MEETING DOCUMENT

**Expert Group Climate Change Adaptation (EG-C 11)**

8 December 2021

Online-consultation

**Agenda Item: 5 Trilateral Governmental Conference and Ministerial Declaration**

**Subject: Draft Ministerial Declaration**

**Document No.:** EG-C 11/5

**Date:** 6 December 2021

**Submitted by:** CWSS

At their Expert Group Climate Adaptation (EG-C) 10 meeting on 21 October 2021, the group agreed to start their contribution to the

* Policy Assessment Review (PAR)
* Ministerial Declaration (MD)
* Trilateral Governmental Conference (TGC) 2022

For the MD, the [UNESCO Draft Policy Document on Climate Action for World Heritage](https://whc.unesco.org/archive/2021/whc21-44com-7C-en.pdf) (part of this is copied in Annex 1) may be considered.

This document contains climate change related parts of the draft PAR, relevant articles of the Leeuwarden Declaration 2018, and room for additions of the group to the Wilhelmshaven Declaration 2022, as well as a possible side event at the TGC. The document underwent an online consultation in which EG-C added to the PAR and started brainstorming for climate change related articles of the MD, as well as for a side event at the TGC 2022.

**Proposal:** EG-C is invited to agree on articles for submission to Ministerial Conference Declaration drafting group and start planning side event(s) (and suggest to German presidency)

# Draft Policy Assessment Review (PAR)

The following is an extract of the Draft Policy Assessment Review, which contains climate change related articles of the [Leeuwarden Declaration 2018](https://www.waddensea-worldheritage.org/resources/2018-leeuwarden-declaration). For a complete view on the topic, climate change mitigation and adaptation is included, while noting that the Expert Group Climate Change Adaptation is working on the latter.

The document is structured in the respective articles of the articles of the Leeuwarden Declaration with progress, assessment and recommendations.

Please enrich the following.

***25. Continue*** *to support the global and national efforts to mitigate climate change at the regional level;*

See LD 26

***26. Instruct*** *the Wadden Sea Board in cooperation with, among others, the Wadden Sea Forum and green NGOs to develop and support promising initiatives for climate change mitigation taken at the local and regional levels by authorities, organisations, companies and inhabitants, inter alia by exchanging information and best practices, linking various initiatives and stimulating pilot projects, including the CO2 reduction ambition of the Wadden Sea Region;*

Progress:

Climate Change mitigation is approached largely on a regional level by the Wadden Sea Forum and green NGOs. Already in the Sylt Declaration (2010), it was stated to work towards developing the Wadden Sea Region into a CO2-netural area by 2030 or before.

>> Check with WSF and WST? Green costal deal?

The establishment of Regional Round Tables (RRT) in four Wadden Sea Regions will support the sustainable and thus mitigation of climate change. Different topics will be discussed and tackled in the RRT. Now, the WSF is in the phase of identifying and setting up the RRT in the four WSR. Two RRT have already been identified, i.e. Omgevingsberaad (OBW) in the Netherlands and the Danish Wadden Sea Advisory Board.

Recently, the capacity of coastal – and in particular World Heritage systems for carbon storage has gained momentum ([http://www.unesco.org/new/en/natural-sciences/ioc-oceans/sections-and-programmes/ocean-sciences/ocean-carbon/coastal-blue-carbon](http://www.unesco.org/new/en/natural-sciences/ioc-oceans/sections-and-programmes/ocean-sciences/ocean-carbon/coastal-blue-carbon/), <https://www.nature.com/articles/s41558-021-01089-4>)

Assessment:

WSF and WST on regional progress?

Several habitat types of the Wadden Sea Area and Region hold large capacity for carbon storage, such as salt marshes.

Recommendation:

* Paris Agreement to limit global warming to well below 2, preferably to 1.5 degrees Celsius,
* Commitment to climate neutrality in the Wadden Sea Region by latest 2030;
* Consider carbon storage as asset of the World Heritage site.

