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Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD): Implications for the Carbon Market

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finding the ways that work

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- Methodology
- Results
- Conclusions

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METHODOLOGY

- Our model solves for an intertemporal equilibrium for the period 2012-2050. Two conditions are met in every year:
  - The market clears.
  - The present value of the international credit price is equal in every period (i.e. the price rises at the market rate of interest).
- Banking
  - Agents optimize abatement decisions across time by "over-complying" in the early years.
  - Forest tons represent a large pool of relatively low-cost emissions reductions, and are a natural candidate for banking.
  - Right timing for REDD tons.

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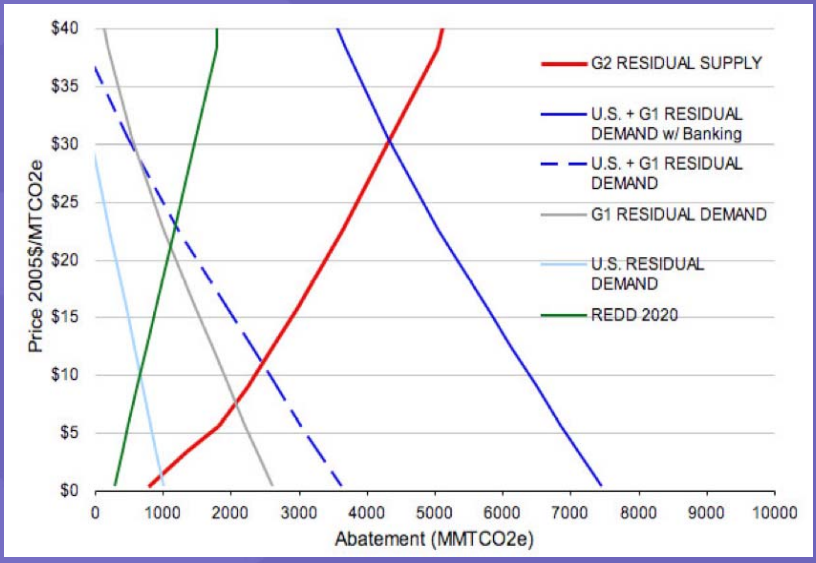
METHODOLOGY: The importance of banking



Core REDD scenario in 2020

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POLICY SCENARIOS FOR FOREST CARBON

1. Benchmark scenario. No forest carbon from developing countries allowed for compliance.

2. Core REDD scenario. Forest carbon credits allowed from reduced deforestation in tropical forest nations only.

   - REDD sensitivity scenarios. (a) Twice as many REDD credits available at any given price; (b) half as many REDD credits.

3. Core "All-Forestry" scenario. Forest carbon credits allowed from all forestry activities and countries.

   - "All-Forestry"sensitivity scenarios. (a) Twice as many forest carbon credits available at any given price; (b) half as many forest carbon credits.

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RESULTS

- What is the likely impact on GHG allowance prices of allowing international forest carbon credits?

- How many such credits are likely to be available at prevailing prices?

- What is the profile of those credits over time?

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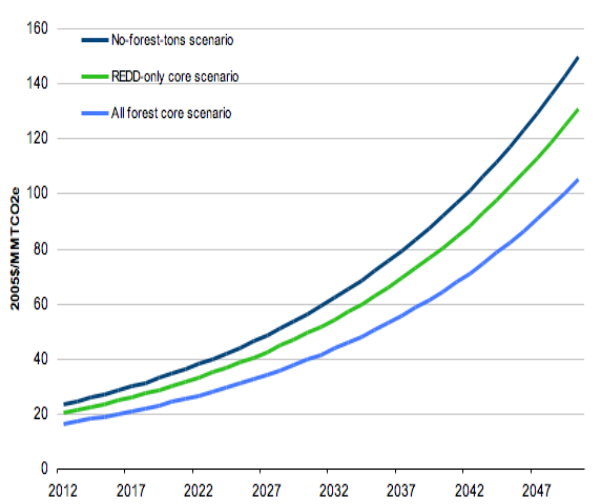
ALLOWANCE PRICES



1. Forest carbon credits from developing countries have considerable potential to help limit the cost of compliance.
2. Forest carbon credits do not compromise the estimated economic viability of critical low-carbon technologies.

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ALLOWANCE PRICES

- Robustness of alternative assumptions on the availability of forest carbon credits.

