



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



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# Asian Development Bank

## Future Carbon Fund (FCF)



- ❖ 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.



# Future Carbon Fund

## Delivering Co-Benefits for Sustainable Development

- ❖ 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.**



# Future Carbon Fund Delivering Co-Benefits for Sustainable Development



## FUTURE CARBON FUND

Delivering Co-Benefits  
for Sustainable Development

- ❖ 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



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



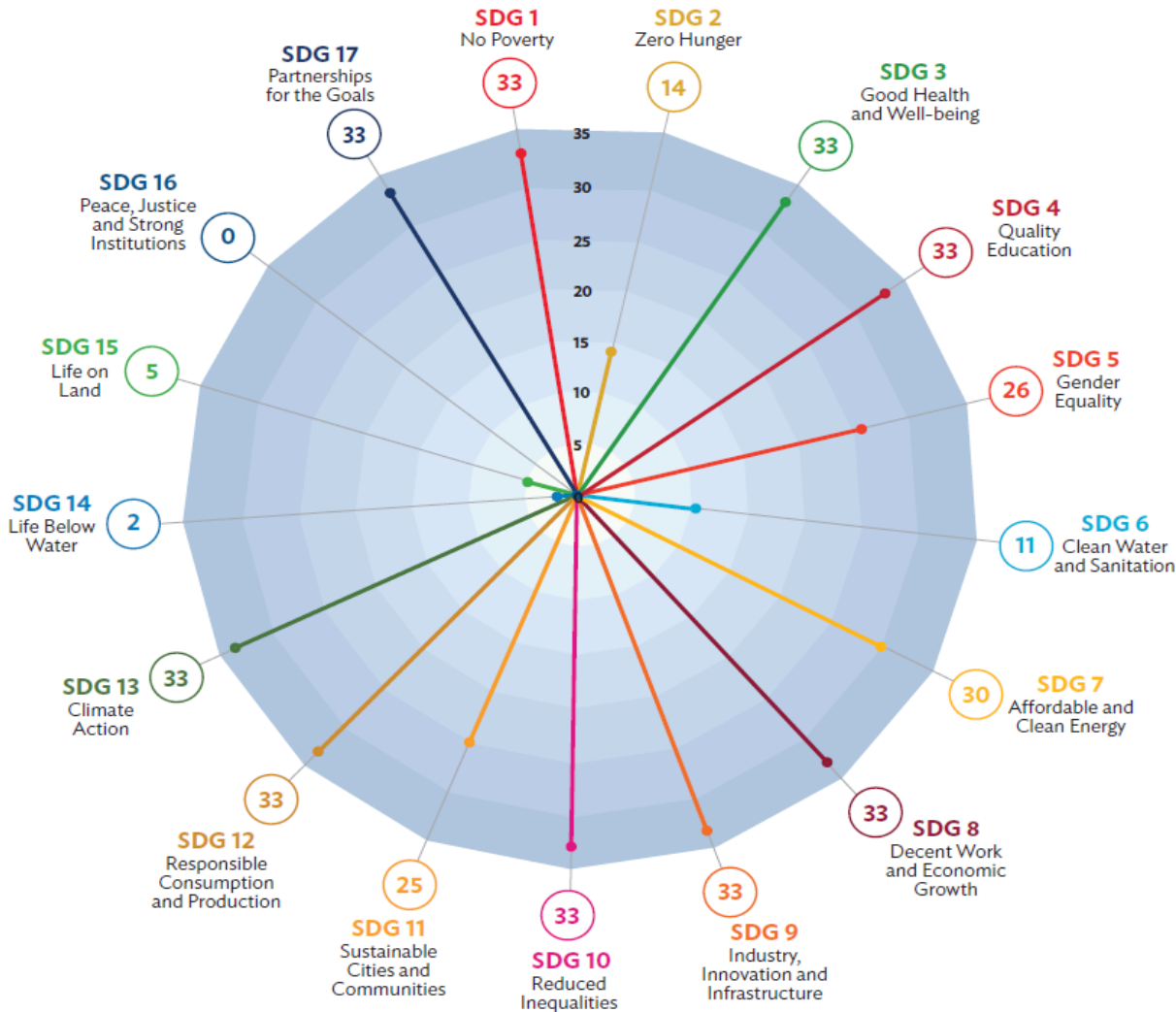
More than  
**5,000 women**  
empowered through  
sustainable livelihoods

- ✓ 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





# 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 tCO<sub>2</sub>e/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



# Co-benefits Assessment

## 50.4 MW Tata Wind Farm, India

- ❖ 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 tCO<sub>2</sub>e/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.

