

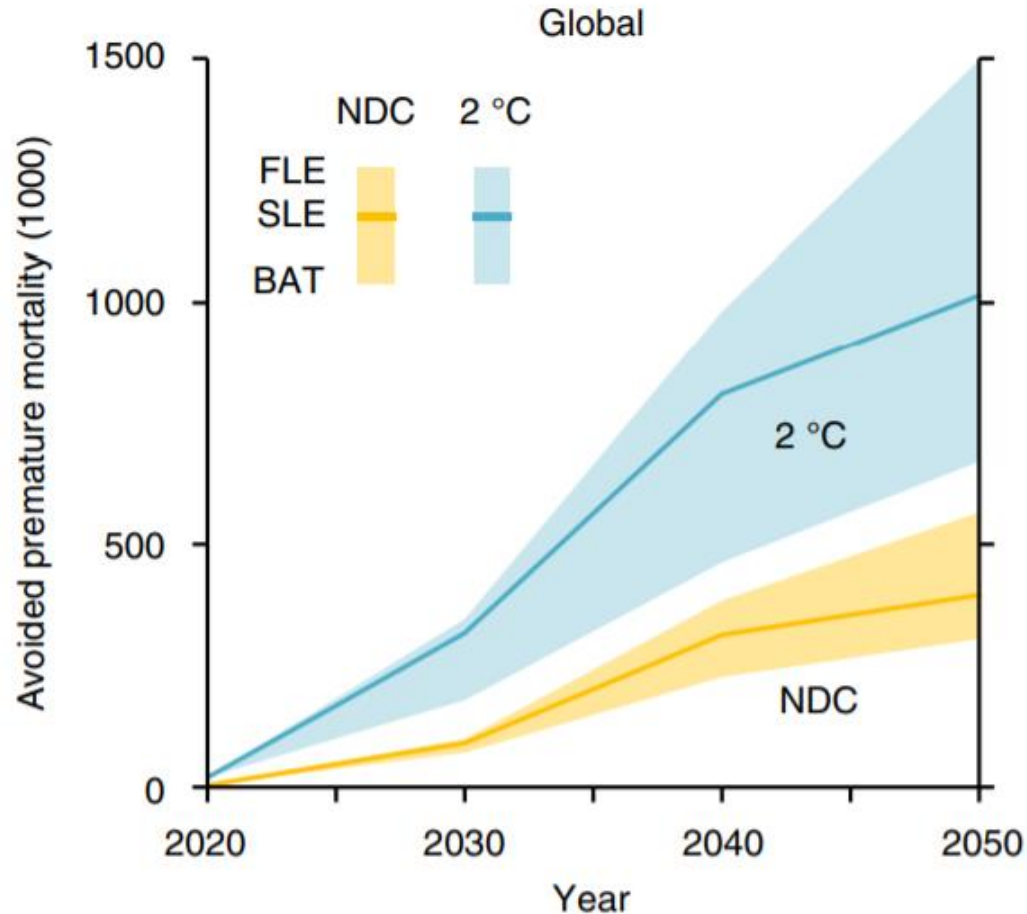
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Synergies and co-benefits of air quality and climate change action

Stockholm Environment institute
Chris Malley

April 2024

AIR POLLUTANT REDUCTIONS DUE TO CO2 MITIGATION



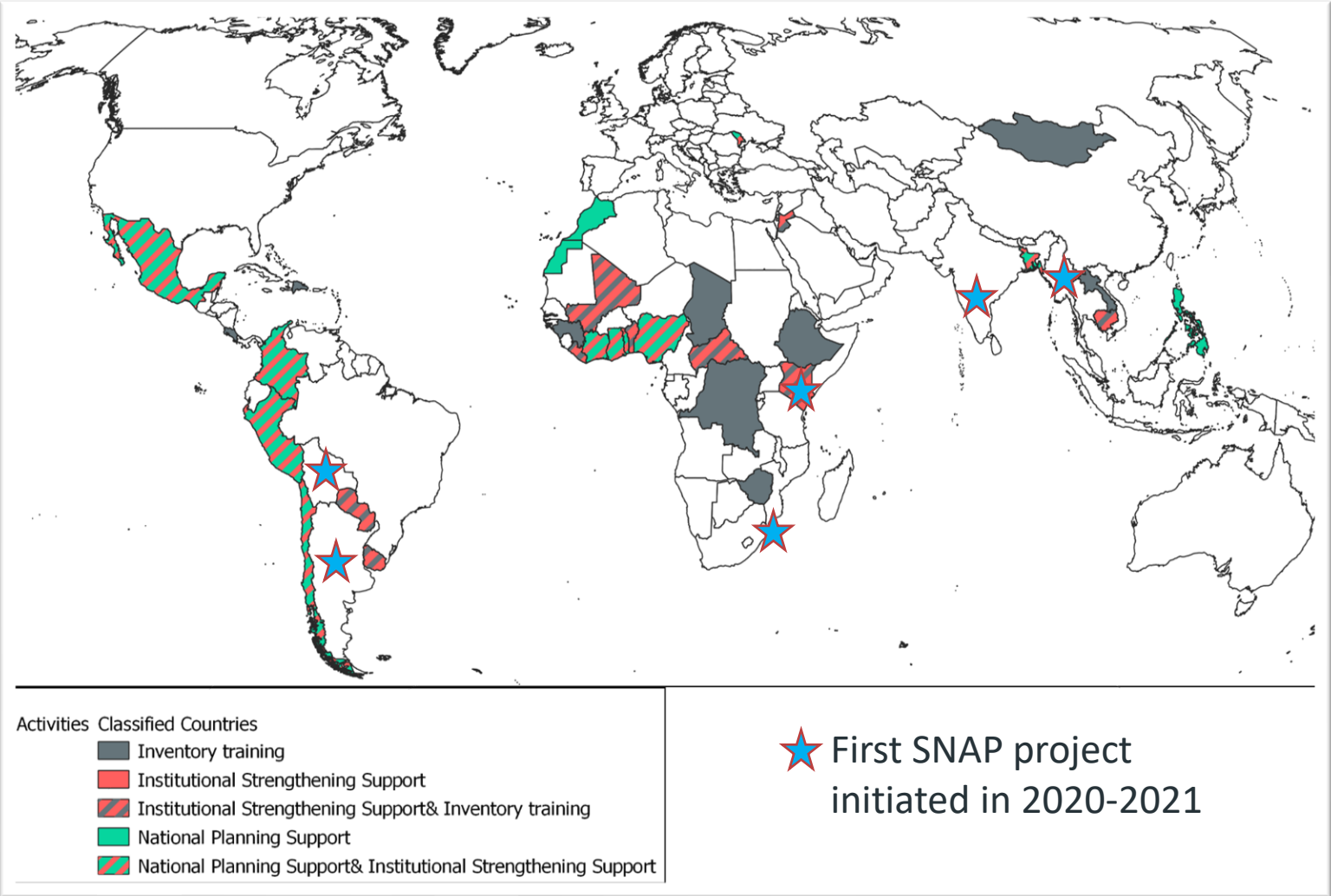
Over 1 million premature deaths avoided in 2050 if Paris target is achieved