***27. Continue*** *implementing the Trilateral Climate Change Adaptation Strategy and update the priorities contained therein where needed*

See LD 28

***28. Determine*** *together with scientific partners which investigations are needed to better understand the impacts of climate change on the Wadden Sea ecosystem, for example on primary production and alien species, and to be prepared to enhance the level of adequate management to safeguard the Outstanding Universal Value of the Wadden Sea*

Progress

Climate change is a cross-cutting issue and major challenge for the TWSC. It is also associated to uncertainties in prediction. An Expert Group Climate Change Adaptation (EG-C, formerly Task Group Climate (TG-C)) is in place over the entire German presidency A trilateral [Climate Change Adaptation Strategy (CCAS)](https://waddensea-worldheritage.org/CCAS) was adopted at the Trilateral Governmental Conference in Tønder, February 2014 with the overarching objective to increasing the resilience of the Wadden Sea to the impacts of climate change ([CWSS, 2014](https://www.waddensea-worldheritage.org/resources/2014-t%C3%B8nder-declaration)). The EG-C continues to monitor the CCAS and is investigating projects and pilot sites to showcase its application. In 2021, the group evaluated priorities to be still valid.

A strong step towards understanding the impacts of climate change on the Outstanding Universal Value (see key values in LD 3) of the Wadden Sea, and thereby also on the ecosystem was conducted with the conduction of the piloting of Climate Vulnerability Index (CVI) - a methodology to rapidly assess vulnerability through expert appraisal of the best-available climate science, applicable to all types of World Heritage properties. Two workshops “Climate Vulnerability Index (CVI) at UNESCO Wadden Sea - Phase 1: Outstanding Universal Value Vulnerability (OUV)” and Phase 2 “Community Vulnerability” were successfully conducted on 10 – 11 February 2020 in Hamburg, Germany, and online on 16 – 17 February 2021. Main outcomes include three key climate stressors impacting the OUV of the Wadden Sea: sea level rise, temperature increase and extreme heat events. When considered over two time-scales (ca. 2050 and ca. 2100), the workshop assessed the OUV Vulnerability as high, indicating the potential for major loss or substantial alteration of attributes that convey the OUV. Also, the need to consider also socio-economic factors and possibly the Wadden Sea Region came up.

Climate change adaptation activities largely focus on coastal protection. Amongst these are soft solutions, which were also investigated in an Interreg project Building with Nature (CWSS was involved as project partner) which was completed in July 2021.

As one key topic towards sustainable management in the Wadden Sea, coastal protection is being tackled within the frame of the single integrated management plan (SIMP). This includes the assessment of the impact of coastal protection measures on the OUV (see LD 3).

The QSR thematic report climate change is being updated on a system level. An update of the QSR thematic report coastal risk assessment was rejected, as the current work of 2017 is still up to date.

Assessment:

* CCAS is in place and still valid, need for continued monitoring as well as for promotion of the strategy;
* World Heritage was assessed as highly vulnerable to climate change- need to act now;
* Adaptation measures well known for sea level rise, but fewer possibilities for temperature rise;
* Cross cutting issue demands involvement of several other TWSC work fields and groups;
* Socio-economics should be more considered for climate change adaptation.

Recommendations

* Recognize that climate change may seriously affect structure, functions and the characteristic biodiversity of the Wadden Sea ecosystem;
* Continue CCAS and continue addressing the challenges of climate change at the level of the entire Wadden Sea and under consideration of its OUV;
* Consider detailed recommendations given by site managers in the SIMP;
* Strive to make the Wadden Sea as resilient as possible to climate change and investigate cumulative effects of climate change and other pressures including the establishment of new/alien species. Consider reducing other pressures, amongst others via the SIMP process;
* Discuss the balance between accepting and allowing changes to happen, restoring natural dynamics and conservation goals; Further elaborate strategies for adaptation in a natural dynamic system and map possible interventions to support the system in adapting to a changing climate.
* Consider general principles for resilience, such as diversity, redundancy and connectivity (see [Stockholm Resilience Center](https://www.stockholmresilience.org)), and investigate adequate management options to be prepared to enhance the level of adequate management to safeguard the Outstanding Universal Value of the Wadden Sea;
* Communicate on the potential impacts of climate change. Promote an integrated approach towards development of the area: climate change is not a separate topic, but is to be dealt with throughout disciplines. Include climate change adaptation and assessment (e.g., for Wadden Sea species) to other trilateral groups
* Consider the UNESCO Draft Policy Document on Climate Action for World Heritage for drafting of the Ministerial Declaration.

