

Electric Vehicles

and their impact on the environment

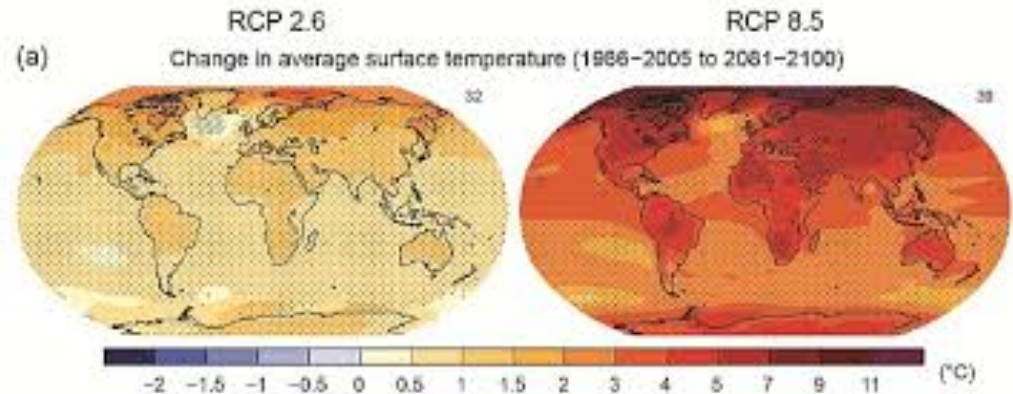
Sam Cesario

Road-Map

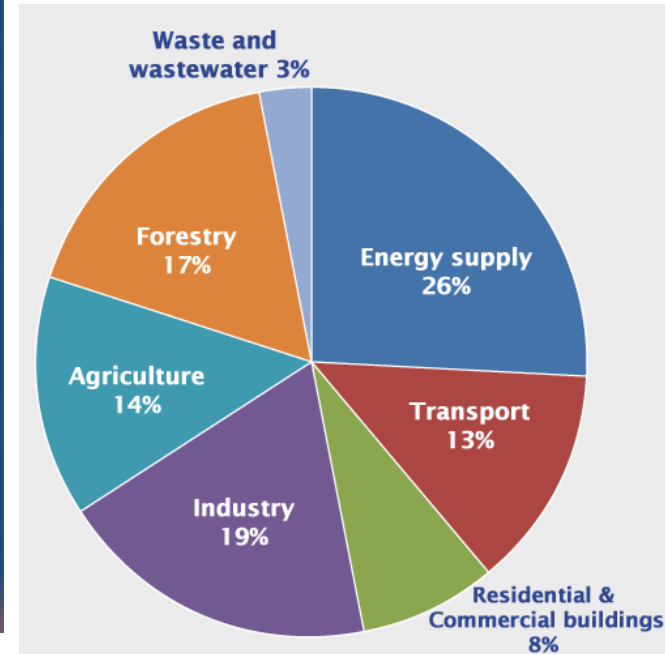
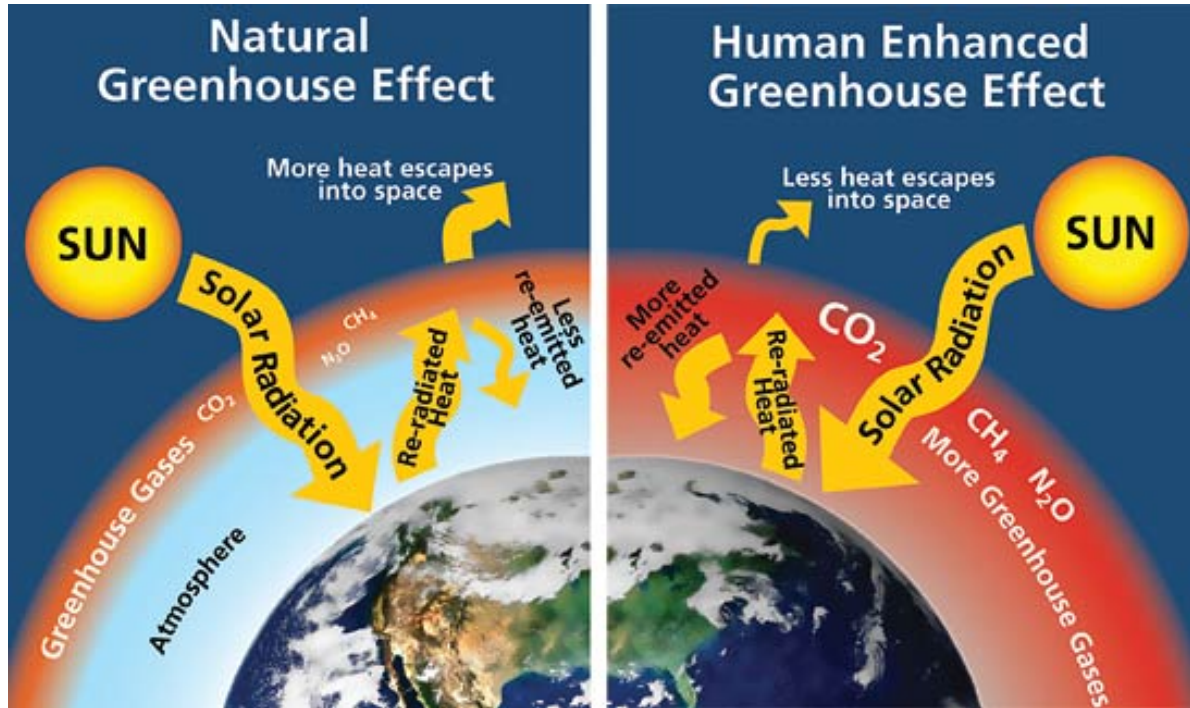
- What is the environment and why do we care?
- Current state of power consumption
- Case Study: Lafayette's electric vehicle

