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The Voluntary Emissions Reduction Market

A Developers' Perspective on Creating Profitable CMM Projects in the USA

Methane to Markets Coal Subcommittee Meeting
Cagliari, Italy
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What does the voluntary emissions reduction market could do for CMM project development in the USA?

- Create another revenue stream that allows projects to become economic. Yes, economic barriers to CMM project development *do* exist in the USA.
- Allows industries which may be regulated by legislation that limits carbon emissions reductions to get an early(?) start by developing CMM projects as a sources of offset credits.

What Impacts the Quality and Longevity of Project?

- issues of risk and uncertainty stemming from resources/ reserves of gas and coal, production and deliverability of gas
- carbon emission reductions price variability and uncertainty,
- ownership issues (coal, gas and carbon emissions reductions)
- structure and rivalry among the exchanges and variance in methodologies/standards and what that means with respect to verification and validation
- transactions costs and impact on project size

Risks Associated with the Voluntary Market

- **Could be dependent on the stage of project development as potential legislation is enacted**.
- **Quality risk** - a failure to register/qualify due to sustainability or additionality concerns
- **Delivery risk** – project does not perform as expected due to technical or economic issues
- **Registration risk** – rejected due to standards of practice or methodology adopted after legislation is enacted
- **Value and access to market** –voluntary market so far has high supply and lower than expected demand…VERs may not be transferrable to EU market until compliance market develops in USA… value is uncertain

Key Issues in GHG Project Accounting

- Many types of GHG standards, protocols and programs that have been and are being developed
- The choice of options can lead to confusion and concerns over:
  - Creditability and quality
  - Equality in terms of value and fungibility
  - User-friendliness, practicality and flexibility
  - The cost and time required to implement them
- So far there is no perfect or universal consensus for all types of projects. But there is consensus on several points.
  - Globally accepted guidance is provide by ISO and the WRI/WBCSD GHG Protocol
  - Program rules should be based on stakeholder input
  - Project specific procedures are required (e.g., from CDM, IPCC, U.S. EPA, or others)

After P. Hardy , GHG Management Institute, 2008

Proposed U. S. Legislation

Bill	Scope of Coverage	2010-2019 Cap	2020-2029 Cap	2030-2050 Cap
Lieberman – Warner (S. 2191)	All 6 GHGs Economy wide – upstream for transport fuels & NG; downstream for large coal users; separate HFC consumption cap	4% below 2005 level in 2012	19% below 2005 level in 2020	71% below 2005 level in 2050
Bingaman – Specter (S. 1766)	All 6 GHGs Economy wide – upstream for natural gas & petroleum; downstream for coal	2012 level in 2012	2006 level in 2020	1990 level in 2030 President may set long-term target ≥60% below 2006 level by 2050 contingent upon int'l effort
McCain – Lieberman (S. 280)	All 6 GHGs Economy wide – upstream for transportation sector; downstream for electric utilities & large sources	2004 level in 2012	1990 level in 2020	20% below 1990 level in 2030 60% below 1990 level in 2050
Sanders – Boxer (S. 309)	All 6 GHGs Economy wide – not specified	2010 level in 2010 2% per year reduction from 2012-2020	1990 level in 2010	27% below 1990 level in 2030 53% below 1990 level in 2040 80% below 1990 level in 2050

