OVERVIEW

Addressing resilience building and disaster risk reduction, when curtailing climate change mitigation priorities, is a vital necessity. The COVID-19 crisis has been a reality check for the need to strengthen the resilience of our societal systems in the face of unpredictable and complex risk. The socio-economic impacts of the pandemic crisis added to existing stresses and shocks linked to climate change. Forest fires, large-scale floods, storms, heatwaves and scorching droughts are being exacerbated by climate change and are affecting areas all over Europe, exposing regions to hazards not traditionally prepared for such risks.

Through the European Commission’s proposed COVID-19 recovery instrument, Next Generation EU, the EU aims to build a more sustainable, resilient and fairer future through substantial investments in the twin green and digital transitions. The European Green Deal has a key role to play in this planned recovery strategy. This report considers how the European Green Deal, with the additional stimulus provided under Next Generation EU, can accelerate the shift towards preventive rather than reactive measures in the face of growing and new risks triggered by the climate emergency, through the necessity of long-term risk avoidance in near-term policy and investment cycles. This is essential to ensure a more resilient Europe.

Building on the European Commission’s Green Deal and certain initiatives reinforced under Next Generation EU, the report provides a set of recommendations to a number of key political initiatives, with particular attention to the policy integration of disaster risk reduction as well as the European Commission’s intention to adopt a more ambitious EU strategy on adaptation to climate change.
The adoption in 2015 of landmark UN agreements such as the Sendai Framework for Disaster Risk Reduction 2015-2030, the Sustainable Development Goals and the Paris Agreement have created a significant opportunity to build coherence across overlapping policy areas. The issues of resilience and climate risk are common themes.

Sustainable development cannot be attained without putting disaster risk reduction (DRR) and climate resilience at its very core.

The Sendai Framework for Disaster Risk Reduction represents a shift towards more holistic forms of policy-making: the emphasis has moved from managing disasters to managing disaster risk, aimed at preventing and reducing the chance of disasters happening through integrating DRR and resilience building across a broad spectrum of policy areas.

The Sendai Framework aims to strengthen DRR policies under seven targets, to be achieved by 2030:

**SUBSTANTIALLY REDUCE**

A. Substantially reduce global disaster mortality

B. Substantially reduce the number of affected people

C. Reduce direct economic loss in relation to global GDP

D. Substantially reduce disaster damage to critical infrastructure and disruption of basic services

E. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020

F. Substantially enhance international cooperation to developing countries

G. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk reduction information assessments

**SUBSTANTIALLY INCREASE**

RISK AND RESILIENCE AT THE HEART OF SUSTAINABLE DEVELOPMENT

The adoption in 2015 of landmark UN agreements such as the Sendai Framework for Disaster Risk Reduction 2015-2030, the Sustainable Development Goals and the Paris Agreement have created a significant opportunity to build coherence across overlapping policy areas. The issues of resilience and climate risk are common themes.
Key Recommendations for a Resilient European Green Deal

1. Risk informed approach to connected policies
   Policies under the European Green Deal must integrate risk reduction measures targeting climate hazards – this includes the Farm to Fork, Forestry and Biodiversity Strategies.

2. Integrating climate change adaptation and disaster risk reduction
   The EU Strategy on Climate Change Adaptation should strive to support European, national and local adaptation plans as frameworks for practical integration of disaster risk reduction and resilience agendas.

3. Invest to ensure infrastructure resilience
   The European Green Deal needs to ensure resilience of infrastructure to climate-related disasters by strengthening regulations, fostering PPPs and enforcing risk assessments.

4. Supportive and risk-informed sustainable Financing
   An ambitious European Green Deal should lay the ground for a risk-informed sustainable Finance strategy.

5. Strengthened climate and disaster risk reduction measures in the programming of Neighbourhood, Development and International Cooperation Instrument
   Resilience building, DRR and preparedness should be mainstreamed into the NDICI and pre-emptive DRR investment at government and community level should be increased.

6. Accurate costing of action and inaction through robust data and modelling
   The Green Deal should ensure that countries develop and use historical disaster loss data systems and generate impact scenarios targeting key economic sectors.

