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# With Emerging Climate Change - What are the Steps Taking by the World and in Particular by India to Move towards a Carbon Neutral Future

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**ABSTRACT:** The central government , state government , local authorities , grass-root people , civil society Non-government organization and individual citizens all need to work together under one platform to reduce the carbon emission from the atmosphere from urban to rural population and rich to poor people , we need to move towards a carbon neutral society by promoting circular economy in every sector , minimize the burning of fossil fuel , promote organic farming , complete ban on the use of plastic encourage the use of jute bags or clothes bag , amplify the production of renewable energy and Electric vehicles , construction of green houses and passive houses for reducing pollution , we need to bridge nature and technology in order to grow and promote a sustainable lifestyle , making the planet healthy for the future generation , sustainable development goals is a way to reduce carbon emission , we need to make the energy clean and tackle climate change which can result in food and water crisis for the world .India under pressure has to work on reducing its carbon emission , it is home to many unfastened resources and a land which has made opportunities for a green economy and sustainable development .

**KEYWORDS :** Carbon emission , fossil fuels , organic farming , green economy , pollution , plastic , renewable energy , climate change , electric vehicles

## I. INTRODUCTION

We hearing every day words like carbon neutral , carbon footprint ,zero emission ,what do they indicate and why it is necessary to reduce the carbon emission . Climate change is not less than a catastrophe in this world , it all started with the Industrial revolution , the excess use of coal , petroleum in the construction purpose , manufacturing industries , for transportation purpose , running of trains and airplanes who require excess amount of crude oil burning of fossil fuels , agriculture also produces methane which also adds to emission. The earth is warmer 1.1 degree Celsius . The last decade has been the hottest year , this is the consequences of excess emission of green house gases into the atmosphere which has ultimately resulted in climate change , it is global phenomena and today all countries are a victim of it , we see a rise in sea levels, melting of ice , rise in global warming , depletion of oceans we experience more hotter days and winters are extremely cold , prolonged dry seasons which has resulted in drought and famine in most parts of the world ,

Today food crisis and water scarcity has emerged as a global threat , it is estimated that by 2030 half of the population will have no access to drinking water , we are experiencing the effects of global climate change in this pandemic situation. For the third world countries tackling climate change is a very difficult thing where the population is humongous . Excess use of non renewable resources , burning of fossil fuels , metals , mining and logging in forest areas and resulting in deforestation , construction of dams have also contributed to environment hazards in many ways , a normal car emits 50% of the carbon much more than a train . There are so many two wheelers and four wheelers on the road , the lifestyle has changed , with rapid urbanization taking place , we have no pre-planned policies or development plan ,with every passing years we are cutting down tonnes of forest for construction work , building big projects , rise in population , we have overloaded the earth beyond its capacity and ruined the nature in all its ways , Industrialisation has resulted in lost in biodiversity , extinction of so many wildlife , birds, many had to leave their



home and migrant to other countries , the way we treat nature , it is treating us back , the world is polluted , people are dying because of air and water pollution , water has been vanishing from many countries and a time will come when we will be left with nothing and finally the UN has warned nations to reduce their carbon emission . They have been multiple conference at the International forum on Climate change , environment the Rio conference and finally we had the Paris Agreement of 2015 where nations have agreed to reduce their carbon emission to tackle climate change .

## II. RESEARCH METHODOLOGY

For the purpose of this exploration , I have used a amalgamation of two of the archetypical social sciences research tools application –as they are authentic and brilliant method to assemble statistics from multiple appellants in a methodical and convenient way . Question were asked to the common youth , public policy Analyst , organizations , NGOs , Business men , Industrialist , survey , interviews –consisting of several interrogation which were dispersed among representative of each contender group .

