Guidelines

Climate protection in museums

NEMO Network of European Museum Organisations

DEUTSCHER MUSEUMS BUND

Table of contents

Introduction 3

ACTION, PLEASE! 5

Museums acting now for the future 6

Museums in an era of climate change 6

Seize opportunities and shape society 7

Working with these guidelines 7

GET STARTED! 9

Implementing sustainability consistently 10

PLAN – Reflect and develop ideas 10

DO – Implement in concrete terms 11

CHECK – Document and evaluate 11

ACT – Learn and adapt 11

ORGANISE! 12

Introduce new processes 13

Guaranteeing staff capacities 13

Create a climate impact assessment 14

Selecting an environmental management system 16

Building alliances 18

ACT! 19

Working ecologically 20

Energy 20

Water 22

Materials 22

Mobility 24

Building and refurbishment 24

Climate impact adaptation 25

MOBILISE! 26

Use external impact and shape society 27

Communicate and experience a new corporate culture 27

Educating and communicating towards a sustainable development of society 27

Ecological minimum standards for museums 29

Introductory literature 32

Imprint 33

Introduction

Introduction to the Climate protection in museums guidelines

In an era marked by unprecedented challenges, we find ourselves confronting an ecosystemic crisis that transcends mere climate concerns. It compels us to re-evaluate our understanding of these complex phenomena and underscores the imperative need for international and cross-sector collaborations, engaging both the public and policymakers. Society as a whole must unite to address this challenge.

Cultural institutions such as museums, which in Europe are primarily funded by public resources, bear a critical role in this sustainable transition. They are tasked with the responsibility to exemplify sustainability in practice while supporting the sustainable transition of our society and breaking free from preconceived models. A transforming society needs trust and commitment. Museums are essential in fostering democracy, exploring our history, and shaping an inspiring and inclusive future. They possess the power to create innovative narratives, initiate projects, and ensure inclusivity for all. As custodians of our heritage, they also have the power to influence our values and norms, a significant responsibility.

Climate protection in museums guidelines is a useful resource aimed at empowering museums to participate actively in the pressing global issues of climate change and sustainability. It was developed as part of the German Museums Association's project 'Climate Protection and Sustainability in Museums' by a working group of 70 museum professionals and other experts and explores how museums can become active drivers, guiding society through their activities and influence to foster a transition towards a more sustainable future. This guide is structured to provide concrete solutions, from initiating climate impact assessments to integrating sustainability into working mechanisms and educating on climate change.

Practical tools are keys to help the museum sector take its part in its sustainable transition. So, too, is the importance of collaboration among museums that share the journey towards change, as collective efforts and mutual support play a vital role in this transformative process. We witness this in our working group Sustainability and Climate Action! (SAC!), formed in October 2022 at the NEMO European Museum Conference in Loulé as part of the Network of European Museum Organisations (NEMO). While this group enables us to connect museum professionals from across Europe, share initiatives and develop our network, we are also working on themes such as museums as catalysts for change and sustainable infrastructure. As a priority, we want to work with museums in Europe on fostering a shared understanding of what sustainability entails and how it can be applied to museum activities. We aim to assist museum colleagues in assessing the sustainability of their museums and equip them with tools to enhance sustainability. Furthermore, we are committed to offering feedback to museum associations and NEMO regarding the key areas for improvement within the field, serving as a foundation for advocacy efforts.

In this collective endeavour, NEMO's working group SAC! envisions the Climate protection in museums guidelines as an important tool that aligns with our mission to facilitate and empower museums on their sustainable journey, thus reinforcing our commitment to fostering positive change within the cultural sector and beyond.

We hope that you will find this translated guide instructive and that you will join us on this exciting journey where we harness the power of museums to contribute to a more sustainable and resilient future for all.

– Estelle De Bruyn
Leader of NEMO's Sustainability and Climate Action Working Group and Head of the Sustainability Unit at the Royal Institute for Cultural Heritage (KIK-IRPA), Belgium

About NEMO

The Network of European Museum Organisations (NEMO) was founded in 1992 as an independent network of national museum organisations representing the museum community of the member states of the Council of Europe. Together, NEMO's members speak for thousands of museums across Europe. NEMO helps connect European museums and their national organisations, promotes European policies that help museums to fulfil their role as keepers of cultural heritage, and supports European museums in their aim to learn through networking and cooperation. The NEMO working group Sustainability and Climate Action! contributes to the sustainable development of museums through research and advocacy and provides a space for the exchange of knowledge and experience aligned with tackling the climate crisis.

ACTION, PLEASE!

Museums acting now for the future

Museums can contribute to positive change in society through their actions.
All museums should utilise this potential. Action, please!

Museums can make an important contribution to the sustainable development of society. In relation to the 17 Sustainable Development Goals (SDGs) of the United Nations, these guidelines address aspects of other goals in addition to Goal 13, Climate Protection:

Goal 4: High quality education
Museums have a key role to play in communicating values and empowering people to act sustainably.

Goal 11: Sustainable cities and communities
Through their actions, museums can make an impact on the sustainable development of society in cities and communities.

Goal 12: Sustainable consumption and production
Museums can use resources sustainably and efficiently and orient their actions towards a circular economy.

Goal 13: Climate protection measures
Museums can contribute to limiting the global temperature increase to 1.5 degrees Celsius by implementing climate protection measures and mobilising society to act in a climate-responsible manner.

Goal 17: Partnerships to achieve these goals
By networking and cooperating with other museums, cultural institutions or other social actors, museums can make a national contribution to achieving the SDGs and fulfil their social responsibility through professional exchange, partnership work and public relations.

With the 2030 Agenda adopted in 2015, the United Nations (UN) agreed on 17 Sustainable Development Goals (SDGs). They are a comprehensive framework for achieving a global sustainable society. For more information, see: Agenda 2030.

Museums in an era of climate change

Through the exhibitions and experiential spaces created for their visitors, museums are important social institutions that can create knowledge and show options for shaping sustainable change in society. Their mission to preserve our common artistic, natural and cultural heritage for the future makes museums per se sustainably-acting institutions.

However, as with all other businesses and cultural institutions, the activities of museums have an impact on the planet's climate. Through the emissions they produce and resources they consume, museums leave an ecological footprint that cannot be ignored. Among the biggest sources of CO2 emissions in museums are public traffic and energy consumption.

The climate crisis and the associated climatic effects not only affect human living conditions but also threaten cultural assets through extreme weather events. Museums are obliged by their social responsibility to actively implement measures for climate and environmental protection. However, political and social developments such as the goal of the Paris Climate Agreement to limit global warming to 1.5 degrees also place a social responsibility on museums to make their contribution to climate and environmental protection.

This publication focuses on the ecological scope of sustainability. This includes, among others, the following environmental and climate protection measures:

- Reduction of greenhouse gas emissions and removal of greenhouse gases,
- Strengthening nature, i.e. protecting forests, soils and wetlands, seas and oceans,
- Adaptive measures to the consequences of the climate crisis, and
- Climate justice – this means that climate protection measures must be fair and inclusive and not lead to further disadvantages.

This summary is taken from the publication 'Mobilising Museums for Climate Action' by Museums for Climate Action, London 2021, p. 16.

In particular, the point on climate justice makes it clear that measures for climate and environmental protection cannot be thought of without the other elements of sustainability. Social but also economic aspects always play an essential role in ecologically sustainable development.

