

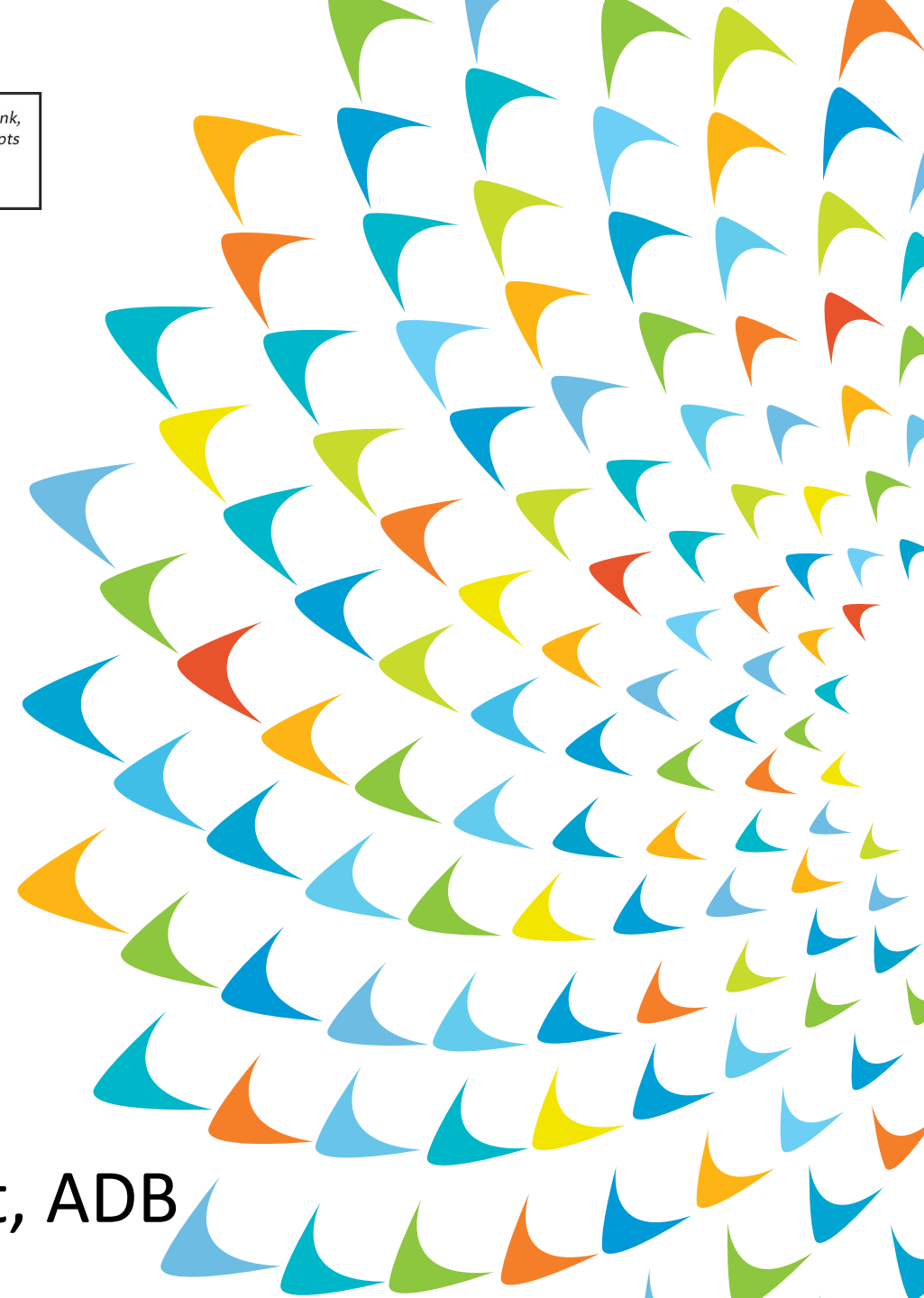


The views expressed in this presentation are the views of the author/s and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this presentation and accepts no responsibility for any consequence of their use. The countries listed in this presentation do not imply any view on ADB's part as to sovereignty or independent status or necessarily conform to ADB's terminology.