7. Make cities resilient
   The Green Deal should expand its support to local governments and secure their commitment to local resilience.

8. Increased focus on capacity development
   For the Green Deal to reach its intended outcome, focus and resources need to be extended in a strategic approach to build the capacity of various stakeholders.
While the European Commission has proven a leading actor in the climate and resilience agendas, which efforts towards implementation of the European Green Deal can build on, next steps will require fundamentally improved and integrated ways of working, including new values, new approaches and new levels of awareness of the scale, scope and urgency of responding to climate change through adaptation, mitigation, DRR and resilience measures among all EU policymakers.

Next Generation EU confirms that protecting and restoring biodiversity and natural ecosystems is key to boosting Europe’s resilience and preventing the emergence and spread of future outbreaks. By integrating resilience measures in a broad spectrum of policy domains, the root causes of potential climate risk can be systematically targeted. This will also provide opportunities to redirect human and financial resources that would otherwise have been required for recovery and response measures.

**EU Biodiversity Strategy**

The EU Biodiversity Strategy for 2030 released by the European Commission points to the need to address climate and environmental risk, through disaster prevention, including through a focus on ‘Nature-Based Solutions’ in its political and investment priorities.

In line with the Sendai Framework for Disaster Risk Reduction, the roll out of the EU Biodiversity Strategy should focus EU and Member States’ efforts to “strengthen the sustainable use and management of ecosystems and implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction”.

Widespread biodiversity loss thus still persists, and negatively impacts many functions delivered by ecosystems. With projected changes in the climate, along with other land-use and marine pressures, it is evident that actions based on current conditions are problematic as future conditions will likely be markedly different (e.g. increased frequency of extreme weather and climate events, and human-induced pressures). Europe is already facing an expanding forest fire season, which constitutes a growing threat to biodiversity of forest ecosystems. There is a sense of urgency for the EU to act decisively to address current shortcomings.

**Disaster Risk and Food Insecurity**

There are direct and indirect links between disaster risks and food insecurity, especially with climate risk which threatens the food value chain from source (farm and fisheries) to access and consumption. Already today, millions of European citizens live in food insecurity. Projections of more extreme and frequent weather and climate events, along with a growing population, shrinking natural resources and vanishing biodiversity, will aggravate this situation. Hence, food insecurity and insecurity need particular attention within the European Green Deal.

The integration of adaptation and resilience measures within the ‘Farm to Fork’ strategy for sustainable food released by the European Commission are critical to realizing the intended benefits of that strategy and to contribute to the triple dividend in this regard. Increased emphasis within the Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP) on climate resilience and adaptation, especially in more vulnerable areas, can be an effective and relatively low-cost way to prevent and mitigate loss and damage that frequently affects food security in Europe and negatively affects income levels of farmers. At the same time, such measures can increase productivity, even in the absence of such hazards. The CAP and CFP under the new multi-annual framework should ensure robust attention to the measurement of agricultural and fishery losses and damages incurred by disasters. Furthermore, it should encourage the collection and reporting of disaggregated loss data by Member States in informing the roll out of these policies.

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**ACTION**

**Policies under the European Green Deal must integrate risk reduction measures targeting climate hazards – targeting the Biodiversity, Farm to Fork and Forestry Strategies.**

More specifically, the European Commission should pay due consideration in its roll out of the adopted Biodiversity Strategy to measures that consider how habitats and landscapes can be managed to improve ecological resilience and sustain ecosystem functioning in the context of a changing climate.

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**1. RISK-INFORMED APPROACH TO CONNECTED POLICIES**

**Policies under the European Green Deal must integrate risk reduction measures targeting climate hazards – targeting the Biodiversity, Farm to Fork and Forestry Strategies.**
EU Forestry Strategy

In order to reduce the incidence and extent of forest fires, preventive measures are needed to improve the effectiveness of fire management efforts, as well as to maintain and enhance forest resilience and adaptive capacity.

