



**Environmental  
Committee  
Jan 18, 2022**

# TRANSPORTATION ELECTRIFICATION

FEDERAL AND ILLINOIS  
POLICIES & PROGRAMS

**TIM MILBURN**





# US Policies and Programs Transportation Focus

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# Infrastructure Investment and Jobs Act

(IIJA, 11-2021)

## Clean Transportation

Program	5 year Program	Description
Grants for Charging and Fueling Infrastructure for Corridors and Communities	\$2.5 BB	State /local grants for EV charging and alt fuel infrastructure. 50% discretionary, 50% communities. Publically accessible Priorities: rural, low & moderate income, high Multi-Family Dwelling density
National Electric Vehicle Program	\$5.0 BB	Goal: establish national network of EV chargers. Siting on designated Alt Fuel Corridors (FHWA) Each state must develop/submit plan, else funding falls to local jurisdictions
Electric Buses Vehicle and Infrastructure Incentives and Grants	\$7.5 BB	For Zero and Low Emission Buses and supporting infrastructure for State and local projects
Clean School Vehicle Program	\$1 BB	Purchase or lease of alternative fueled vehicles to be used by a school, including school buses, fleet vehicles, and other operational vehicles. 50% match.
Clean Ports/ Ferries Program	\$2.25 BB	Pilot programs to develop zero and low emission ferries, drayage trucks and locomotives. To improve resilience and reduce emissions.
Medium & Heavy EV Charging	TBD	Plans to review and plan for national medium and heavy duty EVs & infrastructure
EV Charger Target	500,000	Target for number of EV chargers in US supported by programs

**ENACTED**  
**Focus: National Infrastructure**

# Build Back Better Act

(**BBBA**, HR5376, , 2021, “*Reconciliation Bill*”

## **Clean Transportation**

Program	Description
EV Tax Credits	Tax credits to individuals and organizations buying EVs
EV Charger and Infrastructure Tax Credits	Tax credits to individuals and organizations installing EV chargers
EV Charging and Infrastructure Project Grants	Grants and financing for EV charging and infrastructure projects
Previously owned EV tax credits	Tax credits to individuals and organizations buying EVs
EV Manufacturing grants and financing	Grants and financing for manufacturing of EVs, batteries and EV components
EV OEM caps	Extend caps above 200,000 per EV Manufacturer

**PROPOSED**  
**Focus: Local Solutions**







# Illinois Policies and Programs-

## Transportation Focus

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# Transportation Electrification

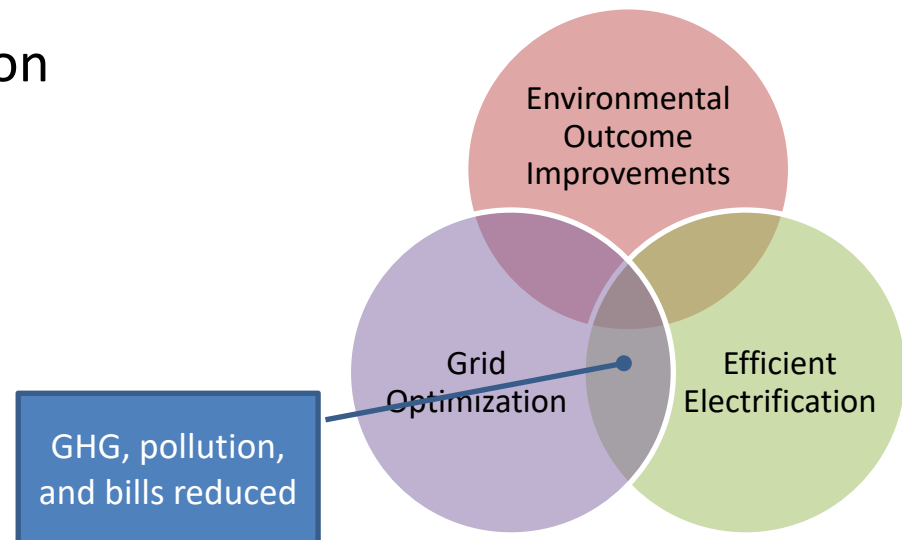


- **Electric Vehicle Act** (amended in CEJA)
  - Establishes high level goals for transportation electrification – EVs, Charging
  - Establishes agency roles (IEPA), targets, goals, rulemaking, definitions and other expectations
    - Governor to appoint EV coordinator (Spring 2022)
  - Ties EV charging incentives to Beneficial Electrification