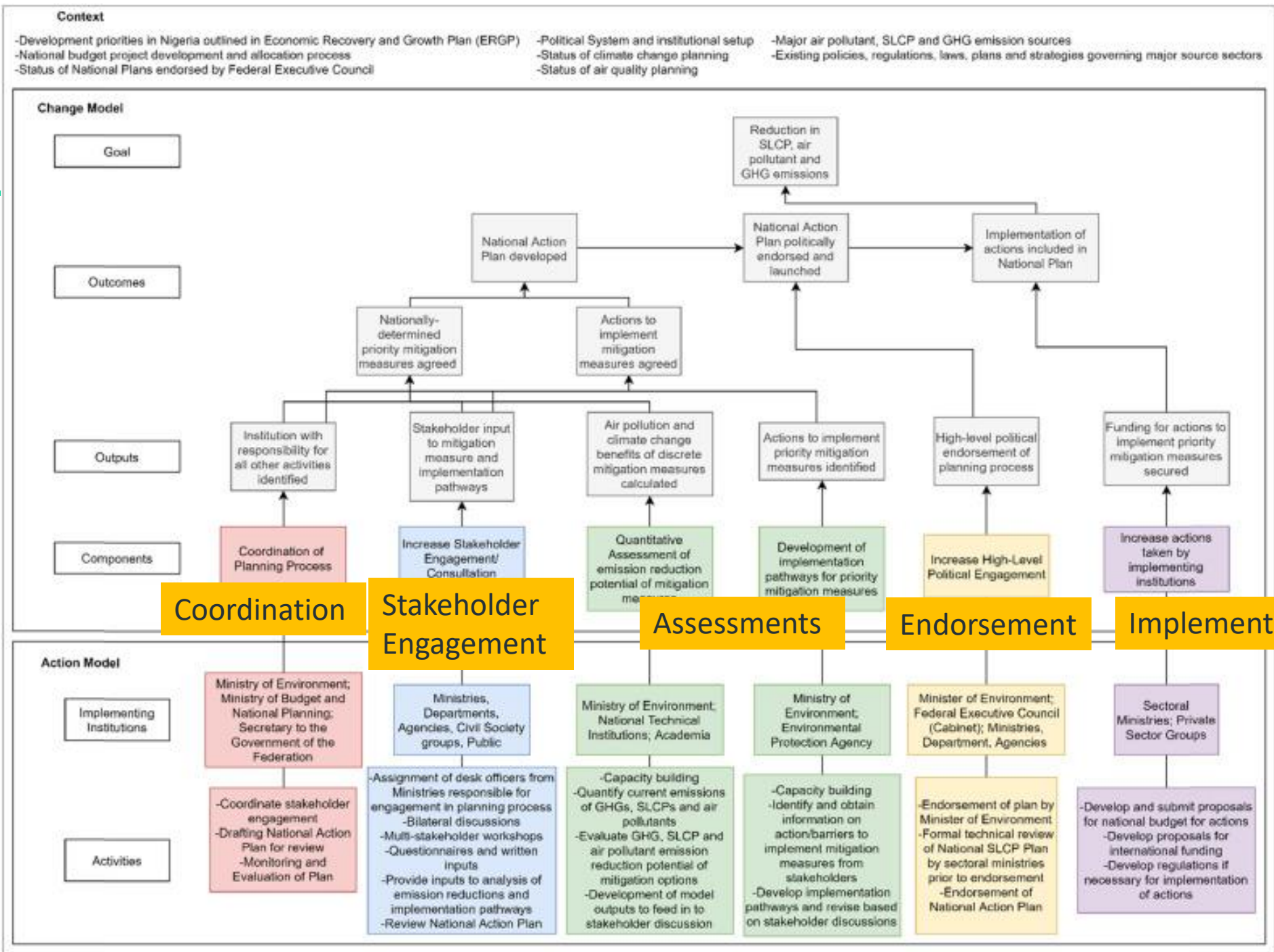
Vandyck et al. 2018



Current Activities on SLCP Planning

A global community on SLCP Planning

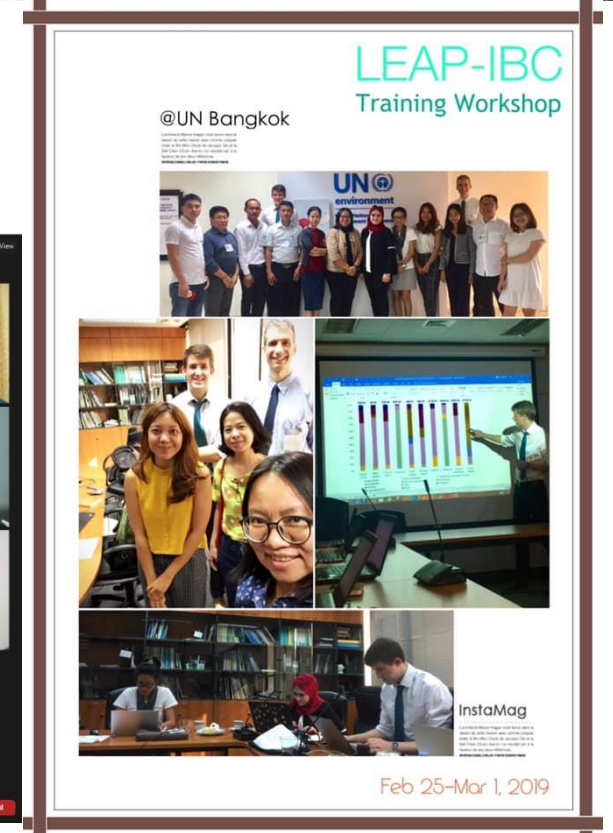
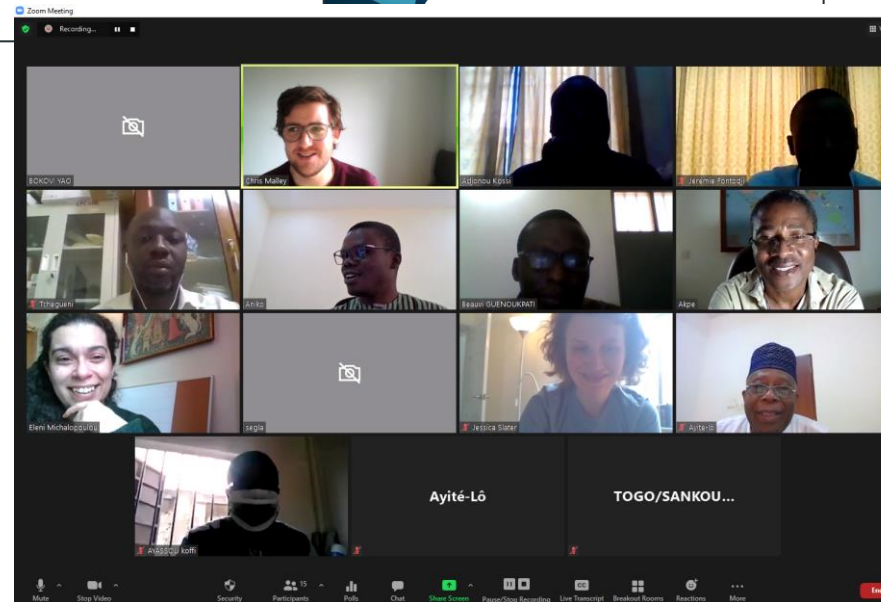




