

# Considerations Regarding a Possible Air Pollution Assessment in Northeast Asia

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# Potential Value Added of an Air Pollution Assessment in N.E. Asia

Existing Major Air Pollution Assessments	Potential Value of NEA Assessment
<p>1. GEO-6 (Global) <u>Ch. 5 on “Air”</u> (in Part A: State of the Global Environment)</p>	<ul style="list-style-type: none"> <li>• Global assessment should build on regional ones</li> <li>• Global analysis; few regional implications</li> </ul>
<p>2. GEO-6 (Global) <u>Ch. 12 on “Air Policy”</u> (in Part B: Policies, Goals, Objectives and Environmental Governance: As Assessment of their Effectiveness)</p>	<ul style="list-style-type: none"> <li>• Global assessment should build on regional ones</li> <li>• Global analysis; few regional implications</li> <li>• More detailed regional, national analysis needed</li> </ul>
<p>3. GEO-6 (Regional Assessment for Asia &amp; the Pacific) <u>Ch. 2.1 on “Atmosphere-Air &amp; Climate”</u> (in “State &amp; Trends”)</p>	<ul style="list-style-type: none"> <li>• GEO-6 regional assessment is very short (11 pp.) combining climate and air.</li> <li>• More subregional detail needed for regional reports</li> </ul>
<p>4. GEO-6 (Regional Assessment for Asia and the Pacific) <u>Ch. 3.1.1 on “Climate and Atmosphere”</u> (in 3.1 “Achieving internationally agreed environmental goals” under 3. “Policies, Goals and Objectives: Review of Policy Responses and Options”)</p>	<ul style="list-style-type: none"> <li>• GEO-6 has some focus on climate &amp; air agreements, policy discussion is very general.</li> <li>• GEO-6 has little focus on specific air pollution policies.</li> <li>• NEA analysis could be more country-specific with more detailed discussion of policies</li> </ul>
<p>5. <u>“Air Pollution in Asia and the Pacific: Science-Based Solutions”</u> (UNEP, APCAP, CCAC)</p>	<ul style="list-style-type: none"> <li>• NE Asian countries (except Russia) included in quantitative analysis, but no country-specific analysis</li> <li>• NE Asian assessment may analyze countries</li> </ul>

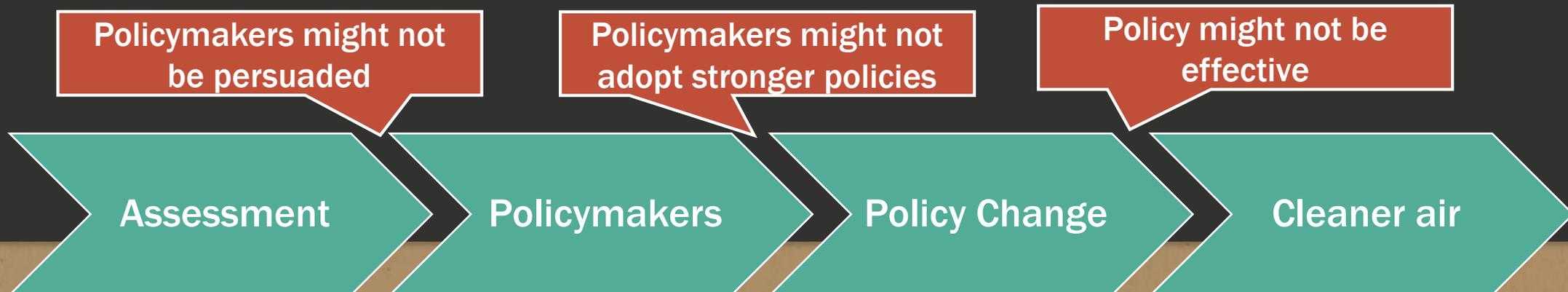
# “Theory of Change” & Environmental Assessments

## Theory of Change

- Assessment is a written output
- Target audience: decision-makers, other stakeholders
- Provides information for decision-making and action
- Persuade policymakers to prioritize the issue, take stronger action

## Challenges

- Governments may not believe there is a need for an assessment
- Issue remains low priority
- Governments may not be ready to take action
- Government actions may be modest



