Climate change policies and REDD-plus
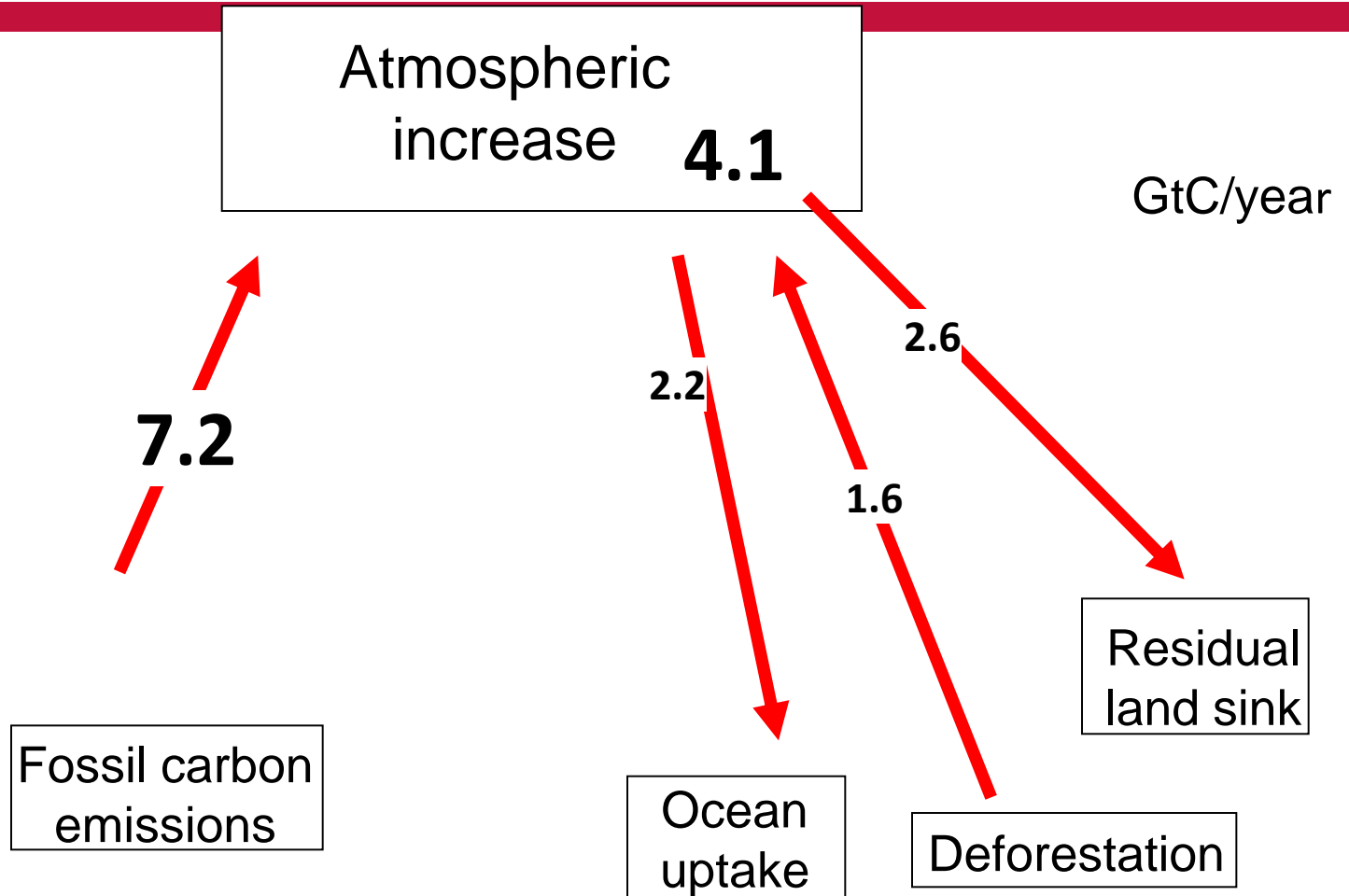
Patrick Smith, USAID

September 16, 2009
GCP Symposium
Washington DC

Outline

- **Mitigation concepts (focus on forests)**
- **Global climate change policy**
- **Mitigation approaches and carbon markets**
- **REDD-plus**
- **What USAID is doing**