Environment

- Ecology
- Global Climate Change

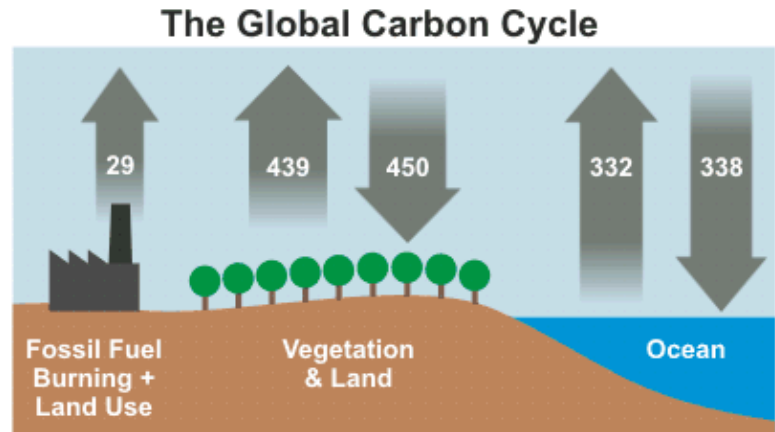


How does GCC happen



It's all about Electricity

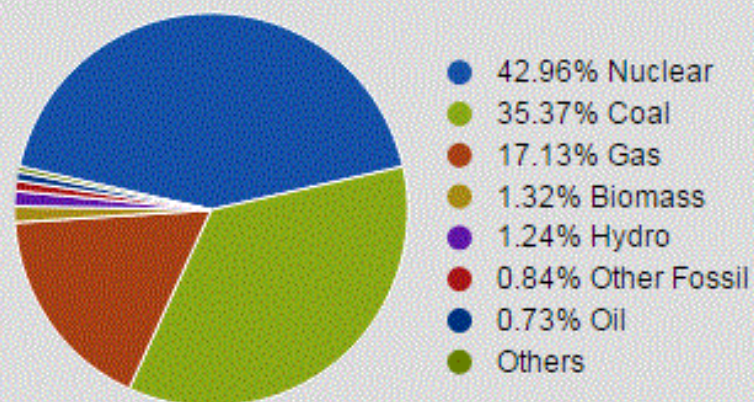
- Burning fossil fuels (Coal, Natural Gas, and Petroleum)
- Environment can only capture 40% of CO₂
- 38.2 million tons of CO₂ pumped into the atmosphere



