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CLIMATE CHANGE AND GOVERNANCE: OPPORTUNITIES AND RESPONSIBILITIES

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This *Governance Note* explains why climate change is a governance issue. It describes the development challenge that climate change poses and the policy response. It outlines the role of institutions in tackling climate change and key entry points for the governance practice.

CLIMATE CHANGE IMPACTS

Anthropogenic emissions of greenhouse gases are causing increases in global average temperatures. Without intervention global temperatures could rise by as much as 4°C by end of the century. This would have catastrophic consequences. Significant changes in climate and weather patterns are expected even if we succeed in curtailing the increase in temperatures to less than 2°C. Climate change will increase the frequency and intensity of heatwaves, droughts, and storms. It will shift seasonal weather patterns. Temperatures will rise everywhere but more so in the northern latitudes. Some areas will become wetter, others drier. Climate change will impact on ecosystems: destroying some, rendering others less productive. Small island economies and countries in the tropics will be worst affected. Climate change will lead to a rise in sea levels putting most of the world's largest cities at risk. Climate change will push an additional 100 million people into poverty by 2030. Many of those affected will have to relocate, moving to cities and to more productive areas. Deteriorating living standards and migration may fuel conflict.

CLIMATE CHANGE AND GOVERNANCE FAILURES

Government action on climate change is hampered by a series of governance failures. An understanding of these governance failures is critical for the design of policy and institutional interventions to address the challenge of climate change.

Tragedy of the commons. Climate change is an externality. Those that generate greenhouse emissions as producers and consumers do not bear the cost of the damage they cause and so have no incentive to reduce emissions.

Differential impacts. Adverse impacts will not be shared equally. Vulnerability to climate change is closely linked to poverty. Climate change also entails significant inter-generational transfers. Today's emissions will remain in the atmosphere for decades affecting future generations who have no voice in today's policies.

Extended time frame. Discounting leads decision-makers to give less consideration to adverse consequences far into the future. Climate change requires us to look beyond the typical planning horizon and the electoral cycle. This poses a problem of credible commitment. It is uncertain that future governments will continue today's policies no matter how enlightened they may be.

Uncertainty. Decision making is hampered by a cascade of uncertainties: how climate change will affect future climatic conditions; how climatic conditions will impact on ecosystems; and how people will respond to changes in ecosystems. Our decision-making methods assume that today's environment is a good guide to the future. This is no longer true.

Unclear accountability. Government action on climate change is hampered by unclear institutional mandates, multiple actors, and horizontal and vertical coordination challenges.

Perceived trade-offs. Finally, investment in climate change action is often perceived as a trade-off with investments that generate more immediate benefits. This need not be the case. The response to climate change can create new economic opportunities.

CLIMATE CHANGE MITIGATION

Mitigation is action to limit the magnitude and rate of long-term global warming. The Intergovernmental Panel on Climate Change (IPCC) estimates that a 20 percent absolute reduction in CO_2 emissions is needed by 2030 to maintain a pathway limiting global warming to 2°C and a 40% absolute reduction in emissions is needed maintain a pathway to 1.5°C. If we are to meet these targets, the world will need to move to a near zero carbon economy in the years to 2030. Decarbonization requires the elimination of fossil fuels from much of the world's electricity generation, industry and transport, the reversal of deforestation and adoption of sustainable agricultural practices.

Climate change mitigation requires reductions in human emissions of greenhouse gases and protection of carbon sinks, such as forests, soils and natural landscapes. Mitigation is largely about creating incentives for economic actors – households, businesses, public sector – to change technology, production and consumption so that they reduce greenhouse gas emissions. Governments have three key instruments.

Carbon Pricing. An important first step is the elimination of fossil fuel subsidies. Carbon taxes can ensure that the full economic cost of greenhouse gas emissions is reflected in fuel prices. Local measures such as congestion charging in cities can reduce vehicle emissions. Carbon pricing can also entail payments to economic actors that reduce emissions by, for instance, maintaining forests that sequester carbon.

Regulation. Regulation guides the behavior of economic actors by, for instance, setting energy efficiency standards for appliances, requiring companies to blend renewable and fossil fuels, curtailing deforestation and mandating land use practices that reduce emissions.

Expenditure. The public sector can investment in low and zero-emission technologies and infrastructure. Financial incentives can be used encourage private investment in technologies and practices that reduce emissions.

CLIMATE CHANGE ADAPTATION

Adaptation is action to prevent or minimize adverse climate change impacts by strengthening the resilience of households, businesses, public sector and their capability to take advantage of opportunities that may arise. Given that significant climate change impacts are inevitable, adaptation should be integral to all government policies and programs.

Vulnerability assessment and awareness raising. Government is best placed to assess risks arising from climate change and their temporal, spatial, social and economic impacts. Communicating this information to government officials, the private sector and households helps them make informed decisions about how to deal with future climate change impacts and take these risks into account in their decision-making.

