Financing Low Carbon Projects

Odin K. Knudsen

Real Options International

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Odinknudsen@gmail.com

Real Options International Inc.

- Advising on Low Carbon Strategies and Finance
- Restructuring of Distressed Assets in Funds and Portfolios in Carbon and Renewables
- Managing of Investment Funds in the Carbon, Energy Efficiency, and Renewables Area
- Supplying intelligence on Market Developments and Analysis
- Providing Analytic Tools for Portfolio Management and Project Analysis in Carbon and Renewables
- Innovating Finance for Carbon and Renewable Projects
- Providing tools for auction and trading risk management

Using Carbon Finance For Project Finance

The Basics

Key Features of Carbon Finance

- Both public and private capital – new and additional sources for sustainable development financing
- Typically Payment on Delivery – certificate is bankable
- Payment stream is in hard currency (usually Euros), reducing financing risk for foreign lenders
- Under the KP, payment is for Carbon emission reduction offsets or certified emission reductions (CERs)

Carbon Markets
The Promise and Reality

- As with any commodity, international trade in carbon assets (offsets) improves market efficiency
- But carbon assets are project based deriving their value through spot and forward contracts – the promise to deliver carbon emission reductions
- Uncertainty and the value of the underlying carbon asset determines value of forward contracts

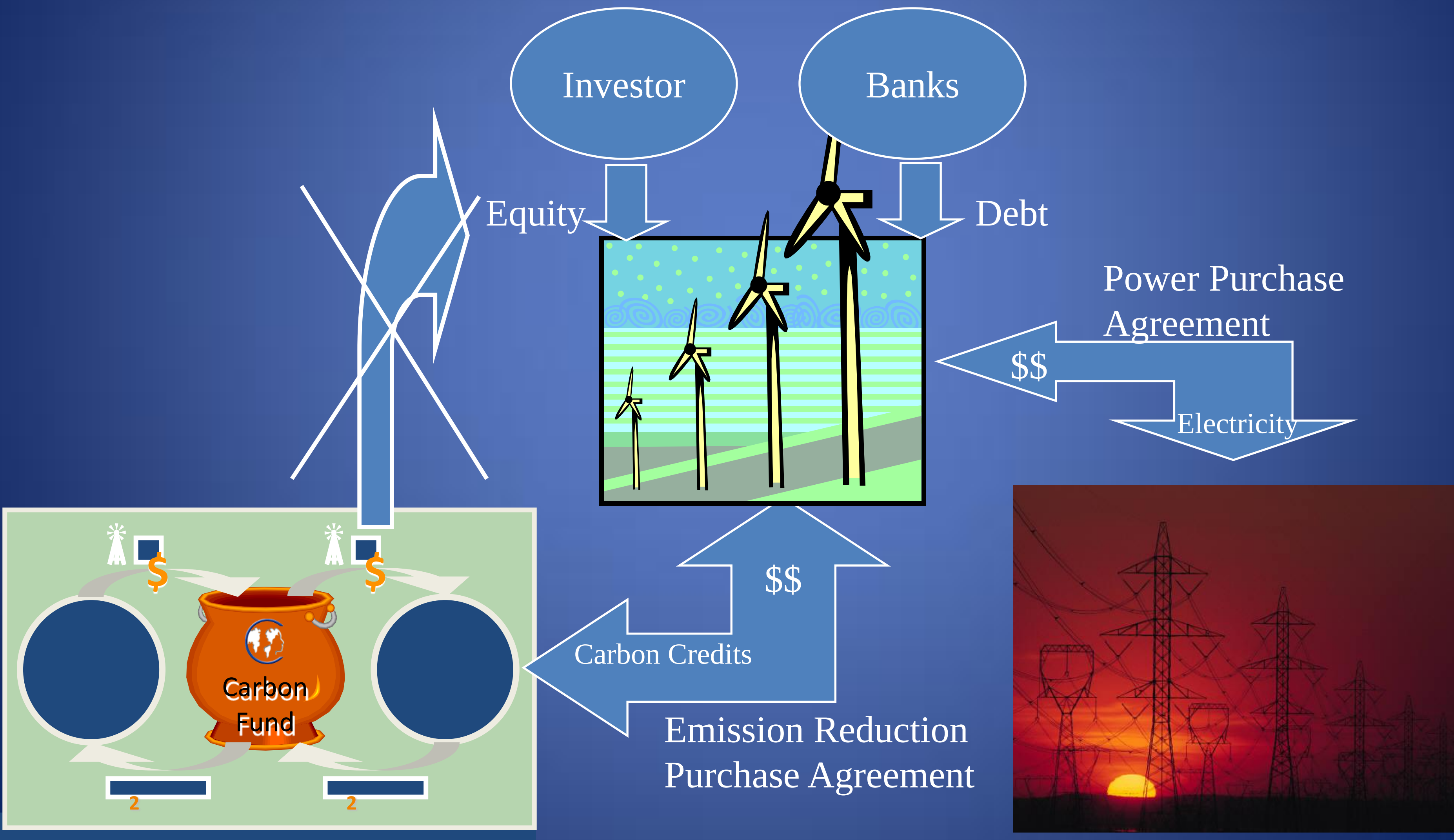
The Carbon Market

- Carbon market based on
  - Greenhouse gas effect being a global phenomenon => location of abatement is irrelevant; and
  - difference in cost of abatement between OECD and developing countries – marginal cost of abatement in OECD is $25-150 per ton of carbon dioxide, versus less than $5 per ton in developing countries such as India.

- OECD private sector and governments
  - invest in less greenhouse gas (GHG) or “carbon- intensive” project/ technology in developing country and
  - receives credit for GHG (“carbon”) emission reduction

- Developing country receives increased investment and cleaner technology