Atmospheric increase **4.1**

GtC/year

7.2

2.2

2.6

1.6

Fossil carbon emissions
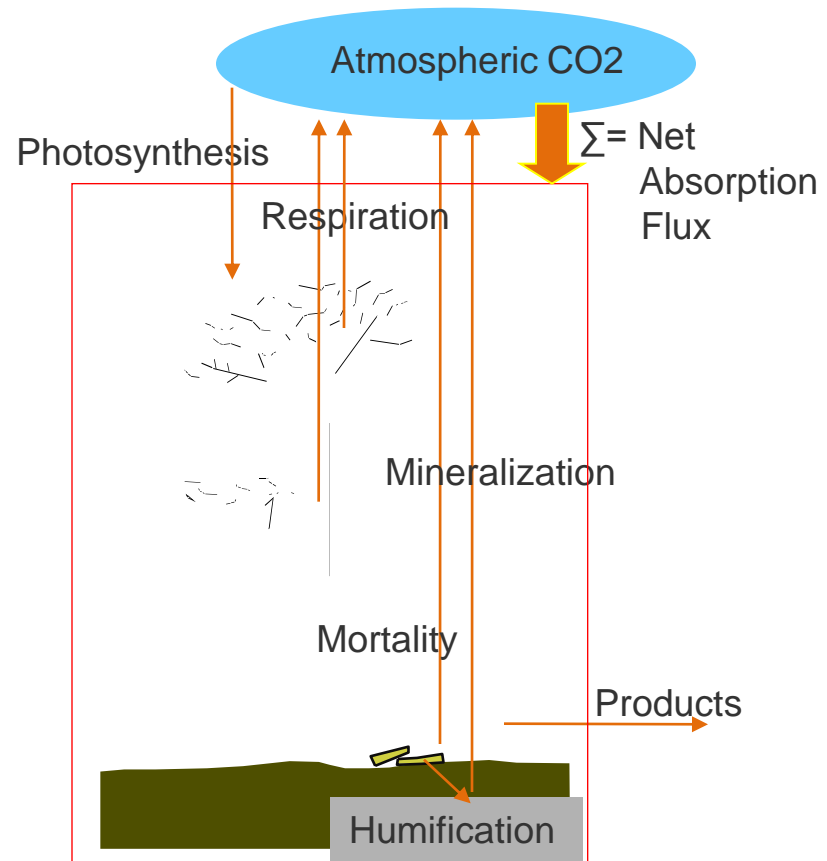
Ocean uptake

Deforestation

Residual land sink

A forest = carbon stocks

E.g., 1 kg of dry wood ≈ 0.5 kg of carbon

E.g., tropical wet forest (IPCC, 2003):
• Aboveground biomass: 65 to 430 tC/ha
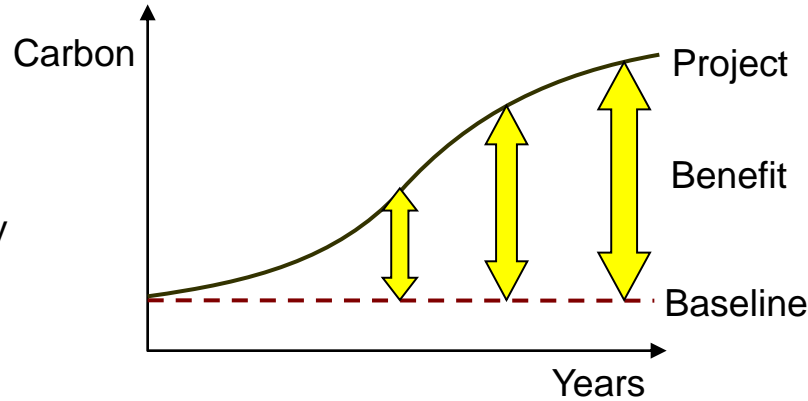• Soils: 44 to 130 tC/ha

A forest = carbon fluxes

Atmospheric CO_2

Photosynthesis

Σ= Net Absorption Flux

Respiration

Mineralization

Mortality

Products

Humification

- **increasing** carbon stocks

Creating plantations

Developing agroforestry

Carbon

Project

Benefit

Baseline

Years

- **avoiding** losses of carbon stocks

Reducing deforestation

Carbon

With conservation

Benefit

Baseline (Deforestation)