# Beneficial Electrification (BE)



- Solutions that **reduce greenhouse gas and criteria pollutants** while **reducing the costs of electricity for consumers**.
- Displace fossil fuel use, create cost savings, optimize the grid, reduce peak demand, improve grid load shape and align electric usage with times of renewable generation
- Illinois Commerce Commission holding workshops to define programs



# EV Incentives



- **Electric Vehicle Rebate Act**

- Starts July 1, 2022
- Residency requirements

Date	Rebate Amount
7-2-2022	\$4,000
7-1-2026	\$2,000
7-1-2028	\$1,000

- Rebates funded with User Fees (\$20/ Vehicle/Year)
  - Other funding sources allowed
- Federal funds may be used to support programs



# EV Charging Incentives

(CEJA Sec 55)



Climate and Equitable Jobs Act

- **Electric Vehicle Charging Rebate Act**
  - IEPA to start EV charging rebates July 1, 2022
    - Up to 80% of the “cost of installation of the charging station”
    - Included: EV chargers, “Make Ready” scope TBD
    - Funding: Capital Budget, VW Mitigation funding
  - Programs/projects tied to ICC Workshop/ Beneficial Electrification recommendations
    - Priority carve outs (e.g., socioeconomic, public, private, use case)
    - Included: EV chargers, “Make Ready” scope TBD
    - Ties to Beneficial Electrification programs
    - Funding to be ratepayer based
  - State corridor siting planning support and funding (e.g., DC Fast Chargers)
  - State fleets get EV charger funding
  - Some federal assistance may be used to support state programs

# Beneficial Electrification (BE)



- [ICC Beneficial Electrification Workshops](#)

11/2021 to 2/2022

- Workshops intend to inform the utilities about programs, practices, incentives and consumption and demand tariffs for
  - **EV charging**
  - **Distributed Energy Resources (DER)** - the mix of renewables, transportation electrification, demand charges, energy storage, etc.
- Report Mar 31, 2022, to utilities
- Utilities responsible for
  - Delivering BE Plans by Jul 1, 2022
  - Investments start Jan 1, 2023.
  - Communicating programs to consumers

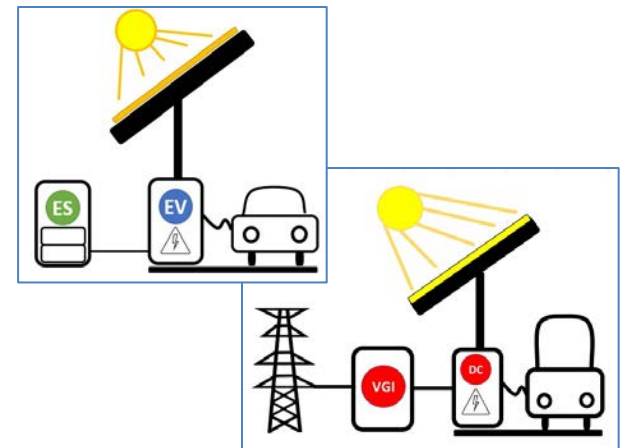
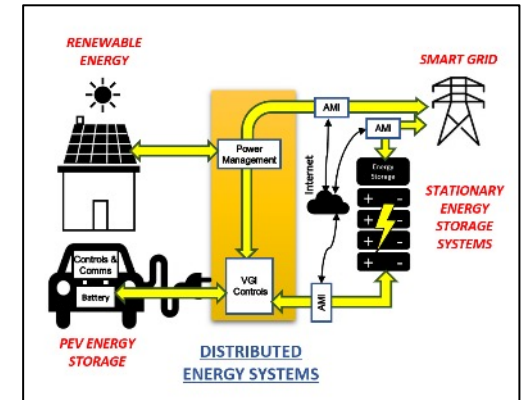


