



Mobilizing Capital for Climate Protection

*Dirk Forrister
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*Some new thinking from Natsource.
More growth. Less pollution.*



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About Natsource



- Leading private sector greenhouse gas asset manager
 - Over \$1.2 billion of assets under management
 - One of the world's largest buyers of carbon compliance instruments created by projects – and has deployed more than €400 million in GHG markets, with an additional €650 million under LOIs

- Integrated service platform
 - Asset Management
 - Origination Services
 - Advisory and Research

- Headquartered in New York with global footprint
 - Strategically located proximate to regions developing and utilizing carbon emissions markets and major policy making centers
 - Offices in Calgary, La Paz, London, Ottawa, Panama City, Tokyo and Washington, D.C.



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Introduction



- In 2005, a new market in greenhouse gas reductions emerged
- In 2007, it was worth \$59 billion
- US industry not yet directly effected – but US financial & energy firms are deeply involved
- US cap & trade policy is emerging at the federal level, and many states / regions are implementing control programs
- Early US voluntary market is growing (CCX and consumer market)
- My focus today is on **how emissions trading policies can mobilize capital for climate protection**

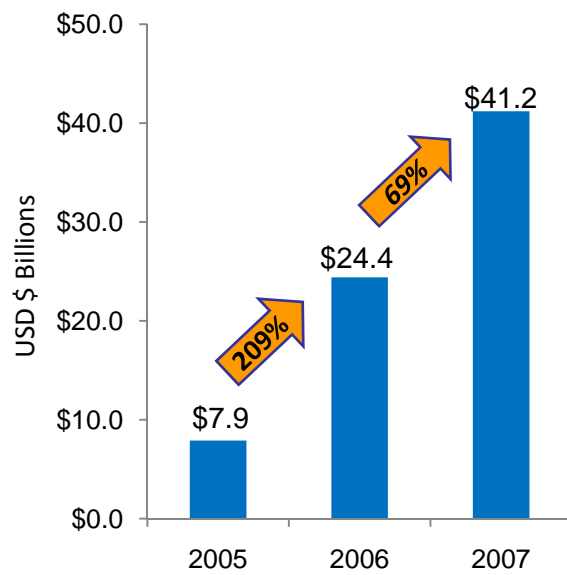


Carbon Market Growth and Development

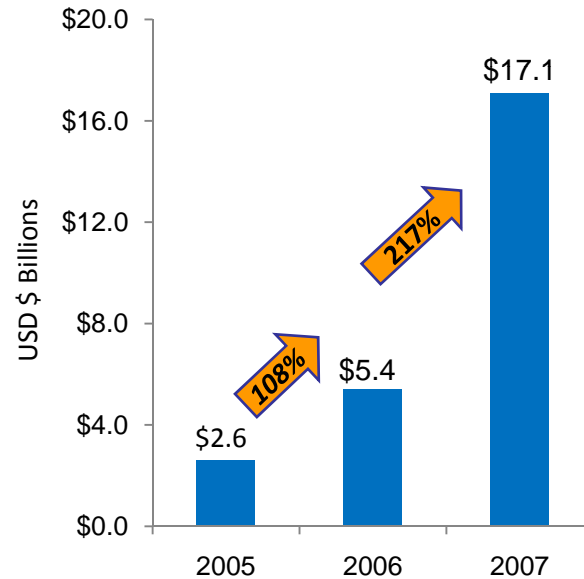


- Market growth in the trade of allowances and project-based assets has been significant