Introducing TA-6730: Promoting Life Cycle Management of Fluorocarbons

29 September 2021

Shintaro Fujii
Environment and Climate Change Specialist, ADB





ADB's Carbon Market Program

Mobilizing carbon finance for incentivizing investments in low-carbon technologies

Future Carbon Fund

- Commenced in 2009
- Provides financial and technical support for CDM projects by purchasing post-2012 CERs
- **\$115 million** contributed by 4 governments and 2 private sector entities from Europe and Asia
- Contracted **8.68 million CERs** with an investment of \$53.0 million
- Supporting 33 CDM projects in 10 DMCs
- Providing carbon finance support to 1.1 GW renewable energy projects

Japan Fund for the Joint Crediting Mechanism

- Commenced in June 2014
- Provides grants for advanced low-carbon technologies in ADB-financed and administered projects utilizing the Joint Crediting Mechanism initiated by Japan
- **\$88.46 million** contributed by the Government of Japan
- Supports six mitigation activities in **Maldives, Cambodia, Bangladesh** and **Mongolia**

Article 6 Support Facility

- Established in 2018
- Provides technical, capacity building, and policy development support to enhance DMC's preparedness to participate in new carbon markets envisaged under the framework of Article 6
- **\$5 million** facility funded by ADB and the governments of Germany and Sweden
- Supports **Bhutan, Indonesia, Mongolia, Pakistan, Philippines, Thailand** and **Viet Nam.**

Technical Support Facility

- Commenced in **2006**
- Implemented through a series of **6 Technical Assistance projects**, with a total amount of **\$13.25 million**
- Provides technical and capacity building support for enhancing mitigation actions through carbon markets
- New TA on **Promoting Life Cycle Management of Fluorocarbons** will support DMCs in promoting proper management of fluorocarbons through capacity building and tailored recommendations

CDM: Clean Development Mechanism; CER: certified emission reduction; ETS: Emission Trading Systems



Rationale

- Demand for cooling equipment is growing rapidly
- Fluorocarbons, widely used as refrigerants, cause climate change and/or ozone layer depletion if released into the atmosphere through leakage or improper disposal of cooling equipment
- Countries in Asia and the Pacific lack:
 - sufficient regulatory and policy frameworks for adopting life cycle management of fluorocarbons
 - awareness about advanced technologies, innovative solutions and business models for the life cycle management of fluorocarbons



Air conditioners improperly disposed (sample image)
Source: The Ministry of the Environment, Japan.



Initiative on Fluorocarbons Life Cycle Management - ADB is one of the signatories

- **The Initiative on Fluorocarbons Life Cycle Management (IFL)** was launched by the Ministry of the Environment Japan (MOEJ) at COP25 in 2019.
- **Objective of the Initiative:** Facilitate concrete actions, innovations and collaborations among governments, private sectors, and international organizations to strengthen the life-cycle management of fluorocarbons, while collaborating on existing activities and frameworks.
- **ADB is one of the signatories to IFL** among 14 State and International Organization Partners (Chile, France, Japan, Maldives, Mongolia, New Zealand, Philippines, Singapore, UK, Viet Nam, CCAC, ADB, the World Bank and UNIDO) (as of Dec 2020).