Nature of Carbon Financing Contract



Problems With Carbon Finance Today

- First Commitment Period of KP ends 2012
- Europe and Japan are the only significant buyers of credits
- Great Deal of Uncertainty on What Lies Ahead
- Because of Economic Downturn in the European Union ETS market is depressed
- CER prices are at historic lows and many carbon funds are in jeopardy
- But…..

But the Market is Likely to Expand Once Again

The Golden State to the Rescue

- California ETS scheduled to begin January 2013
  - Market will be very short of Carbon offsets to dampen prices
  - Only 4 domestic protocols
  - If supply of offsets not found carbon prices will be very high perhaps greater than \$50 t0 \$100 per ton
  - Will they reach out to CDM offsets? If they do not California’s ETS is unsustainable.

Australia Begins Emission Reductions

- Australia passes legislation to establish a carbon tax phasing into a emissions trading scheme
- Currently domestic offsets from agriculture permitted but expanding into CDM possibly linked to Europe' s ETS
- New Zealand with already an established ETS will likely link with Australia

China the Big Emitter

- China will begin an ETS scheme in 5 to 7 provinces
- Possibly implementing a full national scheme in 2015
- Implications are huge
  - Creates Large Market
  - But also limits supply into global market

Canada Pulls Out of Kyoto

- But Canadian Provinces continue to build their own emission reduction markets
- Ontario, Quebec and BC likely to start ETS in 2013-15 period
- Linking With California’s ETS to create the second largest cap and trade market after Europe’s ETS
- Alberta, next?

Results From Durban COP17

- Regarding Kyoto Protocol:
  - 2nd commitment period from 1 Jan 13 to 31 Dec 17· Annex I to submit QELROS by May 1, 2012
  - Revised QELROS to be included in amended Annex B to KP by MOP 8 in Qatar
  - Carry over of the AAUs to be decided at MOP 8
  - EU 27 member state to meet KP 2nd Commitment obligations jointly. EU commitment to increase to -30% by 2020. EU to submit the QELRO by 1 May 2012
  - Australia and New Zealand to submit QELROS by May 1, 2011
  - Canada, Japan and Russia not to be a part of the second commitment period

