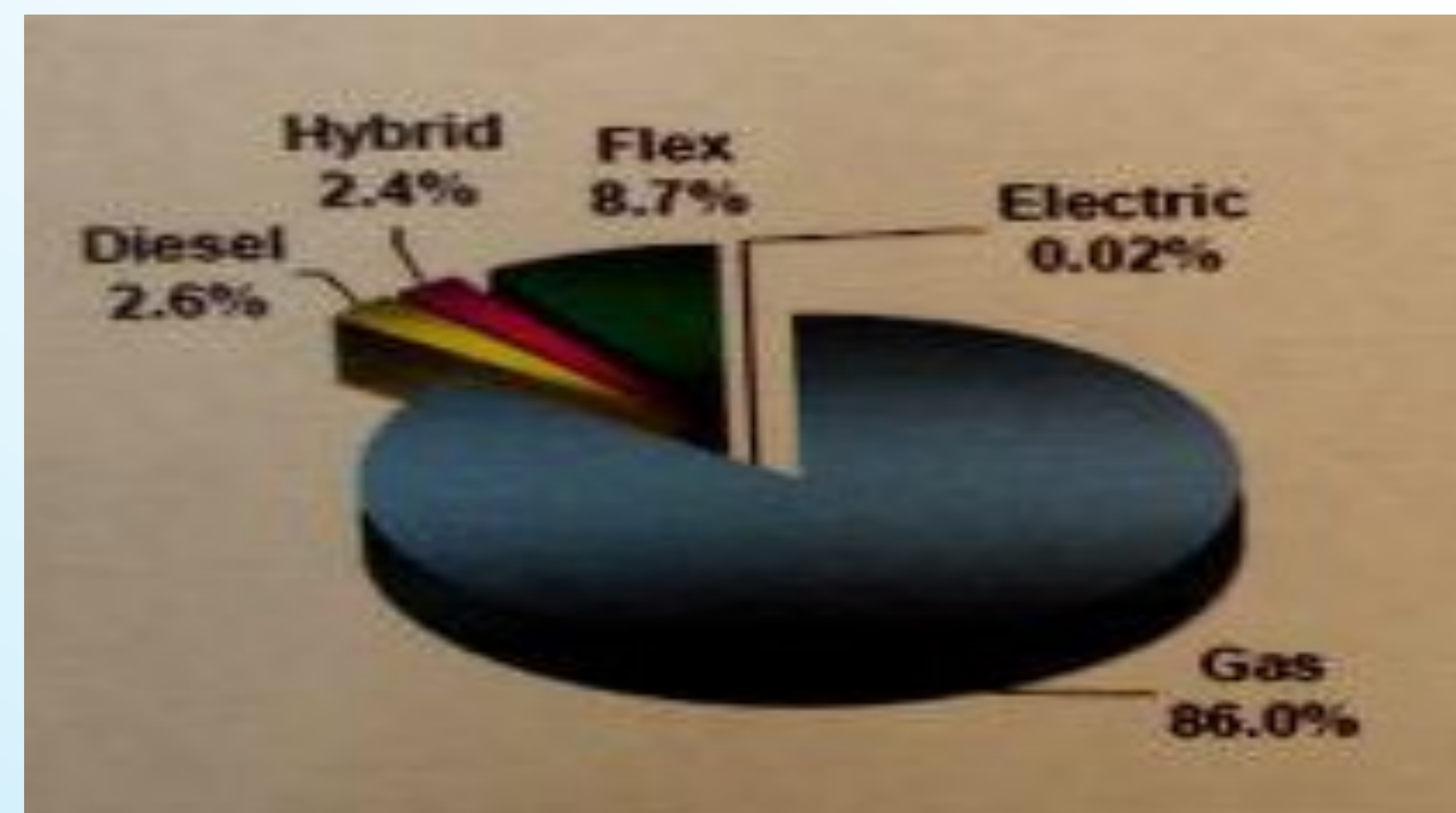


Production of Batteries for Hybrid Cars

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Situation

- Hybrid cars use electricity and gas to function
- We chose this topic as we plan on producing batteries that are cost-efficient. As things stand, consumers still generally prefer gas-powered vehicles
- The batteries that we plan on producing shall make the hybrid cars favorable for customers, and hence increase their sales



