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World Heritage Convention

DRAFT *POLICY DOCUMENT ON CLIMATE ACTION FOR WORLD HERITAGE*

(as recommended by the Panel of experts)

(V10 –03/05/2023, 5.30pm)

Note: Please note that during the 2nd and 3rd meetings of the Open-ended Working Group in relation with Resolution **23 GA 11** on Climate Change and World Heritage, the Chairperson of the Working Group recalled that most of the proposed text had not been subject to objections or amendments during its examination by the World Heritage Committee, and that all these paragraphs had *de facto* been considered entirely relevant by the Panel of experts, which met in March 2022. The Chairperson thus encouraged States Parties to focus their attention on the paragraphs for which the Panel has made recommendations (i.e., paragraphs marked with a red icon – see below).

As indicated in its final Report, shared with all States Parties to the Convention at the end of June 2022, the Panel of experts considered only the amendments that had been proposed by members of the World Heritage Committee and that required discussion by the Panel of experts because of their potentially significant implications. The parts of the text discussed during the Panel are highlighted in grey in the present document. A boxed note has been added below each paragraph concerned, for ease of reference, for the rest of the work of the Open-ended Working Group (as from Paragraph 21). The other parts of the text (not highlighted) have been agreed upon by both the Committee and the Panel of experts and should therefore not be re-opened.

***Key*:**

Paragraphs for which the Panel of experts established in conformity with Decision **44 COM 7C** of the World Heritage Committee has made specific recommendations not to retain the amendments proposed by Committee members or has suggested new wordings.

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I. [Approved on 23/11/22] INTRODUCTION

A. Overview

1. Climate change has become one of the most significant threats to World Heritage, impacting the Outstanding Universal Values (OUV), including integrity and authenticity, of many properties, as well as the economic and social development and quality of life of communities connected with World Heritage properties.

2. **[this paragraph remains open until discussion on Para.11 is finalized]** The issue of the impacts of climate change on World Heritage was brought to the attention of the World Heritage Committee in 2005 by a group of concerned organisations and individuals. Subsequently, UNESCO has been at the forefront of exploring and managing the impacts of climate change on World Heritage. In 2006, under the guidance of the World Heritage Committee, and along with the Advisory Bodies (ICCROM, ICOMOS, IUCN) to the World Heritage Committee and a broad working group of experts, a report on 'Predicting and Managing the effects of Climate Change on World Heritage' as well as a 'Strategy to assist States Parties to the Convention to implement appropriate management responses' was prepared by the UNESCO World Heritage Centre. This was followed by a compilation of case studies on climate change and World Heritage, prepared by UNESCO. This process led to the adoption in 2007 by the General Assembly of States Parties to the 1972 Convention concerning the protection of the World Cultural and Natural Heritage (hereinafter called the World Heritage Convention or the Convention) of a Policy Document on the impacts of Climate Change on World Heritage properties.

3. **[Approved on 23/11/22]** Since the adoption of the 2007 Policy Document, science has continued to provide evidence of the magnitude of this threat, **its associated risks and consequences. Unprecedented atmospheric concentrations of greenhouse gases (GHG), resulting from anthropogenic emissions**[1]**, which in combination are estimated to have caused an increase in global warming by one (1) degree Celsius (°C) above pre-industrial times.** This warming has caused and continues to cause long-term changes in the climate system with resulting changes in the dynamics of rain patterns, sea level rise, ocean warming and acidification; and also increased the risk of extreme events such as hurricanes, storms, bushfires, floods, and droughts. According to the Intergovernmental Panel on Climate Change (IPCC), "*some impacts may be long-lasting or irreversible*."[2]

[1] **[Approved on 23/11/22] "Anthropogenic emissions: Emissions of greenhouse gases precursors of GHGs and aerosols caused by human activities. These activities include the burning of fossil fuels, deforestation, land use and land-use changes (LULUC), livestock production, fertilization, waste management and industrial processes. See also Anthropogenic and Anthropogenic removals." - IPCC, 2018: Annex I: Glossary [Matthews, J.B.R. (ed.)]. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 541-562. https://doi.org/10.1017/9781009157940.008.**

[2] IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of Climate Change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press. [hereinafter, the 'IPCC Report'].

4. World Heritage is immersed in unprecedented global change: a rapidly changing climate and the progressive loss of global biodiversity are examples of the most prominent indicators of how rapidly humans are negatively transforming the planet. Climate change accelerates the destruction of ecosystems, while the loss and unsustainable use of nature are in turn, key drivers of climate change.

5. By representing some of the world's most outstanding natural ecosystems, natural World Heritage properties also serve as natural buffers against climate impacts and other disasters, providing space for floodwaters to disperse, stabilizing soil against landslides and blocking storm surges. They further contribute to healthy, resilient ecosystems that might withstand impacts of climate change and continue to provide the food, clean water, shelter and income communities rely upon for survival.

6. Cultural World Heritage properties represented by cultural landscapes, historic cities, archaeological sites and vernacular architecture also demonstrate various locally developed strategies for mitigation against climate change through energy efficient built form and sustainable use of local resources. Climate change may also affect Indigenous Peoples' and local communities' cultural heritage, landscapes and traditional practices due to changes in the distribution of flora and fauna. Loss of livelihoods of communities living in and around the sites may also impact their livelihood, knowledge systems and their capacity to maintain the site. In addition, local knowledge and wisdom and traditional practice represent different knowledge system that are key source of information to inform mitigation and adaptation options needed to prepare communities for future climate risks.

7. Our understanding of the impacts of climate change increased considerably since 2007, and so has knowledge related to climate adaptation and mitigation measures. As the globe continues to warm, the IPCC has projected that the impacts of climate change on biodiversity, ecosystems and a variety of human systems would be lower at 1.5°C of global warming compared to those at 2°C. The report highlights the need for a low GHG emission and climate resilient development pathways that will strengthen sustainable development and also poverty eradication, while addressing the threat of climate change through ambitious mitigation and adaptation. Analyses by the IPCC indicate that limiting global warming to 1.5°C (with no or limited overshoot) would require rapid and far-reaching transitions in energy, land use, urban areas, infrastructure (including transport and buildings) and industrial systems.

8. **[Approved on 23/11/22 + addition of the definition of "Carbon neutrality" in the glossary]** This fair and equitable transition needed is unprecedented in breadth and scale, and requires significant greenhouse gas emissions **management, including** reductions**, removals, reuse, and recycling** in all sectors, including manufacturing, transport, tourism, construction and infrastructure development, forestry, health, water management, and agriculture; a wide portfolio of mitigation and adaptation options; as well as a significant upscaling of investments in those options. Taken together, they invite a programme of climate action designed to bring about 'transformative change'[3]. In the context of the World Heritage Convention, transformative change would be exemplified by decisions that contribute towards making World Heritage properties carbon neutral, as much as possible, and more resilient and better adapted to a changing climate, while safeguarding their Outstanding Universal Value. By acting as exemplars of climate action, World Heritage properties may serve as catalysts for change in the wider policy, economic, environment and social sectors for the benefit of present and future

[3] Defined by the IPCC as a system-wide change that requires more than technological change through consideration of social and economic factors that, with technology, can bring about rapid change in the fundamental attributes of natural and human systems at scale.

generations. World Heritage properties can embrace transformative change to become demonstration cases of the change the world needs.

9. **[Approved on 23/11/22]** World Heritage properties are part of physical and social processes and are strongly connected to surrounding areas, ecosystems, communities and societies. They are not isolated areas, their safeguard depends on the support of communities. For World Heritage stakeholders, it is therefore fundamental to increase the awareness of connectivity of climate change and interactions between decision makers, communities, and natural and cultural heritage to support transformative change. In the context of this Policy Document, transformative change should integrate cross-sectoral thinking and approaches that account for direct, indirect, and cumulative impacts on World Heritage properties, and offer opportunities to reconcile multiple interests**, in line with the Paris Agreement and its principles.**

10. **[Approved on 23/11/22]** Since the adoption of the 2007 Policy Document, an important number of reports on the state of conservation of World Heritage properties affected by climate change have been presented to the World Heritage Committee. Following the adoption of the 2030 UN Agenda for Sustainable Development, in 2015, outlining 17 Sustainable Development Goals (SDGs), the World Heritage Committee in the same year adopted the 'Policy for the Integration of a Sustainable Development Perspective into the Processes of the *World Heritage Convention*' (the '2015 Sustainable Development Policy') with a view of ensuring policy coherence between the Convention and the SDGs. The 2015 Sustainable Development Policy expressly recognises the linkages between climate change and sustainable development, noting that "*[i]n the face of increasing disaster risks and the impact of climate change, States Parties should recognise that World Heritage represents both an asset to be protected and a resource to strengthen the ability of communities and their properties to resist, absorb, and recover*". In **addressing challenges related to** climate **change** that are common to many sectors and policy domains and creating conditions for implementing transformative change, World Heritage can also contribute to the implementation of the SDGs in line with the 2015 Sustainable Development Policy.

11. **[Paragraph on hold; as agreed by the Open-ended Working Group on 3 May, based on the informal discussion group; approval pending review of paragraphs 21, 25, 27, 58 and 94]** **[**In 2017, the World Heritage Committee (WHC/17/41.COM/7) took note that the growing evidence of climate change impacts across World Heritage properties confirm that urgent and rapid action to reduce global warming and adapt to climate change's impact is essential. It also confirms that the highest degree of ambition is needed to secure the fulfilment of the commitments made in the Paris Agreement, adopted under the UNFCCC, which according to its Article 2.2 will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances. With the aim to strengthen the global response to climate change in the context of sustainable development and efforts to eradicate poverty, countries have committed to climate action through inter alia communicating and updating Nationally Determined Contributions (NDCs) and other measures.**]**

11. [previous working version, for information only] ~~In 2017, the World Heritage Committee stated~~ **[Rapporteur] took note** ~~that "*the growing evidence of climate impacts across World Heritage properties confirm that urgent and rapid action to reduce global warming is essential and the highest degree of ambition and leadership by all countries is needed to secure the full implementation of the*~~ **[Japan, Sweden, Egypt: delete]** ~~*2015 Paris Agreement*~~ **[Venezuela, Saudi Arabia, Egypt: maintain]** ~~*adopted under the United Nations Framework Convention on Climate Change (UNFCCC)*~~*"* **[Brazil, Peru, Saudi Arabia, Venezuela, Uruguay, Cuba, Colombia, Egypt, China, South Africa,**

~~**Mexico, Russian Federation, Argentina] Presently, this Policy Document has been elaborated work is done in full recognition of the principles of the UNFCCC and the Paris Agreement and their centrality in the international climate-related discussions.** The Paris Agreement **[Venezuela, Saudi Arabia, Brazil: maintain]** adopted under the UNFCCC, aims to strengthen the global response to climate change in the context of sustainable development and efforts to eradicate poverty**. [United States, Norway, Australia, Japan, Switzerland, Sweden, Canada: add] / [Venezuela, Saudi Arabia, Brazil, Russian Federation, China, St. Vincent and the Grenadines, Egypt, South Africa, Uruguay, Argentina, Colombia: maintain original] Article 2.1 establishes three long-term goals, including a temperature goal to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change. Article 2.2 of the Paris Agreement further states that the Agreement will be implemented to** and reflecting equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances. Countries have committed to climate action through their successive Nationally Determined Contributions. **[United States: delete; Venezuela: maintain]** International action on climate change must be consistent with the Paris Agreement, including its principles, and responding to national climate policies and priorities for Parties to that Agreement.~~

12. The Paris Agreement noted the importance of ensuring the integrity of all ecosystems and the protection of biodiversity when taking action to address climate change (Preamble). Future scientific understanding led by the IPCC and IPBES (the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) has deepened knowledge on the role of nature, including natural heritage sites, in climate mitigation and adaptation. Cultural World Heritage properties similarly may embody both past carbon investments and also traditional practices, knowledge, and experience handed down through time that must be part of the solution to climate change[4].

13. **[Approved on 23/11/22]** Considering their stature and visibility, there is an enormous benefit to World Heritage properties sharing their experiences, tools, methodologies and approaches more broadly. For example, World Heritage properties can play an exemplary role in implementing integrated approaches that link both cultural and natural heritage in climate action and demonstrate how transformative change can help in strengthening resilience and achieving sustainable development. A two-pronged approach is therefore needed, recognising that World Heritage properties represent both an asset to be protected from climate impacts and a resource to strengthen the ability of communities to pursue transformative change. In any case, Outstanding Universal Value must be safeguarded, and climate action must be pursued.

