Economic Development Opportunities for Minnesota from the Transportation Electrification Sector

December 3, 2020
1:00am - 2:30pm CT

Drive Electric MINNESOTA

Plug In America

Xcel Energy

SUSTAINABLE GROWTH COALITION

Technology Reminders:

- This is a zoom meeting, with different functions than a zoom webinar.
- Please type any questions into the chat - questions are welcome!
- All attendees will be muted and have their videos turned off until the breakout session.
- The presentations and recordings will be available on the Plug In America and Drive Electric MN websites.

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Minnesotans Going Electric

A Free Six-Part Webinar Series

December 1-4, 2020

1. **The Role of Cities and Counties in the Shift to Transportation Electrification**
   - December 1, 2020 11:00am - 12:30pm CT
2. **The 101 on Electric Vehicles in Minnesota**
   - December 1, 2020 1:00pm - 2:00pm CT
3. **Experience Electric Vehicles in a Virtual Test Drive**
   - December 1, 2020 2:15pm - 3:00pm CT
4. **How Minnesota Can Lead on Transportation Electrification in 2021**
   - December 3, 2020 10:00am - 12:00pm CT
5. **Economic Development Opportunities for MN from the Transportation Electrification Sector**
   - December 3, 2020 1:00 - 2:30pm CT
6. **Expanding Charging for MN Fleets, Workplaces, Multi-Unit Dwellings and Public Locations**
   - December 4, 2020 10:00am - 12:00pm CT

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December 1-4, 2020

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https://www.driveelectricmn.org/webinar-series-minnesotans-going-electric/

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MINNESOTA SUSTAINABLE GROWTH COALITION

Plug In America

- **<u>The voice of the EV consumer</u>** – in Minnesota and nationwide
- 501c3 nonprofit founded in 2008
- Our members represent the world's deepest pool of experienced EV drivers
- Two core areas:
  1. Policy and Advocacy
  2. Education and Outreach
     - PlugStar: dealers, consumers, utilities
     - National Drive Electric Week and Drive Electric Earth Day

Our Speakers:

Dean Taylor
Senior Policy Advisor
Plug In America

Dan Lipschultz
Former Commissioner
MPUC

Nikolas Soulopoulos
Bloomberg New Energy Finance

Commissioner Steve Grove
MN Dept of Employment and Economic Development

Bree Halverson
Program Manager
Blue Green Alliance

Drive Electric MINNESOTA

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Our Speakers:

David Ranallo
Director
Great River Energy

Jamez Staples
Founder,
Renewable Energy Partners

Aditya Ranade
Deputy Commissioner
MN Dept of Commerce

Amy Fredregill
Managing Director
Sustainable Growth Coalition

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Speaker Bios:

- **Dean Taylor** is a senior policy advisor for **Plug in America**. He has 30 years of transportation electrification (TE) experience with a focus on regulatory and legislative affairs, external engagement, business planning, strategy development and utility program design (mostly for Southern California Edison and for his own consulting practice since March 2019). He has chaired many regulatory and TE coalitions (e.g., over 14 years with California's Low Carbon Fuel Standard, the 2008 federal EV tax credit coalition), and designed and project managed dozens of technical, environmental and business planning TE studies.
- **Dan Lipschultz** is an attorney and founder of **Lipschultz Energy and Communications Consulting** LLC. Until last January, Mr. Lipschultz served for six years as a member and Vice Chair of the Minnesota Public Utilities Commission. Among other things, former Commissioner Lipschultz initiated, and served as lead commissioner for, a proceeding to investigate the interplay between electric vehicles and the electric utility sector. That proceeding culminated in a Commission Order finding that transportation electrification was in the public interest and directing Minnesota's regulated electric utilities to submit EV plans and pilots to facilitate and optimize the ratepayer benefits of EVs. Before serving on the Minnesota Commission, Dan Lipschultz practiced utility and telecommunications law for over 25 years as both a public and private sector attorney.
- **Nikolas Soulopoulos** is a member of **BNEF's Advanced Transport** team, where he produces research on passenger and commercial road transport. He focuses on automotive policies, manufacturing economics, demand forecasting and corporate strategies. He is part of the team producing BNEF's long-term road transport outlook. Before BNEF, he worked as a researcher at Imperial College London.

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Speaker Bios:

- **Commissioner Steve Grove** of the Minnesota **Dept of Employment and Economic Development** is focused on growing the state's workforce, closing the opportunity gap and providing businesses with the help they need to grow, stay and thrive. He was previously an executive at Google for 12 years, most recently serving as the founding director of Google's News Lab, a global division of the company that partners with media companies and startups to drive innovation in the news industry.
- **Bree Halverson** is the Minnesota Regional Program Manager for **BlueGreen Alliance**. Bree started her career at the St. Paul Regional Labor Federation where she worked for 10 years. As the Political Director at the St. Paul Regional Labor Federation, Bree advocated for people at work by working on political and community policy campaigns. Right before joining BlueGreen Alliance, Bree was the State Director for Working America in MN for four years. At Working America she focused on policy that helped raise workplace standards, like raising Minnesota's minimum wage to $9.50 and pushing for fair scheduling standards for retail and service workers
- **David Ranallo** is the director of culture, communications, marketing & member services at **Great River Energy**. David currently leads the organization's electric vehicle market stimulation, beneficial electrification, and employee and public engagement efforts.

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Speaker Bios:

- **Jamez Staples,** a social entrepreneur is founder and owner of **Renewable Energy Partners** (REP). Staples is a fierce proponent of renewable resources and an advocate of the green economy with a focus on solar power, job training, energy efficiency and resiliency in Minnesota.
- **Aditya Ranade** is Deputy Commissioner of the Division of Energy Resources at the Minnesota **Department of Commerce**. He joined the Commerce Department in 2020 and oversees utility rates and planning, conservation improvement program, energy market transformation, emerging energy technologies, and energy equity programs.
- **Amy Fredregill** is the Managing Director of the **Sustainable Growth Coalition** which is part of the Environmental Initiative based in Minneapolis. The arc of her career has supported working collaboratively with business, industry and communities on environmental issues. She has 20+ years of business, nonprofit and state and federal government experience to advance the work of the Coalition by leveraging and amplifying each member's unique contribution.

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Agenda:

1:00	Overview	Dean Taylor	Plug In America
1:03	Welcome	Dan Lipschultz	Former MPUC Commissioner
1:06	Global Context	Nikolas Soulopoulos	Bloomberg NEF
1:14	State Perspective on EV Jobs	Steve Grove	Commissioner MN Dept of Employment and Economic Development
1:21	How Many Jobs from EVs?	Dean Taylor	Plug In America
1:28	Manufacturing Potential	Bree Halverson	Blue Green Alliance
1:35	EVs and Greater MN	David Ranallo	Great River Energy
1:49	EV Jobs/ Equity / Racial Justice	Jamez Staples	Renewable Energy Partners
1:56	State Perspective on EV jobs	Adi Ranade	Deputy Commissioner MN Dept of Commerce
1:56	Q&A	Amy Fredregill	Sustainable Growth Coalition
2:05	Breakout Session		
2:20	Recaps of Breakout Session	Amy Fredregill	Sustainable Growth Coalition
2:28	Closing	Dean Taylor	Plug In America

Dan Lipschultz

Former MPUC Commissioner

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Road transport electrification

Economic Development Opportunities for MN from Transportation – Electrification Sector

