

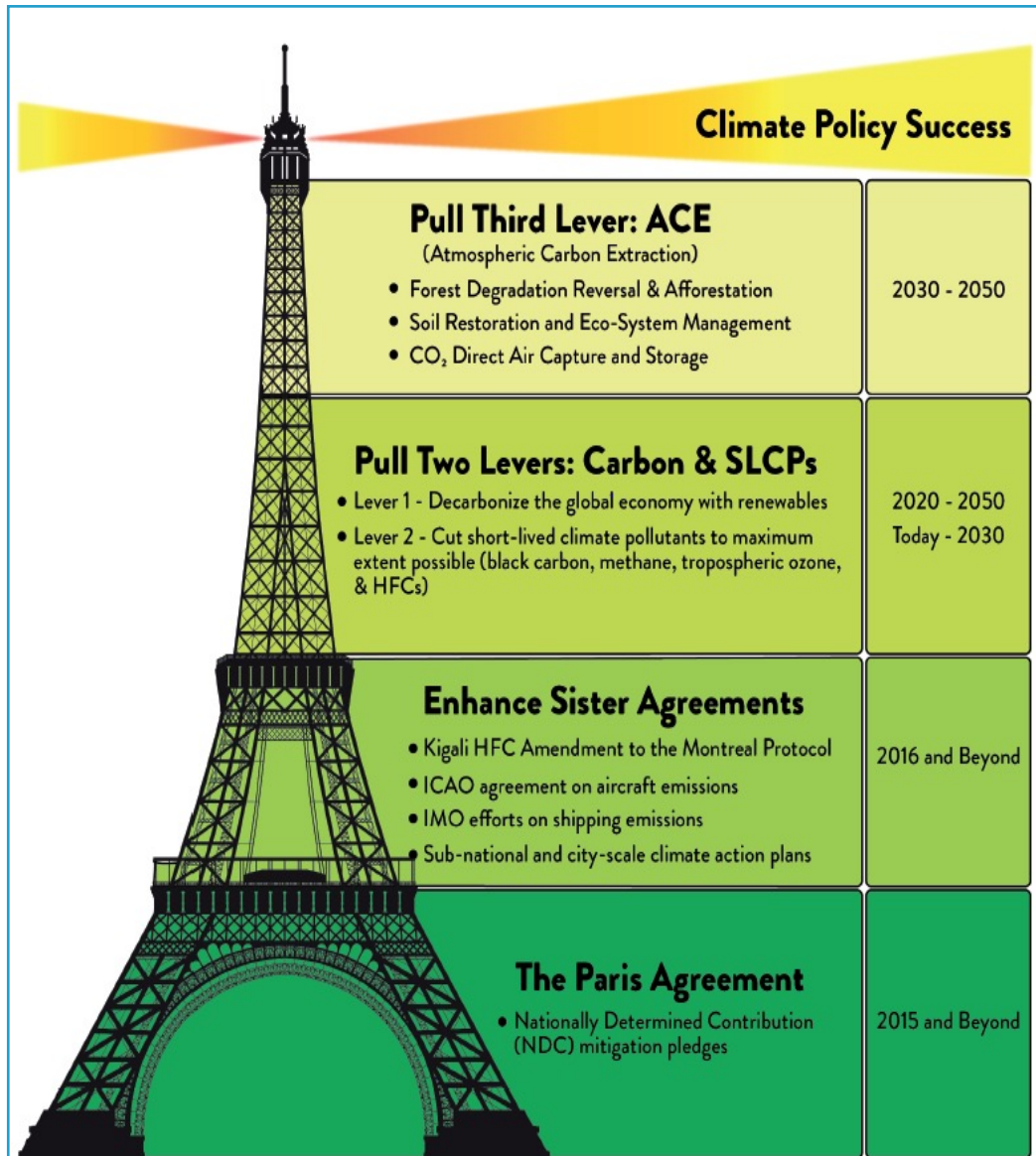
INTERNATIONAL POLICIES TO JOINTLY PROTECT CLIMATE AND HEALTH

20 JULY 2021

Helena Molin Valdes
Former Head of CCAC Secretariat



INTERNATIONAL AGREEMENTS



KIGALI AMENDMENT



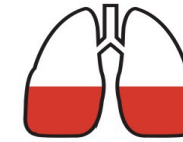
CLIMATE/AIR POLLUTION: UNSUSTAINABLE PATH

- **1.2°C warming** since pre-industrial times
 - Carbon dioxide (CO₂) concentrations at the highest level in 3 million years – 148 per cent above pre-industrial levels.
- Air pollution is the greatest environmental threat to human health – links to spread of virus
- **7 million premature deaths** per/year from air pollution – and many health problems
- **>110 million tonnes basic crops lost** per/year due to tropospheric ozone



THE INVISIBLE KILLER

Air pollution may not always be visible, but it can be deadly.



