, in creating a more sustainable relationship with the environment; the need to develop integrated perspectives of the landscape, combining the cultural and the natural, and of establishing institutions that reflect this, such as ecomuseums; the promotion of contemporary creative practices related to sustainable uses of public spaces, such as urban gardens; the role of cultural agents in environmental education and awareness-raising actions and the promotion of new patterns of living, or the need for cultural

facilities and events to assess and reduce their environmental impacts (United Cities and Local Governments). Committee on Culture, 2018).

Moreover, it is worth remembering that SDG 17, regarding promoting partnerships for sustainable development, also opens the door to collaboration between cultural and environmental actors, among others. Other SDGs, such as SDG 10, which aims to reduce inequalities, also establishes relevant guidelines in terms of cultural actions.

Both these specific observations on the link between culture and the SDGs and the previous approaches on the connection between culture and sustainable development in a broad sense, and more specifically on the environmental dimension, are at the basis of this report, which seeks to analyse their implications in terms of local cultural management and policies.

2.1.2. Climate change, crisis or emergency

The different terms used to refer to the environmental problems facing the planet are all valid, but with significant differences in their meaning. *Climate change* predicts natural and physical phenomena that in some form have always been present throughout the history of the planet. The concept of the *climate crisis*, however, points directly to human action and the current alarming context. The *climate emergency* is primarily concerned with the phenomenon of global warming –caused by greenhouse gas emissions and dependence on fossil fuels – and its dire consequences: melting ice; rising sea levels; ocean acidification; desertification and heat waves, and loss of biodiversity, among other things. The last concept, which is notably global and holistic in nature, calling for everyone to stand up and take responsibility, has been the focus of interest in recent years, including in the institutional and political spheres, as evidenced by the climate emergency declarations approved by municipalities and other governmental bodies. In this regard, we will preferably use the term *climate emergency* throughout this report, although in some contexts we also refer to climate change.

To put the magnitude of the emergency into perspective, according to a study by the World Meteorological Organization, the 2016-2020 period was the hottest five-year period in history (World Meteorological Organization [WMO], 2020).

2.1.3. Earth Overshoot Day

The resources we have on Earth are not infinite. This may sometimes be hard to understand so, to make it easier, the international organisation

Global Footprint Network stresses this fact every year when it calculates Earth Overshoot Day: <https://www.overshootday.org/>). This day marks the date when humanity has used all the biological resources the Earth regenerates during the entire year. From the early 1970s, humanity began to consume more than the Earth was able to produce. The growth of the world's population, the expansion of unlimited consumption, the massive exploitation of crops, deforestation and the emptying of the oceans due to overfishing that barely allows time for reproduction are some of the reasons why we are now “consuming” the resources of 1.6 planets a year.

Earth Overshoot Day 2020 fell on 22 August. For the first time, a period of three weeks was made up over the previous year, due to the lockdown caused by the global pandemic (www.footprintnetwork.org). Giving the planet time to regenerate and stopping the compulsive misuse of its resources are fundamental goals for a sustainable future.

2.1.4. Planetary boundaries

In 2009, a group of thirty international scientists – led by Johan Rockström, then director of the Stockholm Resilience Centre – argued that we had already exceeded many environmental limits on Earth and that the paradigm of measuring, analysing and forecasting parameters to minimise environmental impacts was no longer sufficient. Based on this they identified the environmental processes that we must become capable of managing in order to remain within a safe and healthy living ecosystem.

Out of this arose the idea of *planetary boundaries*, nine interconnected thresholds that govern the resilience of the planet: chemical pollution, stratospheric ozone depletion, atmospheric aerosol loading, ocean acidification, biogeochemical flows, global freshwater use, land system change, the erosion of biosphere integrity and climate change (Stockholm Resilience Centre). What is required of us is a new mindset to be able to turn crises into transformative opportunities for the planet, and to recognise its limits and thresholds.

2.1.5. Circular economy

The current predominant economic model is based on a linear, take-make-dispose approach. This model has led us to produce more than 2.5 billion tonnes of waste every year in the European Union (EU) alone, generating pollution and overexploitation of natural resources and raw materials.

Clearly, the current system is unviable in the long term, and we need to find an alternative and bring about a radical change of model as soon as possible. This is where the concept of circular economy comes in, “an economic model aimed at achieving more efficient and resilient production and consumption systems that preserve resources within a continuous cycle and optimise their value”. (Network of Cities and Towns for Sustainability, 2018, p. 11)

The European Commission has put the urgency of a circular economy model on the table, understanding that a new circular production and consumption model involves sharing, lending, reusing, repairing and recycling existing materials and products for as long as possible. This model ensures the life cycle of products is extended and waste production is reduced. Products are, where possible, reintroduced into the economic cycle and their reuse generates additional value.

The principles of the circular economy compel us to question our consumption model, as individuals and as a society. Resource optimisation, a systemic vision, participation, collaboration, innovation, reuse, reduction and recycling are the key concepts and words that point the way towards the circular economy.

2.1.6. Ecological transition

The ecological transition involves moving from an intensive production system to a sustainable model, focused on protecting and respecting the environment. More generally, it is linked to changing patterns of living that have a bearing on it. It also involves reviewing the energy models in place until now.

The energy and ecological transition that is underway in different parts of the world poses a number of major challenges for states, businesses and all citizens. A clear example is the fact that many jobs are still linked to the exploitation of fossil fuels and that any change requires a retraining process.

At the international level, the discussion now revolves around the concept of a just transition, one that takes into account the inequalities that can be generated in this long and necessary transition process. An ambitious programme called the European Green Deal (which will be discussed later in this report) has been launched within the framework of the EU. Through this programme, funds will be earmarked for this transition process, including for retraining and the creation of new jobs in the green economy; energy efficiency in housing; investment in public and sustainable transport; and investment in renewable energy sources, among other things.

2.1.7. Brief summary of other useful terms

- **Anthropocene:** this term, proposed by Dutch Nobel Chemistry laureate Paul J. Crutzen in 2000, refers to the geological era in which human activity significantly affects the Earth's geological composition and ecosystems. Climate change is clear proof that we are living in the Anthropocene. The term is not unanimously accepted throughout the scientific community, but its use in many academic, institutional and social settings is becoming increasingly common.
- **Biodiversity:** indicates the variety and variability of organisms and the ecological complexes in which they exist. This is the ideal situation for the proliferation and diversity of living species on the planet. All species are interrelated and necessary for the balance of the ecosystem.
- **Air pollution:** is the presence in the environment of chemical substances, objects, particles or micro-organisms that alter the environmental quality and the possibility of life. The causes of pollution can be natural or man-made. It is mainly due to fossil fuel sources and the emission of industrial particulate matter and gases.
- **Degrowth:** a concept that questions the priority given to economic growth, in the belief that this is incompatible with the conservation of the planet and that it is therefore necessary to define alternative economic models.
- **Decarbonisation:** progressive reduction of dependence on carbon-containing fossil fuels.
- **Ecological footprint:** environmental indicator that establishes the ecologically productive area needed to supply the necessary basic material and energy to indefinitely cover the resource consumption and waste assimilation needs of a given population in a given territory, according to their usual lifestyle.
- **Carbon footprint:** indicator relating to the greenhouse gas emissions associated with the life cycle of a product, service or organisation. It is measured in mass of CO₂ equivalent. For an institution, service or facility, this impact calculation makes it possible to measure and be aware of the carbon emissions it generates.
- **Upcycling:** production system that transforms an object that has no use or is destined for waste into another object. The idea is to give waste a second life by transforming it into new materials or products of higher quality and greater ecological and economic value, often through creative transformation.

For more information on these issues, TERMCAT (www.termcat.cat) has dictionaries of concepts related to environmental management and the climate emergency (2017; 2020).

2.2. Implications of the climate emergency for cultural management and policies at local level

In what way does the climate emergency impact on the way culture is understood and cultural policies are defined? From the outset, there are several elements that suggest that the way we have traditionally understood cultural policies should evolve to incorporate environmental aspects and other related considerations that have so far remained mostly on the sidelines:

- **Life in the Anthropocene Epoch calls for new values, creativity and innovation.** The United Nations Development Programme (UNDP) dedicated the 2020 edition of its Human Development Report to analysing the implications of the Anthropocene Epoch for human development today, i.e. the ability of all people to live in dignity and in accordance with their aspirations. One of the conclusions of the Report is that in order to achieve human development it is no longer enough to guarantee health, education and income, but it is also necessary to focus on agency (democratic participation and the ability to have control over one's own life), with regard to values and on how all these aspects relate to nature and the management of the planet:

«[...] “to navigate the Anthropocene, humanity can develop the capabilities, agency and values to act by enhancing equity, fostering innovation and instilling a sense of stewardship of nature. If these have greater weight within the ever widening choice sets that people create for themselves—if equity, innovation and stewardship become central to what it means to live a good life—then human flourishing can happen alongside easing planetary pressures”. (Conceição, 2020, p. 8)

It is necessary to understand that, in this context, the drive for prosperity refers more to the sense of human development (expansion of opportunities for people, in a balanced social and environmental setting) and less to a more restricted vision of economic growth. In this regard, we should ask ourselves how cultural management and policies can take into account the values related to the stewardship of nature,

and encourage creativity and innovation in relation to the challenges arising from the climate emergency.

- **Climate change affects cultural rights.** The planetary crisis transforms environmental conditions and restricts the ability to maintain hitherto normal ways of life, institutions and practices, including in the cultural sphere. While some of these effects have up to now been seen in remote places (small islands in the middle of the ocean, desert areas, etc.), there are many others that already exist in our own backyard.

One of the latest reports by the UN Special Rapporteur in the field of cultural rights (2020) addresses the relationship between climate change and cultural rights. Among the issues discussed are the effects of the climate emergency on heritage conservation: temperature changes, rising sea levels and soil erosion are already affecting the conservation of tangible heritage in many places. Human migration, refugee flows and the extinction of natural species due to climate change result in loss of knowledge, traditions and practices of intangible cultural heritage. This also results in loss of cultural diversity. In addition, restrictive measures on mobility or environmental conservation that governments may take in the context of the climate emergency could lead to restrictions on opportunities to participate in cultural life, as was temporarily the case during the COVID-19 crisis, and could increase inequalities in access to cultural life. Therefore, care should be taken to address the effects that changes in the environment may have on cultural resources and cultural life, and to ensure that measures taken in response to the climate emergency take into account the preservation of cultural heritage and diversity; and opportunities to participate in cultural life.

- **Traditional knowledge and practices can be a source of learning to deal with today's challenges.** In line with what the UN special rapporteur highlighted and with what other studies and experiences have shown, certain traditional knowledge and practices related to natural ecosystems could provide relevant elements for a more balanced relationship with the environment: types of crops, construction techniques, sustainable water use, textiles and clothing fabrics and designs, etc. Although our urbanised societies have lost a significant part of the existing knowledge and practices in this regard, and it is true that some traditional attitudes have always been in conflict with sustainable development (such as discrimination against women), there are elements that have been preserved in practice or are documented in museums, archives and other heritage initiatives that could be recovered. The third chapter of this report will analyse in more detail the relation-

ships established between cultural heritage and environmental conservation, and will describe some of the experiences in Catalonia that demonstrate their value.

- **Cultural agents have environmental responsibilities, just like all other institutions and entities.** All human practices can affect the natural ecosystem, and some can even lead to an acceleration of climate change. Therefore, cultural facilities, like other buildings, can have a significant environmental impact, especially if mechanisms for energy efficiency, reduction of water consumption, waste generation and emissions, etc., are not taken into account. Likewise, cultural activities (local festivities, festivals, shows, exhibitions, and so on) can impact the environment, both direct (use of materials, energy expenditure, waste generation...) and indirect (use of private or public transport by those attending, selection of suppliers, for instance). In addition, the increasing use of digital platforms for the production, distribution and access to cultural content also raises important issues in terms of carbon dioxide emissions from servers.
- **Artistic languages can contribute to generating new narratives about the relationship with the planet.** The responsibility of cultural agents towards the environment and the climate emergency, mentioned in the previous point, can also be channelled through their involvement in environmental education and awareness-raising initiatives, since they can take advantage of the potential of artistic languages and of the knowledge and forms of heritage itself. New narratives can emerge from this that inspire and help rethink ways of living and the relationship with the environment, in the face of the challenges of the climate emergency.

2.2.1. Major implications for cultural management and policies at the local level

Incorporating these considerations into local cultural management and policies should lead to the development of new programmes and initiatives that integrate culture and the environment, and at the same time offer a new perspective that underlines the specific dimension that cultural action brings to the discussion on sustainability in times of climate emergency. In this sense, it is important to highlight that the relationship between cultural policies and climate emergency includes both processes comparable to those that could be applied in other areas of public policy (energy efficiency measures in cultural facilities are similar to those in educational or social facilities, for example) and distinctive actions, specific to culture, because they are related to heritage, creativity and values. This second aspect, which

has often been neglected in discussions on culture, the environment and the climate emergency, receives specific attention in this report.

Connecting local cultural management and policies with the climate emergency, and highlighting the responsibility of cultural agents in the face of the planetary crisis, does not imply renouncing the specifics of cultural action, which could be summarised as the focus on heritage, creativity and cultural diversity (United Cities and Local Governments. Committee on Culture, 2015). Moreover, connecting local cultural management and policies with the climate emergency should entail focusing the efforts of culture towards a necessary transition, in order to ensure that cultural agents can offer their perspective, their experience of relations with the general public, their voice and their practice to actions related to the environment and the climate emergency over which they have a say in but do not always participate in.

Meanwhile, as a public policy, cultural policy entails defining objectives and guidelines derived from democratic participation that aim to transform reality. In this regard, this report understands that local cultural policies go beyond the notion of a culture of sustainability, understood as “the set of knowledge, values and practices that citizens, both individually and collectively, must develop responsibly, rationally and creatively in order to face socio-environmental problems and defend the basic rights of people within the ecological limits of the planet”. (Barcelona City Council, 2021, p. 4.) Cultural policies could incorporate this generic consideration and relate it to their specific mandate when implementing participatory and democratic processes; when addressing the conservation, revitalisation and dissemination of heritage; when fostering access to and participation in cultural life, and when protecting and promoting cultural diversity. They should also ensure that there is more interconnection with the range of public policies that affect sustainable development and address the climate emergency.

Finally, it is also important to mention that the reflection on values, and the way they impact on everyday practices, often has little presence in cultural policies, at least explicitly, although it may appear in the phases of discussion and formulation of overall objectives. Through environmental education initiatives and participatory projects linked to the relationship with the city and the territory, there may be scope for strengthening this dimension in the way local cultural policies and the projects that derive from them are designed and implemented.

Therefore, from a more specific point of view, we can identify several lines of action linking cultural management and policies, the environment and the climate emergency, to which we will devote more attention in the third chapter of the report:

- Promotion of integrated visions of the region and landscape, which take advantage of tangible and intangible cultural heritage and link it to the natural ecosystem.
- Artistic explorations regarding the connection between human practices, natural ecosystems and the climate emergency.
- Environmental education or cultural initiatives that promote knowledge, learning and citizen participation on issues related to the climate emergency.
- Adoption of environmental sustainability criteria (greening) in the management of cultural facilities, spaces and initiatives, public procurement processes and other actions related to cultural management and policies, by means of circular economy criteria, energy efficiency, etc.
- Cross-cutting mechanisms in the design and implementation of municipal strategies and programmes, linking cultural and environmental aspects (climate emergency declarations, strategic plans for culture or the environment, promotion of the social and solidarity economy, and so on).

Although the range of lines of action is diverse, there are many underlying issues that in some way affect all policies and programmes in this field, as the next section points out.

2.2.2. Basic guidelines

The documentary and case study analysis carried out for this report suggests that there are seven methodological aspects or approaches to the design and implementation of cultural policies and projects that can influence to a greater or lesser degree any initiative in this field that wishes to take into consideration the climate emergency. These are described below:

- 1) **A more systemic view of culture, and its interrelation with social, economic and environmental phenomena.** Professor Alfons Martinell suggests that addressing the relationship between culture and sustainable development requires a systemic reading of culture, which goes beyond “the traditional disciplinary and enlightened conception or institutional visions based on a departmentalism of outdated models” (2020) and which incorporates into the cultural system “a large number of components or elements that are permanently related to each other in a dynamic way, in constant interdependence. Some of these components (or spheres) are familiar or traditional components of classical models which today’s society understands as culture (art, heritage, music, theatre, pub-

lic reading, etc.). There are others that should be added to these which, from a systemic point of view, are interrelated and have some form of impact, such as communication, mobility, habitat and urban planning, security, access to [Internet] connection, climate, education, the environment, health, etc. Increasingly evident interactions and dependencies, which are only effective when acting in a complementary manner and generating synergies towards sustainability”. (2021).

The systemic view increasingly adopted by environmental policies (which focus on productive processes, consumption, mobility, energy, education, etc.) can offer clues for developing cultural policies, programmes and projects that also incorporate this more complex and interrelated perspective. An example of this would be to analyse the social, economic and environmental impacts of cultural events, an issue that the CERC has been working on (Cubeles and Mascarell, 2019).

Ultimately, if the climate emergency entails defining new economic and social models that are less “predatory” in terms of the relationship with the environment, it is necessary for cultural management and policies to naturally or systemically integrate these aspects. It would be good, therefore, if the scope of cultural policy actions were to become progressively more porous and open to address issues that have traditionally been excluded. Several of the aspects that will be discussed in the following paragraphs help implement this consideration in specific areas. After all, the fight against the climate emergency is intended to be an inherent, organic aspect of the way things are done in the cultural field, rather than a set of specific actions.

- 2) **Combination of disciplines.** In line with this systemic, complex and interconnected vision, many of the projects linking culture and the environment involve collaboration between actors from different fields: in addition to artists or cultural management professionals, there may be contributions from the fields of anthropology, biology, agriculture, environmental studies, etc. According to some of the people interviewed during the course of this research, focusing the debate on issues such as the sustainable development of a territory naturally entails the interweaving of perspectives from different disciplines, as well as the views and practices of citizens. In this regard, several studies have suggested that there is a need to promote more interdisciplinary collaborations in the field of culture and sustainability, and to establish supportive policies and programmes that understand nature (Wilson, 2019).
- 3) **Understanding the context of each project.** Although the climate crisis is global and transcends borders, the specific sustainability challenges

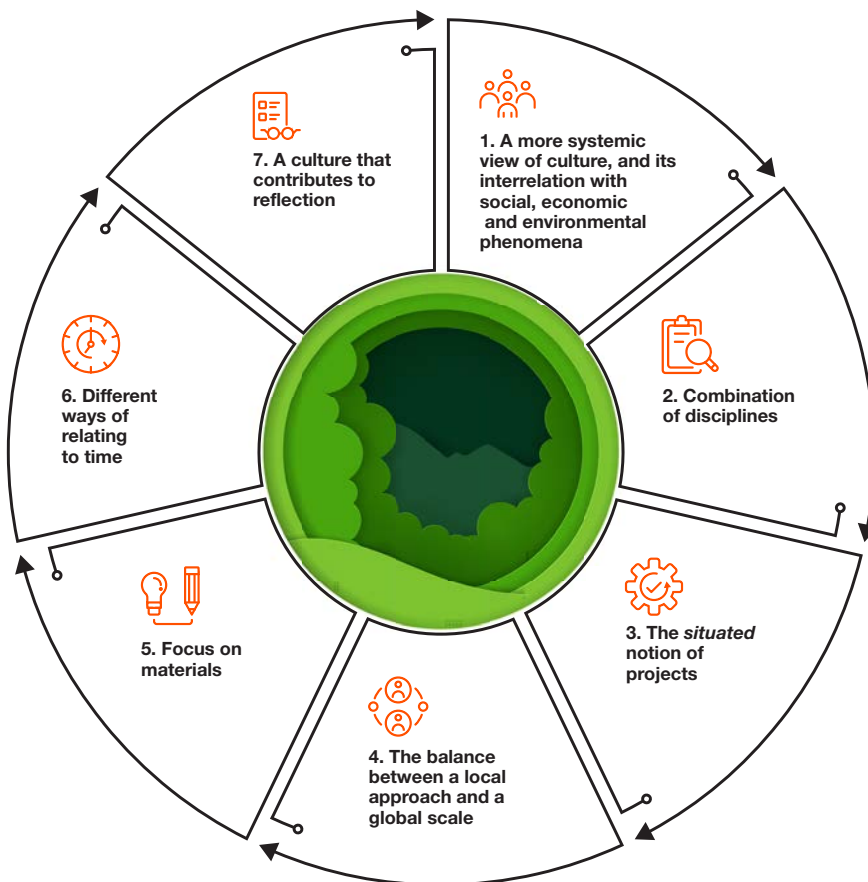
faced in a coastal or an inland town, in a large city or in a rural environment, are different. Thus, defining the initiatives that connect culture and the environment to each setting will depend on aspects such as the natural resources of the area and the threats they face, the traditional knowledge and practices that have been preserved in each case, the human capacities and the agents mobilised around sustainability, the population's mobility patterns, energy resources, and so on. If one of the functions of cultural management is to interpret the context, when defining actions in this field it is necessary to focus this interpretative capacity on the relevant issues of culture and sustainability in the specific territory where the actions are being implemented. In this regard, the specific experiences described in the third chapter of the report can be understood as inspirational elements but not necessarily replicable, given that they have been carried out in very specific contexts.

- 4) **The balance between a local approach and a global scale.** The *situated* notion of projects committed to sustainable development also implies taking into account aspects of proximity in their implementation: using local resources, making efficient use of energy resources, reducing medium or long distance travel that can be avoided, being aware of the waste generated, which will remain in the immediate environment, etc. Helena Norberg-Hodge (2020), the founder of Local Futures, which works to revitalise biological and cultural diversity, summed it up in the idea that “the future is local”, and that a systemic economic shift from globalisation to “localisation” is needed to address the world's social, economic, ecological and spiritual crises. It is also important to encourage reflection on the interrelationship between what happens at a local level and on a global scale, given that the way in which each population experiences the climate emergency is the result of changes on the planetary scale and, at the same time, action at the local level is key to mitigating the effects of climate change. This idea can be related to the implementation of cultural policies that promote a *global ecological citizenship*, an integrated vision of the social, economic, cultural and environmental dimensions of sustainability that researchers Nancy Duxbury, Anita Kangas and Christiaan De Beukelaer (2017) proposed as one of the ways to connect these policies to sustainable development.
- 5) **Focus on materials.** An element shared by many of the projects analysed in this report, consistent with the principles of the circular economy, is the consideration given to the materials being used and the long-term effects this use will have: waste reduction, calculation of energy costs, potential for reuse of generated materials, etc. In areas such as the publish-

ing industry, guidelines have been drawn up to analyse the life cycle of a book or magazine – taking into account its ecological footprint in the design, printing, distribution, consumption and recycling phases – with the intention of reducing it through eco-publishing (Leitat, El Tinter SAL and Simple, 2013). This same idea is also present in the greening of facilities, events and other activities, as will be seen below.

Methodological aspects or approaches to the design and implementation of cultural policies and projects

that can influence to a greater or lesser degree any initiative in this field that wishes to take into consideration the climate emergency.



- 6) **Different ways of relating to time.** Perhaps in a more implicit manner, initiatives that connect culture, the environment and the climate emergency often raise issues about the notion of time and how human life relates to this. Often, in these contexts, forms of participation in cultural life are promoted which may be considered slow, and which promote the observation of surroundings, the recovery of the territory in the medium and long term, or which connect the traditional with the contemporary, promoting continuity over time and connections between generations.
- 7) **A culture that contributes to reflection.** Often subtly, sometimes explicitly, policies and programmes linking culture, the environment and the climate emergency contain elements that can encourage reflection on ways of life and the cultural, environmental, economic or social aspects of sustainable development. This is particularly evident in environmental education initiatives and in citizen participation projects or those aimed at promoting debate, while in other cases it exists only in the background, in the formulation of objectives, and is less evident in the specific implementation of the initiatives.

2.3. The role of artistic agents and their creative processes

The creative languages associated with contemporary arts and culture – from the visual arts to the performing arts, as well as the many points of convergence between disciplines – offer different perspectives for understanding the causes and effects of the current climate crisis.

This section analyses, from a cross-cutting, international perspective, the role of cultural and artistic agents and their creative processes in terms of the climate emergency and environmental awareness. To this end, it is worth identifying the various links that can be established between artistic activity and the climate emergency, such as the involvement of artists in awareness-raising actions, the sustainable use of materials, creative research and reflection on the relationship of this activity with the environment, on the harmful effects of certain artistic practices or on the environmental impacts of artistic mobility, among other things. We will explore these and other themes, through real examples of artistic resources, processes and projects.

Interest in and awareness of nature, the materials we use and the impact of human activities on the environment has been part of numerous

international art movements, such as Land Art and Arte Povera – both of which emerged around the second half of the 1960s – and has since evolved into different practices and forms, such as today’s ecological or environmental art. Since the second half of the 20th century, and at an increasing rate in the first few decades of the 21st century, the field of visual arts – and contemporary art and culture in general – has been broadening its gaze, incorporating critical narratives that include current reflections on the climate emergency. The points of convergence between art, technology and science – and the enormous variety of artistic practices that exist today – offer a cross-cutting analysis of the current environmental challenges facing our planet.

Moreover, especially in the first two decades of the 21st century, international projects, networks and specific organisations have been created that work with a specific focus on the relationship between art, culture and environmental issues. Many of these international projects and organisations are generating activities, reports and various resources that significantly feed into the discussion on the climate emergency, and give us new elements of analysis and new perspectives and outlooks.

One of the most prominent examples is provided by the UK-based organisation Julie’s Bicycle (see Sidebar 3), which since 2007 has played a major role in raising environmental awareness in the arts and culture.

Sidebar 3. Julie’s Bicycle

Julie’s Bicycle, based in London, is the leading organisation supporting the international creative community to take action on climate change and environmental sustainability. Over the past fifteen years, Julie’s Bicycle has produced an important series of documents, reports and resources to provide the cultural sector with the tools necessary to act with awareness and knowledge in the face of the environmental and climate crisis and in the promotion of sustainable environmental development.