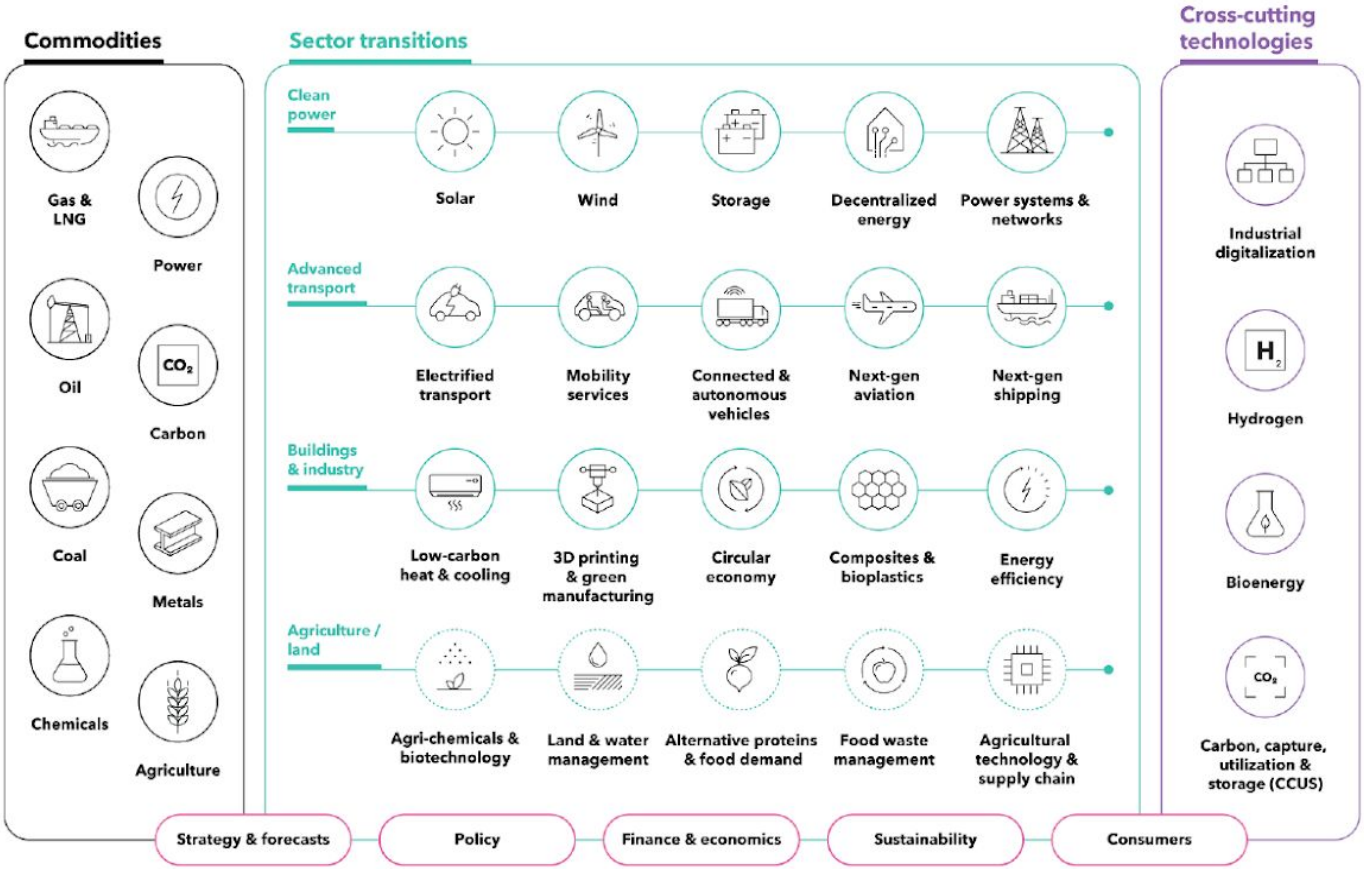
Nikolas Soulopoulos – BloombergNEF

December 03, 2020

BloombergNEF

BNEF coverage

Strategies for a cleaner, more competitive future

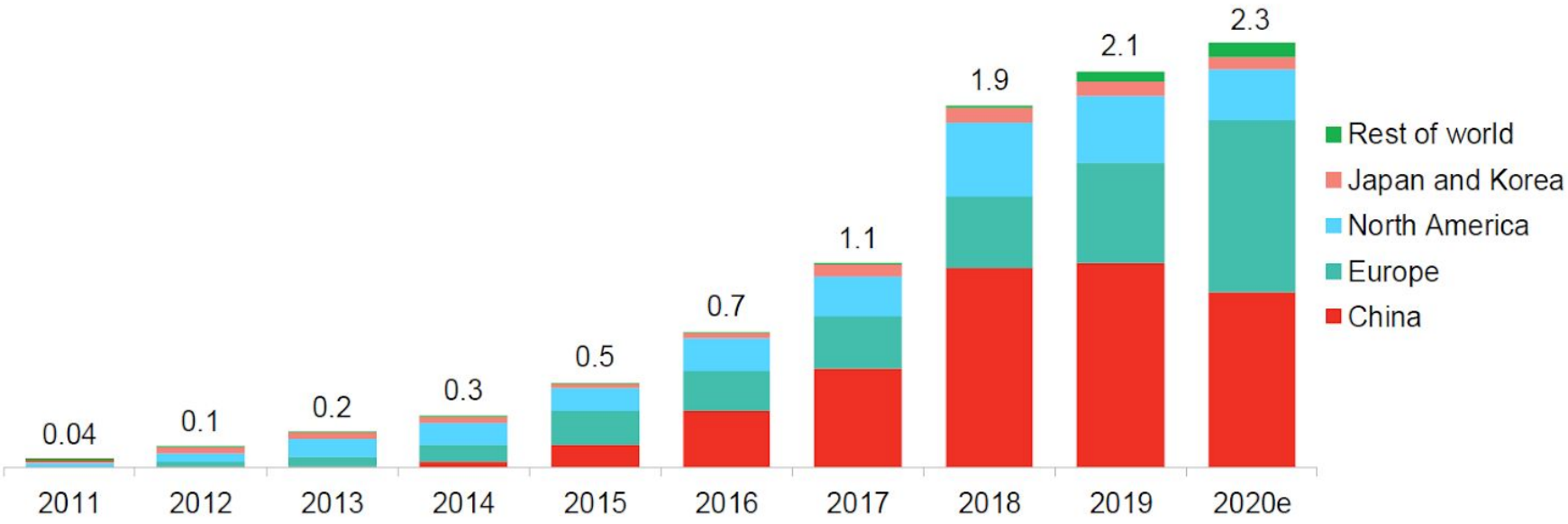


Source: BloombergNEF.

BloombergNEF

Electric vehicle sales

Passenger electric vehicle sales in millions



Source: BNEF. Includes BEVs and PHEVs

The largest driver is still policy, but is moving away from direct subsidies

China

Corporate Average Fuel Consumption (CAFC) and New Energy Vehicle (NEV) credit system

Europe

EU Parliament's CO2 emissions target

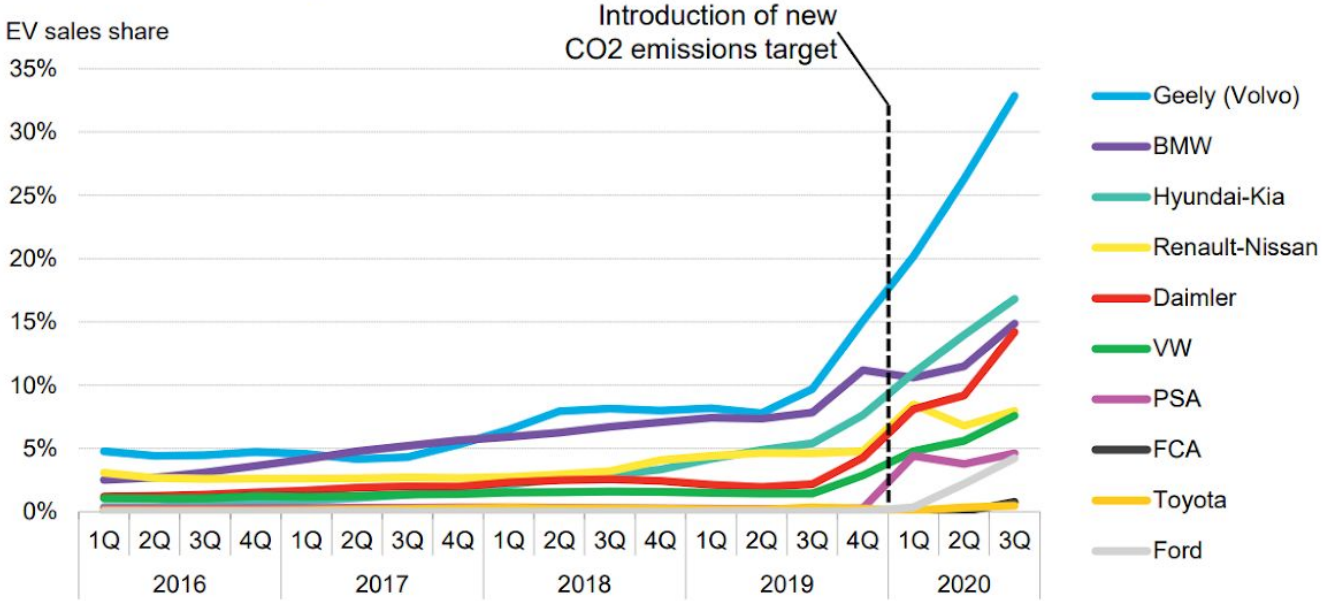
U.S.