36%
OF DEATHS FROM
LUNG CANCER



34%
OF DEATHS FROM
STROKE



27%
OF DEATHS FROM
HEART DISEASE

BREATHELIFE.

Clean Air. Healthy Future.



**E &
AIR
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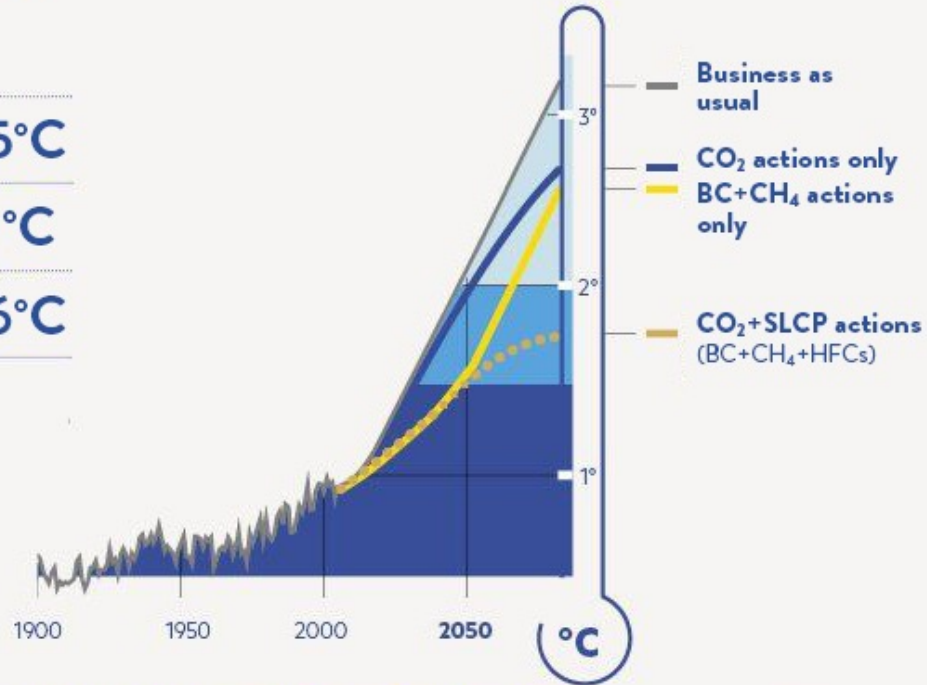
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS

CLIMATE: DEFINE A MORE SUSTAINABLE PATH

CLIMATE MITIGATION PATHWAYS

Avoided global warming by 2050

Black Carbon (BC) + Methane (CH ₄)	0.5°C
Hydrofluorocarbons (HFCs)	0.1°C
All Short-Lived Climate Pollutants	0.6°C



SIMULATED TEMPERATURE CHANGE UNDER VARIOUS MITIGATION SCENARIOS

www.ccacoalition.org/science

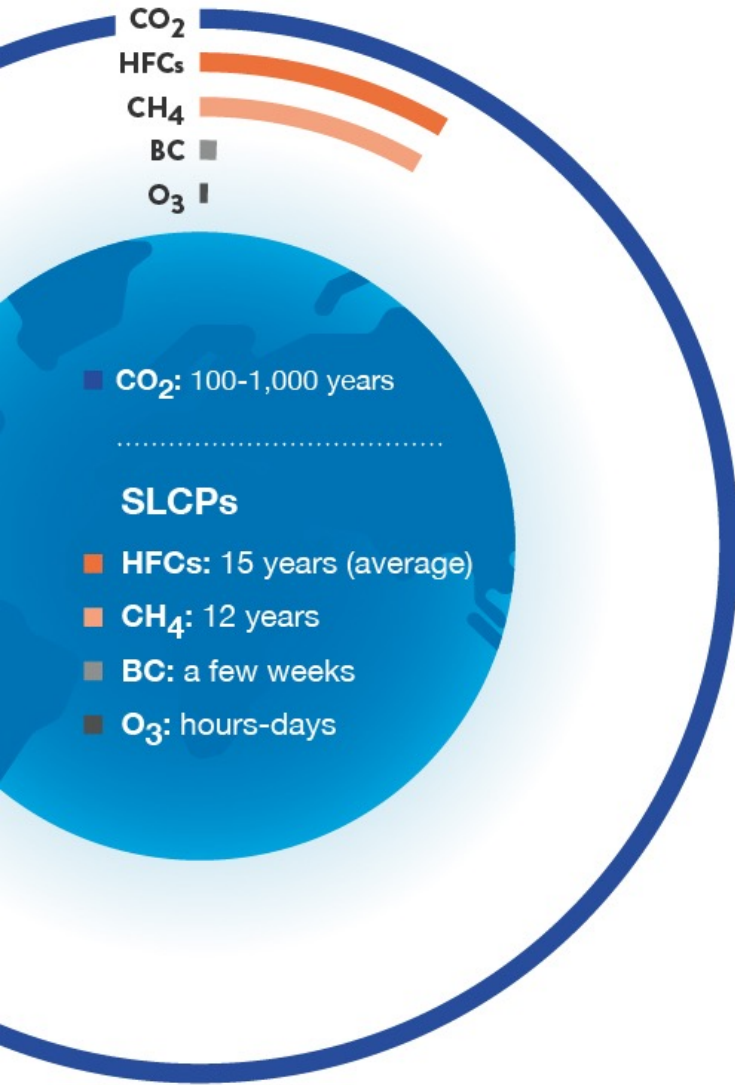
SPEED NEEDED to avoid irreversible tipping points