# “Theory of Change” Considerations to Enhance Persuasiveness of Environmental Assessments

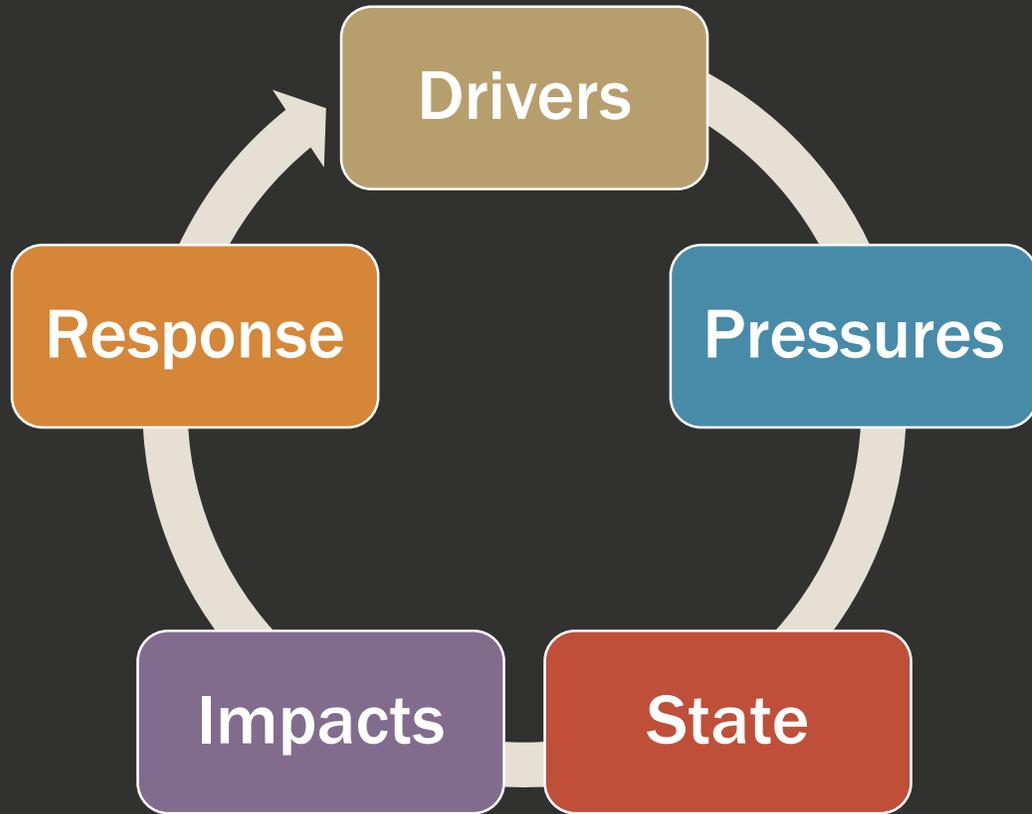
## Possible Shortcomings of Assessments

- Problem identification is often the main focus
- The issue is not presented in the context of policymakers other priorities.
- Discussion of solutions may be insufficient, or too general.
- Language of assessments may be too difficult for policymakers to understand
- Insufficient communications strategy

## Possible Solutions to Improve Persuasiveness of Assessments

- Language should be understandable to policymakers, media
- Problem identification should be put in the context of policymakers other priorities (e.g. prosperity, jobs, health, etc.).
- Discussion of solutions should be more concrete.
- To take action, policymakers need analysis of advantages & disadvantages, costs & benefits of alternative solution options.

# Traditional Assessment Framework: DPSIR



## Problems with DPSIR

- Difficult to distinguish between main elements
- Difficult to discuss complex relationships
- Different people interpret differently
- Greater emphasis on analyzing problems, less emphasis on solutions
- Solutions (responses) only address drivers, not pressures, state, or impacts (in the diagram).
- Difficult for policymakers to understand overall
- Difficult for policymakers to understand relative advantages, disadvantages of solutions

# GEO-6 Effort to Interest Policymakers:



**Linkage with Non-Environmental Priorities:  
“Healthy Planet, Healthy People”**

**(Environment is not just about the “planet.”  
It is also about people)**

**Key Message:**



**A healthy environment is the foundation of  
human life on earth**

# GEO-6 Linkage of Environment to Other Priorities

## Health (major emphasis)

- Millions of premature deaths
- Various diseases

## Economy

- Pollution causes economic damage, undermines prosperity
- Damage to crops, reduced yields, undermines food security
- Environmental protection creates jobs, economic opportunity

