

Country Experiences with the Preparation of NDCs – Pakistan

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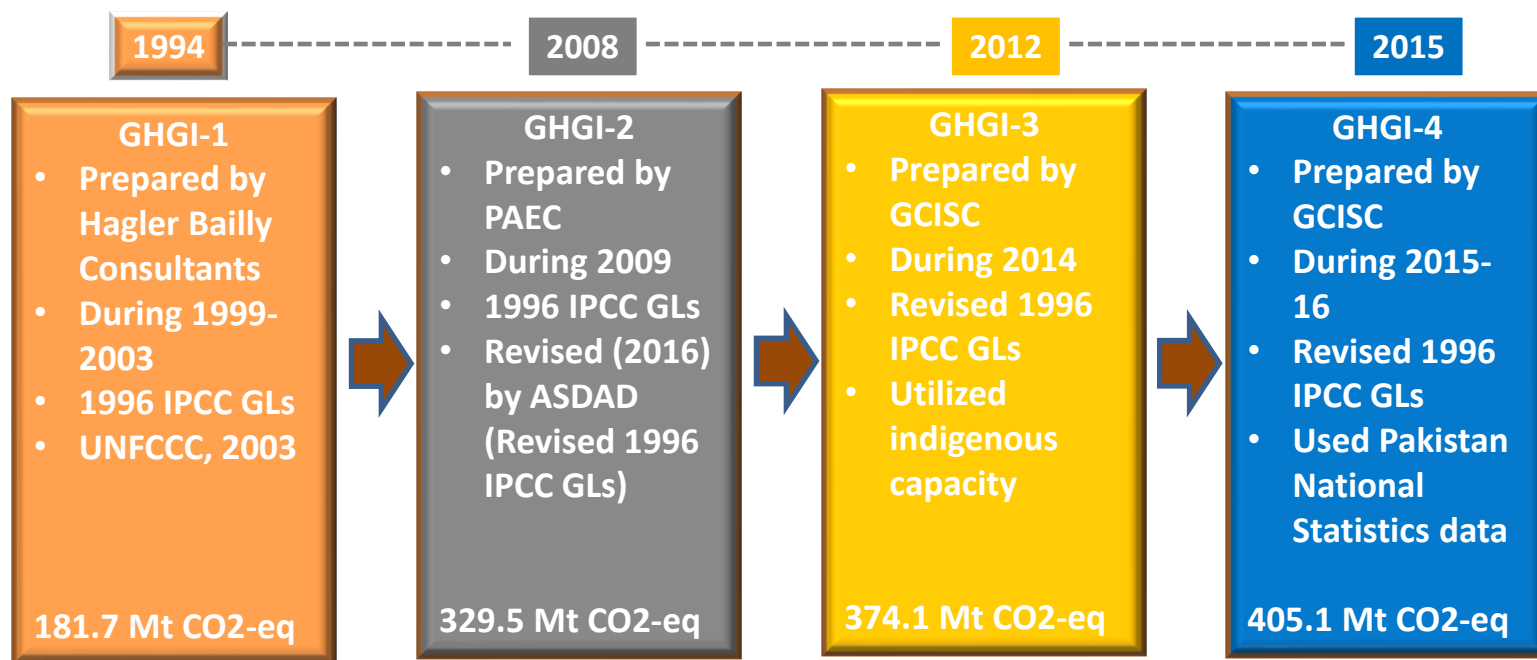


Context

- Pakistan's GHG emission accounts for less than one percent in global emissions;
- The country is considered extremely vulnerable to the impacts of climate change.
- Being a responsible member of the global community, Pakistan has responded a well articulated climate change agenda.