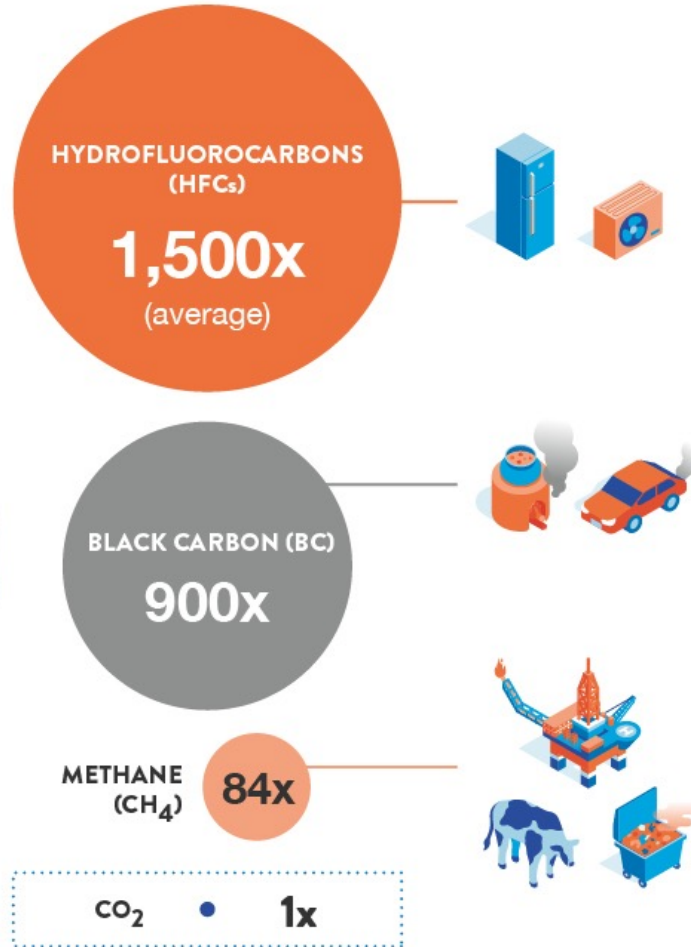
SHORT-LIVED CLIMATE POLLUTANTS

Short-lived climate pollutants (SLCPs) are powerful climate forcers that remain in the atmosphere for a much shorter period of time than carbon dioxide (CO₂), yet their potential to warm the atmosphere can be many times greater.