Durban Platform for Enhanced Action

- Extended the life of AWG-LCA to achieve the mandate of the Bali Action Plan till COP18
- Launched a process to develop a protocol, another legal instrument or an outcome with legal force applicable to all Parties through a subsidiary body under the convention to be known as Ad Hoc Working Group on the Durban Platform for Enhanced Action ("Durban Platform")
- Durban Platform shall complete its work no later than 2015 in order to adopt the legal instrument by COP21 and come into effect by 2020 (or was it 2018)
- Durban Platform shall raise its level of ambition based on the 2013-15 assessment by the Subsidiary Bodies and on the Fifth Assessment of the IPCC
- AWG on Durban Platform will begin negotiations in 2012

Green Climate Fund

- ·Designated the GCF as the operating entity of the Financial Mechanism of the Convention.
- GCF Board to receive nominations by 21 march 2012 and to meet by 30 April 2012.
- The GCF will finance agreed full and agreed incremental cost for activities to enable and support enhanced action on adaptation, mitigation, technology development and transfer, capacity building and the preparation of national reports by developing countries.
- Support will include funding for low-emission development strategies or plans, project or programmatic approaches for mitigation, NAMAs or NAPs or related activities
- GCF will have windows for mitigation and adaptations. Capacity building and technology transfer is included. Addition windows may be created.· GCF will have a private sector facility that will directly or indirectly finance private sector, including SMEs
- · GCF can be accessed through national, regional or international entities accredited by the Board but chosen by the recipient countries.
- GCF funding will be in the form of grants and concessional lending “and through other modalities”

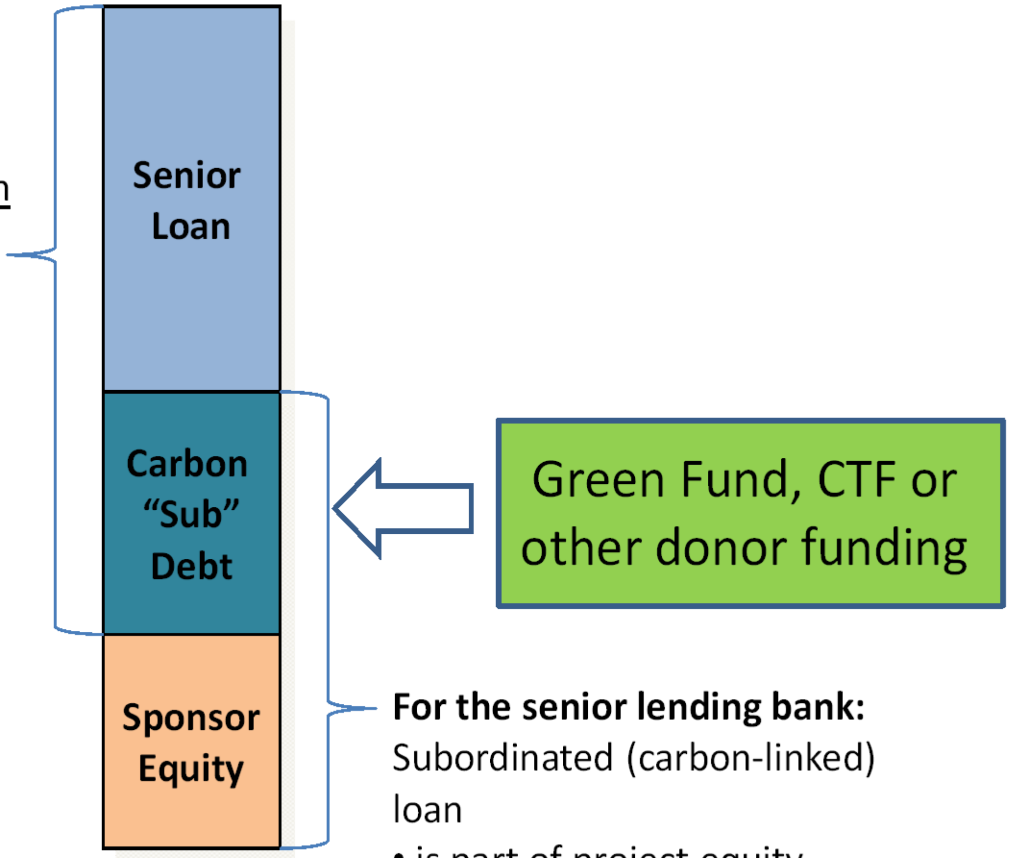
How Can the GCF be Utilized in Combination with Carbon Finance?