14. **[Approved on 23/11/22]** Ultimately, World Heritage properties cannot be safeguarded from climate change in isolation because climate change is a global problem. However, many properties have already demonstrated how management systems that engage with local communities can strengthen natural, cultural and social resilience and offer sustainable futures. In order to better respond to climate change, these approaches should be expanded to ensure that all properties are linked to their wider settings and

[4] The ICOMOS Report "The Future of Our Pasts: Engaging Cultural Heritage in Climate Action" (2019) identifies a variety of traditional practices with relevance to contemporary greenhouse gas mitigation strategies including the inherently sustainable, passive features of traditional architecture (e.g. eaves, verandas, shutters, shading devices); traditional urban land-use patterns (dense, walkable, mixed-use space); and the knowledge embedded in low carbon agricultural heritage systems. Many traditional cultural systems also epitomize circular economy models that emphasize stewardship, reuse and resource efficiency.

efforts are linked to wider national and international efforts to combat climate change, while protecting Outstanding Universal Value. Approaches and communities especially those living in or around the properties must be brought together through integrated, inclusive, informed and adaptive governance that will facilitate the transformative change needed for addressing climate change.

15. Over and above all of this, collective action is needed, as envisaged in the Convention, which sees the international community as a whole participating in the protection of the cultural and natural heritage of Outstanding Universal Value, by the granting of collective assistance as an efficient complement to the actions of States Parties. In the face of climate change, this responsibility must be called upon in support, in the form of finance, technology, and capacity-building, to enable necessary transformative change needed to protect the Outstanding Universal Value of World Heritage properties.

B. Purpose and Scope

16. **[Approved on 23/11/22]** The purpose of this Policy Document is to provide high-level guidance on enhancing the protection and conservation of heritage of Outstanding Universal Value through comprehensive adoption of climate action measures, including climate adaptation, mitigation, resilience building, innovation and research, and in so doing, to create coherence with, and take advantage of synergies between, the objectives and processes of the World Heritage Convention and those of the UNFCCC**, the** Paris Agreement and **other** multilateral agreements**, frameworks**, processes and instruments, including but not limited to the 2030 Agenda for Sustainable Development, the 2015 Sendai Framework on Disaster Risk Reduction, the 2016 New Urban Agenda, the Small Island Developing States Accelerated Modalities of Action ("Samoa Pathway")**, the Convention on Biological Diversity and its** Post-2020 Global Biodiversity Framework.

17. **[Approved on 23/11/22]** The Policy Document provides an outcome-oriented policy framework for the development of goals and targets at national and heritage site levels, updating of national heritage management tools and action plans, and **facilitating continuous follow-up/monitoring of the** implementation and subsequent review of this Policy Document.

18. This Policy Document aims to galvanise urgent action in support of transformative change by States Parties to the Convention, which can reflect its aims in their own national policies that guide the implementation of the Convention at the World Heritage property level. While this Policy Document is aimed primarily at States Parties to the Convention and managers of World Heritage properties, the implementation of its provisions will often require the contribution and support of the UNESCO World Heritage Centre, the Advisory Bodies and other relevant bodies.

19. The Policy Document is also intended to be of relevance to all stakeholders and rights holders, including Indigenous Peoples and local communities, civil society, and the private sector. Moreover, while the Policy Document is specifically aimed at World Heritage properties, its principles are relevant to cultural and natural heritage in general, in the spirit of Article 5 of the World Heritage Convention.

20. The Policy Document is intended to be embedded in the existing processes of the World Heritage Convention and does not impose any new legal obligations on States Parties. It is intended to operate within the mandate of the World Heritage Convention and does not aim to duplicate the mandate of any other multilateral agreements, frameworks, processes and instruments.

C. Guiding Principles

21. **[Paragraph on hold; Version A, as proposed during the Open-ended Working Group on 3 May] [Norway, Estonia, Poland, Canada, Sweden: keep original bold text] [Grenada] [Encourage to adopt a precautionary approach aimed at minimising the risks associated with climate change.** The risks associated with climate change depend, among other factors, on the magnitude and rate of warming, geographic location, levels of adaptive capacity that all together determine specific conditions of climate vulnerability. Uncertainty (i.e., lack of full scientific certainty) should not be used as a reason for not implementing such a precautionary approach to address the causes and minimise the risks **[Rapporteur, Netherlands, Chile, Lebanon, St Vincent and the Grenadines, Switzerland, Canada] to World Heritage properties** associated with climate change.**]**

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21. [Paragraph on hold; alternative version to Version A, on which no consensus has been reached during the Open-ended Working Group on 3 May] Encourage to adopt a precautionary approach aimed at minimising the risks associated with climate change. The risks associated with climate change depend, among other factors, on the magnitude and rate of warming, geographic location, levels of adaptive capacity that all together determine specific conditions of climate vulnerability. Moreover, for many natural and cultural systems, adaptation in the face of these risks is expected to be more challenging at 2°C of global warming than at 1.5°C, especially in developing countries. **[Argentina: keep part in square brackets] [**In view of this, the implementation by all States Parties of a precautionary approach that pursues **[Canada, Saint Vincent and the Grenadines, Estonia, …: keep original] [Egypt, Brazil, Argentina] clear, just, and affordable transition** pathways limiting the global average temperature increase**, taking into account social and economic dimensions [Saudi Arabia: keep]** ~~consistent with the Paris Agreement~~, is the most effective approach for the protection, conservation and management of the cultural and natural heritage.**]** Uncertainty (i.e., lack of ~~-~~full scientific certainty) should not be used as a reason for not implementing such a precautionary approach to address the causes and minimise the risks associated with climate change.

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21. [Paragraph on hold; version used for the informal discussions] ~~**[Australia, USA: limit ref to Paris Agreement to one single paragraph in the document] [Switzerland, Grenada, Estonia, Bulgaria, New Zealand, Norway, Netherlands, Poland, Sweden, Ireland, Togo, USA, Germany, Canada: keep original para] [Saint Vincent and the Grenadines, Cook Islands, Grenada, Chile, Panama, Argentina, Mexico] Encourage to [Argentina, USA, Uruguay, Brazil] Adopt a precautionary approach aimed at minimising the risks associated with climate change.** The risks associated with climate change depend, among other factors, on the magnitude and rate of warming, geographic location, levels of adaptive capacity that all together determine specific conditions of climate vulnerability. Moreover, for many natural and cultural systems, adaptation in the face of these risks is expected to be more challenging at 2°C of global warming than at 1.5°C, especially in developing countries. In view of this, **[Brazil, Saudi Arabia: remove amendment] [USA, Argentina] enhancing collective efforts towards achieving the long-term goals of the Paris agreement is critical for the protection, conservation and management of the cultural and natural heritage. //** the implementation by all States Parties of **[Argentina, Uruguay]** a precautionary approach that pursues pathways **[Saudi Arabia] to hold the temperature well below 2°C above pre-industrial levels and to** limit **the temperature increase to 1.5°C** limiting the global average temperature increase **[Grenada, South Africa, Saint Vincent and the Grenadines: keep] [Saudi Arabia]** to 1.5°C with no or limited overshoot, consistent~~

~~with [Saudi Arabia] the implementation of the commitments made under [Japan] commitments to implement the Paris Agreement, [Canada: remove amendment] [Brazil, Argentina, Uruguay, South Africa, Egypt, Russia, Peru, Chile, Saudi Arabia, Panama, Panel Mexico] taking into account the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC), is the most effective approach for the protection, conservation and management of the cultural and natural heritage. [Grenada: keep] [Argentina, Uruguay] Uncertainty (i.e., lack of [Saint Vincent and the Grenadines, Grenada, Argentina] full scientific certainty) should not be used as a reason for not implementing such a precautionary approach to address the causes and minimise the risks associated with climate change.~~

21. Only the text highlighted in grey was discussed during the Panel of experts (see Report of the Panel)

22. [Approved on 31/01/2023] **Anticipate, avoid and minimise harm to protect the heritage of Outstanding Universal Value.** Considering that climate change threatens both World Heritage properties and the future well-being of people through harmful and negative consequences, some of which are potentially irreversible, States Parties to the Convention and all World Heritage stakeholders and rights holders are urged to take appropriate measures, within their **capabilities**, to anticipate, avoid and minimise harm, consistent with their obligations under the World Heritage Convention to protect the world's natural and cultural heritage considered to be of Outstanding Universal Value**, as well as in consistency with other relevant multilateral environmental agreements**.

23. **Use best available knowledge, generated through disciplinary, interdisciplinary and transdisciplinary processes, including from scientists, researchers, site managers, Indigenous Peoples and local communities.** Proposed actions should be **[Saudi Arabia]**~~based on, and guided~~ **informed/supported** by~~,~~ the best available disciplinary, interdisciplinary and transdisciplinary knowledge, that is developed by researchers, practitioners and Indigenous Peoples and local communities, working together to address climate change as a persistent problem. The heritage management decision-making process should be informed by this 'best available knowledge' approach and the different types of knowledge generated. They also should meet the highest standards of research integrity and be rigorous and transparent in their analysis of the climate risks including estimates of uncertainty, and undertake rigorous impact assessments on potential threats to Outstanding Universal Value to provide decision-makers with insight into, and understanding of, the underlying risks as well as opportunities, and guidance for the formulation of long-term strategies.

24. [Approved on 31/01/2023] **Integrate a Sustainable Development perspective.** Actions taken by States Parties to address climate change impacts can also contribute to the implementation of the Sustainable Development Goals (SDGs), in line with the 2015 Sustainable Development Policy through adoption of mutually reinforcing, inclusive and adaptive approaches. Those approaches can help to reflect a wider range of heritage values and knowledge systems beyond Outstanding Universal Value, and support equity, including through equitable sharing of heritage-benefits arising from their use and rights-based approaches. Adaptive approaches, including learning from heritage experience, monitoring and feedback loops, contribute to preparing for and managing the inevitable uncertainties and complexities associated with climate change.

25. **[Paragraph on hold; Version A – original text] [Estonia, Brazil, Egypt, South Africa, Argentina, China, Chile, Mexico, Saudi Arabia, Syria, St Vincent and the Grenadines, Philippines, Grenada: keep original] Promote global partnership, inclusion and solidarity, emphasizing common but differentiated responsibilities and that developed countries provide necessary financial and technical support to developing countries**.../…

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25. [Paragraph on hold; Version B as proposed during the Open-ended Working Group on 3 May] [USA, Canada, Norway, Japan, Netherlands] [Chile: add principles from para.11] Promote global partnership, inclusion and solidarity, in line with // [Brazil] the principles mentioned in // Paragraph 11 of this Policy Document, including to mobilize [Japan, Canada, USA: delete CBDR] financial and technical support to developing countries ~~in line with the Paris Agreement~~…./…

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25. [Paragraph on hold; Version C as proposed during the Open-ended Working Group on 3 May] [Estonia, Brazil, Egypt, South Africa, Argentina, China, Chile, Mexico, Saudi Arabia, Syria, St Vincent and the Grenadines, Philippines, Grenada, Guatemala, Colombia: keep original] Promote global partnership, inclusion and solidarity, [Argentina] ~~emphasizing~~ reaffirming the principle of common but differentiated responsibilities [Egypt] in line with the commitments under the UNFCCC and the Paris Agreement and that developed countries provide necessary financial and technical support to developing countries…./…

[Note: no change proposed to this part of the paragraph] …/…In addressing climate change impacts on World Heritage properties, and particularly in the implementation of this Policy Document, relevant stakeholders and rights holders at all levels should work together in a spirit of global partnership, inclusion, and in solidarity with the poorest and most vulnerable people, who are in the front lines of climate change impacts. Climate change does not stop at borders. It conjoins the safeguarding of World Heritage properties with larger sustainability challenges, spatial, social, economic and cultural ones in the surroundings of the properties. Solutions for the safeguarding of the properties can only be found if they are connected to spatial, social and cultural transformations beyond the site. Strategies need to be developed that provide solutions for sustainable development beyond the borders of the World Heritage property.