[1] Figure 1: Market share for each vehicle type in 2010

Problems

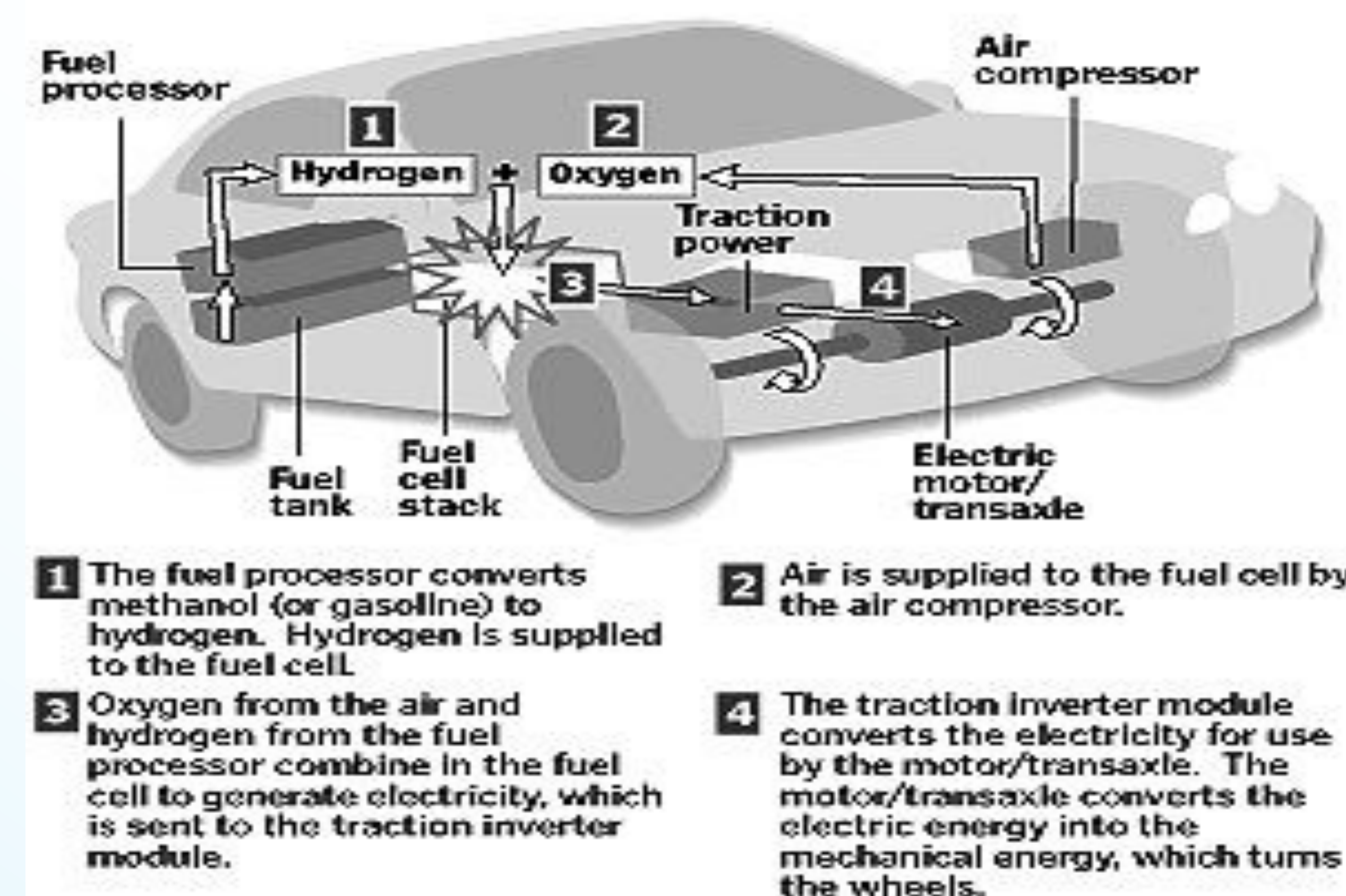
- Decide on which type of batteries, between Lithium ion and Nickel metal hydride, is more efficient for the production process
- Propose some methods to improve the performance and increase the efficiency of the hybrid car batteries
- Suggest the best plan to minimize the cost of the production process

