

Main Outcomes of the Air Science Policy Forum, Dublin (April 15, 2013)

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A good precedent – bringing science down to where things are done

*I remember at times
How irresponsible I have
Become. no ruling passion
Obsesses me, although passions
Are what I play among.
I'll know the library in a city
Before I know there is a slum.
I could wish the weight of
Learning would bring me down
To where things are done.*

Seamus Deane



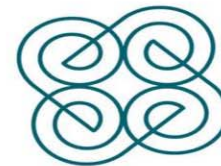
The Briefing Note (Annex)

1. Ten Propositions

Ten gives Biblical Verisimilitude (10 Commandments)

2. Evidence from Forum - short presentations as to what, in their view, the *best peer -reviewed science has to offer the policy process*.

3. Points for Discussion



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1. Impressive progress

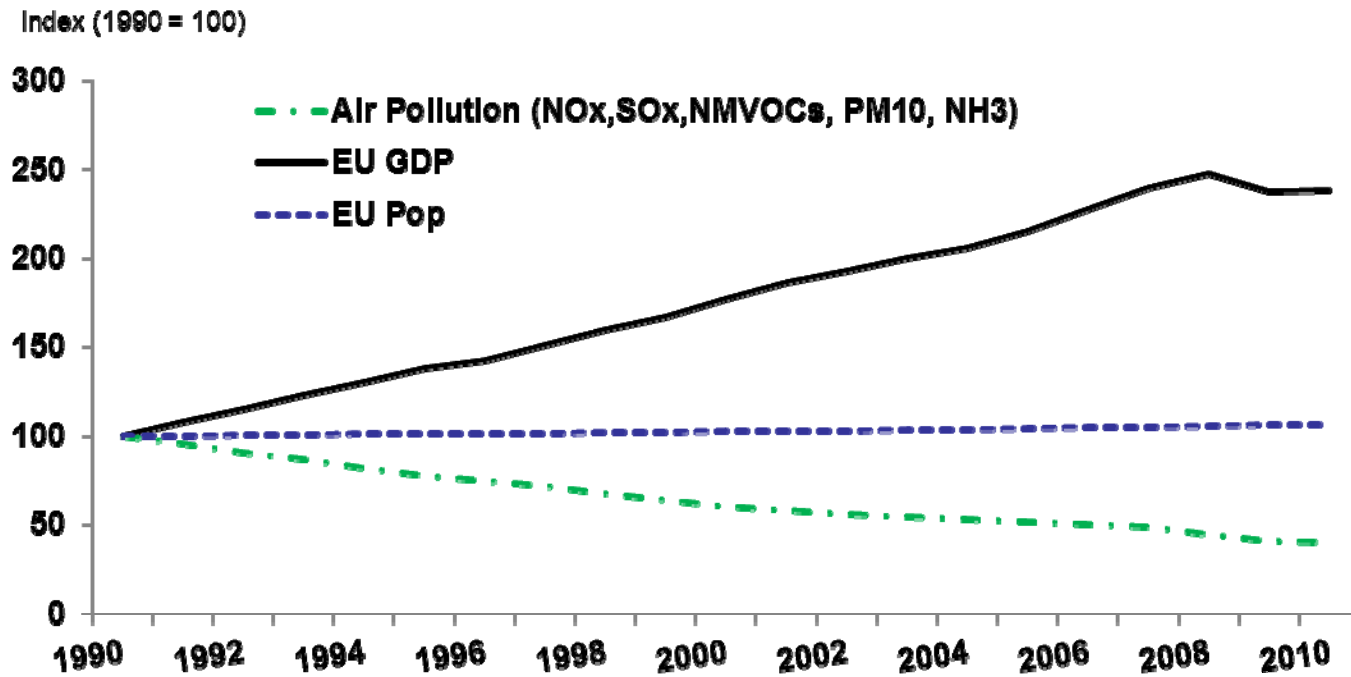
A European success story

- hundreds of thousands of lives saved
- pain and suffering reduced for millions
- large increases in productivity as a result of dramatically reducing the stresses of poor health associated with days lost from work
- plant and animal life protected or restored
- deterioration of crops and buildings arrested
- and beauty of landscape and city scape recovered.

But do we tell the story.....?



Trends in Emissions



2. But major gaps, challenges and opportunities remain

A lot of the European population continues to be exposed to concentrations above the already legislated standards

Pollutant	% EU Pop. exceeding EU standard	% EU Pop. exceeding WHO standard
PM ₁₀	21	81
NO ₂	7	7
O ₃	17	97

Does it matter?

Yes – evidence on health is compelling (Pope)- not Pope Francis...

