CLIMATE & CLEAN AIR COALITION
TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS

The Multiple-Benefits Pathway for Climate and Clean Air

FAST ACTION FOR QUICK RESULTS WITH MULTIPLE BENEFITS

22 May 2019
Geneva, Switzerland

AIR POLLUTION & CLIMATE
Two Sides of Same Coin

- The vast majority of air pollutants impact the climate (directly or indirectly)
- The vast majority of GHG sources co-emit air pollutants or contribute to the formation of air pollutants
- Climate change doesn't just happen at the end of the century and all relevant substances have different atmospheric lifetimes, climate and other impacts

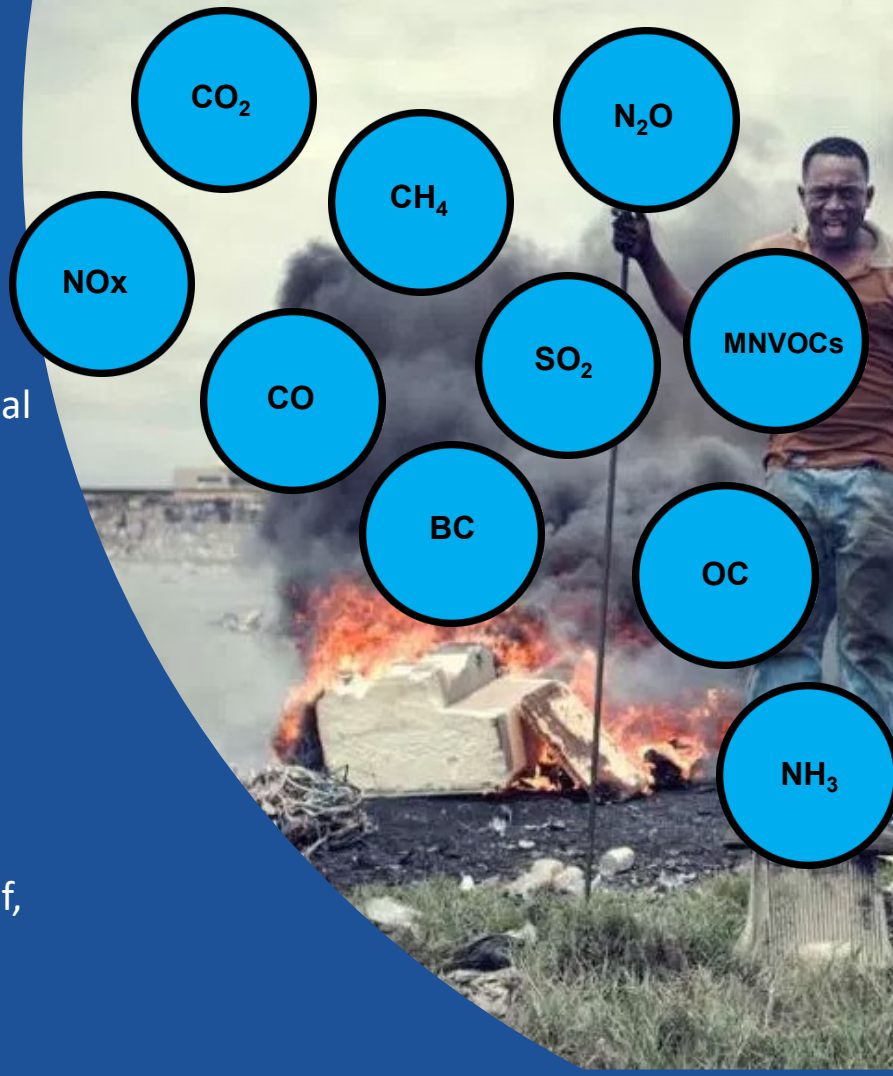
Can we identify a set of technical and policy mitigation measures that:

1. **Rapidly reduce the rate of warming in the next few decades, and**
2. **Improve air quality thereby benefitting public and ecosystem health?**

