

Study on Financing the Disposal of Unwanted ODS Through Voluntary Carbon Markets

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Presentation Outline

- The challenge of remaining ODS banks
- Introduction to carbon markets
- Study on opportunities for financing ODS destruction through voluntary carbon markets

The Challenge of Remaining ODS Banks

- Montreal Protocol has significantly reduced production/consumption of ODS
- Emissions of ODS “banks” in equipment, products, and stockpiles – not controlled
- IPCC/TEAP has estimated that:
 - One-third of ODS banks in 2002 would be vented by 2015 unless action was taken
 - This venting would result in emissions of almost 7 billion tCO₂e
- End-of-life ODS banks need to be recovered, consolidated, transported, and destroyed using TEAP approved technologies
- The Parties adopted decision XX/7 to consider and address these issues



One Possible Solution: Financing Destruction of ODS through Voluntary Markets

- The voluntary carbon markets represent a possible opportunity to finance the destruction of ODS because:
 - ODS destruction is not covered under CDM
 - To date, the ExCom has decided to provide funding only for pilot ODS disposal projects (in accordance with Dec. XX/7)
 - Financial incentives are needed to ensure proper disposal of unwanted ODS, since the process is costly
 - The high GWPs of ODS can generate significant carbon credits

- ICF was contracted by the World Bank on behalf of the MLF Executive Committee to undertake a study on these opportunities, guided by the Terms of Reference approved in ExCom Decision 55/34(a).

Introduction to Carbon Markets

There are two types of carbon markets:

Compliance Markets:

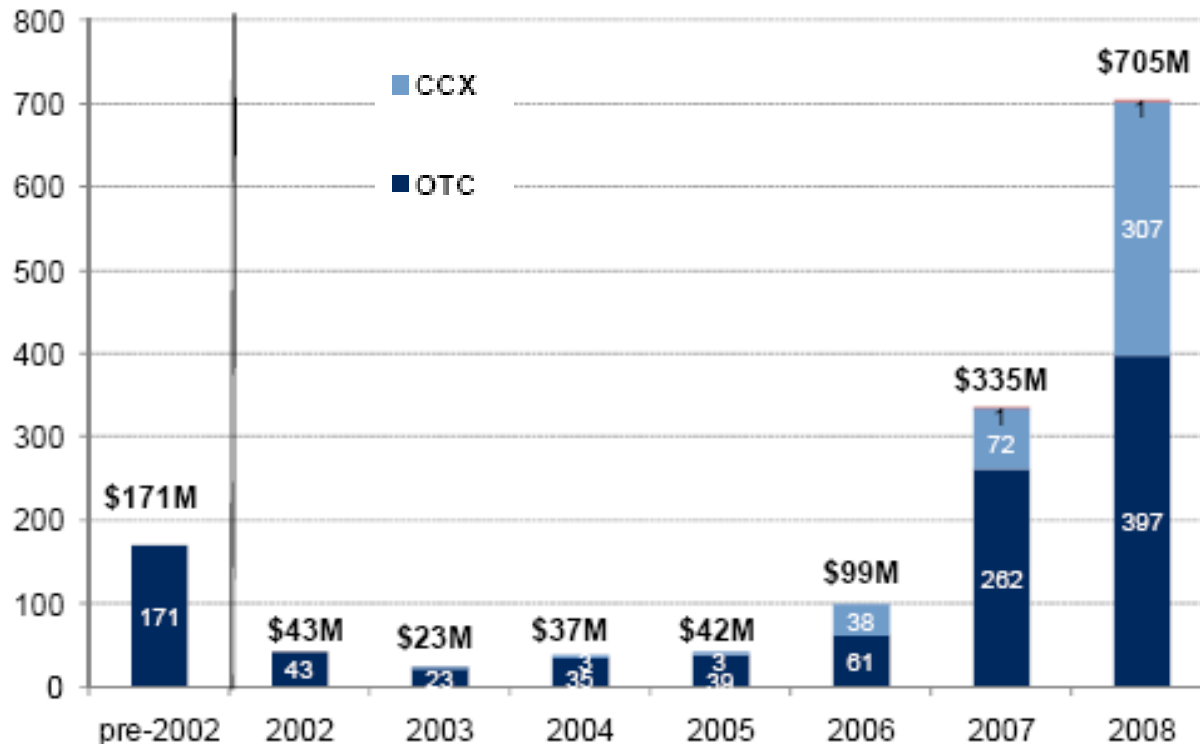
- Created and regulated by mandatory regional, national, or international GHG emission reduction schemes
- Only cover Kyoto gases, not ODS
- Examples:
 - EU Emissions Trading Scheme (EU ETS)
 - Kyoto Protocol flexible mechanisms, e.g., CDM/JI

