

LECTURE 19: SOUTH POLE CARBON ASSET MANAGEMENT

14.42/14.420

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Today's Class: South Pole Carbon Asset Management

Screenshot of [South Pole Carbon Asset Management, Ltd.](#)
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Business Cases

- The goal of a business case is to deeply understand one company's business area and discuss a particular choice that its managers face.
- The class comes to some agreement (or disagreement) on what the business should do
- Along the way, we hopefully learn some generalizable economic concepts
- The instructor often learns from the students' viewpoints
- “The Case Method” is used at HBS and many other business schools, including MIT.

Structure of Today's Discussion

- Overview of offsets, the CDM, and South Pole's business
 - This is the only part where I expect no disagreement
- Additionality
- Policy design: Offsets vs. Allowances
- VER and CER prices
- Should we Go For Gold?

Types and Source of CERs

Cumulated CERs Issued in 2009 and 2010, by Major Project Types

Project Type	May-09	% of Total	May-10	% of Total
HFCs	156.0	55%	213.9	53%
N2O	59.0	21%	89.9	22%
Wind	11.9	4%	19.3	5%
Hydro	10.1	4%	18.8	5%
EE own generation	10.7	4%	16.8	4%
Biomass energy	12.1	4%	15.5	4%
Subtotal	259.8	92%	374.3	92%
Total issued CER	281.8		407.0	

Cumulated CERs Issued in 2009 and 2010, by Major Host Countries

Host Country	May-09	% of Total	May-10	% of Total
China	123.7	44%	199.4	49%
India	65.1	23%	78.3	19%
South Korea	38.0	13%	52.7	13%
Brazil	30.0	11%	40.1	10%
Mexico	5.7	2%	6.3	2%
Subtotal	262.6	93%	376.8	93%
Total issued CER	281.8		407.0	

Voluntary Market CER Sources

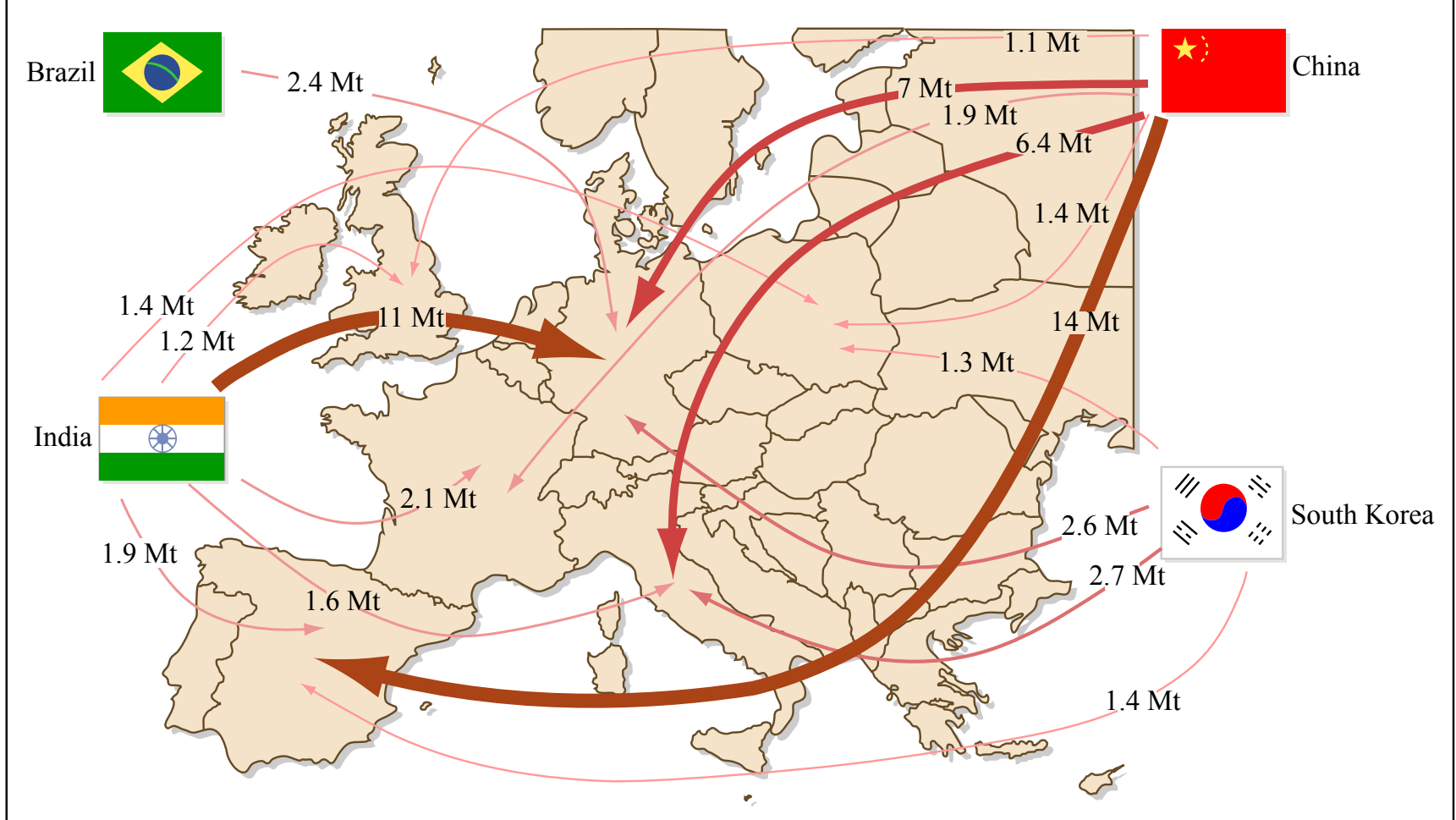
Reported Transactions of Carbon Credits in the Voluntary Market, by Region of Origination and Sector, 2007