AN INTEGRATED APPROACH

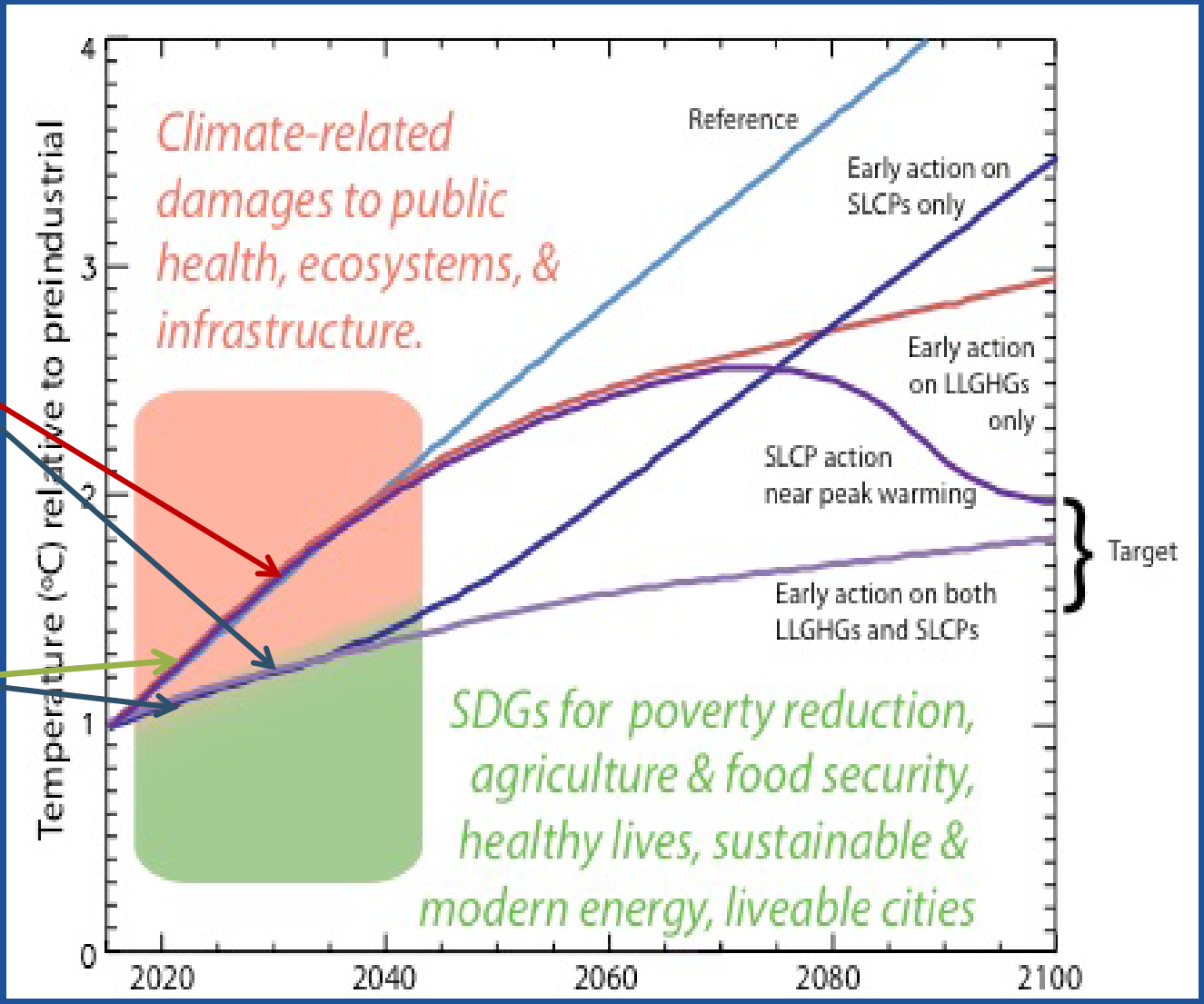
- Analyzed change in all relevant emissions due to a particular mitigation measure or strategy
- Assessed net impact of the change in emissions on global temperature and local air quality
- Quantified the multiple public health and agricultural impacts/benefits of those changes