Among the main tools and projects created by Julie’s Bicycle, of note are the Creative Green Tools, a free system of calculators that allow cultural organisations to measure carbon emissions in the environment, in order to record, measure and understand their environmental impacts (office management, touring, production, events, festivals, etc.); the Creative Climate Leadership study programme, which focuses on exploring the cultural dimension of climate change,

and, above all, the extensive production of resources, reports, papers, case studies, and so on, which it has produced in collaboration with numerous international institutions.

The main goals of Julie's Bicycle are:

- Advocate and promote culture to publicly inspire action on climate change and sustainability.
- Support the goals of the Paris Agreement, which aims to limit global warming to a maximum of two degrees Celsius, by focusing on energy, the main source of carbon emissions from the cultural sector.

For more information, see: <https://juliesbicycle.com>

2.3.1. Strategic themes

Based on some of the publications produced by Julie's Bicycle and through the analysis of other resources, certain key themes emerge in relation to the role of artistic agents and their creative processes:

- **Artistic production and use of materials**

First, it is important to consider the environmental impact of artistic production, especially when talking about festivals or major events, for example in the field of music or the performing arts. Julie's Bicycle's (2013) sustainable production guide focuses specifically on the environmental sustainability of production in the arts and cultural sector. This guide is aimed at artistic directors, producers, directors, production managers, lighting designers and technicians, set designers and builders, costume designers and performing arts professionals from all backgrounds who want to understand and reduce their environmental impact. Meanwhile, in this same context of artistic production, we can also see particular attention being paid to the use of recycled, natural or ephemeral materials as a reflection on waste generation, on the artistic re-signification of materials (upcycling) and on the impact of artistic action on the landscape (Martínez Escutia, 2015).

- **Cultural mobility**

Another key theme when it comes to environmental awareness in the arts and cultural sector is mobility. The guide to green mobility, produced by Julie's Bicycle (2011) and commissioned by the On the Move network, raised a number of questions that today – with the global

pandemic and the climate crisis showing no signs of improvement – require urgent answers. Is it responsible to promote international mobility today, at a time when pollution and global warming are arguably the greatest threats humankind has ever faced? How does my mobility today influence the world of tomorrow? Obviously, for the cultural and artistic sector, mobility is an essential source, an essential tool for meeting, exchanging and sharing knowledge that mutually enriches everyone. The cultural sector is therefore increasingly asking itself the following: do we have to give up cultural mobility in order to tackle the climate emergency and become more sustainable?

The aforementioned guide on the concept of green mobility, as well as many other resources, conversations and debates between artists and cultural professionals, and various international projects focusing on the relationship between art and ecology – such as residency and exchange projects in rural contexts, and initiatives that propose that sustainable mobility also address the form of travel used by audiences attending cultural activities – attempt to offer approaches, ideas and creative solutions to these questions that focus on the environmental impact of cultural mobility.

- **Paradigm shift and awareness raising**

One of the most characteristic features of artistic practices and processes is the reflection on the need to develop a paradigm shift. Actions to respond to the climate emergency and to achieve a more sustainable planet undoubtedly require us to act with a series of very concrete measures, which have to do with waste treatment, the generation of clean energy, and a different production and consumption model. But a real change of model requires a paradigm shift, and art plays an essential role in broadening views and offering new imaginaries and new perspectives on complex issues.

In the publication *Art for the Planet's Sake*, the international contemporary performing arts network IETM, in collaboration with the French organisation Coalition for Art and Sustainable Development (COAL), presents perspectives, models and practices of contemporary arts that address environmental issues and advocate the need for a paradigm shift in the climate debate (Van den Bergh, 2015). It explores the role of the arts in observing, understanding and critiquing environmental sustainability, and their capacity to propose solutions. According to the study, more and more artists and artistic organisations are dedicating their talent to raising awareness of the environmental emergency, reflecting on the impact of artistic practices themselves and en-

couraging action from civil society. The relationship we have with our environment, with nature and with the other living beings that inhabit the planet is also part of this reflection on the need for a paradigm shift.

The Reconfiguring Ecological Imaginaries issue of the magazine *Klaxon* – published by the Brussels-based International Centre for Training in the Performing Arts (CIFAS) in collaboration with In Situ, the European platform for artistic creation in public space – explores the creation and deployment of new imaginaries of ecology in artistic practices. As the editors of this special edition, Pascal Le Brun-Cordier and Benoit Vreux, explain: “The works herein presented invite us to go beyond our traditional conceptions of *nature*, leading us to re-think other forms of relationships with living things, to foresee other forms of cohabitation with animals or plants, to cultivate new sensitivities with regard to the world around us – notably because these sensitivities explore new avenues, sensations, and understanding in which non-humans are something more than elements in a natural world in need of protection”. (2019, p. 3)

2.3.2. Projects and processes

As well as offering theoretical reflection, themes and concepts related to the climate emergency, artistic practices bring us closer to a new sensitivity and awareness of the environment and ecology through specific projects, works and experiences. Projects such as the manifesto-exhibition “Eco-visionaries: art for a planet in a state of emergency” – a joint collaboration between art institutions in Portugal, Spain, Sweden, Switzerland and the United Kingdom (Matadero Madrid, 2019) – or those developed by Art Works for Change (2021), among many others, contribute to addressing and understanding the effects of the ecological transformations caused by human action on the surface of the planet.

The creative research of numerous artists from around the world points to the complexity of natural phenomena, as well as the human and social responsibility we all bear due to our unsustainable lifestyles. From individual research through different visual and creative media that open up new narratives and visions to collaborative processes between arts organisations that come together with the collective aim of raising awareness and consciousness, the vast field of the arts is committed to imagining alternative practices and knowledge to reverse the climate emergency.

Projects with an international outlook and diverse characteristics, such as those of the Green Art Lab Alliance network (*Gala*) (see sidebar 4); the

Coalition for Art and Sustainable Development (COAL); the Artcop21 project; the European cooperation project Art, Climate, Transition (ACT); the Fossil Free Culture collective; the many experiences contained in the *Creative Responses to Sustainability* guides by the Asia-Europe Foundation (ASEF) (see sidebar 5); climate actions designed for the performing arts sector (Skolczylas, 2020) or the emergence of numerous eco-festivals, are just some of the initiatives in the field of the arts that operate at the points where art, sustainability, ecology and the climate emergency converge.

Sidebar 4. Green Art Lab Alliance (*gala*)

gala is an international network of arts organisations contributing to environmental sustainability through their creative practice.

It defines itself as a knowledge alliance, with partners in Europe, Asia and Latin America, strategically sharing resources, information and solidarity. Art centres, museums, residencies, art collectives, grassroots activists and diverse initiatives form an informal, international and decentralised alliance that perceives the arts as a powerful resource for social and environmental justice.

In addition to organising different activities such as residencies and exchanges, artistic workshops focusing on the use of sustainable materials, working groups on specific themes or contributing to the drafting of certain reports on arts and sustainability, the network has written a manifesto highlighting its commitments. An extract from the manifesto reads:

“The Green Art Lab Alliance (*gala*) is a diverse alliance initiated by artists and cultural practitioners seeking to address the breadth of environmental problems that beset the world. In light of the extreme urgency of our global crisis, the organisations that comprise the alliance have come together in order to bolster and amplify our manifold efforts at securing a sustainable future.

gala asserts that a life-sustaining environment is a basic human right that must be fought for, upheld, and defended. We stand united to foster a sustainable future for the people and our shared ecosystem. This entails respect for biodiversity as well as sensitivity to the depth of interdependencies that inform the notion of ecology”.

For more information, see: <https://greenartlaballiance.com>

Sidebar 5. The *Creative Responses to Sustainability* guides by the Asia-Europe Foundation (ASEF)

Since 2015, ASEF has been publishing the series *Creative Responses to Sustainability* through its arts and culture portal (culture360.asef.org). This series of country-specific guides examines arts organisations that address sustainability issues in their artistic practices in various countries in Asia and Europe. The guides published so far include initiatives from Singapore (2015), Korea (2016), Indonesia (2017), Australia (2018), Portugal (2019), Spain (2019) and the United Kingdom (2021), with an additional issue in the series focusing on the city of Berlin (2017). These guides offer a very wide-ranging and detailed overview of a myriad of cultural and artistic initiatives related to environmental issues.

For more information, see: <https://culture360.asef.org>

Aside from the artistic field itself and the creative contributions of many artists and of interdisciplinary projects, it is equally important to highlight the efforts made in the field of cultural heritage and museums to address climate change.

There are a number of international initiatives in this field and it is worth highlighting the creation of a significant number of working groups whose discussions and activities focus on ecological and environmental challenges.

One of the main initiatives in this regard is the Climate Heritage Network (see sidebar 6), which includes a large number of international actors (from indigenous peoples' organisations to universities and cultural institutions) working on the point at which climate action converges with the arts, culture and heritage.

Sidebar 6. Climate Heritage Network

As explained on the website, the Climate Heritage Network (CHN) is a voluntary, mutual support network of government agencies, offices, ministries, non-governmental organisations, universities, businesses and other local, municipal, state, provincial and regional, indigenous, tribal, arts, culture and heritage organisations committed to supporting their communities in addressing climate change and achieving the ambitions of the Paris Agreement.

The CHN has several objectives and addresses issues including, among others:

- How arts, culture and heritage agents can influence climate policies and help governments meet their targets for reducing greenhouse gas emissions by sustainably addressing the cultural dimensions of consumption and production patterns, clean energy and land use and resource efficiency.
- Connecting local, regional and national arts, culture and heritage agents with climate change experts and government partners around the world. Support the commitment of cultural heritage managers require in tackling climate change and promote climate solidarity with arts, culture and heritage offices and agencies in underserved communities on the front line of the climate emergency.
- Emphasise the role of art, culture and heritage actors in promoting approaches that integrate nature and culture, and highlight the links between the ecological and social values and functions of the Earth and other natural resources, as well as the connections between production and consumption, in ways that promote healthy, low-carbon lifestyles in harmony with nature.

For more information, see: <http://climateheritage.org>

This has resulted in a heightened awareness of the climate emergency in this context, since many of the world's cultural and natural heritage sites – which are closely linked – are currently under threat. The World Heritage Centre of the United Nations Educational, Scientific and Cultural Organization (UNESCO World Heritage Centre) – which is preparing an updated version of the policy paper on the impacts of climate change on World Heritage properties (2021) – and the work done by the ICOMOS Climate Change and Heritage Working Group on Climate Change and Heritage (2019) are other examples of the growing commitment of actors in the cultural heritage sector.

In the specific area of museums, there have been several initiatives recently that offer an overview of this increased reflection and action directed at the climate emergency. The Museums Facing Extinction programme, designed by the European platform EIT Climate-KIC and the consultancy and community of practices We Are Museums (see Sidebar 7); the Museums for Future international campaign; the international Museums & Climate Change Network; the actions of the International Council of Muse-

ums (ICOM) focused on sustainable development; the Canadian Coalition of Museums for Climate Justice; the work of the International Committee for Museums and Collections of Modern Art (CIMAM) on sustainability and ecology in museum practices, and the wide constellation of local projects focusing on sustainable development and ecological awareness, are evidence of an active landscape in which the actions of museums and cultural heritage professionals transcend borders.

As Julie Decker, Director and CEO of the Anchorage Museum in Alaska, stated: “We are no longer anticipating the epoch once declared the future apocalypse: we are living in it. Ancient methane deposits are being released from melting permafrost; anthrax spores are being released from thawing reindeer corpses. The long arc of geological time (deep time) is contrasted with the unprecedented pace of the climate change crisis. [...] Museums are diverse mirrors for the community to reflect the moment and can be provocateurs for shifts in thinking and action, able to prompt and provide narratives that define the now and the next”. (2020).

Sidebar 7. Museums Facing Extinction

Museums Facing Extinction is a programme designed and driven by the European public-private partnership platform on climate change, formed by EIT Climate-KIC and We Are Museums, a knowledge community offering advice in the field of museums. According to its statement, we are on a global journey towards a better understanding and more profound respect of our planet. Museums take a pivotal role in this process by acting as positive agents within social ecology and deploying sustainable operational models.

It is a multi-year programme to turn museums and their local communities into climate leaders, and foster systemic changes towards a climate-resilient future. Designed with respect to the local needs and specificities, this programme has the ambition to foster systemic change on a global scale.

Since November 2019, the programme has been compiling video recordings of lectures from international museum professionals who share their experiences and reflections on the role of museums in the context of the climate emergency. As well as these video resources, the programme has produced manuals, reports, meeting summaries and conference digests, which form a collective map of the current local

and global state of the museum field in the scope of the climate emergency. These resources, such as the Museums on the Climate Journey, are available online.

For more information, see: <https://wearemuseums.com/museums-facing-extinction>

As the examples mentioned in this section demonstrate, the arts sector – in its broadest sense – and the different artistic processes and actors involved deploy and offer a vast array of ideas and measures to reflect and act on the challenges posed by the climate emergency, in all its various aspects. In addition to the specific courses of action identified – and the common challenges that the different artistic areas and disciplines share in terms of production and mobility, among other aspects – there is clearly the will to develop a systemic paradigm shift and a change in lifestyle model that provides for more sustainable actions and a more sustainable future.

Artists and arts and culture professionals have joined forces and created networks and collective projects so they can more forcefully call for the changes needed to respond to the climate emergency. One of the goals is obviously to be able to influence the political sphere – not only in terms of culture, but also in other aspects – nationally and internationally.

According to another report by Julie's Bicycle, in collaboration with the International Federation of Arts Councils and Culture Agencies (IF-ACCA), it is also important to detect global developments in policies and programmes related to culture and environmental sustainability, and how these impact on arts and cultural organisations at the national level. This report provides a snapshot of national policymakers' level of engagement with environmental sustainability with an emphasis on cultural policies, and contains examples of good practice, identifying agencies already embedding environmental sustainability in their country or region (Moore and Tickell, 2014).

The identification of common objectives, a new ecological and environmental awareness, reflection on sustainable mobility, the questioning of systems of production and consumption of energy and materials, observations on the environment and on the responsibility and impact of human action, the preservation of traditional practices, and the will across the board to cooperate and create networks to obtain common solutions, are among the points that are being passionately and critically debated today in the field of arts and culture.

In terms of international cultural cooperation – and to end this section – it is worth highlighting the report produced by the Dutch public agency DutchCulture on cultural cooperation and climate change. The text is a summary of a discussion with a group of forty international experts that focused on climate change, and more specifically on the question of whether and how international cultural cooperation can be fostered in a fairer way in relation to the climate. The document includes reflections on what conventions we share when talking about fair international cultural cooperation in the scope of climate change and a series of practical recommendations for the arts and cultural sector (DutchCulture, 2019).

2.4. Institutional frameworks, regulations and guidelines

For decades, international, state, regional and local institutions have adopted regulations and other measures to address the climate emergency and related issues. Although these do not always contain references to cultural aspects, in some cases these regulations can be considered to apply from a cross-cutting perspective and therefore also affect cultural actors. This section lists some of the main references in this area, both at the domestic and international level. Although this is not an exhaustive analysis, an attempt has been made to identify the most relevant contributions.

2.4.1. International framework

At the international level, the main guidelines on tackling climate change are the United Nations Framework Convention on Climate Change (1992), the Kyoto Protocol (1997) and the Paris Agreement (2015). The last two complement the former and establish new and updated greenhouse gas emission reduction targets and commitments.

None of these documents mentions culture. However, there are aspects that can be interpreted as having implications in this area: one of the objectives of the Paris Agreement, for example, involves “increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development” (United Nations Framework Convention on Climate Change. Conference of the Parties, 2015, Article 2.1.b) This aspect can be related both to environmental education processes and the promotion of values linked to sustainability, as well as to the need to promote lower emission production models,

which should be a priority in the cultural and artistic sectors, while at the same time generating employment and contributing to economic development. There are also references to the need to integrate traditional knowledge and local knowledge systems in promoting resilience to climate change impacts (Article 7.5). Moreover, the three aforementioned documents highlight the importance of education, an area which can be associated to cultural actions.

This set of commitments is binding for the states that have ratified these documents, including Spain, which must guarantee compliance with them in accordance with their own constitutional frameworks. In this case, local and regional governments must also contribute to achieving these objectives, within the scope of their powers.

Another important document from the area of international environmental and climate emergency law is the United Nations Convention on Biological Diversity (or Biodiversity), adopted at the Earth Summit in Rio de Janeiro in 1992. Article 10 of this document establishes the commitment to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements. This Convention also provides mechanisms to analyse the impact of the construction of new infrastructure on the conservation of tangible and intangible cultural heritage, a tool designed in particular to protect indigenous cultures (Secretariat of the Convention on Biological Diversity, 2005).

Finally, it is worth noting that the 2030 Agenda for Sustainable Development, mentioned in section 2.1, sets targets to reduce the impacts of climate change, some of which may have implications for cultural activity. The 2030 Agenda is a policy statement and is not legally binding, but because of its centrality and the nature of the commitments undertaken by different governments, its targets can be seen as important in guiding public action.

2.4.2. European Framework

The European Union participates in setting global targets for reducing emissions and adapting to the effects of climate change, and promotes the adoption of policies along these lines among its member states. For example, it aims to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels, as set out in the Paris Agreement commitments. The so-called European Green Deal is a comprehensive action plan for a sustainable EU economy; its aim is to make Europe climate neutral by

2050 by boosting the economy through green technology, creating sustainable industry and transport and reducing pollution. Within this framework, there may be development opportunities for the less polluting sectors of the economy, such as the fields of culture and creativity.

The European Green Deal contains covers initiatives, including the proposal for a European climate law to achieve legally binding emission reduction targets, and the Just Transition Mechanism (JTM), which between 2021 and 2027 will provide financial support to EU states and regions most affected by the change of production model (in general, this support is concentrated in regions with extractive industries, such as mining). Moreover, and consistent with the cross-cutting and structural nature of the European Green Deal, the European Parliament (2020) has urged the European Commission to ensure that programmes such as Creative Europe, which supports the cultural sectors, incorporate a green dimension: the role of cultural agents in raising public awareness of environmental sustainability, the promotion of good environmental practices among programme participants, support for virtual mobility, etc.

The Green Deal initiative with the most direct link to cultural action is the so-called New European Bauhaus, a project that combines environmental, economic and cultural aspects, with the aim of combining design, sustainability, accessibility, affordability and investment to contribute to the objectives of the Green Deal. After the initial design and consultation phase of the New Bauhaus, launched at the beginning of 2021, five pilot projects will be launched from autumn this year to design new sustainable solutions, which, through interdisciplinary approaches (art, design, engineering, science, architecture, economics, etc.), will provide solutions to the challenges of sustainable development.

In parallel to the European Green Deal, and as a complement to it, in July 2020 the European Council approved the Recovery Plan for Europe, which aims to address the consequences of the COVID-19 crisis. The Next Generation EU instrument, established within this framework, has several programmes, including the Recovery and Resilience Facility, which aims to support green and digital transitions and the resilience of economies. The distribution of Next Generation EU funds is coordinated at the state level; therefore, the Spanish Government determines the priorities in accordance with the European framework, the Community institutions validate them and the public and private agents from around the whole of Spain submit their financing proposals to the State Administration.

In the case of Spain, the Recovery, Transformation and Resilience Plan presented in this framework includes the promotion of the culture and

sport sector among the ten lever policies identified (Government of Spain, 2021). More specifically, the plan is to support three specific programmes or components:

- The upgrading of the cultural industry (endowed with €325 million in the initial proposal), which aims, among other objectives, to promote the modernisation, digital transformation and green transition of the sector.
- The positioning of the State as an international production hub for audiovisual content and video games (for which 200 million euros are expected to be earmarked).
- The plan to promote the sports sector (endowed with 300 million euros).

For its part, the Government of Catalonia has presented the document *Next Generation Catalonia* (2021), which includes twenty-seven flagship projects that can be connected both with the priorities established in the European sphere and with the needs identified in the Plan for economic reactivation and social protection promoted after COVID-19. These twenty-seven flagship projects that aspire to receive European funds include, for example, the promotion of Catalonia as a hub for audiovisual and video game innovation through the Urban Agenda project: revitalisation of urban habitats, which includes an initiative to promote cultural heritage as an element that attracts tourism, and, as well as the promotion of the natural environment and rural areas, which provides actions to turn cultural and natural heritage and the cultural offer into a driving force for creative and sustainable economic activity in different rural areas.

Finally, Barcelona Provincial Council has also carried out a process of identifying projects with a transformative capacity, at provincial, county and municipal level, which could be financed within the framework of European funds. This includes Barcelona Provincial Council's Portfolio of projects for recovery, transformation and resilience, which contains initiatives related to the digitalisation of municipal facilities (including cultural facilities); the BiblioLab programme for experimentation, innovation and creation in libraries; the sustainable reconversion of the library bus fleet; and the restoration of architectural heritage in small municipalities. In terms of actions proposed at municipal or county level, it is worth mentioning the expansion of the capacity of the Audiovisual Cluster in Terrassa, and the promotion of the cultural and creative industry in L'Hospitalet de Llobregat (Barcelona Provincial Council 2020).

2.4.3. Spanish framework

The commitments made at the international and European level are transposed at the national level into regulations and programmes aimed at reducing emissions and promoting the ecological transition. Among the initiatives worth highlighting in this regard is Law 7/2021, of 20 May, on climate change and energy transition, which aims to facilitate the decarbonisation of the economy, favour its transition to a circular model and promote adaptation to the impacts of climate change and the implementation of a sustainable development model, in line with the commitments of the Paris Agreement.

Although Law 7/2021 does not specifically regulate cultural aspects, some of the commitments it establishes are relevant for cultural action: for example, the promotion of energy efficiency and building renovation, which could affect cultural facilities, or the promotion of education and training to address climate change.

Moreover, in early 2021, the Spanish government presented general guidelines for a sustainable development strategy to be adapted to the 2030 Agenda, which should be published in the coming months (State Secretariat for the 2030 Agenda, 2021). Of the challenges set by the State in order to achieve the SDGs, eight refer to cultural aspects: these include the fight to end poverty and inequality, with an emphasis on the need to foster equal access and consumption of culture, the promotion of cultural revitalisation in the most disadvantaged areas and schools at risk of social exclusion, and making progress in the digitalisation of cultural heritage and reducing the digital divide to make culture more accessible; and transitioning towards a less concentrated and dependent economic model, with reference to the potential of culture to be more present in the productive model and to guarantee decent working conditions for the people who work in it.

2.4.4. Catalan framework

In Catalonia, it is worth mentioning, first, the regulations and plans derived from the international commitments already mentioned in the previous sections, and, second, the existence of certain decrees and resolutions that allow cultural action to be adjusted to the objectives in terms of sustainability and the climate emergency. As is the case with regulations at the national level, Law 16/2017, of 1 August, on climate change, approved by the Parliament of Catalonia, does not strictly regulate cultural aspects.

But again there are elements that can be considered to affect cultural action. One of the objectives of the Law is to promote education and disseminate knowledge on climate change adaptation and mitigation. It also establishes the commitment that all sectoral government policies will undertake measures to reduce vulnerability to climate change. In the field of tourism, the Law envisages moving towards a more sustainable model, one that is less resource-consuming and more respectful of the territory, and which manages the sustainability of the tourism sector from a holistic perspective. It also encourages the participation of local governments in the planning of climate policies in Catalonia and supports the development of municipal plans to combat climate change.

Meanwhile, the National Plan for the implementation of the 2030 Agenda in Catalonia (Government of Catalonia, 2019), which contains a wide range of actions aimed at achieving the SDGs, includes several references to cultural initiatives, for example: promoting cultural diversity and access to culture in schools (target 4.7), giving visibility to women as creators and generators of cultural heritage (target 5.5), strengthening the audiovisual sector (target 8.3), promoting sustainable cultural tourism (target 8.9), ensuring equal access to culture (target 10.2), promoting cultural facilities in the structuring of cultural life in cities, revitalising sustainable tourism and generating a social return (milestone 11.3), encouraging the protection and promotion of cultural heritage (target 11.4) and promoting links between cultural and natural tourism (target 15.4).

It must be said, however, that with the exception of this last target, which belongs to the SDG focused on the sustainable use of terrestrial ecosystems, there are generally no references to cultural aspects in addressing the SDGs more directly related to the environment and the climate emergency.

Apart from these documents of a general nature, there are several instruments in Catalonia that deal more specifically with the environmental dimension of cultural action. For example, under Law 6/2009, of 28 April, on the environmental assessment of plans and programmes (a regulation that predates Law 16/2017 and remains in force), the Cultural Facilities Plan of Catalonia 2010-2020 (PECCat) incorporates an environmental report (Martínez Illa, 2010).

In practice, this implies that the granting of subsidies to facilities of the Ministry of Culture, the rehabilitation, planning or construction of new facilities, the drafting of local plans for facilities and other similar measures should include aspects related to environmental sustainability, although the degree of obligation varies from case to case (depending on the

size of the municipalities, the nature of the actions, etc.). The PECCat's environmental objectives include increased efficiency in land consumption; the minimisation of energy consumption, water and material use; the promotion of sustainable mobility; the prioritisation of green procurement; landscape integration, and the introduction of environmental management in the uses of cultural facilities.