Sustainable forestry management, combined with a reduction of deforestation and forest degradation, can contribute to reducing the negative impacts of multiple stressors, including climate change, on ecosystems and societies.

The Council Conclusions of 2019 on the implementation of the Forestry Strategy rightly notes the importance of forests and forestry management in addressing major environmental challenges as a contribution to an integrated implementation of the 2030 Agenda for Sustainable Development.

The severity of the climate crisis is impacting the capacity of forests to adapt to a changing climate. The risk of climate extreme events such as storms, forest fires, as well as pest and diseases, is increasing. Ambitious action on adaptation and risk reduction needs in the forestry sector needs to be at the heart of a revised EU Forestry Strategy.

The Strategy should pay particular attention on measures integrating fire ecology principles into fire management, forest strategies and policies; equally, the Strategy should aim to promote alliances, collaboration and knowledge exchange dedicated to resilience building and forest management practices.
2. INTEGRATING DISASTER RISK REDUCTION AND CLIMATE ADAPTATION

The European Green Deal, which is intricately linked to the EU’s recovery plan, should be an opportunity for the EU to ‘lead by example’, by embedding and integrating climate action and risk reduction at the centre of its governance.

The European Green Deal arguably illustrates the highest level of political commitment to a policy integration agenda ever proposed by the European Commission. It sets an overarching framework to which all EU actions and policies must contribute. Within the European Commission’s recovery proposal, Next Generation EU, the European Green Deal is presented as a vital instrument to ensuring the EU’s sustainable recovery.

The implementation of the European Green Deal relies on ‘intense coordination’, coherence, and integration, not only horizontally across policy sectors of public and private decision-making, but also vertically across all levels of governance.

As a critical dimension of reinforcing risk reduction and resilience to climate risk, DRR and resilience should be centrally integrated into the forthcoming ‘ambitious EU strategy on adaptation’, including the need for relevant and easily accessible data that will ensure that climate change can be effectively integrated into risk management practices.

**ACTION**

The revision of the EU Strategy on Climate Change Adaptation should strive to support European, national and local resilience plans as frameworks for practical integration of disaster risk reduction and climate adaptation agendas. A set of concrete recommendations has been tabled as part of the preparatory and consultation process.
3. ENSURING RESILIENT INFRASTRUCTURE

In line with the European Green Deal’s renovation wave, reflected in the Next Generation EU, focus needs to be placed on resilience of infrastructure to climate-related disasters by strengthening regulations, fostering PPPs and enforcing risk assessments.

The European Green Deal mentions a massive renovation wave on smart infrastructure and green infrastructure. Natural hazards and climate change affect infrastructure by destroying or damaging assets, placing human populations at risk, increasing operation and maintenance costs, and reducing revenues and socioeconomic benefits (the wider benefits to the economy). This then reduces the financial and economic performance of investments in infrastructure. The EU estimates that climate change-related damage to infrastructure could grow tenfold under a business-as-usual scenario. If infrastructure is made more resilient, these impacts can be reduced.

In the context of the energy sector specifically, the evaluation of the Trans-European Network – Energy and the review of the State Aid guidelines under the European Green Deal, especially, should include a full and thorough integration of risk and resilience in their elaboration. This shift requires investors, operators and decision makers to make sure that disaster and climate risks are considered in the location, design, construction, and operation of planned infrastructure investments.

The various programmes, instruments and measures strengthened under Next Generation EU can go a long way in addressing the needs to building a resilient infrastructure to absorb future climate-related disasters. For example, the funding that will be provided to the new Recovery and Resilience Facility of Next Generation EU would be instrumental in encouraging Member States to invest in measures that can ensure resilience of infrastructure to climate-related disasters. By building back better, Member States would prevent future risks. All European financial instruments should undergo a robust screening process to ensure that investments are resilient to future disaster and climate risk. It would be critical to include these requirement in investment guidelines when planning to strengthen new infrastructure for transport, energy, health, etc.

UNDRR would equally recommend for the European Commission to engage in the Coalition for Disaster Resilient Infrastructure (CDRI), an international partnership that supports countries to develop and build climate and disaster resilient infrastructure.