Increasing Leverage of Equity

For the project developer:

Subordinated loan

- is a higher interest (<u>senior loan rate + carbon revenues</u>) loan that increases equity leverage
- likely to improves return on equity
- is more expensive than the senior loan

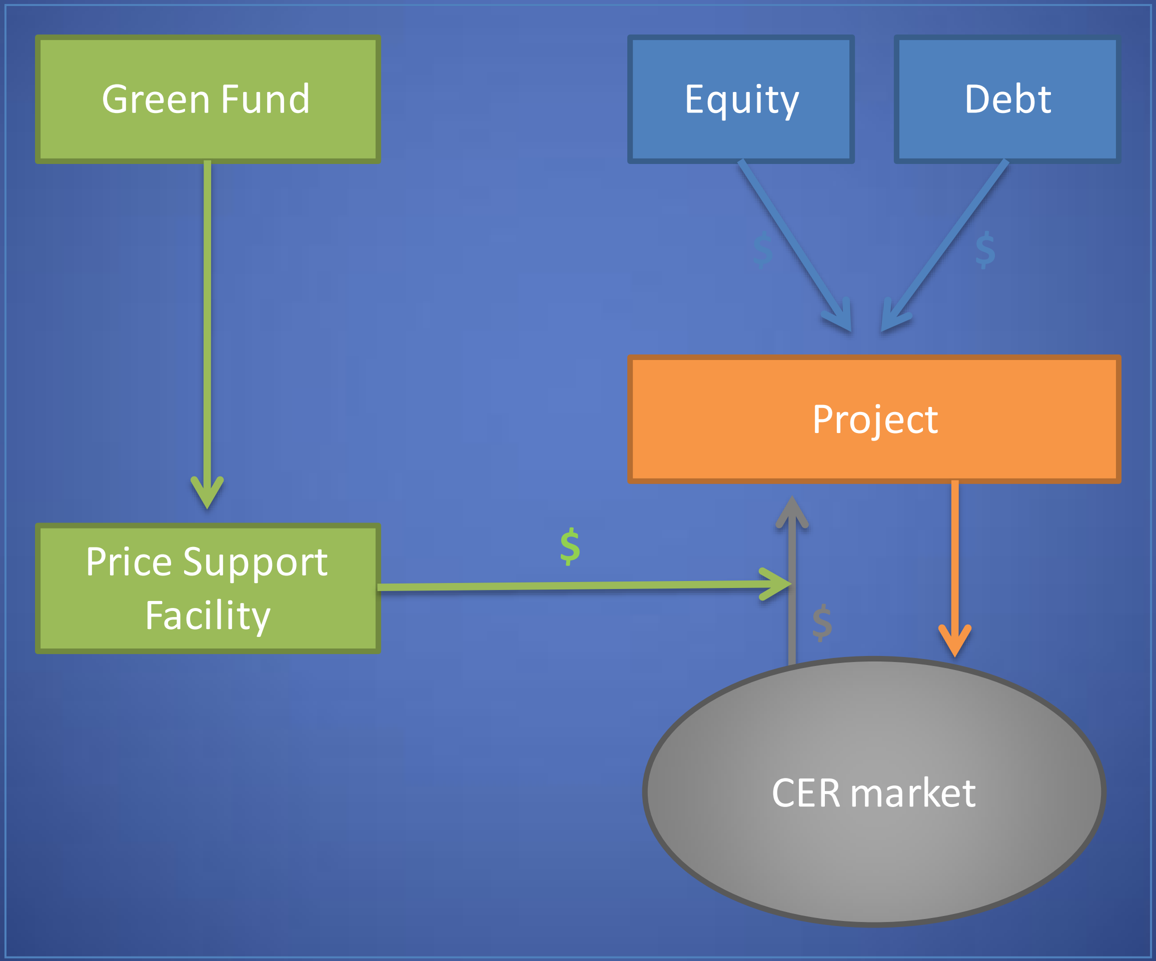


For the senior lending bank:

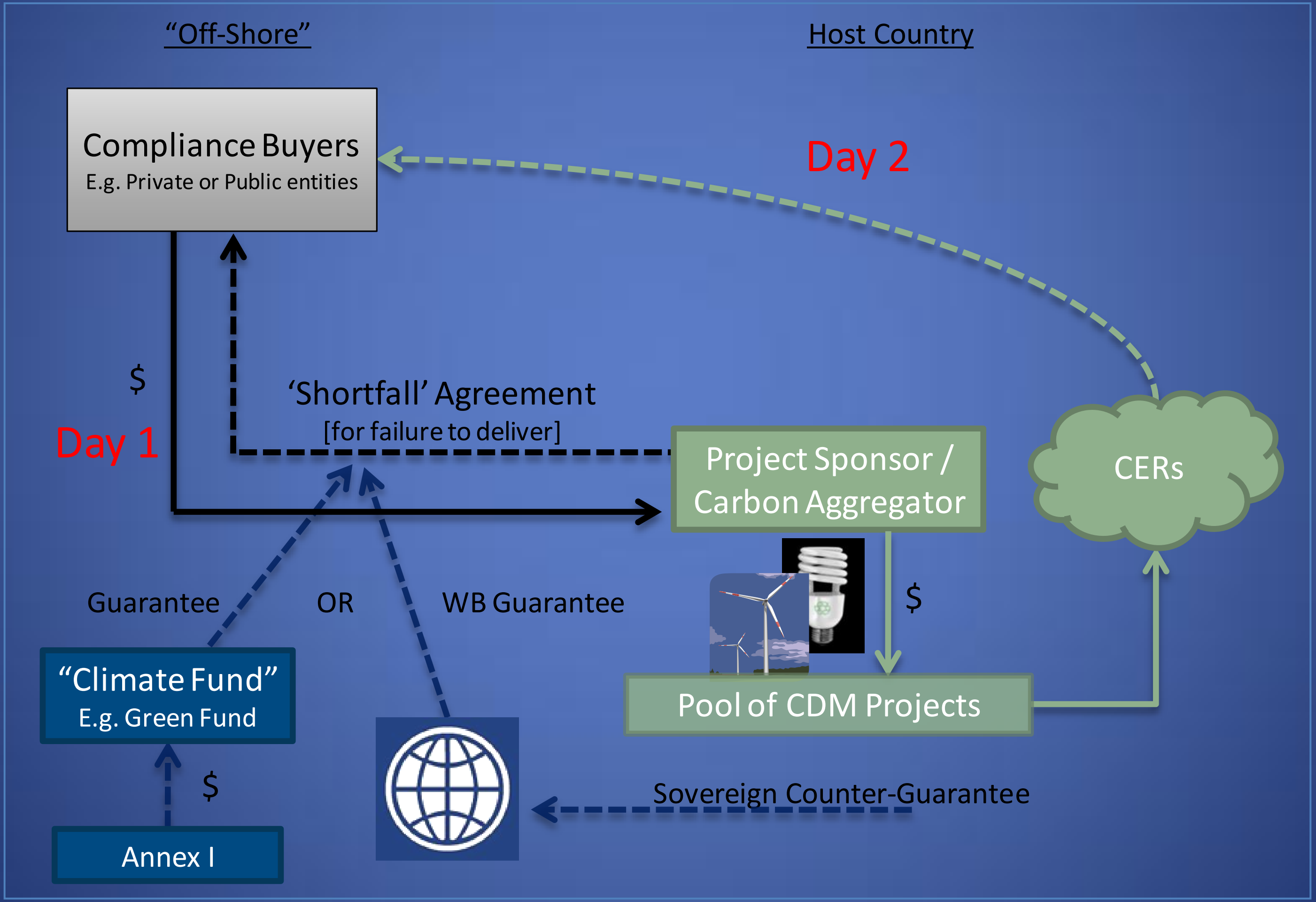
Subordinated (carbon-linked) loan

- is part of project equity
- mitigates the project risk

