

Potential for Carbon Finance in Agriculture and Forestry

Katoomba V, Tokyo

Forest Trends

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PROTOTYPE CARBON FUND

A PUBLIC | PRIVATE PARTNERSHIP



Su

Sustainability

Ne

Negotiation

In

Innovation

Catalyzing
Markets
for Climate
Protection
& Sustainable
Development

C

Carbon

Kn

Knowledge

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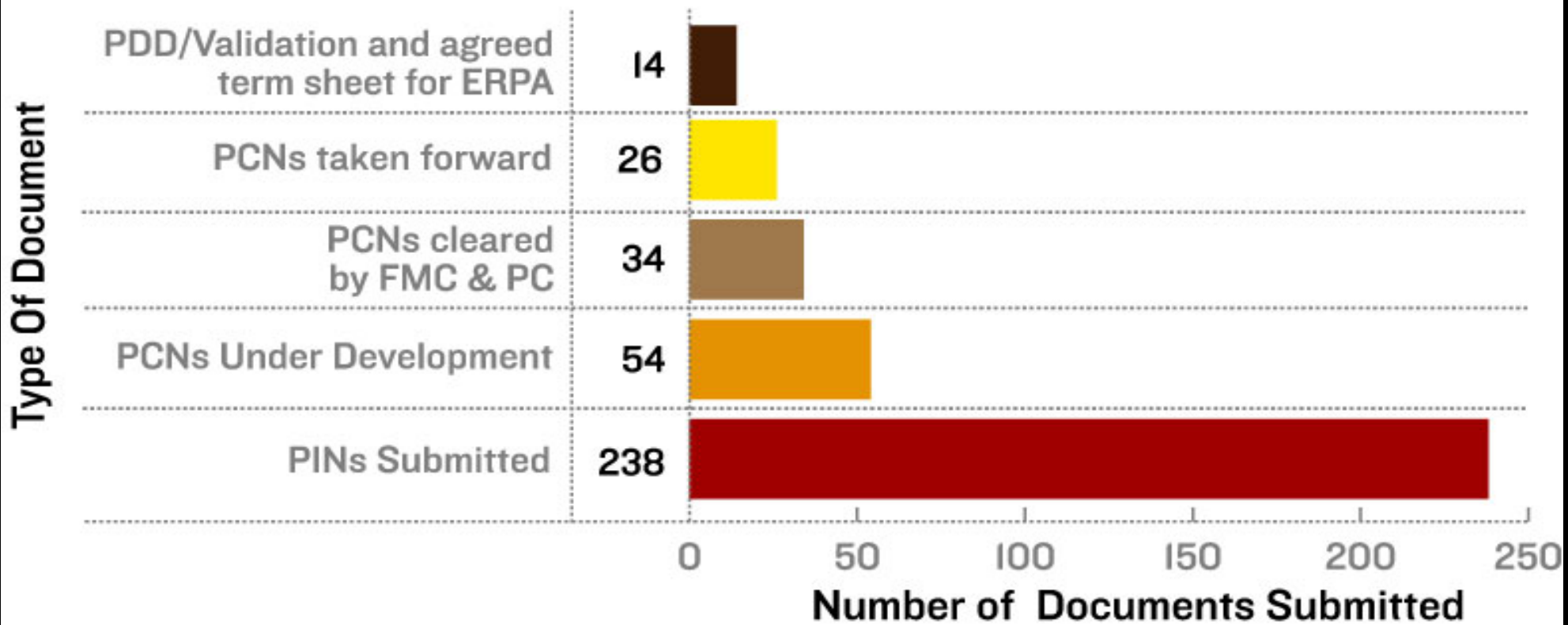
Markets

ANNUAL REPORT 2002

26 transactions at advanced stage

figure 2.1

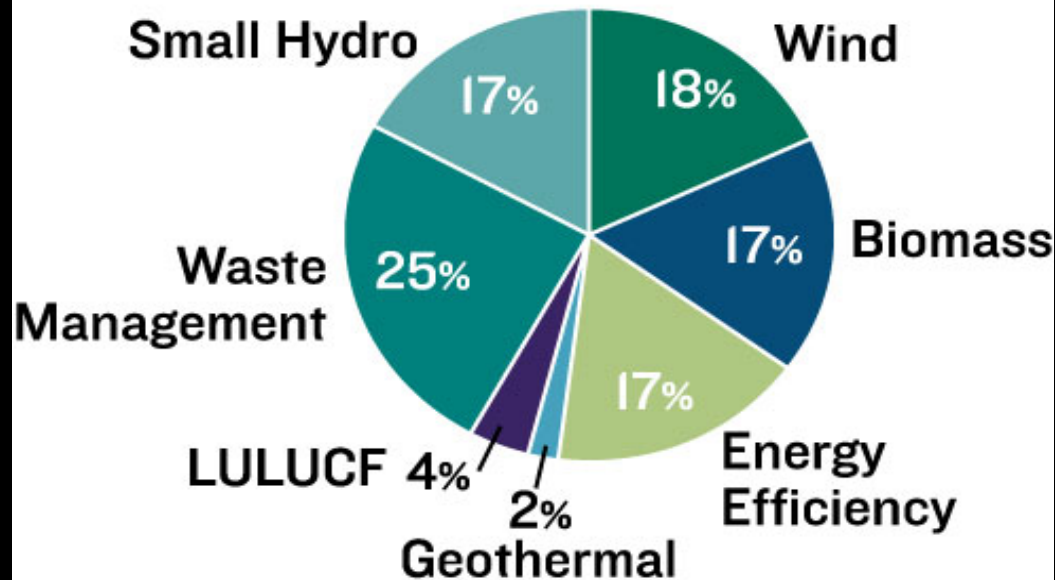
DEVELOPMENT OF PROJECT IDEAS SUBMITTED TO PCF (as of August 30, 2002)



