OECD Study on Air Pollution - Costs of inaction

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A joint presentation TFTEI - TFIAM

Swedish Environmental Research Institute

Workshop to Promote the Ratification of Protocols of the UNECE Air Convention with Focus on Countries in the EECCA Region - 14-16th May 2019

Request from EB and current activities

- EB asks to TFTEI & TFIAM produce a report on Cost of Inaction
- TFIAM 47 proposed “Inaction” to be defined as no additional action than current policy
- TFIAM 47 proposed focus on eastern region of the Air Convention and on ammonia
- During TFIAM 47 Finland presents Damage Cost model for Finland
- After TFTEI 4 (Oct. 2018), TFIAM and TFTEI are in the progress of identifying relevant documents, data, and national experts to be approached for relevant knowledge

Current state

- Relevant documents
  - OECD, 2016, The economic consequences of outdoor air pollution
  - Alberini et al., 2016, Approaches and issues in valuing the costs of inaction of air pollution on human health
  - WHO, 2011, WHO Guide To Identifying The Economic Consequences Of Disease And Injury
- Expression of interest from
  - Cyprus,
  - EC-JRC,
  - EMRC,
- Other potentially interesting opportunities
  - 172nd European Association of Agricultural Economists (EAAE) Seminar, Brussels, 28-29 May 2019
- Informal working group web seminar expected in early September
  - Data collection and expressions of interest are open until then.

The OECD study:

OECD (2016), ***The Economic Consequences of Outdoor Air*** *Pollution*,

OECD Publishing, Paris.
The report can be downloaded at:

http://dx.doi.org/10.1787/9789264257474-en

Provides a comprehensive assessment of the economic consequences of outdoor air pollution in the coming decades

The analysis covers the period 2015-2060

The OECD study:

Introduction

- Economic growth (increasing economic activity and energy demand) in the coming decades will lead to a deterioration of outdoor air quality.
- The report addresses the impacts of outdoor air pollution on mortality, morbidity (illness), and changes in crop yields as caused by high concentrations of particulate matter (PM2.5) and ground level ozone.
- The analysis reflects the future biophysical impacts and economic costs of air pollution, in the absence of additional policies
- The projections thus quantify the costs of inaction, the benchmark against which the benefits of additional policy action can be evaluated.

The OECD study:

Methodology

- The analysis approaches different types of costs.
- The market costs of air pollution, focusing on labor productivity, health care expenditures and changes in crop yields, are assessed with a multi-regional, multi-sectoral dynamic general (OECD ENV-Linkages model)
- The non-market health impacts of outdoor air pollution (mortality and morbidity) are assessed and monetised
- However, uncertainties related with the economic projections, the quantification of the biophysical impacts of air pollution, and the evaluation of costs mean that the results need to be interpreted with due caution.

The OECD study:

Key messages:

- In many places, concentrations of PM2.5 and ozone are already well above the levels recommended by the WHO Air quality guidelines.
- Population-weighted average PM2.5 concentrations are already high and rapidly rising in South and East Asia, especially in China and India.
- In large parts of North America, Europe and Africa, PM2.5 concentrations from anthropogenic sources are also high but are not projected to rise as quickly.
- Ozone concentrations are particularly high in Korea, the Middle East and the Mediterranean, but they also exceed air quality guidelines in many other OECD and non-OECD regions.

The OECD study:

Key messages (cont'd):

- The most dangerous consequences from outdoor air pollution are related to the number of premature deaths. The analysis projects an increase from approximately 3 million people in 2010, to 6-9 million annually in 2060, in the absence of more stringent policies
- By 2060, a large number of deaths are projected to take place in densely populated regions with high concentrations of PM2.5 and ozone (especially China and India) and in regions with aging populations, such as China and Eastern Europe.
- Effects of PM2.5 exposure are much larger than those of ozone (in terms of projected mortaily).
- In addition, increasing concentrations of PM2.5 and ozone are projected to lead to more cases of illness (morbidity).

