The FAST Electricity Act

Fueling **A**merica's **S**ecurity and
Transportation with **Electricity Act**

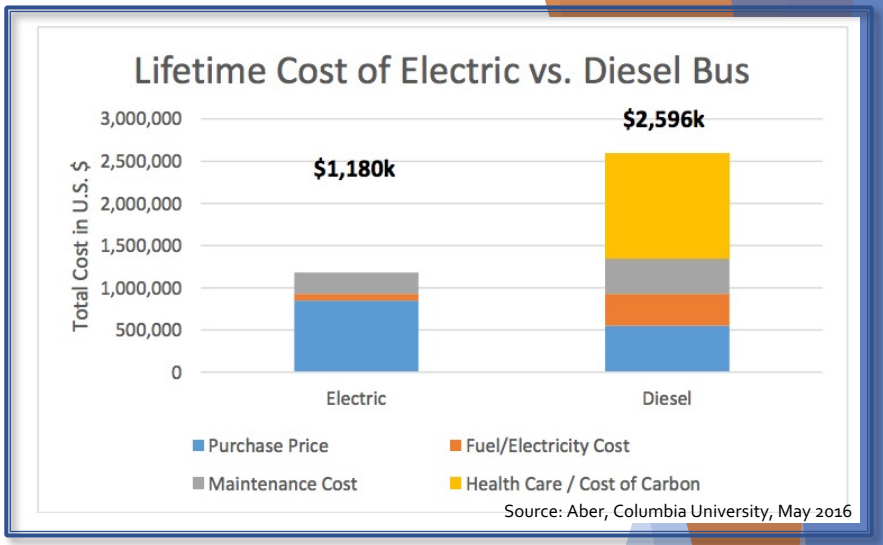
May 2021

U.S. Senator Maria Cantwell

Why Electrify Transportation?

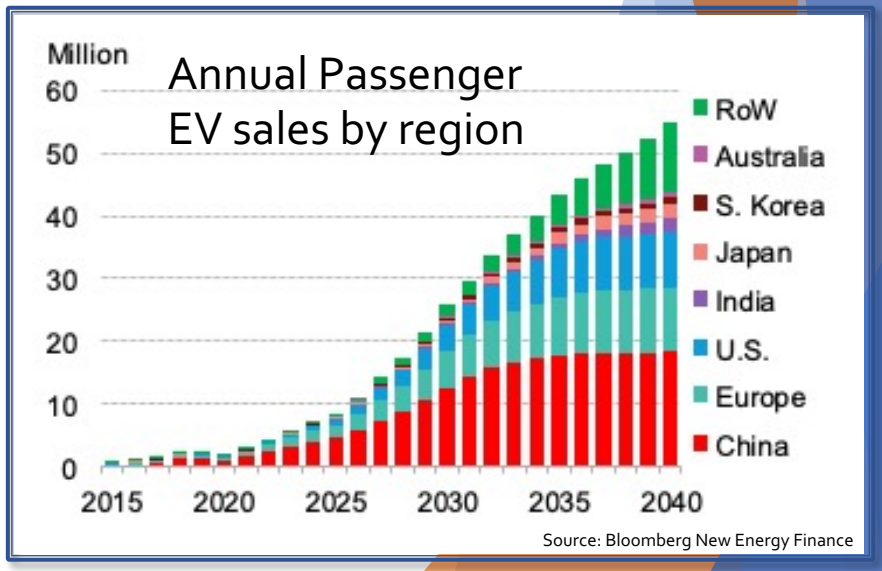
Save Money

- Fueling vehicles with electricity delivers significant lifetime savings
- Electric vehicles reduce societal costs associated with fossil fuel use
- Electrifying transit, cargo can provide outsized benefits relative to cars



Drive Economic Growth

- Transitioning to more electrified transportation would create billions of dollars of new export opportunities
- Electric vehicles increase productivity by outperforming internal combustion engines and creating safer work environments



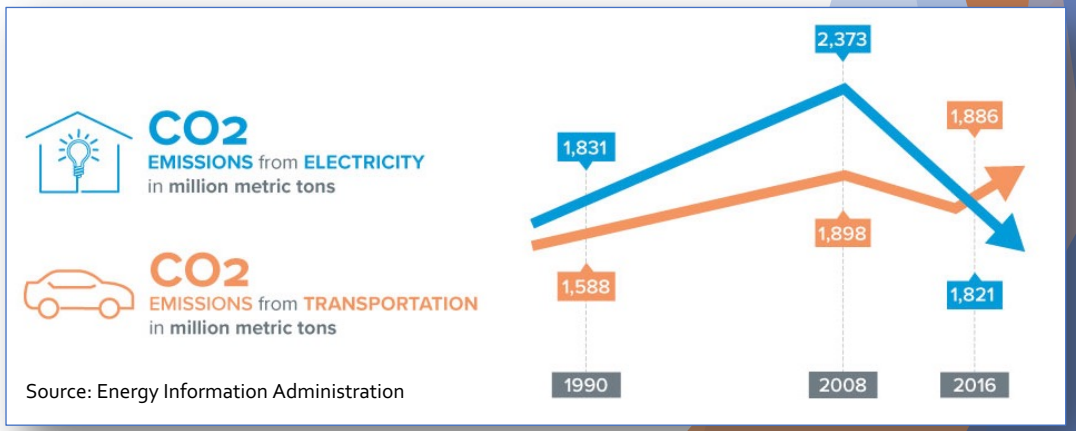
Why Electrify Transportation?

