GREEN HOUSE EFFECT; OPPORTUNITIES IN A CARBON CONSTRAINED WORLD

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Introduction

• The paper seeks to establish the opportunities that can be tapped from greenhouse effect
• The greenhouse effect occurs as a result of greenhouse gas (GHG) emissions
• The emissions come from cars, power plants, human activities e.g. burning fossil fuels
• Greenhouse gas is a gaseous compound that has the capability to absorb infrared radiation resulting in holding heat in the atmosphere.
• Increased heat in the atmosphere together with the greenhouse gases leading to global warming (Centre for Climate and Energy Solutions, 2011).
Summary of the study

Purpose of the study

- This study sought to explore the business opportunities from the greenhouse gas effect and existing policies in climate change management.

Objectives of the study.

This study was guided by the following objectives:

- To establish the effects of global warming on nation’s economy.
- To establish existing policy measures for climate change management.
- To identify possible business opportunities and elements of building a sustainable venture related to climate change in Kenya.

Research questions

- What is the impact of global warming on nation’s economy?
- What are the existing policy measures for climate change management?
- Are there opportunities for business ventures from greenhouse effect?
Statement of the problem

- Global warming is majorly caused by Greenhouse effect, these gases naturally cover the Earth and keep it about 33 degrees Celsius warmer than it would be without those gases in the atmosphere.
- Literature has shown that global surface temperature increased significantly during the 20th century (Intergovernmental Panel on Climate Change (IPCC, 2007)).
- Greenhouse effect is heating of the Earth due to pressure of greenhouse gases.
- The gases that make up this are: Fluorocarbons 5%, methane 13%, Nitrous Oxide 6%, and Carbon Dioxide 76%.
Literature Review

- Centre for Climate and Energy Solutions, (2011) hinted that climate change affects the basic elements of life for people around the world.
- The dangers of climate change would be equivalent to at least five percent of Gross Domestic Product, each year, every year. (IPCC, 2001). These will consequently lead to land, food and water shortages.
- According to Purdue (2007), by the end of this century the number of days that favor severe storms could more than double in locations such as Atlanta and New York.
- Adverse weather conditions brings massive physical damage to the included areas but also took a huge toll on the economy (BBC, 2007)
- Scientists warn that rising temperatures would make crops mature more quickly, reducing their yield, while extreme temperatures could also significantly reduce yields (Environmental Research Letters, (2007)}
Climate Change Policy and Regulations

- 5% of the world’s population lives in United States and is responsible for 17% of global GHG emissions which is twice as high as that of other industrialized nations combined.
- Despite being surpassed by China as the largest annual emitter of GHGs in 2006, the United States accounts for 30% of cumulative energy related CO2 emissions since 1850 while China accounts for 9%.
- Developed nations tend to emit more than developing nations (Centre for Climate and Energy Solutions, 2011).
- In 1992, countries signed the United Nations Framework Convention on Climate Change (UNFCCC) with the objective of avoiding dangerous human interference in the climate system.
Overview of Policies

- The resulting agreement, the Kyoto Protocol, requires industrialized countries to reduce emissions on average 5.2 percent below 1990 levels by 2008 to 2012,
- In 2009 at Copenhagen, the summit produced the Copenhagen Accord, a political agreement negotiated by a group of world leaders.
- Although the Accord was not formally adopted by United Nations Framework Convention on Climate Change (UNFCCC) parties in Copenhagen, 140 countries have now associated themselves with the agreement.
- Pledged specific 2020 economy-wide emissions targets (Pew Center on Global Climate Change, 2011), for example:
  - Australia 25% below year 2000 levels,
  - Japan 25% below year 1990 levels,
  - European Union 20-30% below year 1990 levels and
  - USA 17% below 2005 levels
Policy and Regulation

- Some of the policy initiatives that can mitigate global warming include:

  - Clear price signal to the market by putting a financial cost on GHG emissions should be introduced to make many low-carbon technologies more commercially competitive than the traditional ones,

  - Governments and firms should focus on energy efficiency that will lead to reduced business costs,

  - Lobbying for sales of climate friendly products and services to enhance innovation on new markets for carbon reductions

  - Government working on smart growth, zoning reform, and transit-oriented development,

  - Revision of agricultural policies to promote biomass energy as another solution to climate change.
Carbon Pricing Strategy

- Carbon pricing requires that carbon emission be given a cost, price or a tax,
- The cost of carbon tax is used in business profiling for current or future risk analysis before investment decisions are taken.
- Industry-based prices are usually defined by trading schemes done similar to a stock exchange.
- Hardisty (2009) informs that the carbon market trades emissions are best done under cap-and-trade model; which sets allowable emissions for the year to regulate carbon dioxide (CO2) and other emissions.
Research Methodology

- The research philosophy is post positivist.
- The research design is qualitative.
- Review of previous studies that focused on the effect of climate change from a global perspective.
- The work is organized thematically in line with negative effects of climate change, the existing policies on climate change and opportunities that can be driven from climate change.
- Desktop review study of 24 articles
- Most of the reviewed studies used a qualitative research design
- Our data analysis was a deductive approach, where we looked for similarities in the data collected using content analysis.
Discussions - Standards

Development of standards; for example the Gold Standard Foundation

✓ Has developed a branding label for global benchmark certification for high quality, environmentally robust carbon abatement projects.

✓ The standard is used for creating high-quality emission reduction projects in the Clean Development Mechanism, Joint Implementation and Voluntary Carbon Market.

✓ It was designed to ensure that carbon credits are real and verifiable in that they make measurable contributions to sustainable development worldwide.

✓ Its objective is to add branding, a label to existing and new Carbon Credits generated by projects which can then be bought and traded by countries that have a binding legal commitment according to the Kyoto Protocol (World Bank, 2007).
Discussion- Impact, Policy and Entrepreneurial Opportunities

Impact
- Impact on access to water, food production, health, environment, GDP and sea level rise.
- Severe weather storm. It is estimated that number of days for severe storms can double (Purdue, 2007). Recent examples are Hurricane Katrina, Rita, Ivan.
- Shortage of water and decrease in food production globally.

Policy
- Collaboration between business leaders and governments in developing policy, smart growth, zoning reforms.
- Creation of carbon emission management with adoption of national policies

Opportunities
- Renewable sources of energy such as solar, wind, tidal power
- Developing technologies to store CO2 emissions underground
- Focus on reduced emission from the transport sector
- Energy audits to reduce the costs of energy by using efficient energy technologies
Conclusion

However despite all these negative effect of climate change, there are business opportunities such as:

- Green homes
- Green transportation
- Green agriculture and consulting
- Resources reuse
- Organic landscaping
- Renewable energy
- Energy efficiency
- Green financing
- Green construction
- Green service industry
- Green hospitality which can be driven from climate change.
Recommendations for further Research

- Effect of carbon pricing or tax;
  - Stock and shares prices.
  - Bottom line or profit
  - Corporate social responsibility
- Carbon credits and its effects on Gross domestic product.
- Impact of policy and regulation on carbon management.