SCENARIO		2012	2020	2030	2040	2050
1	Baseline (no forest credits)	$23	$35	$56	$92	$150
2	REDD-only core	$21	$30	$49	$80	$131
3a	REDD x2	$18	$27	$43	$70	$115
3b	REDD x1/2	$22	$32	$53	$86	$140
4	All Forest core	$16	$24	$40	$65	$105
5a	All Forest x2	$12	$18	$30	$49	$79
5b	All Forest x1/2	$20	$29	$48	$78	$127

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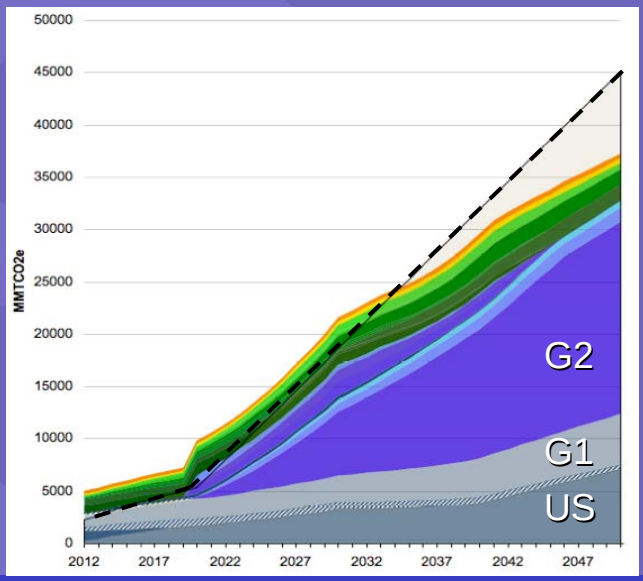
WORLDWIDE ABATEMENT BY SOURCE: ALL-Forestry core scenario



1. Total abatement exceeds demand in the first two decades.
2. The bank is comparable in magnitude to the quantity of forest carbon credits.
3. Forest carbon credits only a small portion of the overall abatement.

Note: legend in the next slide

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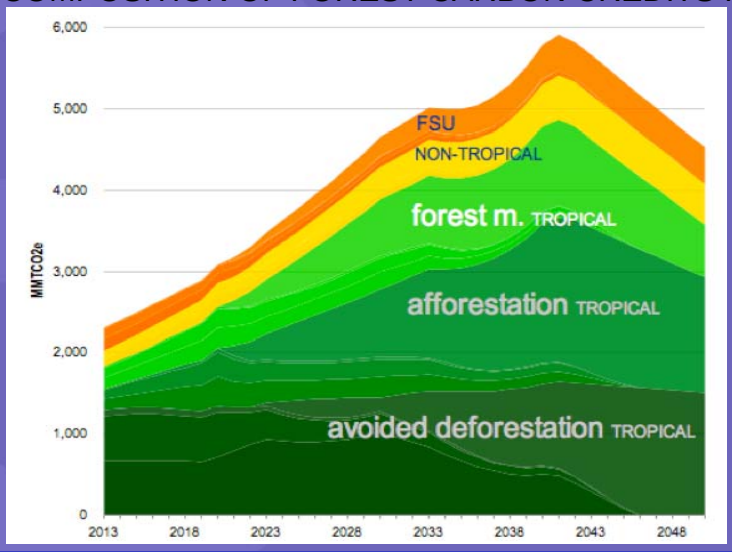
COMPOSITION OF FOREST CARBON CREDITS FROM G2



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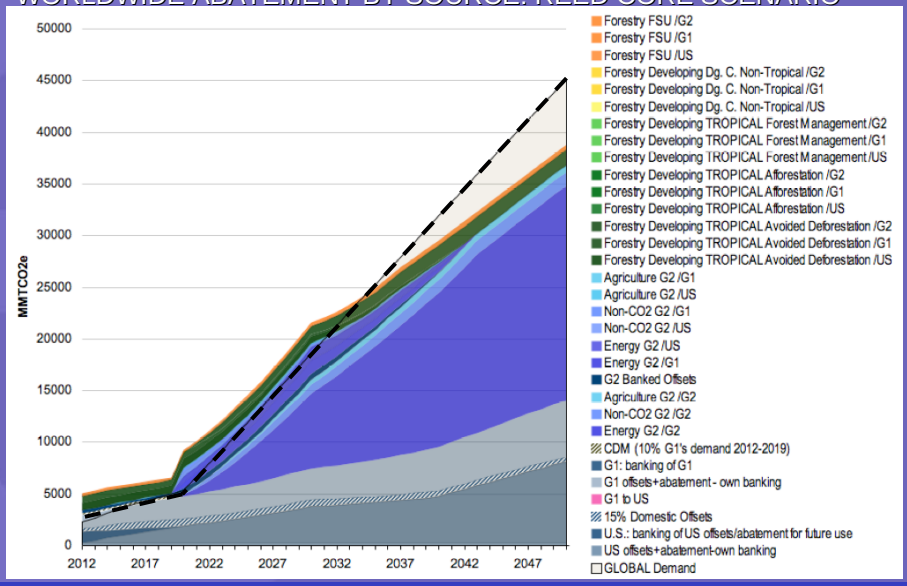
WORLDWIDE ABATEMENT BY SOURCE: REED CORE SCENARIO



