



Environment

Climate change adaptation



Global climate change is here and now. Increased droughts, flooding and forest fires are just some of the extreme weather events the world has been facing, and will continue to face, and organizations must prepare and adapt in order to survive.

Loss of life, food and water crises, increased migration and the exacerbation of geopolitical tensions is the toll our planet must pay as a result of rising world temperatures, warns the World Economic Forum (WEF) in its *Global Risk Report 2020*. What's more, worldwide economic stress and damage from natural disasters cost countries a staggering USD 165 billion in 2018, 50 % of which was uninsured. According to the WEF, over two hundred of the world's largest firms now estimate that climate change will cost them a combined total of nearly USD 1 trillion if no action is taken.

The impact of climate change

There is little hope that global temperatures will stop rising. The target set out in the Paris Agreement of November 2016 to limit this rise to well below 2 °C seems unlikely to be achieved. There are similar concerns for its corresponding 17 Sustainable Development Goals (SDGs), the United Nations blueprint for a more prosperous and resilient world. According to the UN Environment's *Emissions Gap Report 2019*, emissions would need to be reduced by 7.6 % every year to limit global temperatures to 1.5 °C by 2030, and countries are not doing enough.

A rise of 1.5 °C will still result in impacts that are deeply felt, but they would be less catastrophic than at a 2 °C threshold. The report notes, for example, that insects, which are essential for the pollination of crops and plants, are likely to lose half their habitat and this probability is twice as high at 2 °C. This rate of temperature increase would also mean a greater likelihood of extreme weather events.

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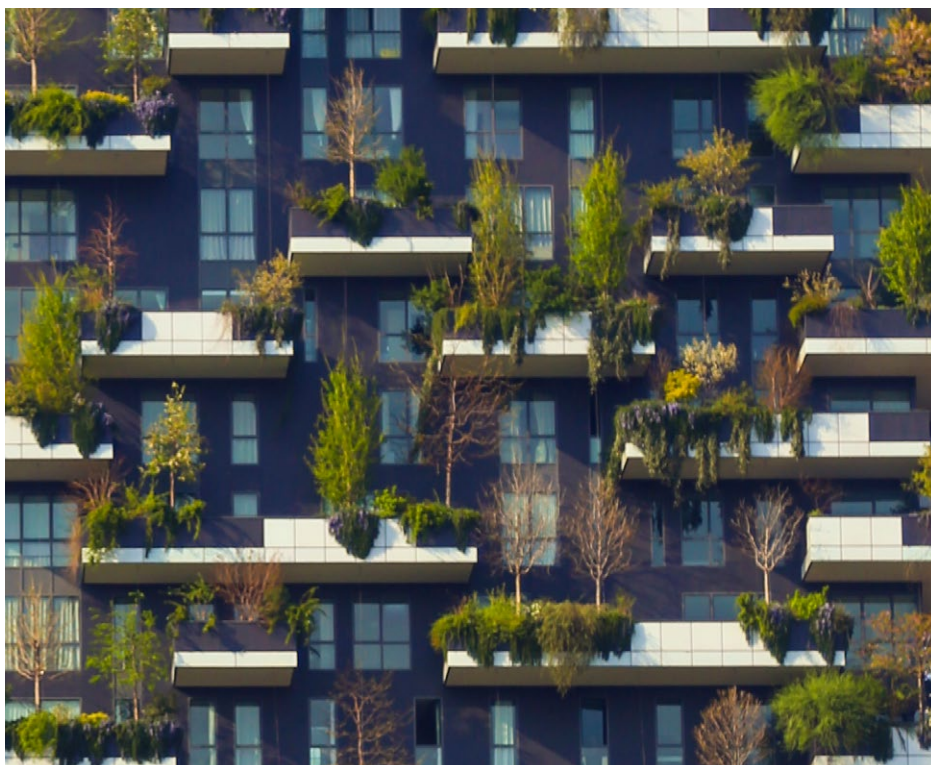
The need to adapt

The WEF report states that the 2020s “need to also be the resilience decade for climate. Concerted action is required not only to reduce emissions, but also to develop credible adaptation strategies, including climate-proofing infrastructure, closing the insurance protection gap and scaling up public and private adaptation finance. This will require governments and businesses to identify and prioritize risks and develop metrics and strategies to manage them”.

