

# The Rising Tide at Copenhagen:

## A Win-Win Solution for Industrialized and Developing Nations

**Graciela Chichilnisky**

UNESCO Professor and Director,  
Columbia Consortium for Risk Management  
Columbia University, New York

Developing Technical and Financial Solution for the Survival of Small Island States

Organized by AOSIS and CCRM

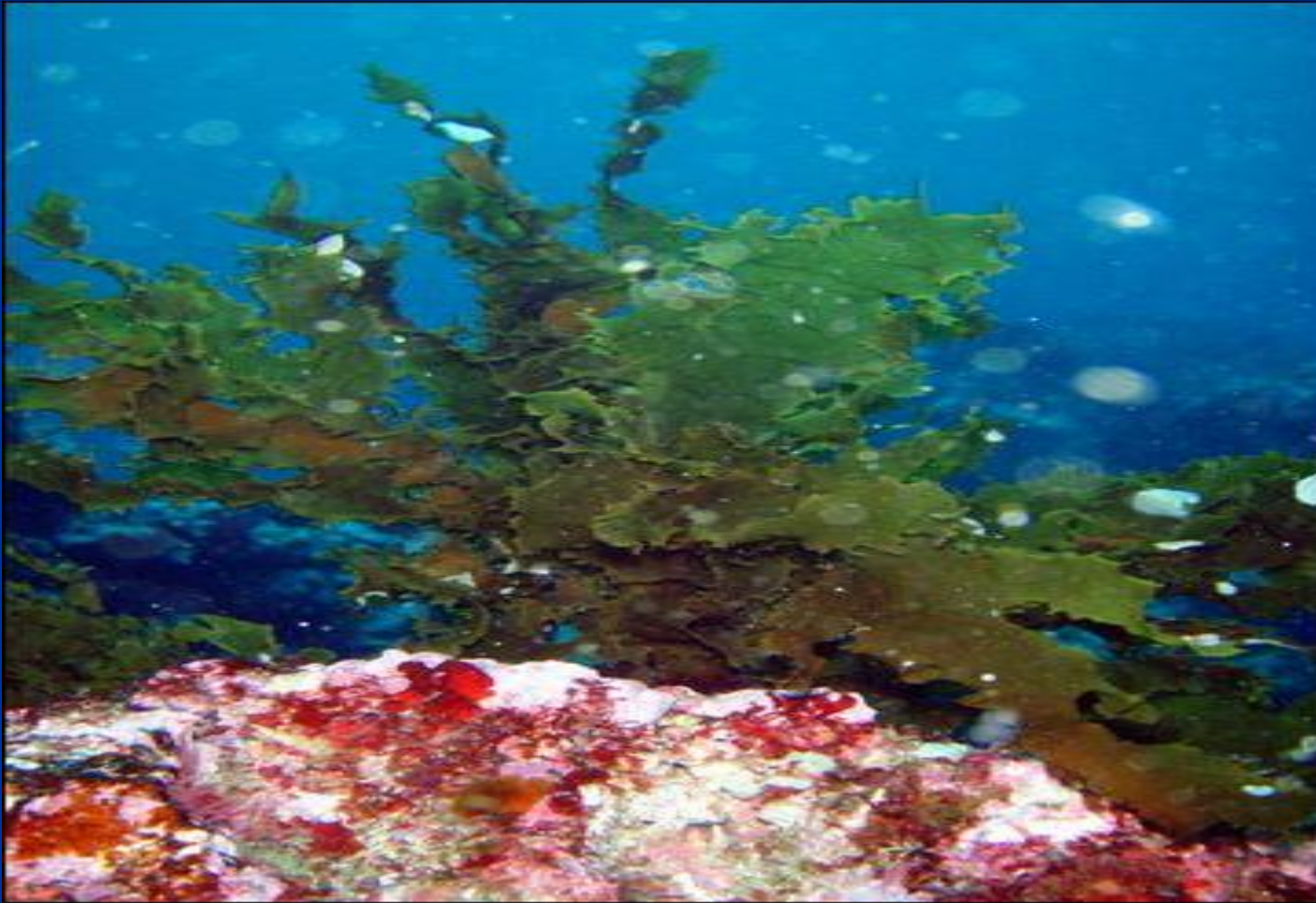
Delegates Dining Room United Nations New York

November 12 2009 1-3 pm

# Disappearing



# Disappearing



# Outline

- The Kyoto Protocol broke New Ground
- Market Flexibility + Firm Grip on Emissions
- Terms expire in 2012
- Copenhagen: How to Move forward for Industrial and Developing Nations
- Innovative Financial & Technical Solutions
- Meeting Energy Global Needs
- Diffusing China - US Impasse

**Survival of Small Islands States**

# The world today

- The **Kyoto Protocol** created the first global agreement on energy use, 1997
- International Law in 2005
- Industrial Nations agreed to limit their CO<sub>2</sub> emissions and reduced targets by 2012
- Introducing KP Carbon Market - I helped create a \$120 B/year carbon market
- \$25-35 per ton: carbon price signal -- major economic incentives for Clean Energy
- But **only a first step**

# The Kyoto Protocol

- **Clean Development Mechanism (CDM)** creates major financial incentives for clean energy investment in developing nations
- \$25B in CDM projects went to developing nations so far – 20% reduction EU emissions
- China 60-80% - little to Africa, LA & SIDS
- Carbon market - the largest commodity market in the world?