Building Evidence for Action on SLCPs

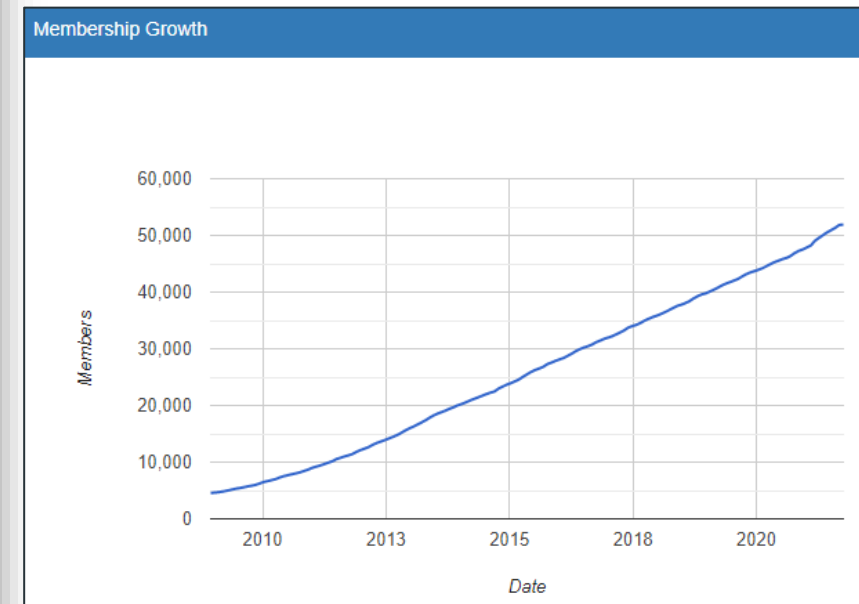
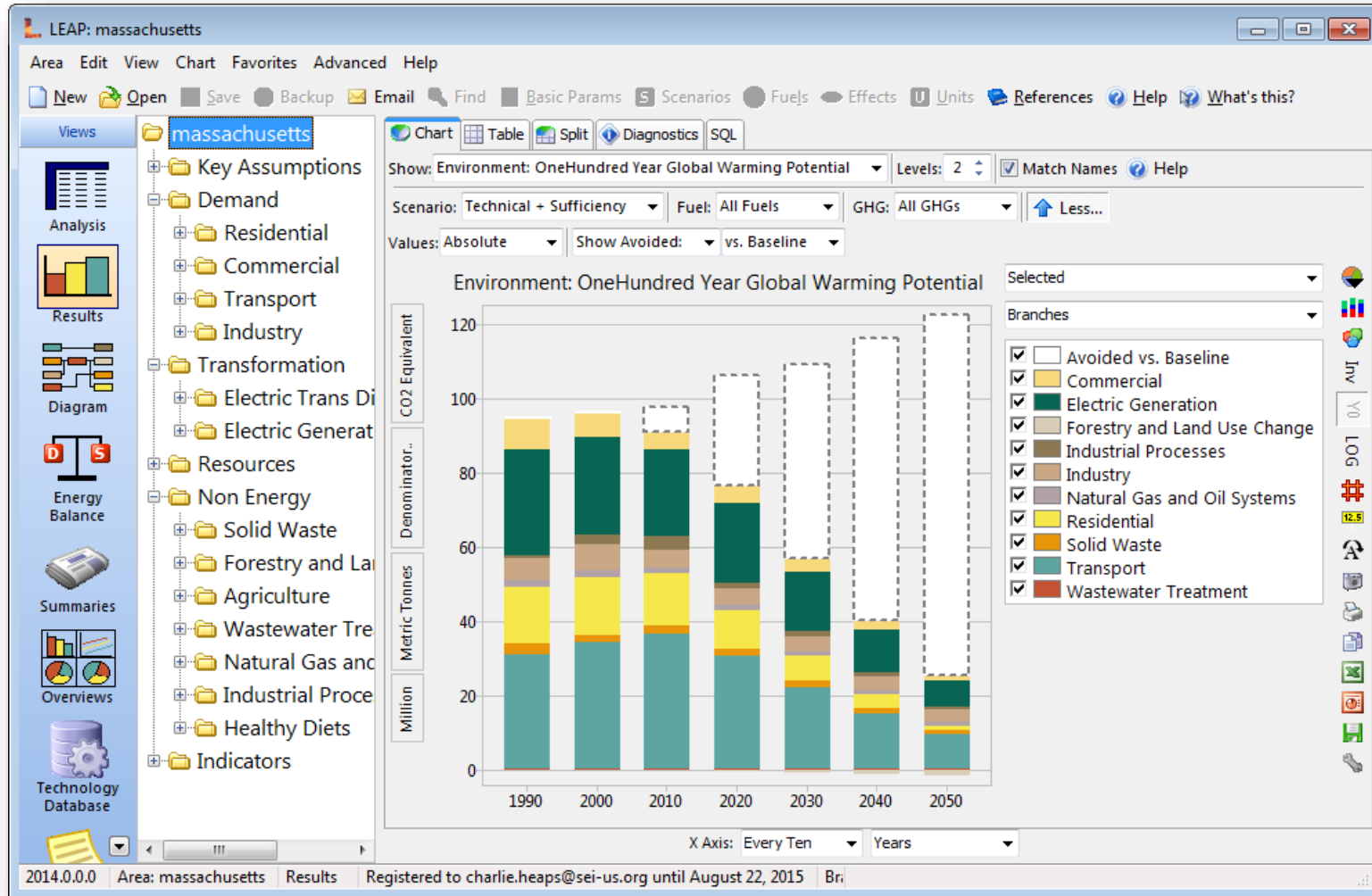
Enhanced Capacity on SLCP Planning

- Black carbon inventories developed in Argentina, Uruguay, Costa Rica, Dominican Republic, Democratic Republic of Congo, Central African Republic, Chad, Liberia, Zimbabwe, Mali, Benin, Mongolia, Cambodia, Jordan, Moldova





Low Emissions Analysis Platform



LEAP-IBC: Tool for integrated air pollution and climate change mitigation assessment



