

Research on Climate Change Legislation in UK

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Abstract: Since the 1760s, the first Industrial Revolution began in England, the steam engine which burns coal appeared. The steam engine could produce many kinds of poisonous gases such as CO, SO₂ and NO₂, these gases turned London into The City Of Fog. About one hundred years later, With the advent of the second Industrial Revolution, our human beings entered. The age of electricity, but limited by the technology of the time, in order to produce electricity, people still need to burn coal, this could also produce much greenhouse gas. For about a century, with the development of technology, our human step into the information age. Although the technology has advanced rapidly, there are even more fields that need fossil fuels to be burnt. Especially there are more and more cars on the road and a large amount of them use petrol to run. There are also more and more industrial and residential use of fossil fuels also leads to the production of greenhouse gas like CO₂. Besides, the wide use of the air-conditioner and refrigerator has caused a large amount of freon leak and leads to the problem of the Ozone layer hole above the South Pole. Because the greenhouse effect is becoming more and more serious and cannot be ignored, and other extreme natural misadventures happen around the world from time to time, how to solve these problems has become a hot topic to be discussed and it has become an urgent problem to be solved.

Keywords: climate change, international law, UK

1. Introduction

Environmental problems have received more and more attention in recent years. The reason is that the earth is our home for survival and development, and the frequent occurrence of extreme weather events in recent years has greatly threatened our human beings. Based on the analysis and research of the current climate situation and climate legislation in the UK, combined with the greenhouse gas emissions caused by the plastic industry, this paper puts forward suggestions for the UK to reduce the production and use of plastic to reduce carbon emissions. This paper mainly uses the methods of literature research and case study to study the existing legislation in the UK, such as the Climate Change Act and the carbon emissions of plastic industry. After the literature research and case study process, the conclusion is that the British government should maintain current law and based on this new for personal about reducing carbon emissions, reduce use of plastic products, such as providing a basic law to make local policies such as paid use of plastic bags, plastic coffee cup, plastic straws and other plastic products as well as to the renewable materials and recycled plastics, Policy support for the use of materials such as high density polyethylene (HDPE), low density polyethylene (LDPE), polypropylene (PP) and polystyrene (PS).

2. The Practical and Legal Situation in UK

As far as we know, in recent years, climate change on a global scale has become more and more extreme, with the higher frequency of extreme weather, such as hurricanes and bushfires, increasing around the world. The United Nations has always taken climate change, especially global warming, very seriously. Under its leadership, countries around the world have signed several agreements such as the Kyoto Protocol, the Paris Agreement and other documents to set emission reduction targets to keep climate situation from becoming worse and worse. It also calls on governments, enterprises and even the civil society organizations to take measures including but not limited to accelerating energy efficiency, phasing out the use of coal energy, and taking action to achieve climate-friendly transportation to limit global temperature rise to 0.5 degrees Celsius [1]. While calling on governments, enterprises and social organizations to take the above actions, the United Nation is also actively providing countries with the significance of energy transformation, so that governments will be more interested in energy transformation, so as to carry out their own domestic energy transformation that based on its national conditions. For example, the significance of converting traditional fossil energy into renewable energy is that renewable energy is everywhere and easy to obtain. The price is relatively lower, the use cost is low; Emissions of air pollutants and toxic substances can be significantly reduced, with less harm to human health; if the government use the Energy transition, it could create about 30 million jobs by 2030 [2]. It can be seen that not only the United Nations but also its member states have taken a positive attitude towards the control of climate extremes and have made positive responses to the control of climate deterioration, contributing their share to the control of global climate deterioration.

As an important part of the United Nations, the British government has also made many efforts to make climate change situation under control.