# Ministerial Council Declaration

## Leeuwarden Declaration 2018

The current Ministerial Declaration (MD) Leeuwarden 2018 contains the following articles on climate change:

**PREAMBLE**

*We, the Ministers responsible for the protection of the Danish, Dutch, German Wadden Sea, representing our respective Governments in the Trilateral Wadden Sea Governmental Council on the Protection of the Wadden Sea,*

*[..]*

*Aware that climate change has impacts on the Wadden Sea and that future changes can pose a threat to the Outstanding Universal Value of the Wadden Sea ecosystem, and determined to address the challenges of climate change mitigation and adaptation, including CO2 reduction and impacts of climate change on the Wadden Sea ecosystem’s food web;*

*Reaffirming that the overall goal of climate change adaptation in the Wadden Sea Area is to safeguard and promote the quality and integrity of the area as a natural and resilient ecosystem whilst ensuring the safety of its inhabitants and visitors;*

**SUSTAINABLE DEVELOPMENT**

*The Ministers*

*[..]*

*25. Continue to support the global and national efforts to mitigate climate change at the regional level;*

*26. Instruct the Wadden Sea Board in cooperation with, among others, the Wadden Sea Forum and green NGOs to develop and support promising initiatives for climate change mitigation taken at the local and regional levels by authorities, organisations, companies and inhabitants, inter alia by exchanging information and best practices, linking various initiatives and stimulating pilot projects, including the CO2 reduction ambition of the Wadden Sea Region;*

*27. Instruct the Wadden Sea Board to continue implementing the Trilateral Climate Change Adaptation Strategy and update the priorities contained therein where needed;*

*28. Request the Wadden Sea Board to determine together with its scientific partners which investigations are needed to better understand the impacts of climate change on the Wadden Sea ecosystem, for example on primary production and alien species, and to be prepared to enhance the level of adequate management to safeguard the Outstanding Universal Value of the Wadden Sea;*

## Wilhelmshaven Declaration 2022 - Brainstorming

Please add content (key words or full article text) for the preamble and “main part” below. We will discuss these at our EG-C 11 meeting on 7-8 December in Bremen.

Again, the following part may include climate change mitigation and adaptation – while noting that the group is working on the latter.

Please consider the [UNESCO Draft Policy Document on Climate Action for World Heritage](https://whc.unesco.org/archive/2021/whc21-44com-7C-en.pdf) (part of it see Annex 1)

**PREAMBLE**

* Climate change has become one of the most significant threats to the Wadden Sea World Heritage property, (potentially) impacting its Outstanding Universal Value, including its integrity and authenticity, and their potential for economic and social development at the local level (see [UNESCO Draft Policy Document on Climate Action for World Heritage](https://whc.unesco.org/archive/2021/whc21-44com-7C-en.pdf), amended)
* Underline article 24. of the Sylt Declaration 2010 to support the global and national efforts to mitigate causes of climate change at the regional level, by calling especially upon local and regional competent authorities and stakeholders, to work towards developing the Wadden Sea Region into a CO2-neutral area by 2030 or before, putting the focus on the special threats for coastal zones by global warming and sea level rise.
* Need to act now
* Strengthen natural, cultural and social resilience
* CVI has identified the reduction of other pressures as a method to prevent and/or mitigate effects of climate change to the OUV;
* Recognition of the fact that gas and oil extraction from below the Wadden Sea contributes to greenhouse gas emissions and subsidence and thus doubly decreases the resilience of the Wadden Sea to climate change;
* Nature based solutions can can make a critical contribution to both cliamte change mitigation and adaptation; (from IUCN key messages) ..and power of World Heritage sites in protecting healthy intact ecosystems and essential rgulation services for pepole and planet (IUCN, Peter Shadie)
* Links between natura nd culture – holistic people-nature-culture approaches (IUCN, Peter Shadie)
* [Noting that by representing some of the world´s most outstanding natural ecosystems and by their important role in the mitigation of climate change with the large amount of carbon they store, the protection of natural World Heritage properties is considered the Convention's most impactful contribution to addressing climate change mitigation.] [UNESCO Draft Policy Document on Climate Action for World Heritage](https://whc.unesco.org/archive/2021/whc21-44com-7C-en.pdf) page 28