Utilize Domestic Energy Sources

- There is enough spare capacity in our nation's underutilized electricity grid to fuel U.S. transportation needs
- Electricity can come from diverse range of existing domestic sources including renewables, nuclear, or fossil fuels
- EVs can take advantage of stable electricity prices and periods of low demand, and help insulate U.S. from unstable world oil markets

Reduce Emissions

- Transportation sector became largest source of U.S. greenhouse gas emissions in 2016
- 1/3 of nation's electricity already comes from zero emission sources
- Electric vehicles reduce urban air and noise pollution



Goals of Legislation

- Accelerate electrification of U.S. transportation system
  (like 2008 Hatch-Cantwell bill did for electric passenger vehicles)
- Boost pioneering U.S. companies, creating new jobs and economic growth opportunities
- Enable municipalities to invest in new transportation options that improve mobility and saves local taxpayers
- Increase efficiency and resiliency of U.S. grid and improve economics of existing generating facilities
- Reduce societal costs associated with poor air quality, importing foreign oil, and climate change

U.S. Electric Transportation Pioneers

GreenBiz

The big truck makers are starting to take electric trucks seriously

Chicago Tribune

Column: Could electric planes be the next big thing in air travel?

The Seattle Times

Electric motor makes boating more quiet, cheaper, cleaner

Automotive World est. 1992

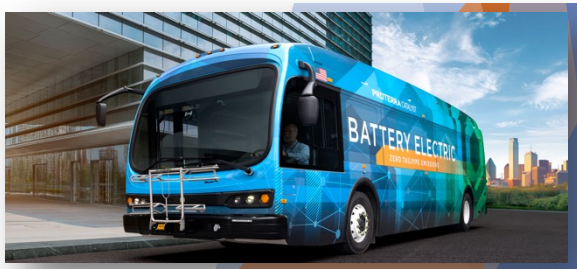
The case for fuel cell trucks grows stronger

FOX BUSINESS

Harley-Davidson to build new R&D facility for electric motorcycles

THE SACRAMENTO BEE

The next big move on climate change and health? Electric buses



Sources: Daimler, Harley-Davidson, Proterra, Pure Watercraft, Toyota, Zunum

Bill Framework

1) Provide a 30% federal tax credit for emerging electric transportation options beyond passenger cars

2) Provide a 30% federal tax credit for recharging and hydrogen refueling stations

3) Provide federal loan guarantees to support capital investments in associated domestic manufacturing capacity

Summary of Legislation

1) **Provide 30% Federal Tax Credit for Any New "Qualified Electric Transportation Option"**

- General consensus that a 30% federal cost-share is an appropriate level of subsidy (many examples in tax code)
- Incentive integrated into other highly successful energy tax credits, providing predictability and utilization of established rules, regulations, and financing structures
- No cap on subsidy level (like the solar ITC), allowing flexibility necessary to cover broad range of applications
- Credit can be used by both individuals and businesses. Mechanism available allowing nonprofits to utilize credit
- Bill provides market certainty with proactive and gradual phaseout schedule

Summary of Legislation

- **What is a Qualified Electric Transportation Option?**
  - A vehicle that can move passengers or cargo and is powered by an integrated, on-board electric propulsion system
    - Use cases could include electric trucks, delivery vans, planes, buses, boats, ferries, folklifts, and some higher performance motorcycles and neighborhood vehicles
    - Vehicles currently eligible for 30D do not qualify, except certain zero-emission Class 2 and 3 cargo vans
  - Tech neutral definition promotes innovation -- power for electric motors could come from batteries, fuel cells, ultra capacitors, etc.
  - Vehicle needs to be able to use electric propulsion at least 2/3 of time between recharging or refueling (so mild hybrids don't qualify), any power from on-board combustion must come from a renewable fuel
  - Credit linked to vehicle purchase price, not just electric drive components or premiums over conventional vehicles, to promote off cycle efficiency gains and ensure transparency and ease of audit
  - Vehicle must be mass produced and comply with all relevant safety and air quality standards

Summary of Legislation

2) Provide 30% Federal Tax Credit for Any New "Qualified Electric Vehicle Charging Property"

- Credit applies to investments that charge electric transportation options described above, as well as light-duty vehicles
- Credit covers entire investment in a charging station (but not the associated building or its structural components) and is uncapped to accommodate a range of technologies and use cases
- Credit also covers hydrogen refueling stations
- Mechanism available allowing nonprofits to utilize credit
- Bill provides market certainty with proactive and gradual phaseout schedule

Summary of Legislation

How Does the Phase-out Work?

- Credit term thru 2027, combined with gradual phaseout, provides long term certainty necessary for private sector to develop business plans and make investments in R&D and manufacturing capacity
- Phase-out identical for personal and business credits and for both electric transportation options and refueling properties
- Market analysts predict onroad EV prices will reach parity with internal combustion engines in about 5 years (once battery costs fall below ~$100/kWh)
- Including phaseout advances argument that tax credits are an appropriate mechanism to spur innovation and facilitate new market entrants, but once established new technologies should compete against incumbent applications without further subsidization

Credit Level	Date
30%	2022 - 2027
25%	2028
20%	2029
15%	2030
10%	2031
5%	2032
Terminates	After 2032

Summary of Legislation

3) Catalyze Investment in Domestic Manufacturing Capacity

- Loan guarantees have proven a cost-effective and low-risk way to leverage public funds to boost innovative new technologies
- The Energy Department's loan guarantee program has facilitated tens of billions of private capital into American manufacturing capacity and created tens of thousands of jobs
- Measure expands the eligibility of the Advanced Technology Vehicles Manufacturing (ATVM) loan program to include these new electric transportation options and the corresponding component supply chain, including critical minerals
- Expansion covers proposals to reequip, expand, or establish U.S. manufacturing facilities thru 2030
- The ATVM program currently has $17.7 billion in remaining lending authority