**Frame the Problem and Look at the Big Picture**

**1. Define the objective of the project.**

The world is in a climate emergency which has been proven to be caused by the mass output of greenhouse gases since the industrial revolution. This output is in the form of carbon dioxide (CO2), methane, nitrous oxide and industrial fluorinated gases. The output occurs mainly through combustion of non-renewable sources such as oil, coal, gas, petrol etc to create energy to achieve the desired result e.g., transport, heating, manufacturing, electricity etc.

The effect of this has been increasing the temperature of the Earth and its oceans as the gases keep the heat in the atmosphere. This is a problem as warmer oceans have melted ice caps in the North and South poles which rises the sea levels and reduces liveable land for humans. The higher average temperatures have led to an increase in extreme weather activities across the planet making it harder to predict weather events. This uncertainty has created a negative multiplier effect as people in the Global South have had to migrate due to the lack of economic prospects and food supply. This has inflamed tensions across the world as the wealthier countries are unwilling to accept their responsibility in causing this situation.

The project chosen will be focusing on the Net Zero strategy adopted by the United Kingdom (UK). This is formal plan to decarbonise the country by 2050 where the source of energy is exclusively renewable. I will be assessing the development of this strategy from the past decades and evaluating whether the UK will achieve their target. I aim to show how they are transitioning to green energy, the types used and potential options for the future.

I have selected this topic as I want to bring more awareness about the climate emergency and how the solutions are already there for us to adopt. I believe the wealthier countries need to be more proactive in developing solutions for the rest of the world as they have the capabilities to help in terms of income. They also have a moral responsibility as they have benefited through producing centuries of greenhouse gases emissions to develop their countries.

**2. How will your solution be used?**

My solution will be in a form of storytelling with data that attempts to show the importance of this transition. I will be attacking the subject matter from different perspectives to show how our climate affects how we live our lives. This means that it won’t just focus on the obvious environmental and economic benefits but the influence on food quality, reducing inequality, increase opportunities for innovation etc. I would like my solution to enable people who don’t care that much about this issue; into action as a proactive approach at all levels is required. This would hopefully be used to put pressure on countries like the UK to work closer with less developed countries to develop region specific solutions rather than expecting a one size fits all solution.

**3. What are the current solutions/workarounds (if any)?**

This problem of climate change has been known at different stages in the 20th century but only gained mainstream awareness in the 1980s. This was due to extracting ice cores from Antarctica to measure CO2 and temperature changes in the last 150,000 years and discovering the hole in the ozone layer.

The issue of the ozone layer was that it forms a protective barrier from the harmful ultraviolent rays from the sun and regulates the global temperature. This was a problem that is in the process of being solved as the cause of this was production of chlorofluorocarbons (CFCs) from fridges and aerosol spray. There was a global ban in the use of this compound a few years after this discovery and is one of the success stories of the 20th century in the fight against climate change.

This can be used as inspiration to people, that when global organisations cooperate, solutions are created. This currently isn’t the case as it hasn’t been a priority for governments to tackle. This may change as the latest warnings this year were that we are nearing irreversible damage to our climate unless radical action is taken globally.

The solutions for renewable energy have advanced in terms of its energy efficiency and cost of development this century. Examples include solar panels, wind turbines, hydroelectricity, nuclear etc, which have its own strengths and weaknesses but can all be used to help transition. The use of nuclear power is a potential option to expand the possibilities of generating electricity as it doesn’t require combustion of carbon sourced energy. The issue with nuclear is that it has a negative public perception due to high profile disasters. These occurred to a lack of maintenance and care however safety has developed in this field and I believe it can be a major tool in eliminating CO2 levels.

The ideas for how to utilise these tools vary and depend on the will of the people to adapt to new forms of technology. An example of this is a report by Ecotricity ([Over 65% of homes in Britain can work for solar panels | Ecotricity](https://www.ecotricity.co.uk/our-news/2023/over-65-of-homes-in-britain-can-work-for-solar-panels)), which investigated the potential of electricity that can be generated by homes through adding solar panels to their roofs. This is something that the UK government hasn’t committed to however can be a solution to this problem. Through my research and investigation, I will find more potential solutions that are innovative and cost effective to be adopted by the UK.

**4. How should you frame this problem? Explain how/why that’s the case.**

This problem will be framed as Data journalism with storytelling in the form of tables and graphs. The subject matter can be slightly overwhelming to understand the scale and scope of the problem so this approach is best suited to achieve the objective. This will allow for greater understanding on the transition to renewable energy and why it is vital that everyone cooperates to this target.

**5. How should performance be measured?**

The performance of this project will be a success if the audience is better informed after my presentation. This will be measured by a quick survey beforehand to assess their knowledge on this subject matter and to quantify how much they care about it. This will be used as a benchmark for the survey afterwards and to compare whether my project was informative and helpful.

**6. Is the performance measure aligned with the objective?**

The performance measure is aligned with the objective as the focus is on bringing greater awareness to this crisis. With this awareness, the aim is for people to become more proactive in solving this issue by taking steps in their life to help transition e.g., purchasing an electric car. The survey will allow for data being collected to assess the storytelling and investigation aspect of the project.

**7. What would be the minimum performance needed to reach the objective?**

The minimum performance needed to reach this objective would be if one person who is sceptical about climate change, because of misinformation, has been convinced by the presentation and wants to change their energy consumption behaviour. If the audience is already on board with fighting climate change, then the next target would be checking whether their behaviour changes in the short term. This would be in the form of making more responsible choices in their daily lives which can help tackle the problem e.g., food waste being used as compost rather being added onto our landfills.

**8. Is human expertise available?**

I have the domain expertise to complete this project as Geography was one of my specialist subjects in school as I had chosen to study it for GCSE and A level. I was fortunate to study an Environmental Economics module in my final year at university and have carried on being informed about changes in this sector. I don’t know anyone personally to help me with this project but through the use of documentaries, interviews, studies and reports online, I believe I have the required base to create a well-rounded project.

**9. What are the rough steps to approach this project?**

* The first step is to find the official government data source regarding the UK’s energy usage over time and the energy sources. This is all publicly available online through the various government organisations and departments websites with their reports alongside the data.
* The next stage is to find other studies/investigations regarding the Net Zero strategy and whether the target will be met
* The next stage will involve critically reviewing these sources and making sure that I have a clear understanding of the problem
* From collecting various data sources, I will then clean and explore the data to have a better understanding of the information gathered.
* During the exploration stage, I will narrow down what is the most crucial and informative graphs and tables to use in the presentation
* I will create the presentation in a user-friendly manner with the objective in mind
* I will practice delivering the presentation and making sure I am prepared for any unforeseen circumstances

**10. List the assumptions you (or others) have made so far.**

The first assumption I have made is that the data will be readily available and suitable for the objective of my project. I have made that assumption as the public sector in the past allows open access to their data and not behind a paywall.

I assume that I will be able to download the data as a CSV/Excel file and be able to use it in a way to assist with the storytelling aspect of this project.

I have assumed that this will be a project that I am capable of delivering and that I will be able to narrow the data collected and manipulate it in a way that captivates the target audience.

I have made the assumption that everyone knows the buzzwords associated with this project e.g., greenhouse gases and the base scientific knowledge surrounding climate change.