LIFETIME IN ATMOSPHERE



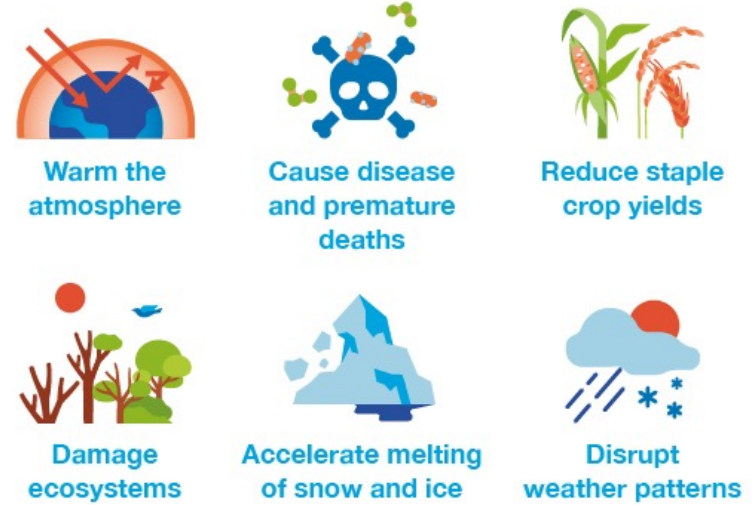
CLIMATE IMPACTS



SOURCES



SLCP IMPACTS



SLCP SOLUTIONS

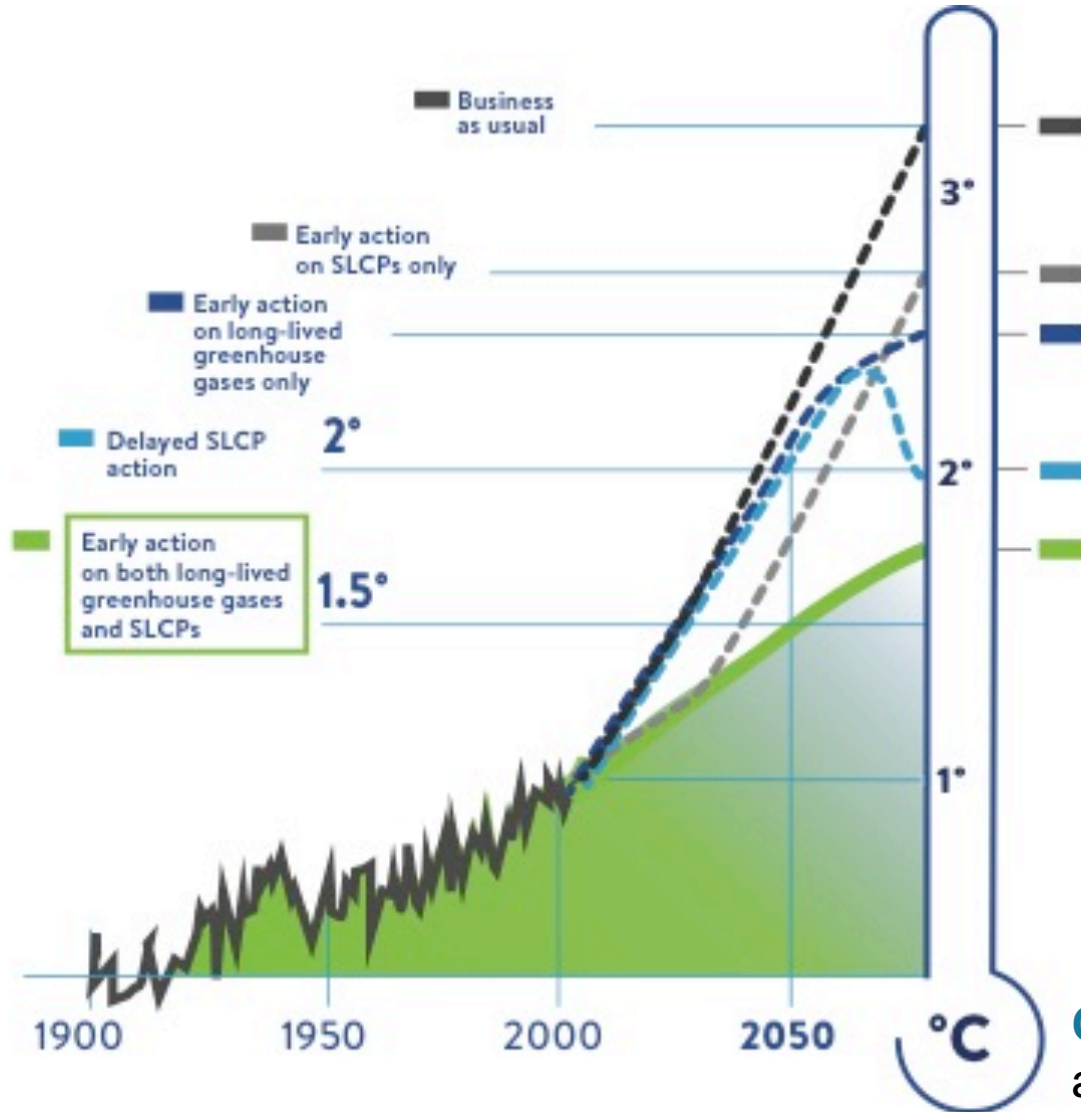
Due to their relatively short lifetime in the atmosphere, reducing SLCPs can bring immediate climate and air quality benefits. Emissions can be cut quickly using cost-effective technologies and practices that exist today.