But where there are challenges, there are opportunities. Another report led by the University of Oxford shows that efficient infrastructure policy and disciplined investment decisions are vital for attaining the SDGs. It notes that infrastructure systems, for example, can have an impact on the achievement of up to 92 % of all SDG targets and that “the estimated USD 97 trillion of investment in infrastructure that is required globally by 2040 represents a massive opportunity to achieve meaningful progress towards this objective”.

But it's not just about achieving targets for a better world; being resilient and able to adapt to our changing environment also makes good business sense.





What is adaptation?

The United Nations Framework Convention on Climate Change (**UNFCCC**) defines adaptation as “adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change”.

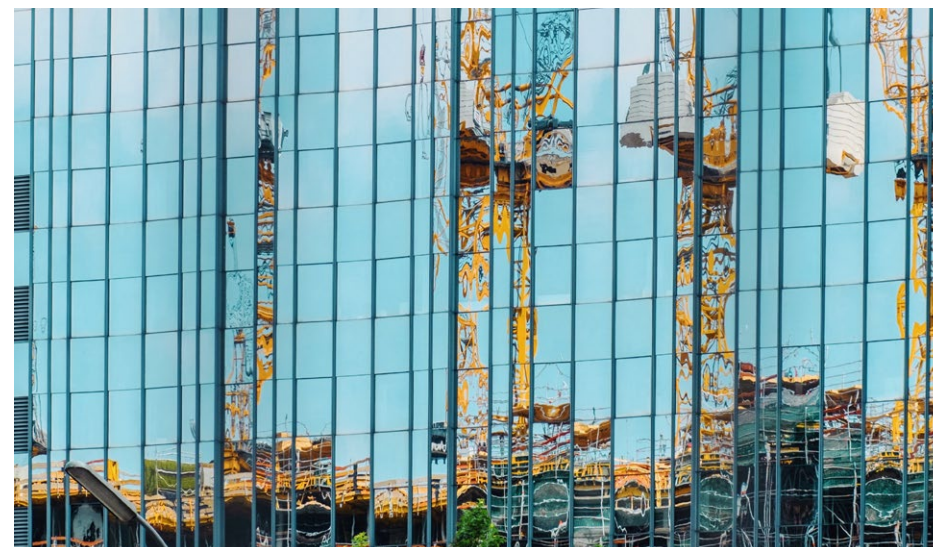
Climate change adaptation measures can be categorized as soft or hard. Soft measures include increasing awareness, incorporating adaptation into company policies, training, developing early warning systems or adopting new insurance policies. Hard measures generally apply to changes to infrastructure such as building dykes to adapt to rising sea levels, making changes to an organization’s product offering or even shifting activities to new locations.

Climate action now

Adaptive measures are essential to the sustainability of our world, but they require effort. As the *Emissions Gap Report 2019* states: “Climate protection and adaptation investments will become a precondition for peace and stability, and will require unprecedented efforts to transform societies, economies, infrastructures and governance institutions.”

Many international agreements have already recognized that adaptation to climate change must go hand in hand with mitigation efforts in order to reduce and effectively manage the risk to our societies. The Paris Agreement set a goal of “enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal”.

ISO/TC 207/SC 7, Greenhouse gas management and related activities, is a subcommittee of ISO/TC 207, Environmental management, and is the hub for the development of standards related to climate change mitigation and adaptation.



To that effect, many national governments and authorities are developing and implementing national adaptation plans (NAPs), which require businesses and industry sectors to report their actions and strategies. The NAP process was established in 2010 as part of the UNFCCC's Cancun Adaptation Framework to complement existing short-term national adaptation programmes of action (NAPAs). It was aimed originally at reducing the vulnerability of developing countries, notably by helping least-developed countries to address adaptation in a coherent and strategic manner.

Some guidance is available to governments such as the UNFCCC's *Annotated guidelines for the preparation of national adaptation programmes of action* and *Technical guidelines for the national adaptation plan process for least-developed countries*. Other tools include the Adaptation Knowledge Portal, which provides comprehensive information and knowledge resources on climate change adaptation. However, many other types of organization could also greatly benefit from guidance that is tailored to their needs and situation.