25. Only the text highlighted in grey was discussed during the Panel of experts (see Report of the Panel)

II. THE POLICY FRAMEWORK

A. Long-Term Vision

26. **[Approved on 31/01/2023]** The vision of the Policy Document is that each State Party understands the current and future potential impacts of climate change on the Outstanding Universal Value of the World Heritage properties situated on their territory, and undertakes climate action in an effective, ambitious, cooperative and active way. This is undertaken consistently with **the** States Parties' obligations under the World Heritage Convention, **and where appropriate, in synergy with other relevant multilateral environmental agreements, for** the protection, conservation and management of their cultural and natural heritage to the utmost of **their** own capacities and resources, **including with** international assistance and co-operation.

B. World Heritage Climate Action Goals

27. **[As agreed during the meeting, proposal by the Rapporteur]** The Policy Document establishes the following set of World Heritage Climate Action Goals towards 2030, to guide how World Heritage processes can effectively contribute to the transformative change needed for climate action, through enhanced and improved collaboration, and effective and synergistic implementation of local, national and agreed international

climate policy instruments based on/deriving from respective policies. These World Heritage Climate Action Goals should be viewed in light of different national circumstances and of the available technical and financial capacities of each State Party. In this regard, attention must be drawn to the need for mobilization of support for the achievement of these goals in developing countries in line with the Paris Agreement adopted under the UNFCCC.

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[Paragraph on hold; Version A as proposed at the end of the Open-ended Working Group on 3 May] The Policy Document establishes the following set of World Heritage Climate Action Goals towards 2030, to guide how World Heritage processes can effectively contribute to the transformative change needed for climate action, through enhanced and improved collaboration, and effective and synergistic implementation of **// local, national and agreed international climate policy instruments. // [Saudi Arabia] local, national and agreed international policies, and these goals… //** ~~.~~ These goals should be viewed in light of **different** national circumstances and of the available technical and financial capacities of each State Party. In this regard, attention must be drawn to the need **// [China, Argentina] for the means of implementation // [USA, Estonia] for mobilization of support // for the achievement of these goals in developing countries, [Brazil, Estonia] in line with the Paris Agreement adopted under the UNFCCC.**

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27. [Paragraph on hold; Version B, used for the informal discussions and amended in the room on 3 May] The Policy Document establishes the following set of World Heritage Climate Action Goals towards 2030, to guide how World Heritage processes can effectively contribute to the transformative change needed ~~.~~ **[Saudi Arabia]** ~~to halt and reverse the negative trends associated with climate change causes and effects~~ **for climate action**, through enhanced and improved collaboration, and effective and synergistic implementation of local, national and ~~.~~ **[Saudi Arabia]** ~~international climate policy instruments~~ **climate related policies**. **[Brazil]** ~~While the goals are targeted primarily at States Parties to the Convention, they require the contribution and support of the World Heritage Committee, Advisory Bodies, site managers and civil society.~~ These goals should be viewed in light of national circumstances **[Brazil] and of the available technical and financial capacities of each State Party. In this regard, attention must be drawn to the urgent need for the mobilization of the means of implementation for the achievement of these goals in developing countries, taking into account the common but differentiated responsibilities broadly recognized, in line with ~~the principles and the commitments made in~~ the Paris Agreement, adopted under the UNFCCC**.

27. Only the text highlighted in grey was discussed during the Panel of experts (see Report of the Panel)

- **Goal 1 (Climate risk assessment):** By 2030, States Parties should develop**, [Saudi Arabia] collaborate to** and share tools and build capacity needed to assess climate risks and identify potential reversible or irreversible damage to attributes carrying the Outstanding Universal Value associated with current and projected impacts of climate hazards, and to report the resulting climate risks assessments through World Heritage processes such as Periodic Reporting and state of conservation reports (see Section D.1 below);

- **[Version approved by the Open-ended Working Group on 3 May] [Goal 2 (Climate Adaptation):** By 2030, States Parties should establish and develop **at the international, national and local levels**, and implement at the site level, as appropriate, robust climate adaptation frameworks for their cultural, natural **and**

mixed heritage, to be integrated in their national adaptation plans, as appropriate, that can demonstrate measurable progress on monitoring of climate hazards, assessing and reducing climate risks and vulnerabilities, and in doing so enhancing adaptive capacity and building climate resilience for all World Heritage properties (see Section D.2 below); **]**

Goal 2. Only the text highlighted in grey was discussed during the Panel of experts (see Report of the Panel)

- **[Paragraph on hold; Version A as proposed during the Open-ended Working Group on 3 May] [USA] Goal 3 (Climate Mitigation):** By 2030, States Parties should develop and implement**, in line with their** nationally determined contributions under the Paris Agreement**,** at the international, national and/or other appropriate level**, measures** that strengthen the capacity for mitigation action of their cultural, natural and mixed properties and encourage the reduction of net greenhouse gas emissions associated with World Heritage properties, including, where appropriate, actions to safeguard natural ecosystems that are carbon sinks (see Section D.3 below);

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[Paragraph on hold; Version B, used for the informal discussions and amended in the room on 3 May; Note by the Rapporteur: proposed changes would need to be checked against the understanding of 'mitigation'] Goal 3 (Climate Mitigation): By 2030, States Parties, in **[Japan] line** with nationally determined contributions under the Paris Agreement, should develop **[Saudi Arabia] at national and local levels,** and implement **at the site level, as appropriate**, comprehensive climate mitigation frameworks**, // [Egypt] to be integrated in their nationally determined contributions,//** that strengthen the capacity for mitigation action of their cultural, natural and mixed properties and encourage the reduction of net greenhouse gas emissions associated with World Heritage properties, including, where appropriate, actions to safeguard natural ecosystems that are carbon sinks (see Section D.3 below);

Goal 3. Only the text highlighted in grey was discussed during the Panel of experts (see Report of the Panel)

- **Goal 4 ([Egypt] Finance, technology transfer, Knowledge sharing, capacity building and awareness): [Saudi Arabia]**~~By 2030,~~ States Parties should **[Saudi Arabia] develop and implement** ~~have developed and implemented~~ activities aimed at improving education, awareness raising, and human and institutional capacity in relation to the risks and responses related to climate change impacts on World Heritage properties, including programmes of knowledge-sharing and those designed to promote these properties as exemplars of climate action (see Section D.4 below).

C. Legal framework

28. The World Heritage Convention and the Operational Guidelines for its implementation provide the legal and administrative framework respectively within which this Policy Document is to be applied. Key duties and obligations of States Parties under the Convention are set out in Articles 4, 5 and 6.

29. Article 4 establishes the basis for States Parties to do all that they can to ensure the conservation, protection, presentation and transmission to future generations of World Heritage properties situated on their territories.

30. Climate change is recognised among the most significant threats to World Heritage properties and is growing. As per Article 5(d), to ensure that effective and active

measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory, each State Party to the Convention **[Japan]** ~~shall~~ **should** endeavour, in so far as possible, and as appropriate for each country, to "*take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage*".

31. Under Article 6(1), "…*the States Parties to this Convention recognise that such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to co-operate*". Under Article 6(3), States Parties undertake "*not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage on the territory of other States Parties*". Article 7 enables establishment of a system of international co-operation and assistance designed to support States Parties in their efforts to conserve heritage.

32. **[Approved on 31/01/2023]** While the enumeration of "*serious and specific dangers*" under Article 11 (4) of the Convention concerning the inclusion of properties on the List of World Heritage in Danger does not specifically refer to climate change (which was not under the same scrutiny in the early 1970s as it is now), the provision is clearly sufficiently broad to include the impacts of climate change as a serious and specific danger to properties.

33. The Operational Guidelines, in paragraphs 179 and 180, set out the criteria for placing cultural and natural properties on the List of World Heritage in Danger for both ascertained and potential dangers. Currently, only Paragraph 179 (b) and Paragraph 180 (b) refer to "*threatening impacts of climatic, geological or other environmental factors*" as a potential danger. Paragraph 181 provides that the "*factor or factors which are threatening the integrity of the property must be those which are amenable to correction by human action*".

34. It is also recommended that climate change be considered in the nomination of properties for inscription on the World Heritage List. Each nominated property should have a management plan or other documented management system (Paragraph 108 of the Operational Guidelines). The nomination dossier (Paragraph 132(4)) should address the state of conservation and a description of the factors affecting the property, including threats. The format for the nomination of properties is included in Annex 5 of the Operational Guidelines and refers to "*environmental pressures*" as factors affecting the property and lists, as an example, climate change (Section 4a(ii) of the format).

35. Current management and protection requirements (paragraphs 111, 118, 118bis) address climate change impacts and identify the assessment of vulnerabilities of the nominated site to actual and potential social, economic, environmental and other pressures and changes, including climate change, as a common element any effective management system could include. Impact assessments must also be carried out as a pre-requisite for adaptation and mitigation responses within or around a World Heritage property to ensure that the Outstanding Universal Value is not negatively impacted.

36. **[Approved on 21/03/2023]** This Policy Document **builds on existing evidence of the negative impact of climate change on World Heritage properties and** foresees **that this trend will continue over the coming decades and will affect** the Outstanding Universal Value of World Heritage properties and also the potential Outstanding Universal Value of many places proposed for inscription on the World Heritage List. This will call for ongoing dialogue inclusive of States Parties, the UNESCO World Heritage Centre, the Advisory Bodies, and civil society, to address **the following** significant legal and interpretative questions with respect to the Convention, based on the line of questioning first proposed in Annex 2 of the 2007 Policy Document, as follows:

- Whether a property should be inscribed on the World Heritage List while knowing that its potential Outstanding Universal Value may disappear due to climate change impacts;
- Whether a property should be inscribed on the List of World Heritage in Danger or deleted from the World Heritage List due to impacts beyond the sole control of the concerned State Party (i.e., threats and/or the detrimental impacts on the integrity of World Heritage properties associated with the global impacts of warming from anthropogenic GHG emissions);
- The reality that for some natural and cultural properties, it will be impossible to maintain the "original" Outstanding Universal Value for which they were originally inscribed on the World Heritage List, even if effective adaptation and mitigation strategies are applied, and this may require an "evolving" assessment of Outstanding Universal Value.

D. Climate action

37. Climate actions include *inter alia* responses within the framework of the World Heritage Convention to the **[Saudi Arabia]**~~threat~~ **impact** of climate change, based on the most recent scientific and political developments. Key categories of climate action with respect to World Heritage properties are: (i) Assessing climate change risks (ii) Climate change adaptation (iii) Climate change mitigation and (iv) **[Egypt] Finance, technology transfer,** Knowledge sharing, capacity building and awareness. These responses take advantage of better coordination and effective implementation of the local, subnational, national and international developments since the adoption of the Paris Agreement.

38. **[Approved on 21/03/2023]** Latest scientific findings, especially those documented in IPCC reports, indicate that both mitigation and adaptation options are specific to national contexts, and if carefully selected together with enabling conditions can be mutually reinforcing. However, mitigation and adaptation can also have adverse impacts on Outstanding Universal Value, if these are poorly designed or implemented. Even with best efforts, real and perceived tensions may develop between proposed climate action pathways and **obligations of States Parties under the Convention and their commitments to preserve the** Outstanding Universal Value of World Heritage properties, including the conditions of integrity and/or authenticity at the time of inscription.

39. Climate-related risks to World Heritage properties depend **[Saudi Arabia] on concurrent near-term trends in vulnerability, exposure, level of socioeconomic development and adaptation**~~on the rate, peak and duration of global warming~~. Risks are generally higher for warming of 1.5°C above pre-industrial levels than at present, but lower than at 2°C. Adaptation is correspondingly expected to be more challenging for some World Heritage properties at 2°C of global warming than for 1.5°C, especially in developing countries. This underscores the importance of considering both adaptation and mitigation approaches. In addition, adaptation options that also mitigate GHG emissions **[Saudi Arabia] and mitigation options that also achieve adaptation co-benefits** can provide synergies and cost savings.