Technology distribution of approved projects

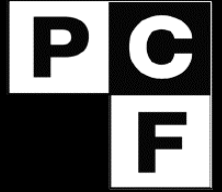
figure 2.3

TECHNOLOGY DISTRIBUTION OF APPROVED PROJECTS Total of US\$ 106 million



Sustainable Development

Deep Green Carbon



- **Certifying local environmental and community development benefits with emissions reductions:**
- **Examples from PCF:**
 - **Colombia Jepirachi Wind Power Plant (19MW)** providing:
 - potable water,
 - electricity for schools/clinics and
 - small fishing port for local indigenous peoples;
 - **Plantar Project in Brazil (23,400ha fuelwood plantation):**
 - Worker health improvement
 - ABRINQ certification of no child labor or exploitation
 - Biodiversity benefits
 - FSC certification of improved forest management

Important Findings

1. Learning-by-doing works
2. CDM/JI Carbon Asset Creation is complex with long ER delivery lead times
3. Regulatory uncertainty remains post-Marrakesh, especially in Land Use, Land Use Change and Forestry
4. Very small direct private CDM investment
5. Small projects/small countries lose out

The Carbon Market

Summary of carbon markets currently in operation

**Project-based
Emission Reduction
purchases**

**Allowance
Trading**

“Pre-Compliance”