Greenhouse Gas Inventory Management System

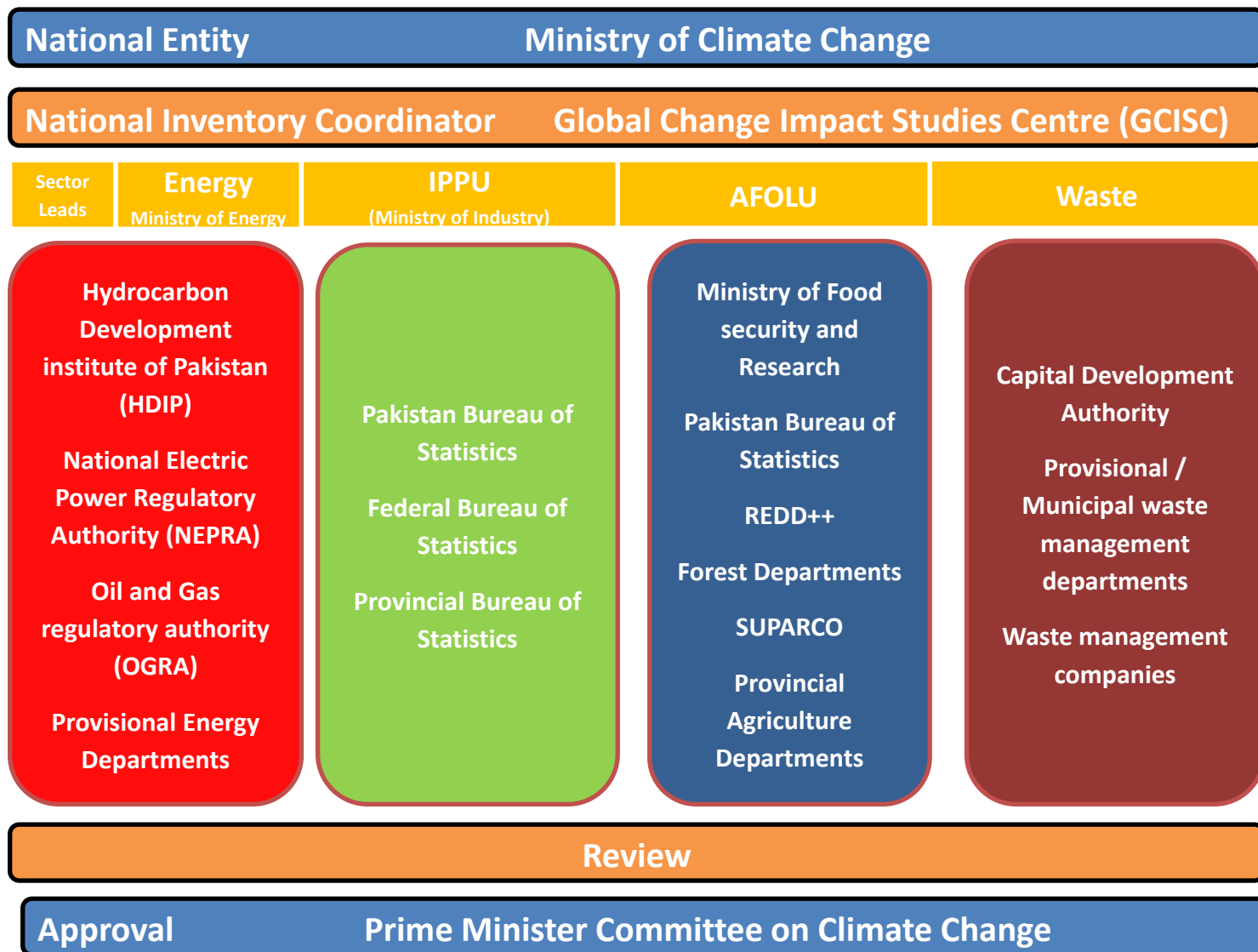
Status of GHG Inventory in Pakistan



ASAD = Applied system Analysis Division of Pakistan Atomic Energy Commission (PAEC)

GCISC = Global Change Impact Studies Centre

Existing Institutional Structure of GHG Inventory Management



Methodology / Software Used

- IPCC 1996 and *2006 IPCC Guidelines* for National Greenhouse Gas Inventories
- IPCC Non-Annex I National Greenhouse Gas Inventory Software, Version 2.6 based on *2006 IPCC Guidelines for National greenhouse Gas Inventories* has been used to estimate the emissions.
- This software is developed by the IPCC, which incorporates all the elements of a national GHG inventory prescribed by *Decision 17/CP.8*, to facilitate non-Annex I Parties in developing and reporting their GHG inventories as a part of their national communications.
- In the present inventory (2017-18), *Tier-1 Approach* (which includes *Default Emission Factors*) of 2006 IPCC Guidelines has been used, depending on the national circumstances and the availability of data in Pakistan.