Positive & negative messages

## Equity

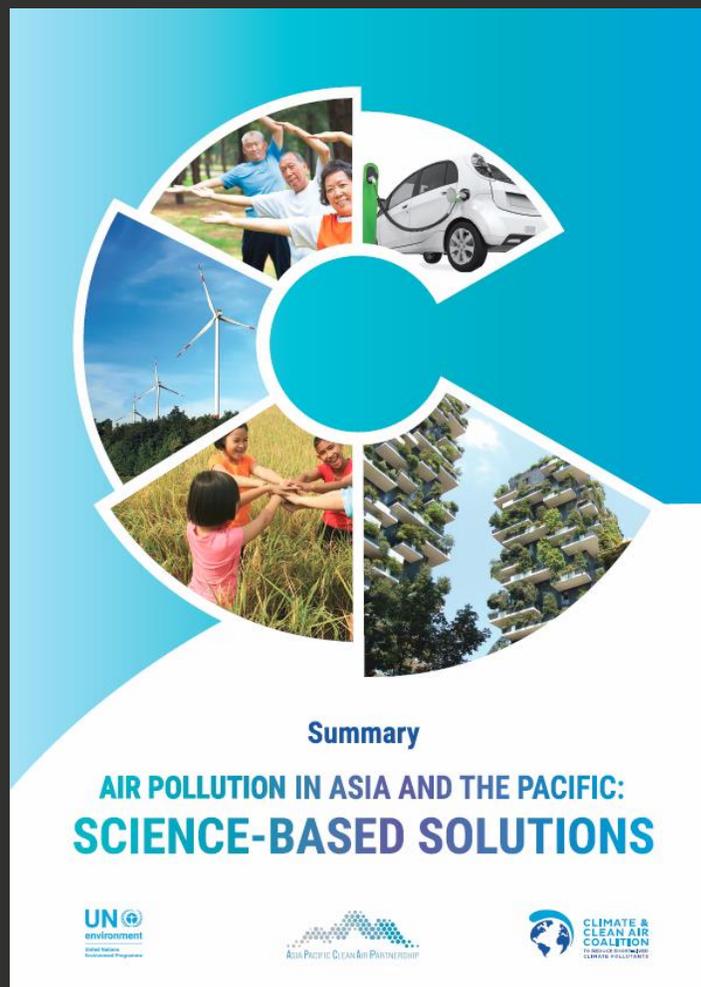
- Poor people rely more directly on environmental resources
- Poor people suffer more from environmental damage (health, econ.)

Emerging policy priority (poverty reduction)

## SDGs

- Broad, integrated approaches
- Illustrates that environment is the foundation of well-being

# “Air Pollution in Asia and the Pacific: Science Based Solutions”



➤ **UN Environment**

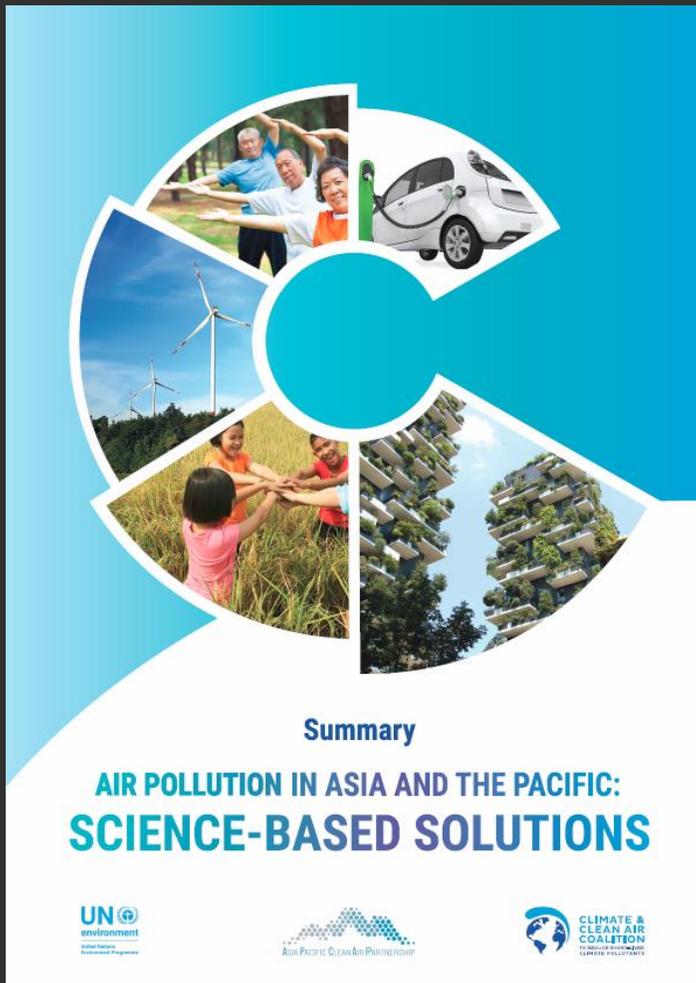
- 107 authors
- 53 reviewers

➤ **Asia Pacific Clean Air Partnership (APCAP)**

➤ **Climate and Clean Air Coalition (CCAC)**

**The report aims to support efforts to address air pollution in Asia and the Pacific by providing options for tackling air pollution in the context of the SDGs.**