Thousand tCO ₂ e	Total	Africa & the Middle East	Asia	Canada	EU	Europe (Non-EU)	Latin Am.	Mixed	US	South Pacific
RE	8,801	62	5,129	5	88	1,287	239	877	871	244
Grid (Non-REC)	5,740	35	3,940	5	--	--	120	877	550	213
Off-Grid (Non-REC)	2,053	12	754	--	13	1,157	87	--	--	30
RECs	1,008	15	434	--	75	130	32	--	321	1
Energy efficiency	5,003	247	3,441	20	1	--	926	4	21	343
Forestry/Land use	5,077	234	701	1,023	43	1	381	--	1,722	973
Aff/Reforestation	2,831	196	501	273	40	1	312	--	1,507	--
Avoided defor.	1,422	33	200	--	--	--	5	--	210	973
Soil	820	--	--	750	3	--	63	--	4	--
Land Restoration	5	5	--	--	--	--	0	--	--	--
Methane	4,478	--	180	--	647	--	135	157	3,030	330
Coal	2,042	--	--	--	636	--	--	--	1,406	--
Landfill	1,332	--	150	--	--	--	44	157	651	330
Livestock	1,105	--	30	--	11	--	91	--	972	--
Fuel switching	2,573	2	745	--	1,500	--	327	--	--	--
Mixed sectors	1,357	10	200	43	--	--	--	504	587	13
Industrials gas	700	--	700	--	--	--	--	--	--	--
Geo. sequestration	330	--	--	--	--	--	--	--	330	--
Fugitive	83	--	--	--	--	--	--	--	--	83
Total	28,403	554	11,095	1,092	2,278	1,288	2,008	1,541	6,561	1,986

Image by MIT OpenCourseWare.

Sources and Sinks of CERs in EU ETS

Largest Final Flows Between Countries Resulting from CER Use by EU ETS Installations
2008