**SUSTAINABLE DEVELOPMENT**

* Instruct the Wadden Sea Board to continue implementing the Trilateral Climate Change Adaptation Strategy and update the priorities contained therein where needed;
	+ Instruct the Wadden Sea Board to contribute to climate change mitigation by safeguarding natural ecosystems that are carbon sinks and, when feasible and consistent with protecting the Outstanding Universal Value, undertaking actions to enhance carbon sequestration in natural systems. Such approaches would need to adhere to strict environmental and social safeguards and consider carbon storage permanence. [see [UNESCO Draft Policy Document on Climate Action for World Heritage](https://whc.unesco.org/archive/2021/whc21-44com-7C-en.pdf), page 28];
* Request the Wadden Sea Board to investigate how nature-based solutions for climate change adaptation can integrate coastal flood and erosion risk management with biodiversity goals, while considering a broader geographical and socio-economic context;
* Instruct the Wadden Sea B0ard to consider general principles for resilience, such as diversity, redundancy and connectivity (see Stockholm Resilience Center), and investigate adequate management options to be prepared to enhance the level of adequate management to safeguard the Outstanding Universal Value of the Wadden Sea (throughout all working groups as cross-cutting issue);
* Instruct the Wadden Sea B0ard to investigate which pressures can be reduced to improve resilience and thus safeguard the Outstanding Universal Value of the Wadden Sea while climate change is taking place.Decide not to start new oil and gas extractions from below the Wadden Sea and to stop existing extractions as soon as possible.
* Climate change to be tackled in all QSR thematic reports

# Trilateral Governmental Conference (TGC) 2022 - Brainstorming

At their Expert Group Climate Adaptation (EG-C) 10 meeting on 21 October 2021, the group discussed that visual products to present at the TGC may include EG-C contributions to the single integrated management plan (SIMP) and/or synthesis of the CVI. At the Leeuwarden TGC in 2018, the group presented an exhibit, roll-up with the Climate Change Adaptation Strategy (CCAS) principles, and a leaflet.

Possible activities (please add your ideas, as detailed as possible. If possible, please include budget estimate. Feel free to add all! Also, to think out of the box. We will discuss possible activities at our EG-C 11 meeting on 7-8 December in Bremen):

* Climate Change Adaptation presentation (auditorium) and call for action by EG-C chair. Budget: in kind (travel, working hours)
* artists event -> WE ARE OCEAN Wadden Sea: The WSF is currently cooperating with the curatorship ARTPORT\_making waves (which is already working on the COP26) to conduct different artist-science-education event in the four Wadden Sea regions, i.e. Lower Saxony and the Netherlands, Schleswig-Holstein, Denmark. The artists have already been identified and working on different concepts. In Lower Saxony, the concept is ready and the WSF together with ARTPORT\_making waves is looking for funding. The same holds for the Netherlands. A first talk with a Danish artist has been conducted end of Ocotber. Also, here we are looking for possibilities of funding. In every region artists, scientists and pupiles are working together in workshops on a specific topic concerning sustainable development, climate change adaptation etc. The final aim is to present all the results from the regions at TGC in Wilhelmshaven. The venue to present the results will be the World Heritage Visitor Centre in Wihelmshaven, which has already been approached and agreed to this idea. The EG-C is invited to provide ideas on funding 😊 and on content if appropriate.
* CvH:
* Human Scale Simulation: What do the effects of climate change mean for **organisms** in the Wadden Sea? This can be done with A) an alternative, theoretical conference agenda/schedule, B) a movie to be shown at the auditorium or C) with actually changing the coffee breaks.
	+ Loss of feeding areas / shrinking mudflats : Cut the number of tables, where coffee is served, during breaks, in half – only the first arrivers will find a place to have coffee.
	+ Shift in feeding areas : coffee/tea well be served upstairs/downstairs
	+ Higher/longer high tides shorten the foraging time slot: Coffee break will be just 5 minutes
	+ Shift in available food: Serve chai instead of tea, mokka instead of filtered coffee, nuts instead of cookies
	+ Shift in species composition: Change the conference language to Spanish/bulgarian/Hebrew/greek
* three person days working time + prints
* 3000-5000 €
* Several days person working time + material + translations
* This simulation could be integrated into an talk/presentation or be part of it~~..~~