Seize opportunities and shape society

Sustainability is a requirement for the viability of the future of humanity. As educational institutions and communication spaces, museums are able to communicate this. They can act as role models by actively implementing climate and environmental protection measures, and they should take their social responsibility seriously by actively contributing to the sustainable development of society.

In addition to the ecological footprint, museums also have an ecological handprint. This refers to the creative freedom that every museum has to inspire positive change in the sense of a holistically conceived sustainable development of society; that is active measures that are carried out, for example, in the educational, social or political spheres and that benefit the sustainable development of society.

Seize opportunities!

The ecological handprint of museums

- Improving quality of life
- Strengthening communities
- Promoting sustainability awareness
- Influencing transformation in the building, energy and transport sectors
- A strengthening of innovative capacity, of an understanding of democracy and of the ability to participate

By making demands, e.g. for the expansion of a cycle path network so that visitors can reach museums more easily, museums can contribute on a small scale to the sustainable transformation of the transport sector and thus influence the various sectors of society through their actions. They can make demands for sustainable construction when it comes to new museum buildings or steer the financial flow towards sustainable economic structures through sustainable procurement. Above all, museums can be catalysts for sustainable development in society by communicating new values and empowering people to understand and take their role in climate protection.

Working with these guidelines

These guidelines provide you with tips to help you make an active contribution to climate and environmental protection at all levels of your museum as well as to inspire action towards the sustainable development of society. These guidelines are suitable both for museums that are still at the very beginning, but also for institutions that have already tackled ecological issues. You will learn how to strategically initiate the sustainability process (Get started), which organisational measurements to take (Organise), which fields of action to choose (Act) and how to create a positive change in society (Mobilise).

The aim is to provide you with an overview of the extensive topic of climate protection in museums and to give you advice for your sustainability process. You can use the additional links to find out more about specific topics that are particularly relevant to you.

These guidelines are aimed in particular at staff members of the various departments of museums of all sizes, genres and regions, but also at representatives of their sponsors who would like to learn more about current developments and support museums in their sustainable transformation.

Given the heterogeneity of museums, some recommendations for action are more suitable for you than others. Below, therefore, you will find a compilation of minimum ecological standards derived from the recommendations for action. In order to protect the climate successfully, we encourage museums to be guided by these minimum standards and to work towards them.

Do you have any questions, suggestions or requests? Get in touch! Contact us at office@ne-mo.org

Action, please!
First suggestions for the ecological transformation of your museum:

→ Climate protection is already a political school of thought. Find out about the sustainability strategy in your country or region. You can refer to this, for example, when you want to write funding applications for climate protection measures.

→ Understand sustainability and sustainable development as long-term processes. Make sure to provide human and financial resources in good time.

→ See the ecological transformation as an opportunity. The energy crisis has shown us that climate protection measures always lead to reduced costs in institutions.

→ Make sustainability the new normal. Integrate sustainable action into your processes as a matter of course. Use your museum's creative potential to think and act in new ways.

→ Do not be afraid to fail. Making sure that your sustainability process is steady requires perseverance, patience and sometimes a thick skin to endure moments of frustration and resistance. Stay flexible and open – real change does not happen overnight.

→ Make conscious decisions. Open and transparent communication helps you to deal with conflicting goals and to find compromises and solutions.

→ From the beginning involve all employees as well as the public and form alliances with other museums and external partners. Sustainability is a team effort.

Get started!

Implementing sustainability consistently

How to start? Where to start? Who to involve? This chapter offers you help to begin the sustainability process in a structured manner.

The first step towards a successful sustainability process is to integrate the sustainable issues (such as climate and environmental protection) into the museum's mission statement. This should signal the strategic and organisational restructuring of the museum by the management and be supported by all employees. Therefore, make sure to design the museum's new structures in a co-creative process involving the entire team and make your new mission statement publicly available.

For successful structural change, it is best to have a strategic approach that is flexible and that can be individually adapted and further developed. The PDCA cycle (Plan-Do-Check-Act) offers a methodical approach for this. This forms the basis of most quality management systems. Established environmental management systems such as ISO standard 14001 (p. 17) and EMAS (p. 18) are also based on this model. In a continuous improvement process, goals are formulated, repeatedly questioned and adjusted.

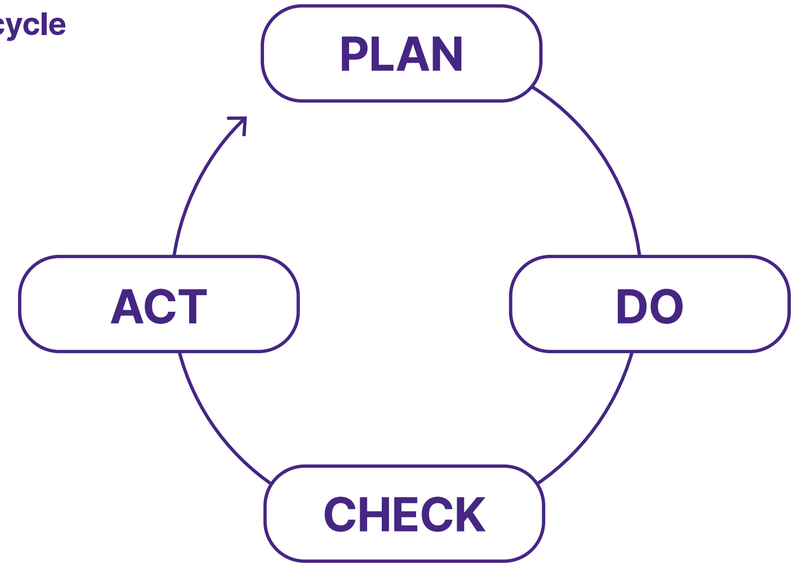
PLAN - Reflect and develop ideas

As a first step, determine the organisational status quo of your museum and derive goals for measures to protect the climate and the environment in your daily work.

Record the status quo analysis, the target definition and the derived measures in an institution-specific sustainability concept.

Involve your staff and visitors in the sustainability process right from the start and be open to suggestions, proposals and requests. Transparent internal and external communication about your decisions increases the credibility of your museum among staff, visitors and other stakeholders.

PDCA cycle



Status quo: Where do we stand?

- Draw up an overview of the professional, human, financial and time resources available to you.
- Analyse your environment. Record your partners and supporters as well as the political framework conditions. Find out about the applicable sustainability goals of your municipality, state or federal government.
- Take note of the environmentally-relevant effects of your institution. These can be determined, for example, with the help of a CO_2 equivalents (CO_2e) balance sheet in the chapter 'Organise!'.

Defining the goal: Where do we want to go?

- Define the ecological fields of action in the chapter 'Act!' that you would like to work on.
- Define facility-specific goals. Set intermediate goals and time periods in which the goals are to be achieved and establish measurable criteria for success.
- When developing goals, you can use the strategies of sustainable development as a guide.

> **“ Our goal is a green museum that is committed to the 17 Sustainable Development Goals of the United Nations. The principle of small steps applies, with many decisions and measures in a wide variety of areas to implement sustainability and climate protection in every-day museum life. The commitment and suggestions from the Landesmuseum team play a significant role in this.”**
>
> Dr. Heike Pöppelmann, director at Landesmuseum Braunschweig

Measures: How do we get there?