Mention should also be made of the existence of two government resolutions establishing the requirements for obtaining environmental quality labels for cultural facilities, derived from decrees 316/1994 and 296/1998 on the Emblem of Guarantee of Environmental Quality for various services. Specifically, these are the following resolutions:

- **Resolution TES/1407/2019, of 6 May, establishing the environmental criteria for awarding the Emblem of Guarantee of Environmental Quality to stage and music facilities, visual arts centres and spaces and cultural centres.** The environmental criteria used to determine whether these facilities can obtain the Emblem of Guarantee of Environmental Quality include those related to energy saving and efficiency, water saving, waste management, purchasing (materials, products and services), mobility, efficient use of spaces, environmental qualifications (certifications, voluntary agreement programmes for the reduction of emissions...), noise and vibrations, and environmental information and education measures. So far, the Ministry of Territory and Sustainability³ has awarded the Emblem of Guarantee of Environmental Quality to nine facilities of this nature, eight of which are located in the province of Barcelona. Most of these are municipally owned or fall under consortia or networks with municipal participation, such as the Granollers Auditorium Theatre, the Atrium in Viladecans, the Sant Cugat Auditorium Theatre, La Virreina Image Centre, the Mercat de les Flors El Graner Illa Philips Consortium, La Central del Circ and La Seca Espai Brossa (Ministry of Culture, 2017).
- **Resolution TES/1712/2020, of 3 March, establishing the environmental criteria for the awarding of the Emblem of Guarantee of Environmental Quality to cultural facilities: libraries, museums and collections.** This Resolution, which updates those adopted in 2012 and 2016, has a very similar structure to the one outlined in the previous

3. The Ministry of Territory and Sustainability was competent in this area until May 2021. Since then, the new Ministry of Climate Action, Food and the Rural Agenda has been responsible for this matter.

paragraph for stage and music facilities and visual arts spaces. The criteria correspond to the same themes, although their description and required levels are different in some cases. Several facilities, such as the Maritime Museum of Barcelona and numerous libraries, have already obtained this recognition (Libraries Service and Ministry of Territory and Sustainability, 2018).

Based on this regulatory framework, the Government of Catalonia and various local administrations, such as Barcelona Provincial Council, have drawn up practical guides and good practice manuals to help adapt cultural facilities, events and activities to the requirements of the climate emergency situation. Given their practical nature, these tools will be described in chapters 3 and 4 of this report.

3. Actions in the field of local cultural management and policies

This chapter describes specific experiences and examples, as well as certain tools and references, to provide a clear illustration of the different areas that make up the relationship between culture, the environment and the climate emergency. Five particular areas of action have been distinguished, as described in section 2.2 above:





The information contained in each section comes from documentary analysis and interviews, and from the research team's interpretation of the information obtained. It should be noted that, in several cases, the same example deals with different issues: the integrated interpretation of the landscape and environmental education, for example, or the greening of public services as part of the development of cross-cutting municipal strategies. Thus, the separation into different thematic areas is merely for the purposes of clarity, but we recommend you read all the thematic areas and examples that have been included.

Finally, it should be noted that the five thematic areas identified in this chapter will also be used in the following chapter to make recommendations and describe specific resources and tools.

3.1. Integrated actions between heritage, territory and landscape

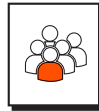
Overcoming the traditional division between nature and culture is, as already mentioned, a key step in these times of climate emergency. Although this idea is valid in any setting, it is probably in rural areas and in the connection between cultural heritage and natural heritage that the link is most evident. The notion of landscape, understood as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (Council of Europe, 2000, Art. 1a), symbolises this interrelationship. Similarly, UCLG has defined *places and territories* as “social constructs, the fruit of the historical interaction of human groups in their appropriation and transformation of the natural landscape. They reflect the history, identity, and values of the populations that inhabit them. Cultural conceptions of place are essential for the quality of life of their inhabitants”. (2015, p. 12.)

Thus, the meeting point between heritage, territory and landscape – which assumes that natural and human aspects have evolved symbiotically, and not without tensions; that the cultural and natural heritage recorded today reflects some of these interrelationships, and that there are cultural practices and knowledge linked to the sustainability of the environment – constitutes a first area of action in which cultural management and policies at the local level can explore their relationship with the environment and the climate emergency. How can we work in this direction?

A first line of action **calls for enhancing the value of significant traditional knowledge and practices** from the perspective of integrated sustainable development, i.e. where cultural, environmental, social and economic aspects intersect. We can include in this scope a wide range of uses, customs and practices that in one way or another are linked to land management, biodiversity conservation or the relationship with the natural environment, among others. Through the work of institutions that preserve and disseminate heritage (museums, ecomuseums, archives, etc.) and cultural associations and organisations, it is possible to contribute to maintaining and integrating it into sustainability-oriented initiatives.



Traditional knowledge and practices



Importance of people as transferors of knowledge



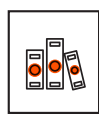
Natural spaces as venues for cultural activities



Heritage as a factor of territorial development



Territorial management tools



Key role of heritage institutions, especially museums and archives

Certain initiatives, such as the inventory of the intangible cultural heritage of the Montseny Biosphere Reserve (see sidebar 8), have explored the meaning of traditions and oral expressions, knowledge and uses related to nature, and artisanal techniques, from an environmental, social and economic perspective. Another interesting example is the Stonewalls for life project. It is an initiative with European funding, which aims to repair the dry stone walls in several natural parks (El Garraf Park, part of the Barcelona Provincial Council Natural Parks Network, and Cinque Terre National Park in Italy) and ensure their preservation, in order to protect the

territory and its inhabitants against the effects of extreme weather phenomena and thus contribute to improving the territory's resilience to climate change.

One of the characteristics of the activities carried out in this field is the complexity of the issues addressed, which requires working in interdisciplinary teams and incorporating into cultural management terminology and concepts from the natural sciences, spatial planning and other disciplines.

Sidebar 8. The inventory of the intangible cultural heritage of Montseny

Between 2009 and 2011, the UNESCO Centre of Catalonia, in collaboration with the Montseny Biosphere Reserve (managed by Barcelona Provincial Council through the Natural Parks Network), the Ethnological Museum of Montseny and the Centre for the Promotion of Catalan Popular and Traditional Culture, drew up an inventory of the intangible cultural heritage of Montseny. Among other objectives, the project aimed to explore the relationship between intangible cultural heritage and natural heritage, from the perspective of sustainable development, understanding that in so-called *biosphere reserves*, such as Montseny, this relationship is particularly close.

The project involved creating a team made up of an anthropologist, a historian and an environmentalist, who took as their starting point the inventory of the ethnological heritage of Montseny that had been drawn up a decade earlier by the Ethnological Museum. Subsequently, through fieldwork they were able to draw up an updated inventory, in the form of a dynamic list, which has subsequently been updated on the basis of the proposals received. A methodology document was also drafted.

The inventory includes oral traditions and expressions (legends, sayings, indigenous vocabulary, etc.), performing arts (music, dance, traditional games and sports, theatre), social practices, rituals and festive occasions (fairs, meetings, traditional forms of organisation, oral memory, etc.), knowledge and uses related to nature and the universe, and traditional craft techniques. The project analysed how each of these elements related to the environmental, social and economic dimensions of sustainable development. Two examples are the idea that the knowledge of the territory provided by legends can contribute to

raising awareness of the natural environment, or that traditional modes of organisation, such as irrigation communities, help in the collective sustainable use of water (UNESCO Centre of Catalonia, ca. 2011a).

The methodological document stresses that an inventory is not an objective in itself, but should serve to promote protection processes and to assert the value of intangible heritage. In a similar vein, it also highlights the association of this project with sustainable and human development, “because the main objective of biosphere reserves is to ensure that the people who live there can live full lives in that territory and maintain their social structure without being forced to emigrate”. (UNESCO Centre of Catalonia, ca. 2011b, p. 28.)

In this regard, one of the key aspects of the project is the participation of the residents of Montseny, through working groups that have given continuity to the process, and the recognition of the local population’s knowledge. The project also contributed to strengthening the local appreciation and self-esteem of the inhabitants in relation to the cultural heritage of Montseny, and has been the basis for educational and awareness-raising activities. In 2013, UNESCO added this project to the Representative List of the activities that best reflect the objectives of the Convention on Intangible Heritage, a list that currently includes only twenty-five projects of this nature throughout the world.

For more information, see: <https://parcs.diba.cat/web/el-patrimoni-cultural-immaterial-del-montseny/>

A second important element in this area calls for the recognition **of the role of people as transferors of knowledge, which is why emphasis is placed on citizen participation**. The various initiatives observed incorporate a participatory dimension of various kinds: involvement of associations, entities and informal groups active in the fields of culture and nature; participatory processes for the identification of cultural and natural heritage; spaces for discussion and working groups; and understanding of cultural facilities as a meeting point for the population and as open spaces for activities of all kinds, etc.

Citizen participation, aside from being a key factor in identifying and integrating the knowledge and heritage elements of the territory, refers to other significant aspects from the point of view of sustainable development. For example, the fact that aspects related to the economic model of the territory, the cultural and landscape value and the quality of life of the

local population can be naturally interrelated at the small-scale level of citizen debate is something that lends more significance to the contribution that cultural management and policies can make in this regard. The work of the Museum of Rural Life (see sidebar 15) as an agent that takes part in debates and initiatives on territorial development or, in another field, the current debates on the impact of large-scale wind farm and photovoltaic projects on the quality of the landscape and its cultural and natural dimension, are good examples of this interrelation, and of the contribution that culture can make in the search for development on a human scale.

A final significant aspect, as demonstrated by the project for the inventory of intangible cultural heritage in Montseny, is that the increased appreciation of local heritage through participatory processes can have positive effects in terms of local self-esteem, by recognising the value of idiosyncratic elements, which may have been underestimated in the past. This can also be a positive factor in terms of the ownership and continuity of processes.

The use of natural spaces as venues for cultural activities is another significant line of action in the relationship between heritage, territory and landscape, as a way of promoting access to culture and nature at the same time and allowing a different kind of discovery. Numerous town councils and organisations hold festivals or events in parks and squares, and in some cases include programmes of this type in their cultural action plans. Barcelona Provincial Council's Network of Natural Parks also organises events such as "Poetry in the Parks: letters and Landscapes" or "Parks in Concert", with a regular offer of music, poetry and other artistic disciplines in natural settings, which aim to underline the link between creation, territory and landscape.

The Natural Parks Network has also published the *Guide to the design of healthy peri-urban itineraries* (Camprubí i Trepà, A., Camprubí i Trepà, L. and Tolosa Giribet, G., 2018), which highlights the potential of peri-urban spaces and natural parks to promote healthy habits and the prevention of diseases related to sedentary lifestyles. Likewise, the guide highlights the value of heritage and cultural elements both for making itineraries more dynamic and attractive and for strengthening local identity and community development, as well as for contributing to the diversification of audiences when cultural content of a historical, scenic, popular or gastronomic nature is incorporated.

The incorporation of cultural heritage and landscape in territorial development plans is another significant line of action in this field. According to a survey of local professionals in the province of Barcelona in 2016, land-

scape and heritage were the fourth most important factor for the economic development of their municipality and territory, after public services for local economic development, business dynamism and accessibility (location and communication infrastructures). In some counties or sub-counties, such as L'Alt Penedès, El Garraf and El Lluçanès, landscape and heritage appear in first position (Ulled *et al.*, 2017).

This role of heritage and landscape explains the emergence of the notion of landscape economics, which particularly emphasises the link between people's perception of and relationship with the landscape and economic practices: landscape as an element that attracts tourism, as a factor that provides image and identity to the products and companies of a given territory (a visible aspect especially in the area of food), as a revitaliser for the creative economy (as a filming location, for example) and as a space from which social and solidarity economy initiatives linked to the landscape as a common good (community gardens, stewardship agreements, etc.) emerge (Boixader and Solé, 2020).

In this regard, the interpretation of landscape and heritage that cultural management can bring to integrated territorial development strategies should be promoted, in order to ensure a good balance between economic, cultural, environmental and social aspects.

In a similar vein, there are various **instruments for territorial management that could be useful to ensure the conservation and appreciation of cultural heritage**, above all because they allow joint efforts between various public and private agents, bearing in mind that there are elements of natural and cultural heritage that are a common good, an element that belongs to society as a whole and for which everyone must take responsibility. This is the case of land stewardship, a set of legally recognised strategies and instruments designed to facilitate the conservation and proper use of natural resources and the cultural and landscape values associated with them (see sidebar 9). Although it has so far been used mainly for the management of natural resources (forests, rivers, ponds, etc.), there are also examples applied to cultural heritage. More generally, land stewardship can offer a flexible framework, adaptable to different contexts, to integrate the cultural and natural elements of the territory and facilitate the joint management of the environment. For this reason, it would be interesting to assess their use through cultural management and policies.

Sidebar 9. Land stewardship and its implications for cultural heritage

The notion of *land stewardship* has been defined as “a set of strategies and tools that aim to involve owners and land users in conservation and good use of values and the natural, cultural and landscape resources”, under the premise that this conservation is not only the responsibility of public administrations, but that civil society must play an important role, through stewardship organisations or the representation of the owners or users of forest, agricultural and urban land (Asensio *et al.*, 2018, p. 14). The revision of the sixth book of the Catalan Civil Code that came into force in 2018 recognises the land stewardship contract as an agreement of a temporary nature for the purpose of carrying out activities that contribute to the conservation of biodiversity, natural and cultural heritage and landscape, or to the sustainable management of natural resources (articles 623-634).

This formula has been increasingly implemented in recent years, at the initiative of local councils, landowners, property owners or other entities, taking advantage of the flexibility it offers and the capacity to bring together several actors around common goals. Although in most cases the object of stewardship is a natural space or resource (rivers, ponds, forests, etc.), there are several cases of stewardship applied to the protection of cultural heritage. For example, the Gavarres Consortium (which brings together twenty local councils, two regional councils, Girona Provincial Council, the Government of Catalonia and forest owners organisations) has taken advantage of this legal mechanism to protect and promote several areas of ethnological interest (“ZIE”, one of the categories of cultural assets of national interest or “BCIN”) which are privately owned (mills, ice wells, etc.), which are considered fundamental for explaining and conserving the ancient uses of the territory. Town councils such as Castellar del Vallès and Sant Celoni have also promoted stewardship agreements focused on the conservation and appreciation of cultural heritage (Prada, 2017).

The fact that land stewardship in Catalonia has been mainly used, until now, to conserve the natural environment explains why, at the municipal level, environmental services tend to participate, as well as, in some cases, health services (due to the link between the natural environment and health) as well as those related to tourism. Howev-

er, there could be greater involvement of municipal cultural services and more inter-municipal collaboration for integrated heritage conservation.

For more information, see: <https://xcn.cat/projecte/custodia-municipal/>

In a similar vein, several territories in Catalonia have landscape charters, which Catalan Law 8/2005, of 8 June, on landscape protection, management and planning, inspired by the European Landscape Convention, defined as “instruments for the coordination of strategies between public and private agents to carry out actions for the protection, management and planning of the landscape with the aim of maintaining its values” (article 14.1). Landscape charters are voluntary, non-binding instruments, but are based on the understanding and consensus of the different actors in a territory. The Government of Catalonia, regional councils, town councils and other local administrations are able to draft these charters. The Law also establishes that landscape charters must take into account the catalogues of cultural, artistic and natural heritage of the municipal area in the cases where they exist (Article 14.5).

Some of the Catalan territories that have landscape charters today are L'Alt Empordà, L'Alt Penedès, El Berguedà, El Garraf, El Lluçanès, El Priorat and Vall de Camprodon. The Garraf Landscape Charter, for example, which was drawn up with the participation of Barcelona Provincial Council, El Garraf Regional Council, six town councils, several Catalan Government ministries (including the Ministry of Culture) and numerous other bodies, stresses the importance of conserving the cultural heritage linked to the landscape (dry stone, transhumance, etc.) and the desire to promote and boost the scenic culture of the landscape as a space for filming and the development of the audiovisual sector (Node Film Cluster Costa Barcelona, Gran Penedès Film Commission Costa Barcelona) (El Garraf Regional Council 2019). The Landscape Observatory of Catalonia ensures that the landscape charters are consistent with the existing landscape catalogues in their respective areas of action and provides information on these processes (Landscape Observatory, 2021).

At the municipal level, local landscape plans are also of particular interest. It is an instrument designed to promote the value and quality of the landscape, which can be adopted by individual municipalities or by a group of municipalities that share the same landscape unit. The Cervera Landscape Plan, for example, provides for the rehabilitation of various

heritage elements in the town centre, an inventory of the ethnographic heritage of the rural areas of the municipality and the restoration and maintenance of rural historical-architectural heritage, among other aspects (Saladié and Bonfill, 2015).

Finally, an important element in the set of experiences observed is the **key role of heritage institutions**. Museums, ecomuseums, archives, entities linked to tangible heritage or to popular and traditional culture, etc., play a very important role both in the conservation and transfer of heritage and in the management of projects and processes that connect it with the territory and the landscape. For example, the Ethnological Museum was fundamental in the inventory of the intangible cultural heritage of Montseny, thanks to its previous inventory work and its role in connecting local agents, and for contributing to the continuity of the process and the dissemination of the results. Similarly, the Vallès Oriental Seed Bank project (see sidebar 10) relies on the key role of the Granollers Museum of Natural Sciences, a centre devoted mainly to nature but which facilitates the transmission of related cultural knowledge and is very active in the field of environmental education and dissemination. In this sense, by addressing heritage, territory and landscape in an integrated way, heritage institutions often establish practices and generate knowledge in which cultural and natural elements converge. Ecomuseums, such as the Moianès Ecomuseum (born out of the cooperation between the municipalities of the area and the Regional Council) or the Wheat Ecomuseum (which connects several town councils, associations and the Osona Regional Council to provide an integrated vision of the landscape and the territory, based on the research, conservation, dissemination and appreciation of rural heritage, especially wheat and bread), are good examples.

It is also worth mentioning the role of numerous local museums, such as the Ter Museum, a municipal museum belonging to Manlleu Town Council, which, among other functions, carries out environmental education actions, has the support of the Centre for Mediterranean Rivers Studies, a research institute linked to the University of Vic, and participates in various networks (the Observatory of Ethnological and Intangible Heritage of the Government of Catalonia, the Barcelona Provincial Council Network of Local Museums of and the territorial system of the National Museum of Science and Technology).

Sidebar 10. The Vallès Oriental Seed Bank

The Catalan Granary Network (<https://graners.wordpress.com/>) brings together various organisations committed to biodiversity and which highlight the importance of traditional agricultural varieties, in order to promote agricultural diversity and contribute to food sovereignty and autonomy. This work is linked to the management and conservation of knowledge associated with the cultivation of traditional varieties; thus, one of the Network's objectives is to coordinate research, preservation and multiplication of traditional varieties and their associated culture.

Among the participating entities are Llavors Orientals, one of the organisations that has promoted the Vallès Oriental Seed Bank, with the aim of cataloguing, recovering and disseminating the agrobiodiversity of the county and increasing the presence of traditional varieties in the agri-food market (El Vallès Oriental Seed Bank, 2021). There is also an underlying objective of recognising the legacy of the people who have maintained this knowledge over the centuries and the related heritage (Torrent and Borràs, 2021).

The project is notable for the participation of the Granollers Museum of Natural Sciences, as well as the town councils of Granollers and Santa Eulàlia de Ronçana, El Vallès Oriental Regional Council and other entities, and has received European funding. The Museum offers a space for preserving the seeds of the bank and has a technician in charge of managing it. So far, seeds of more than 180 varieties have been collected: tomatoes, green beans, broad beans, peas, etc. In addition to conservation work, the project has a website and carries out educational, dissemination and participation activities. Initiatives such as these help to raise awareness of the importance of agrobiodiversity and encourage the presence of traditional varieties in shops, of which there were very few just a few years ago.

Apart from this activity, the Granollers Museum of Natural Sciences, which is owned by the municipality, has an extensive programme of educational activities (with workshops such as Researching climate change and others on the environment and biodiversity), holds exhibitions on related subjects (the most recent, "What we eat today", deals with the relationship between food, culture and the natural ecosystem) and participates in numerous research projects on biodiversity, both in Granollers and the Vallès region and in the rest of Catalonia.

For more information, see: <http://www.llavorsvallesoriental.cat/inici/> and <http://museugranollersciencies.org/>

The description of the lines of action and the examples given in this section show the importance of developing integrated actions between heritage, territory and landscape, and the specific contribution that can be made through cultural management and policies at the local level. At the same time, the analysis also raises **some critical issues**, which are briefly outlined below:

- The commitment to landscape in rural areas can often be linked to the attraction of tourism, and there are certainly well-known links between the conservation and appreciation of cultural and natural heritage and the potential for developing the tourism offer. However, this dimension should be seen as a risky option, especially if the number of visitors increases and if there is no proper management that preserves both the landscape and the way of doing things. Furthermore, it is important to ensure that, together with the conservation of the past, any interpretation of the territory's heritage and cultural dimension takes into account contemporary relevance and also contemplates other elements (contemporary creation linked to the cultural and natural environment, cultural facilities and offer for the population of the area, artistic education, etc.). Some of the examples presented in the following sections follow this line.
- Cultural heritage can be a source of knowledge about the natural ecosystem and how people have related to it in a sustainable way. However, heritage also includes practices that can be harmful both from a human point of view (discrimination against women or different collectives, etc.) and in terms of nature conservation. In this sense, critical reflection is necessary at all times, and the ability to cross-pollinate perspectives and disciplines, accompanying cultural heritage management with insights from various fields of knowledge and practice, can be useful in this context.
- As demonstrated by the work of the Vallès Oriental Seed Bank and the Catalan Granary Network, the platforms against wind farm and photovoltaic projects and the projects linked to the social and solidarity economy, those projects that connect heritage, territory and landscape can be underpinned by critical views of the predominant economic and territorial management models. In this regard, and in line with a systemic perspective of culture, any reflections resulting cultural policies and management should avoid simple connections between cultural and economic development and should seek to generate spaces for in-depth discussion and debate.

3.2. Artistic explorations of the territory and climate



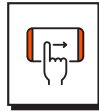
Art as an element that enhances the value of the territory and the landscape



Collaborative artistic practices



Multi-stakeholder collaborations to promote artistic activities



Crossover of disciplines

As mentioned in the previous chapter, artistic and creative experiences can in themselves contribute to understanding the causes and impacts of the current climate emergency and to analysing the connections with territory, nature, landscape and ecology. For the purposes of this section of the report, we looked at specific cases derived from different places, territories and realities in Catalonia, which reveal many key elements that shed light on the points of convergence and connection between artistic explorations, the territory, sustainability and the environment, and demonstrate lines of action that may be of interest in other settings. The origins of the projects in question are very different – artists' and researchers' residencies, festivals on art, nature and landscape, research groups on hybrid ecologies, among others – and are located in very different places and territories – high mountains, the Llobregat Delta, Mediterranean forest, etc.

– with common underlying issues in which artistic perspectives and processes converse with nature and the environment and help us to understand the climatic, environmental, social and economic challenges we face.

Different artistic practices and methodologies – linked to the concept of sustainable development of the environment – can be identified; the protection and appreciation of cultural and natural heritage; raising awareness of ecological and environmental issues in order to bring about a paradigm shift; a reflection on the need to think about a new production model and use of materials, among others which together, but each with its own approach, highlight a series of useful areas of action for local cultural management and policies. Looking in more detail at the initiatives, when considering the links with the environment and the climate emergency and the values and useful elements that derive from these, we can highlight some key concepts to keep in mind.

One of these key concepts perceives art as a **tool for highlighting the value of the landscape and of cultural and natural heritage**. The organisation of artistic activities in the territory enables us to become aware of the natural environment that surrounds us and the different elements of cultural and natural heritage, both tangible and intangible, that exist in a specific context. All the different contemporary artistic disciplines have a great communicative capacity and a cross-cutting pedagogical capacity, expressing themselves through images, through movements, through words, through various aesthetic elements, through multiple devices that activate other ways of seeing and thinking. Artistic processes and explorations invite us to reflect, stimulate often forgotten dialogues between the environment and culture, amplify and diversify the public participation and galvanise ties and knowledge of the territory. Initiatives such as the Art & Gavarres festival (see sidebar 11) combine art and nature, art and landscape, and invite artists who, through their works, their visions and their creative interpretations, highlight the value of the surrounding Mediterranean forest.

Sidebar 11. Art & Gavarres

Art & Gavarres is an international art and landscape festival that has been held since 2018 in the Gavarres region. The festival is based on the idea that art can be a tool that helps peoples reflect on and change their perspectives of the landscape. Its purpose is to connect art and nature to raise awareness of the protected natural area of Les Gavarres and highlight its value.

The festival was born as an initiative of the Gavarres Consortium, an entity created in 1998 by the twenty municipalities of the area, the regional councils of El Baix Empordà and El Gironès, the Ministry of Territory and Sustainability of the Government of Catalonia, Girona Provincial Council, the Forestry Consortium of Catalonia and the Association of Forest Managers of Les Gavarres.

Art & Gavarres aims to attract tourists interested in the quality of the landscape and the cultural offer, and to encourage visitors to reflect on and to discover the natural spaces and learn to appreciate their immediate surroundings. The organisers invite local and international artists to create artistic installations in the Les Gavarres natural area. These must be ephemeral, created without external material contributions, but with natural and biodegradable materials present on site or nearby. The works can be visited until nature itself, through the passage of time, erases them.

The use of ephemeral materials and the interaction with the landscape and the environment that brings attention to the cultural and natural heritage of Les Gavarres are part of the founding philosophy of the festival. Interest in ecological and environmental protection issues is growing and the festival is starting to gain recognition among local agents – new municipalities are supporting the initiative, local organisations such as Bòlit, Girona’s contemporary art centre, are collaborating in some of the activities, citizen participation and the overall expectations are increasing – but the organisation’s intention is to keep it small-scale.

The 2021 edition of the festival – set to take place between September and December – is entitled “Without going too far” and offers a reflection on the effects of the pandemic, which, on the one hand, have led to a rediscovery of the immediate environment, but, on the other, have given rise to sudden overtourism that has had unexpected impacts on the territory.

For more information, see: <http://www.artigavarres.cat/index.php>

Art and culture are tools for territorial analysis and intervention that promote new spaces for relations with nature, the environment and the rural world. Many of the projects involving artistic practices that have been studied for this report talk about local development, approaches to local cultures and heritage and their role as tools for local cultural policies (on this aspect, see also Martínez Tormo, 2020). Connecting with tradi-

tional practices and knowledge, rediscovering values, symbols and meanings specific to each territory and each natural ecosystem, can also be promoted through artistic creativity and expressions. The landscape – and by extension the natural environment and the rural world – is understood as a *legacy* and plays a very important role in the social processes of constructing a territorial identity (Muñoz and Nogué, 2017).

Art, heritage and the environment are, in many of the cases analysed, united by a common discourse: the recovery of dry stone as traditional architecture; the relationship that native communities in rural, high mountain and forest areas have with natural resources; the reflection on traditional and sustainable production models; the issue of biodiversity, etc. These are all elements that also emerge in artistic discourses and provoke the interest of creative spaces, projects and programmes.

