

Climate Change Mitigation through the Agricultural, Technological, Social, Ethical and Political Responses

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Abstract— The Climate Change impacts the frequency and severity of future natural hazard events. The Climate Change regulation will impose high economic costs, with most estimates regarding government proposals running to more than a hundred billion dollars. The Climate Change regulation will have huge effect throughout the economy, so the governmental body that makes numerous policy choices must be made to approach a suitable program. The paper discusses the current Global Environmental Crisis, implications, challenges, opportunities and regulating measures for Climate Change Mitigation through the Agricultural, Technological, Social, Ethical and Political Responses. The paper begins with discussion of the causes of the crisis, particularly the role of regulatory mitigation. The paper looks to the international responses to the crisis, focusing on the Environmental Stability and Sustenance. It considers issues relating to systemic risk pertaining to the Environmental Stability, with particular attention to possible regulatory changes and their implications for Global Environment. This Climate Change mitigation is discussed with in an International framework inclusive of effective approach and also adopting policies aimed toward reducing CO2 emissions, interest in mitigating these risks and importance of Agriculture. The Challenges and Opportunities of Climate Change mitigation are discussed by two issues: (1) decisive legal obligations associated with Climate Change and (2) assessing the possibility of competitive advantage associated with a corporate effort to address Climate Change. Furthermore, this paper proceeds with Legal research on the effects of Climate Change in Agriculture and Forestry, including mitigation of economic significance, and effects of the emissions of certain gases on Climate Change. It also discusses programs of research, technology development, and education related to Climate Change Mitigation. Collectively, these processes and will address a long-term cooperative and enhanced action on mitigation of climate change, adaptation to climate change.

Keywords—Climate Change Mitigation, Climate Change Regulation, Global Environmental Crisis, Agriculture, Forestry, Global Responses, Technological Response, Ethical Response, Social Response, Political Response, Regulatory Mitigation, Environmental Stability, International framework, CO2 emissions, Legal Obligation, Technology Development, Global Ecological System, Green House Gases - GHG, Economic Impact, Competitive Impact, Mitigation Costs, Climate change opportunities,

I. INTRODUCTION

International attention to climate change and global warming has risen along with global temperatures. The global

temperatures are rising due to an increase in anthropogenic GHG – Green House Gas concentrations and the global consequences of climate change are quantifiable. Our goal is in achieving Environmental Sustenance by environmental development and emissions reduction through clean energy, cool climate which will develop sustainable energy solutions. The evidence of global warming is now unequivocal and it is clear that human activities, mainly the burning of fossil fuels have contributed to Global warming.

II. ECONOMIC IMPACTS

The Climate Change impacts are raising sea levels, decreased agricultural production, and related problems would be spent as larger as the costs of carbon dioxide emission control strategies. If we fail to take action to control GHG – Green House Gas emissions, the cost of Climate Change Mitigation could rise sharply and the reduction in GHG emissions from the burning of fossil fuels requires huge investments in technology, infrastructure, and new power plants to create alternative energy sources. The Developing countries are hesitant to take an expensive program to reduce GHG emissions and the United States are about to allow the GHS emission control technology to flow to the developing countries.

The European countries experiment with cap-and-trade was associated with increased energy prices. The cap-and-trade system is a flexible and effective approach to implementing pollution reduction policies, but it raises a number of complex International competitiveness and International Trade issues. The cap-and-trade systems allocation of free credits for past improvements, impacts upon particular industries in the short term. The controls on the burning of fossil fuels have reasonable economic costs. The UN Climate working group estimates of the total cost to the world economy at between a 1 percent gain and a 5.5 percent loss by 2050. The lieberman-Wamer legislation authorizes a number of free credits and puts price-setting on credits in the authority of a new government board, and intern permits “off-ramps” to address unforeseen economic problems. The lieberman-Warner legislation endeavors to limit the impact on U.S. agriculture and its future. The U.S. economy-wide cost of implementing the lieberman-Warner legislation at \$4-\$7 trillion from 2010-2050.