Historical Emissions in Bangladesh

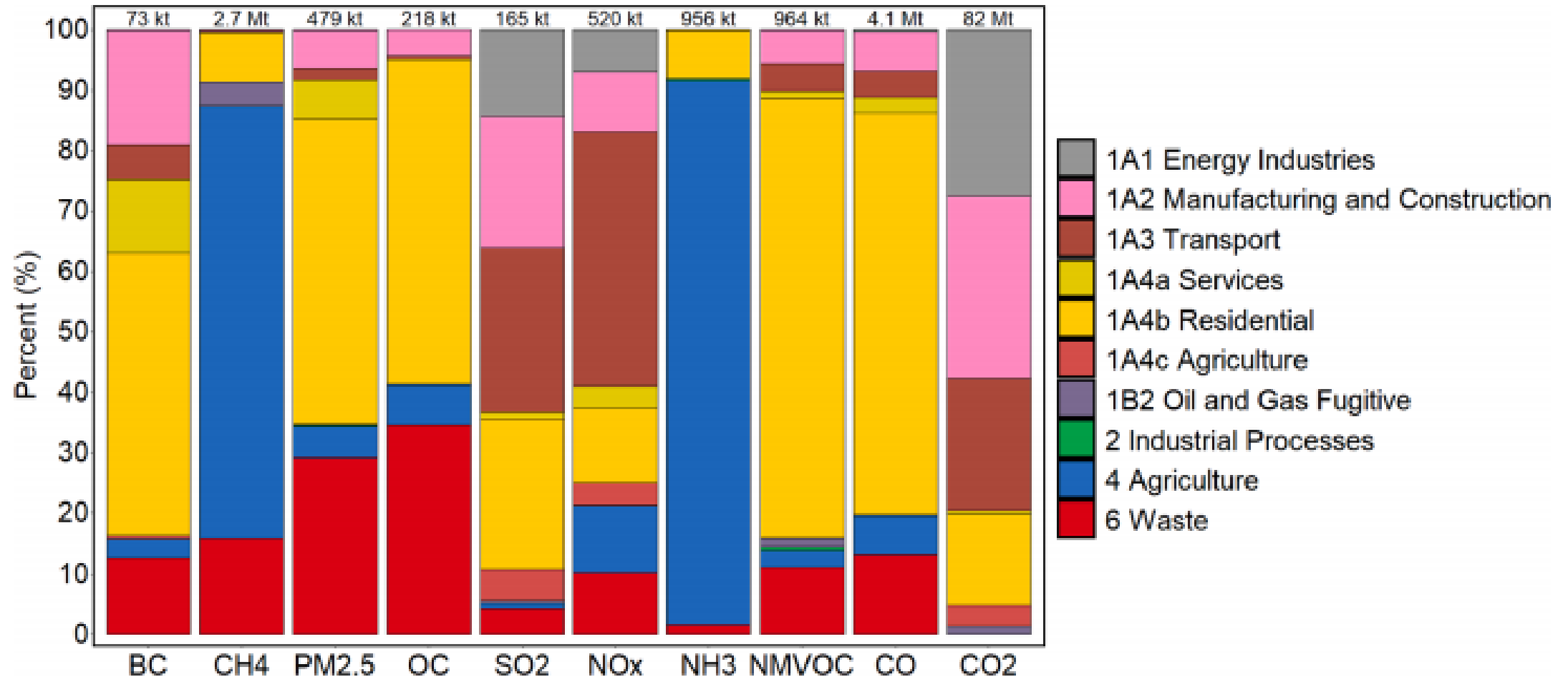
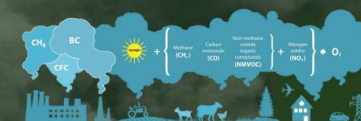


Fig. 3. Sectoral contributions to greenhouse gas, short-lived climate pollutant and air pollutant emissions in Bangladesh in 2010.



Bangladesh
National Action Plan
for Reducing
Short-Lived Climate Pollutants (SLCPs)

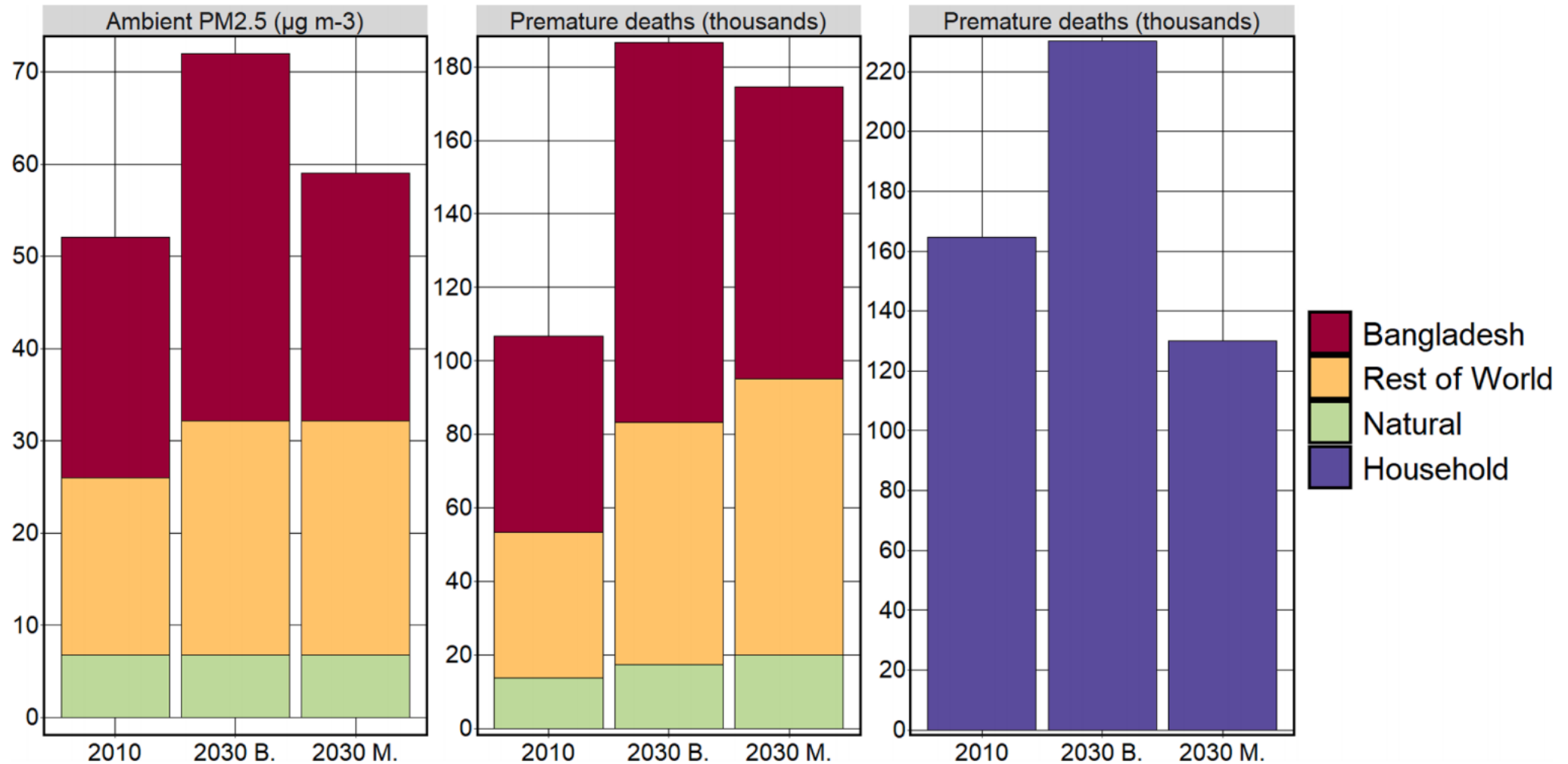


DEPARTMENT OF ENVIRONMENT
MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE
JUNE, 2018

Mitigation Measures modelled in different scenarios for Bangladesh.