**Coalition for Disaster Resilient Infrastructure (CDRI)**

The Coalition for Disaster Resilient Infrastructure (CDRI), launched in 2019 under the leadership of Government of India and with the engagement of UNDRR, is envisaged as a knowledge, exchange and capacity development partnership that will bring together national level governments, private sector, academia, multilateral development banks, and UN agencies as key stakeholders. CDRI will play the role of a knowledge, innovation and institutional development platform that connects global resources with regional and sectoral demands for infrastructure resilience.

**ACTION**

To assist countries in upgrading their capacities, standards, regulations and practices with regards to infrastructure development in accordance with their risk context and their economic needs, the European Green Deal needs to engage in meaningful alliances and invest in options that generate co-benefits.
4. ENSURING RISK-INFORMED SUSTAINABLE FINANCING

Risks from climate change and disasters caused by natural hazards pose a systemic threat to the financial system due to a lack of transparency and awareness in the marketplace. In connected markets, investments tend to flow to locations that offer comparative advantages, such as low labour costs, access to export markets, infrastructures and stability. However, investment decisions rarely take into account the level of risk exposure in those locations, and opportunities for short-term profits continue to outweigh concerns about sustainability. Consequently, large volumes of private capital continue to flow into hazard-prone areas, leading to significant increases in the value of exposed economic assets.

Europe plans to significantly scale up levels of public (pillar 1) and private (pillar 2) investment through instruments under Next Generation EU, including through European Green Deal initiatives. However, to achieve resilience to disaster and climate risk these public and private investments must be defined by quality as well as quantity and must be based on a data-driven assessment of risk. This would be an important element for the European Commission to consider in the EU sustainable finance taxonomy, the Renewed Sustainable Finance Strategy, and the new initiative on sustainable corporate governance.

**ACTION**

An ambitious European Green Deal and well-defined investment instruments must lay the ground for a risk-informed sustainable finance strategy, which ensures to:

- **strengthen** the impact of adaptation strategies and plans by embedding them with public and private investment decision-making;
- **undertake** increased efforts within Europe to withdrawal of credit from activities, sectors or communities which are exposed to physical climate risks and natural hazards;
- **supplement** the sustainable investment taxonomy with a resilience component to discourage financing that increases climate risk or causes maladaptation;
- **explicitly** requiring institutional investors and asset managers, as well as company directors, to integrate disaster risk reduction, climate change adaptation and resilience into their decisions.
- **enforce** a ‘Think Resilience’ test to make disaster risk reduction, climate change adaptation and resilience a baseline requirement for all European finance instruments.
5. LEADING GLOBALLY ON CLIMATE ACTION AND RESILIENCE

Resilience building, DRR and preparedness should be mainstreamed into the NDICI and pre-emptive DRR investment at government and community level should be increased.

As part of the EU’s long-term budget for 2021-2027, the Neighbourhood, Development and International Co-operation Instrument (NDICI) was created to streamline all external action financing through one instrument. NDICI is to be the EU’s main financial tool to contribute to eradicating poverty and promoting sustainable development, prosperity, peace and stability.

As climate change and environmental degradation lead to recurring crises, they need to be tackled structurally through development programming, rather than through protracted or recurring humanitarian interventions. The EU has taken steps to develop a nexus approach between development and humanitarian aid to support climate resilience. However, more focus should be placed on disaster as well as climate resilience across the pillars of NDICI. In addition, the current policy setup for the programming and implementation of development assistance is lacking flexibility. Increased contingency financing and short-term flexibility are crucial elements for resilience building and a credible nexus-approach.

6. COSTING THE PRICE OF (IN)ACTION

Preventive action to minimize losses and damages incurred by climate disasters should be one of the cornerstones in the roll out of European Green Deal.

To achieve its Green Deal ambitions and reach its climate and energy targets by 2030, the European Commission estimates the need for new annual investments to reach up to €260 billion.