# Distributed Energy Resources



- TECHNOLOGIES

- Distributed energy generation (e.g., solar PV)
- Stationary and mobile energy storage
  - Electrochemical, thermal, and electromechanical technologies
- Electric vehicles / charging station
- Demand response /management technologies
- Vehicle Grid Integration (VGI)
- Software tools to facilitate
- Smart Grid



# Beneficial Electrification (BE)

(Sec 45, CEJA)



Climate and Equitable Jobs Act

Program	Description
<b>Grid Load Optimization</b>	Use EVs to provide grid operational flexibility
	Time-of-use/ hourly electric rates
	Demand management and response programs
	Encourage charging when beneficial to the electric grid
<b>EV Charging Targets and Programs</b>	Medium-duty and heavy-duty vehicles for transit agencies, public and private fleets
	School bus programs
	Low-income programs
<b>EV Charging Siting</b>	Priority areas: dense areas, workplaces, and low-income communities
	Fill spatial gaps
	Proximal deployment of electrification and renewable energy to reduce grid congestion

# Distributed Energy Resources



 Climate and Equitable Jobs Act

- Incentives:
  - Energy Storage: \$250 (commercial) to \$300 (residential) per kilowatt hour (\$/kWh) (pays about half)
  - Renewable Energy incentives (RECs, Net Metering, Federal Investment Tax Credits)
  - Ratepayer savings (e.g., time of use/hourly rates, demand management, VGI plans)
  - Additive solution incentives
  - Financing programs
- More definitions to be added from ICC workshops



# Grants, Financing and Jobs funding Programs



- **Grants and special financing programs**
  - Focus: environmental justice, low income communities
- **Job training and placement programs**
  - Managed by the Energy Transition Assistance Fund

# Reimagining Electric Vehicles in Illinois Act

REV Act, Nov 2021 , [HB 1769](#)

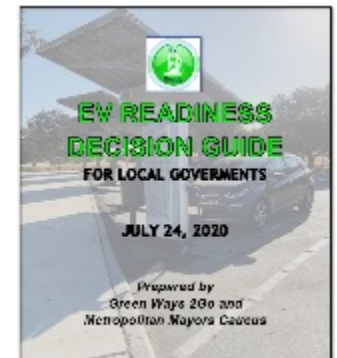
- Governor Pritzker:
  - “attract more *EV, charging station and automotive parts manufacturers* than ever before and help Illinois to become one of the leading EV hubs in the entire nation “
- Provides **tax incentives** to Illinois companies
  - Create new jobs or retain employees
  - Training expenses
  - Construction wages and building materials

# Other Regional Programs: EV Ready



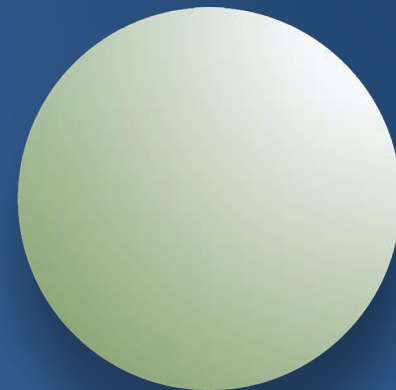
- Municipal program to assist communities to electrify transportation
  - Streamline processes, leverage best practices, education for EVs, EV Charging and infrastructure
  - Initial Program
    - Checklist for municipal planning
    - Decision Guide for making informed decisions
  - Next steps – roll out program like SolSmart for EVs, EV Charging to municipalities – 2022

EV READINESS SUMMARY	
ACTIONS CHECKLIST	
Commit to EV Readiness	
Zoning and Planning	
Permitting	
Inspection and Safety	
Parking and Access	
New Construction	
EV Owner Rights	
Municipal Fleets	
Utility Engagement	
Community Engagement	
Market Development and Finance	