Activity Data and Emission Factors Used

- Activity data derived from the *Published Documents* of the relevant ministries and organizations of the Government of Pakistan.
- The main *Activity Data Sources* used in this inventory for various sectors/source categories are;
 - Pakistan Energy Year Book
 - Agricultural Statistics of Pakistan
 - Pakistan Economic Survey
 - Also, REDD+ Pakistan NFI report, FAO Smog Study report, State of Forests reports, WWF Wetlands report, Pakistan Social & Living Standards Measurement Survey (PSLM), Compendium on Environment Statistics of Pakistan published by Pakistan Bureau of Statistics

Coverage of GHG Estimation

- The gases covered in the inventory are CO₂, CH₄ & N₂O.
- The GHG producing sectors in the country are divided into five sectors in accordance IPCC Guidelines:
 - I. Energy (including transport)**
 - II. Industrial Processes (IPPU)**
 - III. Agriculture, Forestry & Other Land Use (AFOLU)**
 - IV. Waste**
- Most recently country has completed a comprehensive on assessment of forest coverage using RS/GIS data and based on that FREL has been submitted to UNFCCC.

Challenges

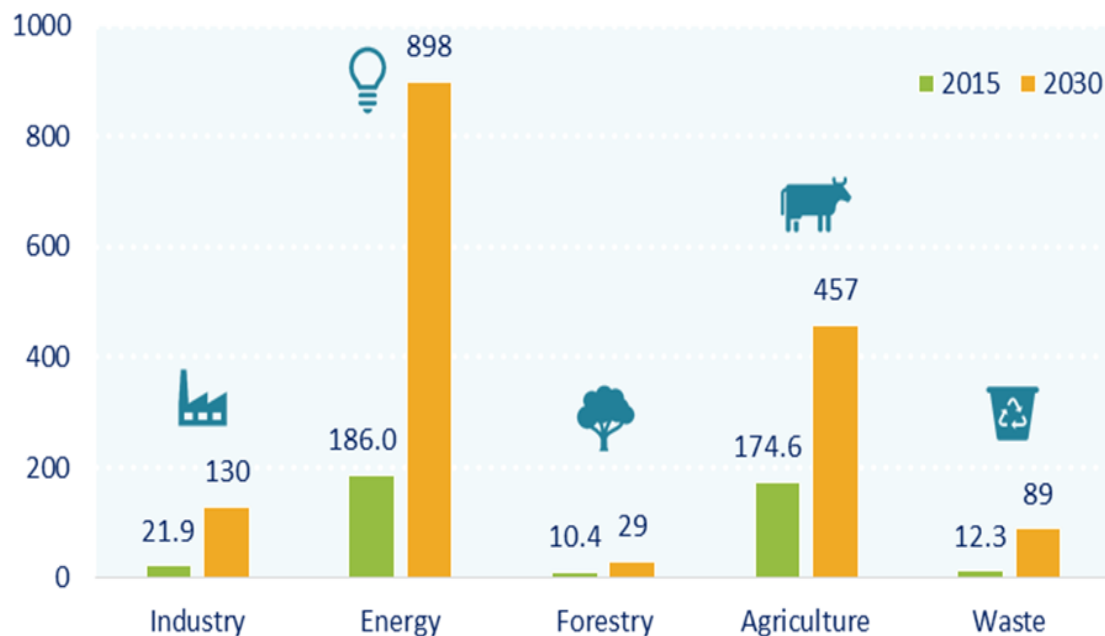
- Lack of local emission factors (hence the more general IPCC default factors were used);
- Available data are not segregated according to IPCC Guidelines categories;
- Gaps in knowledge and skill in understanding the relationship between processes, especially industrial processes, and emissions released;
- Lack of centralized activity data collection and compilation in all key sectors;
- Lack of historical data for relevant sectors such as forestry, agriculture, and waste;
- Resource constraints for inventory preparation;

Actions/ Plans to Improve GHG Inventories

- Efforts to establish GHG Inventory management system;
(data collection; data sharing and data archiving);
- Strengthening Institutional Arrangements;
- Strengthening QA/QC procedures;
- Plan to develop inventories on regular basis;
- Measures being taken to develop Tier- II and Tier- III coefficients;
- Coverage of f-gases
- Steps underway to prepare remote sensing data- based GHG inventories.

Nationally Determined Contributions (NDCs)

Pakistan's 1st NDC



**All figures in MtCO₂*

“Having considered the existing potential for mitigation in the country, Pakistan intends to reduce up to 20% of its 2030 projected GHG emissions subject to availability of international grants to meet the total abatement cost for the indicated 20 percent reduction amounting to about USD 40 billion at current prices.

