



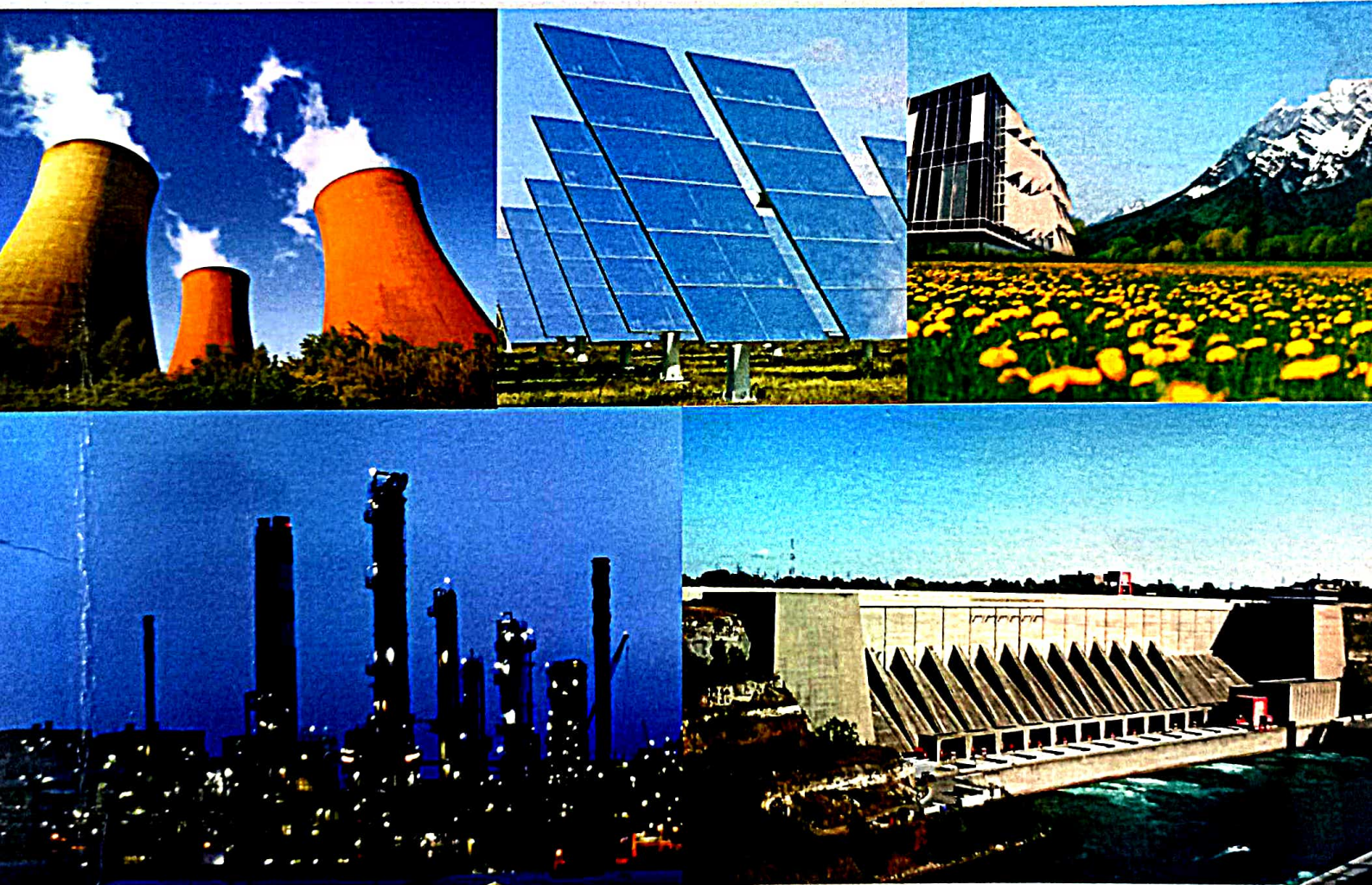
p-ISSN: 2394-1561

e-ISSN: 2394-157X

Journal of Energy Research and Environmental Technology (JERET)

Volume 6, Issue 3

July-September, 2019



Editor-in-Chief:

Govind Chandra Mishra, Ph.D.