III. COMPETITIVE IMPACTS

The major industrial countries that consume energy face international competition with severe competitive challenges, if the rest of the world fails to adopt a comparable GHG emission policy which equalizes costs around the world. Increasing energy costs in the Developed Industrialized countries would impose a serious competitive burden on those industries and likely result in declining production, employment, and associated economic costs. The deficient in global policy would result in production of energy intensive products changing to countries that do not impose GHG emission reduction policies, which will lead to increasing GHG emissions from these countries from global shifts in energy intensive industries and continuing economic growth.

IV. GLOBAL RESPONSE

The Kyoto Protocol is initiated by emphasize made by the lawyer of GHG emission policies focusing the need for Global response to the Global warming. The United States and China are the leading source of carbon dioxide from the burning of fossil fuels. The GHG emissions are rapidly increasing in other developing countries, including India and South Korea.

GHG - Greenhouse Gas emissions: The manufacturing industries in the United States and Europe could suffer serious consequences if China and India were exempted from the costs of GHG emission control. The Developing countries are willing to shoulder the burden of reducing carbon dioxide emissions. Chinese authorities place development as a higher priority than environmental protection. We can understand the reluctance of Chinese and Indian officials to reduce GHG emissions, having faced with increasing demands for energy driven both by an expanding industrial base and a population that demands increasing energy. Recently, China has announced plans to expand two hundred coal-fired electricity plants in the future, suggesting that China, India and other developing countries will be quite reluctant to decrease GHG emissions. The Developing countries are unlikely to constrain their own use of fossil fuels and GHG emissions, it is not necessary that the developing world would adopt a regime to reduce GHG emissions, even if the United States were to act upon the Legislation. International Mines: International agreements have given considerable deference to the needs of developing countries, granting effective exemptions from many international mines.

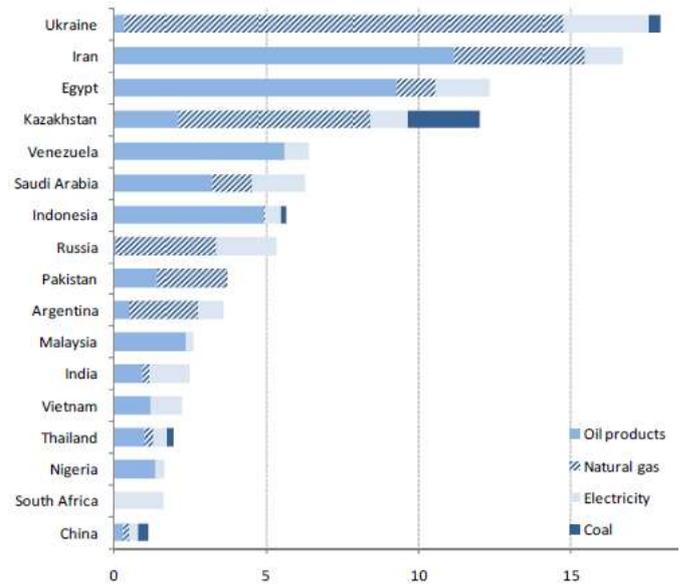


Fig. 1 Global Energy subsidies remain high in a number of developing and middle-income countries (Energy subsidies as a % of GDP, 2005)

V. GLOBAL POLICY

Many developing countries would take the position that the developed world has responsibility for reducing carbon dioxide emissions. The national policies to control GHG emissions vary in different countries. A successful GHG Control policy can be created with the effective contribution of the developing countries. The Carbon Tax approach is one of the similar methods to a cap-and-trade system. Competing industries in the United States and Europe could be a competitive disadvantage, if China were to exempt its steel or chemical industries from GHG controls and if Russia were to exempt its fertilizer industry, and then the U.S.A fertilizer producers and perhaps farmers would feel the competitive pain. Important industries have been successful in shaping U.S. policy in many areas, with a legitimate competitive problem. If the U.S. imposed strict GHG controls, the U.S. chemical companies face loss of export markets around the world to Indian producers due to emission control costs. The competitive concerns would force U.S. companies producing energy-intensive products to move manufacturing operations to countries that didn't require CO2 emission controls.