Pakistan's adaptation finance needs range between USD 7-14 billion per annum during this period.”

*Pakistan's Nationally
Determined Contribution*

Pakistan's Approach to Address Climate Change

- 10 Billion Tree Tsunami Programme
- Eco-system Restoration Initiative
- Protected Area Initiative
- Recharge Pakistan
- National Electric Vehicle Policy
- Clean Green Pakistan Movement
- Green Economic Stimulus
- Mass transit Programmes

Twofold Objectives of Pakistan's NDC

Internationally Driven

1. To provide the national scenarios for the global trajectory of emissions over the period of Paris Agreement and beyond...
 - ✓ Contributions of country emissions into overall global emissions
 - ✓ Emissions and Climate Profile of the country
 - ✓ How national level emissions and climate actions would contribute into global climate action agenda

Nationally Motivated

2. To serve as the policy tool for national objectives and priorities towards climate actions
 - ✓ National emissions profile and future projections
 - ✓ Assessment of Mitigation actions and cost of implementing mitigation measures
 - ✓ Institutional developments and resource mobilization

NDC Enhancement Process

















❑ Responsible Government Agency:

- Ministry of Climate Change (MOCC)

❑ Organizations responsible for preparation and inputs :




















- Global Change Impact Studies Centre (GCISC) – Secretariat
- Federal and Provincial organizations for planning, research support and implementation in energy, transport, industries, agriculture, water, health, forestry & land use and waste sectors
- Development partners: FAO, UNDP, GIZ, WWF, WHO, UNICEF, WB,