From voluntary

Within National trading systems

● UK

● DK

Intra-Firm trading

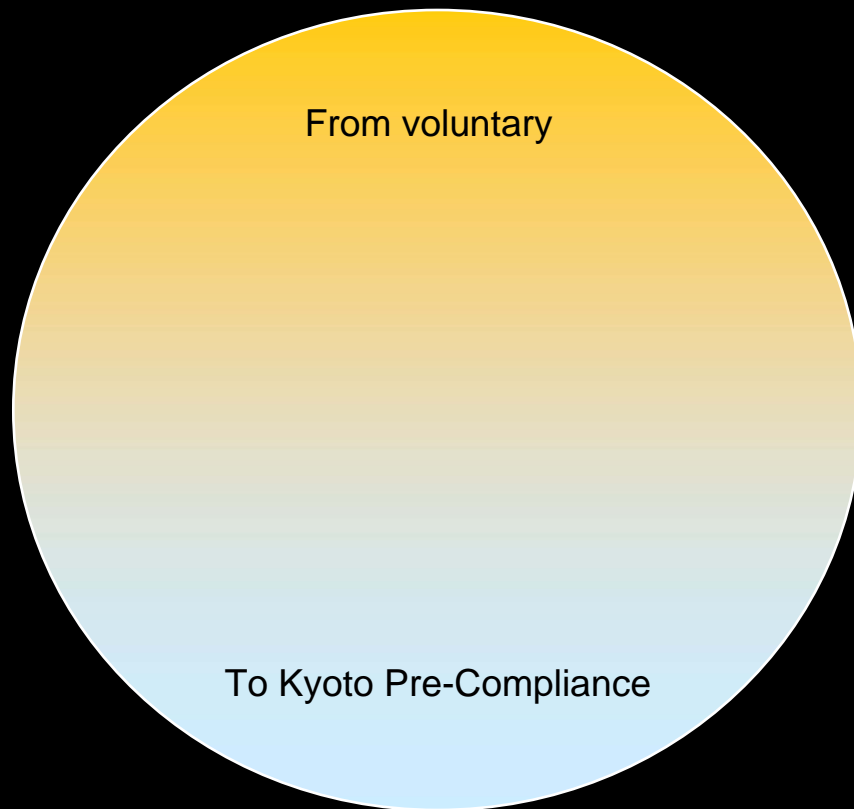
● BP

● Shell

Retail



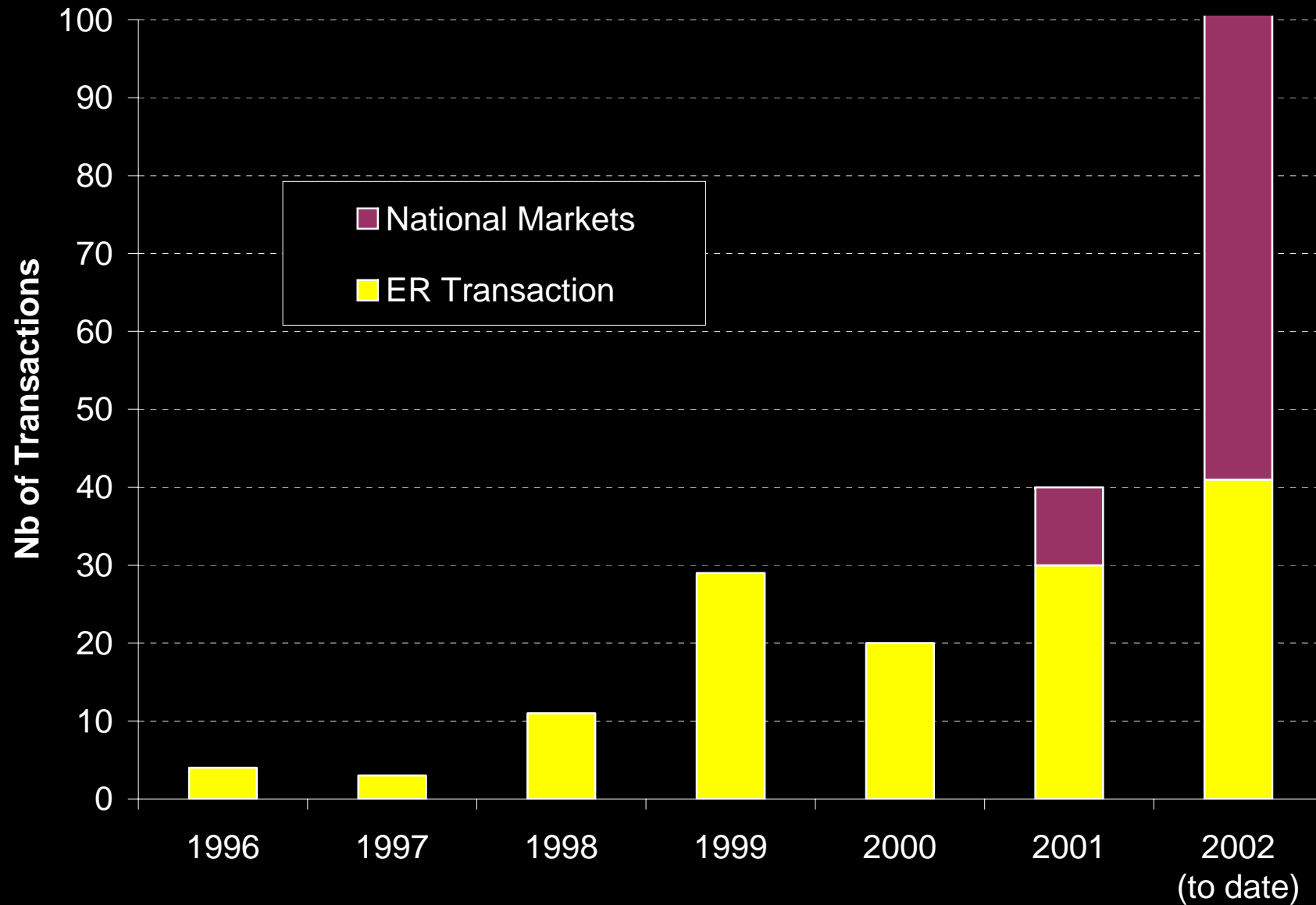
To Kyoto Pre-Compliance



Major Market Findings

- **2002 is most active year.** Prices ranged from \$1 (project-based) to \$17 (UK allowance)
- **Market Activity since 1996**
 - Total Trades, all vintages = 200 MtCO_{2e}
 - 157 MtCO_{2e} 1996 to 2002
 - Expected 2002 contract volumes = 60-67 MtCo_{2e}
 - OR over 5 times 2001 volume of 12 MtCo_{2e}
 - 2002 volumes would be ~1/3 of all estimated market volume since 1996.
- **private sector bought most of ERs traded within OECD countries.**