Scenario	Source Sector	Measure	Measure description and Target
NDC Existing	Energy	Energy Efficiency (Energy Efficiency & Conservation Master Plan target)	15% reduction by 2021 and 20% reduction by 2030 in energy intensity in Agriculture, Forestry and Fishing, Commercial and Public Services, Energy Industry, Manufacturing and Construction, and Residential sector
NDC Existing	Power Generation	Renewable Energy	10% of electricity generated from renewables in 2020
NDC Existing	Industry	Improved Brick Kilns	100% traditional brick kilns converted to improved zigzag kilns by 2030
NDC Existing	Residential	Improved biomass cookstoves	1.5 million improved cookstoves replace traditional biomass stoves in 2015
NDC Additional	Power Generation	Supercritical coal power plants	100% of new coal based power plants use super-critical technology by 2030 (40% efficiency)
NDC Additional	Transport	Road transport fuel efficiency	15% improvement in fuel efficiency of passenger, heavy duty, light commercial vehicles, motorcycles, three wheelers and urban buses by 2030
NDC Additional	Power Generation	Wind and Solar	400 MW wind generating capacity by 2030 and 1000 MW of solar capacity by 2030
NDC Possible	Residential	Improved biomass stoves and LPG use for cooking	By 2030, all traditional biomass stoves replaced by improved biomass stoves (70%) and LPG (30%)
NDC Possible	Commercial and Public Services	Commercial Energy Consumption	25% reduction in energy intensity by 2030 in commercial and public services sector
NDC Possible	Agriculture	Alternate Wetting and Drying of Rice paddles	20% of all rice cultivation uses alternate wetting and drying irrigation
NDC Possible	Waste	Landfill gas capture	70% landfill gas captured by 2030
NDC Possible	Waste	Organic waste diverted from landfill to composting	50% organic waste diverted from landfill to composting
SLCP Action	Industry	Efficient rice parboiling units	100% of rice parboiling units converted to efficient units by 2040
SLCP Action	Agriculture	Reduce open burning of crop residues	No crop residue burned in fields by 2040
SLCP Action	Transport	Adopt Euro Standards in road transport	100% of vehicles meet Euro IV standard by 2030
SLCP Action	Transport	CNG conversion	Type II and Type II Passenger cars running on motor gasoline converted to CNG by 2040
SLCP Action	Agriculture	Livestock enteric fermentation	17% Reduction of CH ₄ emissions from livestock through enteric fermentation by 2040
SLCP Action	Waste	Domestic Wastewater	100% domestic wastewater in urban areas treated through aerobic treatment plant, and 100% of domestic wastewater in rural areas through septic tanks by 2040
SLCP Action	Natural Gas		100% reduction in emissions from natural gas distribution and processing by 2040

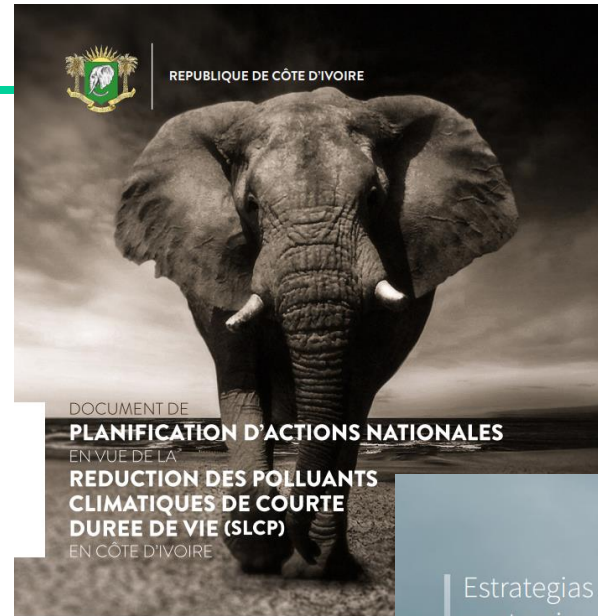
Local benefits for air quality and health



Developing Plans and Strategies

Additional National SLCP Plans Endorsed and Launched

- New National Action Plans to Reduce SLCPs completed, endorsed and published in Cote d'Ivoire, Mexico, Togo, Colombia
- Identify sets of priority actions to target major SLCP sources in each country
- In addition, Cambodia's First Clean Air Plan to be released in Summer 2021



Avec le soutien de: UN environment and CLIMATE & CLEAN AIR COALITION

Estrategias integradas en contaminantes climáticos de vida corta para mejorar la calidad del aire y reducir el impacto al cambio climático

Apoyo a la planeación nacional para reducir contaminantes climáticos de vida corta