The OECD study:

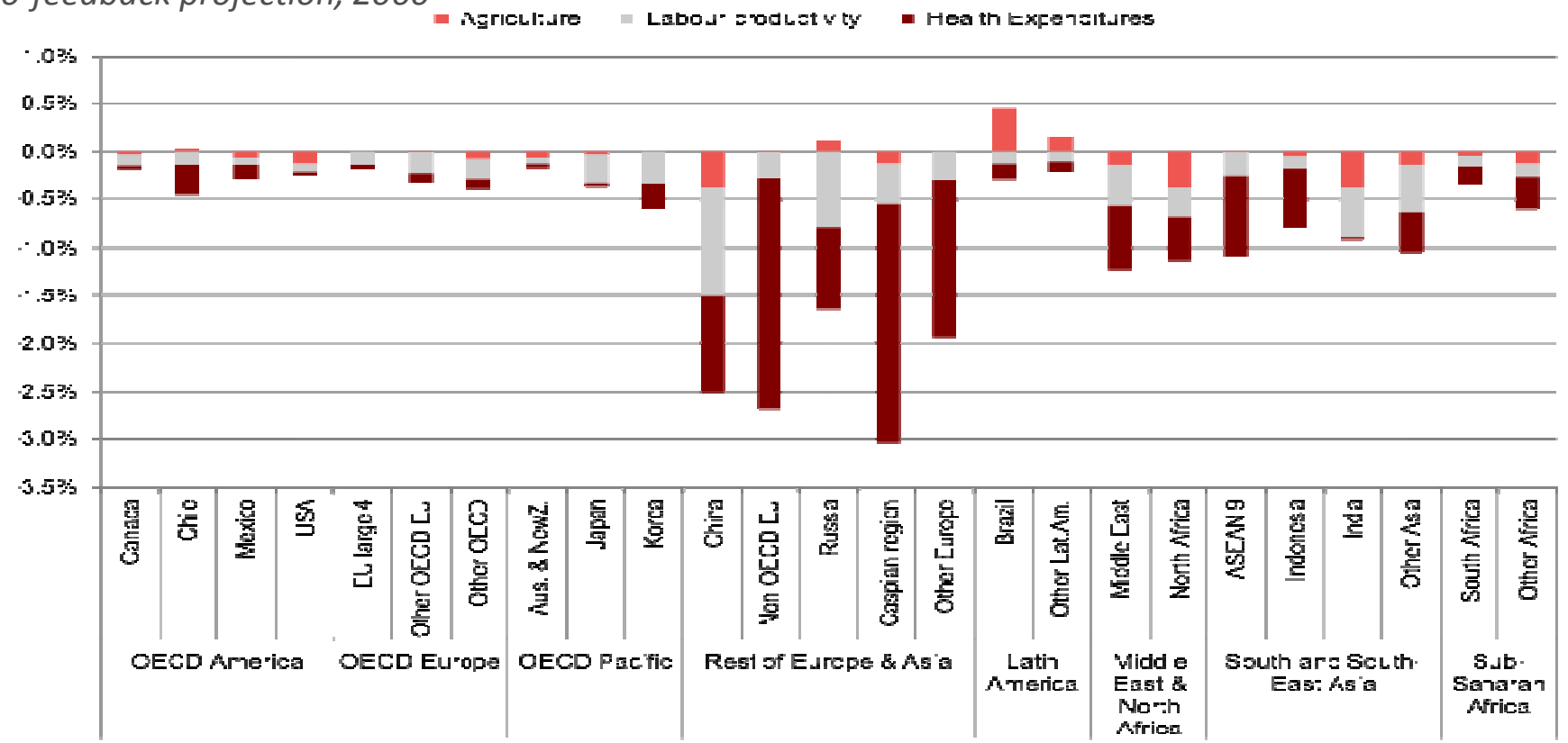
Key messages (cont'd):

- It is projected that the air pollution-related healthcare costs will increase from USD 21 billion (using constant 2010 USD and PPP exchange rates) in 2015 to USD 176 billion in 2060, reflecting both a large number of additional cases of illness due to air pollution, and a projected increase in the healthcare costs per illness.
- By 2060, the annual number of lost working days, which affects labour productivity, are projected to reach 3.7 billion (currently around 1.2 billion) for the world.
- The annual global welfare costs associated with the premature deaths from air pollution, are projected to rise from USD 3 trillion in 2015 to USD 18-25 trillion in 2060.

Previous cost of Inaction study (OECD) high costs in eastern countries of EU and EMEP-region

Change in regional GDP from market impacts, central projection:

no-feedback projection, 2060



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Thanks for your attention !

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