Years
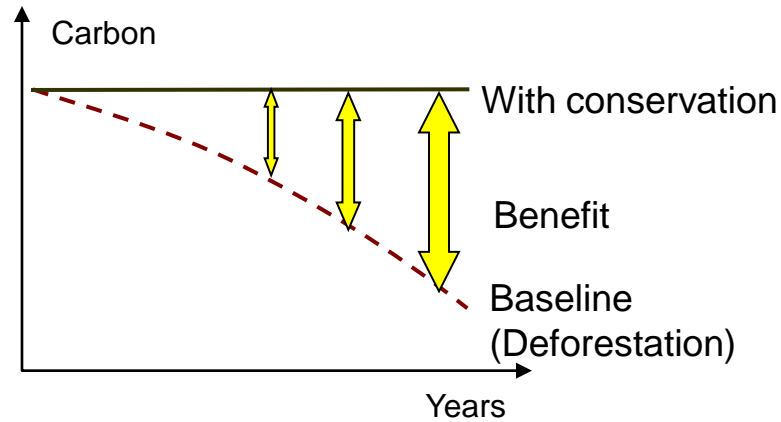
Forest

- **reducing** emissions caused by forest activities

Less energy, oil, fertilizers...

Energy

- **producing** biomaterials and bioenergy

- 1992: UN Framework Convention on Climate Change (UNFCCC)
  - Country commitments to action and support

- 1997: Kyoto Protocol
  - Each developed country Party to the Protocol commits to an emission reduction target
- 2001: Marrakesh Accords set Kyoto rules
- 2005: Kyoto enters into force with Russian ratification

- Emphasis on mitigation
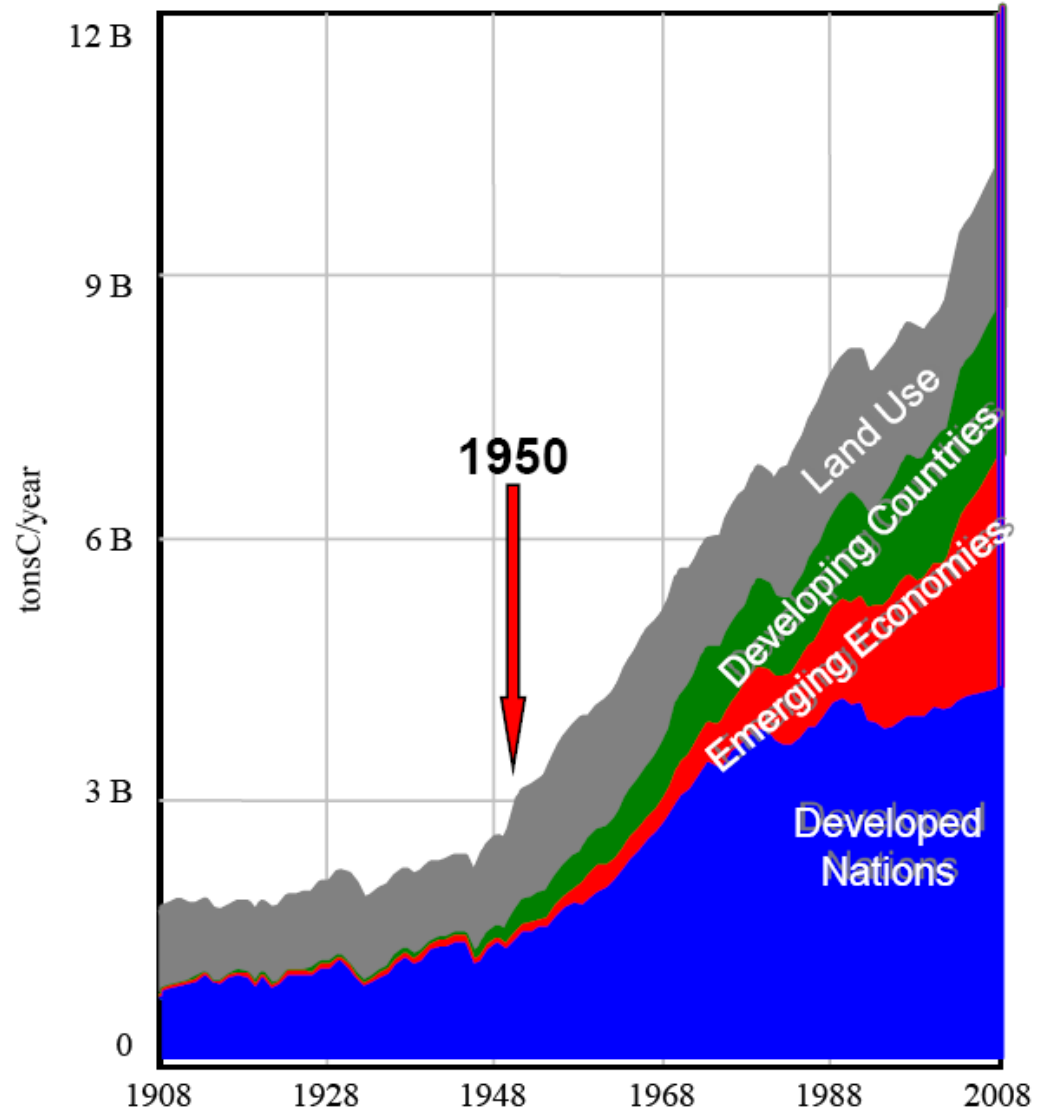- Adaptation - National Adaptation Programs of Actions (NAPAs) for Least Developed Countries.