2.1. The Climate Change Situation

The climate of Britain is a temperate Marine climate in geography, with no severe cold in winter and no severe heat in summer. Precipitation is evenly distributed throughout the year. But in recent years Britain's climate has become more and more extreme. Britain issued its first-ever red alert for extreme heat on July 15 and declared a national emergency. As temperatures rise, so does the problem of drought appear. London, August 12 (Xinhua) -- In order to help the government, research institutions and the public to understand climate change and its impact on the country, the British government announced on December 12 that 8 out of 14 regions in England were in drought after experiencing the driest July since 1935. This is the first drought in England since 2018 [3]. On 28 July 2022, the State of the UK Climate 2021 Report was released, which reviewed the state of the climate and major meteorological events in the UK in 2021. The report points out that in the context of global warming, all parts of the UK continue to warm up and sea levels are still rising. In terms of temperature, the annual maximum temperature, the average summer temperature and the average winter temperature in 2021 increased by 0.8 ° C (reaching 32.2 ° C), 1.5 ° C and 1.8 ° C, respectively, compared with the 1960-1990 average, with the overall increase in the UK slightly higher than the global one. In terms of sea level change, around the UK sea level has risen by about 16.5cm since the 1990s, roughly in line with global sea level rise. However, the rate of increase is accelerating dramatically, from 1.5 mm/year in the last century to 3.0-5.2 mm/year in the last 30 years, and coastal areas are increasingly threatened by storm surges and wind waves [4].

2.2. The Current Legislation on Climate Change Issues

As climate conditions continue to become worse, lawmakers around the world are reexamining their methods to solve climate change problems. The UK's Climate Change Act of 2008 is one of the

earliest and most prominent examples of climate change framework legislation around the world. Britain is not only the birthplace of the industrial revolution, but also a pioneer in the development of a low-carbon economy society in the 21st century. On 26 November 2008, a week after it was passed by Parliament, Royal assent was given to the Climate Change Act, making the UK the first country in the world to legislate unilaterally domestically to reduce emissions in response to climate change [5]. The Climate Change Act (herein after referred to as "The Act"), which sets legally binding targets for reducing greenhouse gas emissions by 80% below 1990 levels by 2050. During its passage through Parliament, the legislation was widely regarded as a historic step. Implementation initially went smoothly. Recommendations from the Committee for the first three carbon budgets (up to 2022) were agreed by the Government in 2009. A newly created Department for Energy and Climate Change was immediately set up to develop a Low Carbon Transition Plan to deliver these budgets. The 2010 general election saw the formation of a coalition Government which the new Prime Minister said that the British government would be the "greenest government ever" [6]. It enjoyed broad political support, was commented as "revolutionary" by political leaders and the media, and was widely welcomed by social groups, especially the environmentalists, trade unions, and the business community [7]. By setting ambitious targets in the UK, strengthening the implementation of tasks, strengthening the institutional framework, and clarifying the specific and normative responsibilities of the House of Commons and the highest legislative body, this initiative opens a new way to address and respond to climate change. The bill commits the UK to reducing greenhouse gas emissions by 80% by 2050, compared with 1990 levels, and sets a "carbon budget" for the next five years. It is the world's first bill to set a target for reducing greenhouse gas emissions. At the same time as the Climate Change Act was passed, a committee on Climate Change was independently set up to advise the government on how to meet the 80% target, and to make its recommendations known to the public so that in future the government could be asked to explain why one of its recommendations had not been adopted. In addition, the bill mentions measures such as climate change impact assessment, the purchase of international carbon credits, support for adaptation to climate change, and further provisions including the introduction of an "emission reduction obligation" system for local governments and large corporations that are subject to carbon trading schemes.

3. The Impact That Climate Change Brings to Relevant Legislation and Corresponding Legal Suggestions

3.1. The Impact of Climate Change

As we can see from the previous text, the United Kingdom government has a positive attitude towards climate legislation. And it is trying to climate legislation positively. It provides the countries around the world with an exemplary plan to slow and even provides a train of thought to deal with the possible situation of climate change in the predictable future [8].