Corporate Average Fuel Economy (CAFE) regulations

Source: BloombergNEF

The market responds to policy signals

EV share of European vehicle sales from selected automakers



Source: BloombergNEF, Bloomberg, MarkLines, national registration agencies, national automotive associations. Note: includes the EU28 and EFTA countries; Geely's sales are exclusively from Volvo Cars

The U.S. policy outlook should clear up

Current policies, Biden and California

- The "Safer Affordable Fuel-Efficient" fuel economy standard was issued on March 31, 2020
- In September-2019 California's Clean Air Act waiver was revoked (which lets it set its own vehicle standards)

- A new fuel economy standard, *more ambitious than the Obama-Biden one*
- A restored federal EV tax credit + $5 billion in R&D spending on batteries
- "Ensure the U.S. … reaches net-zero emissions no later than 2050"
- 500,000 new public EV charging outlets by the end of 2030

"California will keep working with those automakers committed to a framework that delivers cleaner vehicles that benefit consumers and the environment"

Source: Bloomberg News, BloombergNEF, campaign websites, news reports. Note: Policies subject to change.

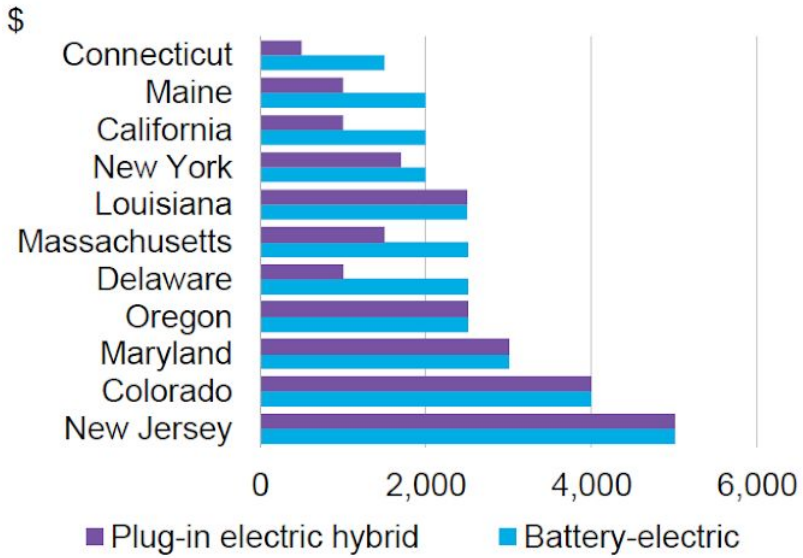
Subsidies are the most important policy driver in place right now

The federal tax credit is no longer available to Tesla or General Motors EV buyers

$7,500

Maximum federal tax credit when purchasing an electric vehicle

State-level subsidies are less generous

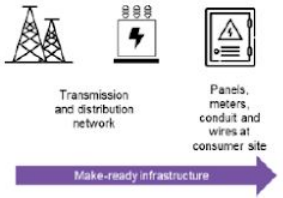


Source: BloombergNEF, Marklines, state governments.

Governments are supporting infrastructure roll-out through a range of methods

Subsidies, tenders and targets

Grid infrastructure investment and load management projects



Cross stakeholder roll-out groups

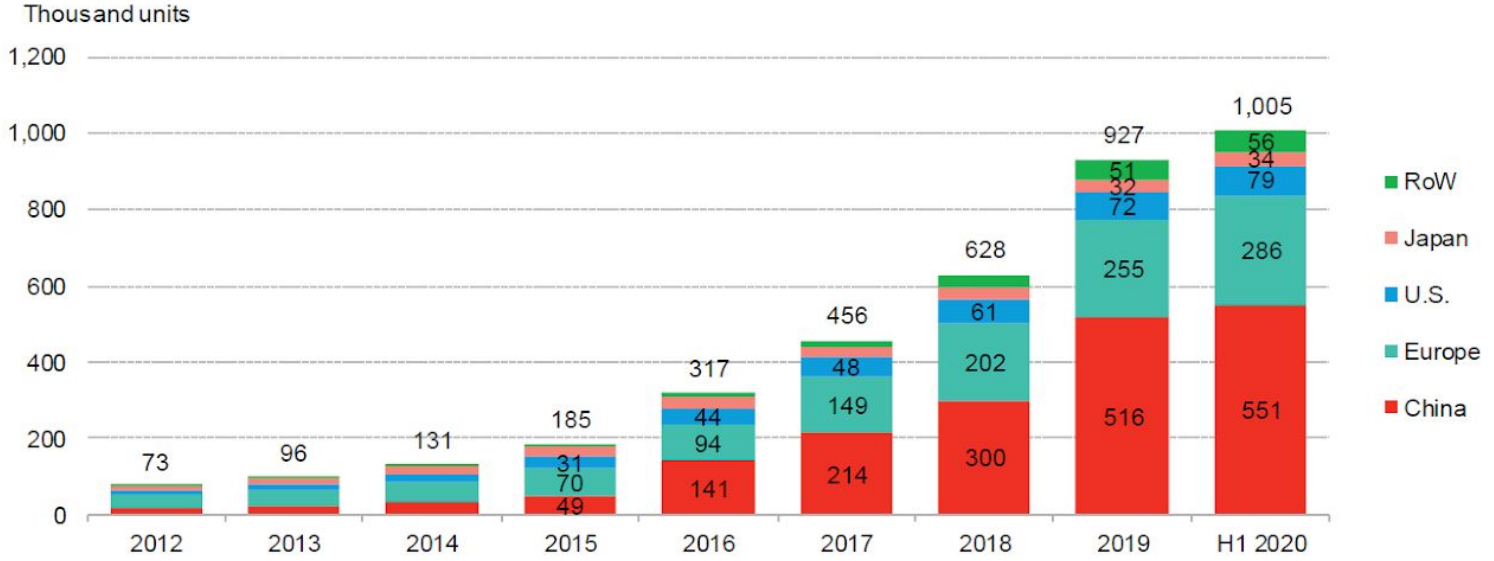
EV charging rate design

Legal measures such as mandates, rights to install and taxation relief

Source: BloombergNEF.

Public charging connectors surpass one million globally

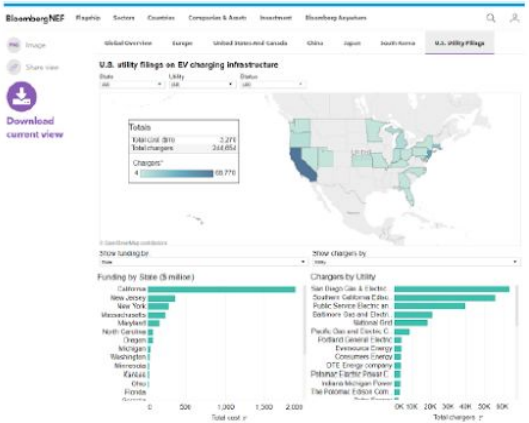
Cumulative global public charging connectors, H1 2020



Source: BloombergNEF, U.S. Alternative Fuels Data Center, China Electric Vehicle Charging Infrastructure Promotion Alliance, various government and company sources. Note: Includes Tesla destination and supercharger networks even though this is semi-private.

