

# Forest Conservation and Restoration as a Response to Climate change

National Energy Technology Laboratory

May 14, 2001



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# Today's presentation

- Nature Conservancy background
- Land Use and Climate Change
- Project Experience
- Key Issues and Research Needs

## *Conservancy Background*



The mission of The Nature Conservancy is to preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

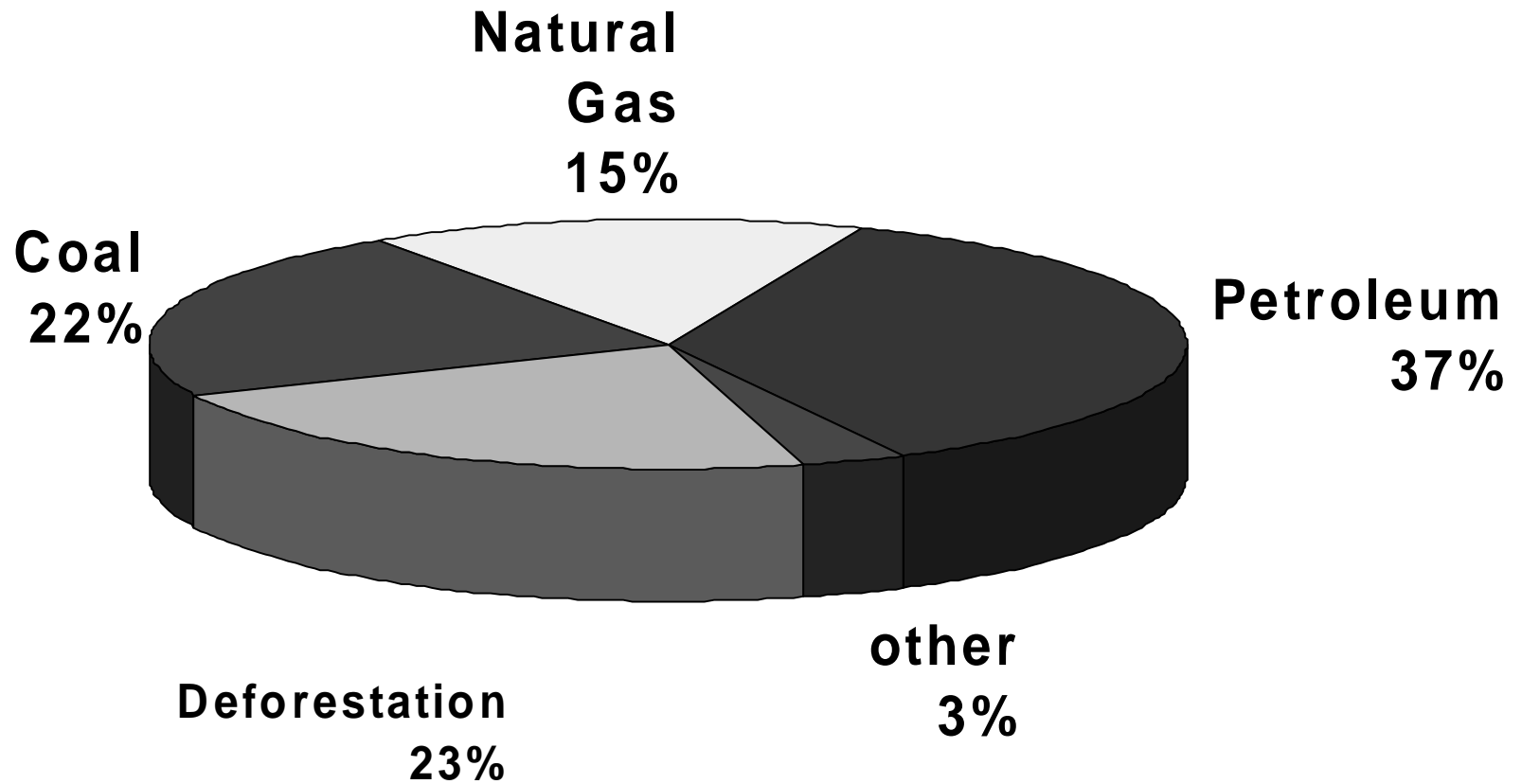
## *Conservancy Background*

### The Nature Conservancy

- Largest private conservation organization
- Founded in 1951
- Conserved more than 12 million acres in U.S., and millions more in Latin America, the Caribbean, and Asia/Pacific
- 1.2 million members
- \$786 million revenue in FY2000



# Global Carbon Dioxide Emissions



# Primary Land Use Project Options

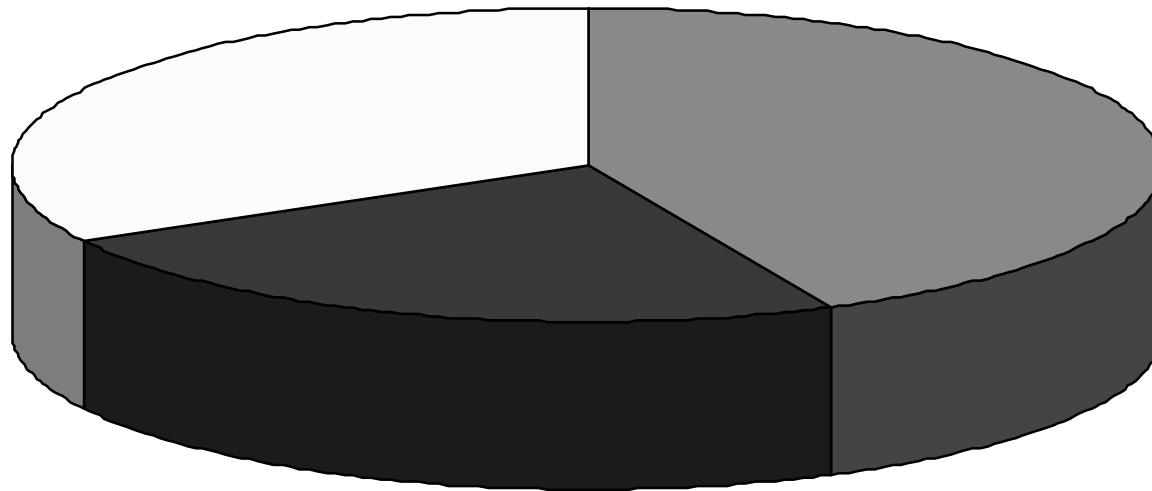
- Reforestation
- Afforestation
- Avoided Deforestation
- Agricultural

# IPCC estimate of C sequestration and conservation potential between 1995 and 2050 (Global)

**Total = 60- 87 Gt C**

*12-15% of cumulative fossil fuel emissions*

Tropical Forest  
Regeneration  
33%



Plantations and  
Agroforestry  
43%

Slowed Tropical  
Deforestation  
24%



## Other Environmental Benefits of Climate Action Forest Protection projects

- Biodiversity conservation
- Flood and storm protection
- Watershed protection
- Prevention of soil erosion
- Ecotourism opportunities

## *Conservancy Climate Work-Projects*

### Conservancy Climate Action Projects

	<u>Location</u>	<u>Cost</u>	<u>Funders</u>
Rio Bravo	Belize	\$5.6 million	WEPCO, 3 other utilities, 2 oil co.
Noel Kempff	Bolivia	\$9.6 million	AEP, BP, Pacificorp
CSW	Brazil	\$5.4 million	CSW (now AEP)
Atlantic Rainforest Restoration	Brazil	\$10.0 million	Auto company
Antonina Rainforest Project	Brazil	\$3 million	Oil company
Midwest restoration	Ohio/Indiana	\$500,000	Cinergy