World Resources Institute, May 19, 2009. http://pdf.wri.org/usclimatetargets_2009-05-19.pdf.
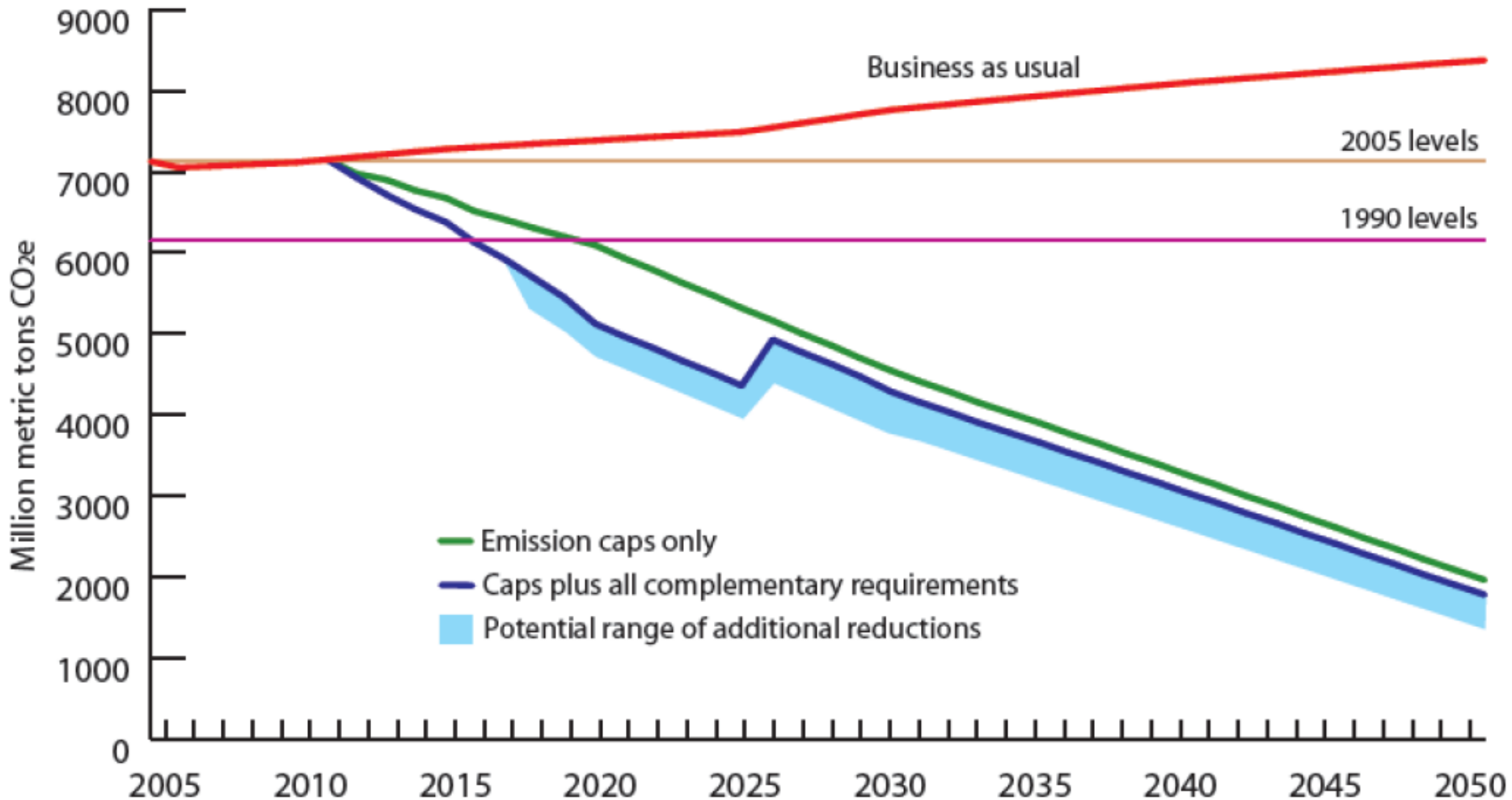
Global Emissions Trends