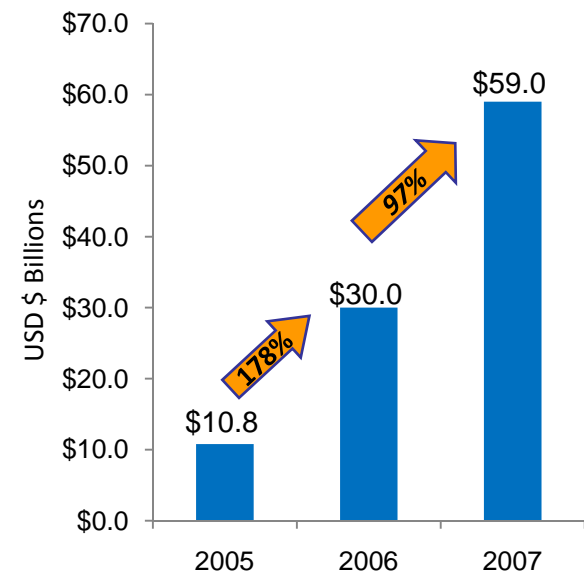
Value of Allowances Traded



Value of Project-based Transactions Traded



Value of Carbon Market



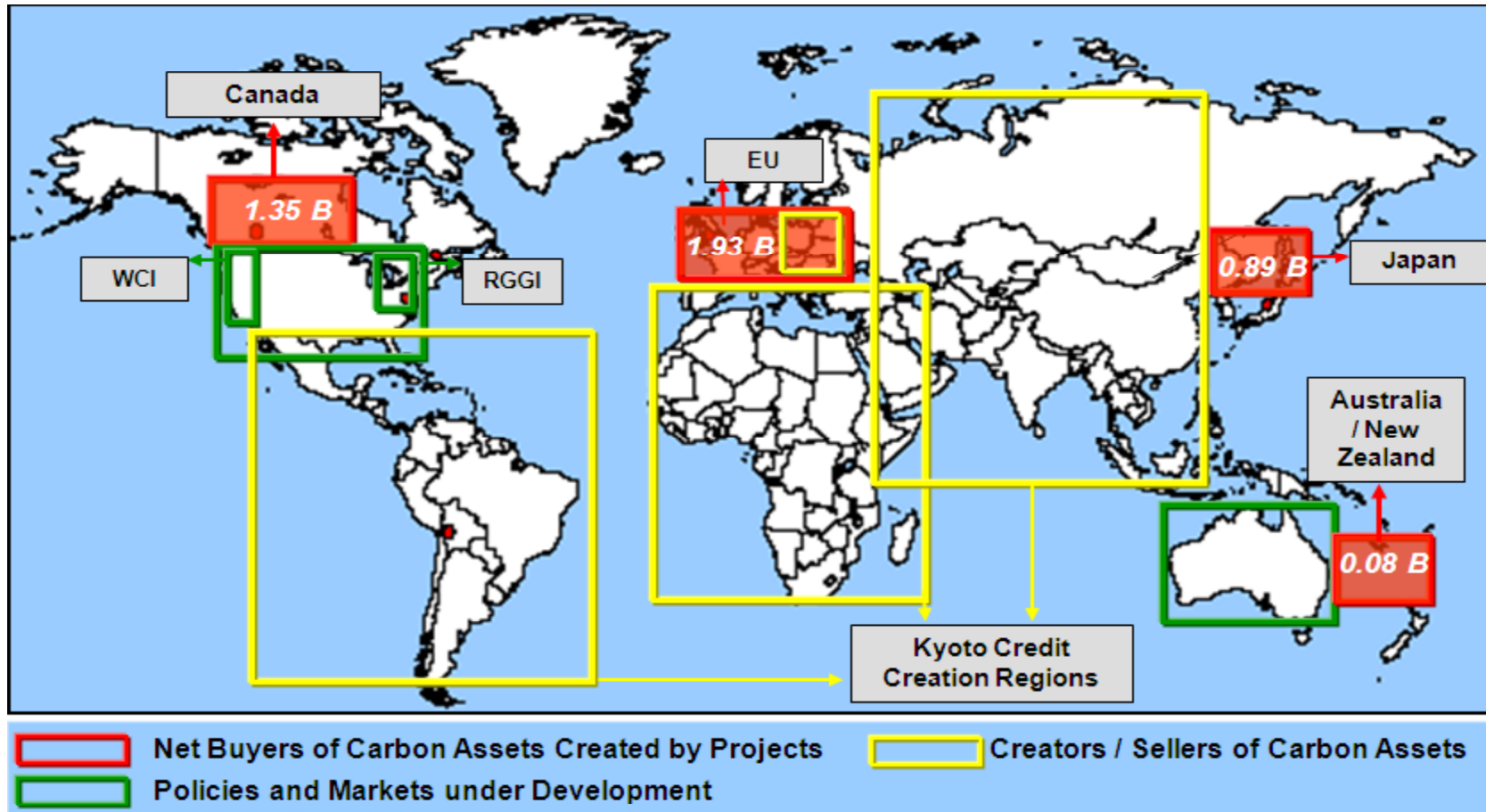
Data for 2005 and 2006 is derived from both of the World Bank's 2006 and 2007 "State of the Carbon Market" reports. Data for 2007 is derived from Point Carbon and cited in Bloomberg, "Emissions Trades Rose 80% in Value Last Year, Point Carbon Says," 2008-01-18, New York.
Note: 2007 "Value of Project-based Transactions Traded" does not include ERUs.

