'Electric Vehicles and Net Zero Carbon Emissions'

An Owl & Ibis Presentation

By

Doug Nichols

Many thanks to Doug Nichols for his outstanding presentation at the October 30, 2021 Owl & Ibis - A Confluence. Doug called his talk "Will Electric Vehicles Serve a Major Role in Reaching Net Zero Carbon Emissions by 2050?"

Doug's comprehensive coverage of electric vehicles (EVs) focused mainly on passenger cars. Here is a link to his Apple Keynote slideshow. It takes a few minutes to open on a PC but it and the videos it contains will open and play.

During his talk Doug covered the following topics and much more. Most of the information contained in his narration is contained in his slides.

- Battery life, safety, recycling, and recharging at home and on the road.
- Ongoing battery research & development and information about component minerals and mining industry providers.
- EV cost by vehicle and manufacturer, and the steady downward trend in cost to consumers.
- EV operating and maintenance costs.
- Comparison of EV and ICE (internal combustion) emissions.
- Speed, acceleration, comfort, and towing capacity of EVs.
- Types of EVs: Battery EV (BEV); Hybrid EV (HEV); Plug-In Hybrid EV (PHEV); and Fuel Cell EV (FEV).
- Currently EVs have 5% of the new car sales market.
- EV - A Disruptive Technology:

1. Electric motors are fundamentally more efficient.

2. Even with a dirty coal power plant, an EV is cleaner than an ICE.

3. Electric motors have full torque at zero RPM.

4. EVs are far cheaper to maintain and fuel.

A link to Doug's presenter notes is here. In his notes Doug answers the question in his title....

Here are some links recommended by Doug:

Electric Vehicles

Best overall EV information summaries by model:

https://evadoption.com/ev-models/

List of EVs available in the U.S (Feb 2021).:

https://www.caranddriver.com/shopping-advice/g32463239/new-ev-models-us/

Hydrogen Powered Toyota Mirai:

https://www.toyota.com/mirai/

Terms BEV HEV PHEV FCEV:

https://openroadautogroup.com/blog/bev-phev-hev-fcev-key-differences-between-electric-car-options

EVs are not presently net zero — Forbes:

https://www.forbes.com/sites/jamesmorris/2021/10/23/electric-vehicles-are-not-zero-emissionsbut-they-are-much-greener-than-fossil-fuel-and-hydrogen/?sh=771ed439197d

Forbes overview:

https://www.forbes.com/sites/forbestechcouncil/2021/10/22/creating-the-sustainable-electric-vehicle-revolution/?sh=eadf76b4d7c9

Charging Apps:

Plugshare: https://www.plugshare.com

Chargeway: https://www.chargeway.net/easy-to-use/

EVgo: https://www.evgo.com

ChargeHub: https://chargehub.com/en/charging-stations-map.html

Chargepoint: https://www.chargepoint.com/drivers/mobile/

Open Charge: https://openchargemap.org/site

Blink: https://blinkcharging.com/drivers/ev-drivers/

SemaConnect: https://semaconnect.com/resources/station-locator/

Environmental Side

COP26:

https://ukcop26.org

President of COP 26, Alok Sharma, TED Talk:

https://www.youtube.com/watch?v=5FCPLlF6P4g

UNEP 2021 Emissions Gap Report Fact Sheet:

https://wedocs.unep.org/bitstream/handle/20.500.11822/37001/EGR21_HOEN.pdf

The role of equitable low carbon lifestyles:

https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34432/EGR20ch6.pdf?sequence=3

How the fossil fuel industry deliberately mislead on climate change:

https://www.climatechangecommunication.org/wp-content/uploads/2019/10/America_Misled.pdf

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Again, great presentation, Doug. My next car will be an EV!

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