One of the interdisciplinary examples – where art, heritage and education interrelate with sustainability, ecology and climate emergency – is the Centre for Contemporary Art and Sustainability (CACiS) El forn de la Calç, located in the municipality of Calders (see sidebar 12).

The interdisciplinary work that takes place at CACiS highlights **the message and critical perspective that artistic practices bring to today's climate and environmental challenges.**

Art is also an important tool for raising awareness, communicating and giving visibility to complex issues. The current climate emergency tells us that we need to generate a paradigm shift, a change of systemic model and values, and in order to move in that direction; scientific messages alone are not considered sufficient. It is here that art and culture also play a key role: that of offering other views and other perspectives through numerous creative languages and disciplines. One line of work in this sense is that of those collectives and initiatives that promote artistic creation based on the recycling of materials. Among the best known cases is the Drap-Art association, which organises the international festival of the same name and participates in numerous international initiatives; and the recycling and responsible art festival ReciclArt, in Sitges. More generally, it is worth remembering that the arts open doors to develop new ecological imaginaries and above all, in these times of post-COVID transition, they help us face up to unpredictable scenarios, given that the arts offer us the necessary space to act with imagination, resilience and adaptation.

The CACiS – where sustainability and ecology are the fundamental philosophical frameworks – contributes to the reimagination of the economic model, consumption processes and habits, energy self-management issues, the vitality of the rural context, etc. combining different artis-

tic languages, with the vision and recovery of heritage and with the implementation of educational programmes.

Sidebar 12. CACiS El Forn de la Calç

The Centre for Contemporary Art and Sustainability (CACiS) El Forn de la Calç is a private non-profit initiative founded in 2008, which receives the support of Calders Town Council and the Government of Catalonia. The CACiS is a space dedicated to experimentation, research and dissemination of the arts that focuses on three main lines of action: heritage, art and education.

- **Heritage:** the CACiS is located in one of the most representative lime kiln complexes of Catalonia's industrial heritage. In the area of heritage, the focus is on dry stone architecture, bioclimatic architecture criteria, the specificity of the old lime kilns and the restoration of local heritage.
- **Art:** this line focuses on support for the production, creation and development of networks and exchanges.
- **Education:** a programme of interdisciplinary studies about contemporary languages of art and environmental and conservation issues. A space for experimentation between scientific and artistic research.

The philosophy of the centre is to work along each of these three lines – and in combination – in relation to the landscape, the environment, sustainability and ecology through a critical and conscious approach. One of its objectives is to provide a space in which both aesthetic elements of artistic production and a critical perspective of the future can coexist. Through exhibitions and creative projects, the centre wants to provoke other perspectives and stimulate critical thinking that is conscious of today's ecological and environmental challenges.

According to Roser Oduber, the centre's director: "At CACiS we offer a space for production and we welcome projects with a critical perspective, which do not to see the context simply as *noucentista* and a natural area for contemplation. Art is one of the most direct and genuine communication tools. It is a fundamental language of observation and analysis. The CACiS is not a centre for contemplation, but a centre that wishes to convey a critical message. For us it is important

to maintain the rural context as a living thing, not as a decorative backdrop for tourists. At CACiS, we do not dedicate ourselves to making things pretty, to providing aesthetic images that can move the public. The aim is to change consumer habits, which is what concerns us most, to provoke debate and reflection so that there is real change". (Extract from the interview conducted as part of the study)

Through joint interactions and alliances with the different realities of the territory and beyond – with town councils, schools, universities, associations, networks, etc. – the CACiS organises, hosts and stimulates creative projects that revolve around the common theme of ecology.

For more information, see: <http://cacis.elforndelacalc.cat>

A significant element that cultural policies must take into account is that **artistic practices can also be seen as a tool for citizen participation** and multiple collaborations, as demonstrated by several projects included in this and other sections of the report. The diverse forms of artistic exploration generate spaces for active reflection, provoke exchanges, conversations and debates on the values of sustainability and the risks of the climate emergency, fostering a sense of belonging.

Another important aspect worth emphasising is the **various collaboration dynamics that are launched in the organisation of artistic events**. Most of the examples involve a network of agents, organisations, associations, public institutions, working groups with experts from different disciplines, which come together to collaborate thanks to the implementation of artistic projects and experiences. The case of the Art & Gavarres festival shows us, on the one hand, the level of collaboration that exists between the different town councils and entities that form part of the Gavarres Consortium. Meanwhile, the artistic explorations in the territory are accompanied by round tables, presentations of works, guided tours of the territory, collaborations with schools, etc. In the case of CACiS, there are different levels of cooperation and complicity with local agents, town councils, networks, schools, universities, etc. One project worth mentioning is Microscopies, a cultural itinerary that the CACiS has organised in collaboration with Manresa City Council and other entities to discover the unique environments of the Manresa Anella Verda (green ring) through art. A project that wants to "highlight the environmental value of the natural landscapes of the Anella Verda, incorporating more permanent proposals, seeking a view of the shared landscape, where permanent works help reflection and the admiration of the chosen places. (CACiS El Forn de la Calç, 2020.)

Networks and collaborative processes between different agents are vital dynamics for creative and artistic projects located in rural contexts and natural environments; they are projects that seek to raise awareness “from the margins” (ACVIC, 2011). Networks and initiatives such as El Cubo Verde, Red Transibérica, Campo Adentro, Xarxaprod or the global network of residencies Res Artis contribute to establishing nodes, links and exchanges to widen the scope of action and share challenges also linked to the themes that concern us in this study.

Another emblematic example in terms of dialogue between art and ecology is Centre of Art and Nature (CAN) of Farrera project (see sidebar 13). Located in the high mountains, the CAN of Farrera focuses on generating synergies between the resident artists and the territory.

Sidebar 13. Farrera Centre of Art and Nature

The Farrera Centre of Art and Nature (CAN) is a working residence for artists and researchers.

The CAN was founded in the high mountains, in the heart of the Catalan Pyrenees, in the Pallars Sobirà, in the village of Farrera (25 inhabitants and 1,360 m above sea level), in which neo-rurals set up homes during 1970s and 1980s, alongside the three existing houses of the local inhabitants. Among those who passed through was Bernard Loughlin, who years later would become the director of the Tyrone Guthrie Centre, an artists' residence in County Monaghan in rural Ireland. In 1989, on a visit to Farrera, Bernard Loughlin proposed a similar project for the village. In 1994, the old school was refurbished with European funds from the Leader II programme to create the infrastructures for the residence, and all that was missing was someone who could take responsibility for the project. Bernard Loughlin asked Lluís Llobet Martí and Cesca Gelabert to take over, and in 1995 they moved with their children to Farrera, where they had already lived for seven years.

For the first few years they co-managed the centre, which started out in the old school and the headmaster's kitchen-dining room. Meanwhile, the Town Council bought and rehabilitated the old Bastida de Manresa barn, thanks to European Interreg funds and co-financing from the Government of Catalonia. In 1996 the office was opened in Tírvia, as there was only one public telephone in Farrera, and the first international meeting took place, entitled “Landscape in

modern art”, with fifteen artists from eight countries who worked with the heritage values of the high mountains.

Since Lluís Llobet was an expert in geography, they immediately decided to work not only with artists, but also with scientists, geographers, experts in tangible and intangible heritage, naturalists, etc. In its twenty-five years of existence, the project has always had a local focus, centred on the landscape, the territory, the relationship with nature and collaboration with neighbouring communities, and an international vision, above all thanks to its participation in the Res Artis network, which put it on the international map of artistic residency programmes.

At the CAN, artistic creation has always gone hand in hand with knowledge and study of the territory. This is one of the elements that defines the project and also underlies the criteria of many of the resident artists. Local development, the recovery of heritage, the value of hospitality as a key theme, the relationship with the natural resources of the area and the reflection on ephemeral or recyclable materials, among other things, provide the project with a basic framework that focuses on the environment and ecological awareness.

The Farrera CAN received the National Culture Award 2020 – conferred by the National Council for Culture and the Arts (CoNCA) – for its creative residency project for artists and researchers and its commitment to the territory.

For more information, see: <https://farreracan.cat>

The reflection on sustainability, ecology and the environment involves all aspects of the Farrera CAN project: energy and bioclimatic architecture; the local sourcing of food, seen as moment for meeting and interrelating with each other, and the reflection on and exploration of the points of convergence between culture, species and the natural environment. Artistic languages mix different perspectives, create tools to address biosphere issues and facilitate understanding. The Farrera CAN invites artists to interact with the territory, to get to know its specificities and to work with its natural materials. In addition to the residencies there are poetry festivals in the park, the Aplec Saó in autumn – a meeting of artistic creation in the Alt Pirineu region that promotes debate on the relationship between humankind/society and nature in the rural and mountain environment – and the Art & Ecology project, which offers a space for reflection on the effects and impacts of the climate crisis from an artistic perspective.

The ability of artistic practices to propagate and transgress disciplinary boundaries is fundamental for delving deeper into complex conceptual territories. A European experimental research project between art and ecology, *Frontiers in Retreat*, of which the Farrera CAN was a part, pointed to the fact that “artists have the capacity to synthesize different modes of knowledge, which is crucial for the understanding of complex co-dependencies between ecological, social, economic, and political phenomena. This ability is required in order to come to terms with a hyper-complex question such as global climate change”. (<http://www.frontiersinretreat.org/>).

It is therefore important to underline how creativity and artistic expressions activate processes of interdisciplinary collaborations. An example of this is the project of the Working Group on the hybrid ecologies of the Llobregat Delta (see sidebar 14).

Sidebar 14. Working Group on the Hybrid Ecologies of the Llobregat Delta

As the online project document explains: “The Working Group on the Hybrid Ecologies of the Llobregat Delta is a transdisciplinary research office created in 2016 by curator and art historian Christian Alonso, together with artist and gardener Vicky Benítez, and artist and community art mediator Eduardo Ruiz. Since 2016, we have carried out numerous activities in the territory, such as field trips and perceptive tours, in which we have identified generative and conflictive dynamics between the biosphere, the sociosphere and the technosphere. We have also held discussions with farmers, biologists, activists, engineers and artists. This material tells a polyphonic story about profound trans-species connections, about the fragility of wetland ecosystems, about disturbances in hydrological, geological and atmospheric systems, and about the need to rethink coexistence with non-humans in the global city. The Working Group aims to provide a space for analysing the living conditions of the more-than-human communities of the Llobregat Delta, the exchange of ideas on new forms of ethical-aesthetic activism, collaboration with different agents, as well as scientific dissemination”.

The group’s research on hybrid ecologies will be part of the exhibition “Multispecies Imaginaries. The art of living in a contingent, uncertain world” to be presented at La Capella in Barcelona in 2022. One of the most important elements worth highlighting is the interdisciplinary principle of the project: this is evidenced by collaborations and

partnerships with organisations and experts from a wide range of disciplines; by the research themes identified, such as mobility policies (human, animal, data, etc.), the hydrological system, invasive species and the debate on pesticides, among others, and by its possible applications beyond the exhibition project.

According to those responsible for the project, art and artistic approaches and processes are used here as tools for social transformation, to change people's outlooks and perceptions. The complex ecosystem of the Llobregat delta is analysed from a socio-cultural perspective and through tentacular research. This is where the artistic approach and methodology can contribute a great deal and help forge more sustainable relations with the outside world. For more information, see: <http://caosmosis.net/Grup-de-treball-de-les-ecologies-hibrides-del-Delta-de-Llobregat>

The different projects and examples in this section share common elements and concerns, which are critically analysed and developed through a myriad of creative approaches. Artistic approaches and explorations of climate, territory, ecology and the environment can add value to the complex reflections of our time, and help to generate a paradigm shift. We have before us an ecosystem in which artists, residency projects, cultural centres, hybrid experimental research working groups, curators, cultural managers, festivals, etc., represent a fundamental voice to act, with local vision and knowledge, in the face of the ecological and environmental challenges of the present and the future. The entire creative sector and artistic expressions – in their interactions with the entire socio-economic and territorial framework – have an impact and a transformative capacity on communities and the territorial and socio-economic context itself (Abeledo Sanchis, 2020).

Certain **critical elements** emerge based on the analysis of the various examples.

- Reflection on the use of materials. Some events opt for local, ephemeral and biodegradable materials that minimise the impact on the environment. While in principle everyone agrees, there are those who wonder whether the creative freedom of artists would be limited by these requirements. Another school of thought related to materials questions the role of recycling. According to those experts most closely linked to environmental issues, recycled plastic is still plastic. It would therefore

be much more desirable to remove the use of plastic in works of art altogether, even if it is recycled.⁴

- Another interesting aspect that may be critical is related to the dimension of cultural events and audience participation. According to the professionals interviewed, the concept of size is important. There should be no mass attendance for the activities they organise. If an event is held in a park, in a small village, in a forest, the number of participants must be sustainable and respectful of the environment. Therefore, for ecologically and environmentally aware artistic practices and events, on the one hand, it is important to convey critical messages to a broad and diverse audience, but on the other hand, it is preferable not to encourage mass participation.

To end this section, we must mention the role of museums and exhibition centres when promoting artistic practices that focus on sustainability and respect for the environment. Furthermore, many of the experiences analysed have a direct and very close link with the educational sphere and with the practices of citizen participation. These topics will be explained in more detail in the next section.

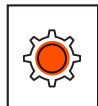
3.3. Environmental education, culture and citizen participation

In 1975 a walk was organised in the Santiga forest in Barberà del Vallès, the first environmental education route in Catalonia. That walk was carried out under a different gaze: nature and the forest were no longer just a place to relax away from frenetic city life, but were finally seen as a place of learning to understand the deep connections between nature, culture and human development. In this regard, we need to be aware that environmental education has an important cultural dimension, because of the specific perspective it brings to the relationship between people and the environment and how to transform it, and because of the knowledge it can offer about various aspects of the natural ecosystem.

The notion of environmental education began to take shape during the 1970s and the concept expanded internationally. As Jaume Terradas i Serra explains:

4. However, it must also be said that there are arguments in favour of using plastic because of the benefits it offers, such as durability and quality. Nevertheless, when using plastics, it is important to be very conscious of their use and to ensure they do not quickly turn into waste.

“In 1970, at the International Working Meeting on Environmental Education in the School Curriculum at the Monte Institute in Carson City, Nevada, IUCN/UNESCO defined environmental education in these words: “Environmental education is the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelationship among man, his culture and his biophysical surroundings. Environmental education also entails a practice in decision-making and self-formulating a code of behaviour about issues concerning environmental quality” This definition had considerable influence. In fact, I think it is very accurate and still very valid today, since it includes both participatory and ethical aspects”. (2017, p. 24.)⁵



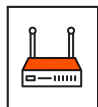
Innovative methodologies thanks to the collaboration between education and culture



Educational role of cultural facilities



Social and citizen participation in cultural and environmental projects



Citizen ownership of creativity and technology projects

5. IUCN is the International Union for Conservation of Nature, an international NGO linked to UNESCO.

In view of the numerous challenges posed by the climate emergency, environmental education is seen as a fundamental tool and as a necessity that is not only aimed at the educational sector, but at society as a whole. The creative power of the different practices linked to the fields of culture and the arts, their ability to speak diverse languages and **the implementation of original resources, ideas and pedagogical formats** mean that the link between environmental education and culture has great transformative potential to generate a paradigm shift.

In most of the examples analysed in this study, and in conversations with different experts working in culture, the arts and the environment, one of the most recurrent elements was precisely the subject of education. Exhibition projects, reading activities, vocational training workshops, active participation processes with multiple territorial stakeholders, links with schools, universities, researchers or research groups, reveal a very active landscape that demonstrates how culture and the arts are **constantly seeking innovative and stimulating models to promote knowledge and citizen participation**

It is therefore important to recognise through cultural policies and management that the ecosystem of cultural spaces and the professionals who work in them is particularly predisposed to incorporate new projects and new interdisciplinary activities, in which the approach to sustainability and reflections on the challenges of the climate emergency acquire new perspectives and new audiences thanks to methodologies focused on education and participation. There is also potential to develop innovative partnerships with various entities and initiatives working in the field of environmental education, such as the so-called *green schools* or the many environmental associations and entities that exist, which often carry out education, dissemination and awareness-raising activities.

One of the most relevant examples in this regard, because of the way it links culture and education to promote sustainability, is the Museum of Rural Life in L'Espluga de Francolí (Conca de Barberà, Tarragona) (see sidebar 15).

Sidebar 15. The Museum of Rural Life and its actions in the field of education

The initial perspective of the Museum of Rural Life – opened in 1988 by the Carulla Foundation – focused on a historical discourse about

the rural world around the Mediterranean, and later expanded the reflection on contemporary rural issues and problems and on its conflicts and its future in a global world. Since 2018, under new management, the museum undertook a new approach with a commitment to contemporary social challenges, focused on educating in sustainability through culture and the arts, through cross-disciplinary languages that offer new perspectives on heritage.

The current orientation of the Museum is fully in line with the debates on the SDGs and the 2030 Agenda and thus the opportunity has been seen to explore how a territory facing demographic, social and environmental challenges can find in a museum an element of education, socialisation and economy. The Museum goes beyond its own museographic narrative and acts as a cultural centre, a laboratory for research and experimentation, an actor in local development, a promoter of participatory processes and an educational agent, connecting heritage, the arts and global environmental and sustainability issues with the specific territory in which it is located.

One of the principles underpinning the Museum's actions is to always collaborate with local entities. The exhibition projects offer spaces for dialogue with the social context, the public administration, the education sector and specific groups, such as reading clubs, elderly women, researchers and migrant communities. All the activities offer a cross-cutting approach, which always includes the perspective of sustainability. In this convergence of different points of view, between art, science, technology, food, etc., the knowledge obtained is extraordinary, and the role of the Museum is to make these languages accessible in order to facilitate learning processes.

Some problems found in the rural world are common at a global level, and in this sense the Museum of Rural Life also focuses on the international context to broaden the reflection on the discourse of sustainability and the impacts of the climate emergency. The international focal point is the Festival of Education for Sustainability (FES) – an annual interdisciplinary event held in autumn – which focuses on sustainability as a shared cultural, educational and social challenge.

For more information, see: <https://museuvidarural.cat>

Museums have an increasingly important role to play in sustainability education. On the one hand, as stated in the report on culture and local

development by the Organisation for Economic Co-operation and Development (OECD) and the International Council of Museums (ICOM), given the link they develop with local communities, “can enhance sustainability and climate change education by working with and empowering communities to bring about change to ensure a habitable planet, social justice and equitable economic exchanges for the long term”. (2019, p. 10.) The same can be said for other cultural institutions and entities – and also for schools and institutes, which already play a fundamental role in this field – that promote local engagement with citizens and environmental education.

Meanwhile, the active role of museums and exhibition centres is also key to promote artistic and cultural management practices that focus on sustainability and respect for the environment. That is to say, **the very practice of cultural facilities, insofar as it integrates an environmental approach and carries it out, can have educational functions:** exhibition discourses, transport and mobility policies, construction and communication materials, energy efficiency or reflections on the values of sustainability, among others, have a direct impact on the educational function of a museum (De la Torre and Guzmán, 2020). In Catalonia, institutions such as the Centre for Contemporary Culture of Barcelona (CCCB) have promoted several exhibitions over the years on environmental sustainability and the climate emergency (“After the end of the world, 2017-2018”; “Science Friction: life among companion species”, 2021), accompanied by cycles of educational and outreach activities.

The numerous ways in which museums interact with the public – with users, with communities, with local associations, with arts and culture professionals – make them spaces for continuous learning, *agoras* and public spaces, where dialogue and exchanges with multiple perspectives are generated. Museums, in the framework of a contemporary society, no longer send unidirectional messages to a passive public, but have the responsibility to foster *improbable dialogues*, to unite art, science, culture and local knowledge, inviting their audiences to be active participants in sustainable value systems (González Gabarda, 2020).

In the case of the Museum of Rural Life, one aspect worth highlighting is **the role it plays in connecting different languages and disciplines.** The museum is a public space and a forum for debate. It used to be seen as a tourism product; but it has now become a place similar to a university. Exhibition projects such as “The Dust Bowl. Quan la natura es rebel·la” (The Dust Bowl. When Nature rebels), “Plastic”, “Playing with fire” or activities such as “In praise of slowness”, raise complex and diverse themes

related to the challenges posed by the climate emergency and our unsustainable modern lifestyle. Part of the pedagogical process suggested by the Museum of Rural Life compels us to ask ourselves: Is this sustainable? Does this allow us to live?

Another example in which the educational aspect and participatory processes play a major role is the Mòdul project of the Contorno Urbano Foundation in the Florida neighbourhood of L'Hospitalet de Llobregat (see sidebar 16).

Sidebar 16. MODUL by the Contorno Urbano Foundation

The Contorno Urbano Foundation was born in 2017 as a result of the joint project “Contorno Urbano” created by the Cultural Association L’Hurbart and Kaligrafics, two cultural entities linked to art in the public space, education and urban creativity. It is made up of a team of professionals from the fields of education, visual arts and architecture. Among the different projects being developed in the areas of urban regeneration, art and public space, education and social participation, is the Mòdul ecological cultural centre, located in the Florida neighbourhood in L’Hospitalet de Llobregat.

As described on its website: “The MODUL cultural & ecological centre was built in 2020 to make the Park a more resilient space that responds to the challenges and needs of the territory. This space creates new opportunities in the territory, gives us a physical space to promote innovative community processes and create new work networks for community well-being and access to culture, education or leisure. MODUL works as a multidisciplinary facility and began to host educational, leisure and cultural activities in November 2020. It has a multipurpose room, a workshop, a patio and a warehouse and works only by solar energy. The façade is made only with reused wood from other buildings and benches that had been removed from public space”. (Contorno Urbano Foundation, n.d.)

The project was designed through participatory processes, in which a committee made up of organisations and neighbours set about revitalising this abandoned space, which had become an area of conflict and drug use. Employing a participatory methodology, the space was co-designed and once built, further partnerships were generated with neighbourhood entities, the public administration, educational centres and associations. Today, Mòdul is a cross-cutting venue for artis-

tic, social and educational activities with an ecological and sustainable focus.

In this way, Mòdul aims to be a catalyst with a multiplier effect within the social, educational, cultural and environmental spheres. This cross-cutting nature, which is very enriching on the one hand, also becomes, according to those responsible, a problem when it comes to attracting funding – especially subsidies – since the project does not fit into any specific category in the eyes of the public administration. Nevertheless, the centre now has garnered significant local recognition and, in keeping with its ecological and participatory approach, it is also planning international projects with resident artists and cultural entities working along the same lines.

For more information, see: <https://www.contornourbano.com/modul/>

The origins of the Mòdul project revolve around the concepts of **social participation, care of common spaces and environmental education to engage citizens** and so that we are all, together, engage and responsible stakeholders. Many of the activities carried out in this space in L'Hospitalet are carried out in collaboration with different organisations in the area. On Fridays a participatory construction activity is held called Brico Barri, in which young people and adults from the area take part along with students from the Barcelona School of Architecture, with whom an agreement has been established to grant elective credits to those participating in the activity.

Both in the classrooms built with recycled shipping containers and in the outdoor space recovered after extensive cleaning and co-design of common spaces, the Mòdul project hosts study groups, adults with neuropsychiatric disorders, groups of young people who have lost their jobs, artists working with themes of social transformation and community arts, school groups, etc., with the permanent aim of creating networks and improving together and through participatory methodologies the park, the common areas and the social fabric of the surroundings. The construction and revitalisation of spaces for meeting and for reflecting on culture, sustainability, the environment and care for the common good requires support to promote awareness-raising processes and make citizens more responsible.

Another initiative worth describing in this section is the BiblioMobilitat project, carried out in Granollers (see sidebar 17), which is part of the

BiblioLab programme of the Municipal Library Network. BiblioLab develops and supports actions with the aim of promoting access to knowledge through experimentation and the implementation of innovative and creative methodologies in a collaborative context that is open to the local community. One of the interesting aspects of BiblioLab is the creation of environments where science, technology and culture meet, with an important participatory aspect. This ties in with the **potential of citizen science initiatives to foster participatory and interdisciplinary learning**.

Sidebar 17. BiblioMobilitat: libraries, sustainable mobility and citizen participation in Granollers

The BiblioMobilitat project is an initiative by the Libraries of Granollers and the association for the promotion of bicycle mobility Granollers Pedala, with the support of the City Council of Granollers and Barcelona Provincial Council. BiblioMobilitat, which is part of the BiblioLab programme of the Municipal Library Network, offers a reflection on the city and the urban environment, based on the analysis of the trips citizens make to go to municipal libraries. The project was implemented in 2021 in three phases:

- In the first, a survey was carried out among library users to find out about their mobility habits. The resulting report shows the neighbourhoods where most of the users come from and their mobility patterns: most of the trips to visit libraries are made on foot for reasons of health, speed and convenience (Folch, 2021). It has been a useful tool for generating debate and proposing improvements, both in sustainable mobility and in the capacity of libraries to reach out to the local community, which is conditioned by issues such as citizen mobility.
- The second phase of the project involved a training workshop on the virtual design of the city's streets to make them more pleasant and easier to walk along, using the open source urban design software Streetmix.
- Finally, the last phase of the project, not yet started, foresees a family workshop open to the public, focusing on air quality, with the aim of building a particle meter. Subsequently, a strategy will be designed to define points in the city where air quality can be assessed using these meters.

BiblioMobilitat is the result of collaboration by multiple agents, and the participation various municipal services (environment, mobility, etc.) to approve its guiding principles and to subsequently transpose certain elements extracted from the survey or from other reflections on the process into municipal policies. Likewise, taking inspiration from some of the libraries' previous activities in the field of citizen science, a steering committee has been set up with diverse representation as a space for reflection based on the activities carried out, the contributions received and their relevance for citizens. The methodology used has also made it possible to garner interest among other citizens' organisations, such as neighbourhood associations.

