Quantifying Co-benefits of Clean Development Mechanism Projects Supported by the Future Carbon Fund

8 December 2021
As a part of its Carbon Market Program (CMP), ADB has established the Future Carbon Fund (FCF) for providing carbon finance support to GHG mitigation projects in Asia and the Pacific.

FCF is supporting 33 high-quality mitigation projects that cover a spectrum of renewable energy, transport, waste management and energy efficiency technologies in 10 developing member countries.

The co-benefits being delivered by the FCF portfolio projects were assessed using a methodology to track the social, environmental, and economic impacts of the projects. These impacts were then mapped on to the relevant Sustainable Development Goals.

For the assessment, both intended and unintended co-benefits were identified, and additional benefits delivered through project entities’ corporate social responsibility activities were also captured.
FCF study reflected that GHG mitigation projects supported by FCF are providing a broad set of co-benefits to the local communities and beyond; and delivering positive impacts to more than 10.5 million people across Asia and the Pacific.

Co-benefits delivered by FCF projects include improved energy access and energy security, employment generation and job quality, improved livelihoods, health benefits associated with reduction in air pollution, diffusion of low-carbon technologies, technological innovation, reduced dependence on imported fuels, reduced traffic congestion, and an increase in net trade of technologies and services.
The report reflects how CDM projects supported by the FCF not only reduce GHG emissions but deliver social, environmental, and economic co-benefits contributing to sustainable development in the region. The report also presents qualitative and quantitative analysis of these co-benefits.
Future Carbon Fund
Co-benefits of FCF Projects

- FCF projects provide a broad set of co-benefits to the beneficiary communities
- Delivering positive impact to more than 10.5 million people across Asia and the Pacific

- Capacity addition of 1,200 MW resulting in approximately 2.89 million MWh of renewable energy generation per annum
- Improved air quality for about 1.31 million people
- More than 14,000 additional jobs in the region
- About 1.39 million people benefitted by improved energy efficiency measures and services
- 8.74 million people potentially gain access to stable and reliable energy in the region
- Improved education facilities for more than 8,500 children
- Reduced traffic congestion and upgraded urban transport services for 300,000 daily commuters
- Approximately 39,400 people gained access to health services
- More than 5,000 women empowered through sustainable livelihoods
Future Carbon Fund
Co-benefits Mapped to SDGs

FCF projects contributed to:

✓ Energy security
✓ Diffusion of low carbon technologies
✓ Employment generation and job quality
✓ Access to local infrastructure
✓ Improved livelihoods
✓ Enhanced quality of life
Co-benefits Assessment
Dagachhu Hydropower Project, Bhutan

- **126-MW** run-of-river hydropower project in Dagachhu, located in Dagana Dzongkhag, south-west of Bhutan.
- Generates **392 GWh/year** exported to India
- Reduces **382,000 tCO2e/year** by displacing fossil fuel-based power generation in India
- First public–private partnership venture and first cross-border project activity under CDM

**Co-benefits:**
- Increased energy access from 400 to about 5,000 households achieving 99% electrification in the local district
- Electrification enabled shift from using firewood to electrical appliances, reducing indoor air pollution and deforestation, and generating time-savings especially for women
- New communication and transport facilities
- Additional classrooms and renovation of school buildings
Operational since 2008 in Maharashtra, western part of India
63 wind energy generators at 800 kW rated capacity each
Generates **89,570 MWh** of renewable electricity exported to the North, South, West, and North-East grid of India
can potentially light up 83,011 households
Reduces **84,215 tCO2e/year**

**Co-benefits**
- Employment – 100 skilled and unskilled workers during construction, 30 long-term employees
- New roads allowing local residents access to surrounding areas
- Outreach program sponsored solar streetlights, installed watershed systems, organized medical camps
- Revitalized primary schools benefitting 500+ students where water and sanitation facilities were constructed, e-learning was introduced, and a canteen facility was built
Co-benefits Assessment Challenges

- **Lack of information on the baseline situation** of co-benefits makes it difficult to compare the actual co-benefits delivered to a baseline.

- No integrated system and processes in many organizations to initiate **systematic monitoring and disclosure of co-benefits** as in most cases there is no regulatory requirements.

- **Lack of standardized methodologies** on assessing co-benefits with variation amongst commonly available tools makes it difficult to have a uniform and consistent assessment across projects.

- **Not all co-benefits can be quantified** due to the inherent nature of the co-benefits and there can be an element of uncertainty due to lack of standardized approaches for quantifying the co-benefits.

- Mapping of co-benefits to SDGs and SDGs targets can be challenging as **many SDG targets are not suitable for project level interventions**.

- **Monitoring, Reporting and Verification of co-benefits** can be expensive and additional cost for the project developers.
Co-benefits Assessment
Key Lessons

Project Entities
• **Project design that maximizes co-benefits** – co benefits should be integrated into a project’s blueprint
• **Importance of dialogue with local communities in the decision-making process** – close collaboration from the early stages is crucial
• **Corporate philosophy of the project entities** – well considered CSR programs create shared value for business and community.

Governments
• **Smart domestic policies bring synergy for multiple co-benefits** – smart policies consider integrated solutions for climate change and local development issues.

Carbon Credit Buyers
• **Incentivize high quality mitigation projects** - CER buyers should take co-benefits into consideration in their CER transactions
• **Inclusion of co-benefits in the Emission Reduction Purchase Agreement** – can lead to stronger inclusion of co-benefits in the project
• **Secured stream of carbon finance** – can provide support and assurance for delivery of co-benefits for local communities and beyond.
Thank You!

Virender Kumar Duggal
Principal Climate Change Specialist
Sustainable Development and Climate Change Department
Asian Development Bank
vkduggal@adb.org