Source: CDIAC, WEO, C-ROADS

- Transforming economies: Low carbon development strategies

- Responsibilities of "major economy" developing countries

- MRV: Measurable, Reportable, Verifiable actions and support

- Adaptation: Separate or integrated in development? level of funding

- Going beyond Afforestation/Reforestation: REDD-plus and Agriculture

Above and Below-ground Living Biomass Carbon Stocks, 2000

Carbon Density
tons-C / ha

0 - 20
20 - 40
40 - 60
60 - 80
80 - 100
100 - 120
120 - 140
140 - 160
160 - 180
180 - 200
> 200
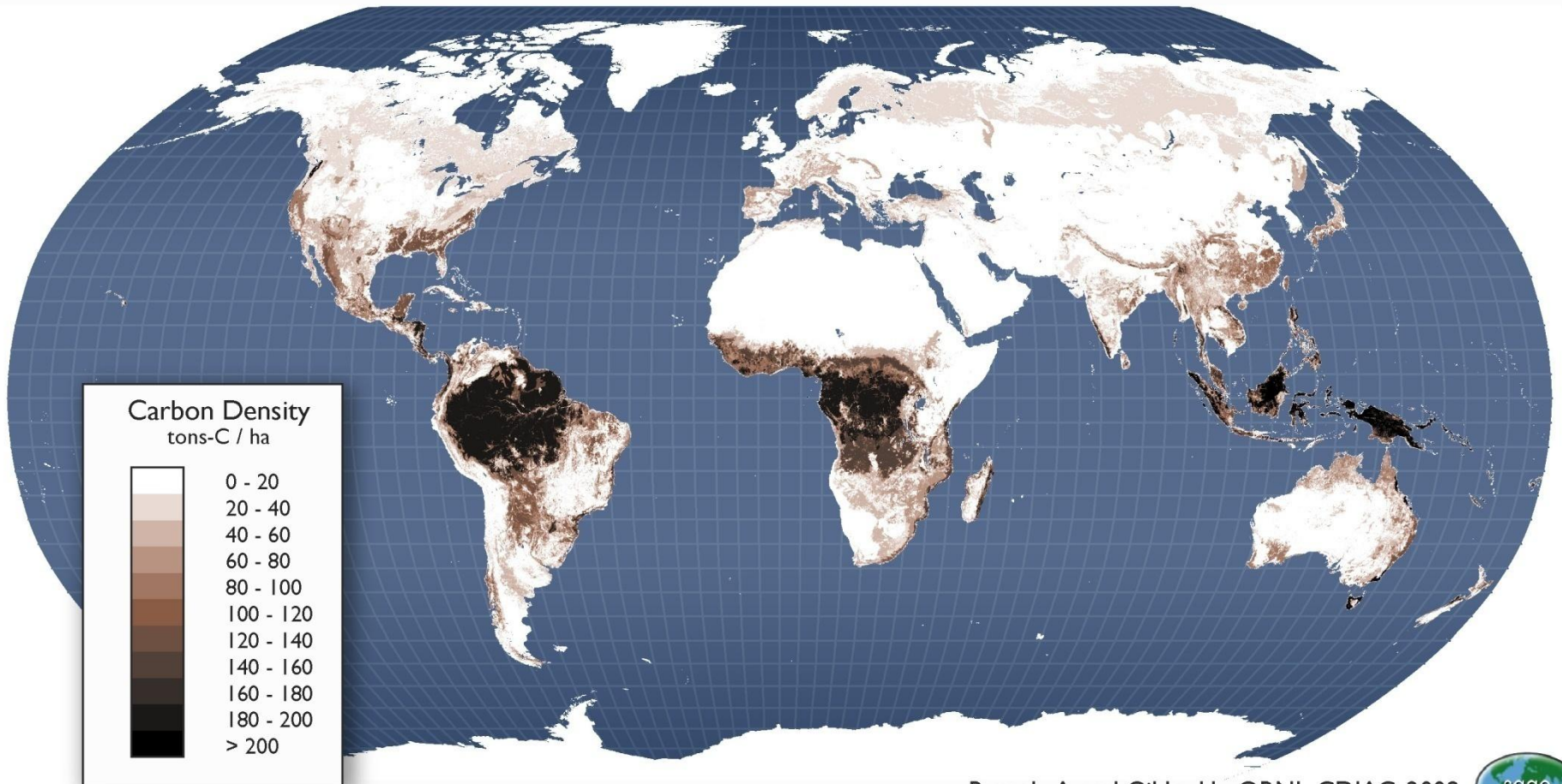
Ruesch, A. and Gibbs, H. , ORNL-CDIAC, 2008

Global carbon stocks (including soils to 1m)

- Kyoto Protocol continues separately for another 5 years and there are additional COP decisions

  OR

- New Post 2012 agreement replaces Kyoto Protocol

  OR

- Keep negotiating

- REDD-plus and/or other sectoral approaches?