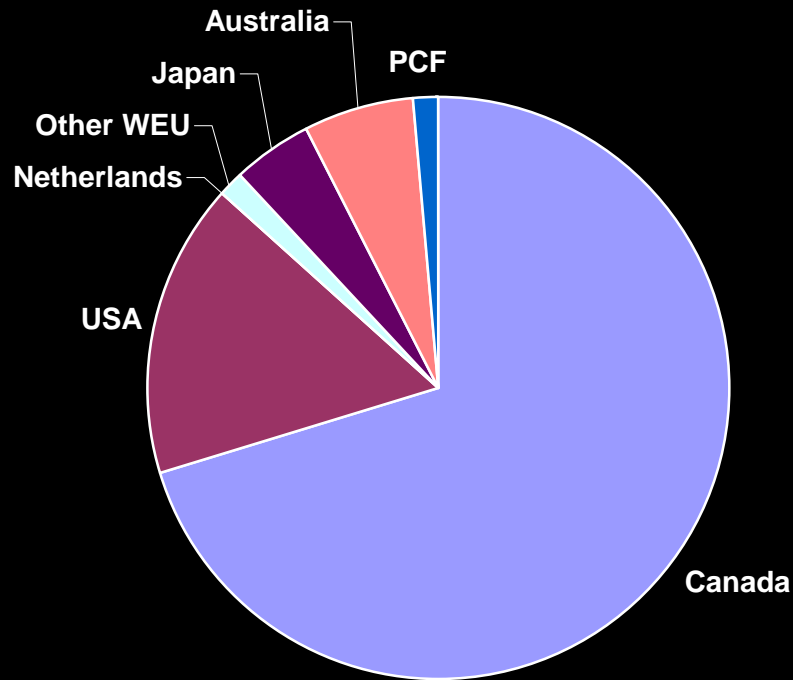
Number of trades has increased



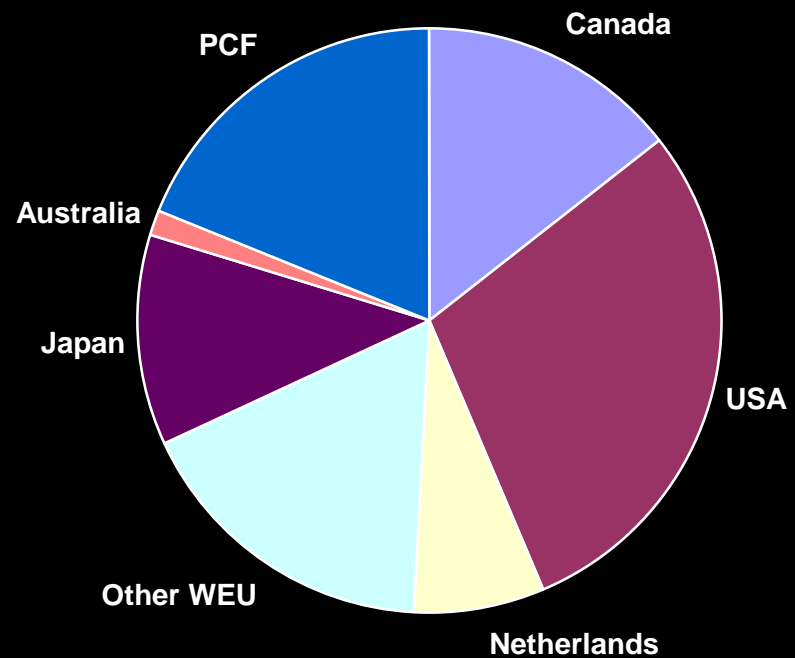
Source: Authors' own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon

Buyers are more diverse

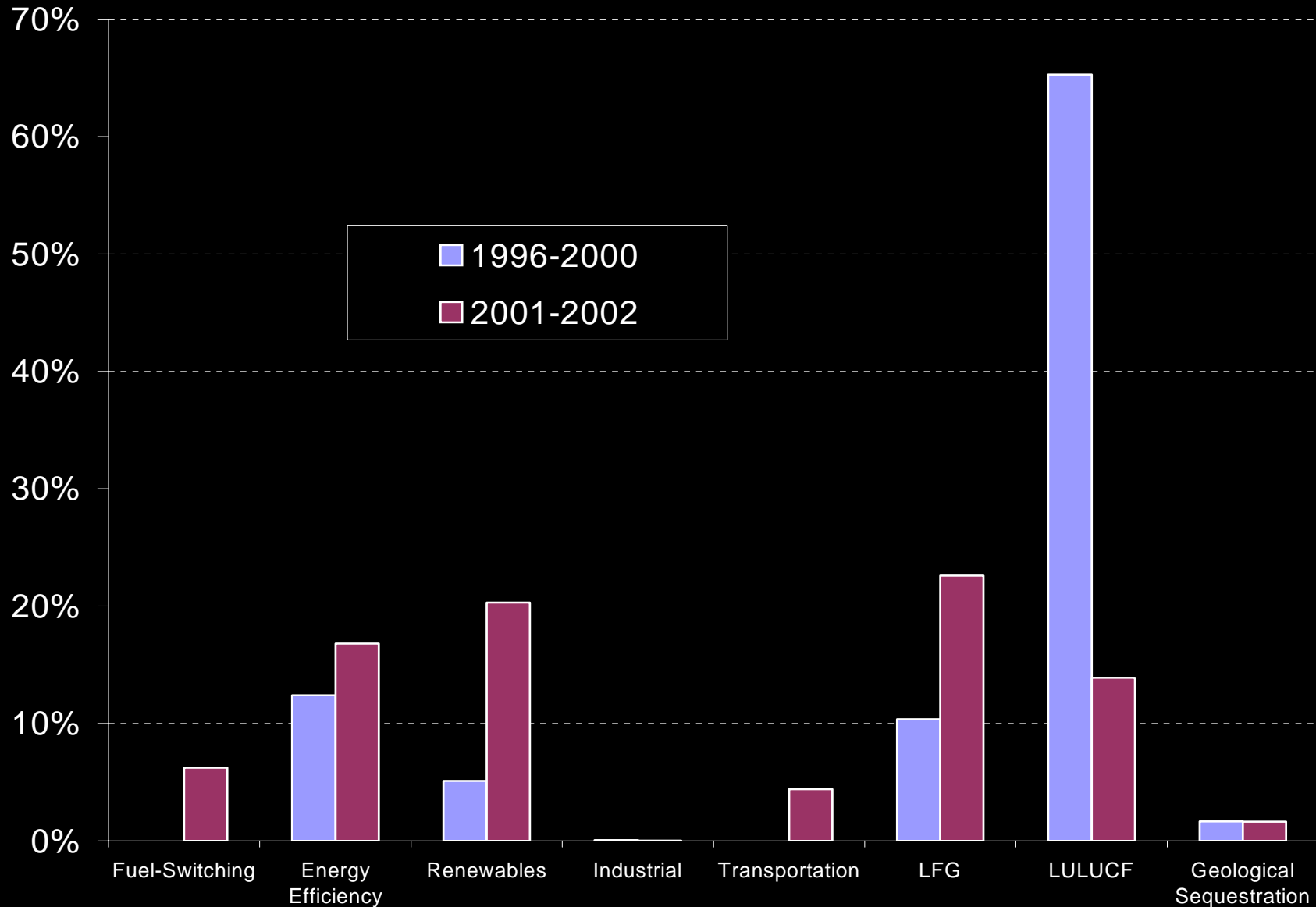
1996-2000



2001-2002

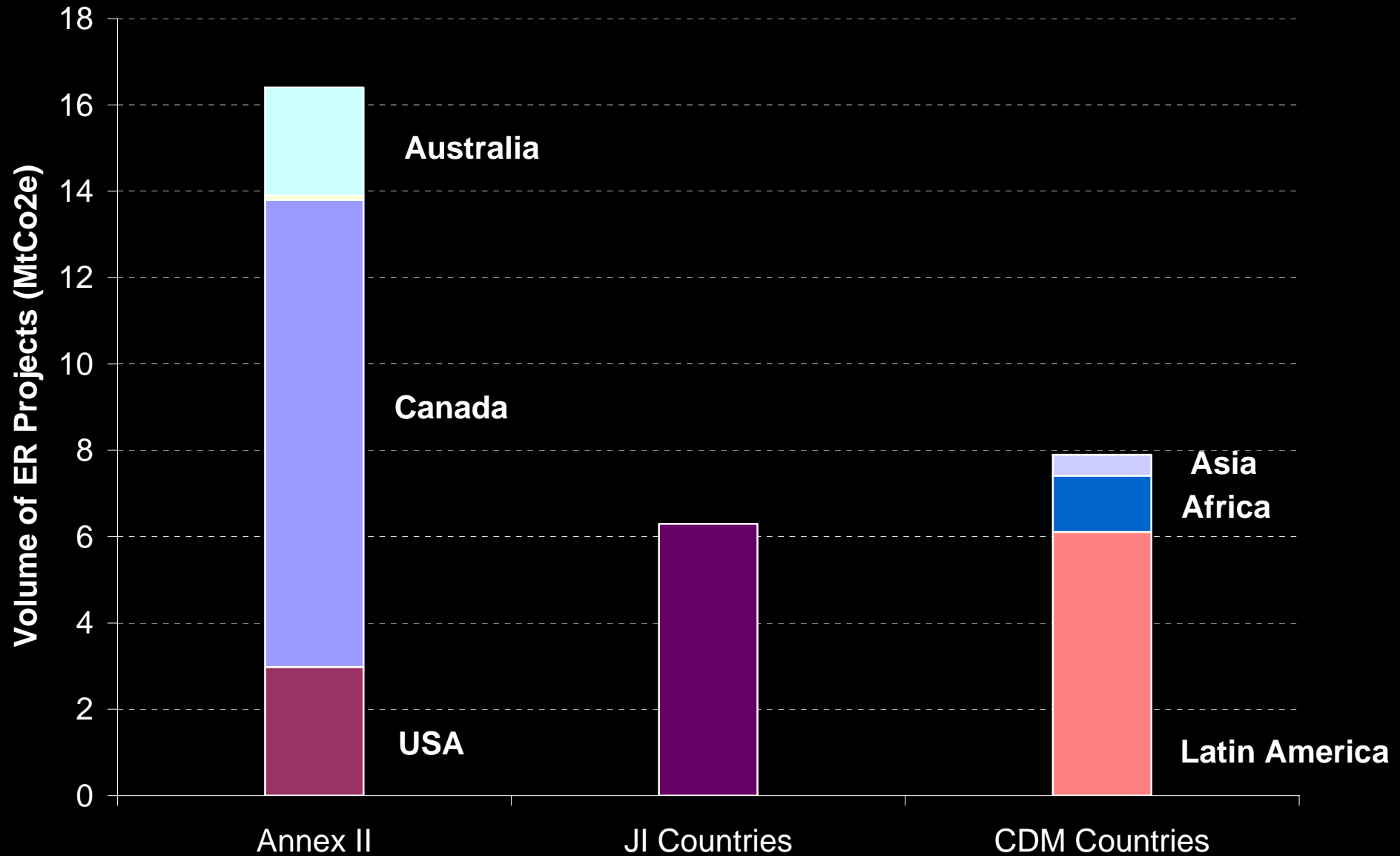


Balance in Asset Classes Emerging



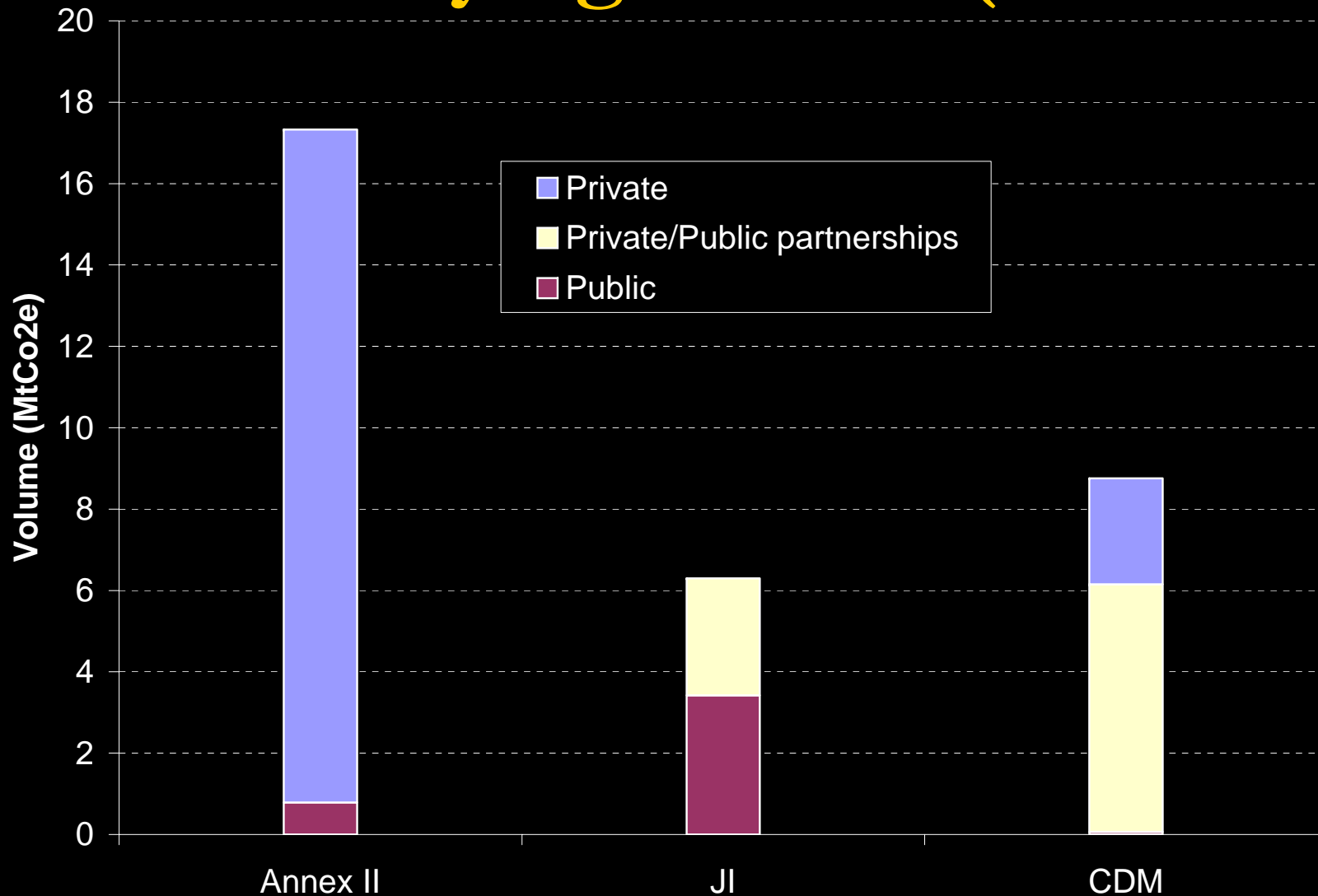
Source: Authors' own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon

Carbon Finance flows 2001-2002



Source: Authors' own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon

Who's buying where? (2001-2002)



In 2001-2002, private companies acting alone have purchased only 13% of their reductions in developing countries.