Proposed U. S. Legislation, cont'd

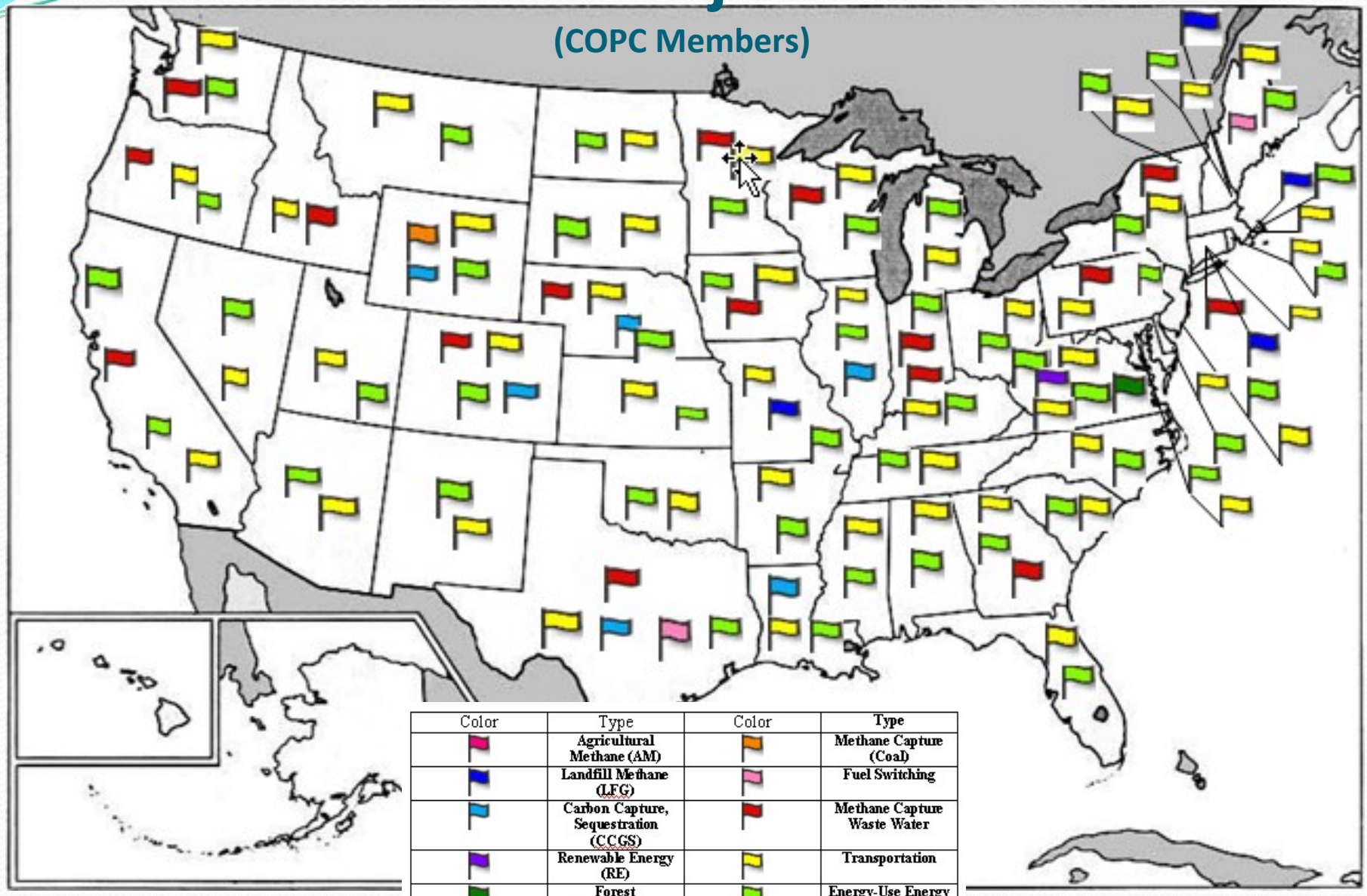
Bill	Scope of Coverage	2010-2019 Cap	2020-2029 Cap	2030-2050 Cap
Kerry – Snowe (S. 485)	All 6 GHGs Economy wide – not specified	2010 level in 2010	1990 level in 2020 2.5% per year reduction from 2020-2029	3.5% per year reduction from 2030-2050
Olver – Gilchrest (H.R. 620)	All 6 GHGs Economy wide – upstream for transportation sector; downstream for electric utilities & large sources	2004 level in 2012	1990 level in 2020	22% below 1990 level in 2030 70% below 1990 level in 2050
Waxman (H.R. 1590)	All 6 GHGs Economy wide – not specified	2009 level in 2010 2% per year reduction from 2011-2020	1990 levels in 2020 5% per year reduction from 2020-2029	5% per year reduction from 2030-2050 80% below 1990 levels in 2050

Offsets: Constraints and Rewards for Early Action Under Proposed Legislation

- May include 15% domestic and 15% international and companies may borrow up to 15% to make prescribed limits
- Range from 1 to 40% credit for early reductions with some offset projects counting against allocations
- Funds and incentives are available for technology R&D: carbon capture and sequestration qualifies for bonus allocations

U.S. Offset Projects…CMM?

(COPC Members)



Color	Type	Color	Type
	Agricultural Methane (AM)		Methane Capture (Coal)
	Landfill Methane (LFG)		Fuel Switching
	Carbon Capture, Sequestration (CCGS)		Methane Capture Waste Water
	Renewable Energy (RE)		Transportation
	Forest Conservation, Afforestation		Energy-Use Energy Efficiency

What Makes an Offset Credit Have Value?