D.1 Assessing climate change 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. **[Saudi Arabia] Any additional mechanisms beyond the ones existing at the time of developing this document, will be considered in formal parties' meetings at the time of development and before their implementation.** 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 change Adaptation

47. World Heritage Climate Action Goal 2 (see Section II.B above) refers to the necessary climate change 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 change 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. **[Approved on 21/03/2023 + example of hazards, exposures and vulnerabilities as a footnote]** Climate change is a risk multiplier that exacerbates current hazards, exposures and vulnerabilities **to** World Heritage properties[5]**. These** 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 change 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

[5] **[principle of adding a footnote approved on 21/03/2023] Current hazards, exposures and vulnerabilities to World Heritage properties include, among others, poverty, urbanisation, pollution, water and energy insecurities, insecurity and potential implications for social conflict.**

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 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 expressions[6]. 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. **[Approved on 21/03/2023]** This Policy Document acknowledges that 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 change Mitigation

57. Aligning the management of World Heritage properties with the imperative of climate change mitigation through a comprehensive climate change mitigation framework is the objective of World Heritage Climate Action Goal 3 (see Section II.B above). This goal asks States Parties**, [Saudi Arabia] in accordance with nationally determined contributions, and in line with principles established under the UNFCCC and the Paris Agreement, to develop at national and local levels, and implement at the site level, as appropriate**~~to implement at national and/or other appropriate levels~~, comprehensive climate change 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.

[6] See https://unfccc.int/LCIPP-FWG for more details on the UNFCCC's Facilitative Working Group of the Local Communities and Indigenous Peoples Platform

58. **[discussion on hold - paragraphs 11, 21, 25, 27, 58 and 94 will be discussed together informally among interested members]** The IPCC defines mitigation as "*a human intervention to reduce emissions or enhance the sinks of greenhouse gases.*"[7] **[Saudi Arabia]** ~~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 **[Saudi Arabia]** low ~~-carbon~~**emissions** alternatives for World Heritage properties management as soon as possible, **[Brazil] in line with the aforementioned guiding principles of this policy. //** in **[Japan]** ~~accordance~~ **line** with the **[Australia] Paris Agreement** ~~equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances~~.

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 **[Saudi Arabia]** ~~reduce~~**managed** 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.

[Saudi Arabia] ~~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;

[7] The word 'mitigation' is used in this Policy Document in the technical sense in which it is used by the IPCC: "*a human intervention to reduce emissions or enhance the sinks of greenhouse gases*." This is essentially the same sense in which the word was used in the 2007 Policy Document ("*Mitigation: an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases* (IPCC)"). Users of this Policy Document should not confuse this usage with the sense in which the word 'mitigation' is used in the heritage context (namely, measures to avoid, prevent, reduce or offset negative effects on Outstanding Universal Value or other values).

- 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 **[Saudi Arabia]**~~reduction~~**management** 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. **[Approved on 21/03/2023]** 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**, especially for those that are particularly vulnerable to the adverse effects of climate change, such as Small Island Developing States (SIDS) and Least Developed Countries (LDC)**.

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 **[Saudi Arabia] decision-makers** ~~bold decisions~~ to transition to a **[Saudi Arabia] low and high adaptative**~~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. **[Saudi Arabia] Reports**~~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. **[Saudi Arabia]**~~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 **[Saudi Arabia]**~~(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 **[Saudi Arabia]**~~(by mid-century)~~ to contribute to addressing the indirect drivers that are the root causes of climate change, including changes in social, economic and technological structures **[Saudi Arabia]**~~within and across nations~~.

77. In the context of climate adaptation, transformative change for limiting the risks from global warming **[Saudi Arabia]**~~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 **[Saudi Arabia]**~~to 1.5°C~~ that should imply rapid and far-reaching transitions in many heritage-related sectors. **[Saudi Arabia]**~~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.~~

III. IMPLEMENTATION OF THE POLICY DOCUMENT

79. This section articulates recommendations for implementing the Policy Document at various levels, namely World Heritage Committee, States Parties and World Heritage property levels. The five key considerations for implementing the Policy Document are:

- Integrating measures to identify and manage climate related risks to the Outstanding Universal Value at the property level and in the processes of the Committee;
- **[Approved on 21/03/2023]** Integrating World Heritage in climate action design, planning and implementation at the international, national and local levels**, as appropriate**;
- Developing and sharing tools and methodologies to assess and manage the current and future impact of climate change with and among Parties and various stakeholders **[Saudi Arabia]**~~and rights holders~~, at the property, national **[Saudi Arabia]**~~and international~~ level~~s~~ (particularly through the process of establishing regional Action Plans)**, [Saudi Arabia] as appropriate**;
- Enabling World Heritage properties to contribute to the transformative change that is necessary for low **[Saudi Arabia]**~~carbon~~**emissions** ~~–~~and **high adaptative capacity**~~climate-resilient~~ development**, subject to available support**;
- Utilising a place-based approach to contextualise climate action responses, integrating nature and culture in the management of all properties in response to climate change, and respecting the rights and interests of Indigenous Peoples and local communities.

80. To achieve these, various actions are recommended at World Heritage Committee, States Parties and World Heritage property levels. For the effective implementation of the Policy Document, an internationally collaborative approach is advocated through engagement of all the stakeholders **[Saudi Arabia]**~~and rights holders~~ to develop and implement the tools and methodologies that can support climate action for World Heritage properties. This should utilise existing mechanisms where appropriate~~,~~ **[Saudi Arabia]** ~~including Reactive Monitoring and Periodic Reporting,~~ to promote best practice and regional engagement opportunities for climate-related action concerning World Heritage protection.

A. Enabling conditions

81. **[Approved on 21/03/2023]** Successful implementation of this Policy Document requires enabling conditions that support the feasibility of adaptation and mitigation options and can accelerate and scale-up systemic transitions and enhance capacities of systems and societies to adapt to climate change, while safeguarding the Outstanding Universal Value, achieving sustainable development, eradicating poverty and reducing inequalities. These include **resource mobilization, technology transfer**, institutional capacity, multi-level governance, and changes in human behaviour and lifestyles. They also include inclusive processes, attention to power asymmetries and unequal opportunities. States Parties will endeavour to enhance the feasibility of actions contemplated through this Policy Document by attention to the enabling conditions underpinning climate action in the World Heritage context. The World Heritage Committee will be an advocate for climate action **in World Heritage** and will work to support partners that are expected to carry out such action under this Policy Document.

Governance

82. **[Saudi Arabia]**~~Climate governance is key to creating the conditions for implementing transformative change in the World Heritage context. Such World Heritage climate governance systems should embrace inclusive approaches that accommodate a plurality of heritage values, beyond Outstanding Universal Value, and can ensure equitable sharing of heritage benefits, including through rights-based approaches. Climate governance should encourage novel strategies for climate-related knowledge production and co-production that are inclusive of diverse values and knowledge systems. Local communities should be closely involved in the processes of investigation of the impacts of climate change and the development of climate action strategies. Adaptive approaches, including learning from heritage experiences, monitoring and feedback cycles, contribute to preparing for and managing the inevitable uncertainties and complexities associated with climate change. Governance systems should also link the management of natural and cultural values, including at a landscape scale, where possible.~~

83. The 2017 UNESCO Declaration of Ethical Principles in relation to climate change provides a useful framework for addressing justice and equity and the need for prioritising action in an equitable and transparent manner. The 2017 UNESCO Policy on engaging with Indigenous Peoples provides further useful references on participation and actions.

Finance

84. **[Saudi Arabia]**~~Transfer~~ **[Rapporteur: Technology transfer]**~~and mobilisation of finance~~ **[Rapporteur: resource mobilization]** ~~are among the necessary enabling conditions to promote climate action for World Heritage properties, including investment in infrastructure for mitigation and adaptation. Adaptation needs have typically been supported by public sector sources such as national and subnational government budgets, and in developing countries together with support from multilateral and bilateral development assistance, multilateral development banks, the UNFCCC and the Paris Agreement. In this aspect, World Heritage properties should be considered as part of the overall national and regional planning strategies to ensure that adequate financial resources are made available to support property-level climate action, taking into account the developed countries' leading role in the provision and mobilization of such resources in support of developing countries. Barriers include the scale of adaptation financing, limited institutional and national financing capacity and access to adaptation finance. The better incorporation of funding for World Heritage properties into global climate finance mechanisms is needed. International cooperation is a critical enabler for developing countries and vulnerable regions, notably SIDS and LDCs, to strengthen their action for the implementation of responses at World Heritage properties consistent with transformative change.~~

Technological Innovation

85. 🗎 **[Approved on 21/03/2023] Appropriate climate technologies, including traditional knowledge and Indigenous science can be used to adapt to the adverse effects of climate change at World Heritage properties.** These are key to the survival of many World Heritage properties and to the conservation of their Outstanding Universal Value; this is particularly true for cultural landscapes where there is a strong and harmonious human connection to the natural environment.

B. World Heritage Committee-level implementation

86. Implementation of climate actions related to the enabling conditions (see Section III.A above) at the World Heritage Committee-level could be supported by:

- Developing and implementing a funding strategy to attract public and private sector support for climate action and capacity building for World Heritage properties. Prioritisation process should be set up to provide financial support to the States Parties for carrying out various mitigation and adaptation measures for protecting, conserving and presenting the Outstanding Universal Value of World Heritage properties. Moreover, better incorporation of funding for World Heritage properties into global climate finance mechanisms is needed;
- Ensuring that basic documents of the World Heritage system, such as the Operational Guidelines and the Resource Manuals, adequately address climate change;
- Promoting climate action measures for properties that are on the frontlines of climate change impacts in order to express solidarity with them and encourage South-South collaboration.

87. Implementation of climate actions related to World Heritage Climate Action Goal 1 (Assessing Climate Risks) (see Section II.B above) at the World Heritage Committee-level could be supported by:

- Strengthening the link between the World Heritage Convention and **[Japan] the** UNFCCC in terms of **[Saudi Arabia]**~~monitoring and reporting~~ **transparency** mechanisms related to climate change and World Heritage properties;
- Promoting synergies with existing international policies and tools from various sectors including SDGs, Sendai framework, biodiversity conventions and agreements, **[Japan] the** Paris Agreement, New Urban Agenda, as well as the site-based instruments such as the 1971 Ramsar Convention **[Japan]** ~~of~~**on** Wetlands of International Importance, the UNESCO Man and the Biosphere and Global Geoparks Programmes for a comprehensive approach towards climate change and its impact on World Heritage;
- Considering amendments to the formats of World Heritage Periodic Reporting and state of conservation reporting by including indicators that identify the impact of climate change on World Heritage properties and indicate site-specific adaption strategies based on the UNESCO's Culture|2030 Indicators;
- Identifying regional (across States Parties) or thematic actions such as promoting the development of risk and vulnerability maps for regions and sub-regions, which overlay climate data and World Heritage property locations and operationalise such initiatives.

88. Implementation of climate actions related to World Heritage Climate Action Goal 2 (Adaptation) (see Section II.B above) at the World Heritage Committee-level could be supported by:

- Enhancing opportunities for collaboration and partnerships with key international organisations such as the World Bank, the United Nations Environment Programme (UNEP), the United Nations Office for Disaster Risk Reduction (UNDRR), the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD-DAC), the G20, etc. for various projects that promote climate action in World Heritage properties; In this regard, it should be recognised that the ability of the World Heritage Committee to interact with other international mechanisms will depend on, and be limited by, the respective mandates and responsibilities of each body.

89. Implementation of climate actions related to World Heritage Climate Action Goal 3 (Mitigation) (see Section II.B above) at the World Heritage Committee-level could be supported by:

- Considering amendments to the formats of World Heritage Periodic Reporting and state of conservation reporting by including indicators that collect information on site-specific mitigation strategies being pursued.

90. Implementation of climate actions related to World Heritage Climate Action Goal 4 (Knowledge, Capacity Building and Awareness) (see Section II.B above) at the World Heritage Committee-level could be supported by:

- Strengthening the links between the World Heritage Convention and **[Japan] the** UNFCCC and the Paris Agreement in terms of sharing of information and communication related to climate change and World Heritage properties;
- Developing, compiling and sharing good practice guidance and capacity building tools for climate vulnerability and risk assessment and developing and implementing climate mitigation and adaptation measures;
- Facilitating sharing of scientific information and experience across States Parties through setting up of an online platform for effective implementation, monitoring and review of implementation of the Policy Document;
- Identifying mechanisms to support needs and capacities of the Least Developed Countries (LDCs) and the Small Island Developing States (SIDS) to address climate change impacts.