At the same time, the Commission notes that its own estimates on the costs of implementing the 2030 climate and energy targets are conservative, and that they do not account for the costs of inaction. Cost estimates in meeting 2030 climate and energy targets therefore must take into account the costs of inaction.

As part of the digital recovery plans under Next Generation EU, there is mention of making the EU a real data economy. It identifies the need for common European data spaces in key sectors and areas, including the implementation of the European Green Deal. Decisions to address climate change require robust data, statistics, scenarios that are accurate, disaggregated, people-centred and accessible. Countries must be supported in the elaboration of institutional structures for data collection, using relevant and interoperable formats. This risk knowledge basis must be then analysed and systematically integrated into risk assessments, decision and investment making processes.

Most countries, particularly many of those most at risk, do not have the localised and disaggregated data nor an understanding of current and future risk, and potential impact on their economic growth. UNDRR is already supporting a large number of countries in facilitating the sustainable implementation of DesInventar Sendai, the UN disaster loss data collection system. This approach or a similar one, bringing the same value and results would be extended to all countries, irrespective of their level of development.

To improve understanding of complex risk and concatenating vulnerabilities in disaster environments, UNDRR through its Global Risk Assessment Framework, supports countries across the globe to better understand positive, negative, direct, indirect, intended, unintended, short- and long-term systems impacts and consequences to prevent risk creation, manage and reduce existing risk, including systemic risk generating from changing climate.
7. MAKE CITIES RESILIENT

The world is increasingly urban, and so the Green Deal has to ensure that cities become more resilient to changing climate scenarios.

Developing urban resilience is the subject of a global effort and is enshrined in several global and regional processes— all of which recognize the importance to create inclusive, safe, resilient and sustainable human settlements. But cities across the globe are challenged by increasing disaster and climate risk. Local governments are both responsible for planning to alleviate risk and are the first responders when disaster strikes.

The Paris Agreement also proposes a role for local governments. It welcomes the efforts of cities and local authorities, and invites them to “scale up their efforts and support actions to reduce emissions and/or to build resilience and decrease vulnerability to the adverse effects of climate change and demonstrate these efforts.”

The United Nation’s Making Cities Resilient Campaign (MCR2030) and the Covenant of Mayors for Climate and Energy are the main conduit for the United Nations and EU respectively to support cities address disaster resilience and climate-change adaptation.

United Nations Making Cities Resilient Campaign

Over the past ten years, the Making Cities Resilient Campaign (the MCR Campaign), led by the United Nations Office for Disaster Risk Reduction (UNDRR) and delivered together with partners, has advocated around the need for local government authorities to reduce risk and develop urban resilience. To date more than 4,300 cities have become part of the MCR Campaign, demonstrating increased commitment to take actions to ensure the safety and well-being of citizens from disasters and crisis. Within an aim to support 20,000 cities by 2030 the primary objectives of the MCR Campaign and its programme include:

- Increase city understanding of risk;
- Increase city capacities to plan for risk reduction and resilience;
- Increase city capacities to implement resilience actions and reduce risks;

• Increase vertical links with the national governments and horizontal links amongst local partners, mainstreaming resilience throughout and between partners, functions and services, and foster city-to-city partnerships and sharing of experience.

The campaign in the last 10 years, has developed multiple standards and tools that are designed to serve local governments in achieving resilience while adapting to the changing environment. Peer review mechanism, such as the EU/ECHO funded USCORE2 Action, developed for cities by cities to assess the current situation and identify actions that will further improve a city’s approach to resilience.

EU Civil Protection legislation advocates that member states share good practice and help each other to identify where additional effort is needed to reduce risks stemming from climate hazards. Practical translation of this includes cities conducting better risk assessments and developing action plans.

ACTIONS

The Green Deal, and Next Generation EU in a broader sense, should expand support to local governments and secure their commitment to local resilience;

- Investments need to be redirected to ensure local resilience strategies are put in place that generate cost-effective and sustainable implementation.
- Encourage Peer review of local civil protection mechanisms through an independent/ transparent assessment, adding clear value to building local and national resilience.
8. INVESTING IN CAPACITY DEVELOPMENT

As the frequency and intensity of climate induced disasters increase, the capacity of civil protection agencies, local governments and communities including the most vulnerable is challenged.