The World Trade Organization (WTO) recognizes the legitimacy of Environmental restrictions in several provisions that permits Trade restrictions for the conservation of exhaustible natural resources. The WTO imposes restrictions on Environmental measures that restrict imports, including a requirement for scientific basis for Trade restrictions, and policies implemented through the least trade restrictive means. And then the WTO dispute settlement panels have found a number of national environmental policies to violate the WTO. The WTO dispute settlement panel mied against provisions of the U.S. Clean Air Act of 1990 imposed limits on imports of reformulated gasoline.

The Application of a cap-and-trade system on imports raises similar complaints from countries that fail to adopt GHG controls deemed effective by the United States. If major developing countries fail to participate in creating appropriate Global Environmental policy, then a policy pursued by the United States and by the entire developed world would create enormous competitive problems for U.S. industries. Uniform Global Environmental policy and action is the best result from all perspectives in achieving a truly global response to Climate Changes and Global Warming with provisions to address the competitive concerns of industries. The Global environmental policy must be given careful consideration by all countries to adopt GHG emission control strategies with possibly less effective policies. The developed and developing countries should be willing to face few international disputes, probably adverse decisions by the WTO and the prospect of large trade sanctions thereafter. The Policymakers should give careful thought leadership to the competitive and International implications, before acting on legislation to establish Environmental regulations.

VI. CLIMATE CHANGE REGULATION

The Climate Change presents several risks and opportunities for the business to make a persuasive case for corporate legal action. Corporate Governance and its shareholder proposals is a tool to induce corporations to take climate change mitigation into applicable consideration. The Shareholder proposals are a mechanism for compelling climate change related disclosure, analysis, and legal action. Oil and Gas corporations need to take climate change-related actions, in spite of success in prompting disclosure and analysis as they must implement GHG emissions reduction goals in all aspects of business for energy efficiency and to pursue renewable energy technologies. This will significantly reduce climate change-related risks and levy opportunities climate changes grants.

The Global energy companies are yet to take action against climate change, obtain financial rewards as it works to reduce internal CO₂ emissions and invests in lower carbon, alternative fuels and technologies. Climate change presents physical risks, regulatory risks, litigation risks, competitive risks, and reputation risks. On the contrary, climate change accountability confers competitive opportunities, financial opportunities, and reputation opportunities.

Tropical deforestation is a significant contributor to accumulation of GHG in the atmosphere. Through the environmental analysis, we found that there would be around 3 million additional hectares (ha) of forestland in 2055 at \$5 per Mg C and 422 million ha at \$100 per Mg C. The GHG mitigation potential, annual land rental payments required vary by region, carbon price paid, and time frame of Climate Change mitigation. The conceptual framework of the Climate Change Mitigation through the Agricultural, Technological, Social, Ethical and Political Responses is depicted in figure 1.

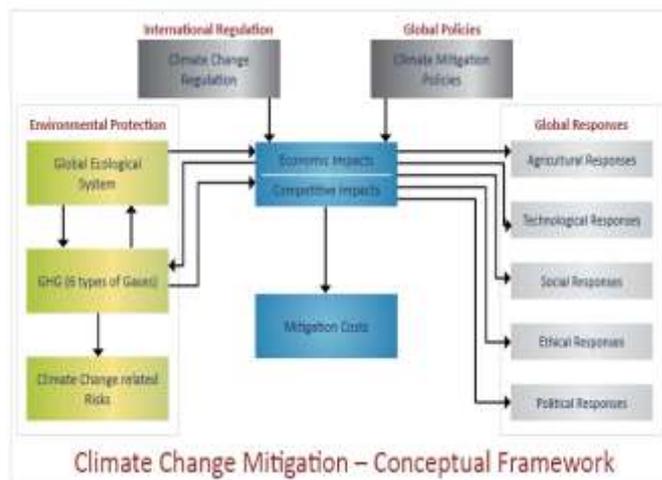


Fig. 2 Conceptual framework of the Climate Change Mitigation through the Agricultural, Technological, Social, Ethical and Political Responses