3.2. Suggestions on the Legislation

In the Climate Change Act, the UK has already made several goals and suggestions to be achieved and go all out to reduce carbon emissions in many ways. However, reducing carbon emissions is only one part of the solution to stop the future climate becoming more and more extreme. In addition to reducing the consumption of fossil fuels and other measures, this paper considers that the British government should introduce relevant policies to cut down the use of plastic products in many fields especially in the food and beverage industry, food packaging, or introduce relevant policies to make factories reduce the production of plastic products since plastic has a non-negligible contribution to global greenhouse gas emissions and climate change. Because of the plastic produce industry expands rapidly around the world, the plastics industry has won the first place of industrial greenhouse gas

emissions. A couple of facts proved that greenhouse gas emissions from oil Wells to refineries in 2015 were estimated to be 68 million tons of carbon dioxide equivalent (CO₂e) by determining the weighted average carbon intensity of oil well energy production from 8,966 fields under construction in 90 countries around the world, based on the distribution of approximately 4% crude oil as a plastic feedstock. GHG emissions come not only from the process of manufacturing, but also from the process of extracting and transporting plastic raw materials and managing plastic waste and prevent plastic entering the environment. Geyer reported that in 2014, 72 plastic produce factories in the United States emitted approximately 17 million tons of carbon dioxide equivalent during plastic manufacturing. Emissions from the well to production are under the control of the production facility itself and often depend on equipment efficiency, configuration, and service life. Moreover, plastic's impact on the global climate doesn't stop when it's thrown away. In fact, most of its impact on climate occurs after the end of its lifetime. Recycling, landfilling as well as burning are useful measures to manage and deal with the plastic wastes. Several facts proved that plastic packaging waste incineration produce much carbon emission, In 2015 the net emissions were estimated at 16 million tons. With the continuous production of plastic, the net emissions from plastic packaging waste incineration will increase to 84 million tons by 2030 and by 2050, the number will rise to 309 tons [9]. Thus, it can be seen, reducing the production of plastic products is a very important solution to solve the problem about how to reduce the speed of climate warming. In addition, the United Kingdom government should give more positive support to both the research and the researchers to invent new renewable materials, which aims to cut down the large amount of plastic produced and used while providing equal quality alternatives, so that the gradual elimination of plastic can be gradually achieved while keeping a balance between the needs of people and the progress of the plastic elimination. In the field of construction, the use of renewable materials is an example. Buildings are responsible for about half of the United kingdom's national CO₂ emissions, but this only takes into account operational energy. However, this is just the amount of energy people use to live in a building or otherwise use it. However, this figure does not take into account the embedded energy -- the extraction or manufacturing of materials and products used in construction projects, or the transportation and assembly processes

The energy consumed in. This is often counted as operating energy in the industrial and transport sectors, but in reality, these emissions are caused by demand in the construction sector and should therefore be more accurately included in the environmental impact of that sector. Thus, it can be seen that the true impact of the construction industry in terms of life cycle assessment (LCA) accounts for almost 57% of total United Kingdom carbon emissions [10]. The goal that buildings must be carbon neutral or negative by 2030 is about to require significant to make an effort to reduce the specific impacts and operational impacts of buildings using mostly renewable materials [7]. Taking this as an example, we can see that the use of renewable materials in all walks of life can play a decisive role in reducing carbon emissions.

4. Conclusion

The purpose of this article is to analyze the current climate situation and climate legislation in the UK and analyze the greenhouse gas emissions caused by the plastic industry, the analyze if the Act is suitable of the recent situation of the climate change in the United Kingdom, then put forward suggestions for the United Kingdom about several possible measures to cut down the production and use of not-environmentally friendly plastic in industry and citizens' daily life.

In this paper, the suggestion is that the British government should maintain current law especially the Climate Change Act and based on these laws to add more restrictions to individuals about reducing carbon emissions, reduce use of plastic products, such as providing a bill to provide support to local policies, such as pay for the plastic bags in the supermarket, plastic coffee cup, plastic straws

when people order take-out in the cafe What's more, giving both political and financial support to the research and development of the plastic products as well as the renewable materials and recyclable plastics, For example, the government should pay more attention to the research and development of high density polyethylene (HDPE), low density polyethylene (LDPE), polypropylene (PP), polystyrene (PS) and other materials and give some proper support.

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