ISO has responded to this need by developing International Standards that provide a high-level framework for adaptation along with supporting guidelines that are suitable for public, private and community-level organizations. They are designed to help organizations prioritize and develop effective, efficient and deliverable measures tailored to the specific climate change challenges that they face. The guidance includes giving organizations the means to better understand how current and future climate conditions could affect them, and put in place operational and management strategies that enable them to respond, both in the present and over time, to climatic challenges.



The main purpose of such standards is to provide organizations with a consistent, structured and pragmatic approach to prevent or mitigate the harm caused by climate change, whilst taking advantage of available opportunities. This prompts organizations to give appropriate consideration to climate change adaptation when designing, implementing, improving and updating policies, strategies, plans and activities.

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ISO standards for adaptation

ISO 14090, *Adaptation to climate change – Principles, requirements and guidelines*, is the world's first International Standard on climate adaptation. It focuses on integrating adaptation within or across organizations by helping to understand the impacts and uncertainties of climate change and how these can be used to inform decisions. It is applicable to any organization, regardless of size, type and nature, including local, regional and international businesses and administrations. The standard, which offers a robust framework for adaptation planning, is complemented by new additions in the ISO 1409x series that provide more detail on specific areas.

The suite of documents includes:

- **ISO 14091**, *Adaptation to climate change – Guidelines on vulnerability, impacts and risk assessment*, which provides guidance on assessing the risks related to climate change impacts. Its use is aimed at reducing vulnerability by addressing medium- and long-term adaptation needs and will help all organizations to improve their understanding of system vulnerabilities and how critical these vulnerabilities might be to their operations.
- **ISO/TS¹ 14092**, *Adaptation to climate change – Requirements and guidance on adaptation planning for local governments and communities*, which offers specific guidance for local authorities. It sets out a structured approach using impact assessment (for which ISO 14091 gives the detail) to define an organization's climate vulnerability and adaptive capacity locally and to support the relevant national adaptation plan. Fundamentals include monitoring and evaluating the implementation of the plan, the involvement of stakeholders, documentation, and iteratively updating existing adaptation plans and policies.
- **ISO 14093**, *Mechanism for financing local adaptation to climate change – Performance-based climate resilience grants – Requirements and guidelines*, which establishes a methodology for a country-based mechanism that helps channel climate finance to subnational authorities. Its goal is to support adaptation to climate change and increase local resilience.

¹ TS: technical specification





In addition, **ISO 14080**, *Greenhouse gas management and related activities – Framework and principles for methodologies on climate actions*, assists organizations in identifying, assessing, developing and managing methodologies on climate action. This includes adaptation to the impacts of climate change and greenhouse gas mitigation in support of sustainability. Such actions can be used by or for projects, organizations, jurisdictions, economic sectors, technologies and products, policies, programmes and non-government activities.

These documents are intended to be used alongside other organizational priorities, by carrying out all climate change adaptation activities in parallel with, or integrated with, climate change mitigation activities and other sustainability and business practices. Furthermore, their use can demonstrate to interested parties that an organization's approach to climate change adaptation is credible.

The ISO 1409x series is relevant for individuals and organizations involved in the fields of purchasing, investment and insurance when attempting to understand another organization's climate change adaptations. Designed to help organizations develop measures and report on adaptation activity in a verifiable way, it can also be of immense value to development banks and investors seeking assurance that projects will be climate-resilient throughout their life cycle.

ISO's climate adaptation standards and related documents are purposely designed to be non-linear; as a result, they can be applied to any organization, whether it is already engaged in adaptation activities or not. Work is currently underway to develop future adaptation standards that fill gaps in urgent and strategic priority areas such as enhancing adaptive capacity, tackling vulnerable sectors, helping investors make sustainable climate-resilient choices, and providing a form of accreditation to adaptation practitioners.

About ISO

ISO (International Organization for Standardization) is an independent, non-governmental international organization with a membership of 166* national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market-relevant International Standards that support innovation and provide solutions to global challenges.

ISO has published more than 24 000* International Standards and related documents covering almost every industry, from technology to food safety, to agriculture and healthcare.

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