Voluntary Markets:

- Operate outside of compliance markets and allow organizations to offset carbon emissions on a voluntary basis
- Voluntary markets are a small portion of total carbon markets
- Split into two markets:
 - Over-the-counter (OTC)—includes offset projects under voluntary standards, such as VCS, CAR, Gold Standard
 - Chicago Climate Exchange (CCX)

Value Growth in Voluntary Markets

- Voluntary markets more than doubled from 2007 to 2008, with strong growth in CCX
- Prices vary by standard, and project type, location, volume, etc.



Average price of a voluntary carbon credit for an industrial gas project in 2008:

US\$4.60/tCO₂e

Study on Financing the Destruction of ODS through the Voluntary Carbon Market

- Purpose: to determine opportunities for financing the destruction of unwanted ODS through the voluntary carbon market
- Methods:
 - Consulted with various stakeholders (i.e., Parties, companies involved in recovery and destruction, voluntary market standards)
 - Conducted analysis of the technical and financial feasibility of using the voluntary market for financing
 - Reviewed and compared voluntary market standards and existing methodologies for ODS disposal
 - Evaluated specific case studies for lessons learned on ODS destruction projects

Case Studies

- **Indonesian Cement Kiln Retrofit**
 - Cement kiln was retrofitted to destroy ODS from corporate clients and Customs-confiscated material (capacity of 1 MT ODS / day)

- **Argentinean Efforts to Export CTC for Destruction**
 - Export unwanted CTC stocks to United States destruction facilities in exchange for carbon offset credits on the CCX

- **Destruction of ODS from Refrigerators Collected in Moscow**
 - Collection of ODS from 10,000 household refrigerators in Moscow to be transported to Finnish refrigerator disassembly plant – credits to be applied for under the VCS

- **Gulf Cooperation Council: Destruction of ODS**
 - Ongoing planning and development of an ODS management & destruction project intended to be funded in part by the sale of carbon offset credits

- **Earning Carbon Credits under CCX for the Destruction of ODS**
 - Private company operates a buyback program for its ODS customers, consolidates, transports, and destroys these materials for voluntary carbon offset credits under the CCX

Is there a market for ODS destruction?

■ Market structure:

- **CCX** is the only market platform currently offering carbon credits for ODS destruction
- The **Climate Action Reserve** and **VCS** will likely offer credits for ODS destruction by late 2009/early 2010