Current Structure of the Carbon Market



Demand:* Approximately 2.9 billion tonnes of CER/ERU demand in 2008-2012, excluding Canada**

Supply:*** Approximately 2.2 billion tonnes of CERs and ERUs estimated to be created by projects



* Based on average of Natsource Advisory and Research Services estimates

** Canada's emission shortfall is approximately 1.35 B over 2008-2012. However, Canada's government has said it will not meet its Kyoto target. Canada is not expected to be a large buyer in the short term.

*** Based on Natsource Advisory and Research Services estimate



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Key Emissions Trading Design Issues



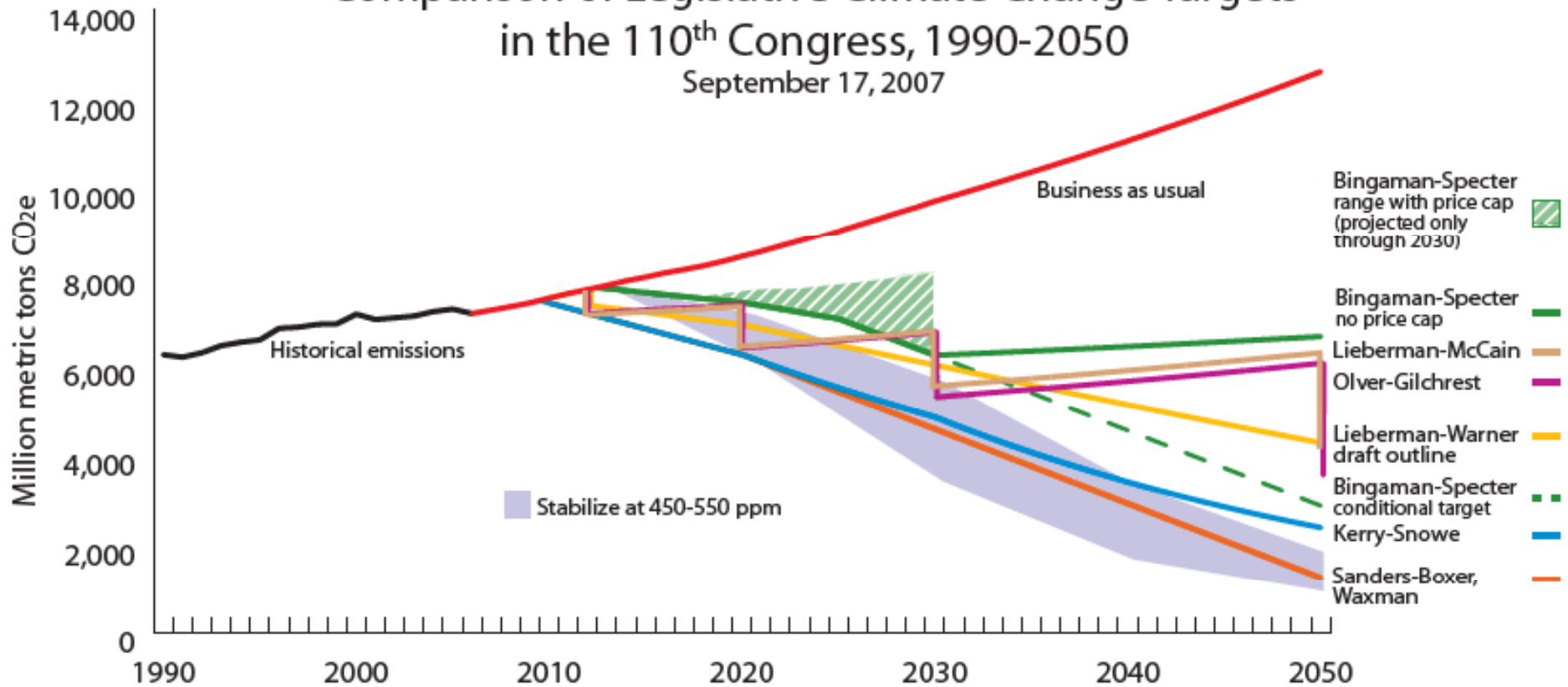
- Stringency of cap
- Coverage of gases and sources
- Allocation methods (free allocation or auctioning?)
- Compliance flexibility (offsets, banking, borrowing)
- Price cap or other cost containment features (offset triggers, circuit breakers)

All critical to proper market functioning and cost-effectiveness

Stringency of Emissions Caps in Climate Bills



Comparison of Legislative Climate Change Targets
in the 110th Congress, 1990-2050
September 17, 2007