- New financing streams for developing countries?
  - US legislation, EU carbon market tax, Japan buys offsets, etc.

Mitigation approaches

- Carbon Tax

- Demand-side management: e.g. legal wood purchase requirements (US Lacey Act)

- Policies and measures: e.g. equipment efficiency standards, land tenure reform

- Carbon markets

- Additionality: Would the emission reduction have happened without the additional funding, policy or project?

- Accounting for reversals (permanence): How will we account for stored carbon that is released later (e.g. timber harvest, climate change impacts)?
    Discounts, insurance, carryover, aggregation

- Leakage: When emissions are reduced in one place, do they just move to another place?
    Local leakage, international leakage

- National approaches reduce many of these concerns.

Carbon markets

Kyoto: ET and JI (between Annex I countries)

Canada

European Market

ETS

Oregon

WRCAI   CCX   RGGI

JVETS (Japan)

Voluntary markets (*)

Clean Development Mechanism(*)

Kyoto market
Other cap-and-trade markets
Voluntary markets

Annex I
Non Annex I

GGAS (New South Wales)
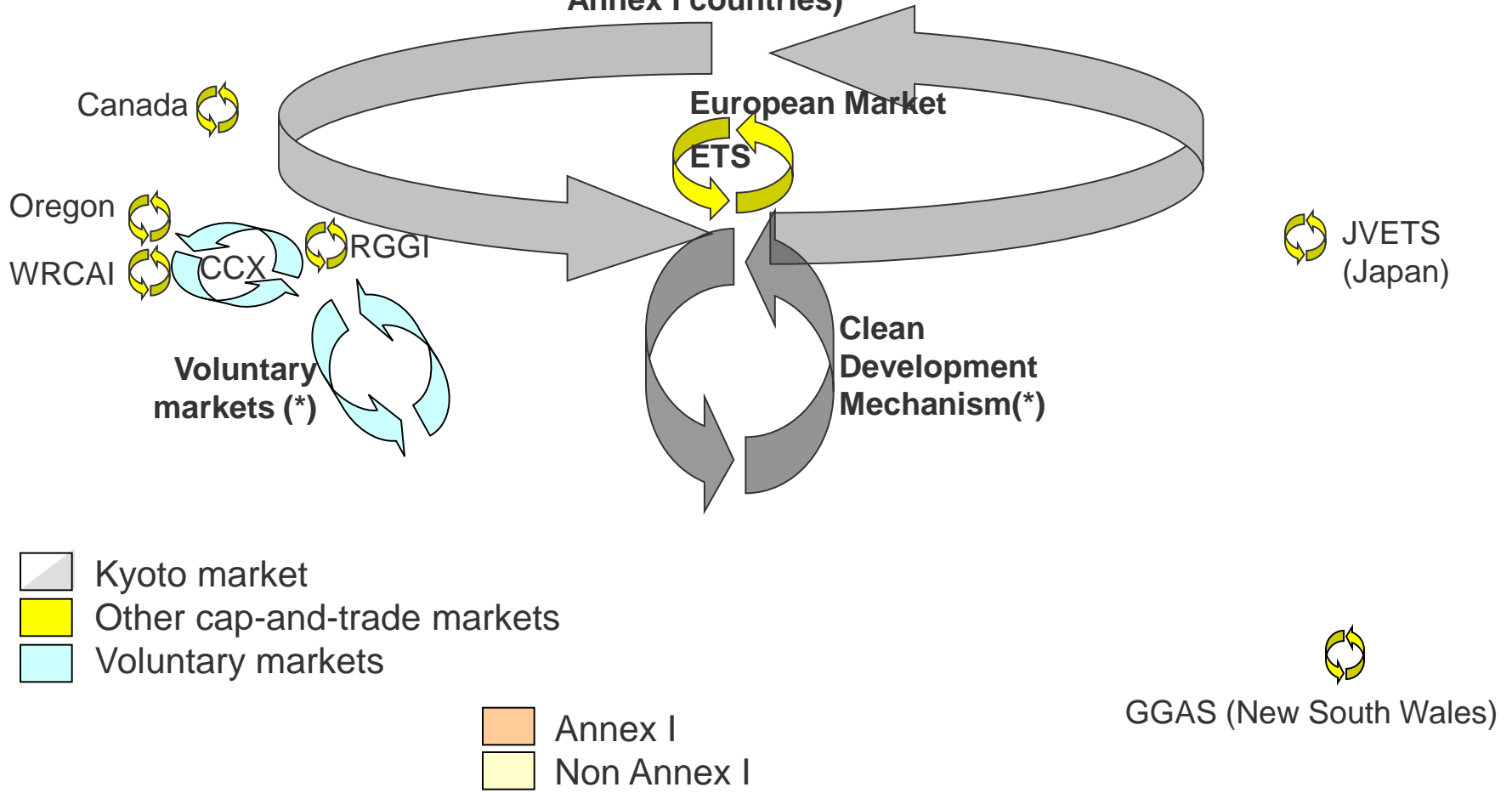
Forests & carbon markets