### Objective of the Research Paper

The main areas of exploration in this paper incorporates

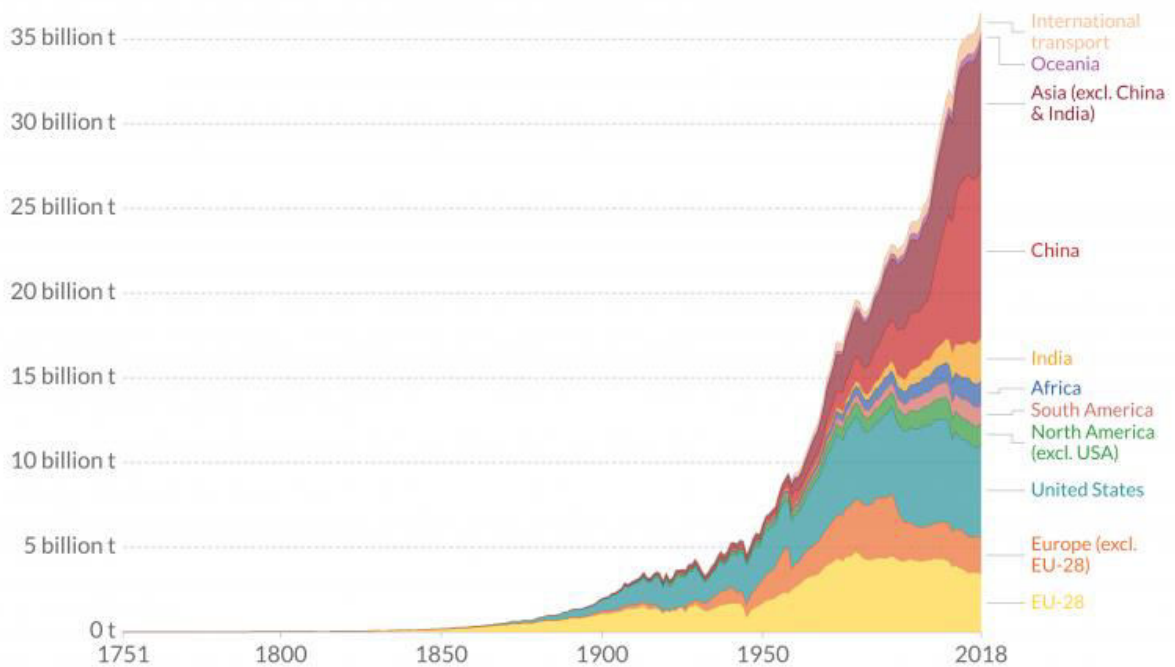
- 1.Undersand carbon neutral .
- 2.Reasons for reducing carbon emissions.
3. How are countries across the world working to reach its target on zero emissions.
- 4.What is India doing in this sector .
- 5.How can we reduce green house emissions.

## III. LITERATURE REVIEW

Today countries are moving towards a carbon neutral society , by 2050 many countries have set a target to reach to zero emission , countries are moving towards renewable source of energy , ban on the use of plastic bags , promoting eco-friendly transportation , we have electric cars , trains are being electrified , buses are running on solar power , we have also adopted circular economy , circular economy can play a significant role in minimizing the burden on our planet , with forming more and more repair items and creating long lasting products especially in the electronic market , with rise in COVID-19 situation the demand for electronic product has amplified and with that the rise of electronic waste , this electronic waste has contributed to the rise in climate change with most of the items get burnt , Further the circular economy can also recycle and help to reuse to product which will result in less production and reduce the emission of greenhouse gas into the atmosphere , European Union has been working since a long time on tackling climate change and has been successful , countries like Sweden which tops to list where e-waste is converted into gold , waste management and circular economy is complimentary to each other ,if a product is built with latest version and lasting modes of upgradation facilitates , we can in one way reduce the demand of e-waste and produce recycle materials . Today agriculture waste is being used in the textile Industry to reduce the emission of greenhouses gases for both the industries to adopt a sustainable development , using waste of fruits , vegetables and other agriculture waste to form natural fabric , tissue paper and paper which will also minimize the use of water and reduce deforestation . Adopting a carbon neutrality with enhancing the use of renewable energy for generating electricity and electric cars , Proper waste management system which includes proper waste management of food , water , e-waste , plastic , Textile , agricultural and Industrial waste to reduce carbon emission in the atmosphere , making earth healthier



### Annual total CO<sub>2</sub> emissions, by world region



Source: Carbon Dioxide Information Analysis Center (CDIAC); Global Carbon Project (GCP)  
 Note: 'Statistical differences' included in the GCP dataset is not included here.  
 OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