	Emissions reduction potential	
Black carbon	70%	by 2030
Methane	45%	
Hydrofluorocarbons	56%	



Over a 20-year period, SLCPs are many times more powerful than CO₂

MULTIPLE BENEFITS PATHWAY



Climate Mitigation Pathways
avoided global warming by 2050

- 


CLIMATE
0.60C avoided warming by 2050

- 


HEALTH
2.4 million avoided premature deaths annually from outdoor air pollution

- 


FOOD SECURITY
52 million tonnes of avoided crop losses from 4 major staples per year

- 

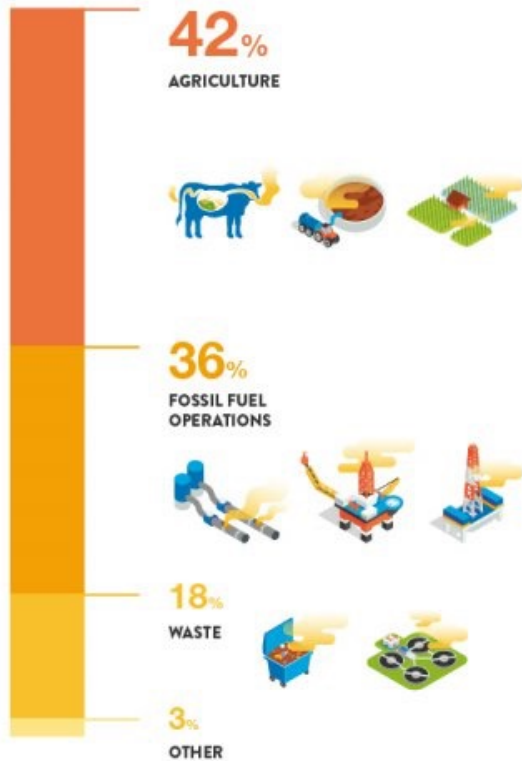

SUSTAINABLE DEVELOPMENT GOALS
Contribution to meeting the SDGs related to air quality, health, and food security

METHANE (CH₄)

Methane emissions caused by human activities are one of the most significant drivers of climate change. Methane is also the main precursor of tropospheric ozone, a powerful greenhouse gas and air pollutant.

SOURCES

Methane is one of the fastest growing greenhouse gases in the atmosphere. Human activity causes 80% of emissions.



% = global emissions

IMPACTS

CLIMATE

Responsible for **40% of warming** since the industrial revolution

84x

times more powerful than carbon dioxide over a 20-year period

HEALTH

Increasing emissions are driving a rise in tropospheric ozone air pollution, causing **1+ million premature deaths annually**