For more information, see: <https://www.bibliomobilitat.cat>

Another significant experience developed within the framework of BiblioLab is the project on air quality, carried out through collaboration between the Institute of Environmental Science and Technology (ICTA) of the Autonomous University of Barcelona (UAB) and three municipal libraries in Sabadell, Cerdanyola and Sant Cugat. The project, which also falls within the framework of the Climate Emergency Declaration made by El Vallès Occidental Council of Mayors in 2019, aims to promote participatory research communities in libraries by training their staff, creating workshops to form user groups and participatory research activities (Biblioteques Sant Cugat, 2021).

These initiatives also serve to reinforce the role of libraries and other community facilities as spaces for citizen participation and interdisciplinary learning, where aspects related to science and culture, and the implications of climate emergencies on everyday life, which in other contexts would be dealt with in a segmented and distant manner, can be addressed in an integrated way. This is also evidenced in the collaboration between citizen organisations (Granollers Pedala), cultural facilities (libraries) and other public services (several municipal services in the case of BiblioMobilitat, as well as Barcelona Provincial Council, and the UAB in the case of the air quality project).

These reflections also raise questions that go beyond citizen science, but which are key from the point of view of local sustainable development. In the same way as in the Mòdul project by the Contorno Urbano Foundation, where recycling, education and creation practices were used to raise issues related to social inclusion and citizen participation, BiblioMobilitat

generates a cross-cutting discussion among public services on the interrelation between sustainable mobility, the design of the urban environment and the proximity of cultural facilities; in other words, the focus is not only on generating more sustainable practices from an environmental perspective, but also on issues of equal access to culture and improving cultural management and policies. This cross-cutting approach can also lead to more citizen actors feeling compelled by the discussion and wanting to participate in it.

In another vein, centred around digital fabrication and the parameters of the circular economy, we find the Ateneu de Fabricació de La Fàbrica del Sol project in Barcelona (see sidebar 18), a good example of **initiatives that aim to promote learning through the citizen appropriation of tools for creativity, innovation and technology**, with a significant focus on sustainability.

Sidebar 18. Ateneu de Fabricació de La Fàbrica del Sol

The Fàbrica del Sol is an environmental education facility promoted by Barcelona City Council's Department of Ecology, Urban Planning and Mobility. It houses different entities and spaces that work on environmental education, ecology and sustainability, including the Ateneu de Fabricació, which is part of the Barcelona Network of Environmental Facilities (XEAB). The Ateneu is a public space promoted by the City Council and is open to everyone. It is dedicated to sustainability and is part of the city's circular economy and zero waste strategies, offering a space where people can experiment with the world of digital fabrication.

The Ateneu supports citizens free of charge, and provides them with digital fabrication resources, technicians, laboratories and machinery in the name of creativity and innovation, with the aim of breaking the digital divide. It differs from other municipal manufacturing athenaeums in that it specialises in sustainability, guiding all the projects in this direction and promoting any innovative idea that can improve or enrich the environment and social reality.

As a manufacturing athenaeum it works along three main lines:

- **Innovation Programme:** people and companies use the machines to develop their own projects in exchange for a fee. The users bring their own materials.

- Families Programme: workshops on various topics related to environmental education, sometimes organised for specific occasions, such as International Noise Awareness Day, Science Day, Water Day, etc. Users do not bring materials and use the resources and machinery available at the Ateneu.
- Pedagogical Programme: workshops for schools, teachers and pupils, similar in operation to the Families programme.

In the educational field, the centre organises workshops on reuse, recycling, repair and circular economy. These activities deal with waste, explain the useful life of materials and the obsolescence of parts, as well as energy self-sufficiency and the energy expenditure generated when manufacturing any material. They also promote eco-design and collaborative work.

For more information, see: <https://ajuntament.barcelona.cat/ateneusdefabricacio/ca/ateneu-de-fabricacio-la-fabrica-del-sol/>

All the projects identified – with different perspectives and with very different methodologies – are geared towards promoting a paradigm shift towards an ecologically sustainable and responsible society. Therefore they aim to ensure that municipal programmes, museums, libraries, local cultural projects, specialised training centres, public administrations, territorial entities and all citizens feel compelled to achieve this oft-mentioned paradigm shift, and to move, through participatory practices and processes, towards a more sustainable model of a society that is aware of the need for a just ecological transition.

In this process, environmental education has a key role to play due to its functions: raising awareness, communicating, empowering, highlighting the challenges and generating interest in participating in actions to tackle the climate emergency.

Therefore, environmental education can be understood as a movement of awareness and transformation that goes further the traditional education sector: it is a set of cross-cutting skills that should be taught in dialogue with all productive and training sectors of society, in order to develop and spread their transformative potential. That is why it is important to step outside closed circles of specialists and talk about environmental, ecological and climate issues from the perspective of culture.

And, in this regard, environmental education should be considered to be one of the areas of influence of cultural policies, preferably in collabora-

tion with other public services linked to the challenges of local sustainability. Environmental education offers us visions of the future and at the same time provides us with tools with which to question our day-to-day lives. It also makes us aware of how the challenges of the climate emergency, which may seem distant, can have an immediate impact on our personal environment, on the health of the territory and on the health of people in it.

A growing number of agents and initiatives are moving in the direction of sustainability and reflecting on the environment, with the inclusion of educational or participatory elements: from the More Sustainable Schools project to the work of university research groups, such as Freshwater Ecology, Hydrology and Management (FEHM-Lab), to the Network of Cities and Towns for Sustainability or the programmes mentioned in this section, which originate and are developed from within the culture industry.

Participatory processes and environmental education bring obvious benefits to the cross-cutting discourse of climate emergency awareness, but there are also **some critical elements** that are worth mentioning:

- The culture industry needs to endeavour further to cooperate with other scientific fields and cultural professionals need to become more familiar with environmental and scientific terminology.
- Environmental educators and environmental experts sometimes speak in closed circles, which is why it is important to create alliances that take environmental education to other territories and raise awareness among new audiences.
- Some funding models do not recognise interdisciplinary practices and projects that work more along participatory lines, at the intersections between culture, education, society and the environment, sometimes have greater difficulty in being recognised.

3.4. Adoption of environmental sustainability criteria in public facilities, activities and services

Greening is a process in which an institution or entity incorporates environmental impact assessment criteria into its practices in order to reduce said impact: this might include, for example, reduction in the use of raw materials, energy efficiency and savings, promotion of recycling and the adoption of circular economy principles and waste minimisation. Greening processes aim to transform practices, but also to mobilise people, raise

awareness among them and change their behaviour. In this sense, there are some points of convergence with activities in the field of environmental education.

Of all the various fields of action analysed in this chapter, greening is probably the one that shares the most similarities with work that could be carried out in other sectors of public action (education, sports, health, etc.), given that the principles of greening are common to all and aim, in all cases, to reduce the impacts of the activity itself, regardless of its nature. Thanks to this characteristic, there are many guidelines and approaches available to promote greening, as shown in the various examples below.

Despite the parallels with greening in other fields, there are also aspects that are specific to the nature of cultural processes and activities, which can be seen when analysing the implications of greening in four main fields:

- Facilities: libraries, cultural centres, museums, theatres, etc.
- Activities and events: concerts, festivals, local festivities, fairs, conferences, etc.
- Public procurement linked to cultural activities.
- Guidelines, practices and other processes specific to public services in the field of culture.

Before examining the specific actions that can be deployed in this field, it is worth analysing the current situation. The data shows that organisations in the cultural sector in Catalonia have undertaken an increasing number of actions related to greening in recent years, but that much more can still be done. Specifically, the study *Environmental leadership in the Catalan cultural and creative sector*, commissioned by the National Council for Culture and the Arts (CoNCA) and the Catalan Institute for Cultural Companies (ICEC) to Julie's Bicycle (Pando Martínez, 2020), publishes the results of a survey carried out between 2019 and 2020 sent to 376 cultural organisations and professionals in Catalonia. 67% of the responses came from private organisations, 19.5% were public and the remaining 13.5% were non-governmental.



More environmentally sustainable cultural facilities



More environmentally sustainable cultural activities



More environmental responsibility in the Public Administration's contracts with its suppliers



More environmental responsibility in the day-to-day work of public administrations in the field of culture.



Training programmes and other support mechanisms to accompany these environmental responsibility processes

Of the broad range of data presented in the survey, 67% of the organisations surveyed believed that environmental sustainability was relevant to the objectives of the organisation they represented, but only 36% had an environmental action plan, and only 14% had an updated one. 25% of the survey respondents stated that lack of subject matter expertise was the main reason for lack of action in their organisations.

The main actions that the organisations surveyed always carried out were:

- Reduction, reuse and recycling of materials (64%).
- Measures for the disposal of single-use plastics (47%).
- Responsible management of water consumption (42%).

- Promotion of fair and sustainable trade (39%).
- Responsible management of energy consumption (36%).

10% of the respondents indicated that they had encountered problems in implementing environmental measures; the reasons for this included lack of communication with staff, lack of engagement from the work teams, lack of clarity in legislation (or changes that had taken place), lack of implementation by the public, lack of institutional and public agency support, prevalence of aesthetic over environmental value, and lack of commitment from suppliers.

Overall, the results of the study show a good level of awareness, a growing volume of activity in relation to environmental aspects, with some quite successful specific experiences, but also much room for improvement in the coming years. In this regard, it is worth remembering that, from the perspective of cultural policies, the promotion of greening influences both the actions of the Public Administration itself and incentivises the rest of the agents in the cultural sector to adopt measures in this direction.

One setting in which greening can be applied are **cultural facilities and, by extension, the set of spaces where professionals in the cultural sector** usually work. Greening in this area would involve, for example, water and energy savings, the proper use of computer equipment and other consumer devices (turning off the equipment at the end of the day or when not in use for long periods of time, double-sided printing, buying appliances with energy label A or higher...), saving and reusing paper, making good use of materials, waste prevention and management, incorporating environmental criteria in purchasing (buying products with a recognised eco-label, local products, products that have little packaging or that are recyclable or reusable). and mobility (walking, public transport, cycling, prioritising the use of vehicles with all seats occupied, the use of videoconferencing, etc.).

To achieve these changes through practices and resources, and as with other greening processes, any practical guidelines and greening protocols that can be established should be accompanied by training and resources to raise awareness and change the mindset of the staff who need to implement them. In this regard, as shown in table 1, there are several resources that offer useful guidelines for the greening of cultural facilities.

Table 1. List of practical guides on the environmental dimension of cultural facilities

Resource	Description
<i>Manual de bones pràctiques ambientals: Equipaments culturals</i> (Manual of Good Environmental Practices) (Ministry of Culture, 2015)	This short publication, derived from the Cultural Facilities Plan of Catalonia (PECCat), provides guidelines for these facilities in the areas of energy, use of materials, waste management, water, noise and light pollution, and identifies their role in raising environmental awareness among citizens.
<i>Des dels equipaments culturals fem pinya contra el canvi climàtic: Guia pràctica per formar part del canvi</i> (As cultural facilities, let's unite against climate change: Practical guide to be part of the change) (Lavola, SA, and Barcelona City Council, 2019)	This interactive guide, in an attractive format, aims to help cultural facilities, and especially those with a local sphere of influence (such as civic centres), to understand climate change and its implications, and to take an active role in reversing this situation. It introduces concepts, highlights the potential of local community facilities and describes measures that can be taken depending on the role of each person (programming team, workshop leader, participant in activities) or organisation. A number of protocols related to greening are provided for organisations.

Source: self-generated.

Existing experiences include La Central del Circ, one of Barcelona's creative factories, which in 2013 received external support to improve its energy consumption practices. During a first phase, thanks to the advice received, the contracted power was adjusted to the actual demand and to the time slots in which the facilities were being used, electricity consumption was reduced (thanks to the switching off of lights and electrical equipment when not in use) and clean energies were contracted. The second phase, with investment financed by Barcelona City Council, involved updating the air-conditioning control system and part of the facilities. Thanks to these actions, La Central del Circ has saved 18,000 euros in energy consumption and obtained the Emblem of Guarantee of Environmental Quality from the Government of Catalonia (Pando Martínez, 2020). La Central del Circ is one of the cultural facilities and initiatives supported by the Catalan Institute for Cultural Companies (ICEC); specifically the latter has provided cultural consultancy services (see sidebar 20), in this case an energy audit, in order to improve the air-conditioning system.

Meanwhile, the National Art Museum of Catalonia (MNAC) has implemented an environmental management system that affects the whole institution, following the ISO 14001 standard and the European EMAS regulation on environmental management and auditing. Within this

framework the measures taken cover aspects such as the planning, coordination and execution of the exhibitions, the conservation and restoration of works, facilities management, room and space rental, and the management of the restoration activity, among others. Each year the environmental impacts of the activities are assessed and those that may require improvement are identified. In addition, reports are published to monitor developments over the years, including the identified improvements: reduction of electricity and paper consumption, increase in energy efficiency, etc. (National Art Museum of Catalonia, 2020).

A second area worth highlighting is **the greening of cultural activities, in particular events** of all kinds: shows, concerts, festivals, local festivities, exhibitions, conferences, and so on. This is one of the areas in which town and city councils have taken the most action, for example by promoting the use of recyclable cups and other items during local festivities and other activities. Indeed, introducing greening measures in festivities of this type has the advantage, in addition to reducing waste and cleaning costs, of being able to promote new habits in a context in which many people participate and which, due to its exceptional nature, can encourage the adoption of new habits, which in any case should then be carried on in everyday life.

As in all other greening processes, transforming practices in cultural activities involves adopting a holistic approach, from the planning and design phase to the evaluation phase, taking into account the use of materials, the management processes of the activity and the contracting of services and products (and the relationship with suppliers), mobility, communication, waste generation and collection, energy efficiency, water management, noise pollution, etc. The table below provides some practical guidelines related to various types of cultural activities: events, exhibitions and publications.

Table 2. List of practical guides on the environmental dimension of cultural events and activities

Resource	Description
<i>Instrucció tècnica per a l'aplicació de criteris de sostenibilitat en esdeveniments</i> (Technical instruction for the application of sustainability criteria in events) (Barcelona City Council, 2015)	This is one of the twelve procurement instructions adopted by Barcelona City Council in the framework of the Mayor's Decree on sustainable public procurement, which follows the lines and priorities set by the European Commission in this area. The instruction applies to public sector contracts entered into by Barcelona City Council and its subsidiaries, providing guidelines and procedures relating to various aspects of the organisation and execution of an event.

Resource	Description
<i>Instrucció tècnica per a l'aplicació de criteris de sostenibilitat en les exposicions</i> (Technical instruction for the application of sustainability criteria in exhibitions) (Barcelona City Council, 2017)	Similar in nature to the one above, and drawn up by the Barcelona Institute of Culture (ICUB), it offers guidelines for contracting services related to exhibitions, which implications for their design, materials, production, assembly and dismantling, etc. It also provides a checklist for drawing up environmental monitoring reports.
<i>Guia de publicacions ambientalment correctes: model GPP Toolkit</i> (Guide to environmentally sound publications: GPP Toolkit model) (Ministry of Territory and Sustainability, 2018)	This document provides support for incorporating environmental aspects into publications procurement processes and minimises their environmental impact. Designed mainly for public bodies in Catalonia, it deals with both graphical and digital publications. It is part of a series of documents for the greening of processes of various kinds published a decade ago, which are for the most part similar to more recent publications on the same subjects, such as those mentioned in the other sections of this table and the one presented in the section on facilities.

The fact that public procurement of works, goods and services represents a very significant part of the gross domestic product (GDP) (13.3% of the aggregate GDP of the European Union in 2017, according to the European Commission DG GROW (2019)) explains why the promotion of **green public procurement** is a very important process, both because of the direct effect on the processes being outsourced (i.e. when tendering for the organisation of an event, the provision of a set of goods, the construction of an infrastructure or the management of facilities, among others) and because of the incentive for companies and entities providing these goods and services to progressively adapt their practices in order to achieve greater environmental sustainability.

In this regard, public administrations can act as catalysts and have significant transformative potential once they have adopted greening measures, through the establishment of criteria and dialogue with suppliers. At the European level, it is worth highlighting the work of the European Commission in promoting green public procurement based on the circular economy (see sidebar 19), through manuals and the identification and dissemination of good practices.

Sidebar 19. European guidelines on green public procurement

For years, the European Commission has been promoting the incorporation of environmental sustainability criteria in public procurement processes (a process often referred to as GPP, or Green Public Procurement). Although these are non-binding recommendations, there is political will to take this forward, given the very significant role of the public sector in consumption and procurement, and the commitments made through the Paris Agreement and the European Green Deal.

One of the tools developed in this area is the document *Buying Green: A Handbook on Green Public Procurement* (European Commission, 2016), which follows the logic and structure of procurement procedures and provides several real-life examples: the application of green public procurement criteria to reduce energy consumption in the municipal buildings of the city of Vantaa (Finland), or the inclusion of green criteria in the framework contract for the supply of paper and office supplies of the City of Ghent (Belgium). Although primarily aimed at public authorities, the *Handbook* indicates that it could also be of interest to companies that procure goods and services, as well as to small and medium-sized enterprises that supply them. The publication also covers the European legislation that applies in various areas.

More recently, a guide to good practices in public procurement based on the circular economy has also been published (European Commission, 2018). The document introduces the so-called *hierarchy of procurement* to contribute to the circular economy: reduce (what you buy), reuse, recycle, and recover. It also provides basic concepts and some examples related to each of the phases and themes addressed: the inclusion of concepts related to circularity in the school canteen service in Turin (reduction of packaging and waste, use of tap water, etc.) and the collection and refurbishment of obsolete IT equipment by Durham County Council (England).

The European Commission's Green Public Procurement website also includes other examples, classified according to subject matter, and resources in relation to these issues.

For more information, see: https://ec.europa.eu/environment/gpp/index_en.htm

In Spain, Law 9/2017 on public sector contracts, which transposed several European directives into Spanish law, establishes that public procurement must incorporate sustainability and environmental criteria, prohibits contracting companies convicted of environmental offences and determines that abnormally low bids must be rejected for non-compliance with environmental regulations (among other reasons). Moreover, when the object of the contract affects or may affect the environment, the technical specifications must be defined following criteria of sustainability and environmental protection, and in some cases the service providers may be required to have environmental quality labels or seals. Contracting bodies must ensure compliance with environmental obligations in the performance of contracts, and companies providing a public service must also protect the public domain linked to the concession, preserving its ecological and environmental values and respecting what is established by the regulations at any given time (General Union of Workers, UGT, Secretariat for Sectoral Policies and Barcelona Provincial Council, 2019).

It should also be noted that, within the framework of the Network of Cities and Towns for Sustainability (an association of municipalities in Catalonia committed to the environment, created in 1997, whose technical secretariat is held by Barcelona Provincial Council), there is a working group whose work initially focused on public procurement which has progressively evolved towards the circular economy. Its website contains numerous resources related to green procurement based on the circular economy with notable links to various goals and targets of the 2030 Agenda, especially regarding the promotion of clean and environmentally sound technologies and industrial processes (target 9.4) (Network of Cities and Towns for Sustainability, 2021).

The greening of facilities and offices, activities and events, and public procurement constitute a very important set of activities in terms of the potential of public policies to transform public practices and to influence other actors to do so as well. Ultimately, greening should also be **mainstreamed into all public sector practices and processes**, including staff training, the granting of subsidies and the adoption of regulations. An example of this is the Catalan Institute for Cultural Companies (ICEC), which has incorporated environmental sustainability in its advisory support for cultural companies, in the criteria used for awarding subsidies, in its training programmes and organisation of activities, thus combining its internal work with incentives for third parties (see sidebar 20).

Sidebar 20. The integration of environmental sustainability in the policies of the Catalan Institute for Cultural Companies

In recent years, the Catalan Institute for Cultural Companies (ICEC) has implemented several actions to incorporate environmental sustainability into its policies and, at the same time, to encourage its inclusion in the actions of the cultural agents with whom it interacts.

One of the actions to be highlighted in this regard is the inclusion of environmental sustainability plans as one of the modalities provided for in the Culture Consultancy line of subsidies, which supports consultancy work for cultural companies or organisations. Between 2015 and 2020, grants worth more than 35,000 euros were awarded for consultancies of this type, in a trend that has been growing progressively (Catalan Institute for Cultural Companies and Business Development Service, 2020). Among the initiatives that have benefited are La Central del Circ, mentioned above, as well as the Primavera Sound (energy audit) and Cruïlla (Environmental Sustainability Plan) festivals.

It is also worth mentioning the inclusion of environmental sustainability criteria when assessing the applications submitted in various calls for proposals: in the subsidies granted for the modernisation of bookshops the use of paper bags or other biodegradable materials, as well as the existence of energy-saving lighting systems are required; in the subsidies for music publishing companies and publishing production of special interest, the use of paper with an eco-label or forest management certificate when printing is required; in the subsidies for the organisation, promotion and dissemination of festivals and audiovisual exhibitions, practices that contribute to sustainability in transport, catering, social inclusion, the collaborative economy or the contracting of local suppliers are required, and in the subsidies for the rehabilitation and furnishing of theatres in Barcelona (Consortium of the Barcelona Theatre Rehabilitation and Furnishing Plan), investments that promote environmental sustainability through efficiency and energy and water savings are required.

Moreover, the ICEC has also promoted various training activities and studies to encourage the integration of environmental sustainability among companies and cultural entities, defining a protocol to apply environmental sustainability criteria in the activities of its Business Development Service. It is also working on a guide to sustainable filming (with the Catalunya Film Commission) and plans to deploy a specific policy in this area, with a strategic plan for environmental sustainability.

For more information, see: <https://icec.gencat.cat/ca/inici>

In a way, the set of fields of action analysed in this report also aims to provide guidelines for integrating environmental sustainability in a cross-cutting manner into the cultural action of public administrations.

In general, greening processes are complex and, beyond the interpretation and eventual transposition of the protocols or regulations that must be applied in each case, they require **structural changes, technical knowledge and progressive support to encourage their adoption and implementation**.

In terms of the structural aspects of the shift towards greening, issues such as leadership or political will, the existence of resources to make investments (particularly in facilities) or the incorporation of environmental criteria in the planning stages (again, a particularly applicable issue in the case of buildings and facilities) are very important. An example of good facility planning is the Vil·la Urània Civic Centre in Barcelona, which has almost zero energy consumption thanks to the incorporation of photovoltaic panels, a geothermal system, natural lighting, the presence of plants and the existence of temperature regulation sensors, among other aspects (Baltà, 2021).

Training and raising awareness among the people who have to participate in defining and implementing greening processes is also key, given the lack of knowledge that often hampers progress in this area. In this regard, local cultural management and policies can benefit from the greening advisory programmes that exist at various levels, which already take into account the specificities of cultural facilities, activities and services. A good example is the greening support programmes offered by Barcelona Provincial Council (see sidebar 21).

Sidebar 21. Barcelona Provincial Council's support for the greening of cultural facilities, activities and services

The catalogue of services that Barcelona Provincial Council makes available to local authorities includes a line for implementing environmental education and awareness-raising projects. Among other things, technical support is offered for the implementation of greening projects for activities, events, facilities and contracts. In this area it is necessary to distinguish between several types of services.

The greening of events aims to ensure that the set of actions related to the planning, organisation, holding and evaluation of local activities, and all the agents involved (organising or promoting entities, logistics and cleaning services, suppliers and sponsors, participants and attendees, etc.), are aware of their responsibility with regard to sustainable

management and minimum impact. Overall, the aim is to reduce the use of raw materials and resources, promote the reuse of materials in successive editions and events and the recycling of materials, reduce greenhouse gas emissions into the atmosphere (responsible for climate change), minimise waste and the ecological footprint, encourage the use of local products and services, and promote environmental education. As regards support for the greening of events, specific guidelines have been established for various types of cultural activities (concerts, fairs and markets, gatherings, etc.). Support for cultural events, such as local festivities, are among the most common requests.

The support service for the greening of facilities also offers advice on how to incorporate environmental sustainability criteria into the general management of the activities of the space.

The diagnosis carried out in these cases addresses issues such as gas, electricity and water consumption, in order to promote energy and water efficiency and savings; waste production, with the aim of reducing waste (use of reusable cups or bottles, use of double-sided paper, minimal printing of documents, etc.) and encouraging selective waste collection; product and material procurement requirements; and general management aspects. Following the diagnosis, an improvement plan is drawn up and in some cases good practice protocols are established. As a result, good practices have been defined for various types of facilities, including cultural and socio-cultural facilities. The recommendations often take into account the environmental training and awareness of the staff at the facilities.

Finally, advisory services for the public procurement of services if offered for transport services, catering, management or promotion of activities or facilities. In each of these areas, the environmental aspects to be considered are defined and environmental criteria for the tender specifications are suggested. The work carried out has identified some good practices in a number of areas, including cultural projects, for example: the application of criteria related to the use of cleaner transport vehicles in the awarding of travelling exhibition services by Barcelona Provincial Council's Technical Office for Environmental Education and Promotion, or the application of the integrated management system, which includes environmental criteria in the contracting of services for socio-cultural activities in the municipal museums of Sant Cugat.

For more information, see: <https://www.diba.cat/mediambient/>

Despite the various resources and guidelines described throughout this section, there are also **certain critical aspects** that should be taken into account. These are summarised below:

- As evidenced by the report published by the CoNCA (Pando Martínez, 2020), aspects such as the lack of commitment of suppliers, staff or users, as well as the poor communication of the necessary changes or the lack of knowledge of the measures to be adopted, are major obstacles towards the greening of cultural services, spaces and activities. In general, in most cases there is still a lack of mainstreaming of environmental aspects in the way organisations are defined and in their practical actions.
- Another difficulty worth noting is the cost that the transition to a more environmentally sustainable model may represent, especially in the case of cultural facilities, offices, or large-scale events and activities.
- Finally, one aspect that we have not addressed in this report, largely because of the lack of clear guidelines that exist so far and the relatively limited relevance for cultural management and policies at the local level, concerns the environmental impact of digital content. As cultural actions as a whole increase the processes of digitalisation of content (activities that are broadcast online, digital archives and museums, etc.), the resulting carbon dioxide emissions also increase very rapidly (see, for example, Julie's Bicycle, 2020); Valensi *et al.*, 2021). In the coming years, it will be necessary to evaluate options to reduce this type of impact, to look for alternatives or to offset them.