Cumulative CER Issuance

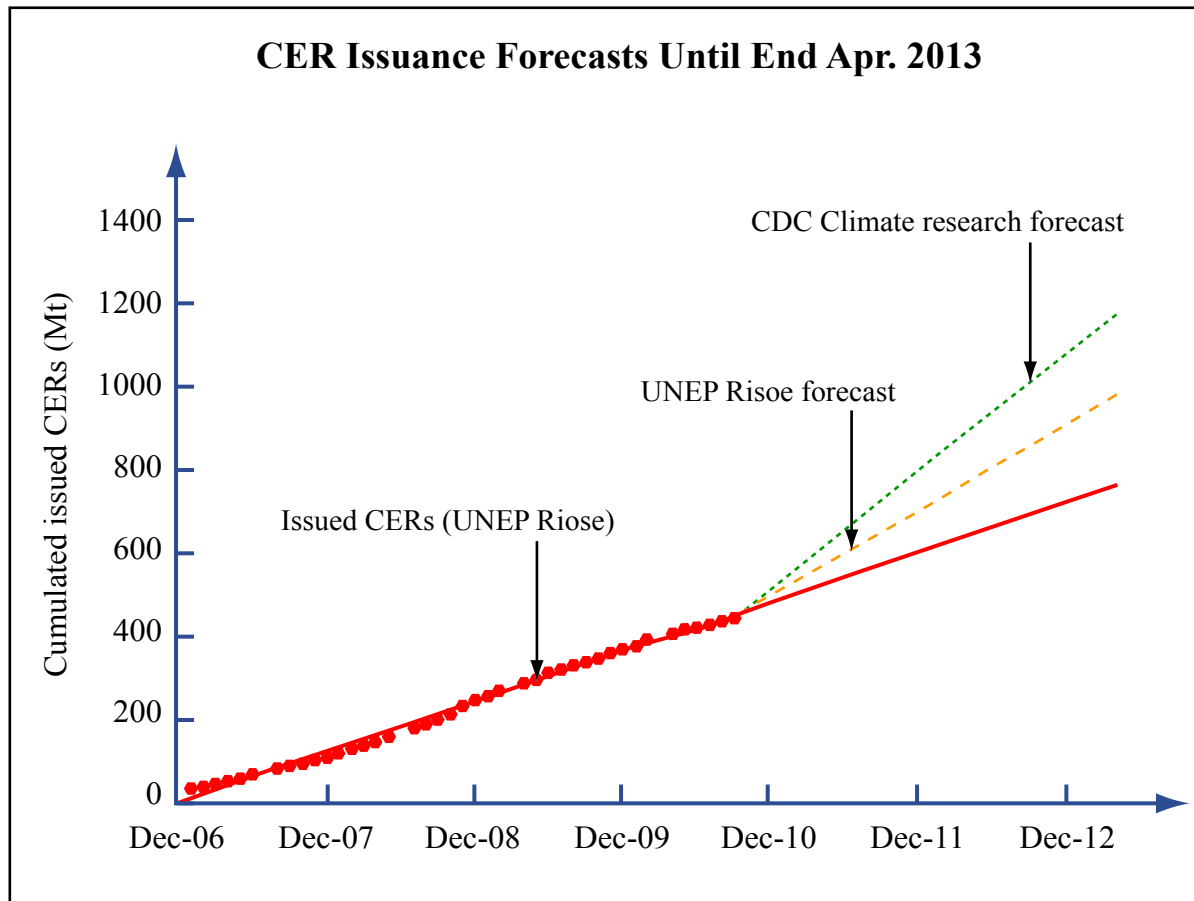


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Additionality

- Requirement for a natural gas power plant project to use one of the approved methodologies:
- “Natural gas is sufficiently available in the region or country,
 - e.g. future natural gas based power capacity additions, comparable in size to the project activity, are not constrained by the use of natural gas in the project activity.”
- Why make this requirement?

Should We Have Offsets?

- “Skeptics drew a parallel between the act of purchasing VERs and the medieval practice of buying indulgences to pardon one’s sins.”
 - (South Pole case)
- “What these companies are allowing people to do is carry on with their current behavior with a clear conscience.”
 - Steve Raynor (Oxford, IPCC)
- Do you agree?

Should We Have Offsets?

- “Concerns with the incorporation of offsets into a cap-and-trade system are . . . outsourcing emission reductions (if an unlimited use of offset is allowed, the cap can be met without any participants reducing emissions domestically).
 - Raphael Trotignon
- Do you agree that this is a problem?

