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Carbon credit: Geographical Issue

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Abstract
Carbon credits and carbon markets are market-based mechanisms aimed at reducing greenhouse gas emissions. They assign economic value to emission reductions and encourage low-carbon technologies. Carbon trading helps industries shift towards environmentally sustainable practices. The concept is closely linked with the green economy, renewable energy, and environmental finance. This study examines the role of carbon credits in promoting sustainable development and climate mitigation.

Keywords: Carbon credits, carbon trading, greenhouse gas emissions, climate change mitigation, sustainable development

Introduction

Climate change driven by greenhouse gas emissions has become a major global concern.

Carbon credits emerged as a tool to control emissions through market mechanisms.

Each carbon credit represents a measurable reduction in carbon dioxide emissions.

The green economy integrates environmental protection with economic growth.

Understanding carbon markets is essential for achieving long-term sustainability goals.

Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of greenhouse gases (GHGs). One carbon credit is equal to one metric tonne of carbon dioxide, or in some markets, carbon dioxide equivalent gases. Carbon trading is an application of an emissions trading approach. Greenhouse gas emissions are capped and then markets are used to allocate the emissions among the group of regulated sources.

The goal is to allow market mechanisms to drive industrial and commercial processes in the direction of low emissions or less carbon intensive approaches than those used when there is no cost to emitting carbon dioxide and other GHGs into the atmosphere. Since GHG mitigation projects generate credits, this approach can be used to finance carbon reduction schemes between trading partners and around the world.

Definitions of carbon credit accounting

The Collins English Dictionary defines a carbon credit as "a certificate showing that a government or company has paid to have a certain amount of carbon dioxide removed from the environment". The Environment Protection Authority of Victoria defines a carbon credit as a "generic term to assign a value to a reduction or offset of greenhouse gas emissions".

Inc investment dictionary defines a carbon credit as a "permit that allows the holder to emit one ton of carbon dioxide" which "can be traded in the international market at their current market price".

Green economy

1. "Green" economics and economics

"Green economics" is loosely defined as any theory of economics by which an economy is considered to be component of the ecosystem in which it resides. A holistic approach to the subject is typical, such that economic ideas are commingled with any number of other subjects, depending on the particular theorist.

Proponents of feminism, postmodernism, the ecology movement, peace movement, Green politics, green anarchism and anti-globalization movement have used the term to describe very different ideas, all external to some equally ill-defined "mainstream" economics.

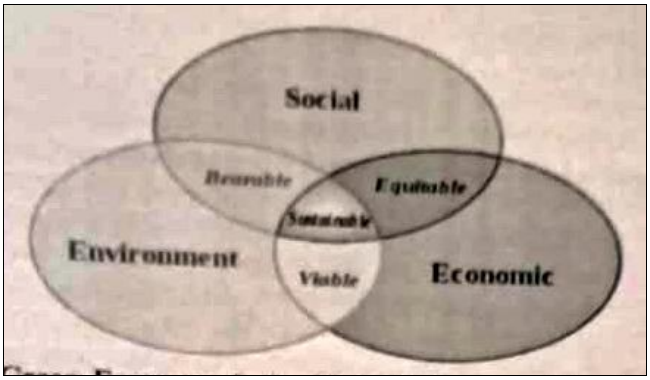
Some economists view green economics as a branch or subfield of more established schools. For instance, it is regarded as classical economics where the traditional land is generalized to natural capital and has some attributes in common with labor and physical capital (since natural capital assets like rivers directly substitute for man-made ones such as canals).

Or, it is viewed as Marxist economics with nature represented as a form of lumpenproletariat, an exploited base of non-human workers providing surplus value to the human economy, or as a branch of neoclassical economics in which the price of life for developing vs. developed nations is held steady at a ratio reflecting a balance of power and that of non-human life is very low.

