

Global Atmospheric Pollution Forum



Air Pollution and Climate Change: Policy interactions and co-benefits

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Sub-regional workshop: <<Better Air Quality in North Africa>>

Hôtel Ramada Plaza, Tunis, 23-25 November 2009

Outline of talk

Challenges and opportunities

Description of the GAP Forum and its activities

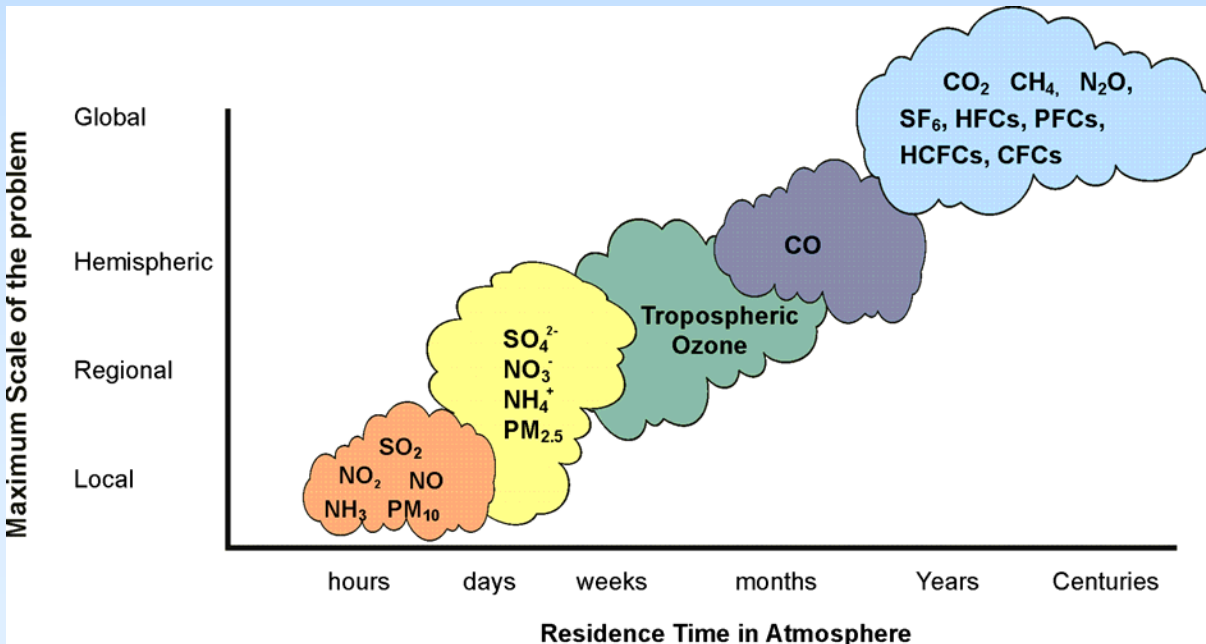
Air pollution/climate change interactions

Recommendations from developing countries

Next steps –towards more integrated solutions

Challenges and opportunities

- Dealing with air pollution across the scales
- Moving from assessment to action
- Creating awareness of true costs of poor air quality and benefits in key stakeholders
- Integration of climate change and air pollution policies producing co-benefits



Global Atmospheric Pollution Forum: Partnership of international organizations and regional air pollution networks

- United Nations Environment Programme (UNEP)
- UNEP-sponsored networks and programmes in East Asia and South Asia
- UN Economic Commission for Europe/Convention on Long-range Transboundary Air Pollution (UNECE)
- Air Pollution Information Network for Africa (APINA)
- Inter-American Network for Atmospheric and Biospheric Studies (IANABIS)
- Clean Air Initiative – Asian Cities; Latin America, Africa
- Sahara and Sahel Observatory (OSS)
- International Union of Air Pollution Prevention Associations (IUAPPA)
- Stockholm Environment Institute (SEI)

Global Forum Objectives

Mitigating air pollution and integrating regional programmes by:

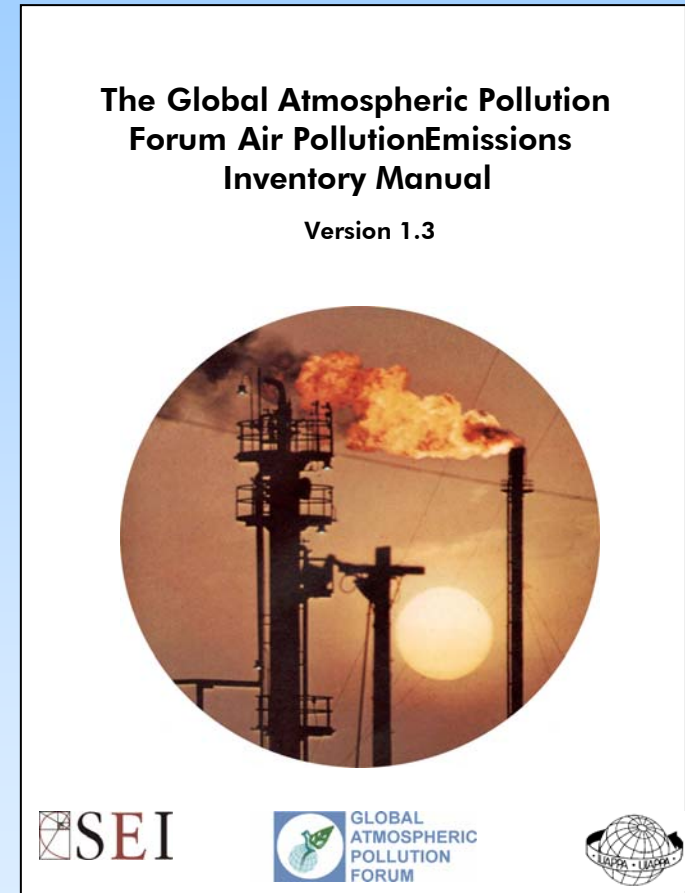
1. Establishing or strengthening regional air pollution networks;
2. Harmonizing technical systems and information between regions (e.g. on emissions, monitoring, impact and mitigation approaches);
3. Building consensus among regional groups and stakeholders (towards possible hemispheric or global frameworks for air pollution).



Harmonizing technical approaches: Emissions Inventory Manual for Developing Nations

The Forum Manual is designed to be:

- **Relevant** - experts from Brazil, China, India and Malawi, as well as EMEP/CORINAIR and IPCC had a key role in developing the Forum Manual
- **Easy to use** – includes a simple, Excel spreadsheet-based workbook in which most calculations are carried out automatically
- **Compatible** - with EMEP/CORINAIR, IPCC and USEPA approaches
- **A training tool** – e.g. includes a section on ‘Principles of good practice in preparing inventories’



Forum's progress in promoting intergovernmental networks

Asia:

UNEP, CAI-Asia, Malé Declaration, EANET and ASEAN starting to initiate inter-regional intergovernmental talks

Latin America:

Secretariat, IANABIS, CAI-LA and UNEP recently achieved a ministerial agreement to set up a science to policy network at intergovernmental level across Latin America

Africa:

APINA, UNEP, CAI-Africa, USEPA , SEI promoting sub-regional workshops in central, northern, southern, western and eastern Africa

‘Air Pollution and Climate Change: Developing a Framework for Integrated Co-benefits Strategies’

- **Hosted by Sweden, funded by Sida, September 2008**
- **Held under the auspices of the Convention on LRTAP and UNEP, in consultation with the UNFCCC secretariat**
- **110 scientists and policy experts from 35 countries, including Asia, Africa, Latin America, Europe, North America and Australia from air pollution and climate communities**
- **Organised by Forum Secretariat (IUAPPA and SEI)**