Respiratory diseases

Heart disease

Damages airways and lung tissue

AGRICULTURE & ECOSYSTEMS

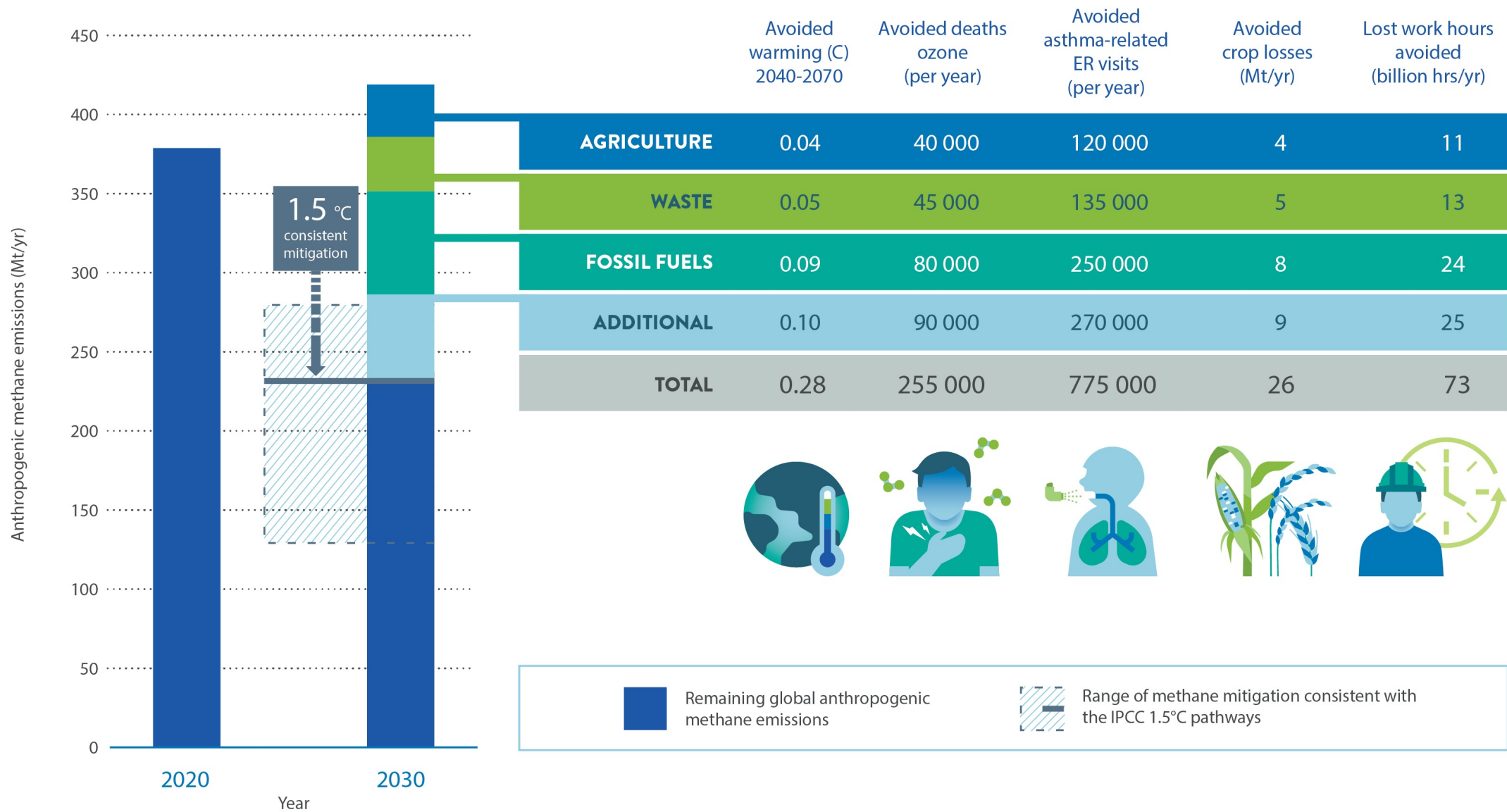


Up to **15%** annual yield losses

of soy, wheat, rice and maize

LIFETIME IN ATMOSPHERE:
12 YEARS

Since methane does not last long in the atmosphere, efforts to reduce it will bring immediate benefits for the climate and human health.



Source: Global Methane Assessment, May 2021, UNEP-CCAC

VOLUNTARY COMMITMENTS & COALITIONS: CLIMATE & CLEAN AIR COALITION (CCAC)



**An action global partnership –
voluntary Framework since 2012**

**From 6 to 70 countries,
75+ int orgs & NGOs**

**More than 100 cities and many
businesses
→ Hosted by UNEP**

CCAC Vision

**[A]n atmosphere that enables people and the
planet to thrive – stabilizing the climate with
warming limited to 1.5°C and drastically
reduced air pollution**

Focus on Solutions – Implementation at scale

Methane, Black Carbon & HFC actions



AGRICULTURE



BRICKS



HOUSEHOLD



Heavy Duty Vehicles



OIL & GAS



Cooling HFCs



WASTE



ASSESSMENTS



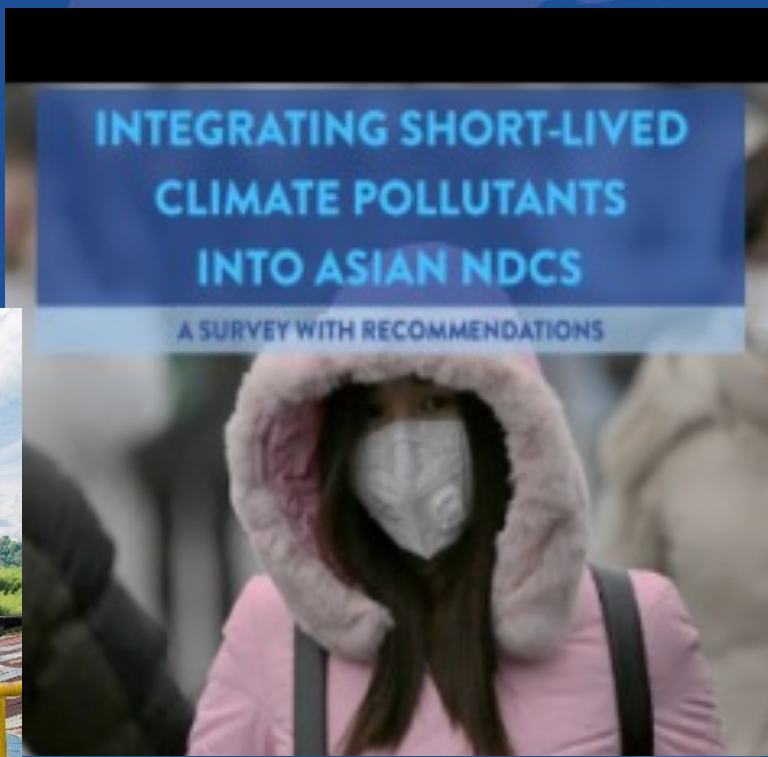
FINANCE



SNAP



HEALTH



SOME CONCLUSIONS

1. **Scientific evidence** as basis for decision making, incl observations, monitoring and early warnings. **Integrated assessments and approaches to estimate all climate pollutants and all benefits**
2. **International Agreements essential** – but takes time and not enough (sends market signals)
3. **The political will** to act at the speed needed is lacking! **Governance and normative actions** key to implement change – national and local leadership , involve people
4. **Awareness and public education critical** – change in behavior needed, change in consumption and production
5. **Put a high price on carbon** – polluter pays principle
6. **Finance, cooperation and solidarity** – up the stakes, fulfil commitments incl US\$100 bn/year