2. Definition of a Green economy

Karl Burkart defines a green economy as based on six main sectors:

Renewable energy
Green buildings
Sustainable transport
Water management
Waste management
Land management
Green Economy



The Global Green Economy Index™ (GGEI) is published annually by consultancy Dual Citizen LLC. It measures both perception and performance of 27 national green economies as judged by expert practitioners and 3rd party indicators and datasets.

In 2013, the GGEI will feature an in-depth look at perceptions of cleantech investment opportunities and challenges in the 27 nations covered by the report. This overall GGEI measures 4 primary dimensions defining a national green economy as follows:

Leadership and the extent to which national leaders are champions for green issues on the local and international stage

Domestic policies and the success of policy frameworks to successfully promote renewable energy and green growth in home market

Cleantech Investment and the perceived opportunities and cleantech investment climate in each country Green tourism and the level of commitment to promoting sustainable tourism through government. In 2012, the ICC published the Green Economy Roadmap, containing contributions from experts from around the globe brought together in a two-year consultation process. The Roadmap represents a comprehensive and multidisciplinary effort to clarify and frame the concept of "green economy".

It highlights the essential role of business in bringing solutions to common global challenges. It sets out the following 10 conditions which relate to business/intra-industry and collaborative action for a transition towards a green economy:

Open and competitive markets
Metrics, accounting, and reporting
Finance and investment
Awareness
Life cycle approach
Resource efficiency and decoupling
Employment
Education and skills
Governance and partnership
Integrated policy and decision-making

3. Green trading

Green Trading is one mechanism to accelerate change to a cleaner environment by using market-based incentives whose application is global. Many current projects to advance green technology are recipients of funding generated through the voluntary carbon offset market in the United States. Though currently not required to do so, many companies are seeking ways to clean up their environmental impact. Bad energy practices that they cannot eliminate, they may offset.

4. Eco commerce

Eco commerce is a business, investment, and technology-development model that employs market-based solutions to balancing the world's energy needs and environmental integrity. Through the use of green trading and green finance, eco-commerce allows for the development of clean technologies such as wind power, solar power, biomass, and hydropower.

Eco Commerce is an integrated ecological-economical model that provides a means to account for and value land management activities that improves the condition of natural capital and values the output of eco services. Eco Commerce is more comprehensive than a compilation or organization of ecosystems service markets as it provides the framework to build an ecological intelligence system that allows the public arena of commerce to define sustainability.

5. Green job

A green job, also called a green-collar job is, according to the United Nations Environment Program, "work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute(s) substantially to preserving or restoring environmental quality."

6. Environmental enterprise

Environmental Enterprise refers to environmentally friendly compatible business. Specifically, an environmental enterprise is a business that produces value in the same manner which an ecosystem does, neither producing waste nor consuming unsustainable resources. The concept is rooted in the well-enumerated theories of Natural capital, the Eco-Economy and Cradle to Cradle Design. Examples of environmental enterprise would be Seventh Generation, Inc., and Whole Foods.

7. Environmental finance

Environmental Finance is the use of various financial instruments (most notably land trusts and Emissions trading) to protect the environment. The field is part of both environmental economics and the conservation movement.