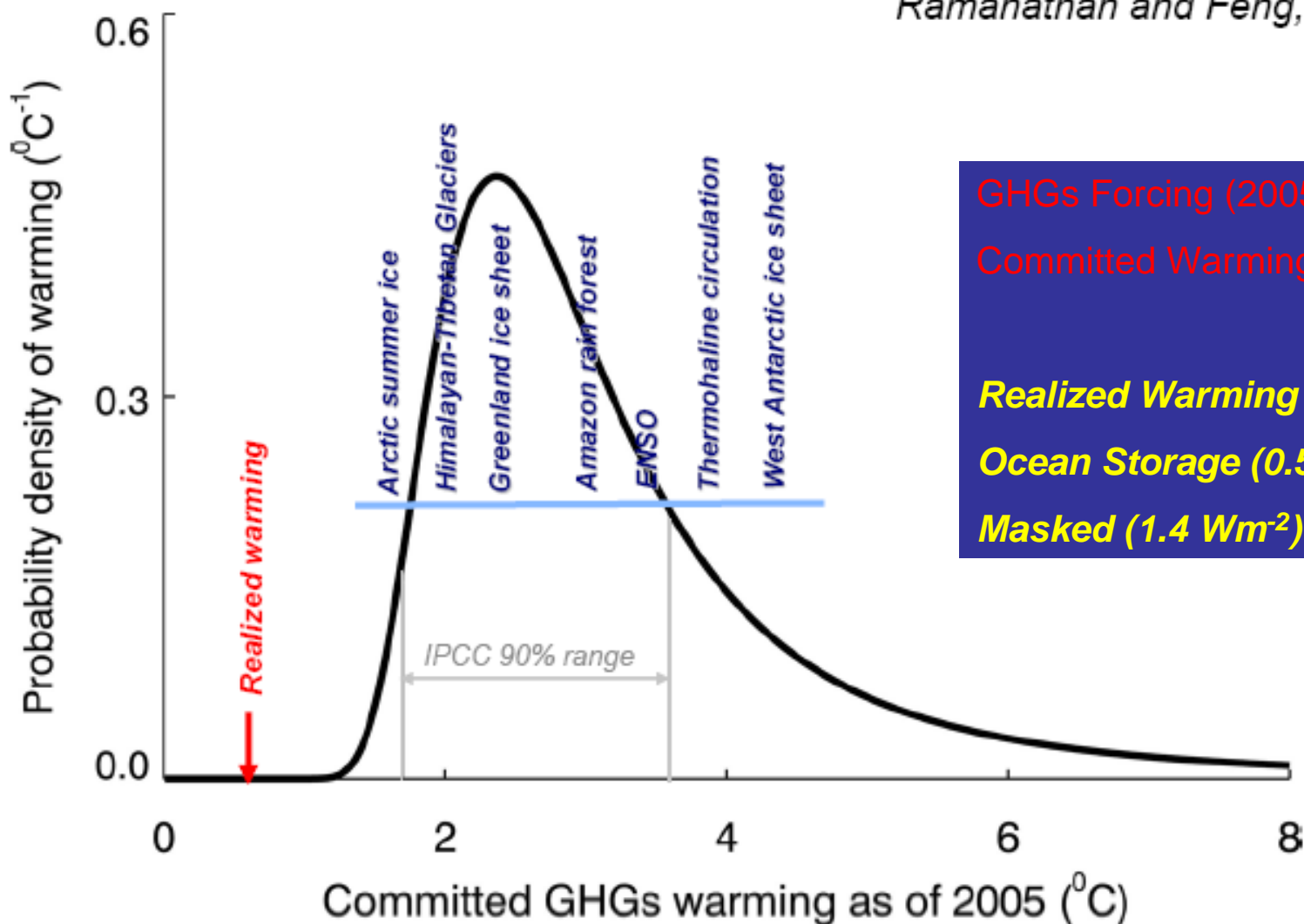
Starting Point for the Conference

- Increasing recognition of the depth of the interactions e.g:
 - Black Carbon and ozone, in particular are air pollutants and major warming agents
 - Methane was another key warming agent deserving more attention
 - ‘Cooling aerosols’ (e.g. sulphate) mask full extent of committed warming from GHGs already in the atmosphere: *major policy dilemma*
- Science and policy related to air pollution and climate change still largely separated



