

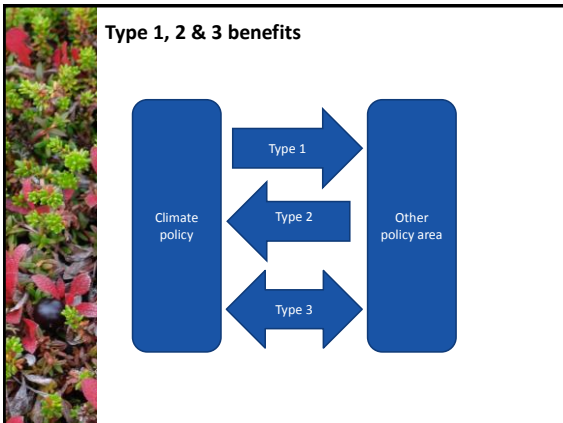
KTH ROYAL INSTITUTE OF TECHNOLOGY

The Multiple Co-benefits of Climate Policy

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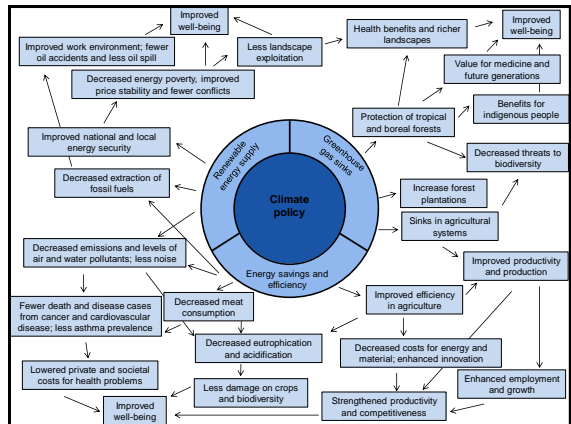
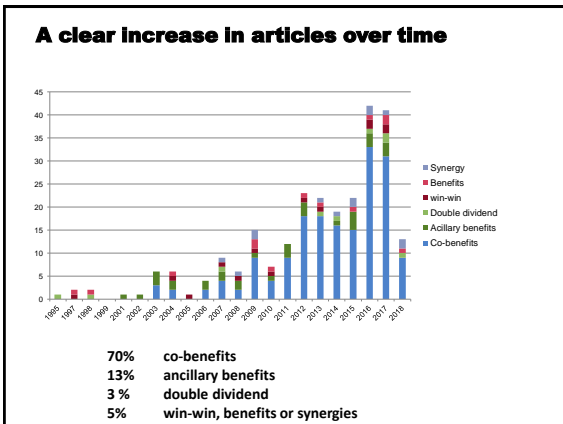
Synergies: a Vehicle for Leapfrogging Policy Barriers?

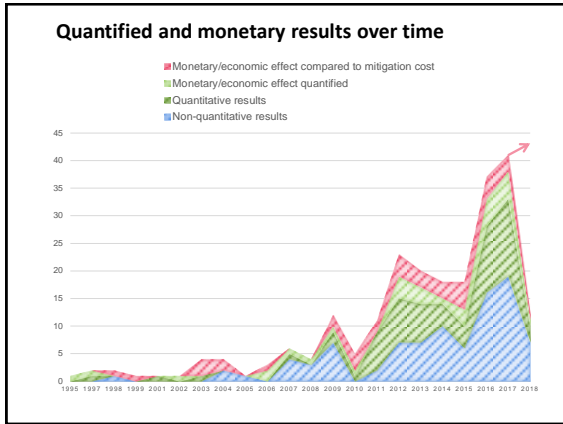
- The mantra: "What does it cost?"
 - An important question but equally important to ask for the costs of inaction
 - ... and equally important to ask if there are additional benefits, co-benefits
- There is such a thing as a free lunch!
- Often focus on trade-offs and not on synergies
- We want to ask why policy-makers do not include co-benefits in decision-making
- How can we avoid biased policy-making?



Review of climate policy synergies studies (type 1-benefits)

- Search**
 - Scopus
 - > 1700 hits (T/A/K):
 - English peer-reviewed articles
 - co-benefit AND climate
 - "ancillary benefit"/ "double dividend"/ "win-win" AND climate
 - benefit/synergy AND "climate policy"
- Thinning**
 - Exclude by title
 - All read all titles, total score decides
 - Evaluation template for guidance
 - > 300 relevant articles identified
- Reading**
 - Data collected for each article on 15 parameters, e.g. concepts, sectors, magnitudes, policy.
 - Some rejections: around 250 articles remain, treated in-depth





Quantified results presented in various ways

- Results almost always model-based, seldom empirical
- Emission reductions in ton or lives saved without monetary value, for example:
 - van Vliet et al (2012): benefits from reducing outdoor air pollution would save up to 1.82 million Asian lives annually.
- Co-benefit in percentage of policy costs
 - 844 % of policy cost (Thompson et al, 2016)
 - Mitigation costs in India and China for 2 degrees fully compensated by health benefits (OM, O3); pursuing 1.5 degrees increases net benefits (for the EU, CoB up to 84% of costs) (Markandaya et al. 2018)
- USD per ton CO2 or CO2e mitigated
 - Examples on next slide

Appeals of the co-benefits approach

- Climate change is a wicked problem; benefits visible later in time and space, while costs are immediate, large and fall on specific actors
- A co-benefit approach can align the temporal and geographical difference by compensation with other co-benefits that are often local, take effect immediately and easier to measure.

Policy implementation challenges

- Co-benefits, even when acknowledged, are often ignored in policy design (Nemet et al 2010)
- Difficult to monetize social costs and benefits that often guide policy decisions (Creutzig and He 2009)
- Lack of communication between epistemic communities dealing with climate change (Norgaard 2004)
- Fragmented international regimes and multitudes of isolated ministries deal with particular problems (Keohane and Victor 2011)
- Institutional arrangements and incentive structures for a co-benefits approach that call for integration of issues and cooperation between institutions and individuals are underdeveloped (Zusman 2008)

Some conclusions

- Accounting for co-benefits can address the wicked climate problem and provide more correct cost benefit-assessments of policies
- A co-benefit approach has several advantages: positive framing, valid for all types of benefits, allow all effect sizes...
- While some types of co-benefits are well studied others are not
- Co-benefits can increase cost efficiency but only if policymakers in different areas cooperate
- The approach requires same rigorous design and evaluation as any policy; lack of data, causality issues, monetizing different types, double-counting are examples of problems
- Many ways to measure co-benefits make comparisons difficult
- A clear need for conceptual development, more research and not least processes for integrating co-benefit data into policies

Thank you!
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