SNAP-MÉXICO 2019



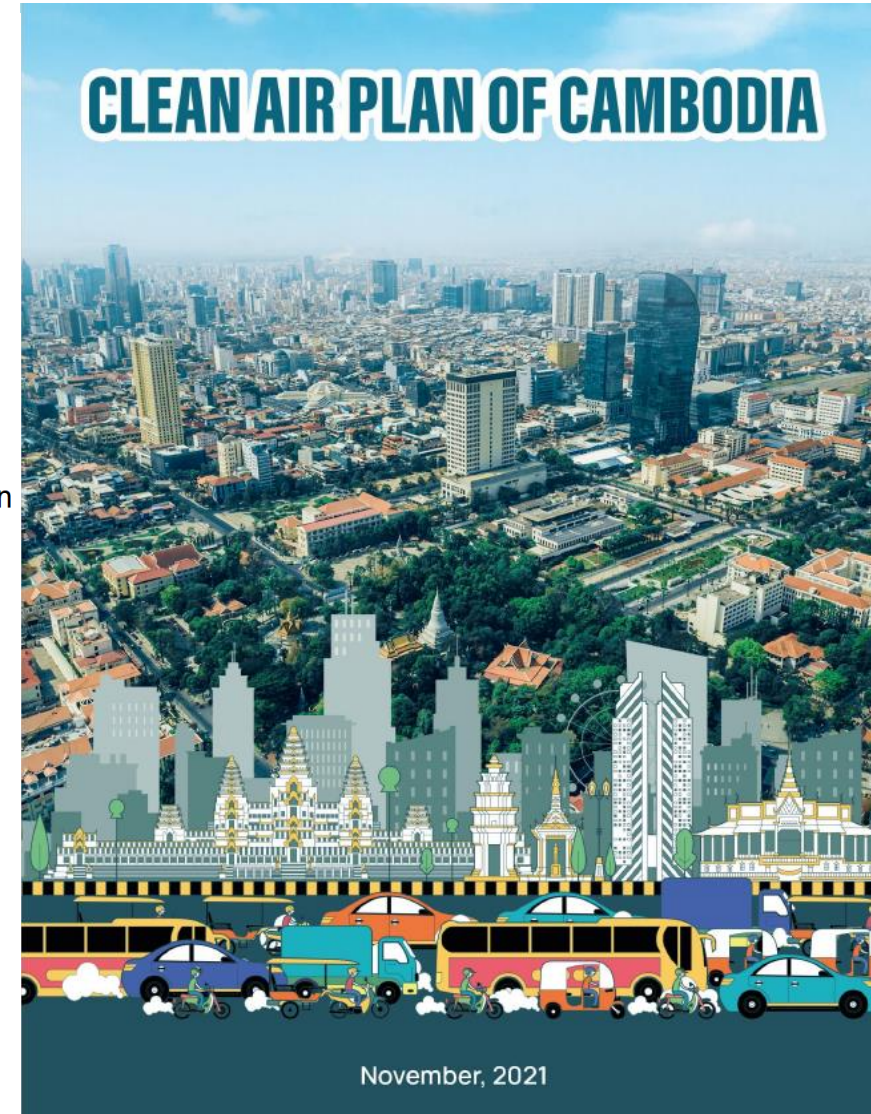
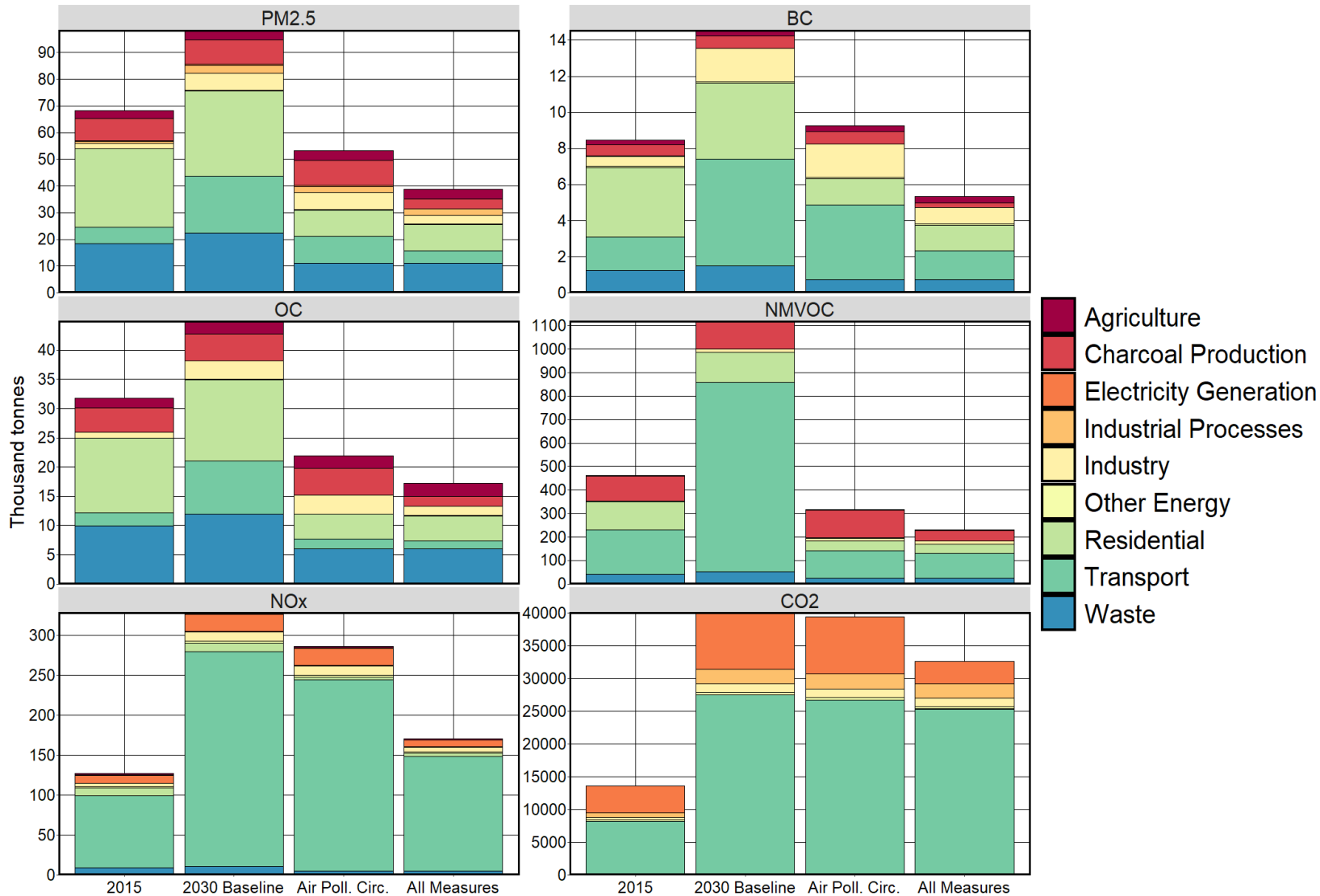
Estrategia nacional para la mitigación de contaminantes climáticos de vida corta

El ambiente es de todos Minambiente

COALICIÓN ALIADA PARA EL AIRE LIMPIO PARA EL AFRICA OCCIDENTAL Y CENTRAL UNEP

ONU medio ambiente SEI

Clean Air Plans



Monitoring and implementation of National SLCP Plans

- Activities underway to move forward with endorsed National SLCPs Plans in Nigeria, Maldives, Cote d'Ivoire, Colombia, Chile and being planned in Ghana, Mexico and Bangladesh

Cost-Benefit Assessment for Introducing 10 ppm Sulfur Fuel and Euro VI Emission Standard in the Maldives

24 March, 2021
9:00 - 10:00 CET
Online event

[Tweet](#) [Share](#) [Share](#) [Print](#) [Email](#) [Add to my calendar](#)



Action 1.4d: Develop national standards on fuel quality, vehicle and vessel emissions
[To be coordinated and implemented with Action 3.1e of Transport subsector matrix]

Action 3.1e: Review and revise emission standards to enforce the road worthiness standards
[To be coordinated and implemented with Action 1.4d of Environmental Protection & Preservation subsector matrix]