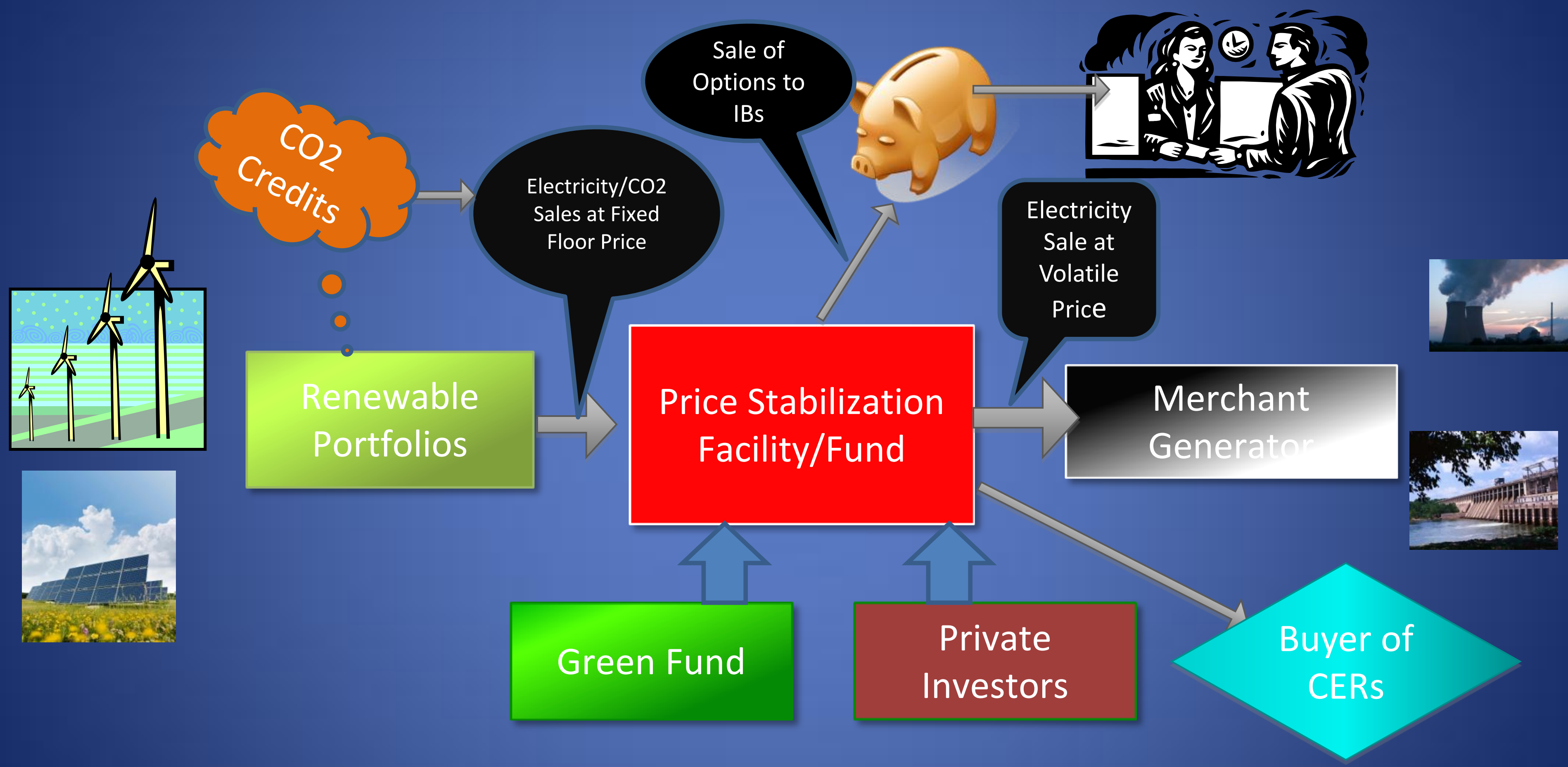
GCF Supporting Price



GCF to Take Delivery Risk



Finance Using Volatility



But There's Still A Long Row Ahead

Thank You