

# CLIMATE ACTION PATHWAY

# **LAND USE**

Action Table

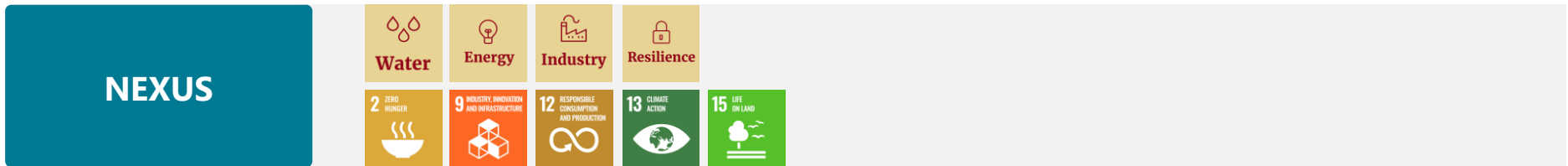
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November 2019

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# LAND DEGRADATION AND DEFORESTATION STOPPED, AND WORLD'S LANDSCAPES RESTORED

Mitigation  
Adaptation



Policies (national, subnational and local)	By 2020	By 2030	By 2050
	<ul style="list-style-type: none"> <li>Establish new protective measures for standing natural forests and accelerate implementation of REDD+ strategies to reduce deforestation and forest degradation and conserve and enhance forest carbon stocks.</li> <li>Commit to restore 150 million hectares of degraded and deforested lands in biomes around the world, landscapes and forests and demonstrate progress.</li> <li>Strengthen forest governance frameworks and law enforcement and enhance integrated landscape planning.</li> </ul>	<ul style="list-style-type: none"> <li>End natural forest loss and forest degradation.</li> <li>Increase the area of global landscape restoration to at least an additional 200 million hectares.</li> <li>Ensure forest and land-use governance frameworks are in place in countries, jurisdictions and indigenous territories to promote integrated and sustainable land management.</li> <li>Update NDCs to include forest-related, nature-based solutions and progressively increased ambition.</li> </ul>	<ul style="list-style-type: none"> <li>Stop land degradation and increase areas under sustainable land management.</li> <li>Develop supportive cross-sectoral institutional, legal and regulatory frameworks to implement landscape restoration and forest conservation.</li> <li>Maintain and improve ecological integrity of all remaining natural forests and terrestrial ecosystems (wild areas) of the world, avoid further fragmentation and restore ecological connections where areas have been fragmented.</li> </ul>



- Clarify and formalize indigenous and local community forest tenure and rights, recognizing their role in protecting forests.
- Maximize the role of forest-related nature-based solutions for enhancing nationally determined contributions (NDCs) and their implementation.
- Set out a commonly applied monitoring structure, baseline and indicators of progress.

## Finance and Investment

- Increase number of investment funds for the design and implementation of projects focused on restoration and forest conservation/management at landscape scale.
- Remove governmental barriers and establish an enabling environment for financing and investment in forests, including through scaled-up incentives for reduced deforestation and increased restoration.
- Significantly increase climate finance allocated to the forest and land use sector in order to accelerate implementation of national REDD+ strategies, restoration and national adaptation plans.
- Scaled up ambitious public-private partnerships and finance for increased agricultural productivity aligned with forest protection and restoration.
- Improved access of developing countries to the climate finance.
- Improve access of developing countries to the post-2020 financial mechanisms of the UNFCCC.
- Ensure countries have in place national investment frameworks to channel multiple sources of investments and results-based payments.
- Ensure sustainable commodity production is applied globally and no-deforestation production is achieved.
- Improve supply chain transparency, procurement policies and commodity certification.
- Establish clear compliance mechanisms to ensure that investors and lenders do not support unsustainable forest and land-use practices or loss of biodiversity.
- Secure climate finance for the implementation of forest and land-use targets within enhanced NDCs.
- Ensure natural capital is quantified and considered as part of national budgets for policy implementation.
- Align financial priorities and investments across sectors with the protection of standing natural forests, reforestation and landscape restoration.