# Innovative Features, Special Characteristics of “Air Pollution in Asia & the Pacific”



- Focus on priorities of policymakers & stakeholders
- Focus on solutions (including short and long term)
- Focus on costs and benefits of solutions
- Coherent storyline
- Greater understandability
- Linkage to SDGs (solutions mapped to SDGs)
- Included linkage to climate change, co-benefits
- Offset climate warming due to SOX reduction
- Air pollution isn't just an urban problem, also rural
- Linking integrated assessment modeling with work on implementation, governance, and finance

# Simplified Outline of “Air Pollution in Asia and the Pacific: Science Based Solutions”

## 1. Why decisive action is needed to combat air pollution in Asia and the Pacific

- Health (indoor & outdoor air pollution)
- Climate (climate => AQ, AQ=> climate, cryosphere, monsoons, SLCPs)
- Agriculture & ecosystems (crops, acidification, etc.)
- Socioeconomic development pathways (economic development, cities)

## 2. Scenarios & solutions (GAINS)

- Focus on multiple benefits
- Economic growth & air pollution
- Analyses 25 measures, health benefits, implementation costs

## 3. Closing the implementation gap: bringing clean air to the region

- Conventional emission controls
- Next-stage measures
- Development policy measures
- Governance and finance

# 25 Solutions in the Asia-Pacific Assessment

## Full application of conventional measures

1. Post-combustion controls
2. Industrial process emissions standards
3. Emissions standards for road vehicles
4. Vehicle inspection & maintenance
5. Dust control

## Next-stage air quality measures [*dispersed sources*]

6. Agricultural crop residues
7. Residential waste burning
8. Prevention of forest & peatland fires
9. Livestock manure management
- 10 Nitrogen fertilizer application
11. Brick kilns
12. International shipping
13. Solvent use and refineries

## Measures contributing to priority development goals

14. Clean cooking and heating
15. Renewable power generation
16. Household energy efficiency
17. Energy efficiency standards for industry
18. Electric vehicles
19. Improved public transport
20. Solid waste management
21. Rice paddies
22. Wastewater treatment
23. Coal mining
24. Oil and gas production
25. (HFC) refrigerant replacement

# Linkage with SDGs Illustrates Benefits of Integrated Approaches

Shows a broader range of environmental damage & benefits

- Health, employment, employment, etc.

Focus on causes of air pollution, not just damage

- Energy, industry, transport

Illustrates a wider variety of policy options

- Not just emission standards or end-of-pipe solutions
- Renewable energy, energy efficiency
- Circular economy/ SCP
- Sustainable transport
- Education

# SDG Targets Directly & Indirectly Related to Air Pollution

## Directly Mentioned

- **3.9 (Health)** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- **11.6 (Cities)** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

## Indirectly Related

- **6.3 (Water)** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- **6.6 (Water)** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- **7 (Sustainable Energy)**
- **9.4 (Industry)** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
- **11.2 (Cities)** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
- **12 (Sustainable Consumption and Production)**
- **13.2 (Climate)** Integrate climate change measures into national policies, strategies and planning
- **15.1 (Land)** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Acid Rain