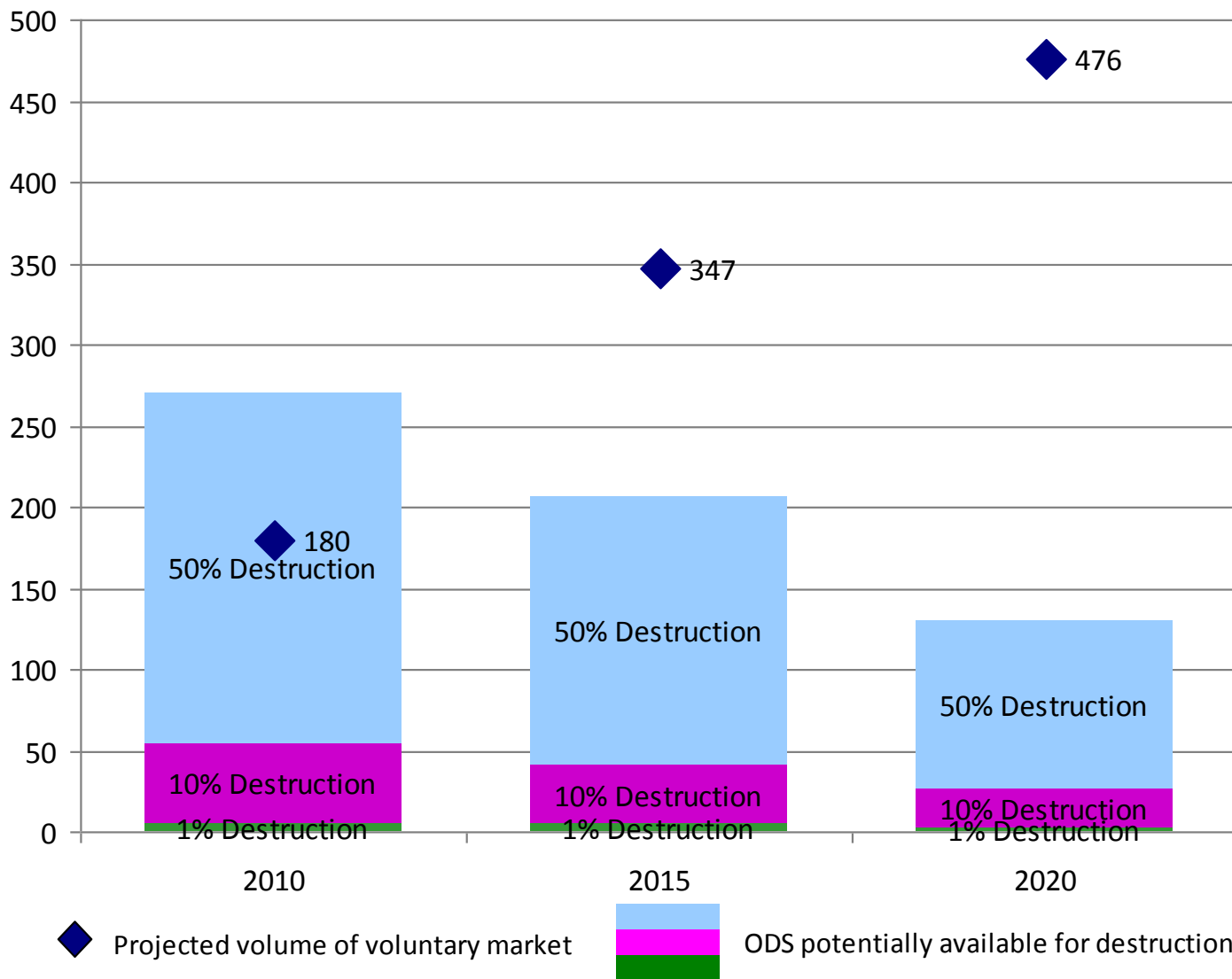
■ Market demand:

- ODS destruction projects are unlikely to overwhelm the voluntary market.
- Must clearly differentiate ODS destruction projects from past industrial gas projects (reputation)
- In the initial phases limited upfront financing for project preparation from an organization with financing capabilities could play an important role in ensuring that projects do initially get developed.

Select comparisons among the voluntary standards

	CCX	VCS	Reserve
Private or OTC?	Private	OTC	OTC
Geographical scope for ODS	Destruction in U.S., imports eligible	International	Destruction in U.S., imports eligible
Does standard have a registry system?	Yes, incorporated	Yes, services by multiple providers	Yes, incorporated
Can new methodologies be submitted for review?	Yes	Yes	No
Can projects be prepared using other standards' methodologies?	Yes, CCX can approve/reject	Yes, CDM and Reserve methods are eligible	No

ODS Potentially Available for Destruction (Bars) and Projected Volume of the Voluntary Market (Diamonds), in Million tCO2e



Note: This figure does not include ODS recovered in the EU Member States, nor HCFCs.