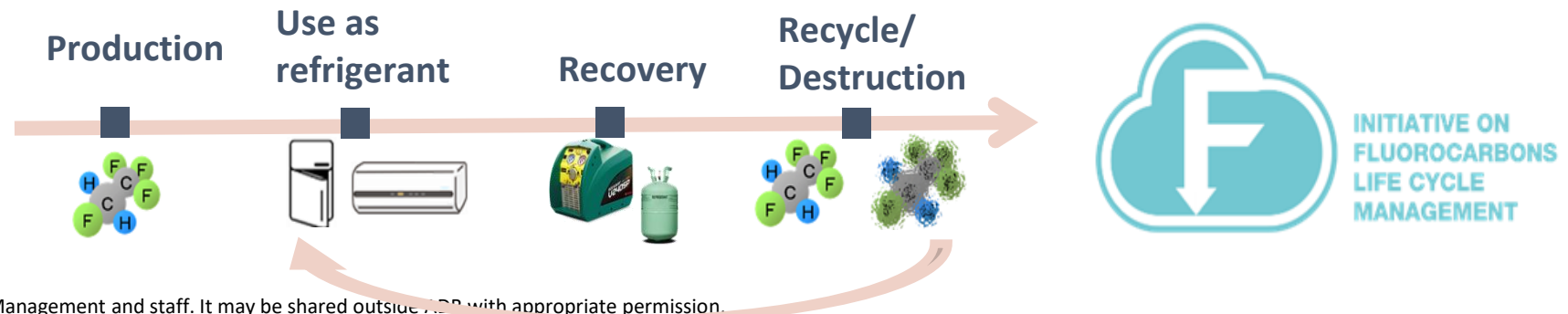
Launching event of IFL at COP25

Source: The Ministry of the Environment, Japan



Promoting Life Cycle Management of Fluorocarbons

- ADB approved a new regional TA: “Promoting Life Cycle Management of Fluorocarbons” in May 2021 to help its developing member countries (DMCs) to promote proper management of fluorocarbons through gap analysis, technology identification, knowledge sharing and tailored recommendations.
- The life cycle management of fluorocarbons requires:
 - developing, manufacturing, and using climate-friendly refrigerants with zero or low global warming potential (GWP) as an alternative to fluorocarbons with high GWP, which includes replacing old cooling equipment (upstream)
 - recovering, recycling, and destroying the discarded fluorocarbons (midstream and downstream).
- ADB will cooperate with MOEJ and other partners in supporting the participating DMCs to promote life-cycle management of fluorocarbons.





ADB's new Technical Assistance: Promoting Life Cycle Management of Fluorocarbons

TA Implementation period

- May 2021 to April 2023

TA Budget

- \$750,000
Funded by the Asian Clean Energy Fund under the Clean Energy Financing Partnership Facility, contributed by the Government of Japan

Potential participating DMCs

- Indonesia, Maldives, Mongolia, Philippines, Thailand, Viet Nam



Expected Outputs, Outcome and Impacts

Outputs

- Support for DMCs to increase knowledge and capacity
- Options for advanced technologies and innovative solutions on the life cycle management of fluorocarbons
- Recommendations for the DMCs to promote the life cycle management of fluorocarbons

Outcome

- DMCs' actions to promote the life cycle management of fluorocarbons and associated energy efficiency in the cooling industry will be increased

Impacts

- Use of zero or low global warming potential refrigerants in the cooling industry will be increased in the participating DMCs
- Use of energy-efficient cooling technologies will be increased in the DMCs



Expected Outputs in Detail

Output 1: Support for increasing DMCs' knowledge and awareness of, and capacity for the life cycle management of fluorocarbons

- Develop gap analysis reports for each participating DMC on the life cycle management of fluorocarbons and energy efficiency for the cooling industry, in the light of global good practices.
- Disseminate the knowledge gained under the TA and enhance awareness for the life cycle management of fluorocarbons and energy efficient cooling systems through national seminars, one regional workshop and publications.



Expected Outputs in Detail

Output 2: Options for advanced technologies and innovative solutions on the life cycle management of fluorocarbons, suitable for each DMC's local practices

- Identify options for advanced technologies, business models and other innovative solutions available in the market for fluorocarbons life-cycle management from upstream to downstream including digital technologies.
- Identify possible application of those technologies, business models and solutions in the local context of each participating DMC.



Expected Outputs in Detail

Output 3: Recommendations for the DMCs to promote the life cycle management of fluorocarbons

- Prepare recommendations for participating DMCs to promote the life-cycle management of fluorocarbons and energy efficient cooling systems.
 - Examples: national action plans, policy reforms, amendment to laws and/or regulations, and investment opportunities depending on each DMC's context.
 - Recommendations include a possible use of carbon market mechanisms under the Paris Agreement, such as the Joint Crediting Mechanism (JCM).
- Review investment opportunities, including by ADB, for implementing upstream to downstream measures on the life cycle management of fluorocarbons.



Key Messages

- As a signatory to IFL, ADB stands ready to support DMCs in promoting the life cycle management of fluorocarbons, in cooperation with other bilateral and multilateral partners to create more synergies.
- ADB will particularly review the possible investment opportunities in the life cycle management of fluorocarbons and energy efficiency improvements in the cooling industry, with possible use of carbon markets such as the JCM.



Virender K. Duggal

Principal Climate Change Specialist

+63 2 8632 5937 | vkduggal@adb.org

Shintaro Fujii

Environment and Climate Change Specialist

+63 2 8632 4287 | sfujii@adb.org

Thank you.