Committed Warming as of 2005

Ramanathan and Feng, 2008



GHGs Forcing (2005) = 3 Wm^{-2}

Committed Warming = 2.4 C

Realized Warming = 0.6 C

Ocean Storage (0.5 Wm^{-2}) = 0.5 C

Masked (1.4 Wm^{-2}) = 1.2 C

Committed warming derived from IPCC Forcing & IPCC climate sensitivity

Global Forum Stockholm Conference

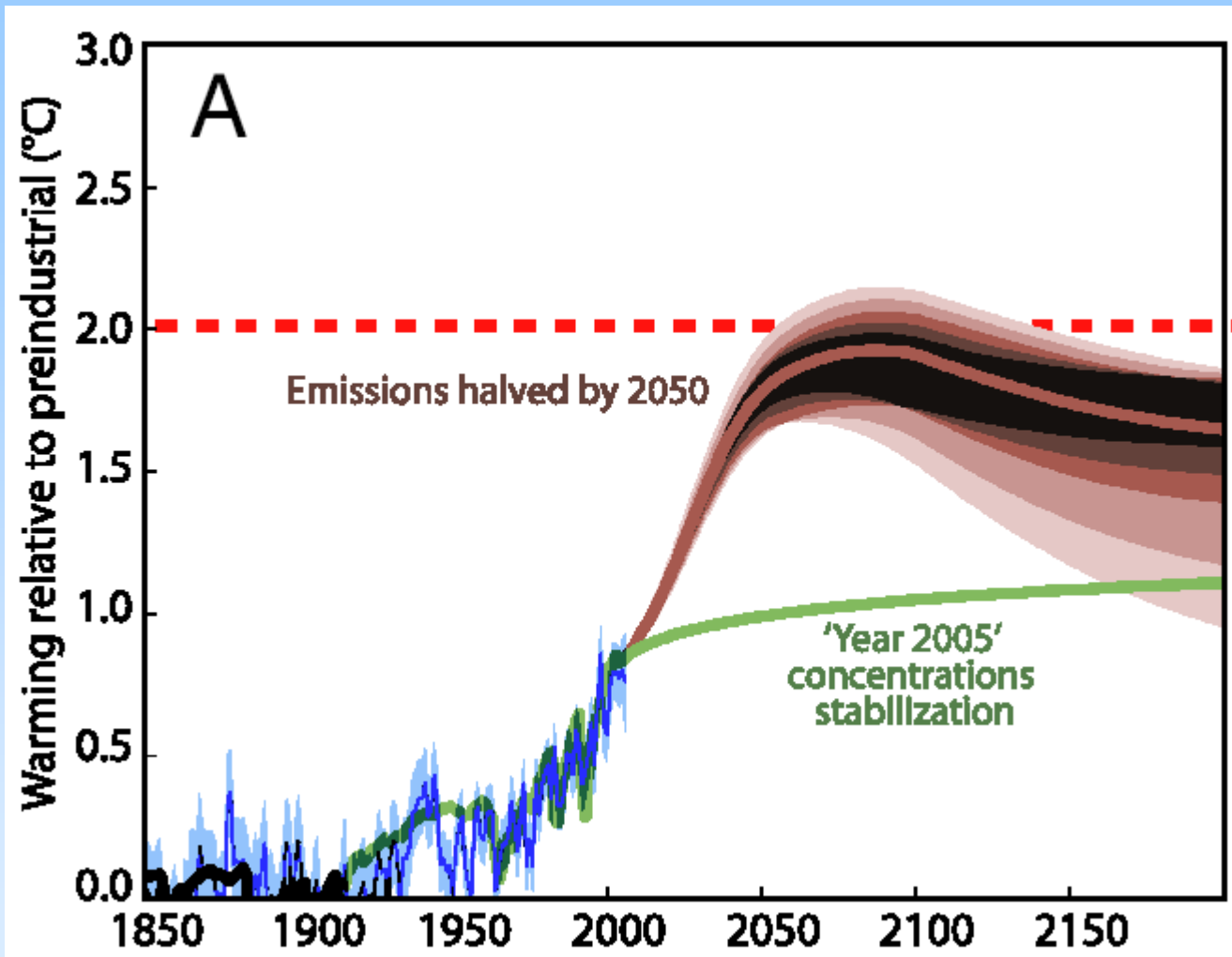


A Focus on Short-lived Climate Forcers