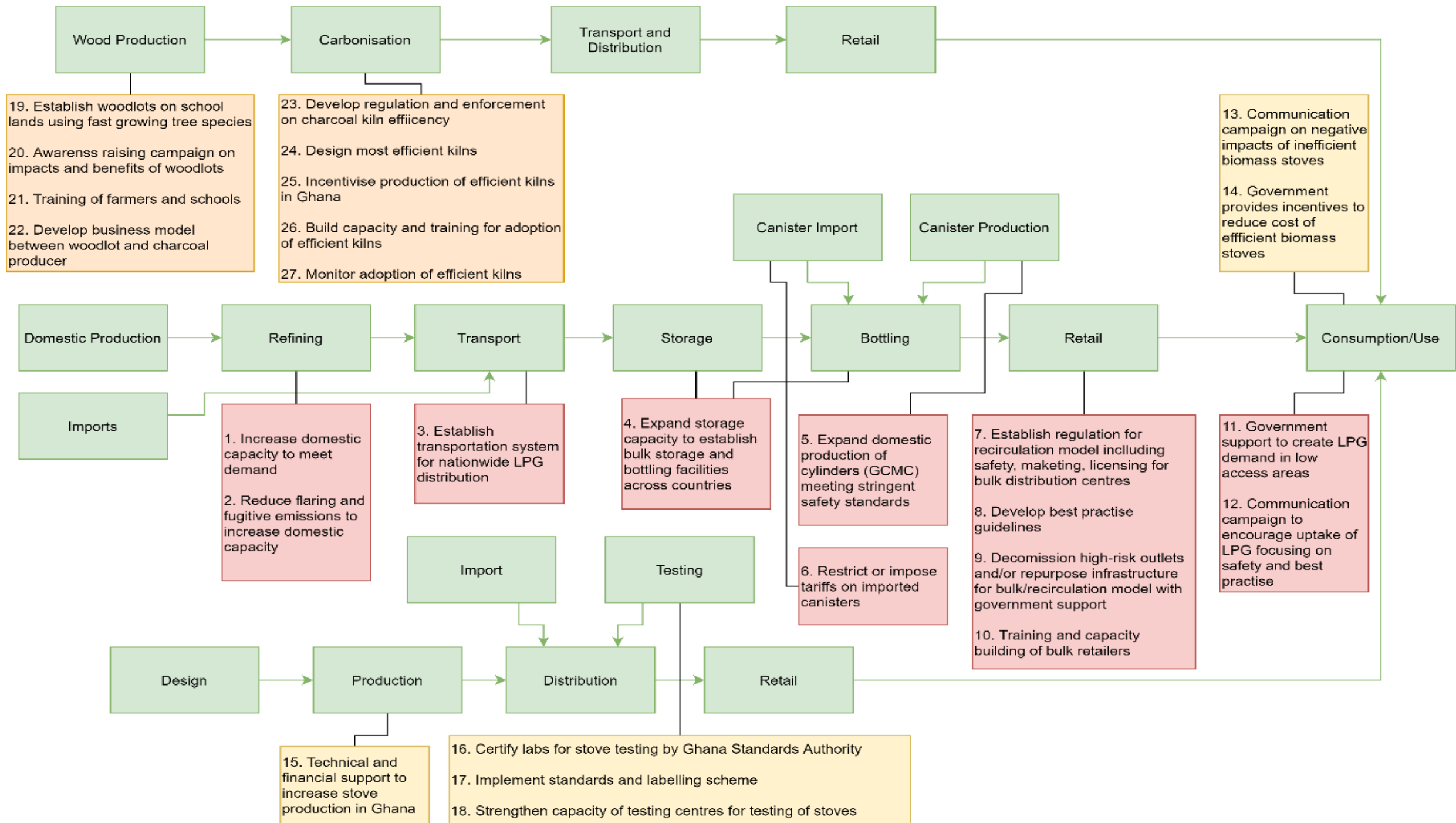


Federal Ministry of Environment
Department of Climate Change

Nigeria's National Action Plan to Reduce
Short-Lived Climate Pollutants

Annual Progress Report

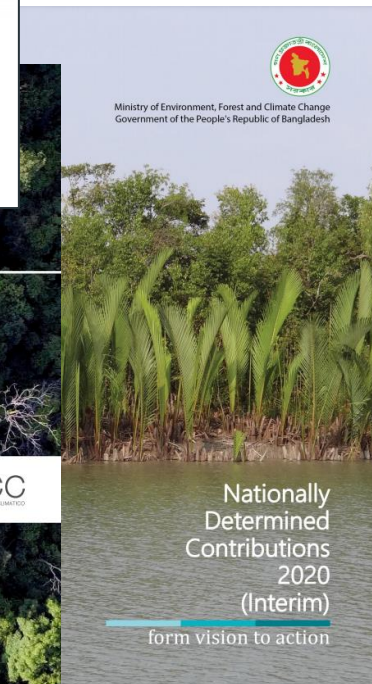
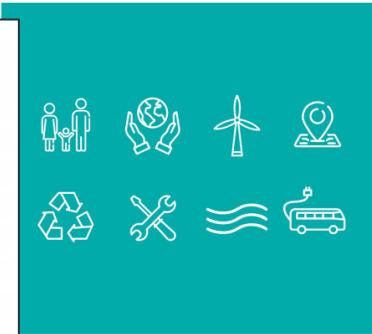
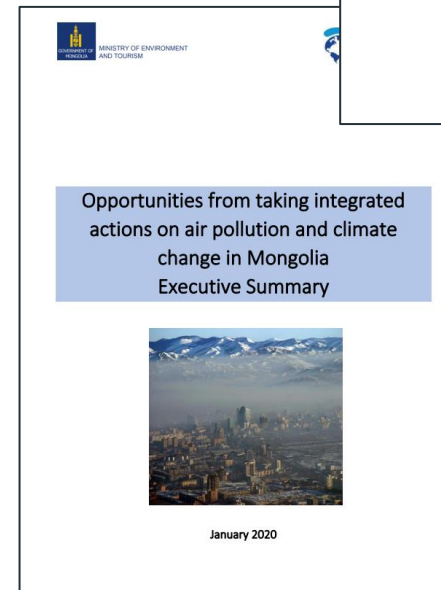
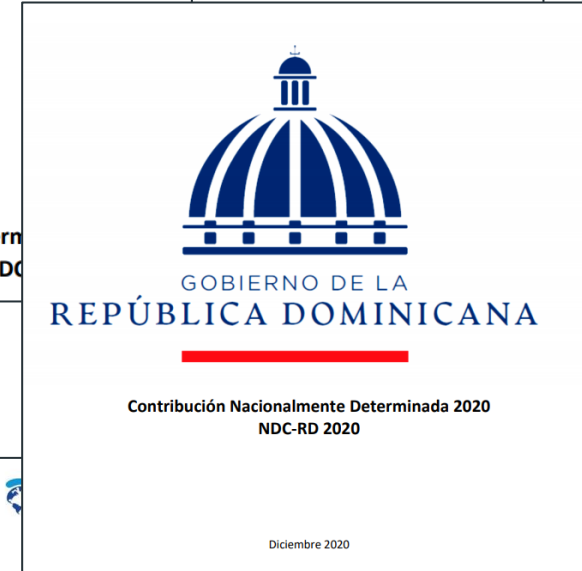
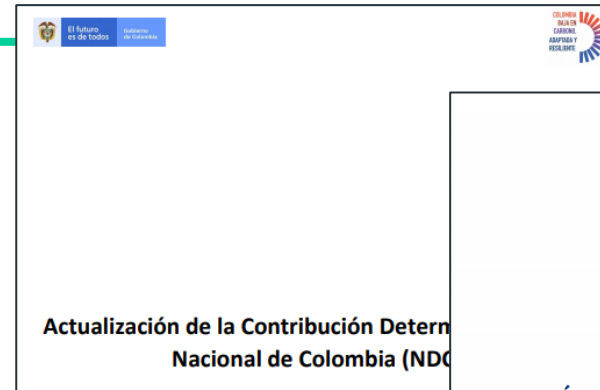
June 2020



Setting Robust, Ambitious Targets

Ambitious Climate Change Commitments

- Revised NDCs include quantitative targets on black carbon in Chile, Colombia and Mexico
- Costa Rica and Dominican Republic also include black carbon mitigation alongside GHGs
- Bangladesh interim NDC identifies National SLCP Plan as key policy document to achieve climate change mitigation target
- Assessment of air quality benefits from Mongolia's updated NDC undertaken
- NDCs being revised to include SLCPs in Cote d'Ivoire, Nigeria, Mali, Benin, Zimbabwe, Eswatini before COP26



Large health benefits from NDC implementation

Box 3: Clean cooking

As set out in Table 1 above, under the updated NDC, the Federal Government of Nigeria aims to implement a programme to convert over 25 million households to using LPG. Traditional cooking with firewood is claiming lives, ravaging forests, undermining the empowerment of women and emitting millions of tons of greenhouse gases to the atmosphere. Conversely, clean cooking fuels such as LPG and low cost improvements in the efficiency of cooking energy devices provide a pathway to make the poor part of the climate solution. As an example, it is expected that under a business-as-usual situation, 97,000 lives could be lost by 2030 due to poor air quality in the home from dirty cooking fuels. By taking the steps outlined above to encourage cleaner cooking, 30,000 premature deaths could be avoided by 2030, in addition to the significant carbon savings.