- Derive measures that are necessary to achieve your defined goals.
- A materiality analysis helps you to make considered and transparent decisions about which measures you can and want to implement. To do this, create a matrix with graphs aligned to the following points:
  - High or low influenceability: How high is your influence on the field of action? Do you have enough resources at your disposal?
  - Concentrate on what you can implement and do not worry about what you cannot tackle at this point in time. Even small steps can make a big difference.
  - High or low impact: Where is the biggest impact on the environment? Where do you see the greatest CO_2 savings potential? Where do you see positive effects on society?
  - Create a timetable for your measures, for example divided into short-, medium- and long-term goals.

DO - Implement in concrete terms

On the one hand, measures in projects can be achieved over a defined period of time with available staff and budget, such as refurbishment measures. On the other hand, structures and work processes can also change and be integrated into existing organisational processes, such as documenting the CO_2e emissions of air travel when planning and holding an exhibition.

These new tasks must be clearly defined and assigned to responsible persons. If necessary, working hours and wages must be adjusted.

Strategies for sustainable development

Sufficiency! What can you save?
Save resources such as materials, energy and water as much as possible.

Efficiency! What can you improve?
Work more efficiently, for example by optimising your processes or using resource-saving technology such as LED light bulbs.

Consistency! What can you reuse?
Pay attention to reusability and work in the spirit of the circular economy.

Resilience! How can you adapt?
Be prepared for changing climate conditions and adapt your buildings and processes accordingly.

CHECK - Document and evaluate

For quality assurance, you should document your processes and measures and evaluate their effectiveness. This can be done either internally or through external review.

Internal evaluation can be done through regular internal meetings and surveys. For external review, you can introduce an environmental management system.

ACT - Learn and adapt

Make adjustments based on the evaluation from the CHECK phase. If necessary, you can derive new guidelines and goals for your institution from the insights you have gained. These will be included in the next planning phase as new framework structures.

It is possible that the implementation of some measures, the employment of climate protection officers, or the involvement of external consultants will incur costs that cannot be covered by your budget. You can apply for funding to cover these costs.

In the practical guide for the cultural sector of the state capital Dresden, you will find further practical recommendations of action for the creation of a sustainability strategy (available in German).

Organise!

Introduce new processes

The following operational processes and instruments can be used to make important adjustments in the daily work of the museum therefore implementing climate and environmental protection in the museum.

Ecological sustainability is a cross-sectional task that must be incorporated into all fields of action of the museum and supported by the entire team. This chapter shows various operational processes and tools through which climate and environmental protection can be implemented in the museum.

The introduction of operational processes depends largely on the management of a museum. With the following processes and instruments, the management in particular can take the lead regarding daily museum work and thus implement climate protection in the museum. Climate protection in the museum is also a matter for the managers!

Transparent and open communication and the involvement of the entire team in the sustainability process is indispensable here.

Guaranteeing staff capacities

In order to implement sustainability in the museum successfully, the entire team has to consider the subject relevant and necessary. Sustainability must be pursued by the management (top-down) as a strategic goal and experienced as an integral part of the organisation. It should be monitored continuously. To achieve certain goals, additional professional, human and time resources may be required. These must be guaranteed by management.

At the same time, the sustainability process can also be introduced by the employees (bottom-up) as a participatory process. In this case, the commitment and wishes of the staff should be acknowledged and actively integrated by the management.

The best prerequisite for a lasting and successful sustainability process is the combination of top-down and bottom-up efforts in all processes of the museum.

Recommendations for human resources:

→ Climate protection is already a political school of thought. Find out about the sustainability strategy in your country or region. You can refer to this, for example, when you want to write funding applications for climate protection measures.

→ Assess the possibility of creating sufficient time and financial resources. If necessary, enter into an exchange with your institution, other museums or regional museum associations.

→ Appoint a specially-trained person (sustainability officer) to take care of and promote the topic of sustainability in close conversation with management.

→ Form a working group in which representatives from all areas of the museum should work together.

→ For smaller museums, it makes sense to join forces with other institutions to bundle tasks and exchange experience.

→ Ensure that your staff is adequately trained in sustainability and transformation management.

On our website you will find a list of possible further training courses in the fields of climate protection and sustainability in museums: Training courses and further training.

Create a climate impact assessment

The preparation of a climate impact assessment is a key tool for a strategic approach to sustainability and follows the principle of what you measure you will manage.

A climate impact assessment provides an overview of the magnitude and sources of all greenhouse gas emissions emitted by business operations over a given period. On this basis, well-founded climate protection measures can be designed. A steady continuation and expansion of one's own balance sheet is a central building block on the way to a more climate-friendly future.

The accurate presentation of the museum's emission values also makes it easier to negotiate major climate protection measures in the political field. A climate impact assessment can therefore be a good argumentation tool for political discussion. For example, museums can have an influence on the change in transport by communicating their CO_2e emissions of visitors' vehicles and can thus better demand the expansion of public transport or cycle paths.

A climate impact assessment therefore not only serves as a strategic tool and a calculation of general CO_2e emissions but can also be actively used as a lobbying tool for political influence. In addition, it can be assumed in the future that a pre-existing climate impact assessment will become a condition for particular kinds of funding. Consequently, there are many reasons for preparing a climate impact assessment.

Standards for a climate impact assessment

A widely-used standard for preparing a climate impact assessment is the Greenhouse Gas Protocol (GHG Protocol, GHG for short). According to this standard, CO_2e emissions are recorded according to three factors, known as scopes.

Scope 1 is the direct greenhouse gas emissions from your facility, such as heating systems or motor vehicles. This includes emissions from the loss of refrigerants from cooling systems.

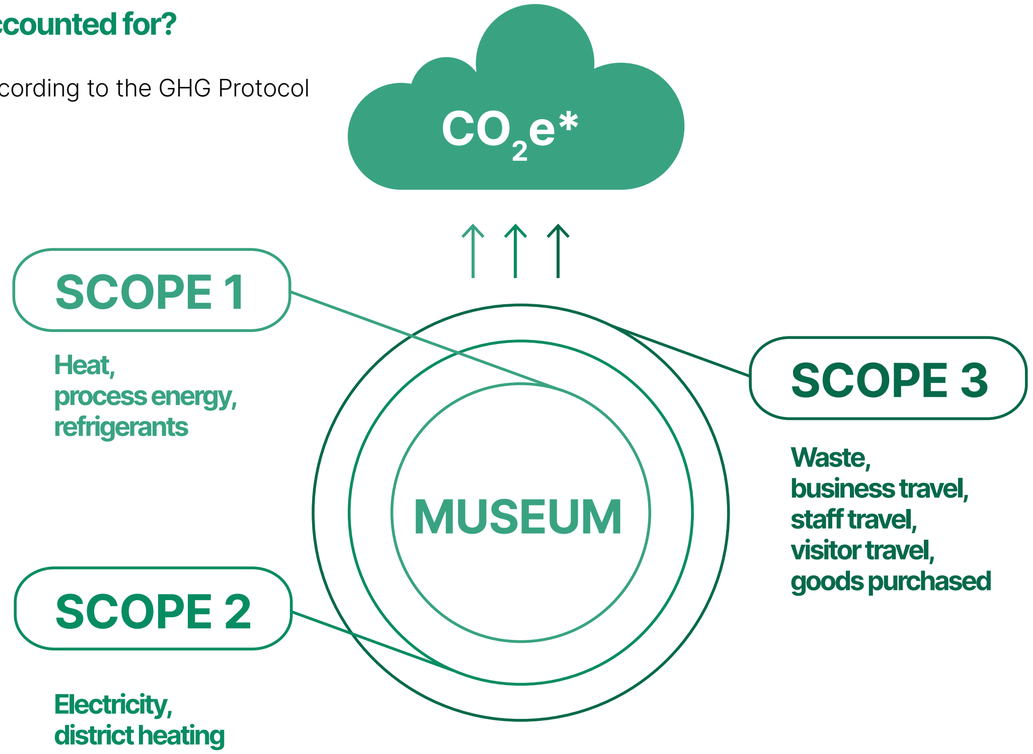
Scope 2 includes the indirect greenhouse gas emissions from the generation and transport of electricity and district heating.