SO₄ will go down – warming is realised

BC, O₃ and Methane are short lived in the atmosphere and addressing them aggressively might reduce the degree of warming over next decades

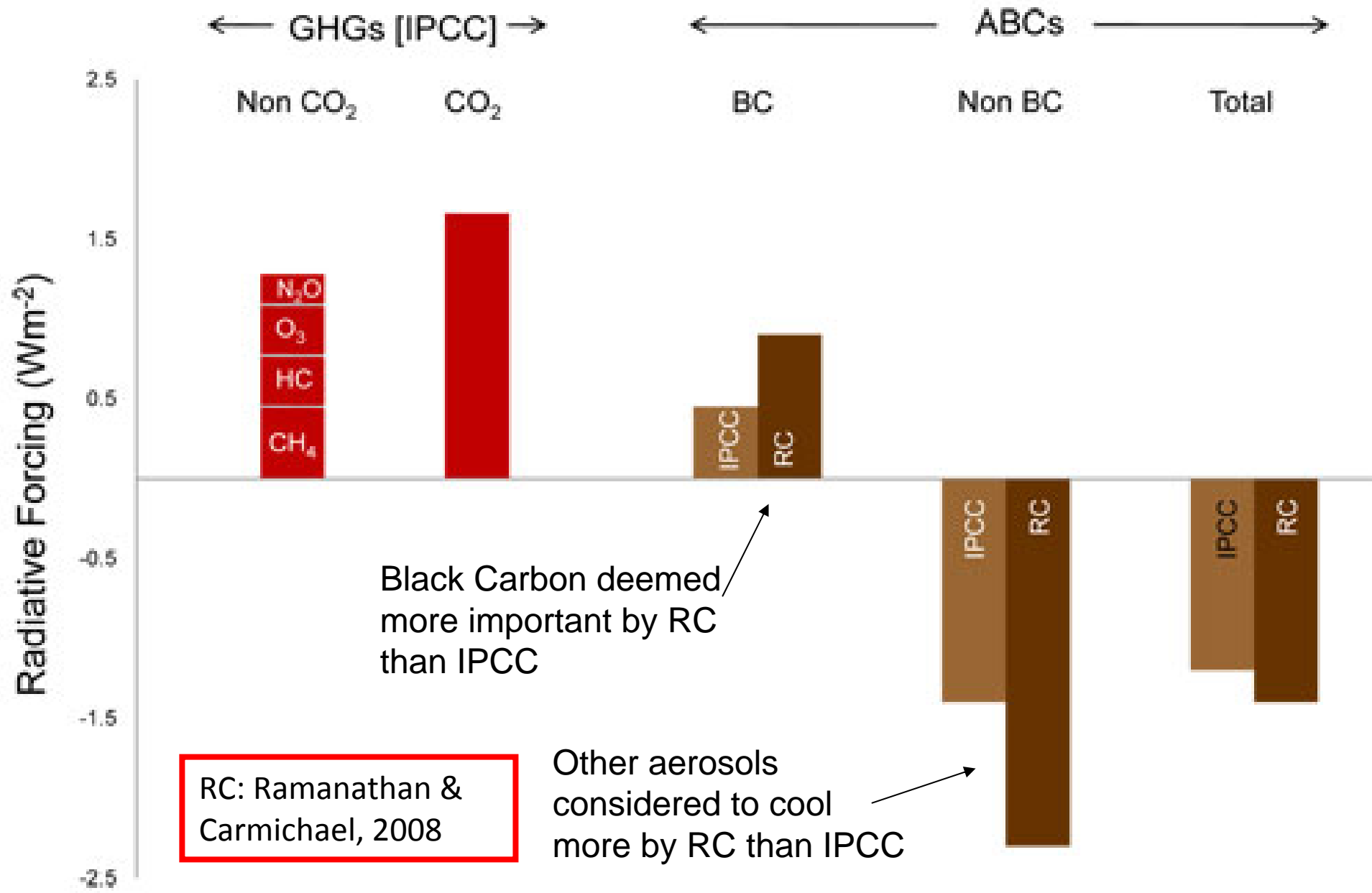
BC and O₃ are important air pollutants affecting health, crop yields, ecosystems, melting of snow and ice (Arctic and Himalayas), rainfall patterns. Methane is an important ozone precursor.