Soft Adaptation. Soft adaptation uses natural systems, changes in behavior, financial instruments and investments in low impact technologies to adapt to climate change risks. Examples include the use of coastal vegetation to reduce the impact of flooding, changes in cropping patterns to adapt to changes in seasonal rainfall and promoting the purchase of insurance to help manage weather-related risks. Soft adaptation often requires action by households and businesses and typically has low up-front and long-term costs for the public sector. Investments in well-being, education and skills and the creation of new economic opportunities help build households' resilience to climate change by empowering them to respond flexibly to a changing environment.

Hard Adaptation. Engineers can design technical solutions to address some climate change impacts, such as construction of dams and dykes to address increased flood risks and irrigation schemes to adapt to reduced seasonal rainfall. Hard adaptation typically requires significant upfront investment by government. Such investments require careful appraisal of costs, benefits and the risks inherent in long-term public investment plans (see Box 1).

Box 1: Avoiding Stranded Assets and Lock-ins

Decisions taken today will determine development pathways far into the future. Infrastructure – power plants, roads, urban areas, irrigation schemes, flood defenses – is typically designed to have an operating life of many decades. Failure to take climate change into account will undermine the long-term viability of these investments, increase vulnerabilities to climate change and hinder future climate change adaptation and mitigation.

Stranded assets are investments that become unviable because of changes in the operating environment, policy or market conditions. Irrigation schemes become stranded when their water source dries up. Coal-fired power plants become stranded when tightened emissions standards force their closure.

Policies and public investments can lock-in households and businesses into economic activity that limits their flexibility and increases vulnerability. Authorization of new coal-fired power plants locks in high levels of emissions for decades to come. Construction of a dyke will encourage households and businesses to invest, work and live in the protected area, leaving them exposed to extreme events and discouraging them from seeking alternatives.

CLIMATE CHANGE INSTITUTIONS AND GOVERNANCE

At the 2015 Paris Climate Change Conference countries agreed to submit commitments on Nationally Determined Contributions for climate change mitigation and adaptation action post-2020. As of March 2019, 183 of 189 states parties had submitted their first NDCs. NDCs are voluntary commitments to transform development trajectories so that they set the world on a course towards sustainable development, aimed at limiting warming to 1.5 to 2°C above pre-industrial levels. NDCs reflect each country's ambition for reducing emissions, taking into account their domestic circumstances and capabilities. Parties also agreed to strengthen their ability to adapt to the adverse impacts of climate change and foster climate resilience.

Countries have typically assigned institutional responsibility for the formulation of NDCs and national climate change strategies to ministries of environment or specialized climate change agencies. Most countries now have climate change mitigation and adaptation strategies. A few countries have sought to strengthen the credibility of emission reduction commitments by enacting legislation. The United Kingdom's 2008 Climate Change Act, for instance, commits future governments to a phased reduction in emissions to 80 percent below a 1990 baseline by 2050 and puts in place independent review arrangements to monitor compliance.

Often it has proved difficult to integrate climate change strategies and commitments into the core planning instruments that drive government action. As a result, implementation of climate change strategies has fallen short of expectations and inadequate attention has been given to adaptation. Recognizing the short-comings of the current institutional arrangements, António Guterres, UN Secretary General, called for "a new framework that integrates climate and disaster risk in all aspects of finance, planning and budgeting" at the Bali Annual Meetings in 2018. In April 2019, Ministries of Finance signed up to the Helsinki Principles committing themselves to playing an active role in formulating, resourcing and implementing climate change policies and plans (see Box 2).

Box 2: Helsinki Principles

We, as Finance Ministers from around the world …. Hereby establish a Coalition of Finance Ministers to demonstrate our leadership in the response to climate change, wherein we will operate within our national framework, competencies, and mandate to support the following principles:

Principle 1. Align our policies and practices with the Paris Agreement commitments.

Principle 2. Share our experience and expertise with each other in order to provide mutual encouragement and promote collective understanding of policies and practices for climate action.

Principle 3. Work towards measures that result in effective carbon pricing.

Principle 4. Take climate change into account in macroeconomic policy, fiscal planning, budgeting, public investment management, and procurement practices.

Principle 5. Mobilize private sources of climate finance by facilitating investments and the development of a financial sector which supports climate mitigation and adaptation.

Principle 6. Engage actively in the preparation and implementation of ambitious Nationally Determined Contributions submitted under the Paris Agreement.

Ministries of Planning and Finance can ensure that government agencies take climate change into account by putting in place a climate-smart public financial management and planning framework.