3.5. Municipal strategies and mainstreaming in relation to the climate emergency

The systemic nature of the climate emergency explains why it affects all public policies and other local processes, as shown in the previous sections in relation to cultural management and policies, and why very broad, interconnected and structural public strategies are needed to deal with it. Furthermore, the cross-cutting role of culture with respect to the different areas of sustainability means that cultural elements can also be incorporated into municipal strategies related to the environment, the climate emergency and other related issues. This final section of the chapter sets out how these points of convergence can be translated into strategies, municipal plans and other mechanisms for mainstreaming within the Public Ad-

ministration. As will be seen, the ways in which culture is embedded in these lines of action vary widely: in some cases, it has to do mainly with the impact on values and behaviour, or what we could consider a cultural change; in others, it more clearly addresses the processes, spaces and agents of cultural action.



Inclusion of cultural issues in municipal environmental and climate emergency plans



Renaturing cities



Energy transition



Promotion of the social and solidarity economy



Development cooperation



Inclusion of environmental issues in municipal culture plans



Obtaining funding from other administrations for projects of this type

A first expression of this relationship is the **inclusion of cultural aspects in municipal environmental plans and climate emergency declarations**. This is a line of work that has been little explored so far, and which should be explored in greater depth as actions linking culture and the environment are developed, following the guidelines set out in the previous sections of this report.

In any case, and as Sidebar 22 shows, there are some municipal councils, such as those of Barcelona and El Prat de Llobregat, that have incorporated the cultural dimension into the climate emergency declarations adopted since 2020, with an objective that goes beyond the declarative aspects and that establishes specific commitments in terms of the way cultural policies are interpreted: inclusion of content related to the climate emergency in local cultural programming, community projects on the environment, incorporation of criteria related to environmental responsibility in the distribution of subsidies, creation of working groups between the municipal culture and environmental services, etc. The adoption of declarations of this kind is a first step, which must then be put into practice, but it is significant because of the political nature of the commitment made, and the way in which cultural action is linked to this process of change.

Sidebar 22. Cultural aspects of the climate emergency declarations of Barcelona and El Prat de Llobregat

In recent years, several administrations have adopted policy statements on the climate emergency, making it a cross-cutting theme in all, or almost all, of their policies. Links with culture are not always explicitly expressed, but there are some examples where this is the case.

The Climate Emergency Declaration “This is not a drill”, approved by Barcelona City Council in January 2020, states that “we need to rethink our production and consumption model, our culture and our lifestyle” (p. 4), and devotes a chapter to changing the cultural and educational model. The latter emphasises the need to incorporate awareness of the climate emergency in cultural programming, to strike up partnerships with various cultural groups and to include objectives of energy improvement, environmental quality assurance and sustainable mobility in public cultural facilities, among other things.

Meanwhile, El Prat de Llobregat Council adopted a Climate Emergency Declaration in September 2020. Remembering that “culture is a

key element in tackling the climate crisis, given that the cultural context is the frame of reference that shapes the way people live and act” (p. 32), a change of cultural model is proposed. Among the actions planned are the introduction of criteria to reduce climate impact in the city’s major events, the incorporation of information and debate on climate change in cultural programming, the development of community projects with citizen participation in the area of climate change, and the inclusion of the concept of *environmental responsibility* as an assessment criterion when awarding subsidies.

El Prat de Llobregat’s Cultural Services department understands the Declaration as a long-term commitment, which will be progressively rolled out and which, moreover, gives continuity to environmental education projects that the Cultural Services department had been managing for several years, before the existence of the Environmental Services department. As a result of the Declaration, a working group made up of the two municipal services will be created, to start implementing awareness-raising actions and to incorporate environmental criteria in some subsidy lines. One of the big challenges at the municipal level is the installation of photovoltaic panels on city rooftops and the promotion of shared self-consumption through citizen energy communities, an aspect that can also be seen as a remarkable cultural change in terms of the role of citizenship, social collaboration and lifestyles, and to which cultural policies should also contribute.

For more information, see: <https://www.barcelona.cat/emergenciaclimatica/ca> and <https://www.elprat.cat/ciutat-i-territori/emergencia-climatica/declaracio-demergencia-climatica>

Moreover, several of the specific policies linked to sustainability at the local level may offer scope for incorporating cultural aspects, be they individual and collective values and behaviours, be they aspects of creativity and heritage and the policies that refer to them. An important course of action in this regard concerns the so-called *nature-based solutions*, based on recognising the fundamental role of natural ecosystems in human well-being, which can be defined as “actions inspired by, supported by or copied from nature that aim to help societies address a variety of environmental, social and economic challenges in a sustainable way”. Promoting sustainable urban development, restoring degraded ecosystems, implementing climate change mitigation and adaptation strategies, and improv-

ing risk management and resilience would be the main areas of intervention in this regard (Sekulova *et al.*, 2020, p. 10).

Several of the actions and strategies that have been analysed throughout this report, such as citizen science and environmental education projects carried out by local cultural facilities (libraries, civic centres, youth spaces, etc.), the recovery, conservation and appreciation of traditional knowledge related to seeds or agricultural practices, and the role of heritage facilities in this regard, can potentially be linked to initiatives in this field. Another example of nature-based solutions would be the processes of renaturing cities (see sidebar 23), which aim to highlight the value of cultural heritage and cultural activities as part of processes to make the city more liveable and to enhance public space.

Sidebar 23. Renaturing cities and its cultural dimension

Renaturing is a process that aims to reintroduce nature into urban environments, increasing green spaces, favouring accessibility to facilities, public spaces and natural urban and peri-urban areas, and promoting land with mixed uses, which is more flexible and adaptable, avoiding functional monocultures. Planting trees reduces the air temperature and reduces the volume of suspended particulate matter by absorbing CO₂, and unpaved natural areas provide better flood control. As a whole, renatured cities become more resilient to climate change and contribute to the quality of life of the people who live there (Juvillà Ballester, 2019).

In general, the processes of renaturing urban spaces are based on urban planning interventions and some accompanying social and educational measures, with a relatively limited role for more specifically cultural aspects. However, several studies have suggested that among the ecosystem elements that can contribute to human well-being there are some specifically cultural ones: among other things, because biodiversity is a source of artistic and creative inspiration, along with other intangible benefits of natural capital (spiritual, recreational, related to identity, etc.) (Castell Puig, 2019; Boada Juncà, Maneja Zaragoza and Marlès Magre, 2019). Creating more walkable cities can also promote accessibility to cultural facilities and the performance of cultural activities in public spaces.

An interesting example of this is Cornellà Natura, a municipal strategy for the renaturing of the urban environment to make Cornellà a greener, more sustainable, healthier and more resilient city. The pro-

ject, currently under development (2016-2026), plans to create a more attractive public space, to promote itineraries and routes of heritage and cultural interest (in which historic gardens and other heritage elements are highlighted), and to carry out awareness-raising actions in the public space and various exhibitions and events. A green roof has also been installed on a municipal library (Casademont and Vallvé, 2019; Cornellà de Llobregat Council, ca. 2017).

For more information, see: Juvillà Ballester (2019) and <https://www.cornella.cat/ca/viure-a-cornella/cornella-natura/cornella-natura>

Another key area of intervention stemming from the climate emergency is the overhaul of energy models, towards what has been called *the energy transition*, i.e. the evolution towards a more sustainable energy system, based on renewable sources and efficiency.

The Catalan Law 16/2017 on climate change provides for a move towards a model that is 100% renewable, denuclearised and decarbonised, neutral in greenhouse gas emissions, which reduces the vulnerability of the Catalan energy system and guarantees the right to access energy as a common good (article 19). This is one of the key issues in tackling the climate emergency, with major implications at the local level (decentralised energy model, local energy communities, etc.) and with across the board effects on the whole of civic life and public action. In Catalonia, an energy transition law is being drafted, which should provide for these aspects (Catalan Energy Institute, 2019).

Although most of the related measures are linked to the fields of infrastructure, urban planning and economics, some initiatives do expressly include cultural aspects, given the change of values and behaviours implied by the energy transition. The Vilawatt energy transition project (www.vilawatt.cat) of Viladecans Council, for example, which includes the creation of a public energy company and the promotion of a local currency, designed to promote local commerce, includes the participation of some cultural businesses (bookshops, etc.) and numerous associations, given the large participative dimension of the process. In the various existing spaces for participation, certain actions with cultural content have been carried out, such as the documentary *Testimonis del clima* on the historical memory linked to meteorological phenomena. As explained in the second chapter of the report, thinking about the environment and the climate emergency also involves exploring in a systemic way the interrelationships between the social, economic, environmental and cultural as-

pects of development. The **strategies to promote the social and solidarity economy** are also an important line of action in this regard. The social and solidarity economy can be defined as “a set of socio-economic initiatives whose members, in an associative, cooperative, collective or individual way, create, organise and develop democratically, and without necessarily being profit-oriented, processes of production, exchange, management, distribution of surpluses, currency, consumption and financing of goods and services to satisfy needs”. (Social and solidarity economy draft law, 2015, taken from Fernández i Miró, 2016, p. 14-15.)

The principles that inspire the social and solidarity economy include the search for the common good and the creation and equitable distribution of wealth, economic democracy and the desire for social transformation, the promotion of quality and the sustainability of life and the environment, gender equality and the sharing of domestic tasks, respect for cultural identity and the promotion of interculturality, and territorial roots and the local economy (Fernández i Miró, 2016).

Several Catalan municipal councils have in recent years adopted strategies and programmes to support the social and solidarity economy (García Jané and Suriñach Padilla, 2019), an area where there may be opportunities for cultural initiatives. The Alterna’t platform (<http://ess.manlleu.cat>), for example, is an initiative of the Office for Economic Promotion of Manlleu Town Council, which acts as an umbrella for all the public or private initiatives that are part of the social and solidarity economy in Osona or want to promote it. According to its definition, it aims to “give visibility to any information or economic activity of initiatives that share the need to establish production, distribution and consumption models that satisfy individual and collective needs but that do so in a way that is more respectful of people, the environment and under more democratic principles”. Among the initiatives included in this area, in addition to those dealing with food and health and care services, some focus on culture and leisure (Suriñach, 2017; García and Suriñach, 2019). This is an area in which it would be interesting to increasingly promote the involvement of municipal cultural services.

In the same way that the cultural dimension is incorporated into the set of municipal strategies and policies that address the effects of the climate emergency, it would also be advisable to include the **development cooperation or global justice issues in municipal policies**. The impacts of the climate emergency in terms of the environment and other phenomena, such as migratory and refugee flows, are elements that increasingly influencing international cooperation policies of public administrations and

are expected to continue to do so in the coming years (Estudio Ramon Folch i Associats, SL, ca. 2021).

In general, this line of work seems to have been little explored so far; an exception to this is the exhibition “The Dust Bowl. Quan la natura es rebel·la”, presented at the Museum of Rural Life in 2019-2020, which focused on the phenomenon of climate refugees both historically (in the US in the 1930s) and today. Given the experience of numerous cultural facilities in educational programmes and the presence in our country of populations of diverse origins, often affected by the effects of the climate emergency, there could be room for environmental and cultural education activities and the promotion of values related to international solidarity, highlighting the links between the climate emergency and international social, economic and cultural inequalities. From the information presented in the report as a whole, it is also clear that local cultural policies should incorporate principles and objectives linked to environmental issues, and that this can be reflected in **strategic cultural plans, cultural action plans, facilities plans** and other similar planning instruments in the field of culture. The specific objectives and actions will vary according to each territory, although there are aspects, such as the progressive greening of activities, facilities and contracts or the training of internal and external staff, which should be common commitments. So far, with the exception of cultural activities in parks and gardens, the presence of environmental aspects in cultural action plans has

been very limited.

Within the framework of these plans, and in terms of governance and the structuring of the processes to implement and monitor them, it would be advisable to promote cross-cutting dialogue between the public services responsible for culture, the environment and other areas related to sustainability, and to address the relationship between culture and the environment in the culture councils or in other councils and mechanisms for citizen participation that take place, following as broad a rationale as possible. It also seems necessary to promote dialogue between the different levels of public administration (State, Catalan and local authorities), given the complexity of the issues involved and the shared responsibility for dealing with them.

Finally, the promotion of cross-cutting approaches to sustainable development at the local level could be translated into **access to funding from other administrations for projects that link culture, the environment and the response to the climate emergency**. The Next Generation EU funds, to help the recovery from the COVID-19 crisis, and the opera-

tional programme of the European Regional Development Fund (ERDF) for the period 2021-2027, whose objectives include the promotion of a greener, carbon-free and more citizen-friendly Europe, supporting locally managed growth strategies and contributing to sustainable urban development (Ministry of Universities and Research, 2021), could offer opportunities in this regard.

Among the **critical aspects** in the area of municipal strategies and mainstreaming are the following:

- The complexity of the issues involved and of finding ways to implement cultural actions in a natural way.
- The absence, in many cases, of cross-departmental working habits between municipal services departments and other agents affected by the relationship between culture, the environment and sustainable development.
- The risk of incorporating cultural aspects only into the discourse, without translating this into concrete actions and the mobilisation and participation of cultural actors in the framework of activities in this field.

4. Recommendations and tools for action

Based on the analysis presented in the previous chapters, this last chapter offers a set of recommendations and tools to promote the development of policies, programmes and projects in the field of culture, linked to the environment and the climate emergency.

The chapter follows the same structure as the previous one, with five subject areas: In each of one, generic recommendations are offered which should be useful for local cultural policy makers and other actors in the field of cultural management who wish to incorporate elements of culture into action related to the environment and the climate emergency. Given these are generic recommendations, their relevance in each context would need to be assessed and they would need to be adapted accordingly. The recommendations are accompanied by some guidelines to facilitate their evaluation, which, as in the previous case, will need to be adapted to the context and the specific actions designed in each case. Finally, some tools and references have been included to complement the information presented throughout the report.

4.1. Heritage, territory and landscape: recommendations and tools

As discussed in section 3.1, cultural management and policies should make more use of the potential of traditional knowledge and practices as an element for the sustainable and integrated management of the territory and the landscape. It is essential that work in this area recognises the importance of people, individually and collectively (entities, associations, etc.), as transferors of knowledge and as agents that give continuity to the processes of environmental protection and promote its adoption. Heritage facilities and institutions, such as museums and archives, are also key resources in this regard.

It is also worth noting the potential of natural spaces as settings for cultural activities, and of cultural heritage and the landscape as factors for territorial development, for example in terms of attracting tourism, while establishing mechanisms to ensure sustainable and participative management. An integrated vision of the territory and landscape, in its cultural and natural dimensions, can be reflected in medium and long-term planning tools, such as charters, landscape plans or land stewardship agreements.

The following recommendations for local cultural management and policies emerge from this set of observations, which each municipality and actor should adapt to its circumstances:

Recommendations	Elements to be considered
Incorporate into cultural action plans and other local planning instruments an integrated analysis of cultural and natural heritage, landscape and territory, with concrete actions.	<ul style="list-style-type: none"> • Drafting of action plans or other documents that contribute to an integrated vision. • Effective implementation of these tools.
Develop inventories or other tools for identifying and preserving cultural heritage that can be linked to natural heritage and the landscape.	<ul style="list-style-type: none"> • Prior existence or development and regular updating of these tools. • Participation of agents from various disciplines. • Use of the knowledge generated in programmes for conservation, research, dissemination and those that highlight the value of heritage.
Encourage citizen participation and collaboration in the public policies and programmes of entities and groups linked to the field of heritage and territory.	<ul style="list-style-type: none"> • Promotion of various forms of citizen participation, which contribute to improving policies and actions to connect culture, landscape and territory.
Explore the potential of natural environments as a setting for cultural activities , with mechanisms that ensure their proper conservation (or, where appropriate, a form of management and transformation that maintains their values and features) and that promote knowledge and appreciation of the natural environment and its cultural dimension.	<ul style="list-style-type: none"> • Prior existence or promotion of activities in this field. • Participation of agents from various disciplines. • Adoption of measures to limit negative impacts on the natural environment. • Effects on attendees' or participants' appreciation and knowledge of nature.
Analyse the potential of incorporating cultural heritage into existing territorial management tools or of developing new ones (landscape charters, local landscape plans, land stewardship, etc.).	<ul style="list-style-type: none"> • Assessment of these tools and possible implementation. • Effects observed on the conservation and appreciation of cultural heritage and its interrelation with other elements of the territory.

Recommendations	Elements to be considered
Promote the role of the municipal heritage institutions (museums, archives, etc.) and other local agents in this field in processes of collaboration with other agents linked to natural heritage , landscape and territory.	<ul style="list-style-type: none"> • Development of actions in this direction. • Increase in the resources allocated to these functions.
Encourage research, debate and reflection on the sustainable management of the territory and its critical aspects, incorporating cultural heritage as a key element.	<ul style="list-style-type: none"> • Development of actions in this direction.

The following resources are available for those who wish to examine this area in more detail:

- **UNESCO Centre of Catalonia.** (ca. 2011b). *Metodologia per a l'inventari del patrimoni cultural immaterial a les reserves de la biosfera.* https://parcs.diba.cat/documents/29193465/29468345/Montseny_Metodologia_CAT.pdf/5ab6162e-1e29-4087-8a38-fb859893255b

Methodological recommendations for the preparation of inventories of intangible cultural heritage, based on the experience carried out in the Montseny Biosphere Reserve. While the focus of the paper is on biosphere reserves, many ideas are applicable to other environments. Moreover, aside from its educational nature or as a set of guidelines, the document provides very interesting reflections on the relationship between cultural heritage and sustainable development.

- **Pastor, R.** *Paisatge, desenvolupament rural i ciutadania: Bones pràctiques de col·laboració ciutadana en la gestió del paisatge a Europa* (1st ed.). Association for the Integral Rural Development of the North-Eastern Zone of Catalonia, 2017. http://adrinoc.cat/wp-content/uploads/2017/05/Guia_Bones_Practiques.pdf

Compilation of various experiences of citizen collaboration in landscape management and its connection with territorial development in several European countries. It includes the participatory inventory of dry stone promoted by the Landscape Observatory of Catalonia, as well as the candidacy of Priorat-Montsant-Siurana for World Heritage status.

- **Asensio, N. [et al].** *Guia de bones pràctiques per a entitats de custòdia del territori: Gestió d'entitats i iniciatives de custòdia del territori.* Land Stewardship Network, 2018. https://xcn.cat/wp-content/uploads/Guia_bones_practiques_xct_catala.pdf

Extensive practical guide to understanding the notion of land stewardship and its practical implications. It addresses both aspects related to the management of the participating entities as well as the stewardship processes (identification of stewardship initiatives, drafting of agreements, monitoring, etc.) and the relationships between the agents involved.

- **Environment Services Management Office. *Va d'aigua* [Programme]. Barcelona Provincial Council [s. d.].** Retrieved 28 May 2021 from <https://www.diba.cat/es/web/mediambient/va-d-aigua>

The Va d'Aigua programme of the Barcelona Provincial Council's Environment Services Management Office supports environmental education facilities and projects that work to conserve and disseminate the values of inland aquatic systems. In addition to providing technical, financial and communication support for environmental education initiatives and promoting networking, the programme has collected various good practices, which include those of municipal museums and other cultural facilities.

4.2. Artistic explorations of the territory and climate: recommendations and tools

As shown in section 3.2, artistic practices have a remarkable potential when it comes to reflecting on the territory, the natural environment and the effects of the climate emergency at all levels, as well as to generating new narratives and inspiration for thinking about different worlds. Artistic and creative initiatives such as land art or upcycling, or artistic creations designed specifically with a particular territory in mind, are illustrations of this which can be promoted through local cultural management and policies.

Among the methodological aspects that the analysis has also revealed is the potential for encouraging citizen participation in creative processes related to the environment and also interdisciplinary collaborations, since they operate at the point where art, science, technology and other disciplines converge.

The following recommendations for local cultural management and policies emerge from this set of observations, which each municipality and actor should adapt to its circumstances:

Recommendations	Elements to be considered
Incorporate into cultural action plans and other local planning instruments an integrated analysis of artistic projects related to the territory, ecology and the environment .	<ul style="list-style-type: none"> • Drafting of action plans or other documents that contribute to an integrated vision. • Effective implementation of artistic projects as tools for highlighting the value of the territory.
Give support to or prioritise artistic projects whose theme is cultural identity in relation to natural heritage and traditional knowledge linked to the territory.	<ul style="list-style-type: none"> • Establishment of support programmes in this regard, or incorporation of related criteria in existing programmes.
Promote multisectoral and intergenerational artistic meetings and projects to raise awareness of the climate emergency.	<ul style="list-style-type: none"> • Implementation of initiatives of this type.
Reflect on the use of materials in artistic processes (e.g. locally sourced, ephemeral and biodegradable materials); artistic recycling and upcycling practices.	<ul style="list-style-type: none"> • Execution of actions of this type.
Recognise the potential of artists, curators and arts professionals to promote hybrid collaborations with scientists and professionals from other sectors.	<ul style="list-style-type: none"> • Accompanying and supporting processes of this nature, in funding programmes or by hosting them in relevant cultural facilities. • Implementation of monitoring and evaluation actions.
Assess artistic programmes and their impact on the territory , on the local communities and on the general public.	<ul style="list-style-type: none"> • Definition of relevant assessment models. • Carrying out assessments and disseminating the results.

The following resources are available for those who wish to examine this area in more detail:

- **Study Group on Ecologies, New Territory and Landscapes in Contemporary Culture. Lectures, discussions and presentations 2013-2016 Matadero Madrid, 2017.** <https://culturayciudadania.culturaydeporte.gob.es/dam/jcr:9d5104fa-e4614f43-b79a-7708e427fb0e/ecologias-sistemas-del-arte.pdf>
Publication of the results of the work and reflections of this group. It includes different topics such as the evolution of environmental thought, landscape theory, the relationship between culture and nature, rural studies, new ruralities, and art and social change.
- **Julie's Bicycle. The Art of Zero. Ako Foundation, 2021.** <https://juliesbicycle.com/wp-content/uploads/2021/05/ARTOFZEROv2.pdf>

Report focusing on the environmental impact – and specifically greenhouse gas emissions – of the global visual arts sector.

- **Julie's Bicycle. *Sustainable production guide: How to limit environmental impacts at every stage in the production process*. Arts Council England, 2013.** https://juliesbicycle.com/wp-content/uploads/2019/11/Sustainable_Production_Guide_2013.pdf

This guide focuses specifically on the environmental sustainability of production in the arts and cultural sectors. It is aimed at artistic directors, producers, directors, production managers, lighting designers and technicians, set designers and builders, costume designers and performing arts professionals from all backgrounds who want to understand and reduce their environmental impacts.

- **Julie's Bicycle. *Green Mobility: A guide to environmentally sustainable mobility for performing arts*. On The Move, 2011.** <http://on-the-move.org/files/Green-Mobility-Guide.pdf>

Is it responsible to promote international mobility today, at a time when pollution and global warming are arguably the greatest threats humankind has ever faced? How does my mobility today influence the world of tomorrow? This guide provides insights, ideas and creative solutions to these questions, focusing on the environmental impact of cultural mobility.

- **Van den Bergh, H. *Art for the Planet's Sake. Arts and Environment. International Network for Contemporary Performing Arts; COAL, Art et développement durable*, 2015.** <https://www.ietm.org/en/resources/fresh-perspectives/fresh-perspectives-4-art-for-the-planets-sake-arts-and-environment>

In this publication, part of the series *Fresh Perspectives*, the international performing arts network IETM, in collaboration with the French organisation Coalition for Art and Sustainable Development (COAL), presents perspectives, models and practices of contemporary arts that address environmental issues and advocate the need for a paradigm shift in the climate debate. It explores the role of the arts in observing, understanding and critiquing environmental sustainability, and their capacity to propose solutions. According to the study, more and more artists and artistic organisations are dedicating their talent to raising awareness of the environmental emergency, reflecting on the impact of artistic practices themselves and encouraging action from civil society.

- **Le Brun-Cordier, P.; Vreux, B. (2019). "Reconfiguring ecological imaginaries". *Klaxon*, no. 12, 2019, p. 3-5.** http://m.cifas.be/sites/default/files/klaxon/ibooks/reconfiguring_ecological_imaginaries_-_pdf_1.pdf

This issue of *Klaxon* – a magazine published by the Brussels-based International Centre for Training in the Performing Arts (CIFAS) in collaboration with In Situ, the European platform for artistic creation in public space – explores the creation and deployment of new imaginaries of ecology in artistic practices. As the editors of the issue explain, different projects and works are presented that invite us to go beyond our traditional conceptions of nature. This leads us to re-think other forms of relationships with living things, to foresee other forms of cohabitation with animals or plants, to cultivate new sensitivities with regard to the world around us, notably because these sensitivities explore new avenues, sensations, and understanding in which non-humans are something more than elements in a natural world in need of protection.

- **Asia-Europe Foundation *Creative Responses to Sustainability*. [s. d.].** <https://culture360.asef.org>

Since 2015, the Asia-Europe Foundation (ASEF) has been publishing the series *Creative Responses to Sustainability* through its arts and culture portal (culture360.asef.org). This series of country-specific guides examines arts organisations that address sustainability issues in their artistic practices in various countries in Asia and Europe. The guides published so far include: Singapore (2015), Korea (2016), Indonesia (2017), Australia (2018), Portugal (2019), Spain (2019) and the United Kingdom (2021), with an additional issue in the series focusing on the city of Berlin (2017). These guides offer a very wide-ranging and detailed overview of a myriad of cultural and artistic initiatives related to environmental issues.

4.3. Environmental education, culture and citizen participation: recommendations and tools

As shown in section 3.3, when integrating the climate emergency into their considerations and actions, cultural management and policies should see environmental education as a priority area for action. This entails, from the outset, recognising and strengthening the educational role of cultural facilities and services, and exploring the potential that exists when environmental and climate emergency aspects are integrated into their actions.

There is also a need to foster partnerships with educational and environmental actors in order to develop interdisciplinary and, where possible, innovative methodologies. The citizen science work carried out by libraries, museums and other cultural facilities is a clear example of this.

This and other examples highlight the potential of citizen participation when it comes to promoting learning and appropriation of environmental education and cultural processes.