Source: Shellhuber PNAS Sep 08,

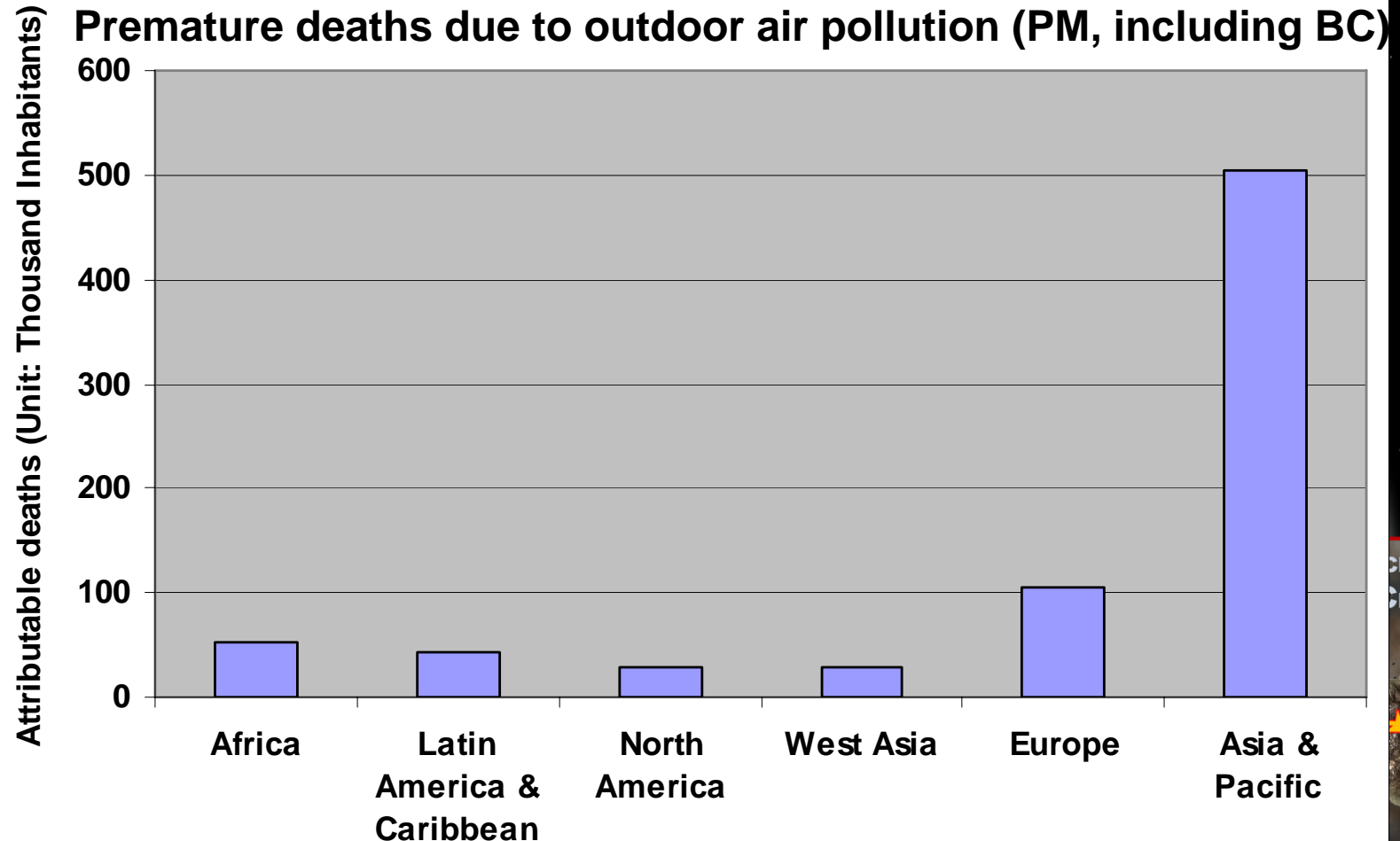
Global Radiative Forcing due to GHGs & Atmospheric Brown Clouds