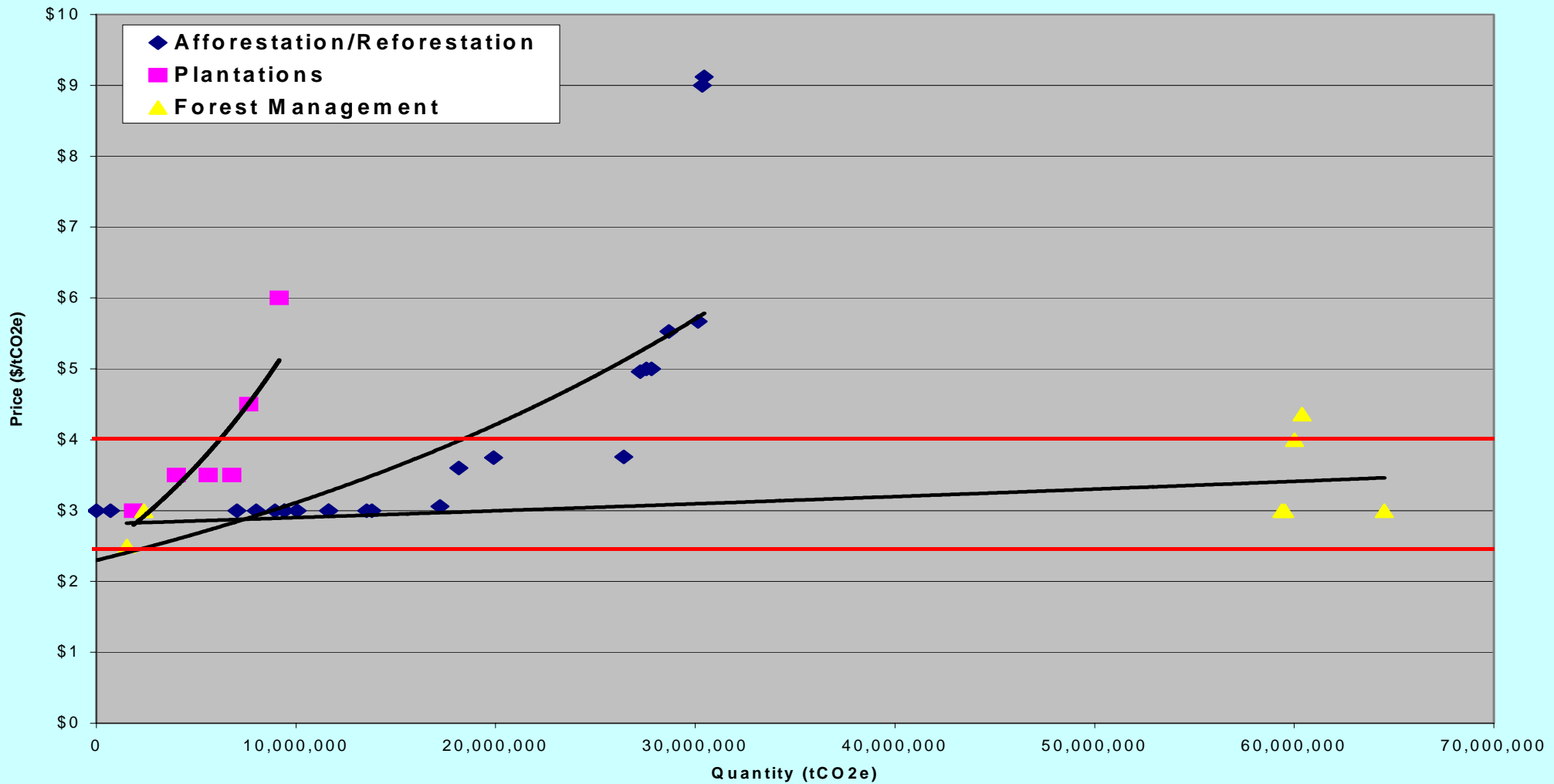
Source: Authors' own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon

BioCarbon Fund:

Key Design Parameters

- **Size:** \$100m target; \$40-50m to close mid-2003
- **Share Price:** \$2.5 million and up
- **Target Contract Price Range:** \$2.5-\$5/tCO₂e
- **Term:** 17 years (3 yrs investment, 14 yrs maintenance)
- **Structure:** Two Windows – Kyoto and Non-Kyoto
- **Focus:** Sustainable Agriculture, Forestry and Land Management, Biodiversity Conservation, Poverty Reduction
- **Deal Attributes:** Certified ERs and Biodiversity
- **Parallel Grant Fund:** for project preparation and capacity building. Implementation Partnerships.