There are positive signs for the U.S. charging infrastructure market

$3.2 billion



$1 billion

$1 billion

NATSO
REPRESENTING AMERICA'S TRAVEL PLAZAS AND TRUCKSTOPS

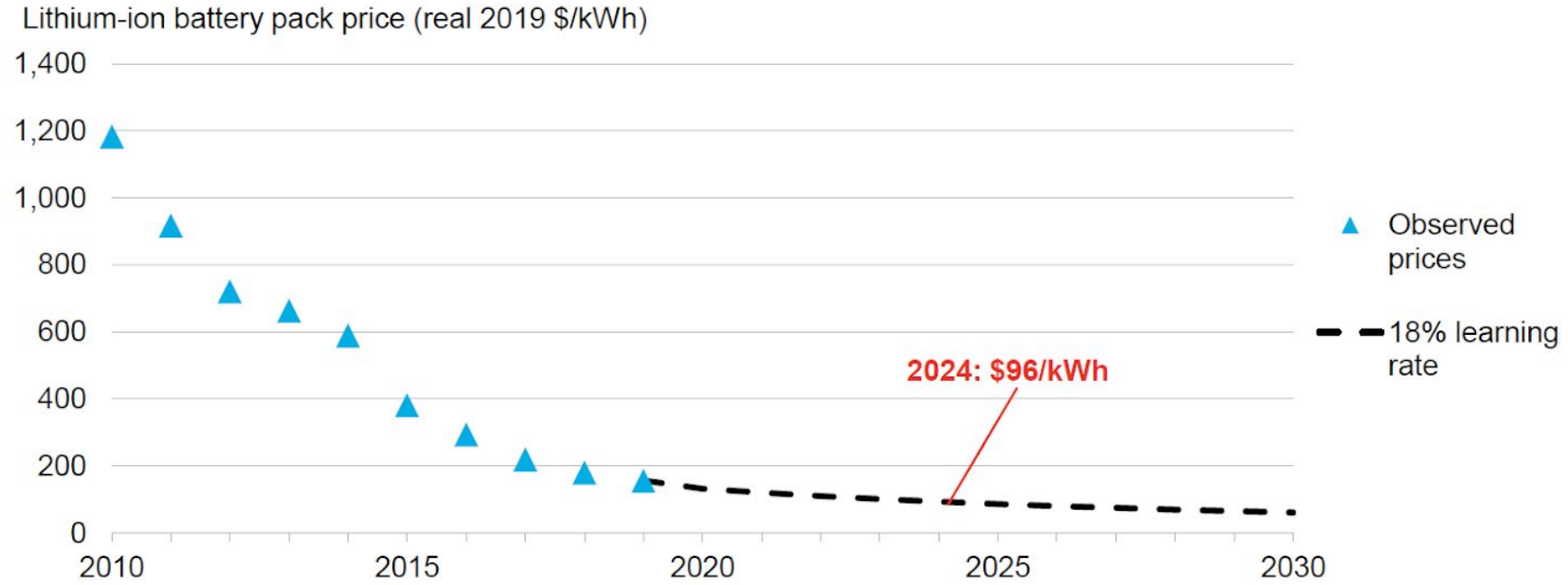
chargepoint

Source: BloombergNEF, U.S. utility filings, The House Committee on Transportation and Infrastructure, Chargepoint, National Association of Truck Stop Owners.

Battery prices will continue to fall

Getting to $100/kWh is easy, beyond that is trickier

Battery pack prices, historical and forecast

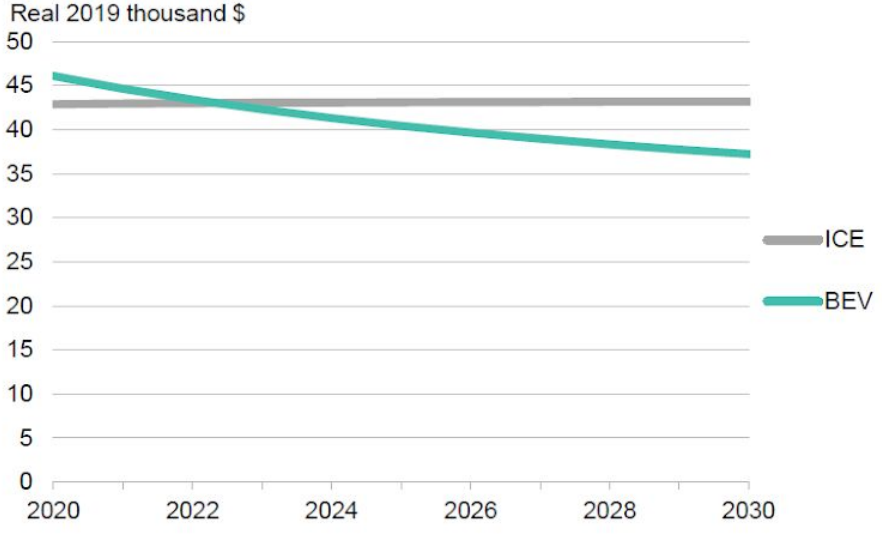


Source: BloombergNEF

BloombergNEF

Battery electric vehicle costs will also fall

Estimated U.S. pre-tax retail price for ICE and BEV SUV with the addition of home charger

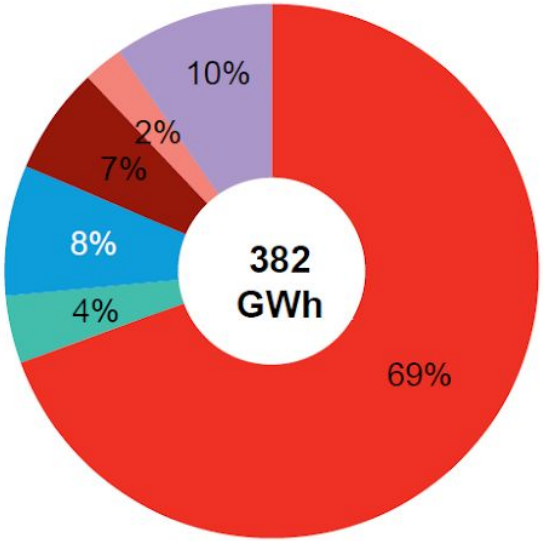


	Real world driving range	Approximate price parity year
Small	200 miles	2025
Medium	250 miles	2025
Large	300 miles	2023
SUV	300 miles	2023

Source: BloombergNEF

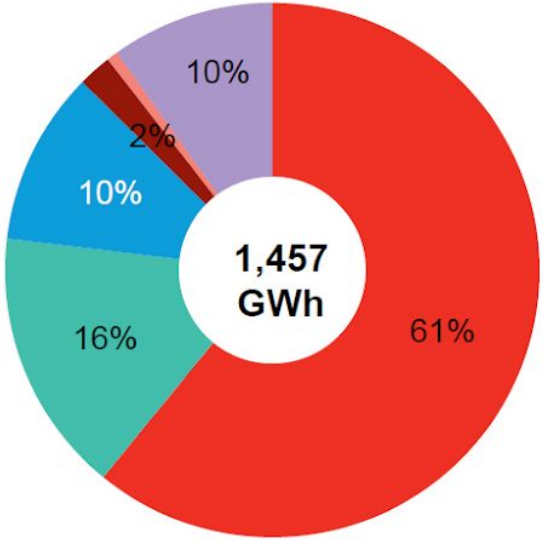
Total battery manufacturing capacity is growing