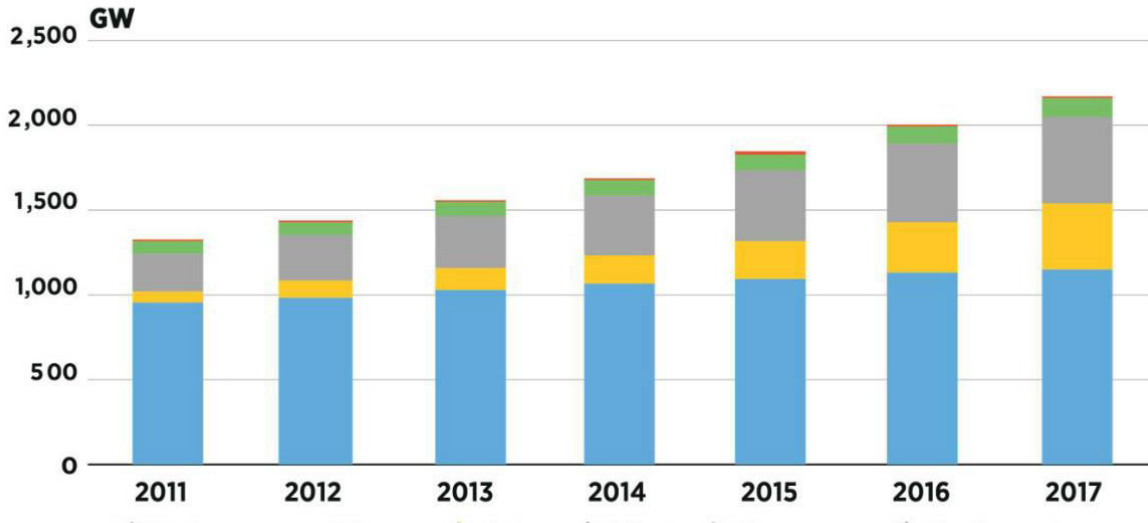
### III. FINDINGS

European Union , Japan , Republic of Korea and above 100 countries have set their target by 2050 to become zero emission countries and China till 2060 , European Union has adopted nature based solutions to eliminate carbon emission and reach to net zero emissions , Netherlands the country which has no roads , people feel bicycle , have minimum carbon emission form transportation , the Dutch government aims to cut 95% of its greenhouse emission by 2050.

Carbon neutral can be elucidated as maintaining a balance between emitting and absorbing carbon from the atmosphere in carbon sinks , with the aim to receive zero emission , we need to stop the production of greenhouse gases and what we have till now we need to reduce , this is done basically through carbon offsetting and reducing emissions , moving towards a low carbon economy . We are shifting to renewable source of energy by adopting solar , wind , geothermal and hydro source of energy , construction of passive houses by which we can generate electricity from home appliances and using sun as a heater . Countries are installing solar panels at the roof top to produce maximum energy , we are making green building , green economy and green bond are being provided for development , we have examples of green building in many parts of Sweden and Korea . We can see the construction of city lagoons to store water , the electricity in houses are being generated through solar and wind energy . In India renewable energy is being used to produce electricity for more than half of the population , the country produces maximum amount of solar energy in the world , the South and West part of India has invested a lot in the installation of solar panels and wind tribunals , the regions produces maximum energy , in the villages we have installed solar panels at the roof top of homes , the rural villages has been most affected by the use of renewable energy , as it has produced electricity to maximum villages ,which otherwise wouldn't have been possible , Organic farming is being adopted , agricultural livestock, cattle produces 40 % of the methane .