# ANNEX 1: Draft Policy Document on Climate Action UNESCO

Excerpt of the Policy Framework of the [UNESCO Draft Policy Document on Climate Action for World Heritage](https://whc.unesco.org/archive/2021/whc21-44com-7C-en.pdf)

**D.1. Assessing climate risks to World Heritage properties**

40. Improving capacity to assess climate change risks is the objective of World Heritage Climate Action Goal 1 (see Section II.B. above). This goal asks States Parties, in light of the national circumstances, to develop, by 2030, tools and build capacity needed to identify potential reversible or irreversible loss of attributes of Outstanding Universal Value associated with current and projected climate hazards including those that may exceed the adaptive capacity of relevant human or natural systems. Climate risk assessments are crucial for understanding and anticipating negative impacts and potential loss of Outstanding Universal Value and provide critical information to help determine how to manage them. It also asks States Parties to report the results thereof through World Heritage processes.

41. To design effective climate actions, including mitigation and adaptation strategies, the heritage community needs to have a good understanding of the climate risks involved. Correspondingly, there is a need for methodologies and mechanisms to systematically assess such risks. These methodologies should promote improved measurability of impacts and potential loss of heritage values and improved understanding of the economic, social, health, education, and environmental cost of such losses (including effects on ecosystem and cultural services). Defining or clarifying risks to Outstanding Universal Value and other measurable, non-monetary values that support a given World Heritage property can also aid in determining the adaptation limits of that resource or system, including the acceptability or non-acceptability of levels of change and consequent perceptions of loss and irreplaceability. Although climate actions will often result in adjustments that are within a given heritage system’s adaptive limits, completely preventing all projected impacts of climate change on every World Heritage property will not be possible with the result being damage to or loss of attributes of Outstanding Universal Value.

42. There exists a range of approaches and instruments to undertake risk assessments associated with the impacts of climate change. The challenge is to identify the more appropriate methodologies, not only to the type of hazard but also to the social, environmental, economic, geographical, landscape and institutional context of the properties for which the Outstanding Universal Value may be at risk of being irretrievably damaged or lost. Special consideration should also be included for populations at disproportionately higher risk of adverse consequences, for example disadvantaged and vulnerable populations, Indigenous Peoples, and local communities.

43. Managers of World Heritage properties require a clear understanding of the climate risks to which their properties are vulnerable, the capacity needed to prepare for and respond to those risks, and the residual risks afterwards. Within this context, the Policy Document encourages States Parties to the Convention to aim to integrate climate risk management for World Heritage properties within wider national approaches and frameworks for climate adaptation. As noted in this Policy Document, further dialogue is needed on how the impacts of climate change on Outstanding Universal Value are dealt with by the World Heritage system.

44. Sharing experiences of methods and results to assess climate hazards, vulnerabilities and risks across World Heritage properties can also help to build adaptive capacity and resilience. Cross-property actions such as promoting the development of climate risk assessment tools for regions, ecosystems or heritage typologies is encouraged. Transboundary and transnational properties also present an important case where shared responses to common climate risks should be encouraged.