Commissioned manufacturing capacity, January 2020



Source: BloombergNEF

Pipeline + commissioned manufacturing capacity to be online by 2025



China Japan Korea, Republic of United States Europe Other

Source: BloombergNEF

BloombergNEF

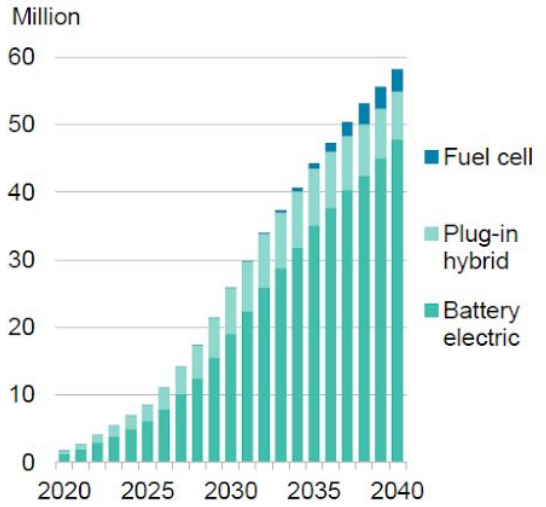
Several ‘killer apps’ for electrification are emerging for the 2020s

	Commercial vehicles	Buses	Two-wheelers
			
Current EV fleet share:	**<0.5%**	**16%**	**20%**
Tipping point:	**Next 2-3 years**	**Reached**	**Reached**

Source: BNEF

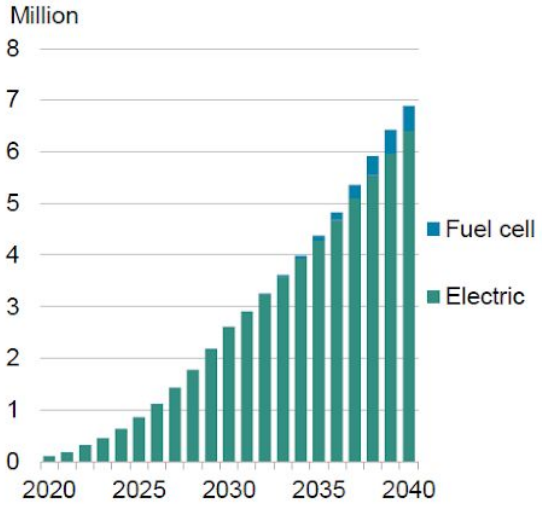
Road transport electrification will grow rapidly

Global passenger electric vehicle sales forecast



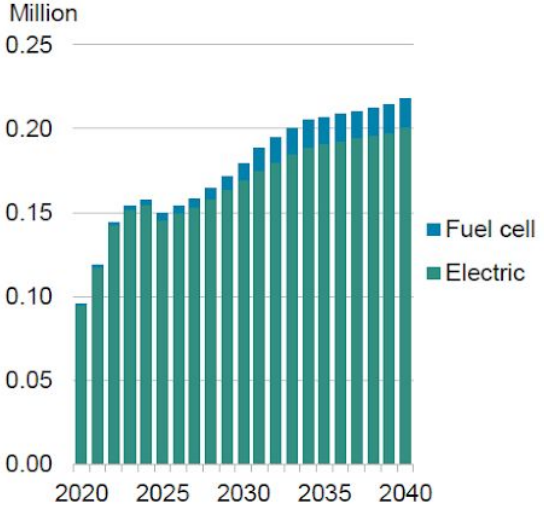
Source: BloombergNEF

Global commercial electric vehicle sales forecast



Source: BloombergNEF Note: includes Europe, the U.S., China, Japan, Korea and India

Global electric bus sales forecast



Source: BloombergNEF

BloombergNEF

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Coverage.

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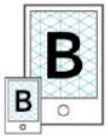

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Steve Grove

Commissioner of Employment & Economic Development, Minnesota

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WE DRIVE ELECTRIC. YOU CAN TOO.

How Transportation Electrification can help with Economic Recovery

December 3, 2020

Dean Taylor, Senior Policy Advisor

Plug In America

Literature Review

What Jobs and Economic Development Studies say about the transition to light and heavy duty EVs

Example studies

- **ICF Report** December 2019) on all types of e-trucks and e-buses examines macroeconomic and job impacts out to 2050 for California. The report examines the costs and benefits for many types of trucks and buses and also concludes aggressive adoption of electric trucks and buses is more feasible and less costly compared to meeting 2030 and 2050 requirements with other alternative fuels.
- **NREL's** (National Renewable Energy Lab's) National EV Economics Assessment (December 2016) on light-duty electric cars estimates public and private costs and benefits, jobs and macroeconomic impact nationwide in 2035 and in 9 US regions for seven adoption scenarios.

Example studies

- **Environmental Entrepreneur's (E2**'s) Clean Jobs America report (April 2020) is not a macroeconomic report but estimates current jobs nationally for light-, medium-, and heavy-duty EVs.
- The main finding of a study by the **European Association of Electrical Contractors (AIE)** into the employment impact of a move to e-vehicles is the shift to electric cars could create more than twice as many new jobs as the number that will be lost by the demise of the internal combustion engine. The main beneficiaries will be people working for small and medium-sized enterprises (SMEs).

Example studies

- **California Air Resources Board (CARB**) staff reports for five existing or proposed regulations (Advanced Clean Cars, Advanced Clean Trucks, Innovative Clean Transit, Airport Shuttle Bus, and Ships at Berth in 2019 and 2020) calculate the jobs and macroeconomic impacts, the cost-effectiveness of the regulations, the monetary value of health and environmental benefits, and the impact on a variety of businesses, communities, and governments.
- **Southern California Edison's (SCE's)** Pathway 2045 (2019) found, after examining many scenarios, the most economical way to decarbonize the California economy was for large-scale of light-, medium- and heavy-duty EVs combined with adoption of renewable energy, energy efficiency, building electrification, and low-carbon fuels for hard-to-electrify sectors. SCE concluded this pathway is a tremendous economic development opportunity while meeting California's requirements for reducing greenhouse gas emissions and air pollution at the lowest reasonable cost.

Example studies

- **Energy and Environmental Research Associates' (EERA's)** report (April 2018) on the national employment and macroeconomic impacts of electric forklifts, truck stop electrification; ships-at berth (electric shore power), and electric transit buses. The report also includes case studies in New York, Ohio, and Florida for low-, medium-, and high- adoption scenarios from 2015 to 2030.
- **Low Carbon Prosperity Institute's** Building Back Better: Investing in Resilient Recovery for Washington State (2020) found 10.7 jobs per $1M invested which is second best out of five categories (low carbon agriculture, sustainable industry, forest ecosystem restoration and water/power/energy efficiency)

Example studies

- BW Research Partnership May 2020 report for Advanced Energy Economy on the TE jobs potential in Pennsylvania concluded that more than 350 Pennsylvania firms could easily transition to serving the supply chain for EVs.
- UC Berkeley report for Next 10 (January 2020) examines in 2030 and 2050 the economic and jobs impact of light-duty EVs under several adoption scenarios for CA.
- **Sierra Club's** Millions of Good Jobs report (May 2020) found over 1 million jobs per year nationally (including 128,000 manufacturing jobs per year) possible with electric transportation. See details on page 16 from the Political Economy Research Institute at Univ of Mass.