8. Renewable energy

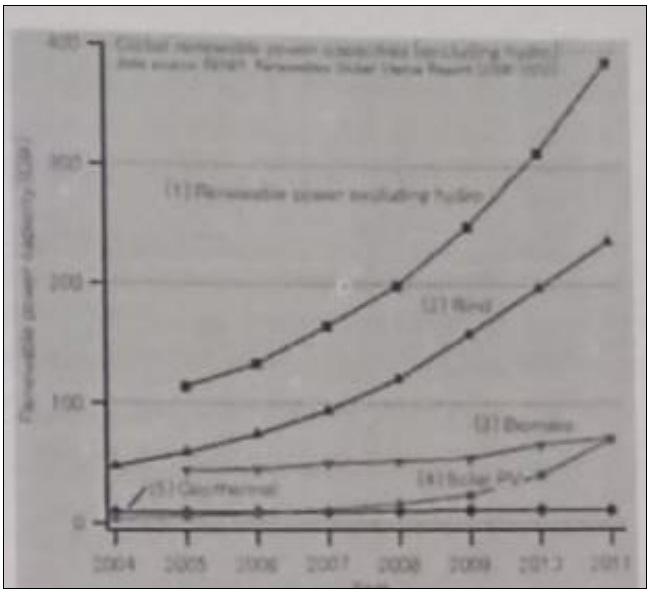
Renewable energy is energy that comes from resources which are continually replenished such as sunlight, wind, rain, tides, waves and geothermal heat. About 16% of global final energy consumption comes from renewable resources, with 10% of all energy from traditional biomass, mainly used for heating, and 3.4% from hydroelectricity.

New renewable (small hydro, modern biomass, wind, solar, geothermal, and biofuels) accounted for another 3% and are growing very rapidly. The share of renewable in electricity generation is around 19%, with 16% of electricity coming from hydroelectricity and 3% from new renewable.

Wind power is growing at the rate of 30% annually, with a worldwide installed capacity of 282,482 megawatts (MW) at the end of 2012, and is widely used in Europe, Asia, and the United States. At the end of 2012 the photovoltaic (PV) capacity worldwide was 100,000 MW, and PV power stations are popular in Germany and Italy. Solar thermal

power stations operate in the USA and Spain, and the largest of these is the 354 MW SEGS power plant in the Mojave Desert.

The world's largest geothermal power installation is The Geysers in California, with a rated capacity of 750 MW. Brazil has one of the largest renewable energy programs in the world, involving production of ethanol fuel from sugar cane, and ethanol now provides 18% of the country's automotive fuel. Ethanol fuel is also widely available in the USA.



Renewable energy flows involve natural phenomena such as sunlight, wind, tides, plant growth, and geothermal heat, as the International Energy Agency explains: Renewable energy is derived from natural processes that are replenished constantly. In its various forms, it derives directly from the sun, or from heat generated deep within the earth. Included in the definition is electricity and heat generated from solar, wind, ocean, hydropower, biomass, geothermal resources, and biofuels and hydrogen derived from renewable resources.

Renewable energy resources and significant opportunities for energy efficiency exist over wide geographical areas, in contrast to other energy sources, which are concentrated in a limited number of countries. Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, would result in significant energy security and economic benefits.

9. Emerging technologies

Other renewable energy technologies are still under development, and include cellulosic ethanol, hot-dry-rock geothermal power, and ocean energy. These technologies are not yet widely demonstrated or have limited commercialization. Many are on the horizon and may have potential comparable to other renewable energy technologies, but still depend on attracting sufficient attention and research, development and demonstration (RD&D) funding.

There are numerous organizations within the academic, federal, and commercial sectors conducting large scale advanced research in the field of renewable energy. This research spans several areas of focus across the renewable energy spectrum. Most of the research is targeted at improving efficiency and increasing overall energy yields.

Multiple federally supported research organizations have focused on renewable energy in recent years. Two of the most prominent of these labs are Sandia National Laboratories and the National Renewable Energy Laboratory (NREL), both of which are funded by the United States Department of Energy and supported by various corporate partners. Sandia has a total budget of $2.4 billion while NREL has a budget of $375 million.

References

1. "Climate Change: Mitigation of Climate Change, Summary for Policymakers from IPCC Fourth Assessment Report", 2007.
2. Cato MS. Green Economics: An Introduction to Theory, Policy and Practice. London: Earthscan, 2009.
3. Kennet M., and Winston Ka-Ming Mak. Green Economics and Climate Change, 2012.
4. Gieseke Tim. EcoCommerce 101: Adding an ecological dimension to the economy. Bascom Hill Publishing, Mpls, 2011.
5. www.google.com
6. www.wikipedia.com