VII. CLIMATE CHANGE RELATED RISKS

A. Physical Risks

The GHG emissions and climate change are associated with floods, droughts, storms, and disease. The Industries like agriculture, forestry, fisheries, tourism, real estate, insurance, oil and gas, and health care are vulnerable due to the interdependence with the environment. The business functioning in the areas exposed to rigorous climate are vulnerable to droughts, flooding, hurricanes, and weather related damages to their infrastructure. To minimize weather-related damage, businesses in such areas need to consider crisis management, disaster planning, and recovery planning.

B. Regulatory Risks

The Regulatory risks depend on the markets as the patchwork of climate change regulations at the international, national, regional, state, and local levels poses direct risks for businesses and National Governance. Industrial sectors with the highest GHG emission levels are electric power, oil and gas, manufacturing, and transportation could face the significant risks and the greater compliance costs. In the international regulatory level, the Kyoto Protocol presents regulatory risks for companies operating in developed countries. These developed countries committed themselves to reducing emissions of six GHG. The international operations are subject to emission regulations and standards in European Union countries, Japan, etc, that require actions to comply with the regulations and minimize the environmental risks. At Present, the Environmental Protection Agency (EPA) doesn't regulate CO₂ and five GHG addressed by the Kyoto Protocol - under the Clean Air Act (CAA). The USA Court employed a liberalized standing doctrine and its plaintiffs could have a stronger basis for challenging the EPA's refusal to adopt rules that address GHG emissions.

In the United States, the Regional Greenhouse Gas Initiative (RGGI) would impose regulatory risks for power

plants located in Northeastern and Mid-Atlantic states. The RGGI has designed the cap-and-trade emissions reduction program for CO₂ emissions from power plants in the US region. Most of the companies operating in these regions need to follow RGGI as its cap-and-trade system might extend to sources of CO₂ and GHG. It necessitates a 25% reduction in the state's GHG emissions by 2020 to reduce it to 1990 levels and to achieve this environmental milestone, the new Regulations will be implemented in January 2010 for actions on GHG reductions and in January 2011 for regulations to meet the 2020 limit and also its restrictions and reduction measures will be imposed during 2012. The Corporate need to follow the regulations in their communities to take appropriate action to face the risks and corporations could synchronize their efforts across regulatory regimes by tracking all regulations. The U.S. Mayors Climate Protection Agreement might pose risks to companies operating in particular communities and this Agreement mirrors the goals of the Kyoto Protocol with three actions like

- Meet the Kyoto Protocol GHG emission reduction targets established for the United States in their community
- Insist state and the federal government to meet reduction targets suggested for the U.S. in the Kyoto Protocol
- Drive Congress to pass GHG reduction legislation establishing a national emission trading system

C. Competitive Risks

The Corporate which fails to take climate change related actions may face competitive disadvantage compared to the rest of their competitors in the same sector. The Energy intensive products and processes will translate into higher costs and lower profit margins, as there is a likely decline in consumer demand for energy based products because the consumers demand that companies mitigate their GHG emissions.

VIII. AGRICULTURAL RESPONSE

Need of conducting research on the effects of global climate change in agriculture and forestry, including mitigation of the effects on crops of economic importance, and the effects of the emissions of six types of gases on global climate change. The design and development of technical guides, and other Intellectual Property resources highlights sustainable agriculture production systems and practices. We could identify and compile information on methods of composting agricultural wastes and its potential uses and develop educational programs on composting. The International bodies shall administer a competitive grant program to organizations to carry out a training program on sustainable agriculture for the future which supports to provide assistance to farmers with regards to the Agricultural Water Quality Protection Program (AWQPP). They might make institutional capacity building grants to assist the Institutions with constructing and remodeling facilities which

need to conduct instructional activities effectively in agriculture. The governments have initiated a system to monitor and evaluate agricultural research which is supported by the department of agriculture which will enable the government to measure the impact of research and programs as per the priorities and goals established by the Environmental law.