Green Ways 2Go

Metropolitan  
Mayors Caucus



THANK YOU

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## Extra Stuff

Acronyms

Useful Links

Further bulletized info



# Acronyms

- **GHG** : Green House Gases
- **Global:**
  - IPCC –International Panel on Climate Change - United Nations
  - COP 26 – Conference of the Parties #26 (2021)
  - GCMCE – Global Covenant of Mayors for Climate & Energy
- **National:**
  - BBBA – Build Back Better Act (2021)
  - IIJA - Infrastructure Investment and Jobs Act (2021)
  - NOAA
- **Illinois:**
  - CEJA – Illinois Climate and Equitable Jobs Act (2021)
  - RPS – Renewable Portfolio Standard
- **Regional & Local**
  - CMAP – Chicago Metropolitan Agency for Planning
    - Go To 2050
  - MMC- Metropolitan Mayor Caucus
    - GRC – Green Region Compact (2015)
    - CAP – Climate Action Plan (2021)
    - EVR – EV Readiness (2019)
  - MWRD – Metropolitan Water Reclamation District



# ABBREVIATIONS

Abbr.	Description
AMI	Advanced Metering Infrastructure = integrated system of smart meters, communications networks, and data management systems that enables two-way communication between utilities and customers.
CAAS	Charging As A Service
CMAP	Chicago Metropolitan Agency for Planning
CO2Eq	Carbon Dioxide Equivalents
DCFC	Direct Current Fast Charger
DER	Distributed Energy Resources
DM	Demand Management - process and programs to reduce use of electricity during peak demand periods
ES	Energy Storage
EV	Electric Vehicle (meaning Plug-in EV in most cases)
EVCI	EV Charging Infrastructure
EVCS	EV Charging System
EVSE	EV Supply Equipment, aka EV Charging Station
EVSP	EV Service Provider - provides network services, automatic billing, GPS, etc.
GPY	Gallons per Year (e.g., of liquid fuel)
HPC	High Power (EV) Charger- over 200 kw
ICE	Internal Combustion Engine
IoT	Internet of Things - smart devices and apps that communicate using the Internet
kW	kilowatt- measure of power
kWh	kilowatt hour- measure of energy

Level 2	208/240 Volt EV charging standard
MES	Mobile Energy Storage (e.g. on board vehicle battery)
MFD	Multiple Family Dwelling
NOx	Nitrous Oxides
NPV	Net Present Value
OEM	Original Equipment Manufacturer
PM 2.5	Particulate Matter less than 2.5 microns in diameter
ROI	Return on Investment
SES	Stationary Energy Storage (battery, thermal, etc.)
SME	Subject Matter Expert
SOx	Sulfur Oxides
T&D	(Utility Grid) Transmission and Distribution
TCO	Total Cost of Ownership
TE	Transportation Electrification
Tier 2, 3	For EV OEMs, Tier 2 and Tier 3 component production includes EV batteries, battery management systems, charging controls, etc.
TPY	Tons per year (e.g., of gas)
V2G	Vehicle to Grid bi-directional
V2X	Vehicle to "X". X = B (Business), H (Home), etc.
VGI	Vehicle to Grid Integration
VMT	Vehicle Miles Traveled

Useful  
Links:  
Global-  
Federal-  
State

[COP26 Explained](#)

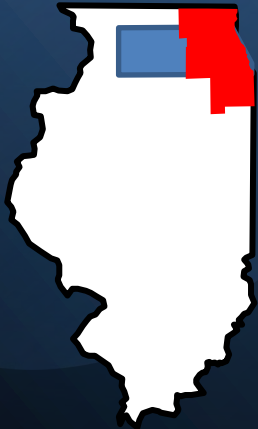
[IPCC Report 2021](#)

[Build Back Better BBBA](#)

[Infrastructure Bill IJA](#)

[CEJA = Public Act 102-0662](#)

# Useful Links: Regional



[CMAP Goto 2050](#)

[Metropolitan Mayors Caucus - MMC](#)

- [GRC](#)
  - [List of 148 participants](#)
  - [Resolution](#)
  - [Framework](#)
- [Climate Change](#)
  - [Resolution](#)
  - [Climate Action Plan - CAP 2021 Document](#)
- [EV Readiness](#)
  - [EV Readiness Checklist](#)
  - [EV Readiness Decision Guide for Local Governments](#)
- [SolSmart](#)
- [Residential Energy Efficiency Programs](#)