<h2>Technology and Innovation</h2>	<ul style="list-style-type: none"> <li>▪ Increase the use of new technologies for land-use monitoring and national forest inventories.</li> <li>▪ Build capacity and access to technology to stem illegal logging operations, increase transparency and strengthen governance.</li> <li>▪ Facilitate implementation of open access tools for monitoring forests and land use to carry out rapid, reliable and transparent assessments.</li> <li>▪ Invest in developing in-country capacity through sharing technological know-how aimed at the development of restoration strategies and quantification of estimated climate change benefits and co-benefits (e.g. biodiversity).</li> <li>▪ Ensure open access tools for monitoring forests and land use to carry out rapid, reliable and transparent assessments can be widely used by developing countries.</li> <li>▪ Ensure monitoring tools and new technologies are used by policy makers and investors to inform sustainable forest and land-use decisions.</li> </ul>
<h2>Civil Society</h2>	<ul style="list-style-type: none"> <li>▪ Raise awareness of forest conservation, including primary forests, land restoration and sustainable land management, and their importance for climate change mitigation and adaptation.</li> <li>▪ Facilitate the flow of information, capacity-building and partnerships to accelerate forest conservation, land restoration and sustainable land management.</li> <li>▪ Assist in the establishment and implementation of inclusive frameworks for public-private-civil society action that maintains the integrity and advances the goals of the Paris Agreement, and support those stakeholders who most need it (indigenous peoples and local communities).</li> <li>▪ Develop sufficient capacities through partnerships by sharing best practices and knowledge, notably through collaborative initiatives under the NAZCA Platform.</li> <li>▪ Support and facilitate high-impact action at all levels, building on wealth of knowledge, information and capacity generated to date, targeting gaps and bottlenecks that could limit the achievement of the goals of the Paris Agreement</li> </ul>



## EXISTING INITIATIVES

<b><u>New York Declaration on Forests</u></b>	Ten goals, including to halve the loss of natural forests globally by 2020, end forest loss by 2030 and remove commodity-driven deforestation from all supply chains by 2020.	▶
<b><u>Bonn Challenge</u></b>	Restore 150 million hectares of the world's deforested and degraded lands by 2020 and 250 million hectares by 2030.	▶
<b><u>Balikpapan Statement</u></b>	Launched by the Governors' Climate and Forests Task Force, the Balikpapan Statement is a partnership of 35 states and provinces from nine countries committed to reducing tropical deforestation.	▶
<b><u>Central African Forest initiative</u></b>	Fight climate change, protect forests, reduce poverty and contribute to sustainable development in Central Africa.	▶
<b><u>Africa Palm Oil Initiative of the Tropical Forest Alliance 2020</u></b>	Public-private partnership that supports the transition of the palm oil sector from a driver of deforestation to a driver of long-term, low-carbon development in the West/Central Africa region.	▶
<b><u>Protection of 400 M hectares of forest by indigenous peoples</u></b>	Protect and sustainably manage 400 million hectares of forests in the Amazon, Central America, the Congo Basin and Indonesia.	▶
<b><u>Zero-deforestation commitments</u></b>	Eliminate deforestation from the production of agricultural commodities by 2020.	▶
<b><u>Action Network on Alternative Agriculture</u></b>	Provide evidence of the importance of traditional and indigenous knowledge to effectively adapt agriculture, forests and food systems to the effects of a changing climate.	▶
<b><u>Friends of Ecosystem-based Adaptation</u></b>	Informal network of organizations that promote collaboration and knowledge-sharing on ecosystem-based adaptation (EbA) through joint events and initiatives, as well as develop position papers and technical documents on EbA.	▶
<b><u>UN Climate Resilience Initiative A2R</u></b>	Promote three key capacities for climate resilience as a common frame for climate resilience in the United Nations system and to help its partners to understand and manage climate risks and hazards at scale	▶

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# TRANSITION TO LOW CARBON, RESILIENT AND SUSTAINABLE FOOD SYSTEMS ACHIEVED