Major U.S. Federal GHG Legislation



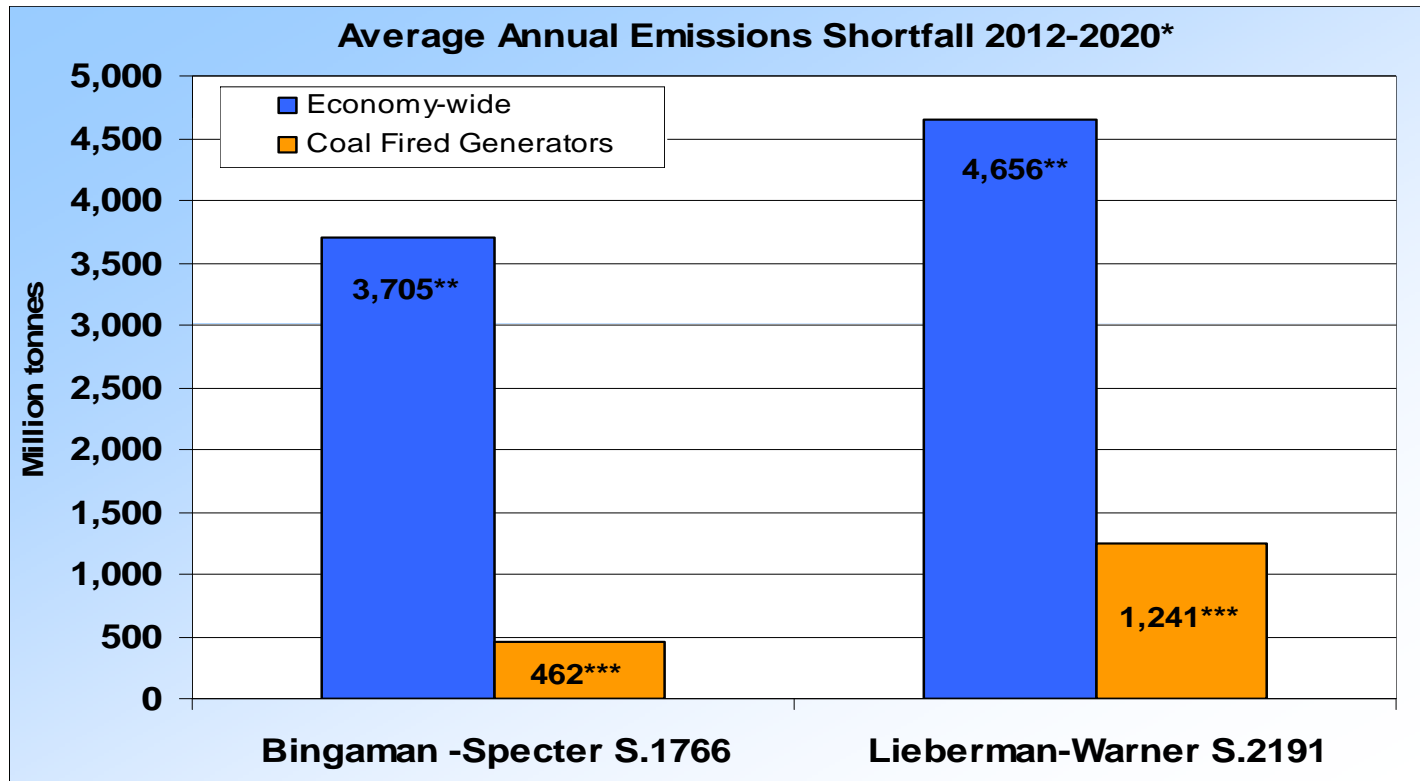
Bill	Bingaman-Specter, S. 1766: Low Carbon Economy Act	Lieberman-Warner, S. 2191: Lieberman-Warner Climate Security Act
	Cap for Covered Sectors*	Cap for Covered Sectors**
2012	8% above 2005 levels decreasing ~1% annually (6652 MMt)	4% below 2005 levels (5775 MMt)
2020	2005 levels (6188 MMt)	18% below 2005 levels (4924 MMt)
2030	22% below 2005 levels and remaining thereafter (4819 MMt)	36% below 2005 levels (3860 MMt); 53% below 2005 levels by 2040 (2796 MMt)
2050	President can establish 60% below 2005 levels contingent upon international participation (2475 MMt)	71% below 2005 levels (1732 MMt)
	Coverage	Coverage
	Downstream	Downstream
	Upstream	Upstream
	Coal facilities using over 5,000 tons of coal per year	Coal facilities using over 5,000 tons of coal per year
	Petroleum Natural Gas	Petroleum Natural Gas
	Auction / Free Allocation	Auction / Free Allocation
2012	24 / 76 (53% to industry)	28 / 72 (43% to industry)
2020	32 / 68 (45% to industry)	38 / 62 (33% to industry)
2030	53 / 47 (25% to industry)	64 / 36 (7% to industry)
Offsets	Domestic: Unlimited amount of offsets International: President to allow use of allowances/credits for up to 10% of compliance obligation	Domestic: Up to 15% of compliance obligation International: Use of allowances for up to 15% of compliance obligation