- No serious peer reviewed journal challenges the link
- *Getting rid of 'killer smogs' is not enough*
- *Even moderate levels of air pollution could contribute to significant health effects*
- Short term changes in air pollution exposure associated with deaths, hospitalisation, school and work absences, heart disease etc.
- Longer term air pollution exposure linked to even substantially larger effects
- 'On average, the greater the reduction in air pollution, the greater the increase in life expectancy.'
- Adjusted relative risk of dying almost linearly (directly) associated with air pollution.
- And health effects can be related to specific pollutants (Héroux, WHO)

3. Air and Climate

- Emission reductions of methane (CH₄) will reduce production of O₃ (ozone)
- The Climate and Clean Air Coalition Focus on reducing short lived climate pollutants (black carbon, methane, tropospheric ozone, short lived HFCs) – protecting health and crops , slowing global warming.
- Long Term Policy under the CLRTAP, [Martin Williams]
Parties to prioritise black carbon reductions to achieve PM_{2.5} reduction

Debate on matching 2030 and 2050 pathways for GHG



Unambiguous Benefits for..

1. Recognising the reality that health and air quality are clearly linked, and that as two sides of the same coin, they should be key features of the revised National Emission Ceilings (NEC)
2. Stricter ceilings/limits for SO₂, NO₂, ammonia and VOCs
3. New ceilings for PM_{2.5}, and perhaps black carbon and methane
4. Case for hemisphere strategies (including governance) – to control methane and ozone

4. Ozone Imports

Need to work towards a (northern) hemisphere solution.

5. Cities as a sphere for action

Interesting and impressive progress exemplified by:

- Berlin (low emission zones) - reduction in PM₁₀ exposure
- London (congestion charge) - reduction in PM₁₀ exposure
- Rotterdam (speed limits) – emission reductions and air quality improvements.

Implications

Be realistic (much pollution imported, but payoff to non technical measures)
Proximity to roads flagged as air quality issue

6. Untapped opportunities in agriculture

[Mark Sutton]

- ‘More efficient N use saves farmers money reducing nitrogen air pollution, while also being needed to meet commitments for climate and water pollution.’
- Biggest payoff to effort from ammonia mitigation – e.g. slurry spreading from splash plate to trailing shoe

[Markus Amann]

- Identification of future opportunities for cost effective
- emissions reductions - agriculture share of effort would increase from 2% (current) to 20% (future)



7. Economics – benefits and costs

[Ton Manders]

- ‘Air quality/pollution policies can carry high benefits and reasonably low costs’
- OECD Environmental Outlook to 2050 – costs and benefits
- *The Benefits and Costs of the Clean Air Act from 1990 to 2020, USEPA, March 2011*

Priorities

Agriculture, Shipping, and PM_{2.5} reduction seem to have particular opportunities for low cost abatement.

But remember..

An economic forecaster is like a cross-eyed javelin thrower; he doesn't win many accuracy contests, but he keeps the crowd's attention.

8. Information, Innovation, Access and Ownership

Science and associated information keeps raising new questions for policy and the reality of performance.

- Simultaneously advancing monitoring, technology and citizen science — measure fine dust with your smart phone at very low cost [Daan Swart and ISPEX]
- Social media integration [Jacqueline McGlade]

Points for consideration

1. An informed citizenry is an empowered and supportive citizenry
2. Draw lessons – costs, citizen engagement environmental credibility and effectiveness etc., of the ISPEX project
3. Foster and enable the ‘big data’ revolution.



9. Capacity

Member states

To: understand what's happening, what are the implications, and the choices

To: improve buy-in at member state level, where they are not depending exclusively on top down information and associated policy directions

Each MS should have modelling and other capacities necessary to engage with the EU and wider regional and transnational efforts

Cities

Need information and associated capacities that allow them to 'own' understand the issues and choices.

10. The Debate on Exposure Reduction

Proposition

The benefits of reduced air pollution are enjoyed at all levels, not just in 'hot spots' with relatively high levels. Important that EU standards drive action at all levels and not just when levels are above legally enforceable limit values.

Further strengthening could deliver further health benefits across the EU, particularly in areas below the current limit values.

Caveat (by some)

Loss of coherence and enforceability if a move away from the relatively straightforward limit value approach which is more readily quantified and rooted in the existing policy framework

Thank You!

And remember:

**“The head cannot take in more than the seat
can endure” [Winston Churchill]**

Focal Questions (1-3)

1. Legacy Challenges

e.g. NOX ceiling, NO2 limit values?

2. Getting buy in from Europe's citizens?

The scientific evidence broad and compelling with regards to further action but....

3. Policy Support?

Broad scientific evidence for stricter emission ceilings, ambient air quality limits broader pollutant base.

In which of these areas is there support for progression?

Focal Questions (4-6)

4. Air and Climate – hemispheric and global cooperation

To what extent, and how, can Europe support action and coordination at these broader levels?

5. Major cities - challenge and an opportunity

How best to make progress (technical and non-technical)?

6. Nitrogen and Agriculture

How best to make progress?

7. Mobilising Policy Instruments to realise the large net benefits

How are ministers supporting further research in regards to developing and communicating effective policy instruments?

Focal Questions (8-10)

8. Technical innovation and new data sources

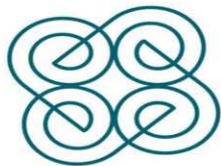
How can we best accelerate the exploitation of emerging technical developments?

9. National capacity

How are Ministers committing to the necessary levels of sustained capacity in their country?

10. Exposure reduction targets

Is the challenge of data and enforcement currently too great to move the main focus from the existing 'limit value' approach to an exposure reduction target approach ?



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