Mitigation  
Adaptation



Policies (national, subnational and local)	By 2020	By 2030	By 2050
	<ul style="list-style-type: none"> <li>Build national and local capacities to upscale ambition and implement NDC commitments in agricultural sectors.</li> <li>Promote policies addressing demand-side measures to incentivize deforestation-free commodities in producing and consuming countries.</li> <li>Enhance policies to secure private sector investment in sustainable agriculture and food systems.</li> <li>Develop the capacity to test and deploy improved and locally adapted crops and locally adapted animal breeds to help smallholder farmers become resilient and adapt to climate change.</li> </ul>	<ul style="list-style-type: none"> <li>Develop supportive cross-sectoral institutional, legal and regulatory frameworks for coherent policies in land use sectors, assuring food security and sustainable natural resource management.</li> <li>Assure implementation of policies, strategies and programmes supporting the diversification of more resilient and sustainable agriculture and food systems.</li> <li>Ensure agriculture subsidies are aligned with the country's sustainable agriculture and forest management practices and integrated landscape planning.</li> </ul>	<ul style="list-style-type: none"> <li>Develop policies that transform food systems to be not only sustainable but also regenerative, with the creation of a circular economy and adoption of climate smart practices.</li> <li>Ensure sustainable natural resource bases for agricultural production, particularly for smallholder farmers.</li> </ul>



<h2>Finance and Investment</h2>	<ul style="list-style-type: none"> <li>Set aside the necessary financial means to mainstream climate change considerations into agriculture, forestry and fisheries and provide the basis to shift to sustainable agriculture development.</li> <li>Provide access and assure effective use of international financing options for the long-term transition to sustainable, climate-smart and resilient food and agriculture systems.</li> </ul>	<ul style="list-style-type: none"> <li>Increase investment for sustainable, low-carbon, zero-deforestation, zero-degradation agriculture, agroforestry, and sustainable management of forests.</li> </ul>	<ul style="list-style-type: none"> <li>Assure equal access to climate finance for all in food and agriculture systems.</li> </ul>
<h2>Technology and Innovation</h2>	<ul style="list-style-type: none"> <li>Improve synthetic fertilizer production and efficiency.</li> <li>Provide access to tools for land-use monitoring systems and mobile technologies for smallholder farmers to carry out rapid, reliable and transparent assessments of climate change risks and impacts.</li> <li>Support country capacity to implement programmes to assess the socioeconomic and institutional parameters required for successful adoption of new technologies by smallholder farmers and herders and to promote the enabling conditions for climate-resilient and climate-smart agriculture transformation.</li> <li>Improving the evidence base on agroecology and ecosystem-based approaches at regional and global levels</li> </ul>	<ul style="list-style-type: none"> <li>Improve synthetic fertilizer production and efficiency and reduce emissions by ~180 million tons of carbon dioxide (Mt CO<sub>2</sub>) per year.</li> <li>Develop climate-informed services for farmers.</li> <li>Upscale climate-resilient and low-emission practices and technologies.</li> <li>Increase knowledge base/capacity on agroecology, including through promotion of South-South/triangular cooperation that connects demands of support with existing expertise.</li> <li>Develop technical guidance on the implementation of existing international instruments* in relation to agroecology.</li> </ul>	<ul style="list-style-type: none"> <li>Improve synthetic fertilizer production and efficiency and reduce emissions by ~200 Mt CO<sub>2</sub> per year.</li> </ul>
<h2>Business and Services</h2>	<ul style="list-style-type: none"> <li>Enhance access for smallholder farmers/forest dwellers to land use-related and sustainable value chains.</li> <li>Establish more tripartite frameworks for joint action by private, public and civil society action to help smallholder farmers,</li> </ul>	<ul style="list-style-type: none"> <li>Reduce emissions from livestock (enteric fermentation and manure) by 20 per cent.</li> <li>Reduce emissions from rice paddies by 20 per cent.</li> <li>Increase soil and pasture carbon sequestration ~200 Mt CO<sub>2</sub> per year.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce emissions from livestock (enteric fermentation and manure) by 30 per cent.</li> <li>Reduce emissions from rice paddies by 70 per cent.</li> <li>Increase soil and pasture carbon sequestration by ~600 Mt CO<sub>2</sub> per year.</li> </ul>