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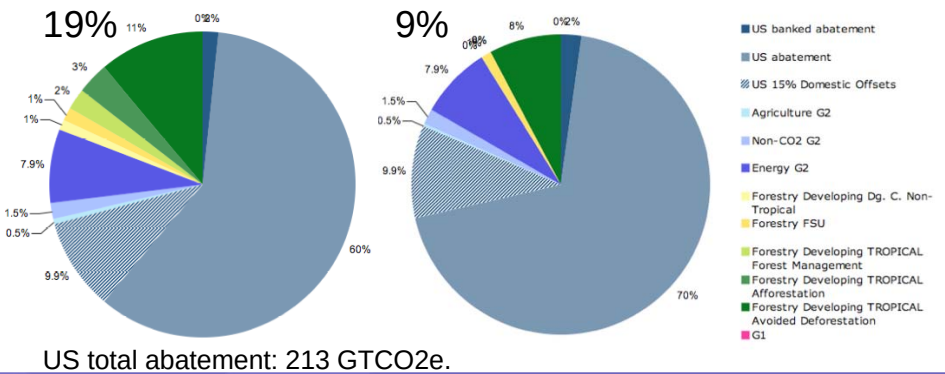
COMPOSITION OF TOTAL ABATEMENT FOR THE US

All-forestry REDD only



US total abatement: 213 GTCO2e.

Forest carbon credits are not “flooding the market”.

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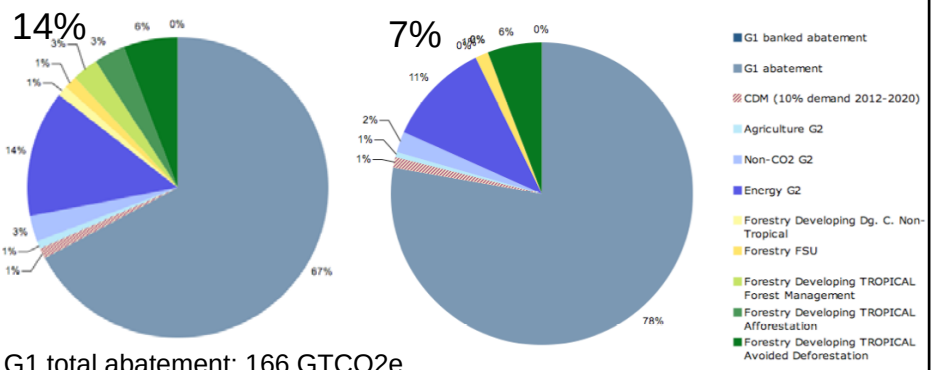
COMPOSITION OF TOTAL ABATEMENT FOR G1

All-forestry

REDD only



G1 total abatement: 166 GTCO2e.

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Conclusions

1. Forest carbon credits from developing countries have considerable potential to help limit the cost of compliance.
2. Forest carbon credits do not compromise the economic viability of critical low-carbon technologies.
   - If all-forest carbon credits are allowed and become available within the next five years, the projected price would be $16/tonne in the year 2012, rising to $24/tonne in 2020 and $40/tonne by 2030.
   - If only REDD credits are allowed for compliance, the projected price would be $21/tonne in the year 2012, rising to $30/tonne in 2020 and $49/tonne by 2030.
3. The key qualitative conclusions are robust to alternative assumptions about the availability and cost of forest carbon credits.
4. The ability to bank allowances is a crucial factor in sustaining prices at a moderate level