# Rio Bravo Project - Belize



- Outbid agricultural group for 14,000 hectare parcel of rainforest
- Land is owned/managed by Belizean NGO - Programme for Belize
- Includes certified sustainable forestry program
- Habitat for 330 species of birds, jaguar, other rare plants and animals

## Rio Bravo project data

- Total project cost: \$5.6 million
- Estimated carbon offsets over 40 years: 2.4 million tons
- Division of carbon offsets: 50 percent to Programme for Belize/50 percent to investors
- Project status: Approved and registered under joint implementation program

# Noel Kempff Project Bolivia



- Retired forest concessions on 300,000 hectares and added to national park
- Land is owned by Bolivian government/Managed by Bolivian NGO - Fundación Amigos de la Naturaleza
- Includes funding for economic and community development
- Habitat for 620 bird species, 130 mammal species

## Noel Kempff Project Data



- Total project cost: \$9.5 million
- Estimated carbon offsets over 30 years: 7 million tons
- Division of carbon offsets: 50 percent to Government of Bolivia, 50 percent to investors
- Project status: Approved and registered under joint implementation program

## *Conservancy Project Experience*

### Project monitoring and verification

- Projects all include on-the-ground measurement with hundreds of sample plots
- 20 percent of Bolivian project costs are for monitoring
- Monitoring technology being transferred to local NGO staff

# Atlantic Forest Project - Brazil



- Purchase 20,000 acres of water buffalo ranches and restore them to natural forest
- Provide funding to local communities for sustainable development
- Project implemented by Brazilian NGO - SPVS
- 15 globally endangered birds in project area



# Atlantic Forest - Project data

- Funded by \$5.4 million one-time investment by Central & Southwest Utilities
- 1 million tons of carbon sequestered over 40 years
- Strong support from Brazilian state government
- May be submitted to Clean Development Mechanism

## *Conservancy Project Experience*

# Additional Project Activity

- Two new projects with companies in Latin America - \$10 million and \$3.3 million
- Cinergy is funding \$500,000 reforestation project in the U.S.
- Project planning work on-going for new international and domestic projects
- Total raised is approximately \$34 million since 1998

## *Conservancy Project Experience*

# Conservancy Project Investors

- American Electric Power
- PacifiCorps
- British Petroleum
- General Motors
- Wisconsin Electric
- Suncor
- Canadian Occidental
- Cinergy
- Detroit Edison
- Utilitree

## *Conservancy Project Experience*

# Dealing with Key Conceptual issues: Bolivia

- **Additionality:** Project would not have occurred without sequestration funding.
- **Leakage:** Logging companies were purchased, preventing movement. Sustainable development activities promoted.
- **Baseline:** Extensive data on deforestation trends in project area
- **Permanance:** Land is a Bolivian National Park and project has permanent endowment.

## Rules suggestions

# Key principles for rules

- **Ecosystem Protection** - Rules must aim to prevent undesirable impacts on ecosystems
- **Measurability** - Reductions and removals must be measurable and verifiable
- **Baselines and additionality** - Reductions and removals must be additional to those that would have occurred otherwise.
- **Leakage** - Offsite emissions caused by the project must be avoided or properly accounted for.
- **Duration** - Projects must provide a permanent reduction of greenhouse gases or otherwise account for the time that the carbon is kept out of the atmosphere.
- **Sustainable Development** - Projects must contribute to the sustainable development of the host country.
- **Proportionality** - The number of credits available from land use change projects should be proportional to the buildup of greenhouse gases attributable to land use change.

# Key Research Needs

- Improved and lower cost measurement and monitoring techniques, including use of remote sensing
- Improved methodologies for estimating project baseline and leakage
- Enhanced understanding of forest carbon measurement.

# Summary

- Land use can play an important role in addressing climate change, especially in the short-term
- Properly structured land use projects can also have significant additional environmental benefits.
- To realize full potential of land use to affect climate change, key issues must be addressed

# Noel Kempff National Park - Bolivia