	<p>pastoralists and foresters adapt to climate change.</p> <ul style="list-style-type: none"> <li>Promote integrated agriculture, forest and other land uses by leveraging existing information and guidance on integrated approaches to harness protective ecosystem services in multiple use landscapes, as a contribution to disaster risk reduction.</li> </ul>	<ul style="list-style-type: none"> <li>Reshape supply chains, food retail, marketing and procurement.</li> <li>Increase the use of renewable energy in agri-food chains.</li> <li>Support extension services and consolidate close working relations with research institutes to accelerate technology field testing.</li> </ul>	<ul style="list-style-type: none"> <li>Sustainably improve agricultural productivity to feed the growing population.</li> <li>Ensure sustainable natural resource bases for agricultural production, particularly for smallholder farmers.</li> </ul>
<p><b>Civil Society</b></p>	<ul style="list-style-type: none"> <li>Raise awareness of healthy, nutritious and climate-smart diets.</li> <li>Reduce food loss and waste by 20 per cent.</li> <li>Increase the use of locally produced products in diets.</li> </ul>	<ul style="list-style-type: none"> <li>Shift to more healthy and balanced diets while reducing animal protein consumption to reduce CO<sub>2</sub> emissions by ~300 Mt.</li> <li>Reduce food losses and waste in upper and middle income countries by 30 per cent.</li> </ul>	<ul style="list-style-type: none"> <li>Shift to more healthy and balanced diets while reducing animal protein consumption to reduce CO<sub>2</sub> emission by ~500 Mt.</li> <li>Reduce food losses and waste in upper and middle income countries by 50 per cent.</li> </ul>

## EXISTING INITIATIVES

<p><b><u>Climakers</u></b></p>	<p>Farmers Driven Climate Agenda.</p>
<p><b><u>Think Eat Save</u></b></p>	<p>Harmonization of measurements and tools to assess food loss and waste (SDG 12.3).</p>
<p><b><u>Global Alliance for Climate-Smart Agriculture</u></b></p>	<p>Inclusive, voluntary and action-oriented multi-stakeholder platform on Climate-Smart Agriculture.</p>
<p><b><u>SAVE FOOD</u></b></p>	<p>Fight against global food waste and loss.</p>





**One Planet Network: Sustainable Food Systems**

Strengthen adaptation actions in the basins of rivers, lakes, aquifers, large wetlands as well as coastal areas.

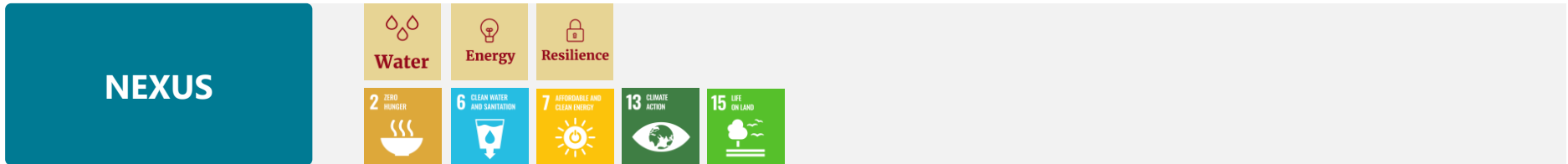
**EXISTING INITIATIVES AND FURTHER RESOURCES:**

<b><u>One Planet Network: Sustainable Food Systems.</u></b>	<b><u>The International Code of Conduct for the sustainable use and management of fertilizers</u></b>
<b><u>One Planet Summit, Commitment 2: Protecting land and water against climate change (actions 2 and 3)</u></b>	<b><u>Agroecology knowledge hub</u></b>
<b><u>Transforming food systems under climate change</u></b>	<b><u>4per1000</u></b>



# LAND USE-WATER-ENERGY NEXUS FULLY INTEGRATED

Mitigation  
Adaptation



Policies (national, subnational and local)	By 2020	By 2030	By 2050
	<ul style="list-style-type: none"> <li>Upscale collaboration between three sectors in order to develop more system-based policies (i.e. covering the water-energy-food nexus) instead of sector-based policies.</li> <li>Enact energy policies with ambitious targets that enable the sustainable use of fuelwood and the transition to renewable energy.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure post-2020 NDCs demonstrate integrated approaches to meeting resilient mitigation, adaptation and other social and environmental goals that can be disseminated and scaled.</li> <li>Put in place legal and institutional frameworks for cross-sectoral policies and sectoral policy alignment.</li> <li>Instill changes in policies and fiscal measures in order to promote the use of renewables, thus decoupling from fuelwood and other forest and land-based sources of energy.</li> </ul>	