C. National-level implementation

91. Implementation of climate actions related to the enabling conditions (see Section III.A above) at the national-level could be supported by:

- Identifying and accessing the resources needed from all sources through collaboration with government and corporate/private sectors;
- Achieving coherence with other national policies by building synergies between the heritage sector and other sectors such as environment, urban and disaster risk management. This may include identification and mapping of relevant sectors which can collaborate and creation of shared data sources and benchmark methodologies;
- Ensuring that national guidance on World Heritage and for cultural and natural heritage generally addresses climate change;
- Developing pilot projects that promote good practices in climate action for World Heritage properties that are inclusive of diverse values and knowledge systems and disseminating these at international, national and property levels to demonstrate how World Heritage properties are assets to protect as well as resources to strengthen community adaptation, resilience and continuity.

92. Implementation of climate actions related to World Heritage Climate Action Goal 1 (Assessing Climate Risks) (see Section II.B above) at the national-level could be supported by:

- Standardising and sharing data gathering across various World Heritage properties to facilitate identification and analysis of common hazards and impacts of climate change at national level;
- Consistent with any World Heritage Committee standards and guidelines, developing effective processes for assessing the vulnerability of Outstanding Universal Value and other heritage values to climate change impacts, and evaluating the effectiveness of climate action measures implemented at the World Heritage properties in the Nomination process, Periodic Reports and the state of conservation reports;

- Developing climate vulnerability and risk indicators and establishing baseline data for World Heritage properties at national level to assess and track Climate risks, as the first step in strengthening capacity to manage climate risks at all World Heritage properties. These can include the Climate Adaptation and Resilience indicators (under the Environment and Resilience thematic dimension) of the UNESCO's Culture|2030 Indicators;
- Supporting reassessment and adjustments in all stages of heritage practice including inventorying, documentation and monitoring, impact assessments, conservation and management planning, and risk assessment in view of the unprecedented, systemic threat posed by climate change.

93. Implementation of climate actions related to World Heritage Climate Action Goal 2 (Adaptation) (see Section II.B above) at the national level could be supported by:

- Recognising and including World Heritage in National Adaptation Frameworks and other national policies for climate action in order to strengthen actions to adapt and build resilience to climate change, and to promote collaboration to ensure that adequate financial resources are made available to support property-level climate action, including investment in infrastructure for adaptation;
- Working in partnership with relevant organisations, stakeholders and rightsholders in field activities to develop and implement adaptation strategies;
- Sharing methodologies and tools, respecting traditional knowledge and methods;
- Encouraging, relevant institutions to the extent possible and within the available resources, to monitor relevant climate parameters and contribute to preparing for and managing the inevitable uncertainties and complexities associated with climate change through various adaptation strategies.

94. **[discussion on hold - paragraphs 11, 21, 25, 27, 58 and 94 will be discussed together informally among interested members]** Implementation of climate actions related to World Heritage Climate Action Goal 3 (Mitigation) (see Section II.B above) at the national level could be supported by:

- Implementing precautionary approaches that pursue pathways that contribute to limiting global warming to 1.5°C, with no or limited overshoot in light of the **[Australia] Paris Agreement** ~~CBDR-RC principle~~;
- Recognising and including World Heritage in national climate action plans and other national policies for climate action in order to strengthen actions to mitigate and to promote collaboration to ensure that adequate financial resources are made available to support property-level climate action, including investment in infrastructure for mitigation;
- Working in partnership with relevant organisations, stakeholders and rightsholders in field activities to develop and implement mitigation strategies;
- Developing frameworks that identify and promote the co-benefits of climate action and heritage safeguarding and which reduce real and perceived tensions between climate action and safeguarding Outstanding Universal Value, for example through impact assessment tools, environmental and social standards and taxonomies which take into account the cultural and social dimension of climate action projects; as well as through planning processes and methodologies for proactively avoiding and mediating conflicts. Such frameworks may be particularly relevant in addressing proposed renewable energy projects (e.g. terrestrial and maritime "wind farms" energy infrastructure, transmission grids), carbon dioxide removal/capture projects, flood control schemes, changes in land-use, and the renovation of heritage buildings for energy efficiency.

95. Implementation of climate actions related to World Heritage Climate Action Goal 4 (Knowledge, Capacity Building and Awareness) (see Section II.B above) at the national level could be supported by:

- Elaboration on the role of World Heritage in climate-resilient development pathways that strengthen sustainable development (including efforts to eradicate poverty and reduce inequalities) and promote mitigation of and adaptation to a changing climate.

D. World Heritage property-level implementation

96. Implementation of climate actions related to World Heritage Climate Action Goal 1 (Assessing Climate Risks) (see Section II.B above) at the World Heritage property level could be supported by:

- Undertaking climate vulnerability and risk assessments for World Heritage properties to assess potential impact on Outstanding Universal Value caused by projected climate change hazards and the impact on associated communities including:

    i) Acquiring data on climate related hazards, vulnerabilities and risks and other baseline information, including a current inventory of not only attributes of Outstanding Universal Value, but other relevant cultural and natural values,

    ii) Developing strategies to reduce non-climatic stress factors on properties to enhance resilience of the property to climate change impacts.

97. Implementation of climate actions related to World Heritage Climate Action Goal 2 (Adaptation) (see Section II.B above) at the World Heritage property level could be supported by:

- Developing and implementing climate adaptation strategies consistent with climate adaptation frameworks developed at the national level including:

    i) Integrating climate action measures (mitigation and adaptation) in site management systems and management plans, and reporting, monitoring and evaluating the effectiveness of these measures,

    ii) Developing the capacity to access local climate scenarios (i.e. simulations of the future climate at local level) and incorporate the results into medium term planning and policy making for the property;

- Prioritising monitoring of climate hazards, assessing and reducing climate risks and enhancing adaptive capacity at the property;

- Implementing management practices that reduce the vulnerability and increase the resilience of World Heritage properties to existing non-climatic pressures and threats that will be exacerbated by climate change impacts, such as urbanisation and uncontrolled tourism;

- Engaging with traditional knowledge holders and local communities to appreciate and apply community and indigenous values and understanding of climate change and adaptation, when formulating and implementing climate actions and priorities.

98. Implementation of climate actions related to World Heritage Climate Action Goal 3 (Mitigation) (see Section II.B above) at the World Heritage property level could be supported by:

- Contributing to the establishment of carbon footprint systems that demonstrate measurable progress on quantifying and, where appropriate, reducing or otherwise offsetting any net greenhouse gas emissions associated with the property,

including by engaging with relevant stakeholders and service providers in order to monitor, measure and reduce the GHG emissions associated with the property, including from tourism, land use and buildings.

99. Implementation of climate actions related to World Heritage Climate Action Goal 4 (Knowledge, Capacity Building and Awareness) (see Section II.B above) at the World Heritage property level could be supported by:

- Designed and implemented activities to improve diverse knowledge mobilisation, education, awareness raising, and human and institutional capacity in relation to the risks and responses arising from climate change impacts on World Heritage properties, including:
  - i) Using properties as observatories of climate change to support climate science, Indigenous Peoples' knowledge systems and understanding of short-term and long-term environmental change,
  - i) Increasing messaging on climate change matters,
  - ii) Showcasing case studies and better conservation practices related to climate action and climate change,
  - iii) Updating site interpretation by including climate change stories for increasing awareness and providing enhanced visitor experience of World Heritage;
- Enhancing climate action governance processes including by involving local communities closely in the processes of investigation of the impacts of climate change and the development of climate action strategies;
- Contributing knowledge, data and perspectives derived from the properties to broader climate policy processes through participation in appropriate local, regional and national climate planning processes and climate science initiatives, including interdisciplinary and transdisciplinary cooperation and knowledge co-production.

ANNEXES

ANNEX I - GLOSSARY

[Approved on 21/03/2023: Update all definitions from the most recent sources]

The glossary contains definitions of concepts that have been used in the Policy Document **(2023)**. These are drawn from IPCC reports. It is hoped that these terms will **be** understood by heritage sector to enable better communication and coordination with environment sector. The discrepancy between some of the terms such as **'**mitigation**'** used in heritage and defined in the glossary based on IPCC reports also need to be recognised.

[Approved on 21/03/2023] *Note for the readers*: Definitions in the IPCC Glossary may change over time. The definitions included in the glossary below are the ones in force at the time of adoption of this Policy Document[8].

Adaptation:

~~"In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects" (IPCC-2018)~~

"In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects." (IPCC-2021, AR6-WGI)

Adaptation limits:

~~"The point at which an actor's objectives (or system needs) cannot be secured from intolerable risks through adaptive actions". (IPCC-2018)~~

"The point at which an actor's objectives (or system needs) cannot be secured from intolerable risks through adaptive actions.

- **Hard adaptation limit – No adaptive actions are possible to avoid intolerable risks.**

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[8] IPCC, 2021: Annex VII: Glossary [Matthews, J.B.R., V. Möller, R. van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, A. Reisinger (eds.)]. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 2215–2256, doi:10.1017/9781009157896.022.

IPCC, 2022: Annex II: Glossary [Möller, V., R. van Diemen, J.B.R. Matthews, C. Méndez, S. Semenov, J.S. Fuglestvedt, A. Reisinger (eds.)]. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2897–2930, doi:10.1017/9781009325844.029.

IPCC, 2022: Annex I: Glossary [van Diemen, R., J.B.R. Matthews, V. Möller, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, A. Reisinger, S. Semenov (eds)]. In IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.020

Lo, V. (2016). Synthesis report on experiences with ecosystem-based approaches to climate change adaptation and disaster risk reduction. Technical Series No.85. Secretariat of the Convention on Biological Diversity, Montreal, 106 pages.

- **Soft adaptation limit – Options may exist but are currently not available to avoid intolerable risks through adaptive action." (IPCC-2022, AR6-WGII & WGIII)**

Adaptive capacity:

~~"The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences". (IPCC-2018)~~

"The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences (MA, 2005)." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Baseline scenario:

~~"In much of the literature the term is also synonymous with the term business-as-usual (BAU) scenario, although the term BAU has fallen out of favour because the idea of business as usual in century-long socio-economic projections is hard to fathom. In the context of transformation pathways, the term baseline scenarios refers to scenarios that are based on the assumption that no mitigation policies or measures will be implemented beyond those that are already in force and/or are legislated or planned to be adopted. Baseline scenarios are not intended to be predictions of the future, but rather counterfactual constructions that can serve to highlight the level of emissions that would occur without further policy effort. Typically, baseline scenarios are then compared to mitigation scenarios that are constructed to meet different goals for greenhouse gas (GHG) emissions, atmospheric concentrations or temperature change. The term baseline scenario is often used interchangeably with reference scenario and no policy scenario". (IPCC-2018)~~

"Scenario used as starting or reference point for a comparison between two or more scenarios." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Carbon budget:

~~"This term refers to three concepts in the literature: (1) an assessment of carbon cycle sources and sinks on a global level, through the synthesis of evidence for fossil-fuel and cement emissions, land- use change emissions, ocean and land CO2 sinks, and the resulting atmospheric CO2 growth rate. This is referred to as the global carbon budget; (2) the estimated cumulative amount of global carbon dioxide emissions that is estimated to limit global surface temperature to a given level above a reference period, taking into account global surface temperature contributions of other GHG and climate forcers; (3) the distribution of the carbon budget defined under (2) to the regional, national, or sub-national level based on considerations of equity, costs or efficiency". (IPCC-2018)~~

"Refers to two concepts in the literature: (i) an assessment of carbon cycle sources and sinks on a global level, through the synthesis of evidence for fossil fuel and cement emissions, emissions and removals associated with land use and land-use change, ocean and natural land sources and sinks of carbon dioxide (CO_2), and the resulting change in atmospheric CO_2 concentration. This is referred to as the global carbon budget; (ii) the maximum amount of cumulative net global anthropogenic CO_2 emissions that would result in limiting global warming to a given level with a given probability, taking into account the effect of other anthropogenic climate forcers. This is referred to as the total carbon budget when expressed starting from the pre-industrial period, and as the remaining carbon budget when expressed from a recent specified date.

Note 1: Net anthropogenic CO_2 emissions are anthropogenic CO_2 emissions minus anthropogenic CO_2 removals. See also Carbon dioxide removal (CDR).

Note 2: The maximum amount of cumulative net global anthropogenic CO_2 emissions is reached at the time that annual net anthropogenic CO_2 emissions reach zero.

Note 3: The degree to which anthropogenic climate forcers other than CO_2 affect the total carbon budget and remaining carbon budget depends on human choices about the extent to which these forcers are mitigated and their resulting climate effects.