The mitigation permits to conduct a review of state-of-the-art information technology systems for developing the system, which in turn conduct a pilot research program to link major disease research with agricultural research to identify compounds in vegetables and fruits that prevent vulnerable diseases. There is a need to ensure that agricultural research activities are administered on a competitive basis by the cooperative research which address with priority that has national, multi-state, and regional significance. It is good to consider input from persons who conduct agricultural research in accordance with identified management principles and promulgate regulations concerning implementation of a process for obtaining stakeholder input. The Agricultural response to Climate mitigation outlines the necessary actions that,

- Focus on a coordinated set of country level pilot activities to validate methodologies for agricultural mitigation and collect data.
- By linking and leveraging financial resources innovative payment and also make resources available to build capacity, develop and transfer technology for agricultural mitigation.
- Transition to more comprehensive approaches for terrestrial carbon to capture synergies and avoid perverse outcomes

IX. TECHNOLOGICAL RESPONSE

The Legal research and the scientific process help us to enhance the Environmental protection, increase efficiency in the use of energy and climate change mitigation. We have the necessity to conduct programs of research, technology development, and education related to global climate change.

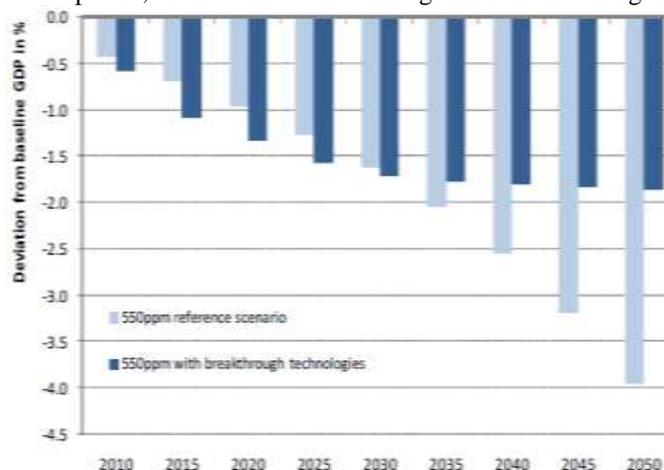


Fig. 3 Major technological breakthroughs could halve mitigation costs by mid-century (Costs of GHG abatement with and without breakthrough technologies)

X. REDUCING CARBON DI-OXIDE EMISSIONS

In response to growing concerns about global climate change, many states, municipalities and several U.S. regions, are adopting policies aimed toward reducing CO₂ emissions. The Coal resources and reliance on coal for power generation could be a key mitigation technology for achieving domestic emissions reductions. The Energy Production from fossil fuels could be a clean fuel only if the Carbon Dioxide (CO₂) generated in the combustion process is kept out of the atmosphere. Energy companies and financial institutions need to understand the Regulatory requirements, legal risks and long-term liabilities, before they invest the capital for commercial scale power plant equipped with current technology, which the cost exceeds over US \$ 2Billion. The risks pertaining to operations and injection of CO₂ have been managed by the oil and gas industries for several years, in the practice of Enhanced Oil Recovery (EOR). The CO₂ is injected into an oil reservoir to increase oil production by displacing the oil and lowering its viscosity to improve the flow rate. The U.S.A Department of Energy's Regional Carbon Sequestration Partnerships are conducting Geologic Sequestration of CO₂ demonstration projects to study long-term storage of CO₂ in different geologic strata and to understand risks from a technological perspective. The post-injection risks are: (1) groundwater contamination through displacement of saline groundwater into potable aquifers, (2) seismic events triggered by pressure changes, and (3) surface releases due to buoyant flow of CO₂ upward through pathways in undetected faults or abandoned wells.

The absence of any regulation to effectively manage these risks means that industries and large-scale CO₂ generators have no incentive to develop Geologic Sequestration of CO₂ technology (GS). The liability should be transferred from the facility owner and operator to the state or federal government. The Financial Assurance (FA) is to increase the costs and associated risks of long-term CO₂ capture, to ensure that the resources are available to guarantee the safety of GS projects through long-term monitoring and maintenance of GS sites. The limits on liability must be provided to allocate and distribute risk between those parties that benefit the most from GS projects and also the long-term liability protection is the considerable apprehension for stakeholders, because the responsibility for a GS project might extend into infinity.