45. This Policy Document encourages the UNESCO World Heritage Centre, in collaboration with the Advisory Bodies, to find ways to integrate climate risk management mechanisms, including assessment and monitoring of climate hazards and the factors that cause or exacerbate them, into existing World Heritage processes. Mechanisms could include, but not limited to, making the consideration of climate change a requirement in the nomination process, Periodic Reporting, Reactive Monitoring, protective measures, and management systems, including management plans. Climate change considerations should similarly be incorporated into related World Heritage doctrines, policies and resource manuals. New tools might be needed to assess climate change impact on the state of conservation of World Heritage properties, as well as to identify factors that can become threats and that could ultimately impact on the Outstanding Universal Value of properties.

46. Further technical considerations in developing a climate risk management assessment and management strategies are presented in Annex II of this Policy Document.

**D.2. Climate Adaptation**

47. World Heritage Climate Action Goal 2 (see Section II.B above) refers to the necessary climate adaptation actions to avoid and minimise climate impacts on heritage values, consistent with the obligations of States Parties under the Convention to preserve the Outstanding Universal Value of properties. According to IPCC, “in human systems, climate adaptation is the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, it is the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects”.

48. Climate adaptation should relate to all hazards that are directly and indirectly attributed to climate change, exposure of various components of the World Heritage properties to these hazards and related vulnerability factors (physical, social, economic, institutional, etc.) This reflects not only the importance of addressing all components of climate risks (hazards, exposure, vulnerability), but also makes clear that climate change adaptation cannot be seen in isolation from other risk factors.

49. Climate change is a risk multiplier that can exacerbate current hazards, exposures and vulnerabilities including poverty, urbanisation, pollution, and insecurity, with potential implications for social conflict. World Heritage properties may also be impacted by improper adaptation or mitigation responses to climate change (i.e. maladaptation).

50. Climate change may have positive impacts on the Outstanding Universal Value of some World Heritage properties. Therefore, climate adaptation strategies should consider whether there are opportunities to exploit these positive impacts, while also reducing the risks of the negative impacts of climate change. A lost opportunity may be as harmful as a negative impact.

51. The importance of addressing non-climate threats and pressures, in particular to natural and mixed World Heritage properties, is emphasised because doing so effectively can help build their resilience to climate change and improve their adaptive capacity. In circumstances where the impacts of climate are intensifying and increasing in frequency, action on other pressures will become increasingly important to sustaining the resilience of World Heritage properties and protecting their Outstanding Universal Value.

52. The impacts of climate change can also exacerbate the many drivers of human mobility (migration, planned relocation and displacement). Communities associated with some World Heritage properties are already experiencing climate change impacts that could ultimately induce migration and/or displacement of people and impact Outstanding Universal Value, particularly for those properties for which Outstanding Universal Value depends on cultural continuity. This Policy Document emphasises that adequate support be given to States Parties who face not only the potential loss of World Heritage properties, but the displacement of communities associated with them. Clear guidance needs to be developed on how such eventualities will be considered and evaluated by the World Heritage Committee and on how implementation strategies might be framed. A useful starting point would be to create methodologies for identifying World Heritage properties associated with communities at greater risk for displacement.

53. The Policy Document also recognises that adaptation is a global challenge faced at local, subnational, national, regional and international levels. World Heritage properties can support wider adaptation efforts at all levels. World Heritage properties and the values they embody have the potential to contribute to social resilience and the recovery from climate change losses by providing a common framework for identifying potential loss and by supporting a sense of place, continuity and identity. World Heritage properties can also serve an educational and communication function by highlighting the links between nature and culture, and the sustainability of many historic, traditional and indigenous practices. Heritage values can support social cohesion, which is an important element of adaptive capacity, which in turn can be fostered through participatory approaches to heritage management.

54. In the Preamble and Article 7.5 of the Paris Agreement, its Parties acknowledge that adaptation action should follow “a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate”. World Heritage properties should seek to exemplify this approach. The importance of Indigenous Peoples’ and local communities’ knowledge for understanding impacts and designing and implementing appropriate adaptation actions should be valued and appropriately utilised via a participatory process characterised by respect for the diversity of cultural expressions5. The use of traditional practices in climate adaptation should be supported by practical training for local experts and communities in order to support dynamism, internal creativity and experimentation in such knowledge systems.