Job Quality Study on EVs

- Center for American Progress's Sept 2020 report focuses designing federal policies that encourage both rapid vehicle electrification and the creation of high-quality, good-paying domestic jobs throughout the EV ecosystem. It provides a good overview of the trends and the challenges.
- With fewer parts and lower mechanical complexity in their propulsion systems, EVs will significantly erode employment in the production of engines, transmissions, exhaust, and conventional fuel systems.[60] For example, Ford estimates that **simplification in the assembly of EVs could lead to a 50 percent reduction in capital investments and a 30 percent reduction in labor hours** compared with ICE manufacturing.[61] As a result, the EV transition may result in fewer U.S manufacturing jobs as employment shifts from the production of ICEs to electric powertrains.
- However, **this decline could be significantly offset by growth in electric powertrains and advanced technology components that create new jobs in producing batteries, electric motors, electronics, thermal systems, braking systems, and semiconductors. ***
- A 2018 report found that aggressive action to attract and locate EV component suppliers to Ohio—a hub of engines and transmissions manufacturing—could support job and economic growth in the state, but a failure to act could result in the loss of roughly 7,000 jobs.[70]

*Components and materials that will continue to be manufactured for EVs must also be prioritized. For example, the steel, tire, flat glass, seating, and aluminum industries are all key auto suppliers that support hundreds of thousands of good jobs

Studies with Disadvantaged Communities' Benefits

- **UCLA's 2019** Employment Benefits from California Climate Investments and Co-Investments examined the job benefits from 29 programs funded 2013-2016 by California's Cap-and-Trade including seven TE related programs found that investments located in DACs support more jobs per million dollars invested than those located outside disadvantaged communities.
- **California Climate Initiative (CCI) 2020** Annual Report to the Legislature found the ratio of leveraged funds to state investment is typically between 0.6 and 1.8. (not counting high speed rail) and found substantial benefits to DACs and low-income households in each program.
- **Next 10's** 2020 study found that large-scale California vehicle electrification benefits disadvantaged communities regardless of which patterns of adoption are analyzed (e.g., the savings from this will expand service-intensive household demand, creating jobs across the economy that are more likely to benefit lower-wage, less-skilled workers.) Of the 1.8 million jobs created by 2050 in the innovation scenario, 36% are in DACs even though DACs are 25% of the population.

Other useful information

- Most of the studies use IMPLAN to estimate net jobs and net gross state product (GSP) - see appendix for detailed table example
- Other models used by EERE, CARB, E3 and SCE include E-DRAM, RESOLVE, PLEXOS, REMI, BEAR, and others
- See appendix for useful policy studies on increasing TE adoption, jobs, and economic growth

Conclusion

- **The transition to e-cars, e-trucks, e-buses, e-non-road equipment is a net producer of jobs and gross state product**
  - Shown by many different studies in different regions for different types of transportation electrification and using many different macroeconomic models (IMPLAN, REMI, E-DRAM)
  - More money stays in the local economy and many more quality jobs are created
  - Existing businesses can transition to this new industry
- **Concern: Narrow window to act**

Thank you!

Dean Taylor

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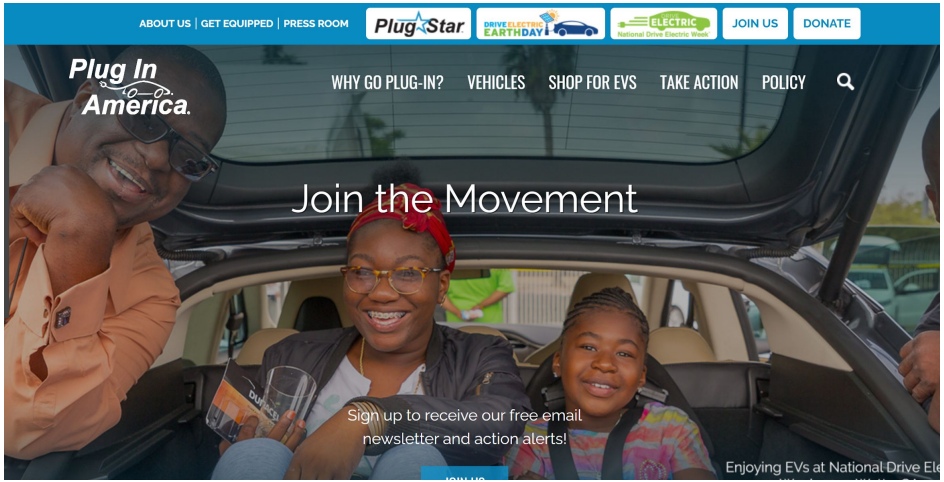
www.pluginamerica.org



Post Covid World: MN Manufacturing Potential

Bree Halverson
MN Program Manager

BlueGreen Alliance
December 3, 2020

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EDF ACTION
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aft

UTILITY WORKERS UNION OF AMERICA
AFL-CIO

NRDC

NATIONAL WILDLIFE FEDERATION
SINCE 1936

LCV
Our Earth Is Worth Fighting For

A pro-worker pro-climate agenda

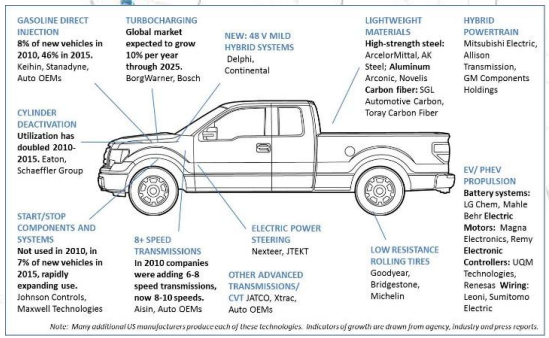
We don't have to choose between good jobs and clean environment, we can and must have both

"We can't rebuild prosperity if we fall behind the rest of the world in building the technologies of the future, or if working people don't see gains from innovation or a clean economy.."

Now more critical than ever

Industry is at a crossroads

- Have proven we can cut emissions, boost jobs
- Trajectory and shape of industry is at stake
- Harmful disruption is not inevitable



- Policy choices we make now matter

An interactive map of the advanced vehicle supply chain is available at:https://www.bgafoundation.org/

A Proactive Agenda

- Sound standards
- Rebuild manufacturing & supply chains
- Use public spending & deployment incentives wisely
- Ensure fairness and equity in the clean economy

Use all the tools in the toolbox

Do public investment right

- Invest in fleets & infrastructure
- Improve consumer incentives
- Ensure these tools support manufacturing, jobs, equity goals
- Fairer = Faster

…also fair trade, other rules

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Minnesota Example

- U.S. Employment Plan
- Metropolitan Council adoption of Standards
- New Flyer in St. Cloud and Crookston

Thank you !

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MN Cooperatives & Transportation Electrification in Greater MN

David Ranallo, Great River Energy

Great River Energy - Member Owners

Economic Development

Concern for Community

Cooperatives work for the sustainable development of their communities through policies approved by their members

Grow the business

Drive new energy sales through targeted economic development and marketing efforts

Community development

Retention & Expansion

Business Attraction

EV Strategy

- Quadruple win
- Focus areas
  - Awareness
  - Infrastructure and smart charging
  - Retail solutions
  - Commercial applications

Events

GROW THE BUSINESS

- Ride and Drives
- Electric Room
- EV ‘Show and Tells’
- MN State Fair

Infrastructure

Revolt

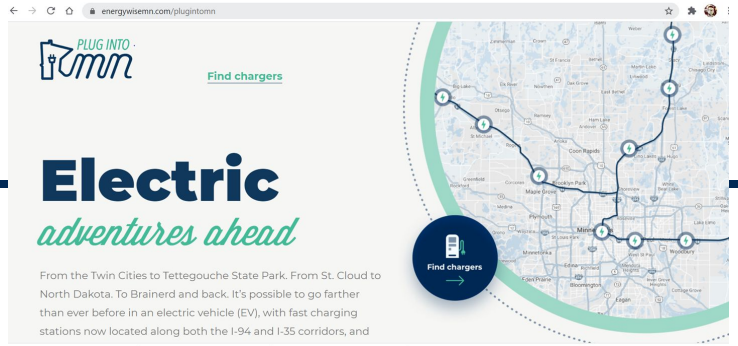
EVSE One-Stop-Shop promotion

BUY AN EV CHARGER AND YOU'LL SAVE UP TO $800

Energy Wise MN is taking the guesswork out of purchasing an EV charger. We've narrowed it down to our top three models, and we'll help you find the one that best fits your lifestyle. Plus, if you're one of the first 200 buyers, you can receive our limited-time offer of a discount up to $800.