Ramanathan and Feng, PNAS 105, 2008



Hindu Kush-Himalayan-Tibetan Glaciers: Water Fountain of Asia

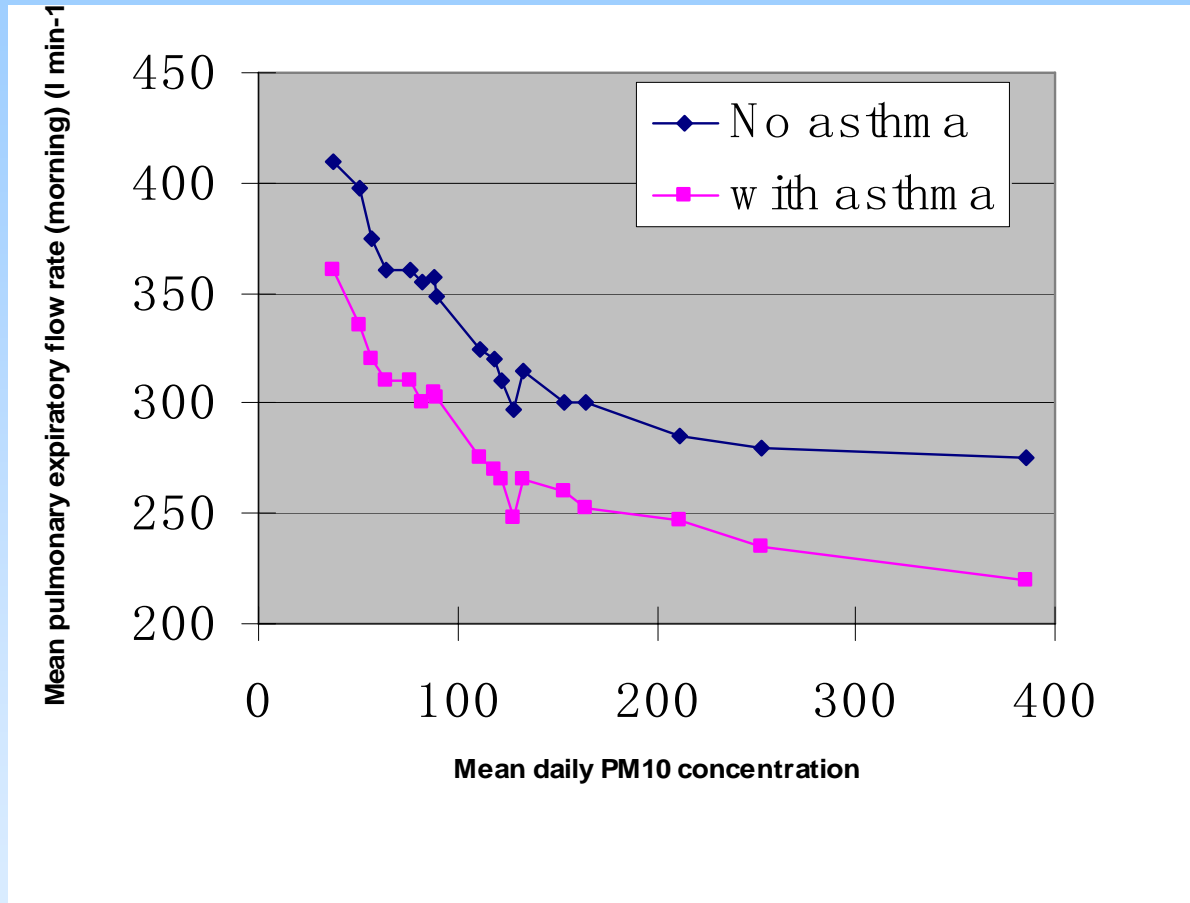
Black Carbon has an important local effect melting these glaciers



