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# $CO_2$ EMISSIONS FROM VEHICLES: A REVIEW

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## ABSTRACT

Study the literature of $CO_2$ emissions from vehicles makes a significant contribution to the $CO_2$ emissions from vehicles. The increasing concerns climate change and environmental sustainability have directed significant attention towards the reduction of $CO_2$ emissions from vehicles. This study conducts a comprehensive literature review to analyze current research trends, methodologies, new research techniques and findings related to vehicle $CO_2$ emissions. It aims to identify the existing literature of $CO_2$ emission and gap identify to guide for future research efforts.

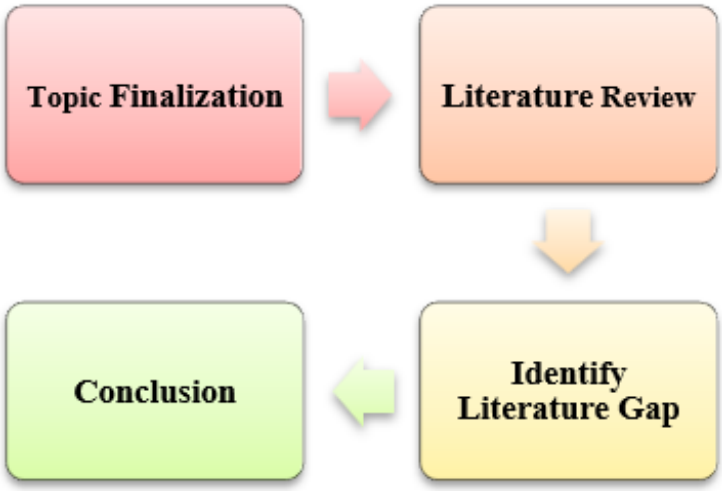
**Keywords:** $CO_2$ Emissions, Vehicles, Environmental impact, climate change

## 1. INTRODUCTION

The $CO_2$ emission is biggest issue for climate changes and atmospheric changes, climate disturbance, increasing greenhouse gas emission overall last four decades have burned rising concern about global warming. Automobile industries are main role to emit the $CO_2$ emission from cars, heavy trucks, autorickshaw etc. coming decade as the global population increases, income rise, and more people can afford cars and other transport services therefore, literature gap are fulfilled by government services or policy can implementation are curial role to reduced the $CO_2$ emission from vehicles.

## 2. METHODOLOGY

This methodology based on $CO_2$ emission from vehicle using literature of $CO_2$ emission from vehicles or automobile industries.




## 3. LITERATURE REVIEW

**Abdullah H. AI Nefaie (2022)** Conclude that, development of intelligence system prediction models on artificial intelligence for vehicle $C0_2$ emission. High level of $CO_2$ emission contributes to the develop of global problems, such as climate change and global warming. predicting $CO_2$ emission is very important for future values of $CO_2$ emission.

**Stephnie martinaz (2022)** Conclude that, the automobile industry as well as the emission gasses that are released from the manufacturing processes of a vehicle were used to review and data collect and information this project research. The emission gasses that are released among manufacturing process of automobiles, the type of model, and the specification fuels and different factors when it came to determine the effects of that it took on the environmental as well as the health hazards.

**Pen Zhang (2023)** Conclude that, problem of carbon emission for automobile industry are continuously increasing decade to decade carbon emissions. Study the policy implications are very important factor to reduced the $CO_2$ emission from automobile industries.

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**Chaira Lodi (2018)** Conclude that, different car models providing PV roof on top of the car and solar radiation received by PV roof and real-word of driving condition. Main focus of this study conventional combustion engine powered passenger car eco- innovation scheme identifies of real-world saving $CO_2$ by PV roof.

**Lucian Loan Dulau (2023)** Conclude that, continuously increasing $CO_2$ emission from conventional car engine compared to battery electric vehicles (BEVs). Hydrogen fuel cell vehicle less $CO_2$ emission compared to conventional engine, battery electric vehicles so adopting (HFCVs) hydrogen fuel vehicles technology to reduced $CO_2$ emission level in world.

**Zhenyu Li (2019)** Conclude that, rapid growth of $CO_2$ emission from passenger cars in China high uses frequency of passenger car. were use daily communities, tour, relative and friends visiting and shopping with long average driving travel high utilization this causes and increasing continuously $CO_2$ emission level.

**Julius Andersson (2017)** Conclude that, which is existing demand of cars and other transportation. Policy of carbon taxes are implication are very important this finding suggests policy evaluation of carbon taxes or adopting hydrogen fuel cell vehicles.

**William Todts (2018)** Conclude that, $CO_2$ emission again raising, why is progress so painfully slow. Government is unwilling to insatiable demand for mobility and car ownership. The car industry looks upon the CO2 emission regulation as something to be circumvented by all possible means.