The following recommendations for local cultural management and policies emerge from this set of observations, which each municipality and actor should adapt to its circumstances:

Recommendations	Elements to be considered
Promote environmental education programmes and projects in museums, libraries, local cultural centres and other cultural facilities, and take advantage of their own resources to incorporate a cultural dimension.	<ul style="list-style-type: none"> Regular implementation of initiatives of this type.
Identify initiatives related to environmental education established in the municipality (green schools, environment-related associations, etc.) and collaborate through environmental education and culture projects.	<ul style="list-style-type: none"> Identification of entities. Establishment of contacts for possible collaborations.
Support the organisation of workshops, activities and creative participatory processes to reflect on sustainability and the climate emergency.	<ul style="list-style-type: none"> Establishment of support programmes in this regard, or incorporation of related criteria in existing programmes.
Encourage dialogue, collaboration and the development of shared methodologies and languages between entities and professionals in the fields of culture, education, the environment and the relevant municipal services .	<ul style="list-style-type: none"> Implementation of initiatives of this type. Effects of sustainable development initiatives carried out by municipal policies.
Develop diverse and innovative methodologies, such as citizen science actions , in order to reach different audiences with original and stimulating formats.	<ul style="list-style-type: none"> Implementation of initiatives of this type. Results obtained from different audiences.
Recognise, in funding mechanisms and other forms of public support, the value of interdisciplinary and participatory practices , ensuring the interdisciplinary dimension is not an obstacle to receiving support.	<ul style="list-style-type: none"> Promotion of criteria that ensure that interdisciplinary initiatives can also benefit from public subsidies under equal conditions.
Evaluate the participatory potential of cultural and artistic projects and their impact on the territory, on the local communities and the general public.	<ul style="list-style-type: none"> Definition of relevant evaluation models. Carrying out evaluations and disseminating the results.

The following resources are available for those who wish to examine this area in more detail:

- **Barcelona Provincial Council. Environmental Education and Promotion Technical Office (coord.)** *Educació ambiental. D'on venim? Cap a on anem?* Barcelona Provincial Council, 2017. https://llibreria.diba.cat/cat/libro/educacio-ambiental_58193

An overview of environmental education in Catalonia over the last forty years. An essential collection of the main observations on the subject, with contributions from recognised specialists.

- **National Centre for Environmental Education.** *Guía de recursos de educación ambiental*, 2021. https://www.miteco.gob.es/es/ceneam/recursos/materiales/guia-educacion-ambiental-ceneam2021_tcm30-375733.pdf

Compilation of essential readings on environmental education and all its derivations.

- **Organisation for Economic Co-operation and Development; International Council of Museums.** *Cultura y desarrollo local: Maximizar el impacto: Una guía para gobiernos locales, comunidades y museos*, 2019. https://icom.museum/wp-content/uploads/2019/08/ICOM-OECD-GUIDE_ES_FINAL.pdf

A joint publication by the Organisation for Economic Co-operation and Development (OECD) and the International Council of Museums (ICOM). The guide provides a roadmap for local governments, communities and museums on how to define together a local development agenda that promotes a more sustainable future by mobilising the transformative power of culture.

- **Martinell, A. (dir.).** *Cultura y desarrollo sostenible: Aportaciones al debate sobre la dimensión cultural de la Agenda 2030*. Spain: Grupo Duende and the Spanish Network for Sustainable Development, 2020. https://reds-sdsn.es/wp-content/uploads/2020/04/REDS_Cultura-y-desarrollo-sostenible-2020.pdf

This collective work, compiled by Alfons Martinell in the framework of the working group on culture and development of the Spanish Network for Sustainable Development (REDS), includes articles on the museum sector – by Blanca de la Torre and Kristine Guzmán; and Cristina González Gabarda – and the contribution of Raúl Abeledo Sanchis on the evaluation of cultural vitality and sustainability.

- **Library Services Area. BiblioLab: Projectes al territori.** Barcelona Provincial Council, ca. 2020. Retrieved 9 June 2021 from <https://www.diba.cat/es/web/biblioteques/bibliolab/projectes>

Compilation of creative and experimental projects in the field of social innovation that have received support from the BiblioLab programme of Barcelona Provincial Council. It includes both ongoing initiatives and completed projects, which together offer a very wide range of themes and methodological approaches.

- **Library Services Area; OpenSystems. *Ciència ciutadana a les biblioteques: Observa, analitza, crea i participa*. Barcelona Provincial Council, 2019. <https://zenodo.org/record/3490610>**

An introductory guide to citizen science that highlights the role that municipal libraries can play. It includes ten citizen science projects carried out in libraries in the province of Barcelona, with factsheets and testimonials, as well as other resources to encourage the design of new initiatives.

- **Barcelona City Council. *Comuns urbans. Patrimoni ciutadà. Marc conceptual i propostes de línies d'acció*. Barcelona: Barcelona City Council, 2016. https://ajuntament.barcelona.cat/participaciociutadana/sites/default/files/documents/comuns_urbans_patrimoni_ciutada_marc_conceptual_i_propostes_de_linies_daccio_2.pdf**

An initial framework of reflections, analyses and guidelines drawn up by Barcelona City Council in order to develop a policy on citizen heritage or urban commons, i.e. a set of collectively owned resources supported by community governance mechanisms, which require the collaboration of public institutions and civil society. Examples could include community-managed cultural facilities or vacant lots that can be used to foster processes of citizen ownership.

4.4. Adoption of environmental sustainability criteria in public facilities, activities and services: recommendations and tools

As explained in section 3.4, numerous guides and supporting resources are available to promote the incorporation of environmental sustainability criteria in the management of cultural facilities and activities. There are also several positive case studies that show that public administrations can engage with the climate emergency in their day-to-day practices: internal functioning, subsidy lines, public procurement, etc.

Making progress in this area involves first diagnosing the initial situation and then setting concrete objectives and specific commitments, which should be measurable. The administrations themselves must support this with train-

ing and awareness-raising actions, which can also be extended to other cultural agents in the area. There are a number of support programmes to help municipal administrations and other actors to make progress in this area.

The following recommendations for local cultural management and policies emerge from this set of observations, which each municipality and actor should adapt to its circumstances:

Recommendations	Elements to be considered
Define criteria and guidelines, or apply those that already exist, in order to reduce the consumption and environmental impacts of cultural facilities and the work spaces of local cultural agents, from a realistic perspective but also with a commitment to gradual improvement. Ensure the use of these criteria and guidelines.	<ul style="list-style-type: none"> • Existence of criteria and guidelines. • Effective implementation of these tools.
Establish criteria and guidelines, or apply those that already exist, in order to reduce the consumption and environmental impacts of cultural activities , starting with those that are most feasible or those that are most significant in terms of their impact, from a realistic perspective but also with a commitment to gradual improvement. Ensure the use of these criteria and guidelines.	<ul style="list-style-type: none"> • Existence of criteria and guidelines. • Effective implementation of these tools.
Incorporate, where appropriate, environmental sustainability criteria in public procurement processes for services, products or works related to cultural action, in accordance with the provisions of Law 9/2017.	<ul style="list-style-type: none"> • Effective incorporation of these criteria.
Prioritise local suppliers in the public procurement of services related to cultural facilities and activities (technical services, food, transport, etc.).	<ul style="list-style-type: none"> • Establishment of criteria of this type. • Effects on procurement processes.
Gradually include criteria related to environmental sustainability in calls for subsidies and other aid in the cultural field.	<ul style="list-style-type: none"> • Effective and gradual incorporation of these criteria.
Support the changes in the calls for subsidies with awareness-raising, information and training actions on culture, the environment and the climate emergency for potential beneficiary entities and other agents.	<ul style="list-style-type: none"> • Implementation of awareness-raising, information and training actions in these areas. • Participation and results of these activities.

Recommendations	Elements to be considered
Assess the request for advice , from Barcelona Provincial Council other institutions or entities, in order to identify the improvement needs of cultural actions in environmental matters and to have recommendations in place.	<ul style="list-style-type: none"> • Analysis of available options. • Possible use of the advice received.
Establish mechanisms for monitoring the consumption and environmental impacts of cultural facilities and activities, which make it possible to evaluate and establish objectives for progressive improvement (calculation of emissions, etc.).	<ul style="list-style-type: none"> • Establishment of calculation and monitoring mechanisms (annual reports, etc.). • Use of this information to introduce gradual improvements.
Establish training actions for the staff in charge of implementing greening processes , or participate in training activities offered by other administrations or entities.	<ul style="list-style-type: none"> • Effective participation of the staff concerned in appropriate training actions.
Support and response, from the public administration, to the training and greening needs of other local cultural agents (entities, private or group facilities, etc.).	<ul style="list-style-type: none"> • Establishment of support mechanisms: advice, training activities, possibility of accessing mechanisms offered by other administrations, etc.

The following resources are available for those who wish to examine this area in more detail:

- **Lavola, SA; Barcelona City Council. *Des dels equipaments culturals fem pinya contra el canvi climàtic: Guia pràctica per formar part del canvi*, 2019.** http://www.ajsosteniblebcn.cat/guia_fem_pinya_cc_126190.pdf

An interactive guide for local cultural facilities to understand climate change and its implications, and to take an active role in reversing this situation. It introduces several relevant concepts and describes concrete practical measures for different types of activities and roles.

- **Cubeles, X.; Mascarell, M. *Els impactes de la cultura: Metodologia per a l'estudi dels impactes d'esdeveniments culturals*. Barcelona: Barcelona Provincial Council, 2019.** <https://llibreria.diba.cat/cat/unclick/descargaebook.php?uid=530D6DE83DA2C1B7D228AEC59C28560FA597873B61F58F783BD4C97B78909EF5&c=63351&m=descarga>

Among other aspects, this document proposes criteria and procedures for assessing the impacts of cultural events from an environmental perspective. An analysis is carried out of the ecological footprint of the event (using greenhouse gas emission calculators), its water con-

sumption and noise pollution, as well as the perception of its environmental impact by the participants, the non-participants and qualified informants.

- **General Union of Workers. Secretariat for Sectoral Policies; Barcelona Provincial Council. *Guia de bones pràctiques per a una contractació pública socialment responsable*. Barcelona: Barcelona Provincial Council, 2019. https://llibreria.diba.cat/cat/libro/guia-de-bones-practiques-per-a-una-contractaciopublica-socialment-responsable_62355**

Guidelines for incorporating social and environmental criteria in public procurement by local administrations, adapted to the current legislation. It includes a section on sustainability and the environment, detailing the clauses that can be used in the drafting of technical specifications and the considerations to be taken into account for various types of contracts.

- **Pando Martínez, L. *Lideratge mediambiental en el sector cultural i creatiu català*. National Council for Culture and the Arts, 2020. https://conca.gencat.cat/web/.content/arxiu/publicacions/IC19_Sostenibilitat-WEB_DEF.pdf**

Study commissioned by the CoNCA to the British entity Julie's Bicycle, which compiles the results of a survey of Catalan cultural organisations. It describes some good practices, reviews the main needs and makes recommendations to improve the integration of environmental aspects in the action of cultural agents.

- **Powerful Thinking. *The Powerful Thinking guide 2017: Smart energy for festivals and events*. Catalan Institute for Cultural Companies and the Ministry of Culture, 2017. https://issuu.com/icec_generalitat/docs/powerful_thinking**

Translation into Catalan of a British guide to organising environmentally sustainable festivals and cultural activities. It contains numerous practical recommendations and specific examples, with access to a series of practical factsheets, in English, which are regularly updated.

- **Julie's Bicycle; Eurocities. *Leave a trace, not a footprint: A guide for cities to address the environmental impact of cultural events*. Julie's Bicycle and Eurocities, ca. 2020. <https://eurocities.eu/wp-content/uploads/2020/08/Leave-a-trace-not-a-footprint.pdf>**

A practical guide, derived from a European project, to help cities with important heritage elements to sustainably manage the impact of cultural events and activities. It provides numerous examples and practical recommendations, many of which are of interest both for heritage environments and for municipalities of all kinds.

4.5. Municipal strategies and mainstreaming in relation to the climate emergency recommendations and tools

As indicated in section 3.5, the set of initiatives outlined in the previous sections require overcoming the sectoral divisions that have traditionally characterised public policies and most local management initiatives. In particular, there is a need to bring together the languages, objectives and practices of cultural, environmental and other policy areas related to sustainable development. This should be translated into policy statements, strategic plans and other mechanisms that promote integrated visions, and that prioritise the link between culture, the environment and sustainable development.

This link can also be expressed in specific local policy areas linked to sustainability: the processes of renaturing cities, energy transition, promotion of the social and solidarity economy, development cooperation, etc. All these areas can incorporate cultural aspects and should involve local cultural actors. Given the attention these issues currently receive in European funding and in the priorities of various administrations, local, public, private and civil actors can analyse the feasibility of obtaining support for their actions in these areas.

The following recommendations for local cultural management and policies emerge from this set of observations, which each municipality and actor should adapt to its circumstances:

Recommendations	Elements to be considered
Incorporate the cultural dimension , with substantive objectives and actions, in climate emergency declarations and other policy documents addressing climate change and the environment.	<ul style="list-style-type: none"> • Adoption of documents of this nature, with a substantive role for cultural action. • Effective implementation of these strategies.
Include the cultural dimension in other municipal strategies or programmes related to sustainability: solutions based on nature and the renaturing cities, energy transition, the promotion of the social and solidarity economy, global justice and international solidarity, etc.	<ul style="list-style-type: none"> • Inclusion of cultural aspects and concrete actions in municipal strategies or programmes. • Effective implementation of these tools.
Encourage dialogue between the municipal services related to culture, environment and other departments related to sustainability, through the creation of <i>ad hoc</i> working groups or initiatives.	<ul style="list-style-type: none"> • Implementation of actions in this regard. • Results obtained through specific actions.

Provide training on the environment, the climate emergency and its cultural dimension for the municipal cultural services staff and relevant external staff.	<ul style="list-style-type: none"> • Implementation of training actions. • Appropriate participation by the staff concerned.
Encourage the debate on the relationship between culture, the environment and the climate emergency in culture councils or other councils or mechanisms for citizen participation, in order to promote a cross-cutting dialogue between cultural, environmental and other entities.	<ul style="list-style-type: none"> • Implementation of actions in this regard. • Results obtained through specific actions or new forms of collaboration between entities.
Incorporate specific objectives and actions related to the environment or the climate emergency in strategic cultural plans, cultural action plans or similar cultural planning instruments.	<ul style="list-style-type: none"> • Inclusion of these aspects when new plans of this nature are adopted. • Effective implementation of the planned actions.
Explore opportunities to obtain funding for culture and local sustainable development projects through European funds or those offered by other administrations.	<ul style="list-style-type: none"> • Exploration of these opportunities and possible use.

The following resources are available for those who wish to examine this area in more detail:

- **El Prat de Llobregat Town Council. *Declaració d'emergència climàtica del Prat de Llobregat*. El Prat de Llobregat: El Prat de Llobregat Town Council, 2020.** https://www.elprat.cat/sites/default/files/declaracio_emergencia_climatica_final.pdf

The of Climate Emergency Declaration adopted by El Prat de Llobregat Town Council in September 2020 offers useful clues as to how cultural policies can be incorporated into the new cultural model needed to face up to the climate emergency.

- **Sekulova, F. [et al.] *Les solucions basades en la natura en l'àmbit municipal*. Barcelona: Barcelona Provincial Council, 2020.** https://llibreria.diba.cat/cat/libro/les-solucions-basades-en-la-natura-en-l-ambit-municipal_64492

Publication resulting from a European project on the concept of nature-based solutions and their innovative applications in urban environments, in which the UAB participated. It provides a good introduction to the subject and includes numerous projects for reintroducing natural elements into urban environments.

- **Coòpolis, Cooperative Athenaeum of Barcelona; Barcelona City Council.** *Cultura cooperativa a Barcelona: Guia pràctica per al cooperativisme cultural.* Barcelona: Institute of Culture and Barcelona City Council, 2018. https://www.laciutatinvisible.coop/wp-content/uploads/2018/11/cultura_cooperativa_a_barcelona_web.pdf

Introductory guide to the social and solidarity economy and, in particular, to the role played by cultural organisations. It focuses mainly on Barcelona but offers reflections and tools from other territories that can be applied in different contexts.

- **United Cities and Local Governments. Committee on Culture.** *Culture 21: Accions. Compromisos sobre el paper de la cultura a les ciutats sostenibles.* Barcelona, 2015. http://www.agenda21culture.net/sites/default/files/files/documents/multi/c21_2015web_cat.pdf

A practical guide on culture and sustainable development in cities, which devotes special attention to the integration and mainstreaming of municipal policies in the various areas of sustainability. It includes 100 specific actions, structured in nine thematic areas.

- **United Cities and Local Governments. Committee on Culture; Sant Quirze del Vallès Town Council; Centre for Cultural Studies and Resources.** *Anàlisi de les polítiques culturals a partir de Cultura 21: Accions. Recomanacions per a la implementació de l'Agenda 21 de la cultura.* 2019. Sant Cugat del Vallès. Barcelona: Barcelona Provincial Council, 2019. <https://www.diba.cat/documents/326398/231419184/An%C3%A0lisi+de+les+Pol%C3%ADtiques+Culturals+a+partir+de+Cultura+21/435bbc8d-71e2-47ce-8250-9e3ec935ad67>

Analysis of the public policies of Sant Cugat del Vallès Town Council from the perspective of the 100 actions in matters of culture and sustainable local development included in the guide *Culture 21: Accions* by the United Cities and Local Governments (UCLG). The report was drafted based on participatory actions, open to the citizens, and a cross-cutting approach to various areas of municipal policies.

References

- Abeledo Sanchis, R. “Evaluando la vitalidad (y la sostenibilidad) cultural: algunas cuestiones para el debate”. In: Martinell, A. (dir.). *Culture and sustainable development: Contributions to the debate on the cultural dimension of the 2030 Agenda*. Spain: Grupo Duende and the Spanish Network for Sustainable Development, 2020, p. 36-45. <https://reds-sdsn.es/wp-content/uploads/2020/04/REDS_Cultura-y-desarrollo-sostenible-2020.pdf>
- ACVIC. Contemporary Art Centre. *Des dels marges. Entre l'art i la dinamització en contextos rurals*. Vic: H. Association for Contemporary Arts, 2011. <<https://www.acvic.org/ca/programacio-de-cursos/387-des-dels-marges-entre-lart-i-la-dinamitzacio-en-contextos-rurals>>
- Barcelona City Council. *Instrucció tècnica per a l'aplicació de criteris de sostenibilitat en esdeveniments*. Barcelona: Barcelona City Council, 2015. <http://www.ajsosteniblebcn.cat/ins_cat_cap_esdeveniments_maq_67184.pdf>
- Barcelona City Council. *Comuns urbans. Patrimoni ciutadà. Marc conceptual i propostes de línies d'acció*. Barcelona: Barcelona City Council, 2016. <https://ajuntament.barcelona.cat/participaciociutadana/sites/default/files/documents/comuns_urbans_patrimoni_ciutada_marc_conceptual_i_propostes_de_linies_daccio_2.pdf>
- Barcelona City Council. *Instrucció tècnica per a l'aplicació de criteris de sostenibilitat en les exposicions*. Barcelona: Barcelona City Council, 2017. <http://www.ajsosteniblebcn.cat/ins_exposicions_81033.pdf>
- Barcelona City Council. *Això no és un simulacre: Declaració d'emergència climàtica: 15 gener 2020: Barcelona*. Barcelona: Barcelona City Council, 2020. <https://www.barcelona.cat/emergenciaclimatica/sites/default/files/2020-02/declaracio_emergencia_climatica_ca.pdf>
- Barcelona City Council. *Pla Canviem pel Clima 2030. Estratègia de Cultura de Sostenibilitat de Barcelona: On som? Situació de partida i marc conceptual*. Barcelona: Barcelona City Council, 2021. <<https://ajbcn-decidim-barcelona.s3.amazonaws.com/decidim-barcelona/uploads/>>

- [decidim/attachment/file/10382/Pla_Canviem__pel_Clima_ONSOM_DocPreliminar.pdf](#)>
- Cornellà de Llobregat Town Council. *Naturalitzar la ciutat: cap a una nova vertebració urbana: els eixos verds*. Cornellà de Llobregat: Cornellà de Llobregat Council, ca. 2017).
- El Prat de Llobregat Town Council. *Declaració d'emergència climàtica del Prat de Llobregat*. El Prat de Llobregat: El Prat de Llobregat Town Council, 2020. <https://www.elprat.cat/sites/default/files/declaracio_emergencia_climatica_final.pdf>
- Asensio, N. [et al.]. *Guia de bones pràctiques per a entitats de custòdia del territori: Gestió d'entitats i iniciatives de custòdia del territori*. Land Stewardship Network, 2018. <https://xcn.cat/wp-content/uploads/Guia_bones_practiques_xct_catala.pdf>
- Baltà Portolés, J. *Culture and the SDGs: the case of the Vil·la Urània Civic Centre*. Blog de trànsit: el archivo de trabajo de Trànsit Projectes (online blog) (15 February 2021). <<https://blog.transit.es/cultura-y-ods-el-caso-del-centre-civic-vil%2b7la-urania/>>
- El Vallès Oriental seed bank. *El projecte* [online]. Granollers Museum of Natural Sciences, 2021. <<http://www.llavorsvallesoriental.cat/el-projecte/>> [Query: 27 May 2021].
- Sant Cugat Libraries. *BiblioLab: qualitat de l'aire* [online]. Sant Cugat del Vallès: Sant Cugat Libraries, 2021 <<https://bibliomil.wordpress.com/bibliolab-qualitat-de-laire/>> [Query: 9 June 2021].
- Boada Juncà, M.; Maneja Zaragoza, R.; Marlès Magre, J. “Biodiversitat Sostenibilitat urbana”. In: Juvillà Ballester, E. (dir.). *Renaturalització de la ciutat* [online]. Barcelona: Barcelona Provincial Council of Barcelona, 2019, p. 63-77. <https://llibreria.diba.cat/cat/libro/renaturalitzacio-de-la-ciutat_61788>.
- Boixader i Solé, J. “L'economia del paisatge: de l'atracció territorial a la localització dels Objectius de Desenvolupament Sostenible”. In: *Informe territorial. Demarcació de Barcelona: 2020* [online]. Barcelona: Barcelona Provincial Council. Cambra de Comerç de Barcelona, 2020, p. 227-235. <https://www.diba.cat/documents/36150622/330671813/ITDB_20_interactiu.pdf/cc337a57-817f-48aa-bca3-c6305949566b>
- CACiS El Forn de la Calç. *Microscopies: itinerari d'art de l'Anella Verda de Manresa* [online]. El Forn de la Calç. 18 August 2020. <<https://cacis.elforndelacalc.cat/microscopies-itinerari-dart-de-lanella-verda-de-manresa/>> [Query: 2 June 2021].
- Camprubí i Trepà, A.; Camprubí i Trepà, L.; Tolosa Giribet, G. *Guia per al disseny d'itineraris periurbans saludables en el marc de la Xarxa de*

- Parcs Naturals* [online]. Barcelona: Barcelona Provincial Council, 2018. <https://www.diba.cat/documents/7294824/251067112/Guia_itineraris_periurbans_saludables.pdf/abf22910-98fe-42ac-b8ff-c90cace65d2f>
- Casademont, R.; Vallvé, V. “Cornellà Natura: transformar la ciutat per naturalitzar-la”. In: Juvillà Ballester, E. (dir.). *Renaturalització de la ciutat* [online]. Barcelona: Barcelona Provincial Council, 2019, p. 170-179. <https://llibreria.diba.cat/cat/libro/renaturalitzacio-de-la-ciutat_61788>
- Castell Puig, C. “Serveis dels ecosistemes i infraestructura verda. Aplicació a escala regional i local”. In: Juvillà Ballester, E. (dir.). *Renaturalització de la ciutat* [online]. Barcelona: Diputació de Barcelona, 2019, p. 37-57. <https://llibreria.diba.cat/cat/libro/renaturalitzacio-de-la-ciutat_61788>
- UNESCO Centre of Catalonia. *Contribució del patrimoni cultural immaterial al desenvolupament sostenible* [online]. Barcelona: UNESCO Centre of Catalonia, ca. 2011a. <https://parcs.diba.cat/documents/29193465/29468345/Montseny_ContribucioPCIdS_CAT.pdf/451fa994-fd68-40e5-91f3-a93d11ace7b9>
- UNESCO Centre of Catalonia. *Metodologia per a l'inventari del patrimoni cultural immaterial a les reserves de la biosfera*. [online]. Barcelona: UNESCO Centre of Catalonia, ca. 2011b. <https://parcs.diba.cat/documents/29193465/29468345/Montseny_Metodologia_CAT.pdf/5ab6162e-1e29-4087-8a38-fb859893255b>
- United Cities and Local Governments. Committee on Culture. *Agenda 21 de la cultura* [online]. Barcelona, 2004. <http://www.agenda21culture.net/sites/default/files/files/documents/multi/ag21c_ct.pdf>
- United Cities and Local Governments. Committee on Culture. *Cultura 21: Accions. Compromisos sobre el paper de la cultura a les ciutats sostenibles* [on line]. Barcelona, 2015. <http://www.agenda21culture.net/sites/default/files/files/documents/multi/c21_2015web_cat.pdf>
- United Cities and Local Governments. *La cultura en los Objetivos de Desarrollo Sostenible: guía práctica para la acción local* [online]. Barcelona, 2018. <http://www.agenda21culture.net/sites/default/files/culturaods_web_es.pdf>
- United Cities and Local Governments. Committee on Culture; Sant Quirze del Vallès Town Council; Centre for Cultural Studies and Resources. *Anàlisi de les polítiques culturals a partir de Cultura 21: Accions. Recomanacions per a la implementació de l'Agenda 21 de la cultura*. 2019. *Sant Cugat del Vallès* [online]. Barcelona: Barcelona Provincial

