

**The Asian Co-benefits Partnership (ACP)** serves as an informal and interactive platform to improve information sharing and stakeholder coordination on co-benefits in Asia. The ACP was launched with the support of the Ministry of the Environment, Japan in 2010 to help mainstream climate and environmental co-benefits into decision-making processes in Asia. Learn more about us at our website. <http://www.cobenefit.org/>



## Highlights



### Quantifying and Visualising Co-benefits in Asia

**Hooman Farzaneh**

Associate Professor, Head of the Energy and Environmental Systems (ESS) Lab., Interdisciplinary Graduate School of Engineering Sciences, Platform of Inter/Transdisciplinary Energy Research, Kyushu University, Fukuoka, Japan

#### Why is important to quantify co-benefits for policymakers?

The consumption and production of energy in Asia contributes to a range of sustainability challenges. For many local governments, these challenges have multiple dimensions. More concretely, local governments are often aiming to improve living standards, boost employment, and extend energy access. More and more mitigating climate change is part of that multi-dimensional challenge.

In the face of these challenges, local governments are looking for recommendations that will lead them down low carbon pathways. However, often the literature on a shift to a low-emission path focuses on costs. While costs are important, a failure to recognize the benefits—particularly benefits that outweigh the costs (e.g., public health)—can lead to flawed policy recommendations.

This underscores a key point that sits at the core of work on co-benefits: policymakers need user-friendly tools and analytical methods to quantify broader benefits from actions that mitigate greenhouse gases (GHG). For authorities seeking to craft maximally effective energy or climate action plan, a co-benefits approach or approach that routinely factors in multiple benefits has considerable potential.

#### Can you briefly describe the tools that you are developing/have developed to quantify co-benefits?

There are currently a number of methods developed to calculate the GHGs and other environmental impacts. Many of them are project-specific, focusing on emission reduction of a project. Since 2018, we have been

collaborating with the colleagues at IGES, on conducting a research project, entitled “Quantitative Evaluation on Co-benefit Projects”.

The primary purpose of this project is to outline the steps that would be involved in quantifying the climate co-benefits of two sets of model projects introduced by Ministry of Environment Japan: 1) a heat-only boiler (HOB) project in Ulaanbaatar, Mongolia and 2) wastewater management project in Indonesia’s fish industry process.

To this end, we have designed and developed two spreadsheet simulation tools. The results of those efforts are what we are calling “EES Co-Benefits Evaluation Tools” that can be used to quantify the multiple environmental, health and economic benefits from deploying the low-emission scenarios on both model projects. These assessment tools use the framework to consider what co-benefits would accrue if local air quality and GHG emissions were the main criteria used in the decision-making process.

The tools provide an analytical framework for conducting a co-benefits assessment; they also have a unique interface for visualising co-benefits during the development and implementation process.

The tools allow for either *ex-post* (project data assessment) or *ex-ante* (scenario-based) assessments. They are designed to allow decision-makers to decide which options offer the best return as they conceive of a policy and project.

#### What are some of the key findings that can be generated from the tool?

The tool helps to shed light on several findings.

First, it shows that it is important to consider and visually present multiple benefits. The assessment of multiple benefits is important because the actual implementation of a project may depend on support from different stakeholders who value a range of benefits. Being able to see those benefits—as is possible with the tool—is a critical to building support from different actors.

Second, the tool demonstrates “the intervention” or “with project” scenarios can contribute not only reducing air pollution and improving health but bolstering national energy security—through the significant savings in coal and electricity consumption—that can reduce reliance on imports of fossil fuels to these countries. Energy security may be important for powerful energy ministries or agencies.

Third, the tool demonstrates it is possible to translate health damage and reduction in the unemployment rate

into two forms of savings. The unemployment-reducing effect is a direct consequence of local GDP growth; this suggests that the employment from the co-benefits projects comes namely through GDP per capita growth. However, the major reduction in the unemployment rate driven by the economic growth, GDP, is a result of ongoing increases in the size of the labour force and the level of productivity; therefore, the impacts of new jobs from manufacturing technology itself are likely to small.

Fourth, it merits underlining that the interpretation of health and economic benefits largely depends on the level of confidence or uncertainty of various input factors. These confidence intervals need to be taken into consideration when recommending actions.

A final finding involves what is next needed to advance this work. It has become clear from the project that the actual use of the tool will determine its value. In the next year, we plan to conduct trainings with the tool and enhance its value.



## Publications

### ACP released its 4<sup>th</sup> White Paper entitled *Implementing Solutions to Climate Change and Air Pollution in Asia: Mobilising Finance, Strengthening Policies and Building Capacities*

The ACP White Paper 2020 introduces the ways to implement solutions identified by the UNEP's publication *Air Pollution in Asia and the Pacific: Science-based Solution*. In recommending efforts to standardise more rigorous assessment methods, provide options for policy design and improve coordination across capacity building programmes, the White Paper identifies areas where the ACP can work over the next decade.

Download this report at:

[https://www.cobenefit.org/publications/images/ACPwhitePaper\\_2020.pdf](https://www.cobenefit.org/publications/images/ACPwhitePaper_2020.pdf)



## Updates

### ACP Good Practice Map collected 38 cases from 11 countries in Asia

The ACP Good Practice Map was created in 2016 to share illustration of the vast and varied approaches taken to achieve co-benefits in key sectors i.e. Energy/Industry, Transportation, Waste Management and Biomass/Fuel in Asia; and, in 2017, ten additional cases with new sector of Livelihood was added to capture the importance of social co-benefits. Later, Agriculture to expand the scope of co-benefits and Quantitative Tools to highlight the importance of quantification of co-benefits have been added in 2018. As of March 2020, total of 38 cases have been collected from 11 different countries in Asia. Find out each case more in detail at: [https://www.cobenefit.org/good\\_practice/](https://www.cobenefit.org/good_practice/)



**Asian Co-benefits Partnership (ACP) Secretariat**  
The Institute for Global Environmental Strategies (IGES)  
2108-11 Kamiyamaguchi, Hayama, Kanagawa, Japan  
✉ [acp\[at\]iges.or.jp](mailto:acp[at]iges.or.jp) ☎ +81-(0)46-855-3709  
Copyright © 2015 Asian Co-benefits Partnership. All rights reserved.



ACP Website

<http://www.cobenefit.org/>

**IGES**  
Institute for Global  
Environmental Strategies



Ministry of the Environment