Note: This figure represents market volume, not the total number of offsets demanded/supplied. Because an offset can be traded several times before retirement, the market volume usually exceeds the number of actually existing offsets.

Source for voluntary market projected volumes: Hamilton et al. (2009). 2010 estimated by sight from Figure 35 of this report.

How can we capitalize on the existing MP infrastructure?

- Ozone Secretariat roles:
 - Managing a clearinghouse-type function for connecting owners of ODS banks with project developers and investors and
 - Managing a registry for tracking ODS imports and exports for destruction
- Country government roles:
 - As *owners* of ODS: pursue ODS destruction
 - As *facilitators*: collect data on ODS banks for the clearinghouse; track movement of ODS for destruction across borders; tax the sale of VERs earned through ODS disposal projects; minimize barriers to destruction
- MLF and Agencies' roles:
 - Help countries to overcome barriers to ODS destruction by facilitating the enabling environment at the country level
 - Agencies with financing capabilities could explore options for providing, where needed, upfront carbon finance to ODS destruction projects
- Technical bodies' roles:
 - Provide existing analysis and expert input to support the development of robust and credible methodologies for ODS destruction

What challenges and gaps may be faced in regards to the voluntary carbon market?

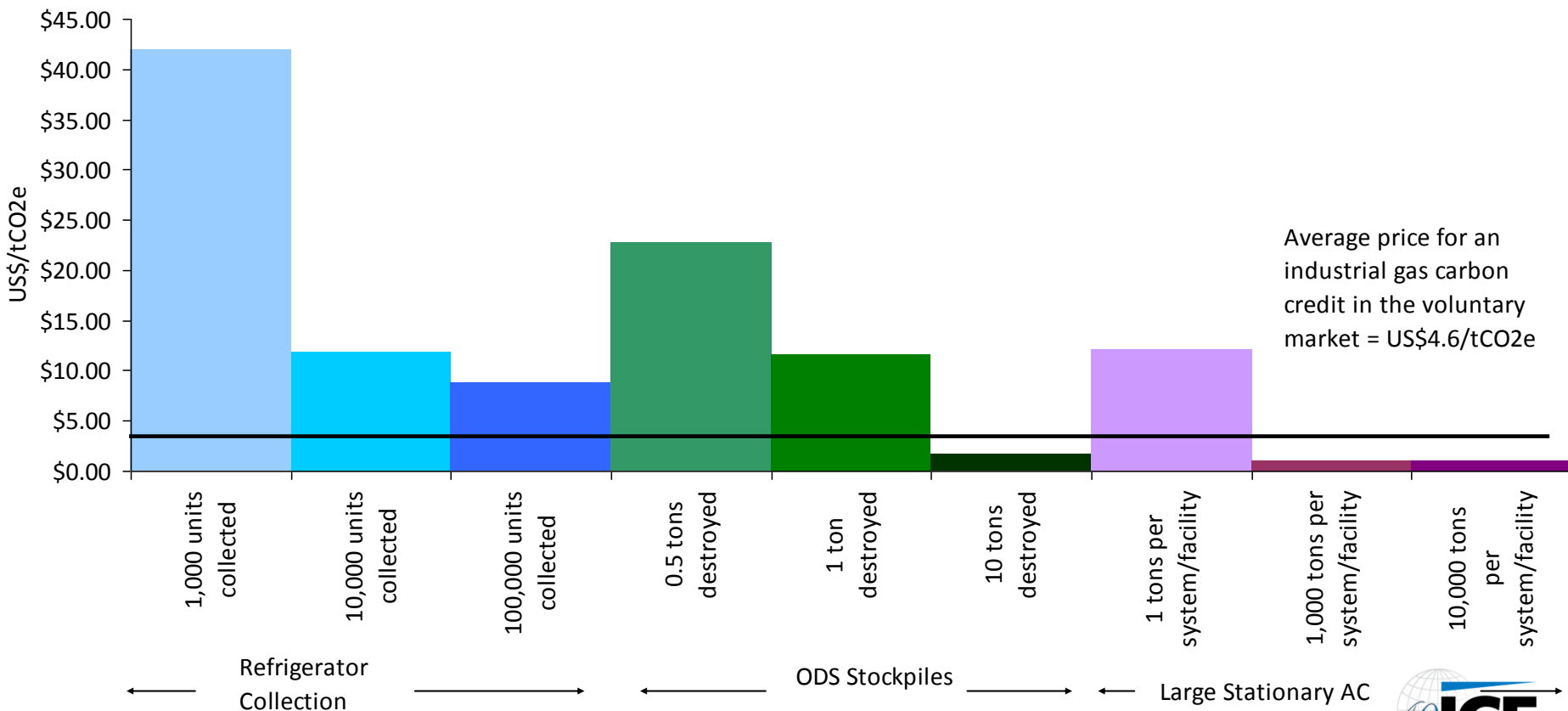
- **Perverse incentives** (e.g., to produce ODS illegally for destruction, etc.)
- **Financing for less cost-effective projects**
- **ODS not covered by the voluntary market** (e.g., halons, some HCFCs)
- **Special needs for A5 countries:**
 - **Countries with low volumes of ODS**
 - **Mixed refrigerants** (e.g., CFCs and HFCs)
 - **Countries with limited carbon finance capacity**