- Compatible-standard could be designed on the basis of a universally recognized standard such as ISO 14064 and crafted to maximize compatibility with other recognized GHG standards
- Additional- projects must not be required by law or common industry practices; they must be "beyond business as usual"
- Verified- each emission reduction must be verified by a qualified independent third party
- Transparent-project data will be disclosed, including project summaries, verification reports and certification reports
- Informed- standard used must be beyond reproach

Required Attributes for a Credit to Fungible

- Transfer of the ER is recorded as the transaction occurs
- Cancellation or retirement is documented and traceable to the credit that was issued.
- Process is transparent from cradle to grave
- Issued against a standard and methodology that results in registration as an emission reduction (ER)

Structural differences and rivalry, among standards/methodologies are confusing…but are a part of the market process having an impact

- Standards of practice and methodology determine which types of projects under a given set of rules of may produce "certifiable" reductions.
- How and whom will verify and validate the projects and at what cost?
- Struggle underway to be a "grandfathered" standard and methodology; moreover to have the reductions credited as offsets
- Transaction costs impact project size

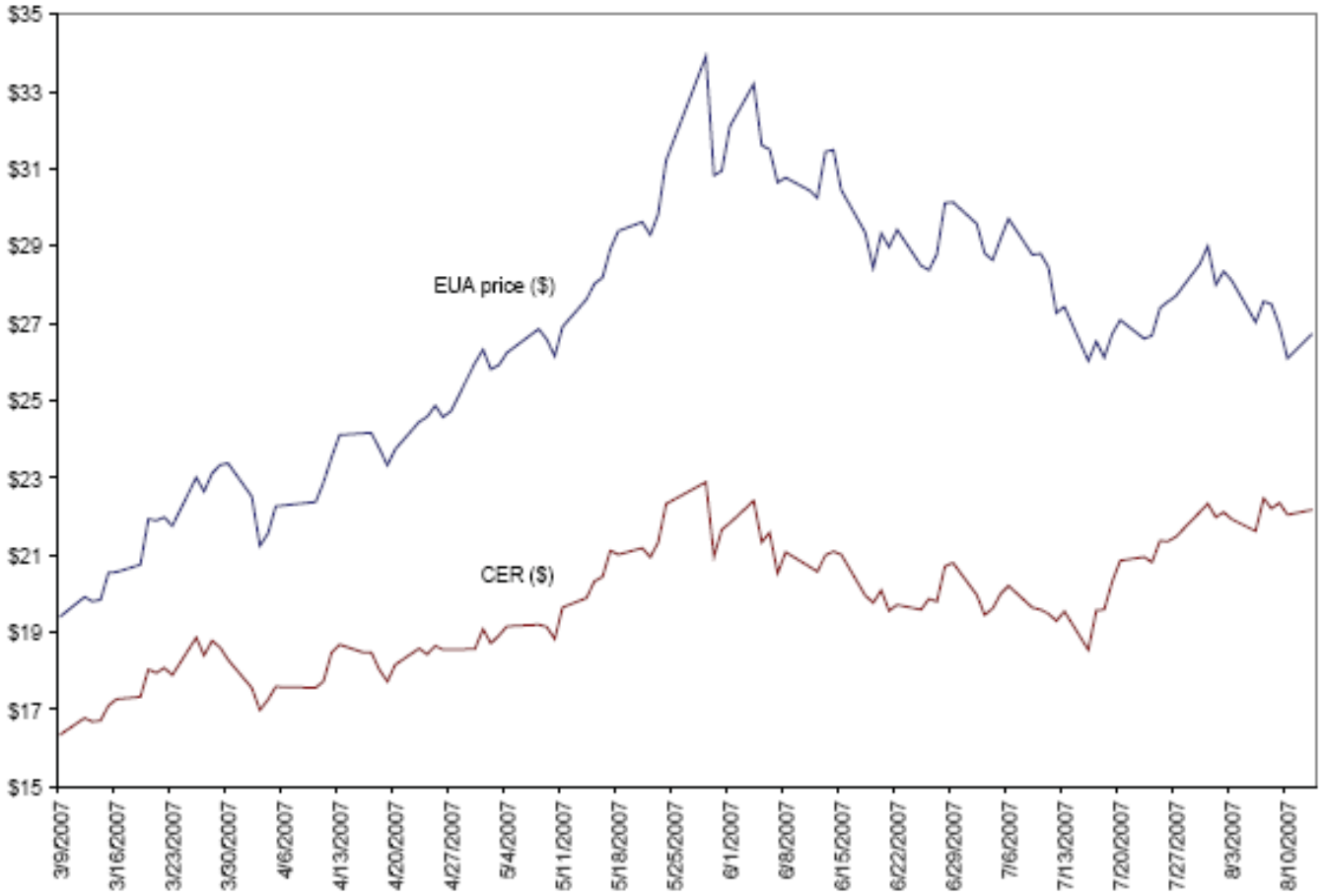
Ownership issues (coal, gas and carbon emissions reductions)-- More risk ???