Transactions with projects (forest and non-forest) are growing fast
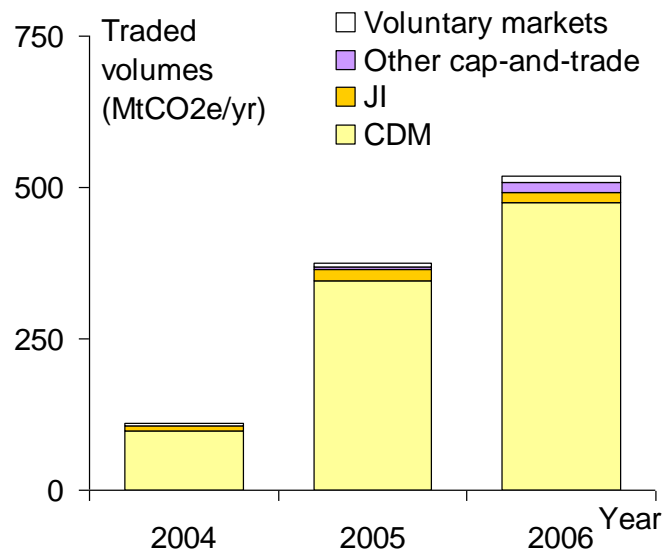
But the share of forestry projects is very low (<1% for the CDM)

750 — Traded volumes (MtCO2e/yr)

☐ Voluntary markets
☐ Other cap-and-trade
☐ JI
☐ CDM

500

250

0

2004   2005   2006   Year

©(Capoor & Ambrosi, 2007)

N$_2$O 13%
Other 13%
Hydro 6%
Wind 5%
Biomass 3%
Other Renewables 2%
EE+Fuel s. 9%
Agro-forestry 1%
CMM 7%
LFG 5%
Animal Waste 2%
HFC 34%
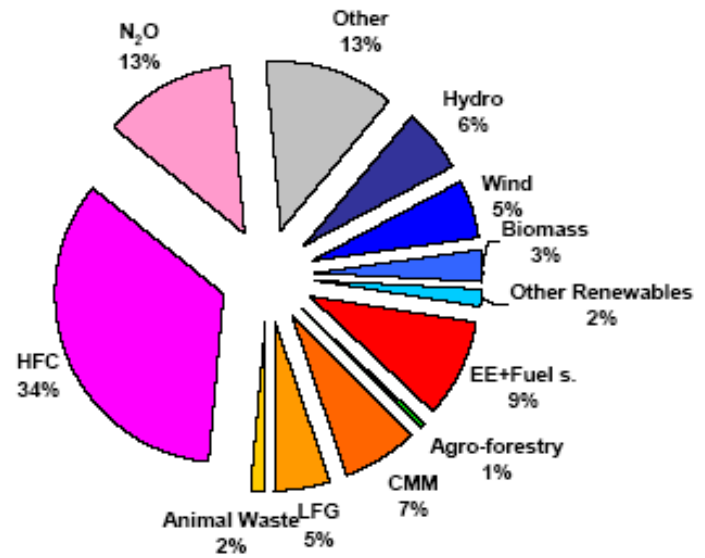
As a share of volumes contracted in 2006

©(Capoor & Ambrosi, 2007)

Reasons: no connection with CDM-ETS, delay in forest-related CDM decisions, lack of awareness of markets, complexity of CDM rules

Forests & voluntary markets

- Comparative advantage for forestry projects
  - 37% to 56% of transactions are with forestry projects
  - Survey of 71 brokers
    - 61% deal with forestry projects
    - 24% exclusively with forestry projects
- No restrictions on activity types
  - Avoided Deforestation, Reforestation, Agroforestry…
- No well-defined modalities, but standards are emerging
    - Voluntary Carbon Standard (VCS)
    - Climate, Community, Biodiversity (CCB)

Defining REDD-plus

- <u>Voluntary markets</u>: Site based "REDD projects"

- <u>Bali Action Plan</u>: "reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks."