Costs of ODS destruction projects include:

Collection, recovery, transport, and destruction costs	Segregation/Collection	\$0-100/kg
	Transport (recovery)	\$0-50/kg
	Recovery processing	\$4-40/kg
	Transport (destruction)	\$0.01-0.06/kg
	Destruction	\$5-7/kg
Transaction costs to prepare and register a project	Project preparation	\$0 - 60,000
	Third-party validation	\$0 - 40,000
	Third-party verification	\$20,000
	One-off joining fee & annual fee	\$0 – 500
	Project fee	\$0 – 500
	Issuance/registration fee	\$0.05 – 0.20 /tCO ₂ e

Break-even Costs Compared to Average Price for Industrial Gas Carbon Credit

- Different project types & volumes collected affect the cost-effectiveness of ODS disposal projects



ODS destruction project methodologies

- Before ODS destruction projects can be undertaken for carbon credits, applicable **methodologies** must be in place to guide the project development, validation, and verification process of ODS destruction projects.
- Good methodologies should generally:
 - Ensure legitimate and verifiable emission reductions
 - Be flexible to account for the wide range of sources and scenarios from which unwanted ODS originate
 - Be accessible to A5 country participants

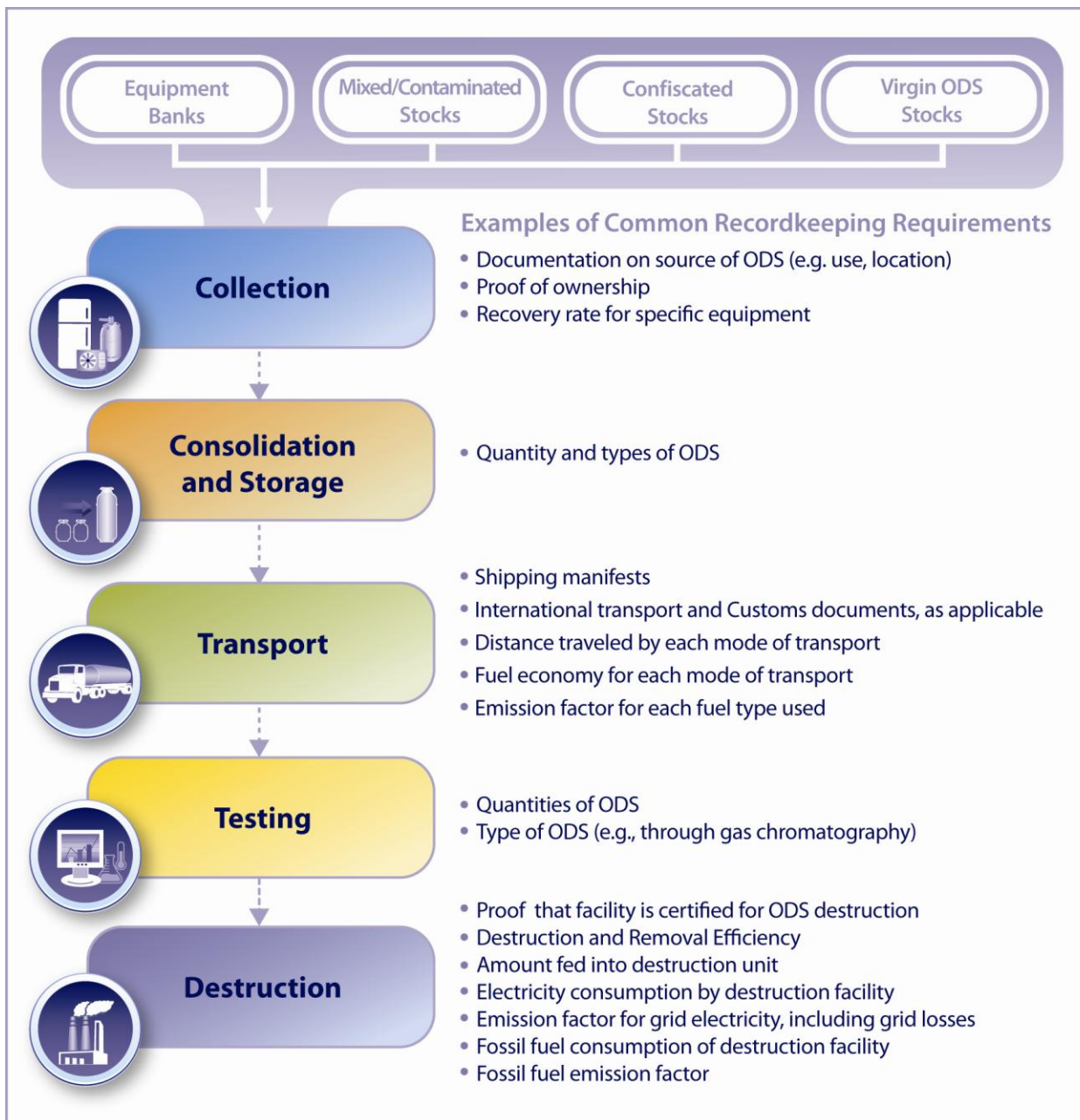
Selected recommendations for robust and widely applicable methodologies:

A good methodology should:	Recommendations:
Clearly specify geographic eligibility	Destruction should be eligible in any country, as long as other technical criteria can be met
Ensure that ODS produced to earn destruction credits is not eligible	Require that ODS being destroyed be phased out in the origin country, and require documentation on the origin of material.
Clearly specify a justifiable method for determining and demonstrating additionality	Additionality tests specific to the project should be required; at a minimum, projects should demonstrate/attest that no applicable regulations require destruction, and that destruction is not common practice.
Clearly define all relevant GHG sources for the project activity and baseline in the emission reduction calculations.	These include the ODS being destroyed, fuel and electricity use associated with the destruction process, emissions associated with the destruction process, and transport emissions.

Review of existing ODS destruction methodologies & approach

- ICF reviewed the following methodologies and approach:
 - ARGE/Tanzer/USG (Austria)
 - EOS Climate
 - CCX
 - VCS eligibility approach
 - Climate Action Reserve

- Some key differences included:
 - Geographical locations where destruction is eligible
 - Eligibility of certain ODS (e.g., halons)
 - Subtraction of substitute emissions associated with replacement of destroyed ODS
 - Timeframe for calculating emission reductions



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As an official ExCom document, the *Study on Financing the Destruction of Unwanted ODS Through the Voluntary Carbon Market* is available at this meeting.

The report is also available online at <http://www.multilateralfund.org/files/59/59Inf2.pdf>