<h2>Finance and Investment</h2>	<ul style="list-style-type: none"> <li>Scale up innovative financial schemes to reduce upfront costs for the suppliers and especially for users of energy and water.</li> <li>Facilitate commitment by investors, international financial institutions, philanthropy and impact investors to provide technical assistance and finance to scale up funding for clean and affordable energy that will reduce the pressure on forests.</li> <li>Promote cost-efficiency gains by aligning financial flows of cross-sectoral interventions between the land-use water, and energy sectors.</li> </ul>
<h2>Technology and Innovation</h2>	<ul style="list-style-type: none"> <li>Raise awareness and provide training on land-use-water-energy nexus-related technologies.</li> <li>Further improve tools to promote the use of and access to land-use monitoring systems and mobile technologies for farmers.</li> <li>Provide support to countries for agricultural technology development through research and field testing.</li> </ul>
<h2>Business and Services</h2>	<ul style="list-style-type: none"> <li>Raise awareness of benefits of cross-sectoral collaboration.</li> <li>Increase knowledge of available solutions and technologies.</li> <li>Strengthen a multi-sector and multi-stakeholder dialogue towards more integrated approaches.</li> </ul>
<h2>Civil Society</h2>	<ul style="list-style-type: none"> <li>Build capacities of implementers through partnerships and organizations by sharing best practices and knowledge, notably through collaborative initiatives under the NAZCA Platform.</li> </ul>



## EXISTING INITIATIVES


<b><u>2019 Technical Expert Meeting on mitigation</u></b>	Provides policy options and impact analyses for decision making.	▶
<b><u>International Association of Public Transport - Declaration on Climate Leadership</u></b>	Support for doubling the market share of public transport by 2025. Cities and manufacturers to adopt innovative clean bus technologies.	▶
<b><u>Transforming Urban Mobility Initiative</u></b>	Accelerate the implementation of sustainable urban transport (strengthen adaptation actions in the basins of rivers, lakes, aquifers, large wetlands as well as coastal areas).	▶

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# CITIES ARE GREEN

Mitigation  
Adaptation

**NEXUS**



Policies (national, subnational and local)	By 2020	By 2030	By 2050
	<ul style="list-style-type: none"> <li>Establish and improve policies, plans and ordinances to increase urban tree canopies, expand urban green spaces and increase the utilization of green infrastructure.</li> <li>Ensure that new urban green spaces are designed to provide a variety of municipal benefits, including increased habitat for biodiversity, increased space for recreation, reduced effects of the urban heat island effect, and improved water management, among other benefits.</li> <li>Maximize the use of nature-based solutions within city boundaries to improve climate mitigation and adaptation.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that urban green infrastructure is given equal weight as traditional built infrastructure with regard to city planning and city investments.</li> <li>Enhance advanced capital planning amongst city agencies to increase scale and impact of urban green infrastructure.</li> <li>Monitor, quantify and incorporate the carbon benefits of urban tree canopies and other vegetation into NDC commitments and progress.</li> <li>Ensure that total urban green spaces are equally distributed across residential neighborhoods, especially in underserved low-income communities.</li> </ul>	<ul style="list-style-type: none"> <li>Connect urban green spaces to create green corridors across the city, offering landscape-level impacts such as increased habitat, increased space for recreation, reduced effects of urban heat island effect, and improved water management, among other benefits.</li> <li>Ensure that the quality of urban green space is maintained across different neighborhoods, including biodiversity and ecological function.</li> <li>End food insecurity among urban communities through a variety of food-centered policies, including urban farming.</li> </ul>

**Urban Green Spaces**

- Streamline policies that support the Sustainable Development Goals (SDGs) and NDCs to ensure greater alignment and contribution towards common goals, especially related to the suite of benefits that nature-based solutions can offer cities and their residents.
- Strengthen inclusiveness of city planning and implementation by ensuring that new urban green spaces engage, involve and are accessible to low-income and underserved communities.
- Address food insecurity among urban communities by incorporating urban farming and community gardening into city planning.
- Develop robust strategies to ensure that urban green spaces are managed sustainably, maintaining ecological function and structure while meeting the needs of urban residents.

**Finance and Investment**

- Increase public and private sector investments in green spaces, urban canopy, green infrastructure and other nature-based solutions.
- Strengthen ability of cities to issue green bonds and other innovative financial mechanisms to increase financial investments in green areas.
- Create and fund a city-oriented project preparatory facility to increase the deployment of nature-based solutions in urban areas.
- Generate multiple revenue streams from benefits such as improved stormwater migration and increased carbon sequestration on individual urban green infrastructure projects.
- Secure climate finance for urban “greening” for cities in order to implement land-use targets within enhanced NDCs.
- Ensure that public and private financial investments in city planning, infrastructure and operations incorporate green spaces, green infrastructure and other nature-based solutions.

