

Subject: Environmental Economics

Course code: ECON3029

Topic: **Economics of Climate change &  
Climate Change Financing**

B.A. Economics (6<sup>th</sup> Semester)

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# What is the Economics of Climate Change?

## ▶ The science of climate change

Climate change is a serious and urgent issue. There is now an overwhelming body of scientific evidence that human activity is causing global warming, with the main sources of greenhouse gases, in order of global importance, being electricity generation, land-use changes, agriculture and transport the fastest growing sources are transport and electricity

# The economics of climate change

- ▶ Hitherto, the economics of climate change has been focussed on modelling the implications of growth for emissions, examining and modelling the economics of technological options, calculating ‘social costs of carbon’, and exploring tax, market and other structures.
- ▶ Many elements of the foundations have been established.
- ▶ From the essential perspective of the international collective action problem, we must now focus on the analysis that individual countries will need to assess their own policy positions, together with an analysis of how to generate strong international action.

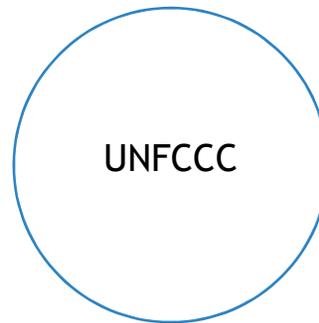
# Climate Change Financing

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- ▶ *“Climate change financing encompasses the role and actions of financial institutions and financial decision makers, in the public and private sectors, with regard to mediating between donors and the recipient governments, savers and investors, lenders and borrowers.”*
- ▶ Private and public organizations acting under public sector framework.
- ▶ Objectives of CC financing are to ensure activities of adaptation and mitigation to decrease GHG emissions and catalyze a low-carbon economy

# Governance Structure for CC Financing

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## Mechanisms

### NATIONAL FINANCIAL INSTRUMENTS

Tax Incentives      Foreign Direct Investment  
Domestic Investment      Loan Programs  
Insurance schemes      Low interest credit programs  
Grants

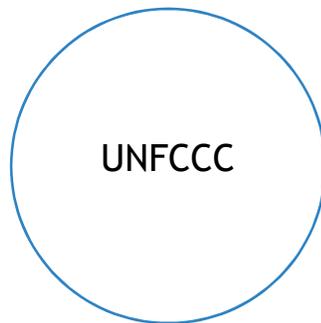
# Green Climate Fund & Green Environment Facility

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- ▶ **The Green Climate Fund** will support projects, programs, policies and other activities in developing country Parties using thematic funding windows. GCF is designated as an operating entity of the Financial Mechanism of UNFCCC, accountable to/functions under COP.
- ▶ It transfers money from the developed to the developing world. It was created at 15th COP in Copenhagen (2009). Expected to mobilize \$100 billion per year by 2020 for mitigation and adaptation in developing countries.
- ▶ **The GEF** is an operating entity of the financial mechanism for the UNFCCC. Resources are a catalyst for large-scale investment in low-carbon economy and resilience. Created in 1991

# Governance Structure for CC Financing

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The GEF is the financial mechanism for the UNFCCC

<u>IMPLEMENTING PARTNERS</u>					
DBSA	IDB	ADB	FAO	AFDB	WBG
FECO	wwf	CI	FUNBIO	CAF	BOAD
EBRD	IFAD	IUCN	UNDP	UNEP	UNIDO

# Public CC Financing Funds

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# Public CC Financing Funds

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World Bank

UNFCCC

National  
Governments

## GREEN CLIMATE FUND (UNFCCC)

The Green Climate Fund is the only stand-alone multilateral financing entity whose sole mandate is to serve the Convention and that aims to deliver equal amounts of funding to mitigation and adaptation (\$100B)

# Traditional Market-based approach to Climate Change Finance

## Carbon Pricing

Converting external cost to private cost

Emissions Trading

Carbon Tax

Emissions trading systems, among the most common methods, set a gradually declining cap on emissions and create a market for emitters to buy or sell emissions permits up to the cap. The value of ETS's globally rose from \$32 billion a year ago to \$34 billion today

Carbon taxes, valued at \$14 billion globally today, are levied at a set rate based on greenhouse gas emissions or the carbon content of fuel.

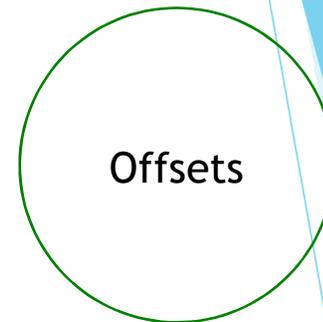
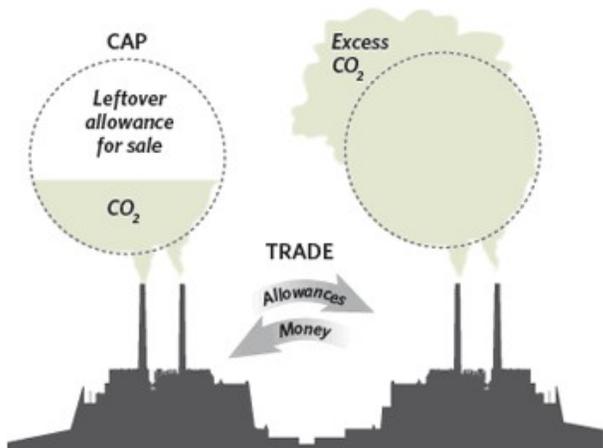