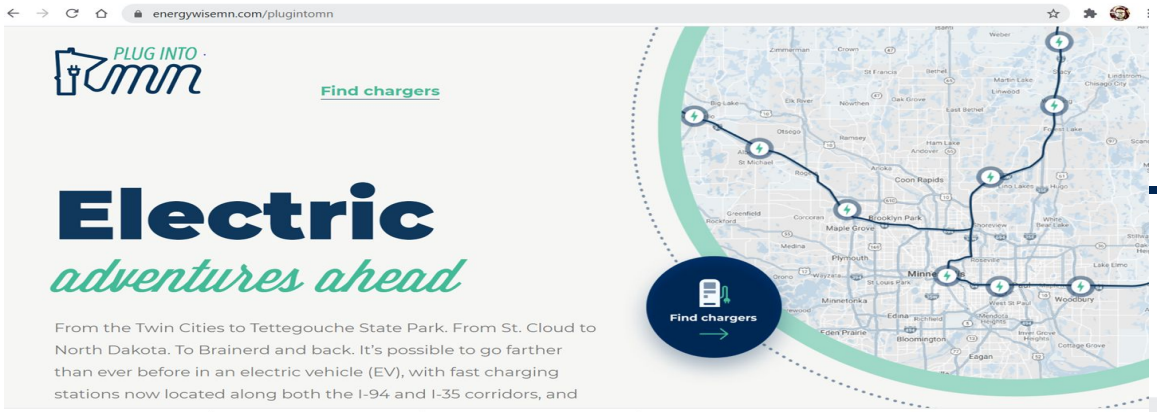
LEARN MORE

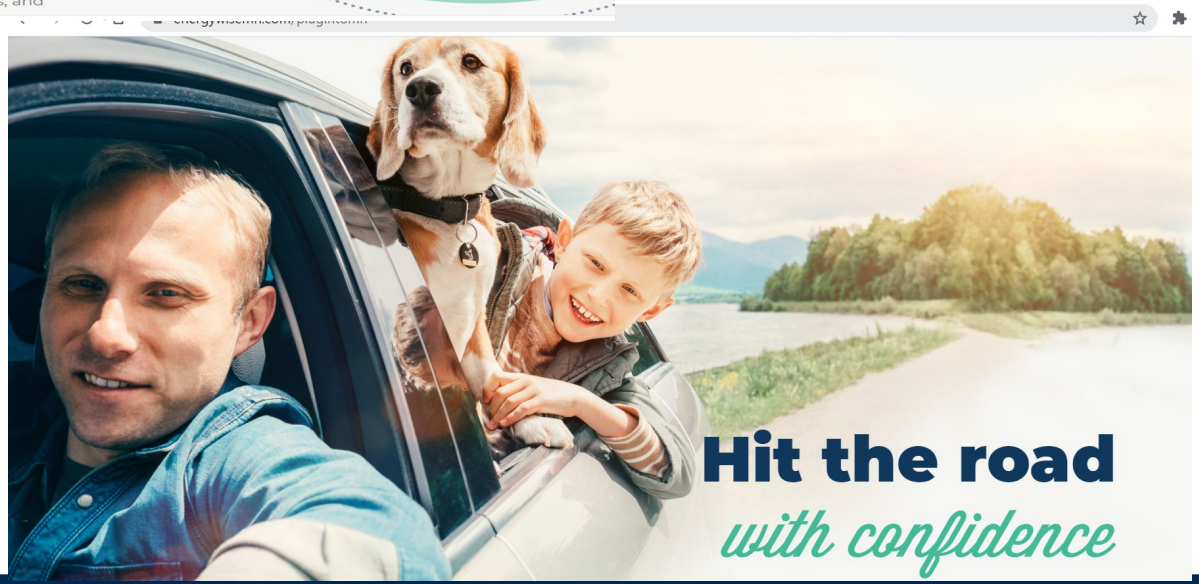
PARTICIPATING COOPERATIVES



EXPLORE MINNESOTA℠

GREAT RIVER ENERGY™





GREAT RIVER ENERGY™

Battery Electric School Bus

ELECTRIC SCHOOL BUS GRANT OPPORTUNITY

Minnesota bus companies and the school districts they serve will soon have an opportunity to add an electric school bus to their fleets as the Minnesota Pollution Control Agency (MPCA) enters Phase 2 of its investments in programs to improve air quality, reduce pollution and move the state toward a cleaner transportation future.

The MPCA plans to invest a portion of the state's Volkswagen settlement funding into replacing traditional diesel-fueled school buses with battery electric school buses (BESBs) from 2020-23. Projects will be funded through a competitive grant application process.

100 MILES
ELECTRIC SCHOOL BUS RANGE

66 MILES
AVERAGE SCHOOL BUS ROUTE

Why BESBs?

Currently, 95% of school buses on the road today run on diesel fuel. With concerns about air quality, local sources of pollution, carbon dioxide levels, and the high expenses associated with maintaining diesel engines, alternate solutions are being evaluated to make school busing cleaner and less expensive.

The purchase price of a BESB is considerably higher than a diesel bus; however, compared to diesel units, BESBs can achieve operational savings in both maintenance and fuel costs over the life of the vehicle. They also generate fewer greenhouse gas emissions and other pollutants, making them a good choice for the environment and children's health.

Other benefits include: stable "fuel" costs (electric rate), reduced sound pollution and a reduced lifetime carbon dioxide footprint. The vehicle can also be powered 100% by renewable wind energy and serve as an educational opportunity for the public, bus company, school district and participating electric cooperative.

Great River Energy worked with its member-owner cooperative Dakota Electric Association and bus company Schmitty & Sons to bring Minnesota's first battery electric school bus into service in 2017. This three-year pilot program is designed to study the economic and emissions benefits the bus provides, demonstrate battery electric technology in a cold-weather climate, and exhibit its performance in suburban and rural routes.

Try Before You Buy
electric forklift trial

GROW THE BUSINESS

- One month rental for qualified commercial members
- Results to date
  - Trials completed = 4
  - Electric forklifts sold to participants = 3
  - Site closure rate = 50%

The Intersection of Climate Change and Economic Opportunity

Renewable Energy Partners

RENEWABLE ENERGY PARTNERS

NORTHGATE DEVELOPMENT

Jamez Staples

North Minneapolis Resident

Founder of Northgate Development & Renewable Energy Partners

Personal mission: Empowering the community while improving the environment.

Renewable Energy Partners

Social Enterprise EST: 2013

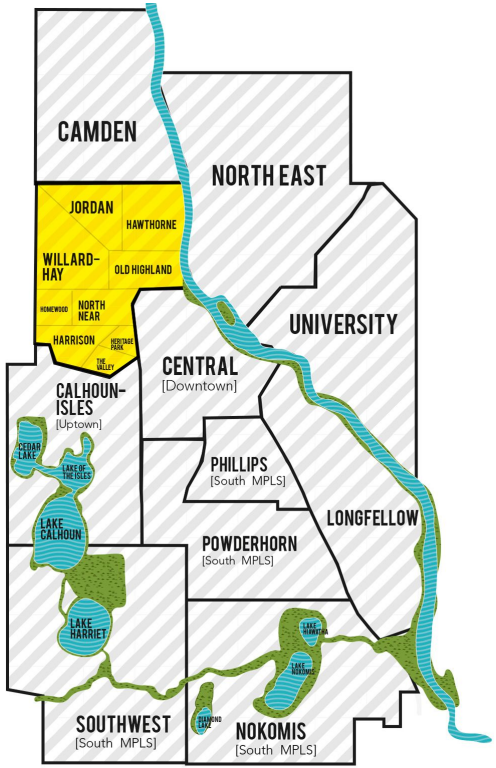
- Mission: Address climate change and poverty at the same time
- Impact projects under development:
  - Minneapolis Public Schools Microgrid Partnership on two schools and the nutrition center building
  - Emerge Second Chance Solar Garden
  - North High School Community Solar Garden

Northgate Development

Social Enterprise EST: 2017

- Mission: Equitable development in north Minneapolis
- Positioning community members for success with the development of the East Plymouth Innovation Corridor (EPIC Project)
- EPIC starts with the Regional Apprenticeship Training Center (RATC), mixed used development (affordable/ market & rate housing), retail, an expanded childcare facility, senior housing and microgrids coupled with other innovative technology
- Vision for the RATC is to provide access to skills training in the emerging sectors of the economy especially areas of sustainability and STEM.