Scope 3 includes all other indirect greenhouse gas emissions from the facility's activities. These include business trips, object transportation, emissions from employees' journeys to work and visitors' journeys as well as emissions caused by the goods and services procured.

While Scope 1 and Scope 2 emissions must be accounted for according to the GHG Protocol, Scope 3 emissions do not have to be fully quantified. For cultural institutions, accounting for Scope 3 values makes a big difference, especially in the area of visitor mobility. We therefore recommend that you include Scope 3 values in your climate impact assessment and in particular the factors of mobility, waste and purchased essential goods.

What is accounted for?

3 Scopes according to the GHG Protocol



* CO_2 equivalents (CO_2e).

In addition to carbon dioxide (CO_2), the calculation of the CO_2 footprint takes into account six other greenhouse gases that were defined in the Kyoto Protocol. Therefore, one often refers not only to CO_2, but to CO_2 equivalents or CO_2e for short. A total of seven greenhouse gases are considered here: Carbon dioxide (reference gas), methane, nitrous oxide, nitrogen trifluoride, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. These greenhouse gases contribute differently to the greenhouse effect and thus have different so-called 'Global Warming Potentials' (GWP). For carbon dioxide (CO_2), the value is 1. In a climate assessment, all greenhouse gases are always taken into account and are measured against the hypothetical amount of CO_2 emissions that would have a corresponding warming potential. For example, methane has a value of 28, as it has a global warming potential 28 times higher than CO_2. A CO_2 footprint therefore not only reflects the actual CO_2 emissions, but also those of the six other gases, though converted into CO_2 equivalents, or CO_2e for short.

First steps towards a climate assessment

First of all, you should ask yourself which organisational areas you want to include in your assessment (organisational system boundary): a single exhibition, a building, a part of a building, the storage rooms? Then you should define which scopes you would like to assess (operational system boundary). The above-mentioned standards for climate accounting according to the Greenhouse Gas Protocol could be of help in this process.

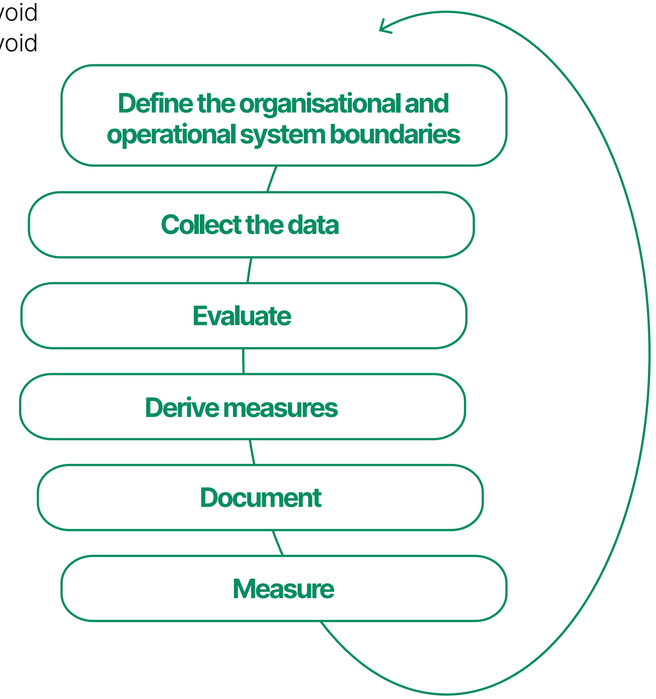
Once you have collected the data, you can identify the main CO_2e emission sources of your museum and derive measures to reduce or avoid them. Prioritise measures that will help you avoid CO_2e emissions. Only then should you determine how you can reduce emissions. For example, first check whether you can get by with fewer light sources overall instead of switching everything directly to LED lightbulbs.

The results of a climate impact assessment readily tempt people to compare themselves with other institutions. However, operational processes and conditions vary, which leads to different results. A climate impact assessment should therefore always be used as an instrument for defining your own goals and monitoring your own success. Comparability with yourself should be the focus, and this only becomes possible through regular assessments.

CO_2 compensation

After you have examined all the options for saving your CO_2e emissions, you can decide to offset unavoidable emissions via compensation payments. By buying a certificate for a climate protection project, a certain amount of emissions are offset elsewhere. However, this should be a last resort in your sustainability process, as otherwise you run the risk of 'buying your way out' of your emissions and thus engaging in greenwashing.

How do I create a climate impact assessment?



If compensation payments are made, they should be made according to nationally- or internationally-certified standards.

Established standards include:

- Clean Development Mechanism (CDM)
- Gold Standard (GS)
- Verified Carbon Standard (VCS)
- Plan Vivo

A good way to offset CO_2e and at the same time contribute to biodiversity and natural shading of the building is to expand open spaces through the unsealing of natural ground and introducing native greenery. Measures to this end can also have a positive impact on your CO_2e assessment. Get advice on planting your open spaces with, for example, perennial plant species which make sense in terms of water consumption, heat resilience, shade effect, etc.

The German Federal Environment Agency's guidebook Voluntary CO_2 Compensation Through Climate Protection Projects provides background information on certificate trading, relations and further detailed information (available in German).

" The assessment brought a quantifiable gain in knowledge for the museum's sustainability working group and for the entire staff. We hope that this will increase awareness of the issue and also provide the incentive to address the weak points specifically."

Oksana Katvalyuk, Project Coordinator of Climate Assessment at Museum Wiesbaden

Recommendations for climate impact assessment:

→ Prepare a climate impact assessment for each business year focusing on the system boundaries you have defined. If necessary, get professional help for the preparation and evaluation of your first climate impact assessment.

→ Assess your emission sources as comprehensively and accurately as possible. This means that in addition to your Scope 1 and Scope 2 data, you should also collect your Scope 3 data, if possible and at your discretion. Moreover, your data should be as specific as possible. The more precise the data, the more conclusive your climate impact assessment will be. The long-term goal should be the most comprehensive, quantitative reporting of all emission sources possible.

→ Involve the whole team starting with the data collection stage, and report regularly on the progress and difficulties of the assessment process at your team meetings.

→ Publish your climate impact assessment on your website and report publicly on the measures, progress and difficulties. Transparent communication avoids misunderstandings, builds trust and makes you credible.

On the German Museums Association website you will find further information on the topic of climate impact assessments and a step-by-step guide on how to create a climate impact assessment (available in German).

Selecting an environmental management system

Environmental Management Systems (EMS), environmental consulting programmes, certifications and sustainability reporting, summarised here as Environmental Management Systems, offer assistance in the creation and implementation of comprehensive environmental management in museums.