Activity Update

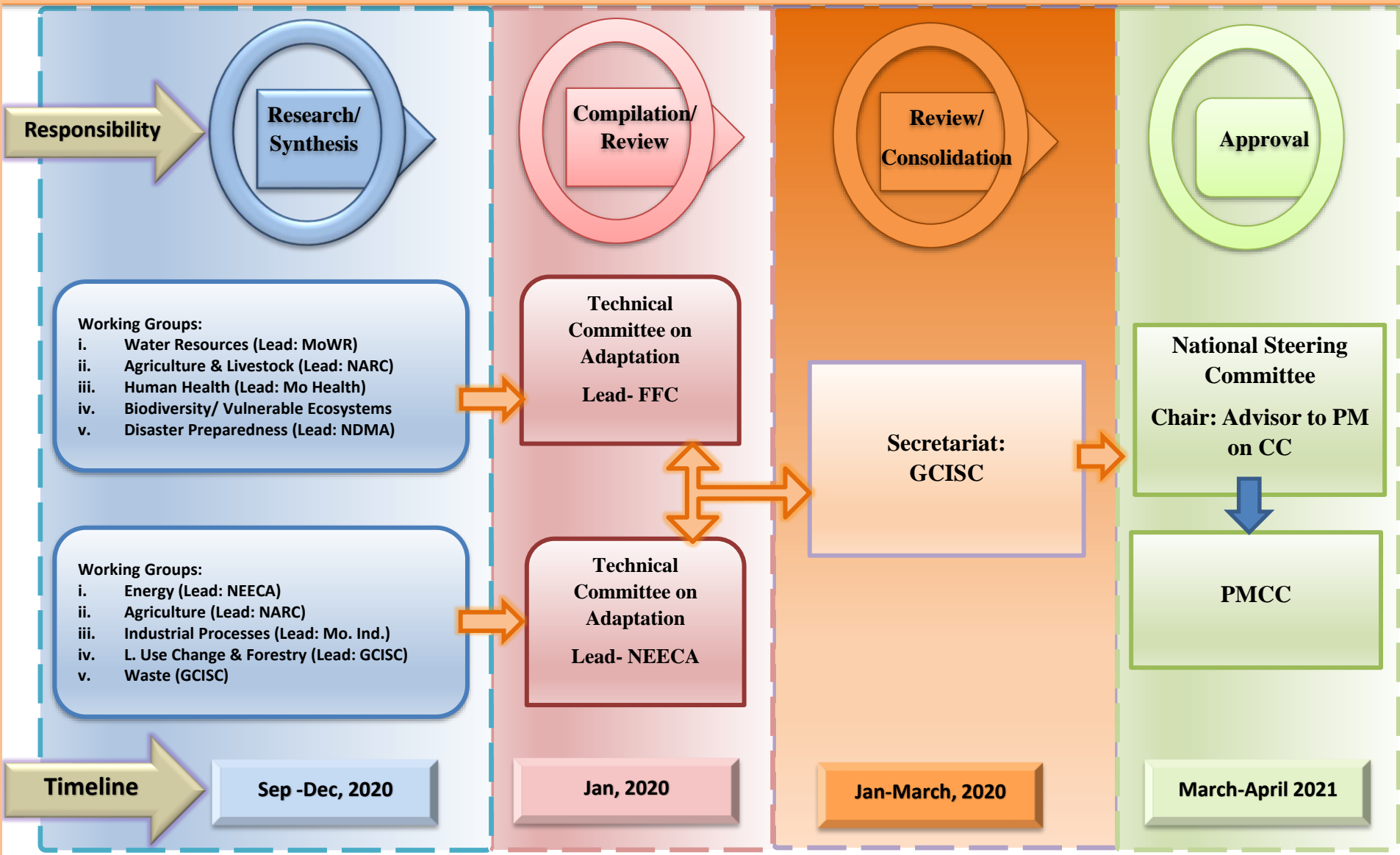
Partners	Activities	*Components	TORs
FAO	Mapping of Pakistan's vulnerabilities	   	Risk-based assessment of aquifer vulnerability to depletion and sanitation; Installation of new and upgrade existing agrometeorological station; Refinement of the identified climate resilient agriculture
	Strengthen resilience of most vulnerability to climate change	   	Capacity building on reducing vulnerability and strengthen resilience to natural threats and crises; Technical support for provincial/district agriculture ADRMOP; Support for Early Warning Early Action (EWEA) system establishment and economic analysis
WWF	Monitoring the impacts of forestry projects		Developing forest inventory protocols and standard methodology; review of secondary information ; tools for Key Informant Interviews, FGDs, and field surveys; two trainings for field teams and relevant stakeholders on conducting assessments
	Stakeholder consultation for enhanced ambition on climate change.		Stakeholder consultations with four provinces and two regions, to determine contribution towards mitigation and adaptation; identify current best practices regarding climate change mitigation and adaptation, and delineate proposed plans of action for each sector
UNDP	Constitute Technical Working Group on Adaptation Assessment	  	Identify linkages and synergies across issues, efforts, and generate support for adaptation action; Enhance communication amongst stakeholders; Assess feasibility to make carbon markets part of revised NDCs; Update the data for various sectors
	Marginal Abatement Cost Curves (MACC) for the different NDC sectors	\$	Technical support to carry out emission modeling, economic parameters under each sector to be assessed and provide realistic GHG projections and improved, accurate costing for mitigation/adaptation actions in different sectors
WHO	Health co-benefit study		Support to conduct a health and climate change vulnerability and adaptation assessment to highlight benefits of catering air pollution and climate change on health
UNICEF	WASH sector priorities for climate change adaptation and mitigation.	 	Climate risk analysis for WASH to identify Pakistan vulnerabilities and new risks in context of WASH; Development of evidence-based policy brief for revised NDCs to include WASH

*Legend:  Energy  Water  Agriculture  Costing  Health  Forestation  Secretariat  Extreme weather events  consultations