- Council, 2019. <<https://www.diba.cat/documents/326398/231419184/An%C3%A0lisi+de+les+Pol%C3%ADtiques+Culturals+a+partir+de+Cultura+21/435bbc8d-71e2-47ce-8250-9e3ec935ad67>>
- Clammer, J. *Cultures of transition and sustainability: Culture after capitalism*. Nova York: Palgrave Macmillan, 2016.
- European Commission. *Adquisiciones ecológicas: Manual sobre la contratación pública ecológica*. 3rd ed. [online]. Publications Office of the European Union, 2016. <https://ec.europa.eu/environment/gpp/pdf/handbook_2016_es.pdf>
- European Commission. *Contratación pública para una economía circular: Orientación y buenas prácticas* [online]. Publications Office of the European Union, 2018. <https://ec.europa.eu/environment/gpp/pdf/cp_european_commission_brochure_es.pdf>
- European Commission DG GROW, G-Single Market for Public Administration, G4-Innovative and eProcurement. *Public procurement indicators 2017* [online]. 2019. <<https://ec.europa.eu/docsroom/documents/38003>>
- World Commission on Environment and Development. *Informe de la Comisión Mundial sobre el Medio Ambiente y el Desarrollo: [Nuestro futuro común]* [online]. (Official Documents of the General Assembly, no. A/42/427, 4 August 1987). <https://digitallibrary.un.org/record/139811/files/A_42_427-ES.pdf>
- Conceição, P. (dir.). *Informe sobre desarrollo humano 2020. La próxima frontera: El desarrollo humano y el Antropoceno* [online]. United Nations Development Programme, 2020. <http://hdr.undp.org/sites/default/files/hdr2020_es.pdf>
- El Garraf Regional Council. *Pacte pel paisatge del Garraf* [online]. 2019. <<https://www.ccgarrar.cat/files/doc2129/carta-paisatge-garraf-pacte-paisatge-revisat.pdf>>
- Council of Europe. *Conveni europeu del paisatge* [online]. 2000. <<https://rm.coe.int/16802f3fa4>>
- United Nations Framework Convention on Climate Change. *Conferència de les Parts. Acord de París* [online]. Government of Catalonia. Ministry of Territory and Sustainability, 2015. <https://canviclimatic.gencat.cat/web/.content/02_OFICINA/actuacio_internacional/Acord_de_Paris/acord_paris_maquetacio-v2_final.pdf>
- Coòpolis, Cooperative Athenaeum of Barcelona; Barcelona City Council. *Cultura cooperativa a Barcelona: Guia pràctica per al cooperativisme cultural* [online]. Barcelona: Institute of Culture and Barcelona City Council, 2018. <https://www.laciutatinvisible.coop/wp-content/uploads/2018/11/cultura_cooperativa_a_barcelona_web.pdf>

- Cubeles, X.; Mascarell, M. *Els impactes de la cultura: Metodologia per a l'estudi dels impactes d'esdeveniments culturals* [online]. Barcelona: Barcelona Provincial Council, 2019. <<https://llibreria.diba.cat/cat/unclick/descargaebook.php?uid=530D6DE83DA2C1B7D228AEC59C28560FA597873B61F58F783BD4C97B78909EF5&c=63351&m=descarga>>
- De la Torre, B.; Guzmán, K. "Museos en acción: sostenibilidad en modos y medios". In: Martinell, A. (dir.). *Cultura y desarrollo sostenible: Aportaciones al debate sobre la dimensión cultural de la Agenda 2030*. [online]. Spain: Grupo Duende and the Spanish Network for Sustainable Development, 2020, p. 46-57. <https://reds-sdsn.es/wp-content/uploads/2020/04/REDS_Cultura-y-desarrollo-sostenible-2020.pdf>
- Decker, J. "Climate of change". *Museum Management and Curatorship*, vol. 35, no. 6 (1 February 2020) [online]. CIMAM <<https://cimam.org/sustainability-and-ecology-museum-practice/climate-of-change-adapting-museum-practice-professional-development-and-hr-management-to-better-respond-to-the-change-that-confronts-the-communities-we-serve/>> [Query: 2 June 2021].
- Ministry of Climate Action, Food and Rural Agenda. *Equipaments culturals: biblioteques, museus i col·leccions* [online]. 2020 <http://mediambient.gencat.cat/ca/05_ambits_dactuacio/empresa_i_produccio_sostenible/ecoproductes_i_ecoserveis/etiquetatge_ecologic_i_declaracions_ambientals_de_producte/distintiu_de_garantia_de_qualitat_ambiental/categories_i_sol_licituds/serveis/biblioteques_i_museus_330/> [Query: 27 May 2021].
- Ministry of Universities and Research. *Les prioritats d'inversió del Programa Operatiu FEDER 2021-2027* [online]. (3 March 2021). <<https://universitatsirecerca.gencat.cat/ca/detalls/noticia/Les-prioritats-dinversio-del-Programa-Operatiu-FEDER-2021-2027>> [Query: 2 June 2021].
- Ministry of Culture. *Manual de bones pràctiques ambientals: Equipaments culturals* [online]. 2015. <https://cultura.gencat.cat/web/.content/dgpc/museus/03_gestio/01_sostenibilitat_ambiental/recursos_sostenibilitat/Dossier-Manual-de-Bones-Practiques-Ambientals.pdf>
- Ministry of Culture. *Distintiu de garantia de qualitat ambiental* [online]. 2017. <https://cultura.gencat.cat/ca/departament/estructura_i_adreces/organismes/dgpcc/subdireccio_general_de_promocio_cultural/projectes/distintiu-garantia-mediambiental/> [Query: 27 May 2021].
- Ministry of Territory and Sustainability. *Guia de publicacions ambientalment correctes: model GPP Toolkit* [online]. 2018. <<https://contractacio>.

- gencat.cat/web/.content/principis/contractacio-estrategica/ambiental/guia-publicacions.pdf>
- Dessein, J.; [et al.]. (ed.). *Culture in, for and as Sustainable Development: Conclusions from the Cost Action IS1007 Investigating Cultural Sustainability* [online]. University of Jyväskylä, 2015. <<http://www.culturalsustainability.eu/conclusions.pdf>>
- Barcelona Provincial Council. *Procés de detecció de projectes per a la recuperació, la transformació i la resiliència a la província de Barcelona.. Dossier* (version 2) [online]. Barcelona: Barcelona Provincial Council, 2020. <<https://www.diba.cat/documents/346335100/347389046/Proces+deteccio+programes.pdf/12cb8975-6a10-d9b2-a6b1-c59f4f97a78a?t=1612642239849>>
- DutchCulture. *Report on Fair International Cultural Cooperation #2 Climate Change: Conventions and practical issues in funding international activities* [online]. 2019. <https://dutchculture.nl/sites/default/files/atoms/files/dutchculture_report_-_fair_international_cultural_cooperation_2019.pdf>
- Duxbury, N.; Kangas, A.; De Beukelaer, C. "Cultural policies for sustainable development: four strategic paths". *International Journal of Cultural Policy*, 23(2), 2017, p. 214-230. [online]. <<https://doi.org/10.1080/10286632.2017.1280789>>
- Escobar, A. "Healing the web of life: on the meaning of environmental and health equity". *International Journal of Public Health*, 64(1), 2019, p. 3-4. [online]. <<https://doi.org/10.1007/s00038-018-1154-y>>
- Estudi Ramon Folch i Associats, SL. *Diagnosi d'actuacions de cooperació internacional vinculades al canvi climàtic* [online]. Catalan Development Cooperation Fund and Metropolitan Area of Barcelona, ca. 2021 <https://www.fonscatala.org/sites/default/files/2021-06/PUB_diagnosi_canviclima_coopera_internacional_compressed.pdf>
- Fernàndez, A.; Miró, I. *L'economia social i solidària a Barcelona* [online]. La Ciutat Invisible, SCCL: Commissioner for Cooperative, Social and Solidarity Economy Barcelona City Council, 2016. <https://www.laciutatinvisible.coop/wp-content/uploads/2016/02/essb_def3.pdf>
- Folch, E. *La nova mobilitat des de les biblioteques: Resultats de les enquestes sobre la mobilitat cap a les biblioteques de Granollers* [BiblioMobility project] [online]. Libraries of Granollers and Granollers Pedala, 2021. <<https://www.bibliomobilitat.cat/informe-enquesta-bibliomobilitat.pdf>>
- Contorno Urbano Foundation. *Mòdul* [online] (s. d.). <<https://www.contornourbano.com/modul/>> [Query: 2 June 2021].

- García Jané, J.; Suriñach Padilla, R. *Guia del mercat social* [online]. Barcelona: Barcelona Provincial Council, 2019. <https://llibreria.diba.cat/cat/libro/guia-del-mercat-social_61816>
- Government of Catalonia. *Annex al Pla nacional per a la implementació de l'Agenda 2030 a Catalunya: memòria* [online]. Government of Catalonia, Advisory Council for Sustainable Development, ca. 2019. <http://cads.gencat.cat/web/.content/00_agenda_2030/Memoria-Pla-nacional-Agenda-2030.pdf>
- Government of Catalonia. *Next Generation Catalonia (February 2021 version)* [online]. Government of Catalonia, Ministry of Economy and Finance, 2021. <http://economia.gencat.cat/web/.content/20_departament_gabinet_tecnic/arxius/pla-recuperacio-europa/next-generation-catalonia.pdf>
- González Gabarda, C. “Museos para la sostenibilidad”. In: Martinell, A. (dir.), *Culture and sustainable development: Cultura y desarrollo sostenible: Aportaciones al debate sobre la dimensión cultural de la Agenda 2030*. [online]. Spain: Grupo Duende and the Spanish Network for Sustainable Development, 2020, p. 78-85. <https://reds-sdsn.es/wp-content/uploads/2020/04/REDS_Cultura-y-desarrollo-sostenible-2020.pdf>
- Government of Spain. *Plan de recuperación, transformación y resiliencia* [online]. 2021 <https://www.lamoncloa.gob.es/temas/fondos-recuperacion/Documents/30042021-Plan_Recuperacion_%20Transformacion_%20Resiliencia.pdf>
- Hawkes, J. *The fourth pillar of sustainability: Culture's essential role in public planning* [online]. Common Ground Publishing and Cultural Development Network (Melbourne Vic). 2001. <https://www.researchgate.net/publication/200029531_The_Fourth_Pillar_of_Sustainability_Culture%27s_essential_role_in_public_planning>
- ICOMOS. Climate Change and Heritage Working Group. *The Future of our pasts: Engaging cultural heritage in climate action* [online]. 2019. <<https://indd.adobe.com/view/a9a551e3-3b23-4127-99fd-a7a80d91a29e>>
- Catalan Energy Institute. *Proposta de llei de transició energètica de Catalunya i de transformació de l'Institut Català d'Energia en l'Agència Catalana d'Energia* [online]. Government of Catalonia, 2019. <http://icaen.gencat.cat/web/.content/35_Participacio/Llei_Transcio_AEC/arxius/20191219_ICAEN_-EstrategiesLLEI.pdf>
- Catalan Institute for Cultural Companies; Business Development Service. *Tres anys de sostenibilitat a l'ICEC* [online]. Government of Catalonia.

- Ministry of Culture, 2020. <<https://cercles.diba.cat/cgi-bin/koha/opac-detail.pl?biblionumber=46589>>
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. *Workshop report on biodiversity and pandemics of the intergovernmental platform on biodiversity and ecosystem services* [online]. 2020. <<https://doi.org/10.5281/zenodo.4158500>>
- Julie's Bicycle. *Green Mobility: A guide to environmentally sustainable mobility for performing arts*. On The Move [online]. 2011. <<http://on-the-move.org/files/Green-Mobility-Guide.pdf>>
- Julie's Bicycle. *Sustainable production guide: How to limit environmental impacts at every stage in the production process* [online]. 2013. <https://juliesbicycle.com/wp-content/uploads/2019/11/Sustainable_Production_Guide_2013.pdf>
- Julie's Bicycle. *Environmental sustainability in the Digital Age of Culture: Opportunities, impacts and emerging practices* [online]. 2020. <https://juliesbicycle.com/wp-content/uploads/2020/12/JB_Sustainability-in-the-Digital-Age-7-FULL-REPORT.pdf>
- Julie's Bicycle; Eurocities. *Leave a trace, not a footprint: A guide for cities to address the environmental impact of cultural events* [online]. Julie's Bicycle and Eurocities, ca. 2020. <<https://eurocities.eu/wp-content/uploads/2020/08/Leave-a-trace-not-a-footprint.pdf>>
- Juvillà Ballester, E. "La revolució verda". In: Juvillà Ballester, E. (dir.). *Renaturalització de la ciutat* [online]. Barcelona: Barcelona Provincial Council, 2019, p. 14-23. <https://llibreria.diba.cat/cat/libro/renaturalitzacio-de-la-ciutat_61788>
- Kagan, S. "Prefiguring Sustainability: Response-Ability and Spaces of Possibility". In: Van den Bergh, H. *Art for the Planet's Sake: Arts and Environment* [online]. International Network for Contemporary Performing Arts; COAL, Art et développement durable, 2015, p. 29-32.
- Latour, B. *Face à Gaïa: Huit conférences sur le nouveau régime climatique*. Paris: La Découverte, 2015.
- Lavola, SA; Barcelona City Council. *Des dels equipaments culturals fem pinya contra el canvi climàtic: Guia pràctica per formar part del canvi* [online]. 2019. <http://www.ajsosteniblebcn.cat/guia_fem_pinya_cc_126190.pdf>
- Le Brun-Cordier, P.; Vreux, B. "Reconfiguring ecological imaginaries". *Klaxon*, no. 12, 2019, p. 3-5. [online]. <http://m.cifas.be/sites/default/files/klaxon/ibooks/reconfiguring_ecological_imaginaries_-_pdf_1.pdf>
- Leitat; El Tinter SAL; Simpple. *Manual de la bona ecoedició: Guia de bones pràctiques per a l'ecoedició i l'ecodisseny en el sector de les publicacions*

- (llibres i revistes): *Project LIFE+ 09 ENV/ES/000457* [online]. 2013. <https://pol-len.cat/w2018/wp-content/uploads/2020/10/GREENING-BOOKS_Guia_Bones_practiques_CAT.pdf>
- Martinell, A. “Cultura i desenvolupament sostenible”. *Cercle de Cultura* [online] (18 November 2020). <https://www.cercledecultura.org/cultura_desenvolupament_sostenible_alfons_martinell/> [Query: 26 May 2021].
- Martinell, A. “Pensando en la reconstrucción. Los efectos de la pandemia en la cultura”. *Confluencia* [online] (21 February 2021). <<http://alfonsmartinell.com/pensando-en-la-reconstruccion-los-efectos-de-la-pandemia-en-la-cultura/>> [Query: 26 May 2021].
- Martínez Escutia, J. *Bajo el signo de la sostenibilidad: el reciclaje en el arte público medioambiental* [Unpublished doctoral thesis] [online]. Polytechnic University of Valencia, 2015. <<https://doi.org/10.4995/Thesis/10251/59382>>
- Martínez Illa, S. *Pla d'equipaments culturals de Catalunya 2010-2020: PECCat* [online]. Government of Catalonia. Ministry of Culture and Media, 2010. <https://cultura.gencat.cat/web/.content/dgcc/08_Serveis/Publicacions/documents/arxiu/pec_26_01_11.pdf>
- Martínez Tormo, J. *Governar per a la cultura: Una proposta per a implementar una política cultural local* [online]. Nexa Foundation, 2020. <https://fundacionexa.org/wp-content/uploads/2020/10/praxis02_governar_cultura.pdf>
- Matadero Madrid. “Eco-visionarios: arte para un planeta en emergencia: exposición” [Exhibition programme] [online]. 2019. <<https://www.mataderomadrid.org/sites/default/files/v2/prensa/d/1/ecovisionarios-programa-mano-web.pdf>>
- Moore, S.; Tickell, A. *Las artes y la sostenibilidad medioambiental: Una perspectiva internacional* [online]. Julie's Bicycle i International Federation of Arts Councils and Culture Agencies, 2014. <https://juliesbicycle.com/wp-content/uploads/2019/11/ES_2015JB_IFACCA_DArtReport34b-Web-Ready.pdf>
- Muñoz, F.; Nogué, J. “El paisaje como legado rural”. In: Grupo de Estudios sobre Ecologías del Sistema del Arte, Nuevos Paisajes y Territorio en Cultura Contemporánea. *Lecturas comentadas, debates y presentaciones 2013-2016*. [online]. (p. 23-31). Matadero Madrid, 2017. <<https://culturayciudadania.culturaydeporte.gob.es/dam/jcr:9d5104fa-e461-4f43-b79a-7708e427fb0e/ecologias-sistemasdel-arte.pdf>>
- National Art Museum of Catalonia. *Declaració ambiental 2019: El nostre compromís: conservar el que és de tots* [online]. 2020. <https://issuu.com/mnac/docs/declaraci_ambiental_2019> [Query: 28 May 2021].

- United Nations General Assembly. *Transformar nuestro mundo: la Agenda 2030 para el desarrollo sostenible* [online]. (Official Documents of the General Assembly, no. A/RES/70/1, 21 October 2015). <<https://undocs.org/es/A/RES/70/1>>
- United Nations, General Assembly. *Informe de la Relatora Especial sobre los derechos culturales, Karima Bennouna* [online]. (Official Documents of the General Assembly, no. A/75/298, 10 August 2020). <<https://undocs.org/es/A/75/298>>
- Norberg-Hodge, H. *El futuro es local: Pasos hacia una economía de la felicidad*. Pol-len, 2020.
- Landscape Observatory. *Instruments: Cartes del paisatge* [online]. 2021. <<http://www.catpaisatge.net/monlocal/cat/cartes.php>> [Query: 28 May 2021].
- Organisation for Economic Co-operation and Development; International Council of Museums. *Cultura y desarrollo local: Maximizar el impacto: Una guía para gobiernos locales, comunidades y museos* [online]. 2019. <https://icom.museum/wp-content/uploads/2019/08/ICOM-OECD-GUIDE_ES_FINAL.pdf>
- Pando Martínez, L. *Environmental leadership in the Catalan cultural and creative sector*. [online]. National Council for Culture and the Arts, 2020. <https://conca.gencat.cat/web/.content/arxius/publicacions/IC19_Sostenibilitat-WEB_DEF.pdf>
- European Parliament. *Medidas efectivas para ecologizar Erasmus+, Europa Creativa y el Cuerpo Europeo de Solidaridad*. Resolució P9_TA(2020)0211. [online]. 2020. <https://www.europarl.europa.eu/doceo/document/TA-9-2020-0211_ES.pdf>
- Powerful Thinking. *La guía de Powerful Thinking 2017: Energía inteligente para festivales y eventos* [online]. Catalan Institute for Cultural Companies and the Ministry of Culture, 2017. <https://issuu.com/icec_generalitat/docs/powerful_thinking>
- Prada Campaña, O. *Informe del 5.º Inventario de iniciativas de custodia del territorio en España* [online]. Biodiversity Foundation, 2017. <https://www.custodia-territorio.es/sites/default/files/recursos/5oinventario_ct_fb_03082018_definitivo.pdf>
- Saladié, S.; Bonfill, C. *Pla de paisatge. Cervera* [online]. Cervera Council, 2015. <http://www.catpaisatge.net/fitxers/plans/pla_paisatge_cervera_web.pdf>
- Secretary of State for the 2030 Agenda. *Directrices generales de la Estrategia de Desarrollo Sostenible 2030* [online]. 2021 <https://www.agenda2030.gob.es/recursos/docs/Directrices_EDS.pdf>

- Secretariat of the Convention on Biological Diversity. *Handbook of the Convention on Biological Diversity Including its Cartagena Protocol on Biosafety* (3rd ed.) [online]. 2005. <<https://www.cbd.int/doc/handbook/cbd-hb-all-en.pdf>>
- Sekulova, F. [et al.]. *Les solucions basades en la natura en l'àmbit municipal* [online]. Barcelona: Barcelona Provincial Council, 2020. <https://llibreria.diba.cat/cat/libro/les-solucions-basades-en-la-natura-en-l-ambit-municipal_64492>
- Library Services. *Distintiu de qualitat ambiental* [online] (n.d.). <<https://biblioteques.gencat.cat/ca/el-servei-de-biblioteques/linies-dactivitat/planificacio-bibliotecaria/infraestructura-bibliotecaria/distintiu-qualitat-ambiental/>> [Query: 27 May 2021].
- Skolczyas, N. *Climate Action and the Performing Arts: Report from the IETM Galway Satellite Meeting, 2-3 December 2020*. IETM. [online]. (2020). <https://www.ietm.org/en/system/files/publications/ietm_report_galway_satellite.pdf>
- Stockholm Resilience Centre. *Planetary boundaries* [online] (s. d.). <<https://stockholmresilience.org/research/planetary-boundaries.html>> [Query: 25 May 2021].
- Suriñach Padilla, R. *L'economia social i solidària de Manlleu i la seva àrea d'influència* [online]. Manlleu Council. Economic Promotion Office, 2017. <<https://ess.manlleu.cat/wp-content/uploads/2019/07/2-03-34-informe-diagnostic.pdf>> [Query: 1 June 2021].
- Terradas i Serra, J. "Educació ambiental: d'on venim, on anem. Una visió personal". In: Diputació de Barcelona. Oficina Tècnica d'Educació i Promoció Ambiental (coord.). *Educació ambiental. D'on venim? Cap a on anem?* [online], 2017. <https://llibreria.diba.cat/cat/libro/educacio-ambiental_58193>
- Throsby, D. "Culturally sustainable development: theoretical concept or practical policy instrument?" *International Journal of Cultural Policy* [online] 23(2), 2017, p. 133-147. <<https://doi.org/10.1080/10286632.2017.1280788>>
- Torrent, M.; Borràs, M. "Salvar les nostres llavors de l'extinció" [Article]. *Ara. Diumenge* [online] (3 April 2021). <https://diumenge.ara.cat/diumenge/salvar-nostres-l-extincio_130_3933001.html>
- UGT. Secretariat for Sectoral Policies; Barcelona Provincial Council. *Guia de bones pràctiques per a una contractació pública socialment responsable* [online]. Barcelona: Barcelona Provincial Council, 2019. <https://llibreria.diba.cat/cat/libro/guia-de-bones-practiques-per-a-una-contractacio-publica-socialment-responsable_62355>

- Ulied, A. [et al.]. *Models i factors per a un nou desenvolupament econòmic local: AtlasDEL* [online]. Barcelona: Barcelona: Barcelona Provincial Council, 2017. <https://llibreria.diba.cat/cat/libro/models-i-factors-per-a-un-nou-desenvolupament-economic-local-atlesdel_58848>
- UNESCO. World Heritage Centre. *Climate Change: Climate Action for World Heritage* [online]. 2021. <<https://whc.unesco.org/en/climatechange/>> [Query: 2 June 2021].
- Valensi, S. [et al.]. *Décarbonons la Culture ! Rapport intermédiaire*. The Shift Project Plan de transformation de l'économie française. [online]. 2021. <<https://theshiftproject.org/article/decarbonons-la-culture-rapport-intermediaire-shift/>>
- Van den Bergh, H. *Art for the Planet's Sake. Arts and Environment* [online]. International Network for Contemporary Performing Arts; COAL, Art et développement durable, 2015.
- Voices of Culture. *Culture and the United Nations Sustainable Development Goals: challenges and opportunities. Brainstorming report: February 2021* [online]. 2021. <<https://voicesofculture.eu/wp-content/uploads/2021/02/VoC-Brainstorming-Report-Culture-and-SDGs.pdf>>
- Wilson, C. *Creative Responses to Sustainability: Cultural Initiatives Engaging with Social & Environmental Issues: Spain Guide* [online]. Asia-Europe Foundation, 2019. <<https://asef.org/wp-content/uploads/2020/10/FINAL-ASEF-Spain-Directory-Online-Version-1.pdf>>
- World Meteorological Organization. *United in Science 2020: A multi-organization high-level compilation of the latest climate science information* [online]. 2020. <https://library.wmo.int/doc_num.php?explnum_id=10361>
- Network of Cities and Towns for Sustainability. *Economia circular i verda al món local: com passar a l'acció i eines per als ens locals* [online]. Barcelona: Barcelona Provincial Council, 2018. <https://www.diba.cat/documents/63810/166310776/Guia_ECiV_Final+rev+juliol+2018.pdf/1463e13b-f0cd-4134-bda8-e439daab3ab9>
- Network of Cities and Towns for Sustainability. *Grup de treball d'economia circular* [online]. ca. 2021 <<https://www.diba.cat/es/web/xarxasost/economiacircular>> [Query: 31 May 2021].

Credits and acknowledgements

This document is sponsored by the Centre for Cultural Studies and Resources (CERC) of Barcelona Provincial Council and drafted by the team at Innovación, Transferencia y Desarrollo (ITD).

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Documentary and bibliographic support (CERC):

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Graphics:

The graphics in the document were created by ITD.

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- Oriol Granyer, technician of the Gavarres Consortium technical service (11 March 2021)
- Christian Alonso, curator and art historian, promoter of the Working group on the hybrid ecologies of the Llobregat delta (11 March 2021)
- Roser Oduber and Joan Vendrell, directors of the Centre for Contemporary Art and Sustainability (CACiS) El Forn de la Calç, Calders (11 March 2021)
- Lluís Llobet, Director of the Centre of Art and Nature of Farrera (12 March 2021)
- Sandra Carrera, Economic and Public Relations Coordinator, Nature Conservation Network (telephone conversation, 12 March 2021)
- Marisol Lage, head of the Technical Office of Strategies for Economic Development (OTEDE), and Jordi Boixader, head of the Economic

Development Innovation subsection of the OTEDE, Economic Promotion and Employment Services Management Office, Barcelona Provincial Council (17 March 2021)

- Beatriz Cavanillas, coordinator, and Lorea Sanz, technologist, Ateneu de Fabricació La Fábrica del Sol, Barcelona (18 March 2021)
- Toni Arrizabalaga, Director of the Granollers Museum of Natural Sciences (18 March 2021)
- Juanma Moreno, Deputy Director of Can Pedrals Library, Granollers (25 March 2021)
- Esteban Marín, Artistic Director of the Contorno Urbano Foundation, L'Hospitalet de Llobregat (26 March 2021)
- Gemma Carbó, Director of the Museum of Rural Life (12 April 2021)

The team responsible for the report would like to thank all the people interviewed during the project, as well as the members of the advisory group.