Case Study Lafayette College

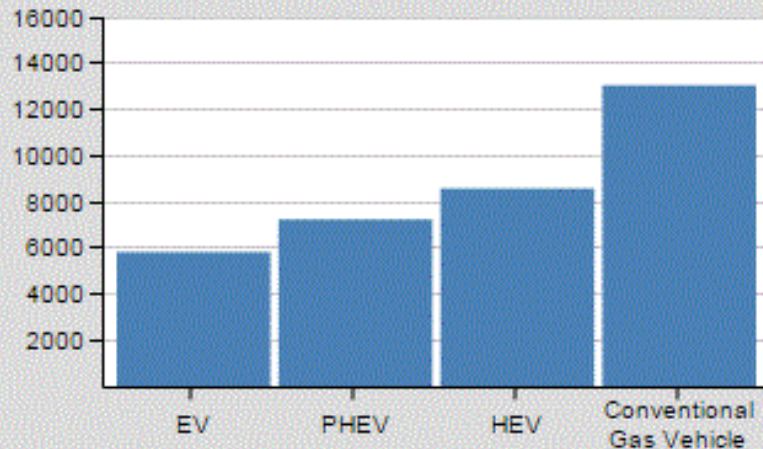
Pennsylvania - 18042

Electricity Sources



Annual Emissions per Vehicle

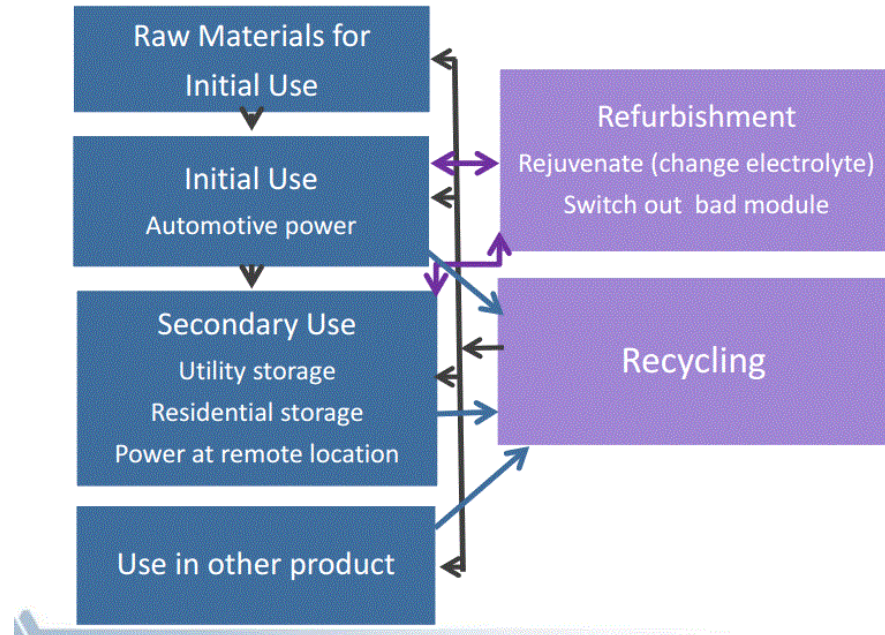
(lb of CO₂ equivalent)