- Out of thousands of possible measures, approximately 400 met criteria, 16 achieved approximately 90% of the climate benefit
- Those 16 measures focused on methane emissions and emissions from sources rich in black carbon, and HFCs
- 0.6˚C avoided warming 2050, cut rate of warming in half, 2.4 million lives saved every year (by 2030), over 50 million tonnes of staple crops (by 2030)



MILLIONS OF DEATHS

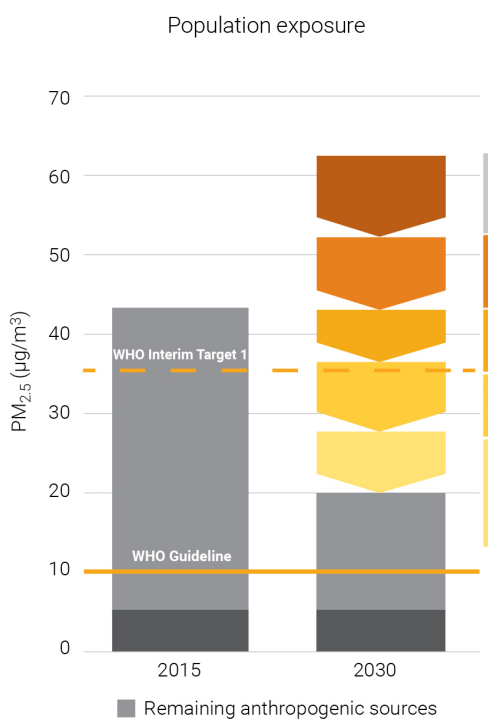
MILLIONS OF TONNES



WHAT IS THE MULTIPLE-BENEFITS PATHWAY APPROACH?

- It is a framework that supports the integrated assessment of the climate and air pollution impacts and benefits of policies that impact emissions.
  - It expresses the progression of temperature change as a pathway
  - Quantifies the multiple impacts and benefits for human health and agriculture.
- It is a recognition that the multiple-benefits of action are the catalyst for mitigation ambition

25 CLEAN AIR SOLUTIONS – MULTIPLE-BENEFITS FOR CLIMATE, HEALTH, AND OTHER SDGs



	SDG benefits	Climate forcers		
		CO_2	CH_4	BC
Post-2015 legislation relative to 2015	Goal 3	+16%	+17%	-24%
Conventional measures relative to 2030 baseline	Goal 3, 15	0%	0%	-8%
Next-stage measures relative to 2030 baseline	Goal 2, 3, 15	0%	-29%	-56%
Development priority measures relative to 2030 baseline	Goal 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15	-19%	-44%	-72%

FIGURE 2.10: IMPACT OF THE TOP 25 CLEAN AIR MEASURES IN REDUCING POPULATION EXPOSURE TO $PM_{2.5}$, AND BENEFITS FOR CLIMATE AND THE SUSTAINABLE DEVELOPMENT GOALS

The Top 25 measures will provide clean air to 1 billion people and reduce the number of people facing the highest WHO Interim Target by 80%

Multiple-Benefits Pathway
GHANA
Case Study

Scope – integrated approach (air quality & climate change)

- Basket of gases – GHG, SLCPs and selected precursors (CH_4, CO_2, CO, NOx, SO_2, BC, OC, HFC??)
- Near-term and long-term gases
- Scale - national level
- Time frame – 2010 to 2040 (time dimension).
- National inventory system ("GHG inventory" vs "local air quality").
- Five scenarios based on different packages of measures: Additional PAMs++, Additional PAMs+, Additional PAMs, Current PAMs Success, Current PAMs Failure (defined incremental ambition).
- LEAP-IBC tool.