55. This Policy Document also acknowledges that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems. Adaptation actions at World Heritage properties should also contribute towards increasing the resilience of indigenous peoples and local communities.

56. World Heritage processes need to be strengthened to support the expected climate adaptation outcomes. Areas for further focus on this topic to World Heritage properties and World Heritage Climate Action Goal 2 are set out in Annex II to the Policy Document.

**D.3. Climate Mitigation**

57. Aligning the management of World Heritage properties with the imperative of climate change mitigation through a comprehensive climate mitigation framework is the objective of World Heritage Climate Action Goal 3 (see Section II.B above). This goal asks States Parties to implement at national and/or other appropriate levels, comprehensive climate mitigation frameworks that guide mitigation action for cultural sites and safeguard natural ecosystems that are carbon sinks. It also encourages the reduction of greenhouse gas emissions associated with World Heritage properties.

58 The IPCC defines mitigation as “a human intervention to reduce emissions or enhance the sinks of greenhouse gases.”6. IPCC´s reports, and most notably the 1.5°C Special Report (2018), makes clear that limiting global warming to 1.5°C would require rapid and far-reaching transitions in the global economy, with deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options. Within this context, this Policy Document encourages States Parties to the Convention to aim for a transition towards low-carbon alternatives for World Heritage properties management as soon as possible.

59. Given the high profile, global reach, and a broad mix of heritage typologies included within the World Heritage List, States Parties are encouraged to maximise the ‘signalling’ value and inspirational power of World Heritage properties to showcase ‘win-win’ mitigation practices that both reduce greenhouse gases and safeguard Outstanding Universal Value, with the potential to set international standards in heritage management.

60. Noting that by representing some of the world´s most outstanding natural ecosystems and by their important role in the mitigation of climate change with the large amount of carbon they store, the protection of natural World Heritage properties is considered the Convention's most impactful contribution to addressing climate change mitigation.

61. World Heritage properties, especially natural, mixed and large-scale cultural landscapes, are among those places that might significantly contribute to climate mitigation by:

• Safeguarding natural ecosystems that are carbon sinks;

• When feasible and consistent with protecting Outstanding Universal Value, undertaking actions to enhance carbon sequestration in natural systems.

Such approaches would need to adhere to strict environmental and social safeguards and consider carbon storage permanence.

62. In the context of cultural and mixed properties, and especially for cultural landscapes, mitigation actions based on enhanced land use management, should avoid and minimise impact on heritage values including customary land management practices, consider the concomitant impact on the livelihoods of Indigenous Peoples and local communities, and be consistent with the States Parties’ obligations under the Convention to preserve the Outstanding Universal Value.

63. Among the options to consider are:

• Use of traditional passive measures in historical buildings as strategies to reduce energy consumption;

• Use of the Life cycle assessment (LCA) methodology for the selection of replacement materials requiring less energy to produce, and thus emitting less GHG;

• Promoting the critical role of routine maintenance and good conservation in reducing operational GHG.

64. Annex III to this Policy Document frames some key areas for additional focus of GHG emissions reduction efforts in the context of management of World Heritage properties, including: (a) Built environment; (b) Land use management; (c) Life cycle assessment; (d) Tourism management.

**D.4. Knowledge Sharing, Capacity Building and Awareness**

65. The 2015 Paris Agreement recognises the importance of education and capacity building for enhancing climate action. The World Heritage Convention and its processes also consider these factors as important for the effective management and conservation of World Heritage.

66. In line with World Heritage Climate Action Goal 4 (see Section II.B above), States Parties are encouraged to build capacities of decision-makers, stakeholders, local communities, users and managers of the World Heritage properties, and other heritage specialists to upgrade their skills and knowledge about the impacts of climate change on properties, including the intrinsic link between nature loss and climate change, developing and implementing appropriate climate actions, possible sources of technical and financial assistance, and engaging with climate change-related networks.

67. The vast majority of the climate-related issues that World Heritage properties are facing are persistent problems. Therefore, World Heritage needs interdisciplinary and transdisciplinary knowledge, that is created by researchers, practitioners, site managers and local communities and Indigenous Peoples, working together to address climate change that will influence heritage management for the decades to come.