* Caps relative to 2005 levels based on Natsource Advisory and Research Services estimates using EIA's AEO 2007 and coverage under the bill (~ 86%)

** Caps relative to 2005 levels based on Natsource Advisory and Research Services estimates using EIA's AEO 2007 and coverage under the bill (~ 84%)



Preliminary Estimates of Emissions Purchases Required by Major Senate Proposals



* Based on Lieberman-Warner S.2191 mark-up vehicle

** Based on gap between BAU emissions (EIA's AEO 2007) and grandfathered allocation for covered sectors

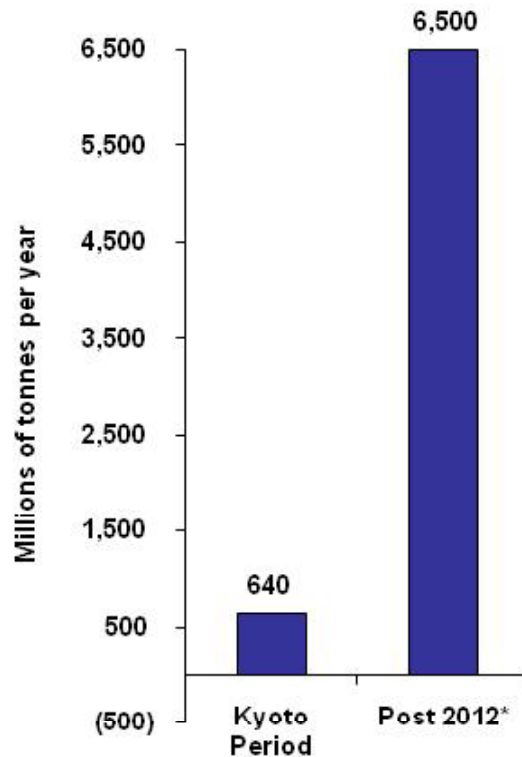
*** Based on gap between BAU coal generation emissions (EIA's AEO 2007) and grandfathered allocation to fossil fuel fired generators (gas fired plants do not have to submit allowances but may face fuel price increases due to upstream coverage of natural gas)

Note: All estimates based on Natsource Advisory and Research Services estimates



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Policies Stimulating Future Carbon Market Growth



Annual Emissions Shortfall

Policy Drivers

- U.S. policy developing to establish market
- Expansion of EU-ETS in progress
- Kyoto successor accord under negotiation

* Based on Natsource Advisory and Research Services estimated emissions shortfall created under U.S. legislation plus midpoint of shortfall from expansion of EU ETS. This does not include emissions shortfalls from Japan and Canada. Estimates of U.S. demand based on gap between BAU emissions (Annual Energy Outlook 2007) and grandfathered allocations under U.S. legislation. Estimates of EU ETS demand are subject to change based on the European Parliament's and Council of Minister's amendments during 2008 to the European Commission's final proposal for the EU ETS in Phase 3.

Observations



- Senate EPW committee adopted large GHG auctions & restricted international markets
 - More expensive than it needs to be – and society should not waste resources in addressing climate change
 - Economic value & environmental merit of offsets not fully appreciated
 - No emissions market has conducted such large auctions - could create potential for a "shock" to the system
- US carbon market would function better at outset with:
 - More free allocation, less auctioning
 - More offsets to address cost containment
 - Carbon Market Efficiency Board (the "Carbon Fed") oversight rather than safety valve

Offsets are Key to Cost Containment



- Average price for offsets in 2006 was \$10.90, compared with average EU allowance prices of \$22.10*
- If no offsets were allowed under Lieberman-McCain bill, prices in 2030 would increase ~300%**
- If Lieberman-Warner bill allowed international offsets up to 15%, prices would decrease***
 - ~60% (from \$35-40 to \$15) up to 2015
 - 44% (from \$45 to \$25) up to 2020

* World Bank, "State and Trends of the Carbon Market 2007" (May 2007)

** Relative to a scenario in which no restrictions were imposed. EPA, "Analysis of S. 280 in 110th Congress," July 16, 2007

*** New Carbon Finance, "North America White Paper – February 2008"



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