Evaluate benefits of measures: Emissions

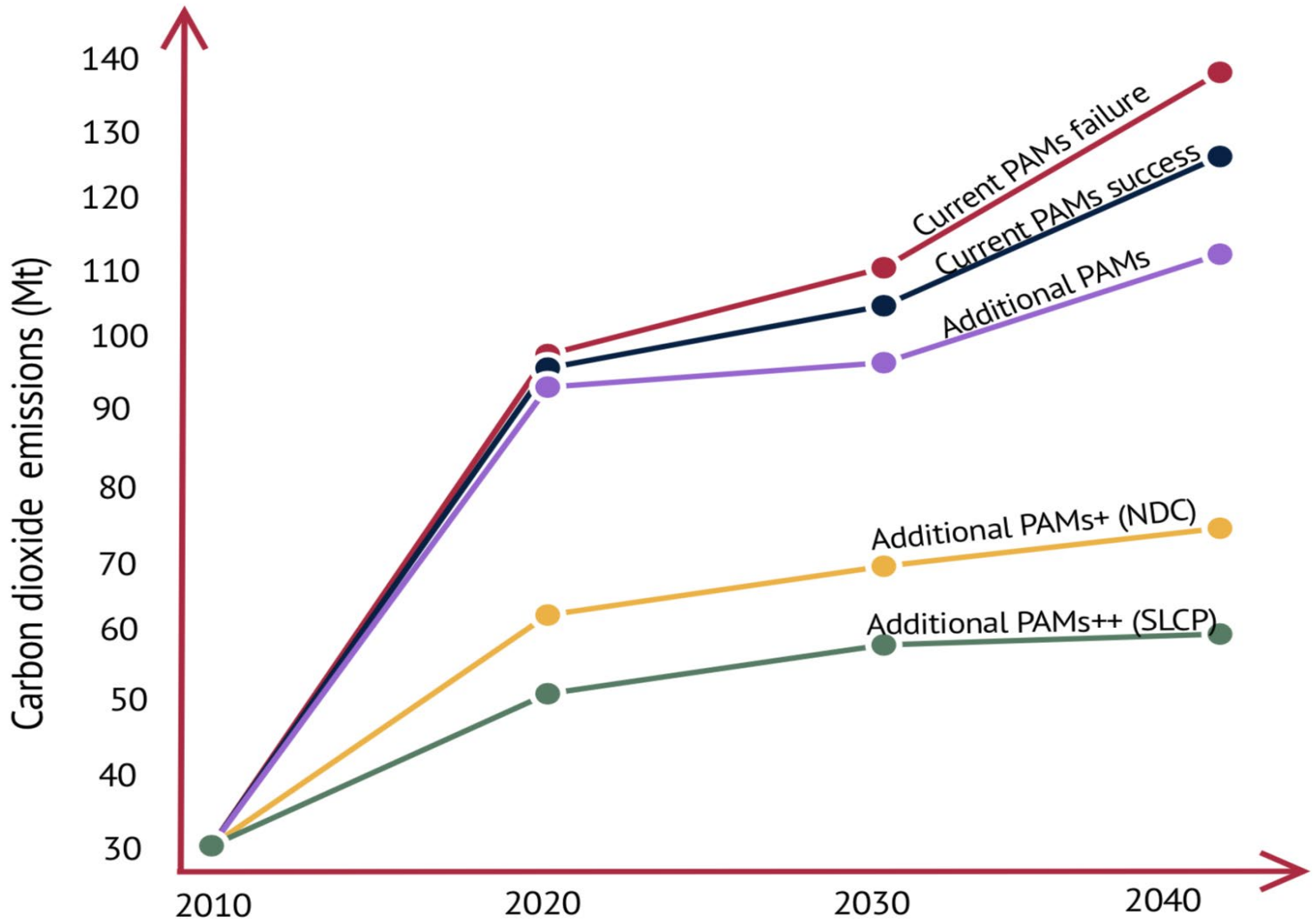


Fig 25 - Carbon Dioxide emission under different policy scenarios

Evaluate benefits of measures: Impacts

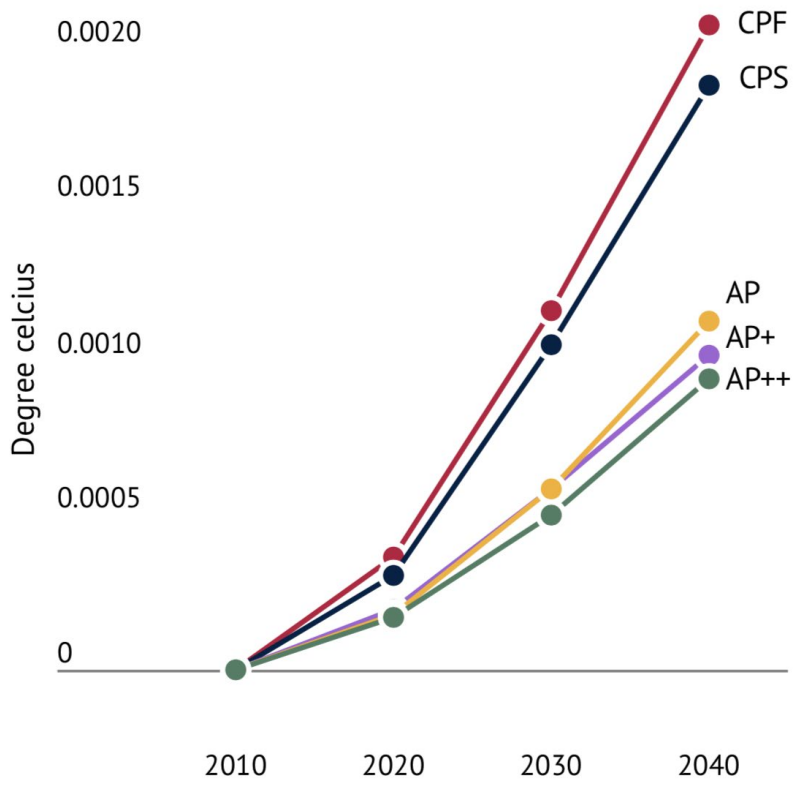


Fig 19 - Climate impacts expressed in avoided temperature change

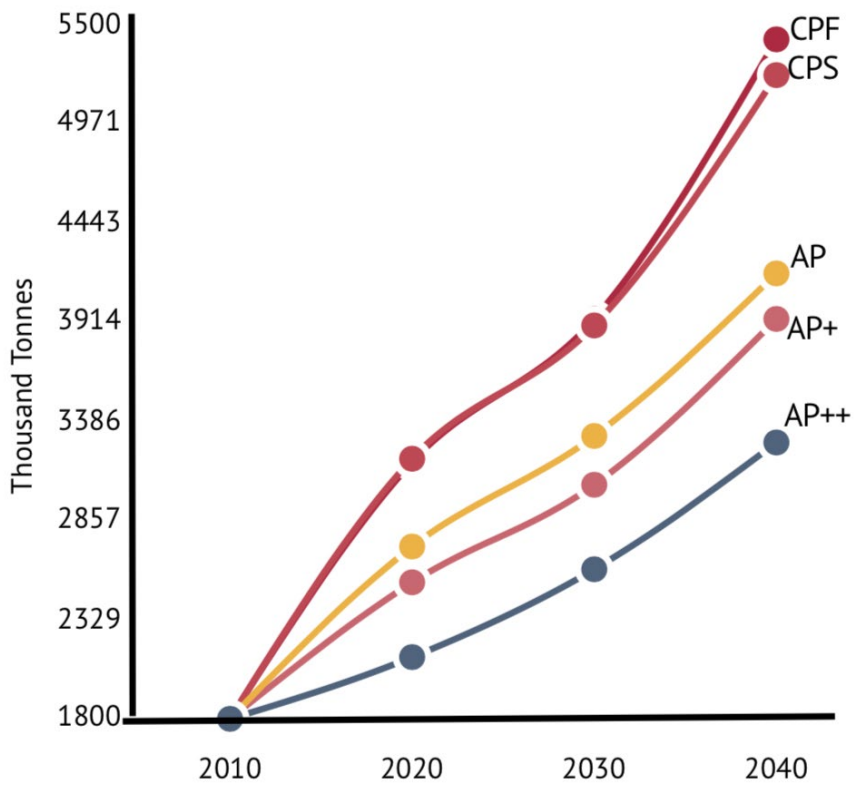


Fig 24 - Crop loss under different policy scenario

What does the approach means to us?

Smart communication tool

- Smart realistic, relevant and smart solutions of policy measures.
- Drum home central the message of the need for policy coherence.
- Importance of multiple benefits (economic and social benefits).