Source: Cohen et al, 2004, WHO



Health Study Dhaka – the influence of PM on lung function



Vulnerable e.g. asthmatics, children and elderly affected disproportionately

Work hours lost to economies

Recommendations to addresses:

- Development is the major priority of developing countries and there is a perception that AQ and CC controls are barriers to development
- Air pollution is often seen in developing countries as a more relevant and immediate entry point to atmospheric issues than climate change
- Public health burden of air pollution takes a huge toll on social resources - benefits are available NOW
- *Emissions reductions lead to immediate improvements in public health and productivity*

Recommendations to addresses:

- Sustainable Development, including abating air pollution for human health, energy security, food and water security considerations and other MDG goals is the goal.
- Radiative forcing considerations cannot come first but can be included in ‘smart’ policies (with implication that more intensive GHG emission cuts may also be needed elsewhere e.g. developed countries)
- Most climate debate on ecosystems – food security and water – air pollution more focus on urban issues –therefore need to bring two sides together

Recommendations to addresses:

- GAP Forum or similar body to continue to build links between regional agreements and networks for air pollution and climate change to enhance exchange of knowledge and information
- Local govt priorities important e.g. low C and low S economy
- UN MDGs- need for integrated approach linked to well being- easier to achieve MDGs if you consider air pollution in an integrated fashion

Recommendations to addresses:

- Air quality communities - air pollution contributes to short and long term climate change frameworks
- Funding should reflect integrated nature of problem and recognise air pollution as an important driver, many development agencies currently focused on climate change and adaptation; and need:
 - to generate regionally specific data and knowledge for more effective communication with regional policy makers
 - more longer-term project that finance capacity building and technology transfer

Recommendations to addresses:

- Message to MEAs and Convention is better coordination and communication to move toward a more coordinated overall approach
- LRTAP Convention needs to greatly improve its outreach and could make valuable contribution to capacity building and science to policy know-how needs of developing countries
- A financing mechanism needs to be found!

Next Steps

Towards an Integrated approach:

Promote win- win solutions:

- Efficiency gains will affect all emissions (win-win) – but only if these are not offset by greater rates of increase in overall consumption
- Tackling BC, O₃ and Methane will have multiple benefits – for health, ecosystems, crop yield and warming – reducing emissions is win-win

Avoid win-lose outcomes:

- Some measures can reduce sulphate but leave BC – worst possible result for climate – must source integrated solutions that are more win-win

Next Steps



Further Development of the Forum Co-Benefit Strategy – UNEP Integrated Assessment

UNEP has asked the GAP Forum to act as secretariat for an Integrated Assessment of Black Carbon and Tropospheric ozone:

- UNEP assessment will have science to policy focus and harmonize with the many other emerging initiatives;
- Results will feed into existing international initiatives and Conventions and UNEP will consider need for further mechanisms to promote the implementation of implemented co-benefit strategies

Merci Beaucoup

Thank you very much

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