THANK YOU

“The world is a dangerous place, not because of those who do evil, but because of those who look on and do nothing.”

Albert Einstein

Useful links:

www.ccacoalition.org

<https://unfccc.int/process-and-meetings/conferences/road-to-glasgow>

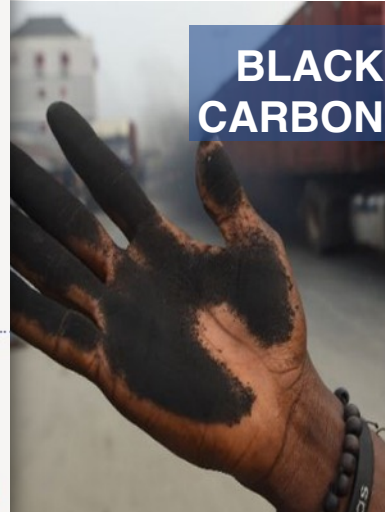
<https://ozone.unep.org/kigali-amendment-implementation-begins>

ALT SLIDES

SHORT-LIVED CLIMATE POLLUTANTS

Near term response to mitigation

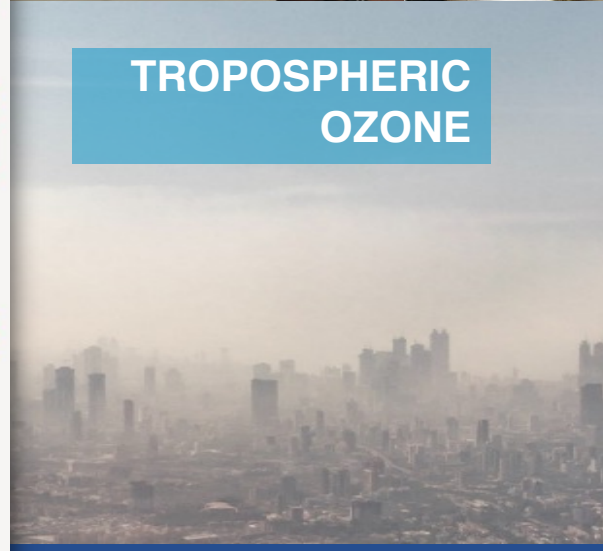
SUBSTANCE	ANTHROPOGENIC SOURCES
BLACK CARBON (BC)	
METHANE (CH ₄)	
TROPOSPHERIC OZONE (O ₃)	
HYDROFLUORO-CARBONS (HFCs)	