**Leon S. Robertson (2019)** in 2000 to 2014 onward raising $CO_2$ emission continuously, we can find co relation of the temperature level and $CO_2$ emission. Potential effect of global warming on vehicle travel analyses of the relation of vehicle weight, fatality risk, vehicles scarping rate, fuel economy. Improvement in fuel economy and reduce emission of $CO_2$ base on required hybrid or electric technology adopting.

**Namita Sigh (2021)** India growing population level and also increase economy, passenger car, which would increasing transportation $CO_2$ emission therefore, suitable strategies are recommended to reduced the $CO_2$ level from automobile industries.

**Mr. S Sundar (2022)** Indian government adopting of electric autorickshaw will substantially reduce the $CO_2$ emission. The current policy support reducing $CO_2$ emission from conventional engine of autorickshaws. However, push demand of adopting electric auto and cars.

## 4. RESULTS AND DISCUSSION

In this Section results and discussion of the study is written. They may also be broken into subsets with short, revealing captions. This section should be typed in character size 10pt Times New Roman.

**Table 4.1** Study the literature

| Author Name | Year | Country | Reference No |
|---|---|---|---|
| Abdullah H. AI Nefaie | 2022 | Saudi Arabia | 1 |
| Stephnie martinaz | 2022 | United State of America | 9 |
| Pen Zhang | 2023 | China | 8 |
| Chaira Lodi | 2018 | Europe | 2 |
| Lucian Loan Dulau | 2023 | Romania | 5 |
| Zhenyu Li | 2019 | China | 11 |
| Julius Andersson | 2017 | England | 3 |
| William Todts | 2018 | Europe | 10 |
| Leon S. Robertson | 2019 | United State of America | 4 |
| Namita Sigh | 2021 | India | 7 |
| Mr. S Sundar | 2022 | India | 6 |

## 5. CONCLUSION

Study the literature of $CO_2$ emissions from vehicles makes a significant contribution to the $CO_2$ emissions from vehicles.

The increasing concerns climate change and Impact on climate. literature gap is fulfilled by government services or policy can implementation are curial role to reduce the $CO_2$ emission from vehicles.

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## 6. REFERENCES

[1] Abdullah H. Al-Nefaie 1 and Theyazn H. H. Aldhyani 2 "Predicting $CO_2$ Emissions from Traffic Vehicles for Sustainable and Smart Environment Using a Deep Learning Model", Sustainability 2023, 15, 7615.

[2] Chiara Lodi∗, Antti Seitsonen, Elena Paffumi, Michele De Gennaro, Thomas Huld, Stefano Malfettani "Reducing $CO_2$ emissions of conventional fuel cars by vehicle photovoltaic roofs", Transportation Research Part D 59 (2018) 313-324.

[3] Julius Andersson "Cars, carbon taxes and $CO_2$ emissions", (2017) Grantham Research Institute on Climate Change and the Environment Working Paper No. 212.

[4] LEON S. ROBERTSON "Motor Vehicle $CO_2$ Emissions in the United States: Potential Behavioral Feedback and Global Warming", weather, climate, and society, (2019) volume-11 page 623-628.

[5] Lucian-Ioan Dulău "$CO_2$ Emissions of Battery Electric Vehicles and Hydrogen Fuel Cell Vehicles", Clean Technol. 2023, 5, 696–712.

[6] Mr. S Sundar "Estimating vehicular emission from autorickshaws playing in Bengaluru city"2022 funded by the European union, publication is SOLE responsivity of TERI.

[7] Namita Singh, Trupti Mishra, Rangan Banerjee "Emissions inventory for road transport in India in 2020: Framework and post facto policy impact assessment", Environmental Science and Pollution Research on November 6th, 2021.

[8] Peng Zhang a, b, c, Hongjie Zhang a, b, c, Xin Sun a, b, c, *, Panwan Li d, Ming nan Zhao a, b, c, Shuji Xu a, b, c, Xianhui Jiao a, b, c, ZhiPeng Sun a, Tongzhu Zhang "Research on carbon emission standards of automobile industry in BRI participating countries", Cleaner and Responsible Consumption 8 (2023) 100106.

[9] Stephanie Martinez "Vehicles and Emissions", 2022 Electronic Theses, Projects, and Dissertations. 1502.

[10] William Todts "$CO_2$ EMISSIONS FROM CARS: the facts", (2018) Transport & Environment.

[11] Zhenyu Li "The evaluation methodology on carbon emissions of passenger cars based on travel characteristics", et al 2019 IOP Conf. Ser.: Earth Environ. Sci. 227 062001.