68. In line with references to training and awareness-raising set out in the World Heritage Convention and the UNFCCC, national educational strategies should adequately address the intersections between heritage, in general, and World Heritage in particular, and climate change. Such approaches benefit from emphasising the importance of knowledge exchange across a wide range of stakeholders and rights holders including those from heritage management and climate science, encouraging research, recognising existing ways of learning about climate change, while encouraging the intergenerational exchange of knowledge.

69. States Parties and managers of World Heritage properties are encouraged to share with other managers their experience on dealing with climate change impacts on their properties by developing case studies on challenges and good practices and the lessons learnt. World Heritage properties should also be used, wherever appropriate and possible, as means to raise awareness about the impacts of climate change on heritage and should act as a catalyst in the international debate to obtain support for policies, and to communicate good practices of climate action.

70. Mobilising public and political support for climate action inside and outside World Heritage properties is essential. This can be achieved through workshops, exhibitions and expositions, site interpretation, media campaigns, audio-visual material and publications which link the impacts of the global phenomenon of climate change to national, local and property levels. This would require the development of tools to communicate effectively the impacts of climate change and implications of actions on World Heritage properties to various audiences, including civil society, with subsequent benefits for research, decision-making, planning and management.

71. World Heritage properties can serve as living laboratories, or platforms for knowledge and research, for monitoring change, linking policy and practice and fostering understanding of climate change and of the need for climate action. World Heritage properties should take advantage of the diverse fields of heritage research both in sciences and humanities, and World Heritage properties should be monitored to advance understanding of short-term and long-term environmental and global change on properties. This could include using science, traditional/indigenous and local knowledge (with free, prior and informed consent as appropriate) and the history of World Heritage properties to track past human interactions and their effects on environments, and to assess climatic, environmental and social baselines from where contemporary climate and society are shifting.

72. Areas for further focus regarding knowledge sharing, capacity building and awareness are set out in Annex IV to the Policy Document.

**D.5. Transformative change**

73. This transformative change section of the Policy Document highlights and synthetises the elements associated with the urgency and scale of action required by the World Heritage Convention to support bold decisions to transition to a carbon neutral and resilient world that can sustain World Heritage properties for future generations.

74. World Heritage is immersed in an unprecedented global change: a rapidly changing climate and the progressive loss of global biodiversity are perhaps the most prominent indicators of how rapidly humans are negatively transforming the planet. The majority of direct drivers of those changes share common causes in that they are underpinned by societal values and behaviours that induce unsustainable production and consumption patterns.

75. Global initiatives, most notably led by IPCC and IPBES, are indicating the need for urgent and concerted efforts for a “fundamental, system-wide reorganisation across technological, economic and social factors, including paradigms, goals and values”, that ultimately lead to a “transformative change” to address both nature loss and climate change. Both IPCC and IPBES indicate that except in scenarios that include transformative change, negative trends in climate and nature are projected to continue to 2050 and beyond.

76. In the short term (before 2030), all heritage decision-makers could contribute to that transformative change, through enhanced and improved implementation and enforcement of effective national and local climate policy. Additional measures are necessary to enable transformative change in the long term (up to 2050) to contribute to addressing the indirect drivers that are the root causes of climate change, including changes in social, economic and technological structures within and across nations.

77. In the context of climate adaptation, transformative change for limiting the risks from global warming of 1.5°C implies system transitions that can be enabled by an increase of adaptation investments, policy instruments, the acceleration of technological innovation and behaviour changes. For example, World Heritage can be safeguarded through enhanced international cooperation and linked locally relevant measures. The review and renewal of agreed climate-related international goals and targets based on the best available scientific knowledge and the widespread adoption and funding of transformative and resilient heritage management plans, are key to this safeguarding.

78. Another aspect of transformative change in the heritage sector, are the pathways undertaken by each country for limiting global warming to 1.5°C that should imply rapid and far-reaching transitions in many heritage-related sectors. These transitions are unprecedented in terms of scale, and imply deep GHG emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options.