They map all measures and areas that contribute to the climate- and environmentally-friendly actions of an institution and help to create a sustainability strategy.

An Environmental Management System creates transparency internally and externally, supports compliance with legal requirements and achieves continuous improvement in the climate protection and environmental performance of an institution. It summarises the current quality standards in institution-related environmental management.

Many Environmental Management Systems offer the possibility of certification, which can have advantages in terms of external communication and with funding bodies. It is up to the institutions to decide whether they want to be certified.

The initiation and implementation of an Environmental Management System, compared to reporting or certification, are very different in terms of personnel, time and financial effort. In the following example from Germany, you can find out about relevant Environmental Management Systems already in use by museums and get help in deciding which EMS would be most suitable for your museum.

Which Environmental Management System suits my museum?*

	The German Sustainability Code	ISO Standard 14001	ECOPROFIT	Economy for the Common Good	Eco-Management and Audit Scheme (EMAS)	EMASeasy
SMALLER MUSEUMS	✓		✓	✓		✓
MEDIUM-SIZED MUSEUMS	✓	✓	✓	✓	✓	✓
LARGER MUSEUMS	✓	✓		✓	✓	

*The classification of museums is based on the number of full-time staff. The range can be from less than 5 full-time positions for smaller museums to more than 50 full-time positions for larger institutions.

The German Sustainability Code

A good introduction to a management system is sustainability reporting in accordance with the German Sustainability Code. This is based on the international sustainability reporting standard GRI (Global Reporting Initiative) and is used as proof by the auditing institutions.

- Certification: inclusion in the German Sustainability Code's database.
- The advantages: free of charge, a good introduction to the sustainability process and transparent communication via the database.

For further information, see: www.deutscher-nachhaltigkeitskodex.de, here you can find an example of a museums' sustainability report (available in German).

> **"We see sustainability and environmental protection as a living process that affects the whole building and all departments. A certain number of hours for energy and environmental management is implemented in the job and task description of every employee."**
>
> Dirk Rieker, Commercial Director at Staatsgalerie Stuttgart

ISO Standard 14001

The ISO 14001 Standard (ISO = International Organization for Standardization; 14001 = environmental standardisation) has been in existence since 1996 and is applied internationally as well as across all sectors. It is possible to introduce different ISO Standards, for example for the areas of quality, energy or occupational health and safety.

- Certification by recognised auditing institutions.
- The advantages: focus on a strategic approach to environmental management, integrated management system and international and cross-sectoral recognition.

For further information, see: www.iso.org. Information on the ISO 14001 standard can also be found on the website of the German Federal Environment Agency (available in German).

ECOPROFIT

The aim of the German municipal environmental consulting programme ECOPROFIT (Ecological Project for Integrated Environmental Technology) is to develop savings concepts for improved resource use on a regional level between a municipality and small and medium-sized enterprises. In addition to ecological factors, the focus is on financial savings.

- Certification: inclusion in the ECOPROFIT database

- The advantages: project funding rounds are often financed by the German federal states; cross-sector networking through the ECOPROFIT Club; preparation for the introduction of an environmental management system such as EMAS or ISO 14001 is possible.

For further information, see: www.oekoprofit.info. This page provides an overview of cultural enterprises that have participated in the ECOPROFIT programme (available in German).

Economy for the Common Good

The Economy for the Common Good (ECG) provides a holistic view of sustainability according to which museums can be certified. The Economy for the Common Good is a reform movement launched in Austria, Bavaria and South Tyrol in 2010 that aims fundamentally to align economic activity with the democratically-defined 'common good'. Through regional groups and advisers, museums can network with other ECG-balanced enterprises.

- Certification by qualified common good consultants.

- Advantages: holistic integration of sustainability, networking through regional groups and support of a reform movement oriented towards the common good.

For further information, see: www.ecogood.org. Here you can find an example of a sustainability strategy of a previously assessed common good museum (available in German).

Eco-Management and Audit Scheme (EMAS) and EMASeasy

The Eco-Management and Audit Scheme, EMAS for short, has been one of the established system standards in Germany since 1993. It builds on the legal basis of ISO 14001:2015 and contains additional requirements such as the obligation to publish and communicate a detailed environmental statement. Since EMAS certification is very resource-intensive, smaller companies are offered the option of using the simplified EMASeasy programme.

- Certification via the Chamber of Industry and Commerce through a state-supervised verification system.

- Advantages: an established and state-recognised environmental management system and transparent communication through the obligation to publish and communicate a detailed environmental statement.

For further information, see: www.emas.de. Here is an example of the implementation of EMAS in the cultural sector (available in German).

Building alliances

Sustainable development is a society-wide goal involving many participants. In line with the Sustainable Development Goals set by the United Nations, in particular Goal 11, Sustainable Cities and Communities, and Goal 17, Partnerships to Achieve the Goals, it is advisable to form alliances outside of your institution.

Joint projects such as operating shared storage space for exhibition materials, regularly exchanging experiences with other museums or cooperating with local initiatives in the field of climate protection strengthen your own capacity to act and reach out and allow for the integration of external expertise.

Recommendations for sustainable networking:

→ Enter into temporally and socially sustainable co-operations with local initiatives and relevant bodies.

→ Offer more events as participatory and outreach formats. This will promote networking and exchange with your audience and partners.

→ If necessary, seek advice from external experts or in the specialist groups and working groups within your national museum organisation or reach out to NEMO.

→ Make networking and cooperation publicly visible.

→ You will find concrete ideas for implementation on the German Museums Association website Forming Alliances (available in German) and in its Guidelines on Developing Education and Public Engagement in Museums (available in English, translated by NEMO).

ACT!

Working ecologically

Museums can have an impact through their actions and contribute to climate and environmental protection. At the same time, they act as role models for a sustainable change in society.

This chapter summarises the main fields of action in which museums can contribute to climate and environmental protection, most of which can be covered in a climate impact assessment. You will receive practical recommendations for action to help you in the ecological orientation of your museum. Further links will enable you to deal more intensively with the respective fields of action.

Energy

General energy saving tips and quick results:

- Make your staff and visitors aware of the need to save energy.
- Lower the temperature where possible. For every 1 degree of temperature reduction, up to 6 per cent energy savings are possible!
- Use digital infrastructure wisely and in a resource-efficient way, including storage capacity, life cycle, operating life, cloud computing and IT security.
- Ensure low loss of refrigerants and use refrigerants with the smallest possible greenhouse effect.
- Obtain green electricity and energy from renewable sources close to the building.
- Introduce consistent monitoring of your energy consumption. Find out about the installation of measuring devices to monitor energy consumption.
- Carry out regular checks of the settings of appliances and their maintenance.
- Do regular checks of the settings of units and their maintenance.

Focus: Air conditioning in the museum

Heating, cooling and ventilation systems play a major role in ensuring optimal conditions for objects in museums and serve the well-being of visitors and museum staff. To ensure the long-term preservation of collection items, attention must be paid to material-specific, stable climate conditions, because the less fluctuation there is, the slower the objects age. Moreover, any fluctuations should not occur abruptly, but slowly. This is defined by specifying gradients that are as flat as possible (fluctuations/unit of time). The indoor climate may be subject to slow fluctuations adapted to the seasons.

Very sensitive objects and materials, in particular objects made of aged material combinations, require specific temperature and humidity values (setpoints); less sensitive objects can do with a climate corridor (limit values).