CER Prices

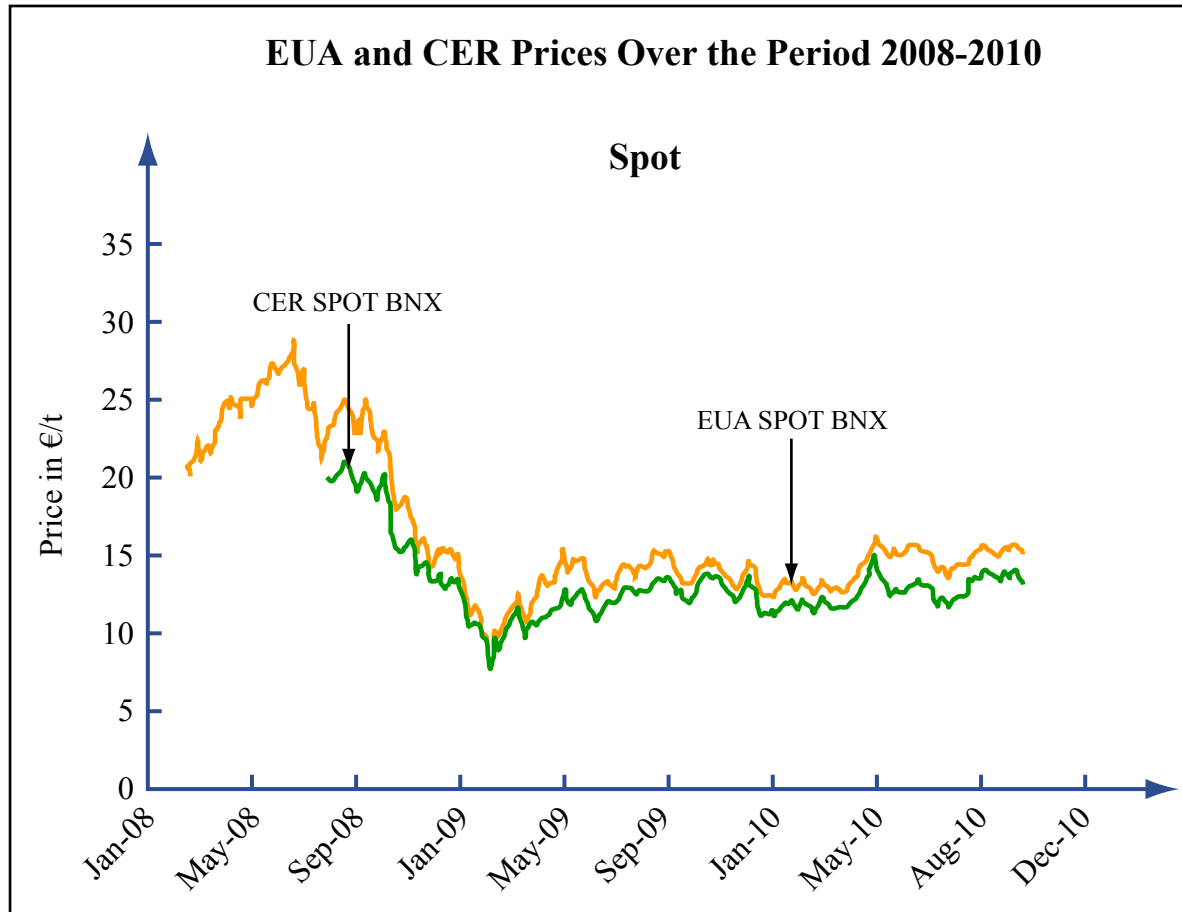


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Carbon Credit Prices in 2007/2008