Co-benefits

Acid Rain

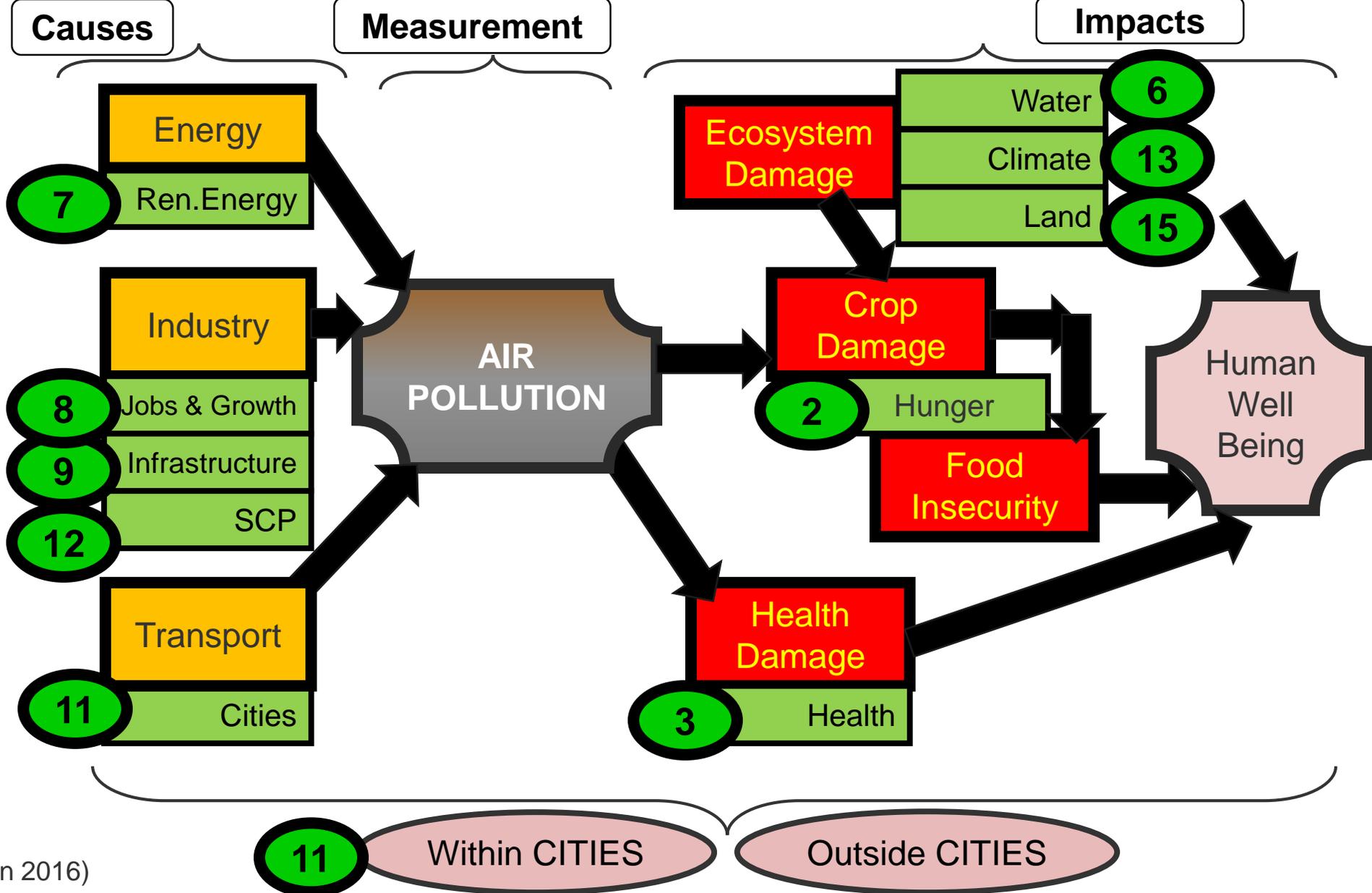
Solutions

# Broad Concept of Air Pollution & SDGs

Solutions →

SDG#

SDG Area (Solution)



# Assessment of Policy Effectiveness

- Shortage of literature on policy effectiveness, especially in the Asia-Pacific region
- Many policies have been implemented (especially Northeast Asia).
  - China's policies have significantly strengthened in recent years
- Need to explore if the policies are effective or need modification
  - Are the policies being offset by other factors? (e.g. increasing number of cars)
  - Should existing policies be strengthened? Are new policies needed?
  - Any alternative actions?
- Air pollution is affected by various factors, not only policies
  - Including policies not directly related to air pollution
- Complex analysis may be needed

Analysis of policy effectiveness would be a major value-added contribution by a NE Asian Assessment

- May need to start with country-specific analysis (not subregional)
- May need to start with academic (not-intergovernmental) analyses

# Conclusions

- NEACAP could conduct a more focused and detailed assessment which could complement and contribute to broader regional and global assessments.
- The format should be more easy for policymakers to understand.
- Concrete options for actions should be analyzed.
- Benefits/costs, advantages/disadvantages of concrete options should be analyzed
- Greater linkage to other priority areas (health, economy, etc.)
- Assessment in the SDG context can help to illustrate benefits of a more integrated approach.
- Consider the possibility of including analysis of policy effectiveness



**Thank You !**

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