**NIGERIA'S
NATIONALLY
DETERMINED
CONTRIBUTION**

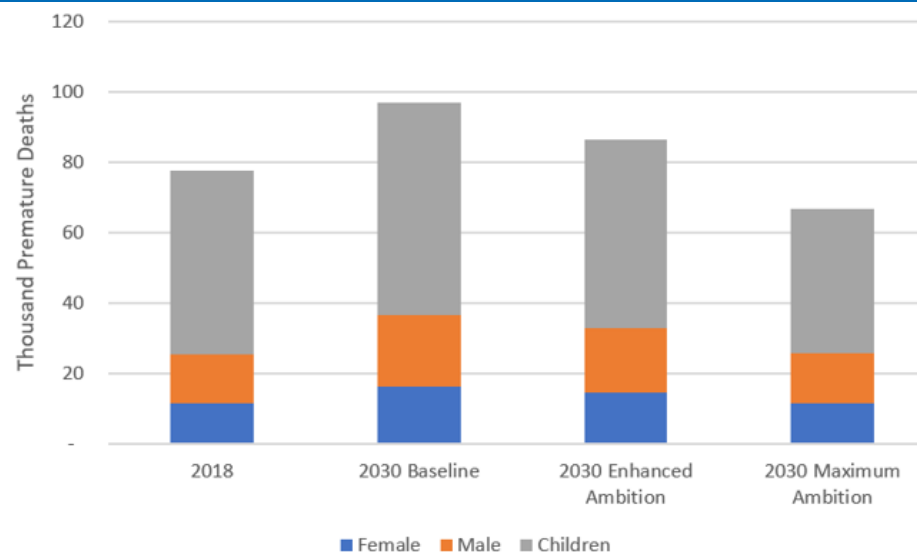


Figure 6.5: Estimated premature mortality attributable to household air pollution in 2018 and 2030 for baseline, enhanced ambition and maximum ambition scenarios, disaggregated by gender and age groups.

More quantitative black carbon targets

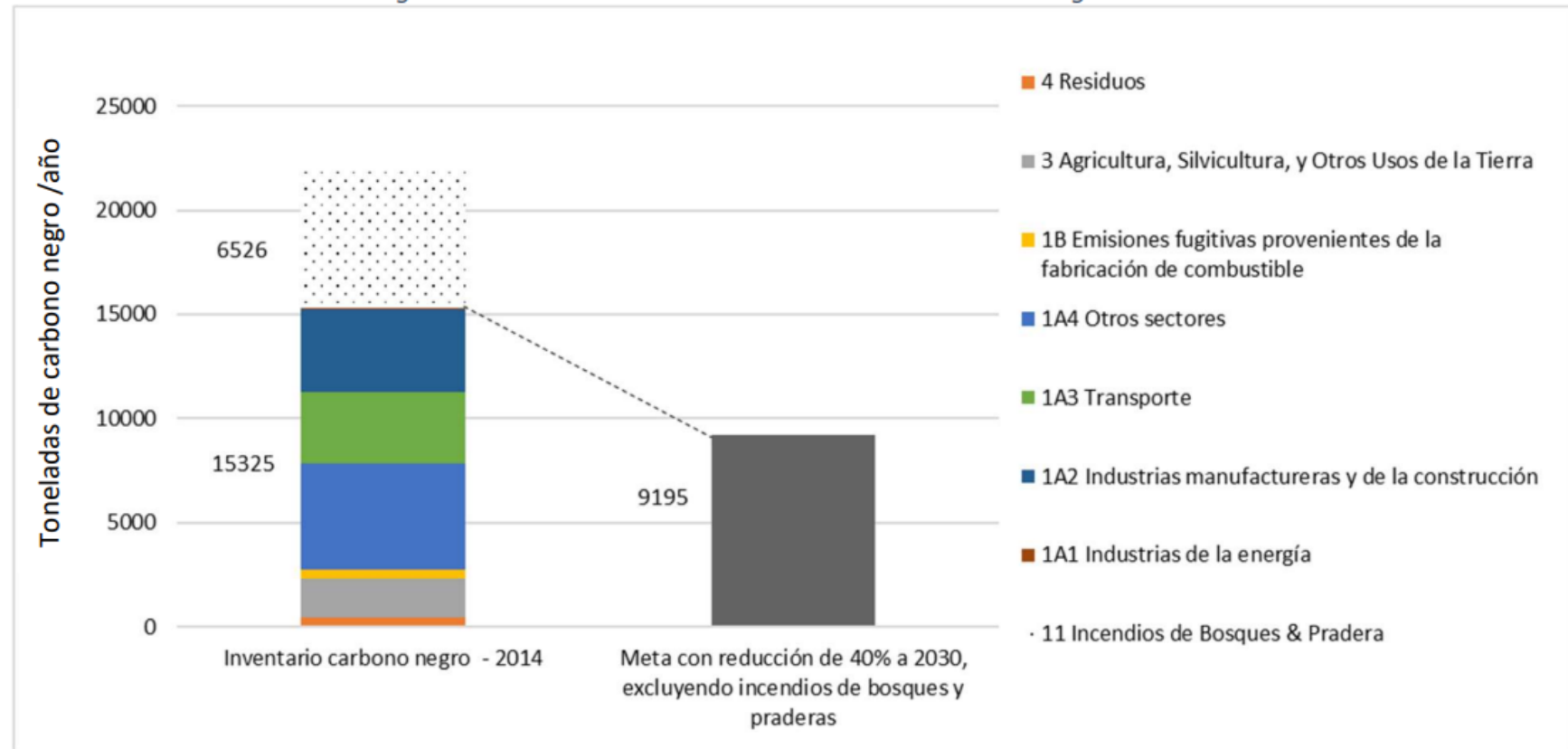
El futuro es de todos
Sistema de Gestión de Calidad y Medio Ambiente

Actualización de la Contribución Determinada a Nivel Nacional de Colombia (NDC)

La actualización de la NDC de Colombia fue aprobada en el marco de la Novena Sesión de la Comisión Intersectorial de Cambio Climático, del 10 de Diciembre de 2020.

ACTUALIZACIÓN NDC COLOMBIA - 2020

Figura 13. Meta de reducción de emisiones de carbono negro a 2030



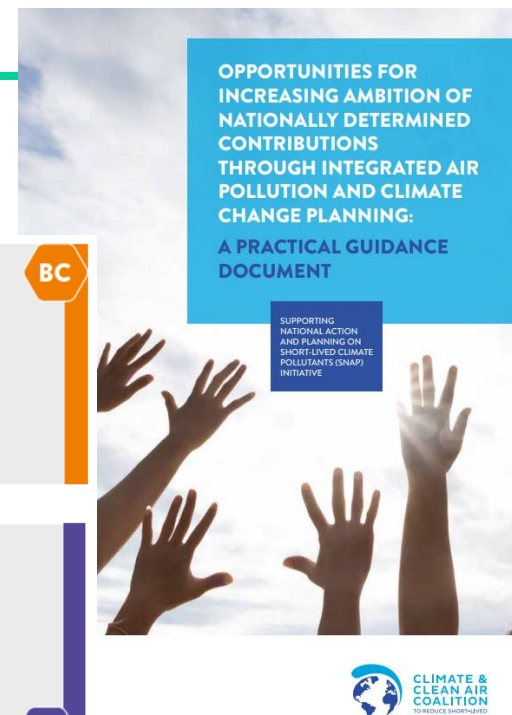
Guidance and getting started

Updating our Guidance: SLCPs and MRV

1. Integrating SLCPs and air pollutants in NDCs: Practical Guidance document



Figure ES3. Four opportunities to increase ambition



2. Guide on Integrating SLCPs and air pollution into monitoring and transparency frameworks

- Joint CCAC SNAP/Initiative for Climate Action Transparency (ICAT) Guide
- Practical approaches for integration of air pollutants and SLCPs into the Enhanced Transparency Framework Reporting, including