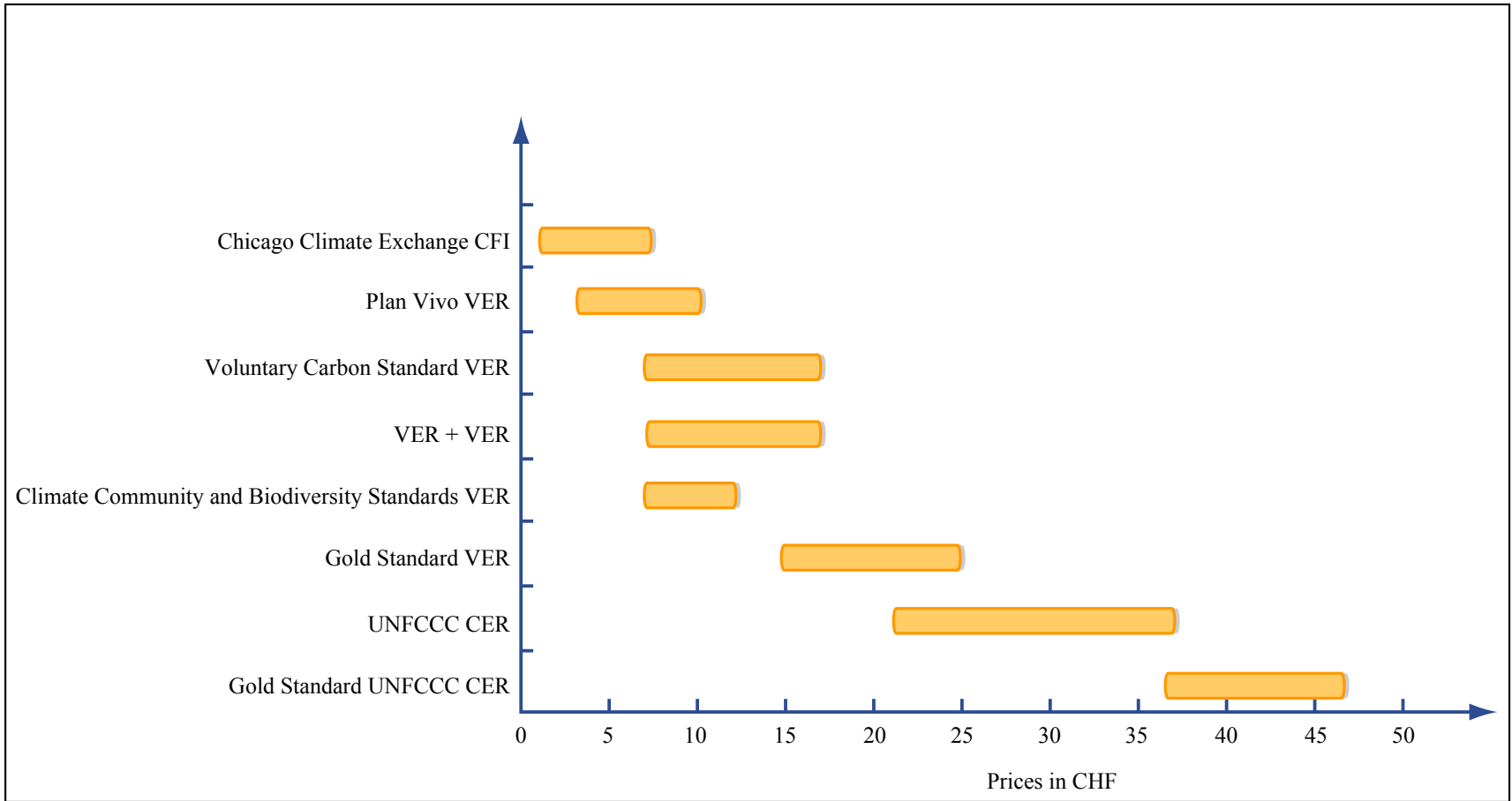


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Takeaways

- In principle, the CDM makes sense:
 - Efficiency: Incorporate developing countries for lowest-cost abatement
 - Equity: Developing countries only abate if profitable
 - Transactions costs: CDM may be easier to administer than allowance trading for developing countries
- Many critics are probably wrong:
 - HFCs are low-cost abatement. This is the market working!
 - Voluntary offsets are contributions to a public good, and they may change decisions on the margin
- But substantial economic concerns:
 - Transactions costs still high
 - Additionality difficult to prove, counterfactuals difficult to establish
- Business concerns:
 - Product differentiation useful in voluntary markets, not in compliance markets.
 - Policy risk endemic to environmental businesses

Next Week: Energy Efficiency

- Tuesday: Auto Fuel Economy Regulation
 - “Gasoline Prices, Fuel Economy, and the Energy Paradox.”
- Thursday: Residential Energy Efficiency
 - HBS Case: “OPOWER: Increasing Energy Efficiency through Normative Influence.”
 - Read introduction to “Social Norms and Energy Conservation”

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