Published By:

Krishi Sanskriti Publications

Website: <http://www.krishisanskriti.org/Publication.html>

Journal of Energy Research and Environmental Technology (JERET)

Print ISSN: 2394-1561

Online ISSN: 2394-157X

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E-47, Rajpur Khurd Extn., Post Office – I.G.N.O.U. (Maidangarhi)

New Delhi-110068, INDIA

Website: <http://www.krishisanskriti.org/Publication.html>

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Volume 6, Issue 3; July-September, 2019

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Carbon Emission and Carbon Footprint of Different Type Based Energy Consumption: Definition and Role in Tracking Human Pressure on the Planet

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Abstract—Carbon emission means release of carbon into the atmosphere. Greenhouse gas emissions are often calculated as carbon dioxide's equivalent. Carbon dioxide (CO_2) is a colourless, odourless and non-poisonous gas formed by combustion of carbon. Emission means release of greenhouse gases which causes global warming due to massive irreversible damage to the environment. Carbon dioxide and water vapour strongly absorb infra-red radiation and effectively block a large fraction of the earth's emitted radiation. The radiation absorbed by CO_2 and H_2O vapour is partly reemitted to the earth's surface. The net result is that the earth's surface gets heated up by a phenomenon called the greenhouse effect. The current global trends in deforestation along with increased combustion of fossil fuels have a cumulative effect on the net increase in carbon dioxide content. The gross carbon emission from biomass burning events and post burning decomposition fluxed in Amazon rain forest in recent time is a matter of concern. Carbon footprint, on the other hand, is the total emission caused by an individual event, organization, a product emitted carbon dioxide. It discusses how many earths be required if everyone on the planet consumed resources at the same level as the person till date, and the number is threatening. The carbon footprint is used for measuring carbon emission, and it is a very powerful tool to understand the impact of personal behaviour on global warming. This paper tends to focus how global warming effects the temperature of earth's atmosphere since century and why India's carbon dioxide emission have been growing as faster rate than in any other major energy consuming nation. It is observed that, in 2018 CO_2 emission in the country rose 4.8 % from the previous year as accorded by International Energy Agency, Paris. It is accorded that India's higher CO_2 emission have been spurred by fossil fuels which lead by coal for power generation and oil for transportation. Under the Paris Climate Agreement, India has set a target to reduce the emission intensity by 2030. The paper tries to find out possible solutions and measures to redress the carbon emission, so that a green and blue planet is handed down to next generation.

Introduction

In order to understand the issue of Carbon emission, it is important to understand the basic science behind the concern. Carbon dioxide is naturally present in the earth's atmosphere and is part of a natural circulation among the atmosphere. Carbon dioxide remains as part of a natural circulation among

the atmosphere, oceans, soils, plants and animals. Human activity interferes with its natural biological cycle because people extract fossil fuels with high concentration of carbon from fathom deep the earth's surface. They burn them for producing energy. During this combustion process, carbon mixes with oxygen and creates even more carbon dioxide. Carbon dioxide is the primary gas emitted from human activity. Everyday people start a car, flip on a switch or use anything associated with petroleum, coal, natural gas or electricity; and thus emit carbon dioxide in the air, and this is called carbon emission. On the other hand Carbon Footprint is the sum of all emissions of carbon dioxide which has been induced by a man in a given time frame. The total amount of greenhouse gasses produced to support human activities has been termed as carbon dioxide. In other words, when a person drive a car, the engine burns fuel which creates a certain amount of CO_2 , depending on its fuel consumption and the driving distance. When a person heats his house with oil, gas or coal, then he or she also would generate carbondioxide. Even he or she heat his or her house with electricity, the generation of electric power would also emit certain amount of carbon dioxide. Even when she or he would buy food and goods, the production of the food or goods would surely emit some quantities of carbondioxide. And Carbon Footprint is the sum of all emission of carbon dioxide around the year. Carbon footprint is a very powerful tool to understand the impact of personal behaviour on global warming. Often people become shocked when they come to know the amount of carbon dioxide which they produce. A person can calculate and monitor his or her personal carbon foot print with a view to resisting global warming.

Marc Lallanilla said in his essay "Green House Gases: Causes, Sources and Environmental Effects" that a greenhouse gas is any gaseous compound in the atmosphere that is capable of absorbing inferred radiation, thereby happening and holding heat in the atmosphere. By increasing the heat in the atmosphere greenhouse gases are responsible for the greenhouse effects which ultimately leads to global warming.