Note 4: The notions of a total carbon budget and remaining carbon budget are also being applied in parts of the scientific literature and by some entities at regional, national, or sub-national levels. The distribution of global budgets across individual different entities and emitters depends strongly on considerations of equity and other value judgements." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGIII)

Carbon footprint:

~~"The process of storing carbon in a carbon pool" (IPCC-2018)~~

"Measure of the exclusive total amount of emissions of carbon dioxide (CO2) that is directly and indirectly caused by an activity or is accumulated over the lifecycle stages of a product (Wiedmann and Minx, 2008)." (IPCC-2022, AR6-WGII & WGIII)

[Approved on 23/11/22, see Paragraph 8] Carbon neutrality ~~(See Net zero CO2 emissions)~~:

~~"Net zero carbon dioxide (CO_2) emissions are achieved when anthropogenic CO_2 emissions are balanced globally by anthropogenic CO_2 removals over a specified period. Net zero CO_2 emissions are also referred to as carbon neutrality. See also Net zero emissions and Net negative emissions". (IPCC-2018)~~

"Condition in which anthropogenic CO_2 emissions associated with a subject are balanced by anthropogenic CO_2 removals. The subject can be an entity such as a country, an organization, a district or a commodity, or an activity such as a service and an event. Carbon neutrality is often assessed over the life cycle including indirect ('scope 3') emissions, but can also be limited to the emissions and removals, over a specified period, for which the subject has direct control, as determined by the relevant scheme.

Note 1: Carbon neutrality and net zero CO_2 emissions are overlapping concepts. The concepts can be applied at global or sub-global scales (e.g., regional, national and sub-national). At a global scale, the terms carbon neutrality and net zero CO_2 emissions are equivalent. At sub-global scales, net zero CO_2 emissions is generally applied to emissions and removals under direct control or territorial responsibility of the reporting entity, while carbon neutrality generally includes emissions and removals within and beyond the direct control or territorial responsibility of the reporting entity. Accounting rules specified by GHG programmes or schemes can have a significant influence on the quantification of relevant CO_2 emissions and removals.

Note 2: In some cases, achieving carbon neutrality may rely on the supplementary use of offsets to balance emissions that remain after actions by the reporting entity are taken into account." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGIII)

Carbon sink:

~~"A reservoir (natural or human, in soil, ocean, and plants) where a greenhouse gas, an aerosol or a precursor of a greenhouse gas is stored. Note that~~ **[Japan] the** ~~UNFCCC Article 1.8 refers to a sink as any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere". (IPCC-2018)~~

"Any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere (UNFCCC Article 1.8 (UNFCCC, 1992))." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGIII)

Climate change:

~~"Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: "*a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods*." The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes". (IPCC-2018)~~

"A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/ or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: 'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods'. The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes." (IPCC-2021, AR6-WGI)

Climate risk:

"In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard, or of adaptation or mitigation responses to such a hazard, on lives, livelihoods, health and wellbeing, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Risk results from the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence". (IPCC-2018) **No new definition**

Co-benefits:

~~The positive effects that a policy or measure aimed at one objective might have on other objectives, thereby increasing the total benefits for society or the environment. Co-benefits are often subject to uncertainty and depend on local circumstances and implementation practices, among other factors. Co-benefits are also referred to as ancillary benefits. (IPCC-2018)~~

"A positive effect that a policy or measure aimed at one objective has on another objective, thereby increasing the total benefit to society or the environment. Co-benefits are also referred to as ancillary benefits." (IPCC-2022, AR6-WGII & WGIII)

[Australia: delete entire definition] Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC):

"Common but Differentiated Responsibilities and Respective Capabilities (CBDR–RC) is a key principle in the United Nations Framework Convention on Climate Change (UNFCCC) that recognises the different capabilities and differing responsibilities of individual countries in tacking climate change. The principle of CBDR– RC is embedded in the 1992 UNFCCC **[Japan]**~~treaty~~. The convention states: "… the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions." Since

then, the CBDR-RC principle has guided the UN climate negotiations." (IPCC-2018) **No new definition**

Ecosystem-based Approaches

~~"The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resource". (CBD, COP5 Decision V/6)~~

The ecosystem-based approach "incorporates biodiversity and ecosystem services into an overall adaptation strategy to help people to adapt to the adverse effects of climate change (Convention on Biological Diversity). [It] [u]ses biodiversity and ecosystem services as part of an overall adaptation strategy to help people and communities adapt to the negative effects of climate change at local, national, regional and global levels (United Nations Environment Programme). Any initiative that reduces human vulnerabilities and enhances adaptive capacity in the context of existing or projected climate variability and changes through sustainable management, conservation and restoration of ecosystems (IUCN)." (CBD Technical Series n°85, *Synthesis report on experiences with ecosystem-based approaches to climate change adaptation and disaster risk reduction,* 2016)

Enabling condition:

~~"Conditions that affect the feasibility of adaptation and mitigation options, and can accelerate and scale-up systemic transitions that would limit temperature increase to 1.5°C and enhance capacities of systems and societies to adapt to the associated climate change, while achieving sustainable development, eradicating poverty and reducing inequalities. Enabling conditions include finance, technological innovation, strengthening policy instruments, institutional capacity, multi-level governance, and changes in human behaviour and lifestyles. They also include inclusive processes, attention to power asymmetries and unequal opportunities for development and reconsideration of values". (IPCC-2018).~~

"Conditions that enhance the *feasibility* of *adaptation* and *mitigation* options. Enabling conditions include finance, technological innovation, strengthening policy instruments, *institutional capacity*, *multi-level governance*, and changes in *human behaviour* and lifestyles." (IPCC-2022, AR6-WGII & WGIII)

Exposure:

~~"The presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected". (IPCC-2018)~~

"The presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected." (IPCC-2021, AR6-WGI ; IPCC-2022, AR6-WGII & WGIII)

Extreme weather event:

~~"An extreme weather event is an event that is rare at a particular place and time of year. Definitions of rare vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of a probability density function estimated from observations. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense. When a pattern of extreme weather persists for some time, such as a season, it may be classed as an extreme climate event, especially if it yields an average or total that is itself extreme (e.g., drought or heavy rainfall over a season)". (IPCC-2018)~~

"An event that is rare at a particular place and time of year. Definitions of 'rare' vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of a probability density function estimated from observations. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense." (IPCC-2021, AR6-WGI ; IPCC-2022, AR6-WGII & WGIII)

Land use, Land use change and Forestry (LULUCF):

~~"In the context of national greenhouse gas (GHG) inventories under the UNFCCC, LULUCF is a GHG inventory sector that covers anthropogenic emissions and removals of GHG from carbon pools in managed lands, excluding non-CO2 agricultural emissions." (IPCC-2018)~~

"In the context of national greenhouse gas (GHG) inventories under the United Nations Framework Convention on Climate Change (UNFCCC, 2019), LULUCF is a GHG inventory sector that covers anthropogenic emissions and removals of GHG in managed lands, excluding non-CO2 agricultural emissions. Following the 2006 IPCC Guidelines for National GHG Inventories and their 2019 Refinement, 'anthropogenic' land-related GHG fluxes are defined as all those occurring on 'managed land', that is, 'where human interventions and practices have been applied to perform production, ecological or social functions'. Since managed land may include carbon dioxide (CO2) removals not considered as 'anthropogenic' in some of the scientific literature assessed in this report (e.g., removals associated with CO2 fertilisation and N deposition), the land-related net GHG emission estimates from global models included in this report are not necessarily directly comparable with LULUCF estimates in National GHG Inventories. (IPCC 2006, 2019)." (IPCC-2022, AR6-WGIII)

Land use:

"The total of arrangements, activities and inputs applied to a parcel of land. The term land use is also used in the sense of the social and economic purposes for which land is managed (e.g., grazing, timber extraction, conservation and city dwelling). In national greenhouse gas (GHG) inventories, land use is classified according to the IPCC land-use categories of forest land, cropland, grassland, wetlands, settlements, other lands (see the 2006 IPCC Guidelines for National GHG Inventories and their 2019 Refinement for details (IPCC, 2006, 2019))." (IPCC-2021, AR6-WGI ; IPCC-2022, AR6-WGII & WGIII)

Land-use change (LUC):

"The change from one land use category to another. Note that in some scientific literature, land-use change encompasses changes in land-use categories as well as changes in land management." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Life Cycle Assessment (LCA):

~~A Life Cycle Assessment involves the investigation and evaluation of the environmental impacts of a given product or service, based on the identification of energy and materials inputs and emissions released to the environment. In LCA, the environmental impacts are calculated over the entire lifetime of the product 'from cradle-to-grave' – hence the name 'life cycle'. In the context of carbon mitigation, is used to quantify the emissions of products or services along the supply chain of the product or service.~~

"Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product or service throughout its lifecycle (ISO, 2018)." (IPCC-2022, AR6-WGIII)

Maladaptive actions (Maladaptation):

~~Maladaptive actions (maladaptation) are actions that may lead to increased risk of adverse climate-related outcomes, including increased vulnerability to climate change, or diminished welfare, now or in the future. Maladaptation is usually an unintended consequence.~~

"Actions that may lead to increased risk of adverse climate-related outcomes, including via increased greenhouse gas (GHG) emissions, increased vulnerability to climate change, or diminished welfare, now or in the future. Maladaptation is usually an unintended consequence." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Mitigation:

This report uses the IPCC definition of mitigation: ~~"A human intervention to reduce emissions or enhance the sinks of greenhouse gases". (IPCC 2018)~~**"A human intervention to reduce emissions or enhance the sinks of greenhouse gases" (IPCC-2021, AR6-WGI)**. This is essentially the same sense in which the word was used in the 2007 World Heritage Committee Policy ("Mitigation: an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC)"). Readers should not confuse this usage with the more general sense in which the word 'mitigation' is sometimes used in the heritage context (namely, measures to avoid, prevent, reduce or offset negative effects on Outstanding Universal Value or other values).

Nature-based solutions (NbS):

This report acknowledges that there still does not exist a multilaterally agreed definition on NbS. In the lack thereof, one of the possible definitions might be: "Actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits". (IPBES-2019)

[USA: delete entire definition] Nationally Determined Contributions (NDCs)

"A term used under the United Nations Framework Convention on Climate Change (UNFCCC) whereby a country that has joined the Paris Agreement outlines its plans for reducing its emissions. Some countries' NDCs also address how they will adapt to climate change impacts, and what support they need from, or will provide to, other countries to adopt low-carbon pathways and to build climate resilience. According to Article 4 paragraph 2 of the Paris Agreement, each Party shall prepare, communicate and maintain successive NDCs that it intends to achieve. In the lead up to 21st Conference of the Parties in Paris in 2015, countries submitted Intended Nationally Determined Contributions (INDCs). As countries join the Paris Agreement, unless they decide otherwise, this INDC becomes their first Nationally Determined Contribution (NDC)." (IPCC-2018) **No new definition**

Resilience:

~~"The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation". (IPCC-2018)~~

"The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it maintains capacity for adaptation, learning and/or transformation (Arctic Council, 2016)." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Risk:

"The potential for adverse consequences where something of value is at stake and where the occurrence and degree of an outcome is uncertain". (IPCC-2018)

"The potential for adverse consequences for human or ecological systems, recognizing the diversity of values and objectives associated with such systems. In the context of climate change, risks can arise from potential impacts of climate change as well as human responses to climate change. Relevant adverse consequences include those on lives, livelihoods, health and well-being, economic, social and cultural assets and

investments, infrastructure, services (including ecosystem services), ecosystems and species.

In the context of climate change impacts, risks result from dynamic interactions between climate-related hazards with the exposure and vulnerability of the affected human or ecological system to the hazards. Hazards, exposure and vulnerability may each be subject to uncertainty in terms of magnitude and likelihood of occurrence, and each may change over time and space due to socio-economic changes and human decision-making (see also risk management, adaptation and mitigation).