The Proposed Rule on Environmental Protection provides a context to assess financial mechanisms and recommend on, (1) a scheme consistent with the Proposed Rule's limitations and EPA exists authority under SDWA and (2) a scheme which requires congressional action to expand federal authority and transfer authority for financial responsibility. The EPA envisages a hybrid scheme of a fixed time frame and performance standards for determining the length of the post-injection site-care period. The purpose of initial post-injection

period is to monitor the CO₂ plume and pressure until there is little or no potential for the injected CO₂ to endanger USDW's. The EPA will require that a financial assurance mechanism or insurance policy be fully funded; thus the owner/operator is likely to pay an insurer up front or fully fund a trust during a pay-in period. This expected future cost stream must include post-injection activities, such as well plugging, well flushing, mechanical integrity testing, post-injection site care, and plume and pressure monitoring.

The EPA's endangerment finding on CO₂ could expand Climate Change tort suits. The Tort lawsuits will interfere with EPA's ability to balance the legislative factors and craft appropriate Clean Air Act regulations for GHGs. For instance, EPA appears highly likely to promulgate New Source Performance Standards under Section 111 that will be applicable to electric utility sources' CO₂ emissions. Tort judgments against these utilities will interfere with EPA's weighing of economic and environmental factors in determining the appropriate level of controls for these sources. Tort judgments would at least be duplicative of EPA standards, and could require sources to adopt a completely different set of control requirements. If USA Congress does not enact its own climate change program, and the Clean Air Act becomes the de facto mechanism for setting climate change policy, then EPA, acting under that statute, should be the sole regulator. Judges acting in tort lawsuits should not be able to impose a different layer of controls. During May 2009, the EPA proposed a verdict that elevated atmospheric concentrations of six greenhouse gases (GHG) constitutes air pollution which may be predictable to endanger health. Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18886 (Apr. 24, 2009). The EPA's proposal would evaluate find that four of the GHGs that are emitted by motor vehicles cause pollution and under such endangerment findings, the EPA will legally obligated under Section 202(a) of the Clean Air Act to regulate GHG emissions from new motor vehicles. See Regulating Greenhouse Gas Emissions under the Clean Air Act, Advance Notice of Proposed Rulemaking, 73 Fed. Reg. 44354 (Jul. 30, 2008). EPA will embark on a course to determine significant sources of GHG emissions throughout the economy which pose a danger to the environment. Some of the cases on climate change mitigation are: Connecticut v. AEP - 2004, Comer v. Murphy Oil, Native Village of Kivalina v. ExxonMobil Corp, California v. General Motors Corp, Korsinsky v. EPA: Gersh Korisnky. These cases were the companies which release GHGs are being sued for legal activities contributed to the tort of Global climate change.

The current and future plaintiffs in these cases might invoke an EPA Endangerment finding in support for their arguments. The Legislative Branch is a good venue for determining the U.S.A Climate Change Policy. The Plaintiffs' lawyers will endeavor to bootstrap an EPA Endangerment Finding for bringing tort lawsuits and it will interfere with any climate change regulatory program that EPA may adopt under the Clean Air Act. The Climate Change regulation is the most

important policy issues in the USA, as it reaches to all sectors of the economy. According to the Intergovernmental Panel on Climate Change (IPCC), “emissions of GHGs are associated with an extraordinary array of human activities.” IPCC, Climate Change 2001: Mitigation (“IPCC 2001”), at 608.

The Climate Change regulation will impose high economic costs, with congressional proposals running to more than a hundred billion dollars each year and the same Congress should be the governmental body that makes the numerous policy choices and make appropriate program as the climate change is a legislative issue which need to be decided by the People’s elected representatives of a nation. The Individual state and federal court judges were incapable of addressing the climate change issues in the context of general tort law.