**Market Solution with Equity**  
**Two sides of the Coin**

# The Kyoto Protocol

## Only a First Step

- KP's provisions end in 2012
- Like Cinderella, it turns into a pumpkin
- By design

Additionally:

- As the USA does not participate KP lacks control on 26% of global emissions
- Lacking limits on developing nations' emissions hinders US participation
- US - China Impasse

# Recent Progress in USA

- Economic incentives of Kyoto Protocol are enormous. Many in the US want part of them
- Obama wishes to ratify Kyoto
- California wants to participate in KP emissions markets – and hundreds of cities and towns
- US Supreme Court Fall 2007: Federal government can enforce emissions limits
- It is generally accepted that global businesses (e.g. automobile industry) will benefit from KP guidelines

2009 Energy Bill US House of Representatives

# Future Global Needs

- Emissions Limits for Developing Nations?
- USA participation in the Kyoto Process
- A US led Climate Agreement?

**The world needs more energy**

# To move forward in the global negotiations

Must overcome China – US Impasse

and more generally

The interests of the industrial and developing  
nations are so opposed that

**Once again, we need  
a two - sided coin**

# Organizing Principles

A way forward that involves

- Focus on Clean Energy
- US participation
- Future Emissions Reductions by Developing Nations, China + India: Article 4 UNFCCC
- New CDM as a foundation of a major technology - driven financial investment

**A win - win solution for the world economy**

# Two Building Blocks

- New Financial Mechanism - Modest extension of carbon market reproduces in financial terms Article 4 of UNFCCC -- while providing the equivalent of limits on developing nations emissions: diffuses China – US Impasse
- Modest extension of CDM – Provide More Energy with Negative Carbon Technology - Efficient Carbon Capture + Storage favorable to developing nations with low emissions -- Africa, LA and SIDS – 2009: Nature & Royal Academy

# Blueprint for Sustainable Development

- Clean and Abundant Energy available worldwide
- Supporting sustainable growth in developing nations
- Providing a global market for industrial technology
- Transforming fossil fuels into a clean alternative
- Transition to renewable energy
- Solar thermal sources of energy that reduce atmospheric carbon concentration
- \$200 B/year Global Investment to renew \$43 trillion power plant industry worldwide (IEA)
- Private Capital underwritten by Industrial Nations

# Global Energy Today

- 89% fossil – gas coal, oil
- 10% nuclear, geothermal and hydroelectric
- Less than 1% solar power – photo-volteic and solar thermal.

# The Long Run

- Only renewable sources of energy will do
- Wind, Biofuels, Nuclear, Geothermal, Hydroelectric energy – all useful but in limited supply cannot replace fossil fuels
- Only solar energy can
- Less than 1% of the solar energy we receive can be transformed into 10 times the fossil fuel energy used in the world today

# Long Run v. Short Run

- They require different policies
- Long run strategies do not work for the short run
- Yet any short term strategy must accelerate renewable energy
- Or will defeat long run goals

# Short Run: the next 10 years

- No time to transform the entire fossil infrastructure – it costs \$43 trillion (IEA)
- Need Negative Carbon: Reduce carbon in the atmosphere now
- CSS works but does not suffice
- ‘Air capture’ and solid storage – too expensive?
- Combine air capture with solar thermal electricity: more electricity and reduce carbon

# Economic Incentives

- We need economic incentives for the Short and the Long Run
- **The Next Generation Kyoto Protocol post 2012**
- Bringing aboard US and the developing nations  
G77 – China and India

# Innovative Financial Mechanism

- A new financial mechanism based on the carbon market – calls and puts
- Can overcome China – US Impasse
- Based on 1992 Climate Convention Article 4
- A market solution with equity
- The two sides of a coin

# Blueprint for Sustainable Development

- Private/Government approach, based on industrial technology and financial markets' leadership
- Self - funded and highly profitable innovative markets – carbon credits as the 'underlying'
- Based on the Kyoto Protocol CDM - or successors
- Providing abundant Clean Energy to stave off impending Energy Crisis in developing nations
- Mutually beneficial cooperation for industrial and developing nations
- Small Island States can Increase Energy and Reduce Carbon in the Atmosphere - funded by CDM

**The two sides of the coin**

# Copenhagen & Beyond

- Modest extension of CDM - Accreditation for Negative Carbon Technologies that make CDM investments accessible to low emissions nations
  - Africa LA & SIS - cogenerate electricity & carbon capture – CDM goal \$200 B/year
- Financial Mechanism - modest extension of carbon market can resolve Impasse on Emission Limits from Developing Nations - implementing Article 4 of the UNFCCC

# AOSIS

- Active Participation & Global Leadership
- Clean Energy focus: Avert Poverty and Map Way for a safer Atmosphere

**The Last Come First**