Activity Update

Partners	Activities	*Components	TORs
GIZ	Strengthening the emissions methodology in light of IPCC 2006 guidelines		Robust MRV system to strengthen GHG inventory of Pakistan; strengthening of the GHG emissions methodology and streamlining of data collection; guidance and information on technological and regulatory issues regarding N ₂ O abatement.
	Constitute Technical Working Groups on Mitigation Analysis		Support MoCC for setting up technical working groups on Mitigation Analysis to conduct an estimation of carbon sequestration and developing working guidelines for it; Coordination with National REDD+ office and relevant stakeholders ; Provision of a sector expert;
	Analysis and GHG emissions modeling		Institutionalization of data provision for GHG emissions calculations through frameworks of cooperation with the relevant data providers; awareness raising of climate relevance of data amongst data providers
	Coordinate with FBS to systematize emission data collection, storage and maintenance.		Determine the data gap between the available data and required data; Discuss with Federal Bureau of Statistics about the next steps for data collection, storage and maintenance of required data; Prepare a tentative questionnaire for gathering relevant data ; Develop the survey design/concept for data collection, monitoring and reporting
WHO	Health co-benefit study		Support to conduct a health and climate change vulnerability and adaptation assessment to highlight benefits of catering air pollution and climate change on health
UNICEF	WASH sector priorities for climate change adaptation and mitigation.	 	Climate risk analysis for WASH to identify Pakistan vulnerabilities and new risks in context of WASH; Development of evidence-based policy brief for revised NDCs to include WASH
Islamic Relief	Mainstream youth into the revised NDCs.		The policy brief will sensitize policy decision-makers and other actors on the rationale and urgency of critical climate challenges, related development issues, and the role of youth in addressing them.
World Bank	Assessment on Blue Carbon to be included in revise NDCs	  	Assessment of Pakistan's potential for blue economy; Policy Brief for revised NDC
*Legend:  Energy  Water  Agriculture  Costing  Health  Forestation  Secretariat  Extreme weather events  consultations			

Institutional Arrangements for NDC Revision



Emissions Modeling and MACC



Data

Sectoral Activity data, GHG Emissions data, Survey data

Review of Policies

National Vision and development Plans (long, Mid & Short term), Sectoral Policies (NCCP, Water, Food Security, energy Policy, Forestry)

Stakeholder Engagement & FGDs

KIIs and FGDs with focal persons representing the key ministries and departments

Emission Scenarios

BAU, Policies Scenario, Mitigation Scenario

Marginal Abatement Cost Curve (MACC) Calculations

Identify mitigation options, Modeling tools

Barriers in NDC Process

- Understanding and Capacity issues
- Data – Availability, Quality, Consistency
- Coordination – Inter provincial; Inter ministerial, cross-sectoral
- Coherence of NDCs and other policies
- Absence of a defined mechanism/ framework/ institutional setup for NDC implementation

Actions/ Plans/ Support Required

- NDCs is new stream of work, most of the developing countries lack skills;
 - Institutional strengthening
 - Capacity building in emissions modeling and Scenarios building;
 - Capacity in converting the actions into projects for funding
 - Sharing of experiences and best practices;

SDG – NDC Linkage

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- Pakistan is committed to its obligations under, both the Sustainable Development Goals (Agenda 2030) and the Paris Agreement.
- Agenda 2030 has an exclusive goal for Climate Change i.e., SDG 13 (Climate Action).
- Climate change as well as SDGs related activities and actions are already part of the action National Vision, National Action Plans and Policies (which have been developed after 2015). Old policies are also being aligned with Climate and SDG goals.
- The revised NDC related activities will also have its roots in sectoral plans and policies.

NDC Plans & Post Pandemic Green Recovery

- Covid-19 has given countries the opportunity to aim higher to fulfill their 'Climate Promise' through:
 - Generating Green Jobs to jumpstart the economy
 - Including in renewable energy, construction, sustainable development
 - Preparing National Decarbonization Plans
 - Developing new domestic markets in renewables
 - Tree Plantation
 - Jobs for the youth and women
 - Climate Action
 - Plans for controlling air pollution/ smog, which make impacts of respiratory diseases like Covid-19 worse
 - Disaster Response Planning
 - Solid Waste Management
 - More pathogenic waste produced due to Covid-19 (e.g. disposal of masks) which needs proper mechanisms for disposal
 - Gender Responsive Activities
 - Both short and long term support/ training for women and girls
 - Youth Involvement
 - Jobs in tree plantations and involvement in NDC activities

NDC Plans & Post Pandemic Green Recovery

Pakistan has already taken some positive steps. Pakistan's proactive role is recognized globally and the country is emerging as a Key Player in Climate Action due to:

☐ Nature Based Solutions

- ☐ Enhancing tree cover under the 10 BTTP
- ☐ Ecosystems Restoration Initiative
- ☐ Protected Areas Initiative
- ☐ Recharge Pakistan

☐ Energy Ambition

- ☐ Clean Energy Targets
- ☐ Switching from Coal to Hydro
- ☐ Electric Vehicle Transition

Govt. is very keen that this momentum be sustained and boosted. All the above initiatives are indicators of a shifting landscape in Pakistan towards a cleaner, greener and sustainable future aiming for lowering the emissions and ensuring climate resilient growth.



Thanks

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