In the context of climate change responses, risks result from the potential for such responses not achieving the intended objective(s), or from potential trade-offs with, or negative side-effects on, other societal objectives, such as the Sustainable Development Goals (SDGs) (see also risk trade-off). Risks can arise, for example, from uncertainty in implementation, effectiveness or outcomes of climate policy, climate-related investments, technology development or adoption, and system transitions." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Risk assessment:

~~"The qualitative and/or quantitative scientific estimation of risks". (IPCC-2018)~~

"The qualitative and/or quantitative scientific estimation of risks." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Risk management:

~~"Plans, actions, strategies or policies to reduce the likelihood and/or consequences of risks or to respond to consequences". (IPCC-2018)~~

"Plans, actions, strategies or policies to reduce the likelihood and/or magnitude of adverse potential consequences, based on assessed or perceived risks." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Risk transfer:

~~"The process of formally or informally shifting the financial consequences of particular risks from one party to another whereby a household, community, enterprise, or state authority will obtain resources from the other party after a disaster occurs, in exchange for ongoing or compensatory social or financial benefits provided to that other party". (IPCC-2013)~~

"The process of formally or informally shifting the financial consequences of particular risks from one party to another whereby a household, community, enterprise or state authority will obtain resources from the other party after a disaster occurs, in exchange for ongoing or compensatory social or financial benefits provided to that other party." (IPCC-2022, AR6-WGII)

Safeguard:

In the context of the Policy Document, it refers to law, rules, or measures intended to prevent social and environmental systems from being harmed by climate mitigation and/or adaptation actions. **No new definition**

Transformation:

~~A change in the fundamental attributes of natural and human systems. Societal (social) transformation A profound and often deliberate shift initiated by communities toward sustainability, facilitated by changes in individual and collective values and behaviours, and a fairer balance of political, cultural, and institutional power in society. (IPCC-2018)~~

"A change in the fundamental attributes of natural and human systems." (IPCC-2022, AR6-WGII & WGIII)

Transformative change:

~~"A system wide change. This requires more than technological change to consideration of social and economic factors that with technology can bring about rapid change at scale". (IPCC-2018)~~

"A system-wide change that requires more than technological change through consideration of social and economic factors that, with technology, can bring about rapid change at scale." (IPCC-2022, AR6-WGII)

Uncertainty:

~~A state of incomplete knowledge that can result from a lack of information or from disagreement about what is known or even knowable. It may have many types of sources, from imprecision in the data to ambiguously defined concepts or terminology, incomplete understanding of critical processes, or uncertain projections of human behaviour. Uncertainty can therefore be represented by quantitative measures (e.g. a probability density function) or by qualitative statements (e.g. reflecting the judgment of a team of experts). (IPCC-2018)~~

"A state of incomplete knowledge that can result from a lack of information or from disagreement about what is known or even knowable. It may have many types of sources, from imprecision in the data to ambiguously defined concepts or terminology, incomplete understanding of critical processes, or uncertain projections of human behaviour. Uncertainty can therefore be represented by quantitative measures (e.g., a probability density function) or by qualitative statements (e.g., reflecting the judgement of a team of experts) (see Moss and Schneider, 2000; IPCC, 2004; Mastrandrea et al., 2010)." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

Vulnerability:

~~"The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt". (IPCC-2018)~~

"The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt." (IPCC-2021, AR6-WGI; IPCC-2022, AR6-WGII & WGIII)

ANNEX II - AREAS FOR FURTHER FOCUS REGARDING ADAPTATION

Overview

This Policy Document recommends that each State Party implements at national and/or other appropriate levels, all the necessary actions to have in place a comprehensive climate risk management framework that fosters adaptation and resilience building actions, and that are also synergistic, better coordinated with the local, subnational, national and international climate adaptation developments (See World Heritage Climate Action Goals 1 and 2).

100. Adaptation actions should be based on and guided, as appropriate, by traditional knowledge, knowledge of Indigenous Peoples and local knowledge systems. The importance of Indigenous Peoples' and local communities' knowledge for understanding impacts and designing and implementing appropriate adaptation action should be valued and utilised via a participatory process characterised by respect for the diversity of cultural expressions. Traditional methods and systems for preventing, conserving and addressing the negative impacts of climate change on World Heritage properties should be included in relevant climate policies.

101. States Parties are also encouraged to maximising the 'signalling' value and inspirational power of World Heritage properties to showcase effective adaptation practices.

A. Assessing climate risks

102. The Policy Document is inclusive to all hazards that are directly and indirectly attributed to climate change, and related vulnerability factors of the heritage properties (physical, social, economic, institutional, etc.).

103. Climate change will alter the severity, frequency and spatial distribution of many types of climate-related hazards. In consequence, climate risk assessments should be based on predictions of future climate change impacts developed using recent and current observations as proxies for future change, integrated with a range of local climate scenarios (i.e. simulations of the future climate at local level) (see Section II.D.1 above). While these simulations have considerable uncertainty (there are several sources of uncertainty: development patterns of society, population, wealth distribution and GHG emissions levels), current methodologies yield results that are useful to medium term planning and policy making for World Heritage properties.

104. Climate–related hazards also serving as multipliers of pre-existing threats and vulnerabilities, it is increasingly difficult to minimise the exposure of heritage sites to a dangerous climate, and the assessment of heritage-climate vulnerability and implementation of options to reduce it are central to adaptation planning.

105. Responding to the unprecedented and systemic threat of climate change calls for adjustments in all stages of heritage practice. Climate change will require reassessments of many heritage methodologies including inventorying, assessments, documentation and monitoring, impact assessments conservation management planning and risk assessment.

B. Climate risk management

106. Climate risk management incorporates all actions necessary to assess and manage the risks of a changing climate, considering:

- The multiplicity of climate-related hazards, including both rapid and slow onset events:
  - 'Rapid-onset' events are short-lived, acute, intensive, recurrent, highly damaging and uncontrollable. They include extreme winds, hurricanes,

typhoons, storm surge, extreme precipitation, hailstorms, flash Floods, landslides, heat waves, and wildfires. Climate change is expected to increase the frequency and intensity of many of these types of events through much of the world,

- ‘Slow-onset’ events are long-lived, progressive and potentially permanent transitions that are less damaging in the short-term, but which may have profound consequences over the longer-term. They include Glacier melt, Sea Level Rise, acidification, desertification and changes in seasonality and species distribution;

- Differences in exposure of heritage sites to those climate-related hazards;
- How climate-related hazards exacerbate other hazards and stressors, often with negative outcomes for heritage sites;
- The multidimensional factors of climate vulnerability at the human-environment system level (exposure, sensitivity and adaptive capacity) - or the combination of elements that made a heritage site more susceptible to be negatively affected;
- The climate risks (or the combined likelihood and potential negative impacts to World Heritage properties) on attributes bearing the Outstanding Universal Value and local values, and including impacts on the economic, social, health, education, and well-being of associated communities (including effects on social cohesion);[9]
- Options for responding to climate-related risks, with continuing uncertainty about the severity and timing of climate-change impacts and with limits to the effectiveness of adaptation.

107. Climate risk management approaches can benefit from:

- Partnering with relevant organisations, stakeholders and local community groups in field activities to develop and implement adaptation strategies; sharing methodologies and tools, respecting traditional knowledge and methods;
- Pilot test and share good practices at regional, national and international levels to promote climate action at World Heritage properties through knowledge dissemination, networking and coordination;
- Identifying regional (cross-State Party)/thematic actions such as promoting the development of risk and vulnerability maps for regions and sub-regions which overlay climate data and World Heritage property locations and operationalise such initiatives;
- Developing frameworks for the successful negotiation of co-benefits and trade-offs of Climate adaptation and Outstanding Universal Value to identify and avoid potential maladaptation.

108. As it is fundamental to assess climate change impact in the state of conservation of the World Heritage property, new tools may be needed to address climate change preparedness, as well as identifying factors that can become threats that could ultimately impact on the Outstanding Universal Value of the property. World Heritage processes, such as Nomination, Periodic Reporting, Reactive Monitoring, need to be strengthened to support these outcomes, with special attention to the Operational Guidelines.

[9] The 2019 ICOMOS report “*The Future of Our Pasts: Engaging Cultural Heritage in Climate Action*” contains one matrix of climate drivers (e.g. temperature and precipitation changes, climate- influenced wildfires, changes in seasonality, etc) as well as some compounding related stressors (e.g. pollution and ocean acidification) correlated to resulting impacts on six major cultural heritage typologies.

109. The integration of World Heritage within national and regional climate risk management approaches can support all necessary actions to strengthen national and local capacities to manage climate-related risks for heritage, as they can be understood now, and the more complex climate risk expected in the future. Whether dealing with actual potential negative risks and its corresponding impacts or climate-related disaster contexts, or future impacts associated with climate variability, extreme weather events and climate change, the essential challenge is both climate risk reduction and the maintenance (with possibly increase) in human and ecosystem's resilience, including through the valorisation of traditional ecological knowledge.

110. States Parties are encouraged to promote a synergistic implementation of existing international policies and tools from various sectors like SDGs, Sendai framework, biodiversity conventions and agreements, Paris Agreement, New Urban Agenda etc. for a comprehensive approach towards climate adaptation and its mainstreaming on World Heritage processes.

111. Elements of adaptation planning relevant to World Heritage properties can include anticipatory risk management (ensuring that future heritage management reduces rather than increases climate risk), compensatory risk management (actions to mitigate the negative impacts associated with existing climate risk) and reactive climate risk management (ensuring that risk is not reconstructed after climate-related impacts, including disaster events). Moreover, measurers will need to consider both potential impacts on the Outstanding Universal Value of the properties, and, where relevant, the related socio-economic and environmental systems, before decisions are made.

112. At the national level, States Parties to the World Heritage Convention should develop and implement integrated climate risk management strategies, plans and programmes, as these can ultimately increase the coordination among the disparate institutional and administrative mechanisms, projects, human and financial resources currently applied to climate adaptation and disaster risk management.

C. Baseline information

113. Data on climate related hazards, vulnerabilities and risks should be acquired, managed and updated by the responsible agencies and consequently shared with those responsible for managing World Heritage properties. Managers of World Heritage properties must have access to relevant data and modelling, and the capacity to collect and process data so they can build climate risk models.

114. More appropriate adaptation actions can be selected and applied if there is baseline information, that includes:

- A current inventory of not only attributes of Outstanding Universal Value but other relevant cultural and natural values;
- Knowledge of current and projected climate related hazards;
- Understanding key social, physical, economic, environmental, and institutional and factors that all together determine the vulnerability of heritage properties to those hazards;
- Understanding of the potential direct and indirect Impacts (climate risks); and
- Understanding the type of heritage at risk (movable, immovable and intangible).

115. It is essential that heritage managers assess climate risks that adequately inform adaptation. These should be undertaken at macro-scale to gain a broad overview at a regional level, and micro-place level, which tends to be holistic and considers the site-specific dynamics of hazards, vulnerabilities and potential /observed negative impacts.

116. Considering that multiple resources will be required for adaptation activities, heritage property managers need to properly assess the costs, benefits of climate adaptation strategies and, to ensure resources are allocated responsibly.

117. A key complementary method that heritage sites managers can implement, are Adaptation Capacity Assessments. This type of assessment builds on the climate risk assessments and evaluates the existing capacity to address those risks. Depending on the context, it helps to identify gaps and strengths of existing heritage sites management to effectively implement climate adaptation strategies.

118. Recognition of diverse interests, circumstances, social-cultural contexts, and expectations can benefit climate risk based–decision making processes.

D. Damage and loss of Outstanding Universal Value

119. This Policy Document encourages every State Party to do all it can to implement site-based adaptation, to the utmost of its own resources and with any international assistance and co-operation which it may be able to obtain, including efforts of other States Parties to implement a precautionary approach.

120. Although adaptation to a changing climate 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 may not be possible, and in some cases damage to and loss of attributes of Outstanding Universal Value as a result of climate change may still result.

121. Acknowledging that completely preventing all projected impacts of climate change on every World Heritage property may not be possible, the impact of such loss will need to be fully assessed and evaluated by the World Heritage Committee who will need to consider whether Outstanding Universal Value has been completely or partially lost.

122. Strategies to avert, minimise and address damage and loss are crucial to plan for and manage potential loss of attributes of Outstanding Universal Value in World Heritage properties. There exists a range of approaches and instruments to develop damage and loss strategies associated with the impacts of climate change. The challenge is to identify which strategies are more appropriate for World Heritage properties, not only to the type of climate risks but also to the social, environmental, economic, geographical, landscape and institutional context of the properties for which Outstanding Universal Value may be a risk of being irretrievably damaged or lost (see second Guiding Principle in Section I.C).

