



**HOW CAN BUSINESSES START
IMPLEMENTING CLIMATE CHANGE
INITIATIVES IN LINE WITH THE
PARIS CLIMATE AGREEMENT AND
THE CURRENT AND FUTURE
OUTCOMES FROM COP26?**

Business Research Methodology

CA1

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Introduction

In November 2021, the Conference of the Parties held their 26th annual meeting in Glasgow (COP 26) to discuss the future of climate change over 12 days amongst negotiators, government representatives, businesses, and world citizens. (UKCOP26, 2021) Seen as the last stand in climate actions the goals of this meetings are to:

1. Secure global [carbon] net zero by mid-century and keep 1.5 degrees within reach
2. Adapt to protect communities and natural habitats
3. Mobilise finance of \$100 Billion in yearly climate actions
4. Work together to deliver results (UKCOP26, 2021)

The efforts of COP 21 back in 2015 brought the legislation of the Paris Climate agreement, a key initiative which has been fighting for governmentally initiated climate change since then.

Background

Paris Climate Agreement

The Paris Climate agreement combines the efforts of 197 countries to lower greenhouse gas emissions and the temperature level by 2-1.5 degrees centigrade. This forces countries to work together financially and legally to reach these targets, and businesses to change the way they operate. (UNFCCC, 2021)

Carbon Capture

Many businesses are choosing to incorporate different carbon capture techniques into their programs as a means of reaching carbon reduction targets. These can vary from different types of sequestration and utilization:

- CCU-Carbon Capture Utilization. “Carbon ... pulled from flue gases at facilities such as power plants and cement factories, or it can be removed from the ambient air through a process called direct air capture.”
- CCS- Carbon Capture Sequestration. “...sucking up carbon dioxide and burying [storing] it underground.” (ScienceDaily, 2021)

Archer Daniels Midland (ADM) has been investing in carbon capture through the Illinois Basin Decatur Project and Illinois Industrial Carbon Capture and Storage project which utilizes CCS and CCU by mechanically capturing and pumping carbon underground. (Hettinger, 2020) Direct competitor Nestle, is opting for a less mechanical route to carbon capture and has recently released that they are working towards using agriculture regeneration and carbon sequestration as their main means of reducing their carbon footprint. (Nestle, 2021)

Regenerative Agriculture

Regenerative agriculture is the principal of carbon sequestration by way of plant and microbial photosynthesis. This stores carbon in the soil and root systems that make up organic matter and earths topsoil, and carbon is effectively stored unless the root systems are damaged or disrupted. By manipulating the growing patterns of plants with animal movement, ensures plants are synthesizing carbon to their best capability, increasing their carbon capturing and storage abilities. These actions inherently increase soil microbial diversity, fertility, and impacts water retention and shed, ultimately reducing erosion, and increasing the production capacity of land on a regeneratively managed area. (Newton, et al., 2020) (Paustian, et al., 2020)

Ocean Regeneration

Oceans can regenerate and synthesize carbon because of the vast amounts of phytoplankton that inhabit the oceans. Phytoplankton, like many plants, synthesize carbon within their plant matter, and are converted to organic matter by way of the ocean animals that consume them. This remineralizes/fertilizes the ocean floors, providing nutritional deposits for ocean plant life allowing the cycle to start over again. (Chu, 2021) However, the worlds current ocean fishing practices have been damaging the sea floor and disrupting this cycle for years by way of trawling. This method or harvest scrapes the organic matter from the seabed killing off ocean vegetation that takes years to develop fully. (ScienceDaily, 2021)

Carbon Reduction

When it comes to carbon reduction practices, many businesses choose to focus on the energy consumption impacts they have. Employee driving practices, distances travelled, electrical energy usage, choice of company vehicles, to simply practicing office recycling, reduction, and reuse can impact energy use and carbon use dramatically. Not only does this help reach climate targets but can dramatically reduce company expenses. (Duron, 2021)

While these are good practices in theory, many businesses will find they cannot do enough to reduce their carbon footprint from a legal standpoint, which opens the door to investing in carbon credits. This would allow them to indirectly reduce their emissions while investing in proven carbon reducing practices that would offset the carbon outputs they emit. (Blaufelder, et al., 2021)

Research Questions

- What carbon reducing actions and projects are available to utilize?
- Which ones are currently the most successful and likely candidates for utilization?
- How can businesses start implementing these actions and projects to stay ahead of carbon regulations?

Objectives

- Explore the different theories and projects of carbon sink/capture/reduction.
- Identify factors of climate initiative success and utilization of them.
- Evaluate the best steps and actions for businesses to take.

Philosophies

Research is going to rely heavily on Qualitative and Quantitative data. Extensive research will be conducted on the current options for carbon capture and sink, regenerative climate approaches, carbon credits available for purchase. Given my own background in regenerative agricultural practices, the ontology of this research can be gleaned from that knowledge and experience. There is also numerous quantitative data on these types of carbon reduction methods, and practical timelines to make climate impacts.

Approaches

Strong reliance will be on the research of previous studies and initiatives to first understand the methods and practices available for impactful climate actions, then an in depth look at some practices specific business are using will be analysed. Lastly a goal of 15 in-depth surveys will be conducted to determine the level of impacts the future climate regulations may have on current business (specifically in agriculture, IT, coal and oil, construction, food and beverage, automotive, etc.) as well as what actions they are currently taking to impact their own carbon offsets.

Strategies

In depth research is going to be the main information gathering strategy but use of surveys and interviews of businesses and climate change affected practitioners will be conducted to see their current actions, and how they plan to respond to future climate initiatives. Since this is still a changing environment, this research and data is also subject to locations across the globe and will be tailored to be specific to the United States and Ireland.

Choices

Given the current actions and discussions taking place on climate actions mixed method research will need to be used to come to our final conclusions. The main focuses of climate actions to be studied will be carbon reduction and carbon capture categories based on regenerative practices.

Time Horizon

Given the time constraints and swiftly changing nature of climate change legalities, cross-sectional data collection will be used to get the latest information for use in the next 6 months.

Data Collection and Analysis

Targeted data collection will be towards 15 small and large business owners or managers willing to discuss their businesses carbon impacts and initiatives in depth. Extra research may be conducted in the food and agriculture sector as this is a readily available resource, with entrepreneurs in this sector the target of much scrutiny when it comes to climate change initiatives. While this is only one business sector, it is showing strong potential to have dramatic positive impacts when it comes to climate actions and could play a key role in reaching carbon offsets.

Research Limitations

Time constraints are the biggest factor for this research given the 6-month research deadline. Pressure from governing powers to make quick changes to climate change are also an added restraint to reach timely outcomes from research. Unreleased outcomes and actions from the meeting of COP26 could also impact this project. Given the nature of this research we can only focus on a limited number of different business types as well. Since food and agriculture business involvement is an underlying key focus for this research, this also condenses the limitations to what is accessible in this time frame.

Terms of Reference

The undertaking of this research is aimed at determining the best options businesses can take to reduce and offset their carbon footprint through:

- Exploring the semantics of carbon impacts
- Factors of success
- Actionable steps that can be taken

Assumptions are made that carbon regulations will be enforced within the next year. Constraints will be based on a budget of €8000 with a 6-month research limitation and final submission before the end of May 2022. All research and data collected will be done virtually/online.

Schedule of Costs

Costing will be allocated on research of part time basis over the next 6 months with travel, paid data and information, and paid interviews as part of the research budget to ensure all costs are covered.

Research Conduction	€6,000
Information Subscriptions	€500
Travel	€1,000
<u>Paid Interviews</u>	<u>€500</u>
<u>Total</u>	<u>€8,000</u>

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