Many standards for museum air conditioning have been concerned with a broader climate corridor (defined fluctuations within maximum limits) for some time. In connection with the 2022/23 energy crisis, the German Museums Association has temporarily recommended a climate corridor for museum air conditioning to potentially save energy. Instead of a single setpoint, it recommends a climate corridor in operation with fixed limit values for less sensitive objects.

This lies between 15 and 26 degrees Celsius for temperature and between 40 % and 60 % for relative humidity, whereby one should pay attention to flat gradients of change: Change in relative humidity within 24 hours: +5 or –5 %. Change in temperature within 24 hours: +2 or –2 K.

An overview with applicable international standards and focus articles on the topic of museum air conditioning can be found on the German Museums Association website under Energy (available in German).

Often the required values throughout the building are based on the most sensitive objects. In the case of air conditioning by full and partial air conditioning systems, this can result in high energy consumption. In this case, you should check your collection holdings to see whether the previously applicable climate conditions (target values) can be extended to a corridor (limit values). As this is highly divergent in different museums, the conservation requirements for environmental conditions can vary greatly. Specially adapted climate conditions may be required for individual collections or even entire inventories. The assessment must be carried out by specialists such as conservators, with the help of natural scientists and material experts.

The following recommendations for action may help you to deal with the energy balance of your museum air conditioning and, at the same time, fulfil the museum's core task of preservation.

Tips for museum air conditioning:

→ Together with your technical team, check whether changes within the system technology can lead to energy savings while maintaining the existing target or limit values. Take into account, among other things, the location of the exhibition areas in the building and the local climate.

→ In the case of high outdoor temperatures, check supplementary organisational measures to reduce heat input, if necessary, e.g. shading or adjustment of opening hours.

→ Check whether microclimates can be introduced for individual sensitive objects.

→ Check whether you can present or store collection objects with the same climate requirements together. If necessary, exchange information with other museums in order to find common solutions, e.g. for storage or advice, etc.

→ Together with your conservation and restoration team, check whether an extended climate corridor can be applied to your collection holdings.

→ An evaluation of energy consumption is essential to assess how much energy can be saved by introducing an extended climate corridor.

→ Ensure that any changes to previously existing climate parameters around collection assets are accompanied and evaluated with sufficient monitoring.

→ Ensure that the necessary technical, time, human and financial resources are made available for the evaluation and assessment of your climate values.

→ Support basic research on material ageing, which is essential for a differentiated determination of critical and non-critical parameters of the environmental climate of collection items.

→ Before adjusting the climate values, enter into an exchange with lenders, borrowers and insurance companies in order to agree on appropriate adjustments in the contracts.

For more information and literature on museum climate control and international standards, see the ‘Energy’ chapter.

In the long term, the issues of sustainability, resource conservation and longevity must be achieved as far as possible by passive means and by utilising natural processes. Buffering capacity of building materials, suitable shading systems, ecological energy supplies and sustainable building operations are indispensable. In new buildings and refurbishments, more attention should be paid to achieving air conditioning of collections by passive means and by utilising natural processes. In addition, holistic risk management should be embedded in museum management processes.

Costly energy-related renovations and the acquisition of technical, energy-efficient building equipment may be required. In most cases, these can only be realised by the building owners or the institution. A status quo and needs analysis, e.g. in the form of a climate impact assessment, can be a good argumentation aid to push through energy efficiency measures at your institution. Always make clear the urgency of the measure, for example regarding the climate goals of the local or state administration or the federal government.

Do you need networking or advice? Contact the experts in the working groups of conservation/restoration as well as building management and security at your national museum association, or reach out to NEMO.

“ In the course of revising the climate standards for our collection, a working group was formed consisting of the department heads of technology, registrar, conservation and science, accompanied by an external energy engineering firm. The close cooperation across departmental boundaries proved to be particularly useful.”

Bernd Schliephake, Technical Manager at Kunstsammlungen NRW in Düsseldorf

Water

Below you will find tips on how to use water more sparingly. To protect the environment, you should also avoid contaminating water with toxic substances.

General water saving tips and quick wins:

- → Use biodegradable, eco-label certified cleaning agents and hygiene products. Tips on sustainable procurement of cleaning and hygiene products can be found on the German Museums Association website under Cleaning and Hygiene Products (available in German).
- → Make your staff and visitors aware of the need to save water.
- → Where possible, introduce water-saving sanitary facilities, e.g. flush-stop buttons.
- → Regularly check taps, sanitary facilities and water-using devices to be able to recognise and remedy defects quickly.
- → Check the possibility of using rainwater for indoor and outdoor areas.
- → You can find more information and practical tips on sustainable water management on the German Museums Association website under Water (available in German).

Materials

The areas of procurement, contracting and disposal are an important aspect of sustainability management. Through the management of sustainable materials, museums can make themselves more sustainable and, at the same time, send a signal to external suppliers and service providers by formulating their requests and orders from a sustainable point of view.

Public procurement law offers several options for public clients to apply and combine sustainability criteria. Whether it is in the selection of products, within the scope of the performance specification, the suitability criteria or the award criteria, there is a relatively large amount of leeway for implementation in sustainable materials management.

Important when purchasing new products

Only buy what is absolutely necessary!
Which products and services are absolutely necessary for the goals of your museum or project, campaign, etc.?

Buy only the best quality!
Which products are produced in a socially and ecologically responsible way? Which products and services have the highest quality standard and are therefore the mostdurable?

Think in cycles!
Can the products be reused, repurposed or fully recycled?

General tips for sustainable materials management:

- → Create a list of sustainable products that you need again and again as well as suppliers that work sustainably.
- → Introduce sustainability criteria in procurement that take into account CO_2e-neutral, socially-responsible and fair-trade products. Here, certificates and quality seals provide orientation. A compilation of criteria and seals of approval for environmentally-friendly procurement for over 70 product groups can be found on the website of the German Federal Environment Agency (available in German).
- → Introduce resource management by creating lists of existing materials and updating them regularly. This will help you avoid duplicate purchases, among other things.
- → For durable products, you should also pay attention to life cycle costs. In many cases, environmentally-friendly products prove to be the most economical option, even if the initial costs are higher.
- → Include performance conditions such as reusability, recyclability, repairability and durability in your specifications or when defining suitability and award criteria.
- → Separate waste in such a way that it can be easily recycled. Materials that cannot be recycled must be disposed of properly.
- → Reduce waste to a minimum. If necessary, discuss this with experts.

Focus: Sustainable materials management in the museum

Here you will find some recommendations for action that you can apply in materials and waste management. Special attention is paid to the areas of exhibitions, collection and restoration.

Tips for events, museum shops and cafés, print products, cleaning and hygiene products and information and communication technology can be found on the German Museums Association website under Materials (available in German)

You can follow these tips for exhibitions:

→ When drawing up a concept sketch, check whether an exhibition can be passed on in its entirety or in parts and/or whether it can be created and used from the outset as a collaborative project involving several locations.

→ Check whether you really need new exhibition materials. Perhaps a new coat of paint will give your pedestals, walls and display cases a new lease of life. Or look into a non-commercial resource exchange to see if you can use existing materials.

→ An overview of material exchanges for the reuse of materials can be found, for example, on the website of the Network of Initiatives for Material Cycles (available in German).

→ If you cannot find a possibility for reuse, you should pay attention to reusability when buying new materials. For this purpose, also develop reuse and interim use options or concepts and plan them.