BLACK CARBON



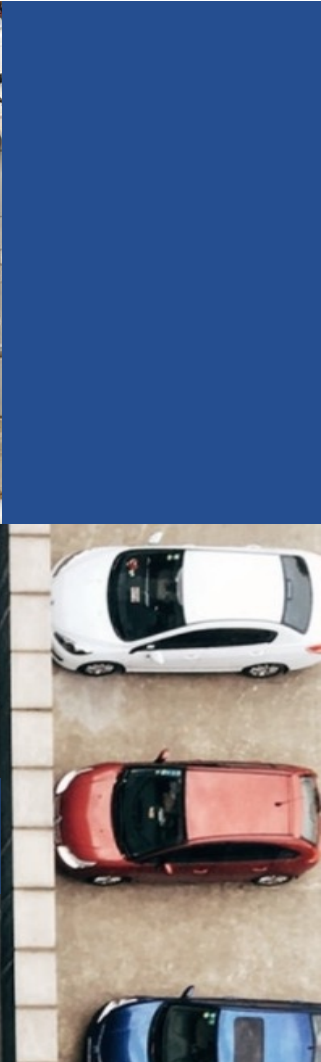
METHANE



TROPOSPHERIC OZONE



HFCs



IN ADDITION TO CO₂ MITIGATION

MULTIPLE IMPACTS & BENEFITS

110 million tonnes crop staple crops lost per year

2 ZERO HUNGER



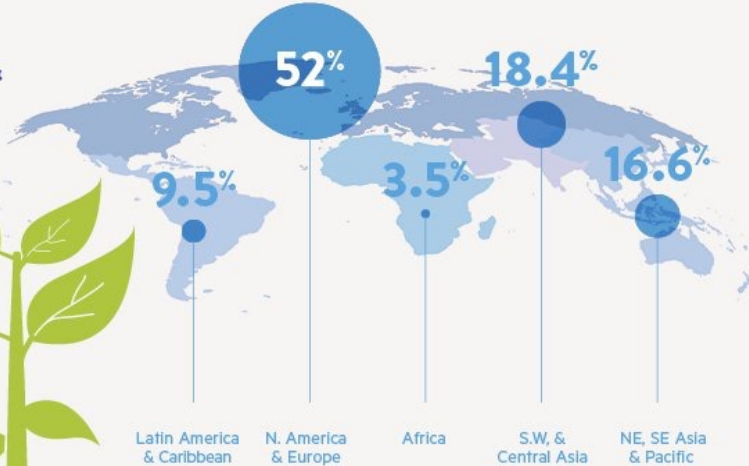
SLCP EFFECTS ON PLANTS DUE TO:

● O₃ ● BLACK CARBON & CO-POLLUTANTS

- Impeded photosynthesis
- Reduced ability to sequester carbon
- Plant cell damage
- Reduced crop production
- Reduced quality and nutritive value of food and feed
- Increased leaf temperature (uncertain effect)
- Reduced sunlight reaching plants affecting photosynthesis (uncertain effect)



APPROXIMATE SHARE OF GLOBAL CROP LOSSES FROM WHEAT+RICE+MAIZE+SOYBEAN (YEAR 2000)



DISEASES DUE TO:

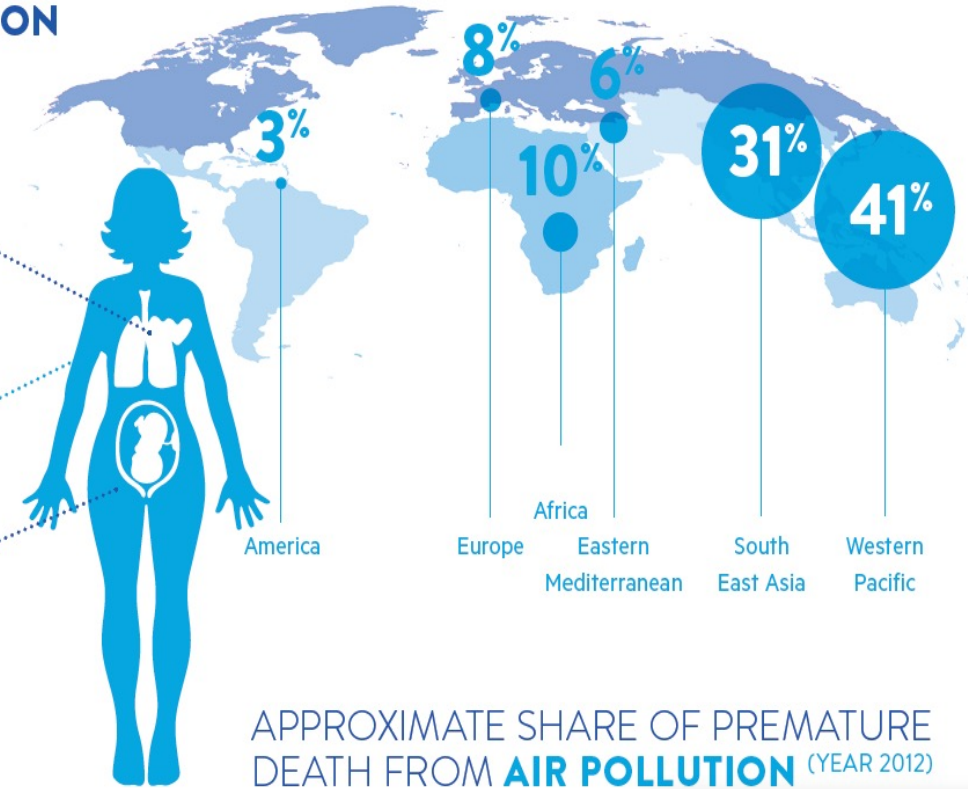
Health

- OZONE (O₃)
- PM2.5 AIR POLLUTION

- Chronic obstructive pulmonary disease (COPD)
- Childhood pneumonia
- Ischaemic heart disease
- Stroke

- Asthma
- Breathing problems airway inflammation
- Chronic respiratory illness
- Reduced lung function

- Low birth weight



>7 million premature deaths per year from air pollution (GBD)
Biggest environmental health risk

3 GOOD HEALTH AND WELL-BEING