- <u>New paradigm</u>: REDD-plus is nationally driven
    - National governments set policies and national (or sub-national) reference levels, responsible for performance
    - Role of site-based projects, NGOs, private sector likely to vary between countries

- World Bank Forest Carbon Partnership Facility

  - $80 million Readiness Fund, $50 million Carbon Fund
  - 37 countries accepted into program
  - Countries currently working on Readiness Preparation Proposals (R-PP)
  - Guyana, Panama, Indonesia R-PPs were approved

- UN REDD – begun with grant from Norway

- Brazil's Amazon Fund (Norway)

Positives of REDD-plus

- Mitigation opportunity for developed and developing countries

- Co-benefits like biodiversity and development possible

- Source of conservation financing

- How much will it really cost?

- Where will the money come from?

- How can we reward "good" countries who have managed their forests well (e.g. Costa Rica)?

- What is the "plus"?

- How will benefit sharing and local participation be addressed?

- Does not take into account nor plan for other ecosystem services

- Could create unsustainable forest sectors dependent on outside financing

- Could lead to loss of rights for local and indigenous communities

- Large financial flows could generate corruption and waste

- Costs of measuring and monitoring may be prohibitive for some sites

- Landscape/ecosystem approach: Comprehensive, long term
  - Bundled Payments for Ecosystem Services
  - Adaptation and Mitigation

- Policy-neutral actions such as capacity building and promoting participation

- Seek to resolve the critiques of REDD-plus, e.g. help to secure local resource rights

- Seek development co-benefits

The Nature Conservancy - biodiversity and carbon project

<u>VEGETATION CLASSES</u>   <u>TONS OF CARBON / CELL</u>

625 permanent sample plots across 640,000 ha

- Investment by USAID, NGOs, companies over 17+ years

  - Capacity of FAN and communities to manage park

  - Carbon assessment and project design documents

  - Alternative livelihoods, bought out logging concessions, reduced illegal logging

- Results

  - Avoiding logging and agricultural conversion prevents release of 5.8 million tons of CO_2 during 30 years.

  - **The first forest emissions reduction project to be verified by a third party**

Some lessons

- Multiple benefits are necessary to achieve landscape level impacts

- There are no short cuts – need long term investments of 15+ years

- Governance and institutional reforms essential to create the economic incentives for improved management

Action examples

- Government needs to do MRV

  - **build their capacity in satellite data interpretation, create network of field monitors**

- Government developing new forest policy

  - **empower communities to participate in the policy development process**

- National policy for selling forest carbon credits

  - **work with communities to generate and sell credits**

Action examples

- National policy to prohibit conversion of forests to industrial agriculture

  - **monitor and publicize violations**

- National policy to promote forest conservation

  - **implement field level conservation project for carbon credits and local watershed services payments**

- Forest Carbon Calculator: Project level planning and results

- National MRV: Partnership with US EPA on greenhouse gas inventory capacity building

- SERVIR: geographic information and decision support hubs in Central America and Africa

- Obama Administration committed to taking significant climate change actions, including on REDD-plus

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USAID
FROM THE AMERICAN PEOPLE

Forest Carbon Calculator

Forest Carbon Reporting Initiative of the USAID Global Climate Change Program

Throughout the world, USAID-sponsored land use and land management activities are having direct, significant and positive impacts on the climate. USAID's forestry-related programs in more than 25 countries help to mitigate climate change by absorbing and storing carbon dioxide from the atmosphere or reducing emissions of carbon dioxide to the atmosphere. The impacts of these activities are real, but projects have not had the ability or tools to translate these impacts into reportable, quantifiable measures of carbon benefits.

This tool allows USAID to calculate the climate impacts of its forestry projects worldwide in terms of reducing emissions or increasing removals of carbon dioxide. Projects will fall into one of five main activity types:

1. Forest Protection: project activities protect and conserve existing forest against pressure from forest clearing (deforestation), fire, or illegal logging

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Documentation Links

User Manual
Forest Protection Calculator
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