- Practical way to engage the general public.

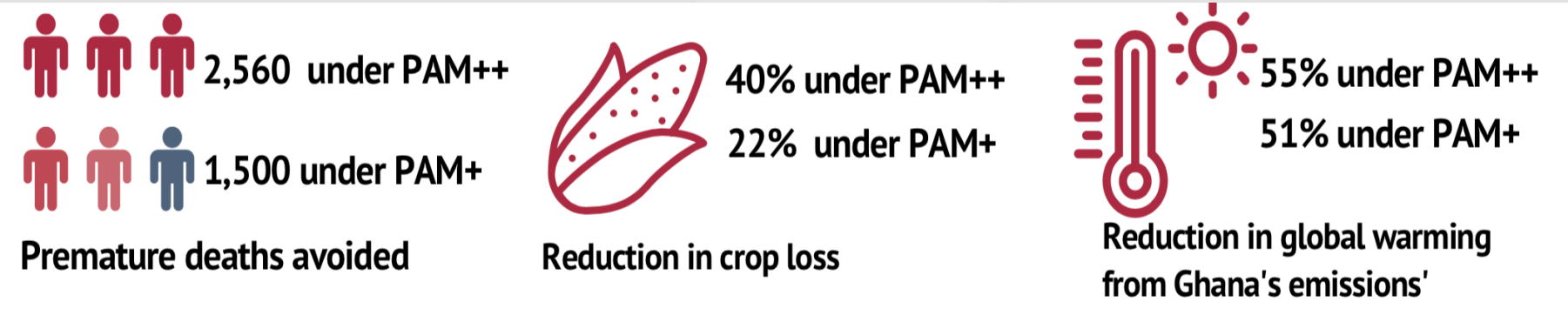
Strengthens economic and social argument of climate-SLCP measures (influence allocation of national budget – tag in Ministry of Finance)

- "bargaining chip" for typically second-rated environmental issues.

Rally sub-regional governments to take action individually or jointly

- Advocate for **rapid action**, **direct local benefits** and **global common good** in the future.
- **Development benefits** of the climate actions.
- **Near-term benefits** of climate and SLCP mitigation measures make economic sense.

Where will we find the urgent ambition we're looking for to address the largest environmental threat of our age?



Source: Ghana's Draft SLCP National Action Plan

Ghana's 4th National Greenhouse Gas Inventory

Includes: CO_2, CH_4, N_2O, HFCs, PFC AND Black Carbon, NOx, CO, NMVOCs, $PM_{2.5}$

"The widening of the variety of gases in the inventory was crucial because it helped to enhance the utility and relevance of the results beyond climate change to the impacts of SLCPs and air pollution on human lives, agricultural productivity, ecosystems, and sustainable development."

Thank you!

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LEARN MORE:

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