The implementation of the European Green Deal, especially as a key programme to build back better following the COVID-19 crisis, will remain the primary responsibility of the state; as such, national authorities will have to play a role in facilitating the priorities and sharing these responsibilities with other stakeholders and realizing an all-of-society approach.

Capacity development is a central strategy for building resilience and adapting to the changing environment. Understanding capabilities required for effectively implementing disaster risk reduction at national and local levels is needed to build and maintain the ability of people, organizations and societies to manage their risks successfully themselves. This relies not only on training and specialized technical assistance, but also the strengthening of the capacities of communities and individuals to recognize and reduce risks in their localities. It also includes sustainable technology transfer, information exchange, network development, management skills, professional linkages and other resources. Capacity development needs to be sustained through institutions that support capacity-building and capacity maintenance as permanent ongoing objectives.

The need for investing in research for policy integration

In order to further strengthen integrated action for sustainability, the EU also needs to lead on research for innovative policy solutions.

Under Next Generation EU an upgrade for Horizon Europe is foreseen to increase European support for health, resilience and climate-related research and innovation activities. The Horizon Europe research programme is a unique opportunity, as it could provide research and innovation investments on analysing EU policy and governance structures and on assessing the effective implementation of EU policy priorities, including those related to achieving the SDGs, Paris Agreement and Sendai Framework for Disaster Risk Reduction.

In addition, this will also require aligning and pooling national research and innovation efforts along with Horizon Europe, to make better use of Europe’s research and development resources in order to tackle climate challenges more effectively and urgently (European Council, 2019).

In this latter area, there is a need for further engaging scientific communities at different levels, such as the European Science and Technology Advisory Group for Disaster Risk Reduction. Stronger dialogue with scientists, including social sciences, will contribute to step up transnational cooperation to deliver on the EU’s strategic priorities and global challenges. By mobilizing and unleashing their potential to tackle these challenges, multidisciplinary and collaborative research programmes and projects can resolve questions about effective integration of DRR and resilience in policy and governance.

ACTION

For the Green Deal to reach its intended outcome, focus and resources need to be extended in a strategic approach to build the capacity of various stakeholders.

For that, the priority action areas would be

- **Developing** and strengthening resilience and adaptation fundamentals, while stress testing capabilities for risk reduction and resilience in addressing complex risk such as the COVID-19 crisis;
- **Develop** required technical skills through training and long-term technical education. These capacity-building efforts would be carried out on a continuing basis;
- **Strengthen** institutional arrangements by providing essential resources and mandates for supporting resilience and adaptation work;
- **Identify targets** in capacity within subsequent years and work towards them, while using short-term training only as a stop-gap measure.
CONCLUSION

Intensifying extremes as a result of climate change pose a growing threat to European populations, economies, and undermine human health, well-being and sustainable development. **Climate change mitigation is required to reduce these risks in the long-term, but it is already crucial for public and private actors to deal with the existing impacts of climate change.** To achieve this, disaster risk reduction, and resilience building need to be urgently and further integrated into the core of decision-making and governance structures. The European Green Deal is a crucial opportunity in this regard. Integrated preventive actions and risk-informed policies, funds, strategies and investments within the EU and member states represent a key that cannot be left out. This is critical for the EU to build a resilient future.

With the European Green Deal as the backbone of Next Generation EU, the EU has the opportunity to take the lead on climate action globally. This objective goes along with enhanced efforts to reduce risk and increase resilience.

In particular, the European Green Deal provides impetus by (1) risk informed approach to connected policies (2) systematic integration of disaster risk reduction measures in upcoming strategies (3) supportive and risk-informed sustainable financing (4) building and investing in resilient infrastructure (5) strengthened climate and disaster risk reduction measures in the programming of external actions (6) accurate costing of action and inaction through robust data and modeling (7) ensuring cities are more resilient and (8) investing in capacity development.