→ Reusable designs of exhibition resources should be modular systems that can be disassembled and reused and, if possible, passed on and reused.

→ Favour durable elements, such as glass covers instead of acrylic, generally reduce the use of resources in the design and use environmentally-friendly materials and paints.

→ Enter into a dialogue with your transport company and discuss the possibilities of saving packaging waste for transport as much as possible.

→ Check whether you can adapt the rotation of your special exhibitions in the long term and, if necessary, reduce it to save resources. To do this, enter into a dialogue with the entire team and weigh up all the reasons for and against.

You can find further, concrete information on sustainable exhibition design and implementation as well as many practical examples on the website of the Working Group on Sustainable Exhibiting of the Working Group Exhibitions, the website nachhaltige-ausstellungen.de and in the Guidebook on Environmentally-friendly Exhibitions (available in German).

You can follow these tips in collections:

→ Use reusable materials as well as organic-based materials in the restoration area, such as felt, cork or gloves made of bamboo viscose.

→ Implement careful materials management: create storage containers for the reuse of disposable items such as gloves and personalise them.

→ Reduce the packaging needs of your collection. To do this, enter into a dialogue with experts.

→ Reusable packaging and reusable packaging tools help to reduce the need for packaging during transport. In principle, however, the objects should be packed in a way that is suitable for the stresses to which they will be subjected. To this end, you should also enter into a dialogue with your logistics partners.

Do you need networking or advice? Please contact the experts of the working groups exhibition and conservation/restoration in your national museum association or reach out to NEMO.

Mobility

Business trips, transport of objects and the travel of visitors or employees to and from work cause considerable amounts of CO_2e, which have an impact on the ecological footprint as an indirect source of greenhouse gas emissions. The following recommendations for action should help you to reduce these emissions.

Tips on how to make mobility environmentally sustainable:

→ Set CO_2e-saving criteria for business trips. For example, give preference to rail or local public transport, avoid domestic flights and, in the case of long journeys, consider the possibility of digital communication instead of personal travel.

→ Create incentives for your employees, visitors and external partners to travel to and from work in a climate-responsible manner, for example by expanding the number of bicycle parking spaces or by cooperating with public transport.

→ Advocate for better public access to your museum.

→ When planning your exhibition, take a look at your own collection or other local collections to avoid long transport routes.

→ Inform yourself about possibilities to reduce the transport of objects and transport routes, e.g. by combining direct journeys for suitable objects. Exclusive direct trips should be avoided.

→ Check in each individual case whether courier escorts are necessary and reduce them if possible.

→ Communicate the steps taken to make mobility in your museum environmentally sustainable both internally and externally.

You can find more tips and ideas for sustainable mobility concepts on the German Museums Association website under Mobility (available in German).

Building and refurbishment

The transformation of the construction and building sector is an important tool for environmental protection and resource conservation, but also for quality of life, intergenerational equity and social cohesion. Museums can have a significant impact on the construction and building sector by tendering and awarding their contracts according to sustainable building criteria.

Tips for sustainable construction and renovation in the museum:

→ Choose an energy supply from renewable energy sources that can ensure autonomous provision of energy even in the event of a power outage.

→ Examine the possibility of prioritising passive structural and/or organisational measures over technical solutions. In the long term, museum air conditioning should be achieved by passive means and by taking advantage of natural processes whenever possible. Buffering capacity of building materials, suitable shading systems, ecological energy supplies and sustainable building operations are indispensable.

→ When planning new buildings, follow guidelines of your respective national ministries' assessment systems or other existing systems from the sector.

→ Integrate measures to promote and protect biodiversity into your construction and renovation projects.

→ If necessary, enter into an exchange with building owners and sponsors in order to enforce ecological criteria in new construction or renovation. Moreover, seek advice from external experts.

For more tips and information on sustainable building and renovation, visit the German Museums Association website under Building and Refurbishment (available in German).

Focus: Sustainable collections management

Due to the mandate to preserve and collect cultural assets, museums are increasingly in need of additional storage spaces. This leads to new construction projects, which in turn require high resource consumption.

It is therefore important to adapt your collections management consistently, taking into account the necessary resource consumption for preservation in the future when new collection items are acquired. Make sure to also include ecological considerations in your discussions about deaccessioning.

Find out more about sustainable collections management on the German Museums Association website under Sustainable Collecting guide (available in German), or contact respective national bodies occupied with collections management.

Climate impact adaptation

In addition to reducing greenhouse gases, climate protection is also about protecting against the impacts of climate change and preparing for upcoming extreme weather events. The main hazards to be expected include extreme precipitation, storms, heat waves or prolonged periods of drought. Many regions are already suffering from rising sea levels and increased, and more severe, flooding.

The effects of climate change can cause damage to buildings, open spaces and the museum's collections, and affect not only the quality of the visitors' stay but also the productivity of staff.

Museums should understand how they will be affected by climate change and adapt their practices, sites, programmes and collections to be ready for the future.

General tips on climate impact adaptation:

- → Find out about extreme weather events to be expected in your region, for example by using EU Copernicus satellite data.
- → Plan for incidents at events of extreme weather.
- → Provide shady places to stay and places to rest.
- → Draw up an emergency plan that outlines the procedure for evacuating people and exhibits in the event of an extreme weather event. For this, familiarise yourself with the disaster plans of the SILK Safety Guide or with the ICCROM resources on First Aid and Resilience, among others.
- → Actively participate in, or support, projects that focus on adaptation measures in your region.
- → Raise awareness and inform your visitors about your decisions and measures for climate change adaptation.
- → Take precautions to protect buildings during extreme weather.
- → Further information, practical recommendations for action and examples may also be found on the German Museums Association website under Climate Impact Adaptation (available in German).

Mobilise!

Use external impact and shape society

Museums can play an important role as multipliers and contribute to climate protection. Educational forums play a role in this and both internal and external communication play a central role.

Communicate and experience a new corporate culture

Sustainability means a consistent rethinking throughout the entire organisation. This transformation process works best when everyone is involved. Managers and staff representatives should take ownership of the sustainability process and support it from the beginning. Through open and transparent communication, you can show in an exemplary way how the changeover to resource-conserving and socially-just work can be set in motion

General tips on climate impact adaptation:

→ Involve your staff actively in the sustainability process from the beginning.

→ Make your commitment to sustainability public. This will sensitise external parties and mobilise them to act sustainably themselves.

→ Communicate openly and transparently about progress, failures and how you deal with conflicting goals.

→ Offer visitors the possibility of communicative exchange about your sustainability process.

→ Seek professional support if needed and set up a sustainability communication strategy.

You can find further tips and practical recommendations for action on the German Museums Association website under Sustainability Communication (available in German).

Educating and communicating towards a sustainable development of society

Museums can bring visions of a better future and new values to the general public and, as disseminators, make a significant contribution to the sustainable development of society. Education and outreach play a key role in this.

Through their educational formats, events and exhibitions, museums can encourage and enable people to understand and actively take up their role in climate and environmental protection. The approaches of UNESCO's Education for Sustainable Development (ESD) campaign may provide a helpful framework.

In addition, the 17 Sustainable Development Goals (SDGs) of the United Nations are excellent, universally-valid development goals for a sustainable change of society at an economic, social and ecological level. They provide an ideal contextual framework for the social role of museums and their educational mission. Museums can actively engage with the 17 Sustainable Development Goals and align and expand their collections and their interpretation accordingly.