E. Managing for Resilience

123. Improving adaptive capacity and building climate resilience could be supported by reducing non-climate sources of stress on World Heritage properties. Consideration and management of existing non-climatic pressures should be included in adaptation plans. Doing this acknowledges that climate change will exacerbate existing pressures such as urbanisation, invasive species, pollution and uncontrolled tourisme

124. Management approaches for World Heritage properties should be proactive rather than reactive to allow them to better address the cumulative nature of multiple impacts. Property managers should contemplate immediate actions to address existing pressures, including 'no regret-policy' actions. Doing this has the dual benefit of reducing vulnerability and increasing the resilience of properties to existing non-climate sources of stress, and also reducing their vulnerability to climate change related stresses.

ANNEX III – AREAS FOR FURTHER FOCUS REGARDING MITIGATION

Overview

1. This Policy Document recommends that each State Party implements at national and/or other appropriate levels, all the necessary actions to have in place a comprehensive climate mitigation framework, that fosters synergies, better coordination and enhance effective implementation, of the local, subnational, national and international climate mitigation developments since the adoption of the Paris Agreement (see Section II.B above).
2. Climate mitigation responses of the World Heritage Convention to the threat of climate change should be based on the most recent scientific and political developments, and therefore take advantage of the body of knowledge developed to understand Green House Gas (GHG) emissions in World Heritage properties and the interventions needed to reduce those emissions and effectively decarbonise the Heritage sector (see World Heritage Climate Action Goal 3).
3. Acknowledging that there is significant progress in the international community on the technical frameworks required to accomplish climate mitigation goals, and also taking into consideration the IPCC´s GHG emissions sectors, this Policy Document frames the climate mitigation recommendations in four categories: Built environment, Land use management, Life cycle assessment, and Tourism management (see Section II.D.3 above).

A. Built environment

4. The IPCC 1.5 °C Special Report (2018) makes clear that the built environment, including the entire building and construction supply chain, must decarbonise. In consequence, this Policy Document recognises that mitigation measures for the built environment within World Heritage properties should aim to assess and reduce their carbon footprint, with special attention to demand for electricity and other forms of energy that are required to deliver energy services for buildings.
5. Actions for climate mitigation of the built environment should avoid negative impacts on heritage values and be consistent with the obligations of States Parties under the Convention to preserve the Outstanding Universal Value of properties. Among the options to consider are:
    - Retrofitting of historical buildings to decrease energy consumption where possible, recognising that thermal massing and other features of some traditional building systems are inherently efficient, making wholesale energy retrofitting unnecessary and even wasteful;
    - Using traditional passive measures in historical buildings as strategies to reduce energy consumption;
    - Using Life cycle assessment (LCA) methodologies for the selection of replacement materials requiring less energy to produce, and thus emitting less GHG;
    - Promoting knowledge of the appropriate use of new technologies for the rehabilitation of historical buildings for energy efficiency and to reduce GHG emissions;
    - Guarding against insensitive retrofitting and maladapted mitigation strategies that fail to understand how older buildings ‘behave’ and can degrade traditional climate-friendly features, waste materials and damage heritage values.

6. Considering national circumstances, this Policy Document recommends that States Parties adopt a carbon footprint target for World Heritage properties in connection with the World Heritage Climate Action Goals. This will allow heritage managers to assess in a scientific and robust way progress towards the decarbonisation of the heritage sector.

B. Land-use management

7. IPCC´s 1.5 °C Special Report (2018) and Climate and Land Report (2019) find that limiting global warming to 1.5°C would require rapid and far-reaching transitions in the way countries use land, specifically to minimise emissions associated with land use change.

8. Heritage properties, particularly natural properties, are among those places that can significantly contribute to climate mitigation by: (i) safeguarding the natural carbon sinks; (ii) when feasible, increasing carbon sequestration in natural systems. Such approaches should adhere to strict environmental and social safeguards and consider carbon storage permanence.

9. **[paragraph on hold]** Considering national circumstances, this Policy Document recommends the adoption of **[Venezuela]** ~~two~~ mitigation targets for natural World Heritage properties~~.~~:

   - No net loss of the natural carbon sinks present in World Heritage properties (by 2030): the earth's natural carbon sinks are also places of exceptional importance for biodiversity conservation, and are facing major threats. The carbon stored in those ecosystems is fundamental to achieve the 1.5°C Climate target and should be a priority for natural properties;
   - **[Venezuela: replace as footnote] [Ecuador: keep 'Net'] [USA: delete 'Net']** ~~Net~~ GHG emissions from land use change are reduced to zero (by 2030): IPCC states that it is one of the most important sources of GHG emissions. Consequently, tackling land use change is imperative to address **[Japan]** ~~C~~**c**limate ~~C~~**c**hange.

> *9. Only the text highlighted in grey was discussed during the Panel of experts. In addition, the Panel of experts discussed a proposed addition to this paragraph, which it did not recommend in its final Report. This proposal is therefore not reflected in this document (see Report of the Panel)*

C. Life cycle assessment

10. For the World Heritage sector, another way to assess the different types of GHG emissions is by applying Life cycle assessment (LCA). This is a tool widely used among IPCC reports to assess environmental impacts of a system by accounting for all emissions along the full value chain and over the full life cycle. LCA can investigate and compare the potential carbon footprint of products and services, by understanding the mass and energy flows throughout production, use, and disposal. These flows are then translated into environmental indicators such as greenhouse gas emissions.

11. Utilising the competencies of heritage properties management, LCA methodologies can be used to provide systematic evaluation of the carbon footprint caused throughout the life cycle of products or services from raw material extraction to waste treatment, and to scientifically assess a baseline, and possible carbon reduction targets and future heritage-management practices that support climate mitigation objectives. Where possible, properties are encouraged to conduct environmental analyses of site operations, services, events and exhibitions and identify energy-saving opportunities; to adopt 'green' procurement (energy, waste and water), and to emphasise green products, services and business models.

D. Tourism

12. As one of the world's largest industries, tourism's carbon footprint is an expanding component of global GHG emissions, with tourism to World Heritage properties being a highly visible component.

13. At the same time, World Heritage destinations, if appropriately managed through sustainable tourism strategies, can generate positive economic and social benefits for local communities[10]. Tourism can raise visitors' understanding of different history, cultures and environments and has the potential to promote empathy with communities managing the impacts of climate change on their World Heritage properties. Tourism destinations also have the opportunity of demonstrating and publicising climate impacts and sustainability practices.

14. Among the interaction between climate change and tourism at World Heritage properties, States Parties, in collaboration with World Heritage sites managers and other stakeholders, can undertake the following actions:

- Develop and implement methodologies for monitoring and measuring the GHG emissions caused by tourism at World Heritage properties, including through Life cycle assessment, and identify carbon-saving measures (for example, energy efficient visitor infrastructure);
- Work with the tourism sector at different levels to explore options for determining accountability for carbon mitigation of the GHG emissions associated with the contributing service components of the tourism industry (for example, aviation, hospitality etc.) attributable to World Heritage tourism;
- Consider alternatives for offsetting of GHG emissions associated with tourism at World Heritage properties. It is fundamental that options considered for offsetting (for example certified carbon credits) adhere to strict social and environmental safeguards.

[10] At its 36th session (Saint-Petersburg, 2012), the World Heritage Committee adopted the "World Heritage and Sustainable Tourism Programme" (Decision **36 COM 5E**), which represents a new approach based on dialogue and stakeholder cooperation where planning for tourism and heritage management is integrated at a destination level, the natural and cultural assets are valued and protected, and appropriate tourism developed. See http://whc.unesco.org/en/tourism/

ANNEX IV - AREAS FOR FURTHER FOCUS REGARDING KNOWLEDGE SHARING, CAPACITY BUILDING AND AWARENESS

Drawn from Section I(D)(21) of the 2006 Strategy

1. The importance of education and capacity building for enhancing climate action has been recognised in the 2015 Paris Agreement (Article 12). The World Heritage Convention and its processes also consider these factors as important for the effective management and conservation of World Heritage. Indeed, strengthening of capacity building is important for dealing with effects of climate change as well as for good communication and awareness programmes.

1. The Policy Document therefore draws the attention of all actors of the World Heritage system on the crucial role of knowledge sharing, capacity building and awareness for successful climate actions (see Section II.D.4).

2. Furthermore, World Heritage Climate Action Goal 4 (see Section II.B) highlights that by 2030, States Parties should have developed and implemented activities aimed at improving education, awareness raising, and human and institutional capacity in relation to the risks and responses related to climate change impacts on World Heritage properties, including programmes designed to promote these properties as exemplars of climate action.

3. Mobilizing public and political support for climate action inside and outside World Heritage properties is essential[11]. This has to range from local to regional and global approaches and involve a variety of measures: workshops, exhibitions and expositions, media campaigns, audio-visual material and popular publications which link the global phenomenon of climate change to the local and regional contexts.

A. Global-level actions (World Heritage Convention)

4. At the global level, the Secretariat of the World Heritage Convention (the UNESCO World Heritage Centre) is encouraged to implement knowledge sharing, capacity building and awareness activities, such as:

    - Informing the UNFCCC Secretariat and its Parties of the impacts of climate change on World Heritage in order to include these into their guidelines for national communications;
    - Establishing cooperation with the IPCC Secretariat in order to:
        i) Assess the existing and potential impacts of climate change on World Heritage,
        ii) Identify opportunities to mention issues related to World Heritage in the future Assessment Reports;
    - Ensuring that capacity building activities on climate risk assessments, reporting, adaptation and mitigation strategies are coordinated with the UNESCO World Heritage Centre, the Advisory Bodies, other international organisations and secretariats of other conventions;
    - Overseeing the organisation of international and regional workshops to:

[11] See paragraph 11 of Decision **29 COM 7Ba** (Durban, 2005), by which the World Heritage Committee indicated that “the results about climate change affecting World Heritage properties [should] reach the public at large, in order to mobilize political support for activities against climate change and to safeguard in this way the livelihood of the poorest people of our planet.”

i) Share the knowledge, experience,

ii) Establish networking among States Parties on addressing climate change impacts on World Heritage;

- Taking advantage of the World Heritage global network, develop communication strategies to inform the public and policy makers on climate action for World Heritage properties and build public and political support to address climate change impacts;
- Promoting and sharing good practices on climate action for World Heritage properties among States Parties.

B. State Party-/Property-level actions

5. States Parties and managers of World Heritage properties are encouraged to implement knowledge sharing, capacity building and awareness activities, such as:

- Collecting information and establish national level database on the past and existing impacts of climate change on World Heritage properties;
- Promoting the development of risk and vulnerability maps at national level which overlay climate data and World Heritage property locations;
- Providing information to decision-makers, stakeholders, local communities, users and managers of the properties, and other heritage specialists about the existing and potential impacts of climate change on properties, management responses, possible technical and financial assistance, existing networks and institutions from heritage and climate sectors and various capacity building activities;
- Promoting and sharing of good practices on integrating climate action in conservation and management of World Heritage properties;
- Encouraging managers of World Heritage properties to provide feed-back based on their experience by developing case studies on good practices and lessons learnt and share these with other managers of properties;
- Encouraging academic institutions to share their research on existing and potential impacts of climate change including on social and demographic changes in relation to World Heritage properties. Furthermore, they should promote and encourage interdisciplinary projects and data synthesis to improve links between heritage research fields and other areas of climate science.

6. In addition, World Heritage properties can also support climate science in several ways, including by:

- Using palaeoenvironmental climate data from heritage sites, museums and other curated collections to explore climate trends and shifting climatic baselines;
- Collating and synthesising existing palaeoenvironmental and archaeological data (from heritage sites, museums and other curated collections) to assess past baselines and tipping points of ecological and social change;
- Promoting better understanding of traditional knowledge in design, construction, materials and management practices in the light of climate change and assessing their effectiveness in current context as the basis for developing proposals for adapting them to cope with climate change;
- Researching and documenting current and recent traditional land management and maintenance processes, particularly related to water management techniques and community participation;

- Using archaeological data and other information from heritage places, museums and other curated collections to identify and explore past human impacts on environments over short, medium and long periods and at local, regional and global scales;
- Exploring application of past adaptation and mitigation techniques to climate and landscape change, including agriculture and animal husbandry, architecture and land-use patterns, subsistence strategies, and use of material culture.