Potential Early Deal Flow



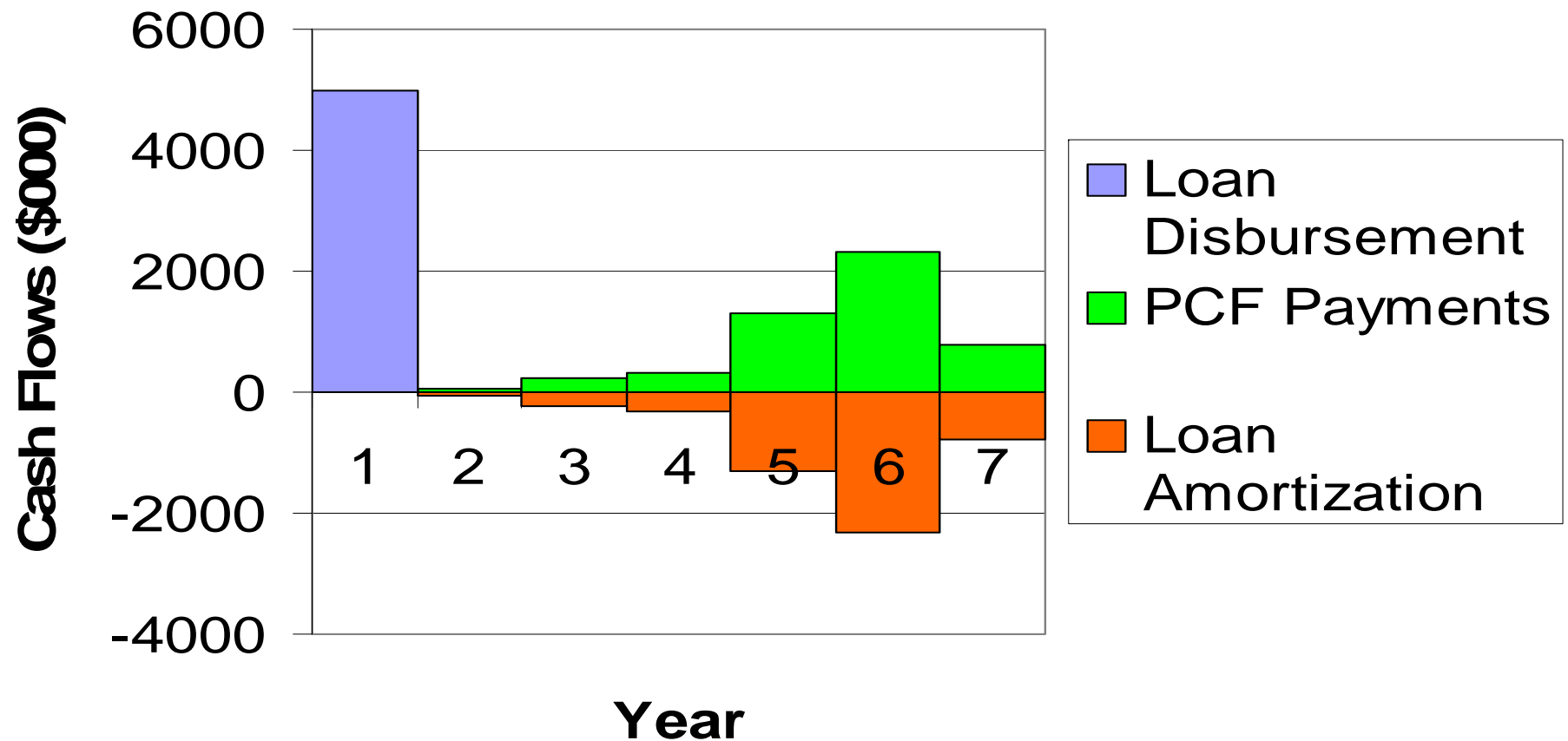
Bank's Experience of Carbon Finance in Forestry

- PCF Projects under implementation:
 - Brazil Plantar Fuelwood and Restoration Forestry
 - Romania Danube Delta: Restoration Forestry and Conservation on degraded lands (7000ha)
- PCF Projects approved by Shareholders
 - Moldova Land and Forest Restoration (14,300ha)
- Characteristics of LULUCF Deals to date:
 - create Biodiversity Assets.
 - support sustainable livelihoods and rural development
 - Prices contracted in range of \$3.25-3.50/tCO₂

Early Insights on Opportunities

- Private/Public CF for sinks can support conservation, sustainable natural resource use and poverty reduction!
- Payment for Carbon as it is sequestered provides **unique early cash flow** key to:
 - Financial closure in private deals and
 - Leveraging State Forest Administration Budgets
- Biodiversity Assets can be certified which:
 - Increase carbon asset value: “green premium”
 - Sheds light on how a global biodiversity market can function
- Carbon Stocks in “avoided deforestation” can leverage up-front payment enabling land purchase
 - Non-kyoto and retail markets offer cash forward potential for high profile conservation assets

Brazil Biomass/Pig Iron Project



ER payments are used to amortize commercial loan.

Early Insights on Managing “Permanence” Risk

Bank/BioCF offers “mitigation equivalent” assets

Portfolio Level Permanence Risk Management

- Hedging high permanence risk assets with low permanence risk assets
- Using Mitigation Reductions to offset sequestration asset risks
 - within the portfolio using Biofuel project mitigation component reductions and
 - Buying options in Bank-managed mitigation reduction portfolios (e.g. CDCF)
- Blending JI, AAU-backed assets with CDM assets

Early Insights on Managing “Permanence” Risk

Project Level Permanence Risk Management

- Encouraging “mosaics” of low and high permanence risk assets within the project e.g. conservation and production landscapes
- Using Conservative estimates of ER potential to create within project hedge
- Negotiating seller liability clauses wherever feasible

Pre-requisites for Carbon Sink Asset Management

- Mutual Fund type structures to manage risks
- Institutions capable of long term asset maintenance – 20+ years
- Capability to build public-private partnerships to mitigate risk, especially with global insurance and banking industry

Annexes

Potential Early Deal Flow

- Proposals exist for both Windows
- Average price = \$3.88/tCO₂
- Deal flow exists below \$4/tCO₂
- Some attractive projects (cobenefits, permanence) > \$4/tCO₂
- Total ER volume = 117 MtCO₂
- Many projects request upfront payment
- 7 early project candidates (high ranking)