Tips for sustainable education and outreach:

→ Reflect on the reference points to the 17 Sustainable Development Goals of the 2030 Agenda (SDGs) in your education and outreach work and align your content programme with the value horizon of the SDGs. 17 museums from Austria focused on one of the 17 SDGs each in their content work. Read the results of the project at '17 museums x 17 SDGs – Sustainable Development Goals' (available in German).

→ Use more methods that support participatory, explorative and discursive learning.

→ Do not only convey sustainability topics as additional educational content but implement sustainability topics holistically in your content programme and outreach work.

→ Examine the possibility of certification in the sense of Education for Sustainable Development (ESD) and provide your staff with appropriate further training.

You can find out more about Education for Sustainable Development (ESD) and how you can introduce ESD strategically in your museum on the German Museums Association website under Education and Outreach. Further information and tips can be found in its Guidelines Developing Education and Public Engagement in Museums (available in English, translated by NEMO) and in the quality guidelines of the Federal Association for Museum Education (available in German).

“ Museums are predestined to address global issues such as sustainability, climate protection and the common good, both locally and more long-term. This makes it possible to develop collectively an understanding of what a liveable future for our grandchildren might actually mean. The function of the museum as a meeting place and its role as a moderating host hold great potential for real activation.”

Andrea Wieloch, Director of the Museum Utopie und Alltag – Everyday Culture and Art from the GDR, Eisenhüttenstadt & Beeskow

Ecological minimum standards for museums

Ecological minimum standards for museums

Action, please! Museums are acting now for the future. The minimum ecological standards provide initial orientation for the development towards more climate and environmental protection in your museum. In view of the climate crisis, museums must orient their actions towards greater climate and environmental protection. The following minimum ecological standards for museums are measures that can be implemented by all museums. The new operational requirements must be supported financially and structurally. Especially in the area of building and renovation, museums are dependent on financial support from policymakers.

☑ **Congratulations! You have read the guidelines and have thus taken the first step in your sustainability process.**

Get started!

Implementing sustainability consistently

- ☐ All staff members agree on a written sustainability concept that is accessible to the public. It aims to continuously improve the museum's climate and environmental impact.
- ☐ From the very beginning, public and staff are regularly informed about, and involved in, the museum's sustainability process. Comments and suggestions are invited and taken into account.

Organise! Introduce new processes

Guarantee staff capacities

- ☐ The museum appoints at least one person to ensure compliance with, and regularly review, the sustainability concept. Staff members are provided with sufficient time to deal with and implement contributions relevant to climate and environmental protection.
- ☐ The sustainability officers and staff can participate in further training on the internal sustainability process at least once a year. The content of the training is made available to the entire team.

Climate impact assessment

- ☐ As far as possible, the museum measurably reduces its CO_2e emissions per year or ensures that its carbon footprint is equalised in 2045.

Act! Working ecologically

Energy

- ☐ The museum aims to reduce its energy consumption annually. If it does not already have one, it draws up an energy concept for this purpose which is evaluated annually.
- ☐ The museum uses energy from renewable sources. If it does not have the freedom to decide to do so, it will discuss this with its sponsor.

Electricity

- ☐ The museum ensures energy-saving lighting technology.
- ☐ All technical equipment must be switched off when not in use.
- ☐ The museum ensures that the IT infrastructure is maintained in a resource-efficient manner regarding storage capacity, cloud computing and email traffic.
- ☐ If the museum has an IT department or employs a person responsible for IT, the museum supplements its digital concept or draws up a digital concept that at least considers the resource-efficient maintenance of the IT infrastructure and records the digital energy consumption of digital collection management. The necessary time resources and further training will be made available.

Heating, cooling, ventilation

- ☐ Where possible, the museum is introducing more passive methods of climate control to reduce its energy consumption.
- ☐ The museum creates a collection strategy if it does not already have one. This contains, or is supplemented by, criteria which, when acquiring new collection items, also take into account the future consumption of resources for their preservation.
- ☐ The heating, ventilation and air-conditioning requirements in the collection, storage and exhibition areas must be adjusted according to the weather, the building structure and the heat and moisture loads caused by visitors and lighting. If possible, the museum imple-

ments techniques for intelligent control of the air conditioning technology.

- [ ] Together with the conservation and restoration team, the museum examines whether an extended climate corridor can be used for less sensitive collection holdings. In doing so, it takes into account current professional discourses and standards as well as the conservation requirements of the collection and ensures that all changes to previously existing climate parameters in the environment of collection items are accompanied and evaluated with sufficient monitoring.

- [ ] The proportion of outside air should be reduced to the hygienically required minimum.

Water

- [ ] The museum develops a sustainable water management concept, if necessary, in consultation with its sponsor.

- [ ] The museum uses biodegradable, eco-label certified cleaning agents and hygiene products as well as water-saving sanitary facilities where possible.

- [ ] The use of rainwater for indoor and outdoor areas is to be examined as required with the responsible body.

Material

- [ ] In procurement, the criteria of CO_2-neutrality, recyclability, social compatibility and fair production conditions are prioritised.

- [ ] In catering, preference is given to vegetarian and vegan dishes. If possible, regional and seasonal products should be sourced.

- [ ] In the case of printed materials, attention is paid to the minimum use of resources and to eco-labels.

- [ ] The criteria of durability, reusability and reparability are taken into account when awarding contracts.

- [ ] The museum integrates requirements for a circular economy into its contracts and cooperation agreements with external service providers.

- [ ] The museum develops a sustainable waste management system that includes proper disposal and consistent separation of waste products to avoid residual waste.

Mobility

- [ ] The museum offers incentives for employees and visitors to travel to and from work in a climate-responsible manner.

- [ ] Rail or local public transport is used for business trips. Domestic flights are to be avoided.

- [ ] For long journeys, the possibility of digital communication instead of a personal journey is examined and weighed up.

- [ ] The museum prefers CO_2e-saving ways for the transport of objects.

- [ ] Courier escorts are to be reduced to a bare minimum.

Construction and refurbishment

Insofar as the museum has influence over the building, it takes the following points into account when constructing new buildings and refurbishing existing ones:

- [ ] All new buildings, conversions and refurbishments are geared towards sustainability, climate protection, energy efficiency and protection against climate-related environmental impacts.

- [ ] The sensible location of the IT infrastructure in the building is ensured in any new construction.

- [ ] Fossil energy resources are to be avoided as a matter of principle.

- [ ] Any new planting of outdoor areas shall be done with native plant species adapted to the location (except for historical gardens and botanical gardens).

Climate impact adaptation

- [ ] The museum shall develop an emergency plan that maps the procedure for evacuating people and exhibits in the event of an extreme weather event. A responsible person is to be appointed for its implementation.

- [ ] The museum examines the possibility of implementing climate impact adaptation measures regarding the building and in its operational processes.

Mobilise!

Use external impact and shape society

- [ ] The museum in its sustainability concept implements a fundamental understanding of Education for Sustainable Development (ESD) as a framework for education and outreach work and its content-related reference to the 17 Sustainable Development Goals (SDGs).

- [ ] The museum offers concrete analogue and digital participation opportunities for its visitors.

- [ ] The museum includes in its exhibitions and educational programmes local initiatives in the field of climate protection and other external cooperation partners.

Introductory literature

Would you like to know more?

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