Batteries

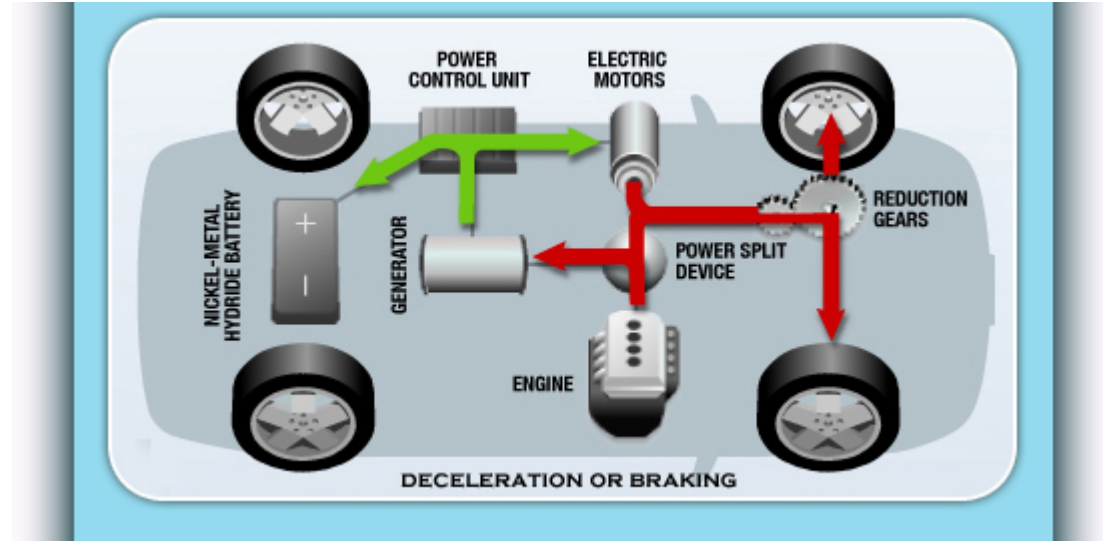
- Lithium-ion based
- Not economical to recycle
- Safe to handle

Battery materials could get used multiple times



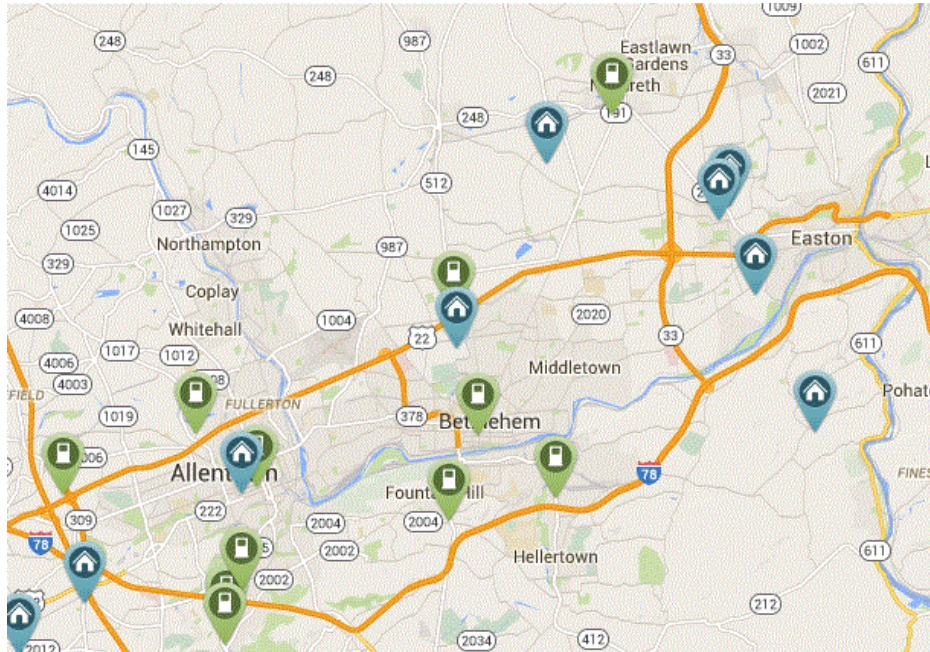
Regenerative Braking

- Supported in Curtis Motor Controller
- Saves around 8-25% of Energy



Future Teams

- Use Local Charging Stations



Local Charging Station

- SAE Plug J1772



Brown Daub Chevrolet

Ports

EV Plug (J1772)

Custom Ports

15A Voltec SPX (3.3kw)

Address

819 Nazareth Pike Nazareth, PA 18064

Phone

(484) 291-9206

Description

One SPX charger at north east corner of building. 3.3kW

Photos



Last Check In



EVSteve as of 6 months ago

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Conclusions

- Save on Carbon Emissions
- LFEV can employ advanced fueling and regenerative braking to increase the benefit of EV's
- Things not considered: Weight

Questions?