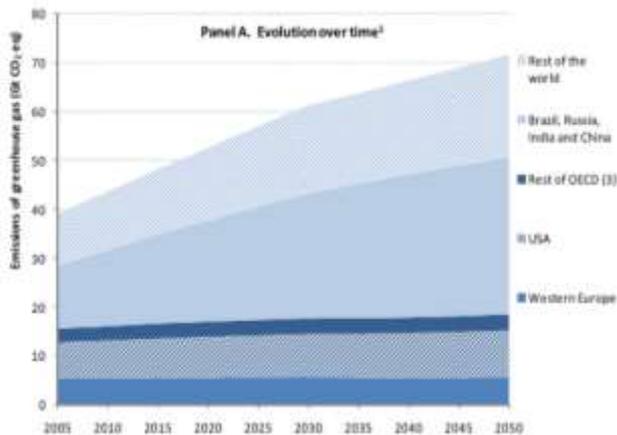


Fig. 3 Emission of GHG: Developing countries would account for most of the projected increase in world GHG emissions over the coming decades

XI. HIGH QUALITY GREEN HOUSE GASES EMISSIONS TO ADDRESS CLIMATE CHANGE

High levels of GHG emission have significant impacts around the world like change in sea levels, ecosystems, and ice cover. The United States Congress has considered proposals to limit GHG emissions using market based mechanisms. Limiting GHG requires an understanding of emissions and development of a program to analyze emissions from entities that can be affected by a future regulatory program in Climate Change. A GHG mitigation program needs an understanding of the various sources and methods for calculating emissions of six major greenhouse gases like CO₂-Carbon dioxide, Methane, Nitrous Oxide, and several synthetic gases.

The Global experiences with cap-and-trade programs places a price on emissions, monitors results, and sustains the integrity of high quality GHG emissions program. Current cap-and-trade programs establish a permissible level of emissions and distribute allowances to regulated entities. The United States has operated a cap-and-trade program to limit emissions of sulfur dioxide. The European Union has employed another cap-and-trade system to limit emissions of

CO₂ that reduces the GHG emission during 2005. The considerations in developing dependable data on GHG emissions involve the purpose and intended use of the appropriate data. The key considerations for this program include (1) scale of the program across emissions sources and (2) program’s coverage across the six types of primary GHG.

The challenges in establishing baseline emissions data and analyzing ongoing emissions will increase as the number of regulated entities and GHG increases and also the existing emissions inventories and registries provide a starting point for understanding the challenges in establishing baselines and tracking emissions over time.

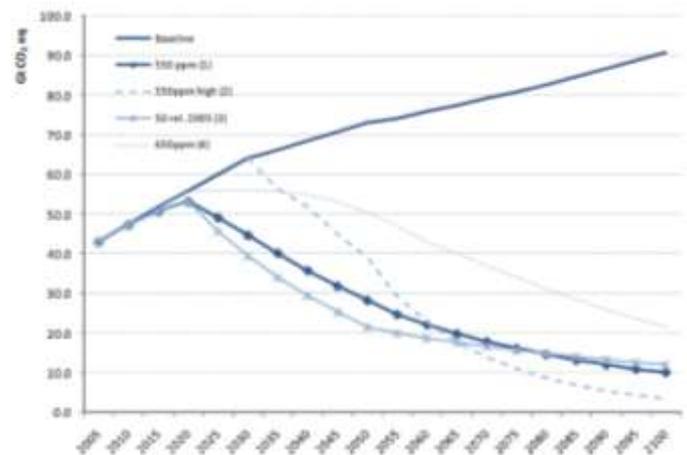


Fig. 4 Stabilizing the climate will ultimately require large emission cuts.

1. Stabilisation at 550ppm CO₂ eq all gases included (corresponding to about 450ppm CO₂ only) with modest overshooting.
2. Stabilisation at 550ppm CO₂ eq all gases included (corresponding to about 450ppm CO₂ only) with high overshooting.
3. 50% GHG emission cut in 2050 with respect to 2005 levels.
4. Stabilisation at 650ppm CO₂ eq all gases included (corresponding to about 550ppm CO₂ only) without overshooting.