North Minneapolis community overview



-Across the state of **Minnesota**:

-White median household income: $65,906 while Near North is $34,440

-Overall poverty rate: 9.9%; black poverty rate: 29.8%

-employment gap, white v. black: 17%, **48th out of 50 states**

-employment gap, white v. black: 16.5%, **23rd out of 25 metros**

-In **Minneapolis:**

- 26.6% of residents have a **HS Diploma or Less**, in **Near North: 48.0%**

-MPS graduation rates: white 86.0%, black 56.9%, Native 29.8%

-51.1% of individuals **earn less than $40,000**, in **Near North: 71.3%**

Northsiders deserve workforce opportunities in green technology

RENEWABLE ENERGY PARTNERS

Total potential workforce of 20,425 with only 13,120 currently employed

-11,180 households, 3.09 residents per household

-66.1% of households have incomes less than $50,000

-11,494 residents live below poverty

-5,080 of which are 17 years old or younger

-4,913 residents have only a High School Degree

-3,955 residents have neither HS/GED

-27.5% of the total workforce has a HS Degree or less

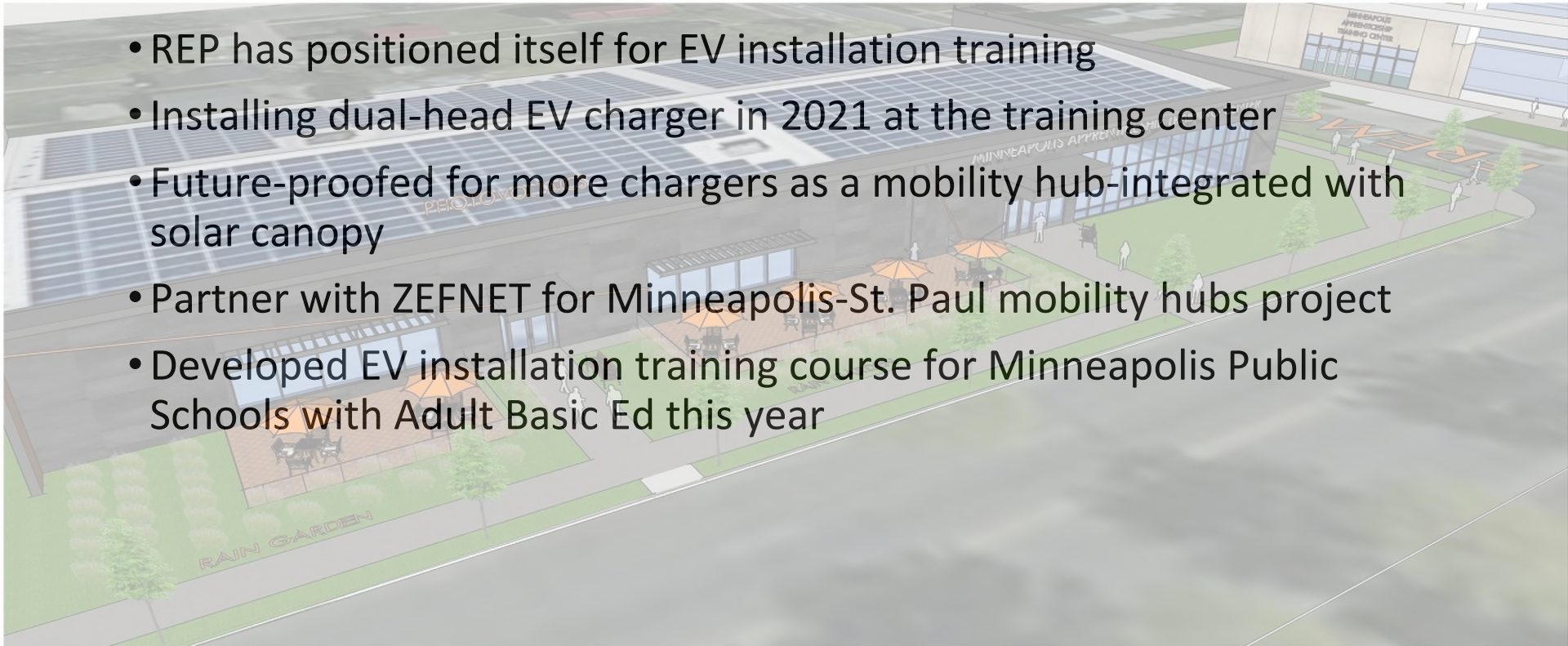
-62.5% of North residents are renters

- 61.7% of these renters are “cost-burdened”

Electric Vehicle Facts:

- Bloomberg New Economy Finance: Estimates 50% of all new vehicle sales will be EVs by 2030
- Pace of adoption accelerated by markets banning ICEs: China, UK, California
- Ford/GM new model development – reinstatement of Vehicle Mileage Standards by Biden
- Xcel: proposed $22 million in EV rebates, $1.11 million in EV pilots over next 3 years

REP is leading the charge to help address the environmental justice tied to economic prosperity



- REP has positioned itself for EV installation training
- Installing dual-head EV charger in 2021 at the training center
- Future-proofed for more chargers as a mobility hub-integrated with solar canopy
- Partner with ZEFNET for Minneapolis-St. Paul mobility hubs project
- Developed EV installation training course for Minneapolis Public Schools with Adult Basic Ed this year

Thank you

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Economic Opportunities in Transportation Electrification

EV Charging

ZEF ENERGY

SaaS for Charging Station Management

OATI

Power Utilities

ALLETE clean energy

Xcel Energy®

Manufacturing Automation

TESLA

New Permanent Magnet Materials

SUSTAINABLE GROWTH COALITION

5th Anniversary Celebration

#SGCoalition

EI Mission & SGC Vision

Environmental Initiative

- Catalyze collaboration across perspectives, power and systems for social equity and environmental health

Sustainable Growth Coalition

- The Coalition is moving towards a thriving circular economy – where all energy is renewable, waste is eliminated, and natural resources are protected and preserved.
- Uncover business growth opportunities, drive innovation, and promote thriving communities and regions.

Coalition Members

#SGCoalition

Group Discussion Format

- Quick spin-around for intros
- Select a report to share key takeaways with large group
- 12 minutes
- Select a few of the suggested questions that speak to your interests

Small Group Discussion Starter Questions: Choose a Few of These

- What are you seeing as the drivers and opportunities for jobs and econ dev related to transportation electrification?
- What is the role of MN government to encourage more jobs from transportation electrification?
- What market opportunities does transportation electrification provide to help our region and companies meet the needs of customers, communities and other stakeholders?
- How do we increase access to good paying and increasingly green jobs through our transportation system as we decarbonize?
- Who else needs to be at the table for this conversation? What perspectives aren't yet represented?
- How can we center the community perspectives better in these conversations?

Connect with us!

Email Amy Fredregill with any questions:

afredregill@en-in.org

#SGCoalition

Closing Reminders:

Recordings available here:
https://pluginamerica.org/policy/webinar-series-minnesotans-going-electric/

- Plug In America
  - www.pluginamerica.org
  - Dean Taylor, Senior Policy Advisor: dtaylor@pluginamerica.org
- Drive Electric Minnesota
  - www.driveelectricmn.org
  - info@driveelectricmn.org
- Xcel Energy
  - www.xcelenergy.com
- Sustainable Growth Coalition
  - https://environmental-initiative.org/work/sustainable-growth-coalition/
  - Amy Fredregill, Managing Director: afredregill@en-in.org

Drive Electric MINNESOTA

Plug In America

Xcel Energy

SUSTAINABLE GROWTH COALITION