- The USA has no uniform law that clarifies ownership for the gas estate, coal estate and carbon emission reduction credits associated with methane destruction
  - May vary from state to state
  - Emission reductions may belong to gas owner, coal owner, or surface owner
  - Probably need to control all to be certain

Presently, the value of voluntary carbon emission reductions (VERs) is unpredictable

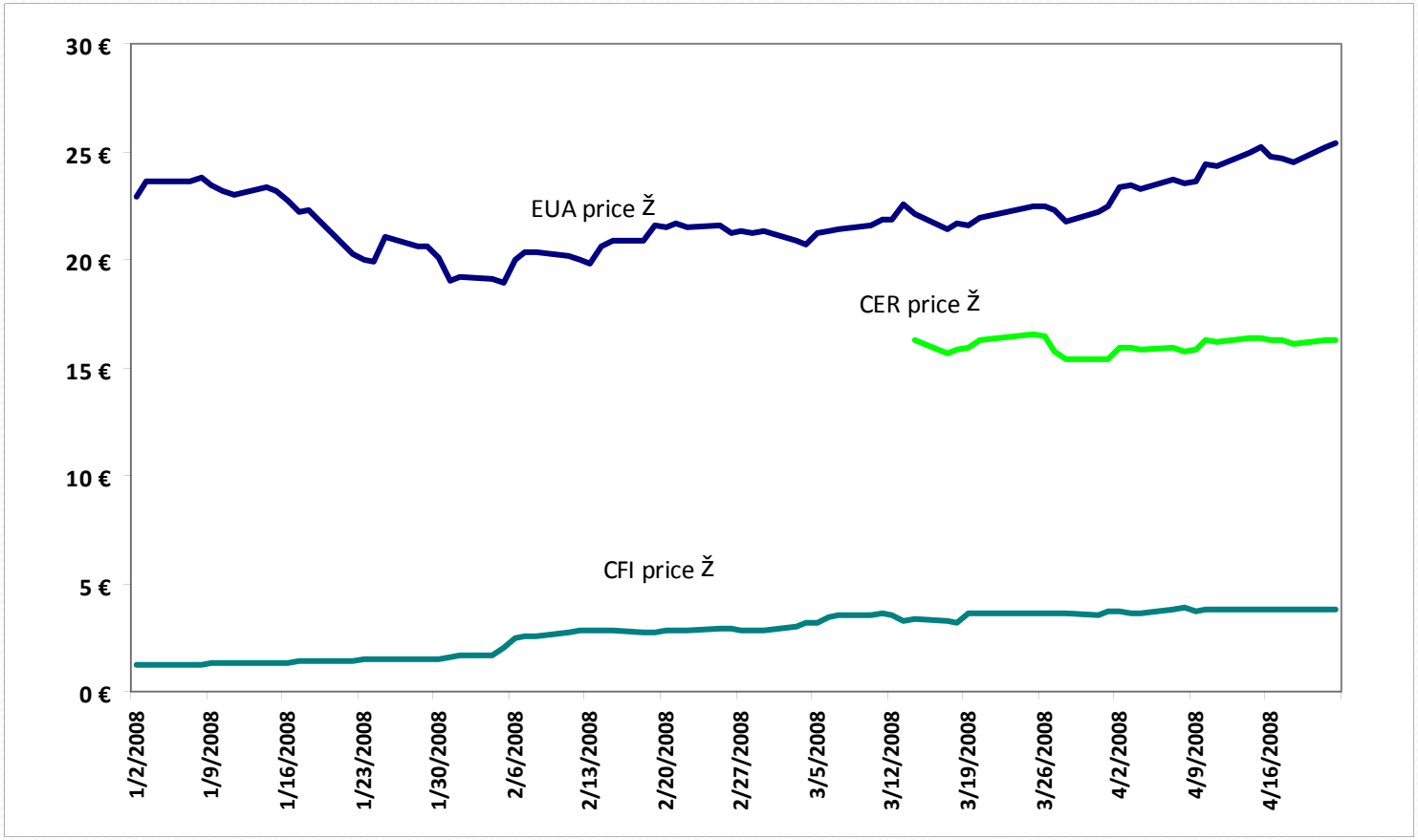
- Present market is has a potentially large supply side but a negligible demand side
- Convergence of CER and VER values are possible, if and when:
  - Equilibration takes place between EUETS allowances values and CER values
  - Compliance market in the USA becomes reality…even as the market develops over several years

Estimated Prices for Guaranteed Delivery CERs & ECX CFI 2008 Contracts



Source: ECX data and TFS brokers

Recent Prices for Emission Reductions



Source: CCX, ECX

Summary

- A project should be evaluated based on the revenues generated by the sale of electricity, gas and/or other products.
- The voluntary market has the potential to add value to a CMM in project; but the value of the VERs may range from a fraction of the value of the gas or other products to many multiples.
- VER value will change when legislation is enacted in the USA; so adherence to impeccable standards of practice and a solidly based methodology is a necessity in order to preserve value.

Conclusion: Evaluating non-associated risks is necessary but difficult!