Solutions

Lithium-ion battery

- It is the least toxic type
- Achieves improved fuel economy of 30%
- Boosts vehicle power by producing higher voltage
- Reduces the weight of the vehicle
- Has the highest energy density [2]
- Reduces the weight of the vehicle

Fuel Cell



[3] Figure 2: Process of transferring power from fuel cell

Make-to-Order

- Products shall not be produced unless specific orders are received [4]
- Products are produced in lesser volumes, allowing high room for specifications
- Since we are adopting the pull system, inventory is greatly minimized

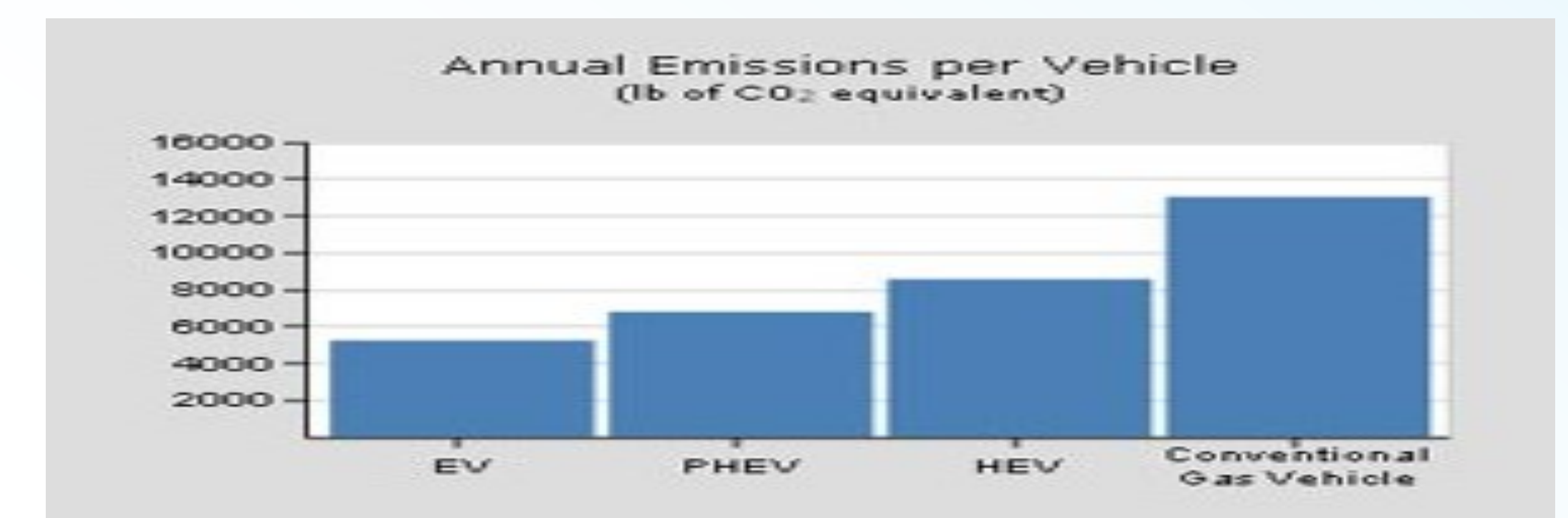
Evaluation

Disadvantages

- Implementing new production systems will be costly
- Solar Panels will be affected by dust

Advantages

- Increasing usage of hybrid vehicles will cause less Pollution
- High output and economically friendly batteries that will prove to be cost efficient
- Proper weight distribution and enhanced power transfer units that will lead to better performance



[5] Figure 3: Emission Statistics EV vs Gas Vehicles

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