**Technology and Innovation**

- Increase the use of tools such as iTree to better quantify the benefits of urban tree canopy and urban green infrastructure.
- Promote the use of technology for data collection on resident engagement, such as through citizen science.
- Increase the use of satellite imagery to support cities in creating land-use
- Increase the use of satellite imagery and related quantification tools to help cities include urban green areas in their greenhouse gas baselines, NDC targets and other climate ambitions.
- Improve monitoring capability to allow city planners to trace the ecological and social
- Ensure that monitoring tools and new technologies are used by city planning officials, policy makers and investors to inform urban land-use decisions and adaptively manage a changing climate.
- Promote technologies such as crowd-sourcing and participatory planning to

	<p>inventories, managing urban green spaces, and measuring progress toward municipal green infrastructure goals.</p>	<p>benefits from green spaces and green infrastructure.</p> <ul style="list-style-type: none"> <li>▪ Develop and promote platforms that encourage participatory planning, illuminate local needs, and engage stakeholders when planning urban natural areas and green spaces.</li> </ul>	<p>make community engagement the norm in green space planning.</p> <ul style="list-style-type: none"> <li>▪ Employ models that support planning, predicting and managing multiple benefits, such as carbon sequestration, climate change adaptation, and other co-benefits, such as increased habitat for biodiversity and improved water quality.</li> </ul>
<p><b>Business and Services</b></p>	<ul style="list-style-type: none"> <li>▪ Increase cross-agency collaboration to ensure that city agencies are working toward joint implementation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create public-private partnerships across sectors to allow for increased integration of green spaces, green infrastructure and nature-based solutions.</li> <li>▪ Engage private landowners, who often manage urban trees and green spaces, as land stewards and actors in city-wide implementation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure a broad set of partners is coordinated as they implement city urban planning with increased green spaces.</li> </ul>
<p><b>Civil Society</b></p>	<ul style="list-style-type: none"> <li>▪ Raise awareness of the importance of green infrastructure for climate mitigation and adaptation, SDGs and NDCs, as well as local goals to improve recreation access, lower the heat island effect and better manage storm water.</li> <li>▪ Raise awareness of the importance of nature and green spaces within the city for the mental and physical health of people of all ages.</li> <li>▪ Facilitate the flow of information, build capacity and create partnerships to accelerate the implementation of urban green spaces, green infrastructure and nature-based solutions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assist in the establishment and implementation of inclusive frameworks for public-private-civil society action that maintains the integrity and advances the goals of the Paris Agreement, and support traditionally underserved communities.</li> <li>▪ Connect city planners with local organizations such as neighborhood coalitions, urban river councils and local civil society groups to increase inclusivity and drive equitable long-term planning.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Engage residents as stewards of green spaces and natural areas through participatory planning that speaks to local needs, empowerment and local governance.</li> <li>▪ Raise awareness of the importance of ecological health for delivering benefits.</li> </ul>



## EXISTING INITIATIVES

<b><u>Cities4Forests</u></b>	Provides guidance and support for 60 cities worldwide to invest in their inner forests (such as city trees, urban natural areas and green infrastructure), as well as nearby and faraway forests.	▶
<b><u>Great Green Wall for Cities</u></b>	Provides support to three cities in each of 30 countries across Africa and Asia with the goal of creating 500,000 hectares of new urban forests and restoring or maintaining 300,000 hectares of existing natural forests in the Sahel and Central Asia by 2030.	▶
<b><u>C40</u></b>	A mayoral coalition of 94 of the world's greatest cities who are taking bold climate action and leading the way towards a healthier and more sustainable future.	▶
<b><u>ICLEI (Local Governments for Sustainability)</u></b>	A global network of more than 1,750 local and regional governments committed to sustainable urban development.	▶
<b><u>Vibrant City Labs</u></b>	A joint project of the U.S. Forest Service, American Forests and the National Association of Regional Councils, which merges the latest research with best practices for implementing green infrastructure projects.	▶

## FURTHER RESOURCES AVAILABLE

<b><u>Urban Forestry Toolkit (Vibrant Cities Lab)</u></b>	<b><u>iTree Tools</u></b>
<b><u>Integrating Green and Gray (World Resources Institute &amp; World Bank)</u></b>	<b><u>Inclusive Community Engagement (C40 &amp; Arup)</u></b>