Climate Change Planning. Ministries of Planning and Finance will need to integrate climate change impacts and the fiscal impacts of climate policies in macro-economic models, fiscal risk assessments, fiscal plans and budgets. Ministries of Planning and Finance will also play a critical role in ensuring that Nationally Determined Contributions and climate action plans reflect resource constraints.

Policy Analysis. Ministries of Planning and Finance can assess, monitor and report on climate change impacts of public expenditures using tools such as expenditure reviews and expenditure tagging. Policy analysis helps government understand the climate impacts of public policies and informs expenditure plans and budgets.

Public Investment Management. All public sector projects should take climate change impacts into account, seeking to minimize adverse impacts on climate through mitigation and minimize adverse climate impacts through adaptation. This requires careful appraisal. Appraisal techniques should integrate the direct and social costs of climate change and build in flexibility to respond to the uncertain impacts of climate change.

Carbon Pricing. Carbon pricing increases the cost of activities that have detrimental impact on climate. Ministries of Planning and Finance can take account of these impacts in their decision-making by applying a shadow price for carbon in policy and project appraisal. They can influence the energy choices of households and businesses by eliminating fossil fuel subsidies and introducing carbon taxes.

Public Procurement. Green procurement takes in the account the social cost of products and works over their lifetime by factoring in the cost of environmental damage. Green procurement can help create demand for green products because the public sector is usually the single largest consumer in an economy.

Risk Management. Climate change – in particular, the increasing intensity of weather-related disasters – poses a significant long-term risk to public finances and should be taken into account when determining fiscal policy (see Box 3 on page 4).

Inter-Governmental Fiscal Relations. Local governments are important actors in climate change mitigation and adaptation. Well-designed inter-governmental fiscal transfers provide incentives for local governments to undertake mitigation and adaptation actions. Transfers and regulations can also be used to tackle moral hazards: the temptation for local authorities to sit back and wait for central government to deal with climate change risks in their jurisdiction.

Mobilization of Climate Finance. Governments have an interest in maximizing their country's access to concessional climate change finance from multi-lateral and bilateral sources. The World Bank finances Development Policy Operations that support mitigation and adaptation. Governments can also mobilize financing from markets on attractive terms by issuing Green Bonds that commit them to implementing climate change policies.

Box 3: Disaster Resilient Government

The financial cost of natural disasters has increased steadily over the last forty years. This trend due to two factors: first, the growth of populations and economic activity in areas that are vulnerable to natural disasters, notably coastal and riverine urban areas; and second, an increase in the intensity of weather-related events such as storms and floods.

Disasters pose a particular challenge to small, island economies where a single storm can cause economic devastation and render government incapable of response. The Governance Practice has worked with Caribbean countries to build resilient governments. This requires support in three key areas:

Resource mobilization. Governments can make provision for disaster response, recovery and reconstruction before disasters strike through proactive financing using insurance and contingent financing instruments. They can plan procurement for disaster response before the storm season to facilitate the timely mobilization of materials and supplies. Procedures can be put in place to ensure the rapid, transparent and effective mobilization, execution, and audit of funds when emergencies are declared.

Resilient Management. Governments can integrate adaptation and resilience into public investment management, asset management and public service delivery systems. They can ensure that public assets meet appropriate engineering standards and agency-level plans are in place to prioritize services, emergency repairs and recovery activities when disasters strike.

Continuity and Response. Communications and emergency response infrastructure and plans need to be in place to deal with the most extreme events, so that institutions can continue to operate and are able to implement response and recovery plans.

NEXT STEPS

Climate change impacts on everything that the World Bank does as a development institution. The Governance Practice's role is to help clients put in place the institutional and governance arrangements that will allow them to address the challenge of climate change. The Governance Practice will need to embed climate change issues in our work with center of government, planning and finance agencies and through our support across the Bank's country programs. Task teams can promote climate smart governance by asking themselves: What are climate change challenges facing our client country and counterpart institutions? How can institutional and governance interventions help them address the challenges of climate change? How can our project integrate smart climate change actions?

The Governance Practice has made commitments to increase its engagement on climate change and achieve ambitious targets for climate change action in its own project portfolio. This requires the practice to ensure that all Governance-mapped lending operations consider potential climate change co-benefits. The Governance practice will issue technical guidance on the calculation of climate change co-benefits and the design of governance interventions to support climate change action.

Further reading

World Bank, Climate Change Public Expenditure and Institutional Review Sourcebook, 2014.
http://www.greengrowthknowledge.org/sites/default/files/downloads/resource/World_Bank_CCPEIR_Sourcebook_0.pdf

Useful resources

Climate Change Knowledge Hub - https://worldbankgroup.sharepoint.com/sites/Climate/Pages/SitePages/Climate%20Change%20Knowledge.aspx?&tab=sitepages&page=managecontentadmin

Climate Change & Development 101 Module - https://olc.worldbank.org/content/climate-change-and-development

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