# Market-based Approach to Climate Change Finance

## Emissions Trading Mechanisms



European Emission Trading Scheme  
European Climate Exchange where carbon permits are traded in the derivatives market as futures



- Clean Development Mechanism
- Joint Implementation



# Traditional Market-based Approach to Climate Change Finance

## Emissions Trading

### Carbon Market

- Based on US Clean Air Act (sulfur caps)
- Government determines a cap on total CO2 emissions and issues Carbon Permits
- Organizations can trade permits in free market
- Grandfathering allows for free permits

### Offsets

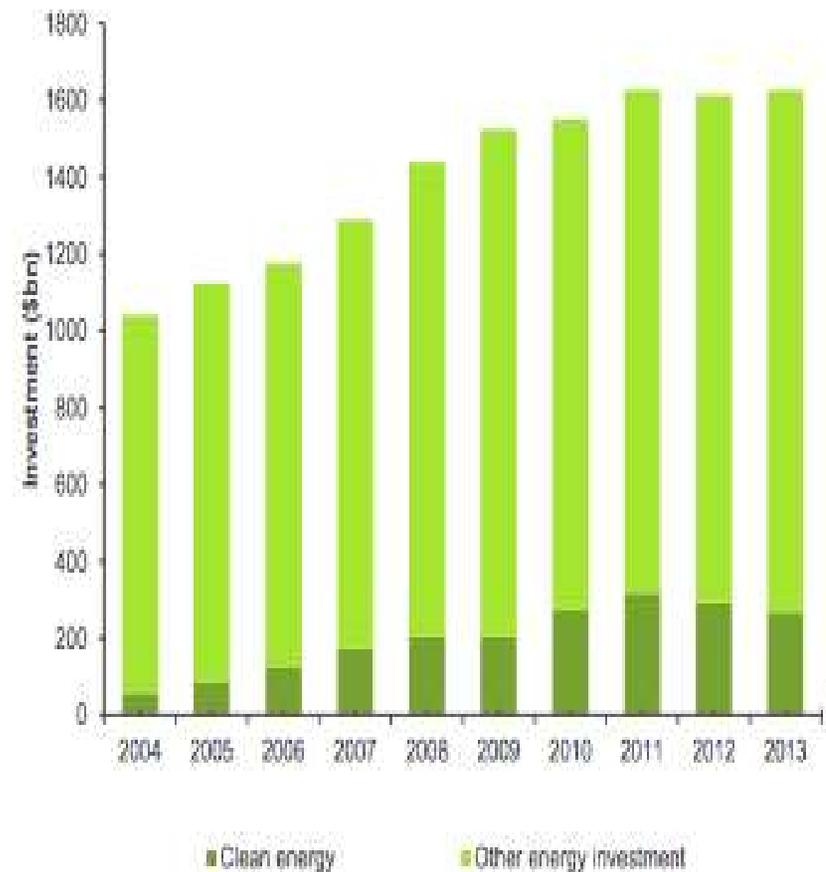
- Determines the amount of GHG emissions that are currently in the atmosphere compared to the amount that would potentially enter the atmosphere had a project not occurred.
- Allows companies to buy Certified Emission Reduction credits (CERs) from projects in developing countries instead of having to reduce their own emissions

# Private Sector's Role

Large financial institutions such as Citi contend that it is important to find a market based solution to climate change. According to Citi inaction could cost up to \$72 trn in damages to global economy by 2060. Despite a commitment of significant resources toward financing climate change solutions the investments in Clean Energy are dwarfed by investment in primary energy (\$310 billion v \$1.6 trillion per year)

- ❖ Financial Institution have championed alternative market-based Financial Instruments for CC financing:
  - ▶ Green Bonds
  - ▶ Yeildco's
  - ▶ Covered Bonds
  - ▶ Securitization

Figure 110. Investment in Clean Energy in the Context of Total Primary Energy Investment



Source: Citi Research, Bloomberg New Energy Finance, IEA

# Private Sector's Role

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General Mills made a commitment in principle to reduce its absolute emissions by between 50 - 74 percent within the next 35 years, in line with the recommendations of the Intergovernmental Panel on Climate Change (IPCC).



Unilever

Formed the Tropical Forest Alliance 2020, which aims to eliminate deforestation from the supply chain of palm oil and other key commodities like soy, paper, and beef. Additionally Unilever attempts to reach a target of 100% traceable and certified palm oil by 2020.

# Critique to Climate Change Financing

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## ▶ Natural Capital, Unnatural Markets?

- ▶ Suggests that markets are inadequate to address climate change both on ethical and ideological arguments.
- ▶ Ethically, carbon market mechanisms such as CDM perpetuate carbon colonialism, in a system in which northern countries profit from limiting southern countries emission while still emitting more than their fair share.
- ▶ Ideologically, market-based approaches are an attempt to privatize a collective problem. Neoliberalism promotes the commodification of the environment and the citizen.

## ▶ Bolivia's Intended Nationally Determined Contribution

- The structural cause that has triggered the climate crisis is the failed capitalist system. The capitalist system promotes consumerism, warmongering and commercialism, causing the destruction of Mother Earth and humanity. The capitalist system is a system of death.
- Hence, capitalism is leading humanity towards a horizon of destruction that sentences nature and life itself to death. In this regard, for a lasting solution to the climate crisis we must destroy capitalism.

# Question

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- ❖ Can market-based approaches to Climate Change mitigation and adaptation offer transformational solutions?

**Thank You**