XII. EPA COMMENTS ON ENVIRONMENTAL IMPACT STATEMENTS AND REGULATIONS

Availability of EPA comments prepared in accordance with the Environmental Review Process (ERP), under section 309 of the Clean Air Act and Section 102(2) (c) of the National Environmental Policy Act as amended.

- EPA articulated environmental concerns about wetland mitigation, ecological connectivity issues and storm water impacts
- EPA requested analysis of indirect and cumulative effects of travel and land use change, mobile source air toxics, and invasive species
- EPA articulated environmental concerns about water resource impacts, and asbestos impacts, and

requested additional information on monitoring, enforcement commitments, effects of climate change, and future planning for specific designated routes

- EPA articulated environmental concerns about impacts to the marine environment from the deposition of expended training materials
- EPA persists to have environmental concerns about the potential environmental impacts from dispersant application

XIII. CHALLENGES AND OPPORTUNITIES OF CLIMATE CHANGE MITIGATION

Most of the Corporations face business challenges and try to address these challenges with appropriate solutions through innovative and forward looking corporations that oversee these opportunities for differentiation and growth.

A. Legal Obligations

The Legal Obligations explains the requirement of law and mitigation associated with the Climate Change. Unions, regions and nations are motivating Climate Change initiatives and the corporations competing in the international market will need to review the law based on the market condition which might be codified and operational. We would extensively assess the possibility of competitive advantage related with a corporate effort in addressing the Climate Change and Sustainability.

B. Competitive Benefits

The Climate Change initiatives advocate business drivers as the potential for opportunity and profit. The efficiency of business and ability to profit from GHG emissions trade which comprising of production, operations, materials use, and energy use need to be the fundamental goals of the Organization.

The USA corporations have formed partnerships with environmental groups to structure and influence federal Climate Change legislation.

The Number of Business impacts of Climate Change Mitigation are,

- Corporate and project finance will be affected as banks respond to the threat of Climate Change and Climate Change regulation by necessitating comprehensive reporting and analysis of GHG impacts.
- Permitting decisions will be impacted
- Investor decisions will be influenced

XIV. CLIMATE CHANGE OPPORTUNITIES FOR CORPORATIONS

A. Competitive Opportunities

It is a good investment for corporations by initiating climate change actions and those proactive corporations compete with other competitors in their industry in the long run. The Corporations with proper regulations by implementing measures and developing new technology in business potentially avoids penalties for non-compliance and reduce costs of compliance. The climate change regulations increases the cost of inputs and such proactive businesses can move forward by minimizing the costs of these inputs. Such corporation attracts the benefaction of consumers and gain investments from environmentally conscientious investors. This action towards climate change through shareholder proposals has been growing number of institutional investors. Likewise corporations have joined the Investor Network on Climate Risk (INCR) which is a network of institutional investors and financial institutions functioning to increasing understanding of the risks and opportunities posed by climate change.

B. Reputation Opportunities

Companies could play into the demand for “green” business and market their climate change-related actions to attract business.

C. Financial Opportunities

The Companies operating in areas with cap-and-trade markets for GHG emission credits, such as Kyoto Protocol countries, have potential to make a significant profit from their emission reductions. The enhanced Climate change regulation will lead to new markets for products and services, creating opportunities for financial profit through Fiscal rewards and can also be recognized as corporations pursue carbon sequestration, clean technologies, and renewable resources. Thus the climate change mitigation enhances financial opportunities for corporations as they reduce emissions and pursue “green” products and services.

XV. CONCLUSIONS

The Global emphasis on controlling greenhouse gas emissions benefits renewable energy sources. The developing countries would be reluctant to take an expensive program to reduce greenhouse gas emissions, though United States and European countries are making contributions by allowing greenhouse gas emission control technology to flow to the developing countries. The Climate Change Mitigation through the Agricultural, Technological, Social, Ethical and Political Responses need to be analyzed and implemented for global environmental protection and Sustainable Management of Natural Resources.

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