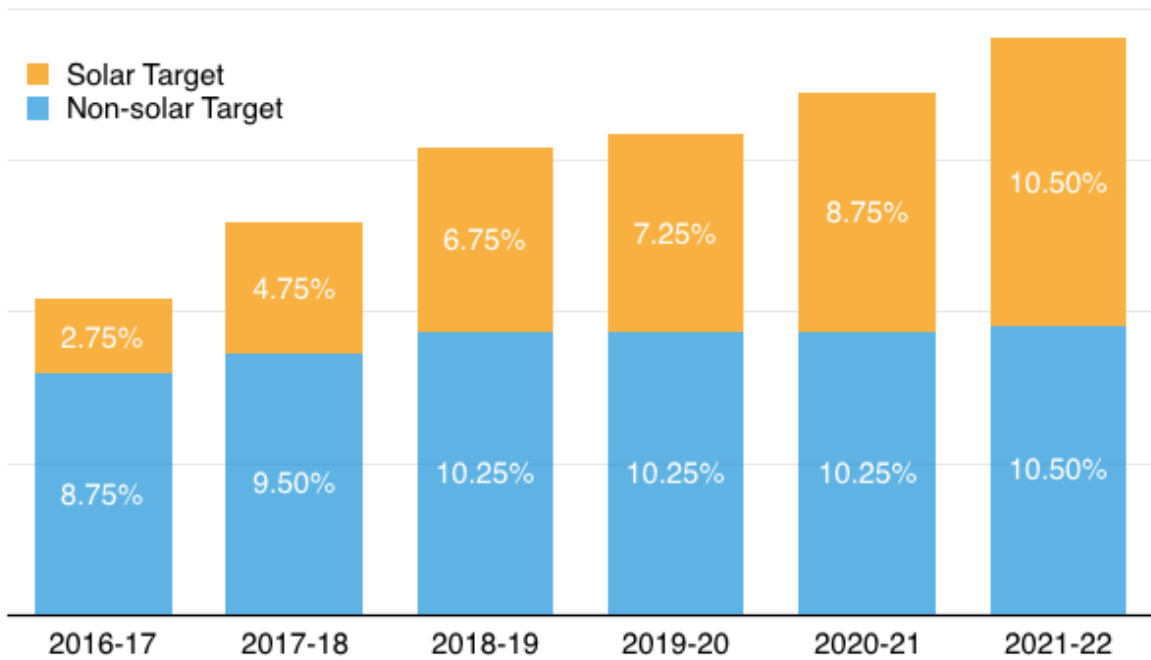


Total Renewable Power Generation Capacity, 2011-2017



India is going to become the first country who will have complete electrified railway system by 2030 , 34% of the railway trains have been electrified in the last three years, with the reduction in the cost of lithium ion batteries India will soon becoming a leading manufacturing zone for Electric vehicles , the country is also focusing on alternative like hydrogen fuel cell-driven , the government is working towards the escalating the production of zero emission vehicles , companies are working on low cost electric cars manufacture , Kolkata stands in the 3<sup>rd</sup> position when it comes to electric buses in the world ,

Target share of renewable energy in India's power consumption





All the buses in Delhi run on LPG , Delhi , Bangalore , Pune ,Mumbai , Kolkata have formed roads for e-bicycle , there are especially parking lots for e-bikes , the electric bicycle space is also witnessing growth , high tech bikes with smart phone integration ,luxury e-bikes , the hero-cycles are investing in the production of electric bicycles , India has 20 electric bikes and scooters manufacturing companies , the e-bicycle market will cross 38.6 billion dollar and Alpha Vector , which is an Indian start up is launching the e-bicycle in India costing a price 29,999 . this will aim to amplify the e-bike market in India , there is already pre- booking from Bangalore , Delhi , Mumbai , Chennai , Pune and Ahmedabad. .Every state in India have taken measures to minimize their carbon emission ,Both central and state government have collaborate to reach to zero emissions . India's Sikkim state is a very example and acts as a role model of the world , It is the first organic state in India and in the world also , which has eliminated carbon emission , promote organic farming and complete ban on plastic use , the North-East region of India has been working on organic farming , ban on plastic bags and may regions have their own water management policy . Bhutan is the only country in the whole that has negative carbon influence , it has been successful to minimize carbon emission and moved towards a zero emission country .

#### IV. WAY FORWARD

Day by day we see a rise climate change , countries need to reduce the burning of fossil fuel by 6 % per year which is escalating every year by 2 % , it has emerged as a threat to modern humans , every country has set their own targets to minimize the carbon emission , as we can see the outcomes of climate change are worst and soon a time will come when we have no access to food and water , particular for a country like India where the population is humongous , we need to promote the installation and production of renewable energy in all the states of India and not just a few one , use of plastic bags should be completely banned and we should promote cotton bags or jute bags , in fact paper bags are made using trees which is directly a product of deforestation , we should depend more on plant based foods and meat consumption , we need to move towards a circular economy with proper waste management system , recycle , reuse and reproduce should be initiated ,India is soon doing to becoming a hub of electric manufacture , we have increased the manufacturing of electric vehicles for both two and four wheelers , the way e- bicycle market is growing, it is expected that each and every corner of the society will have access to this electric bicycle which has smart technology features and people will prefer it making India Carbon Neutral and we should also make green building which has become common in Bangalore and tress homes so that we can reduce deforestation , we need to connect technology and nature and develop a sustainable life of every citizen .

#### V. CONCLUSION

Climate change needs to be controlled and minimised so that life is possible for the future generation in a peaceful atmosphere , a eco friendly environment , free of pollution and nature based environment , we need to save our planet reduce the global warming , reduce the carbon emission into the atmosphere , moving towards a circular economy . We have seen investment in renewable energy across the world , manufacture of electric cars , e-bikes and share cars . The world has adopted green economy as a source of weapon to reduce our dependence on fossil fuels , if Climate change is tackled and we harm the nature less , we can make the world pollution free with advance in technology followed by green building , green bonds , promotion of blue economy and modernization of agriculture with technology .

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