Green Drives
EV Readiness
Event
May 3, 2022

WHY WE NEED TO BE "EV READY"

TIM MILBURN

Green Ways 2Go

Why do we need to ready for EVs?

- Climate Mitigation: Transportation emissions = leading source of greenhouse gases (GHG)
- Strategic: reduce demand for foreign oil

→ EV demand accelerating

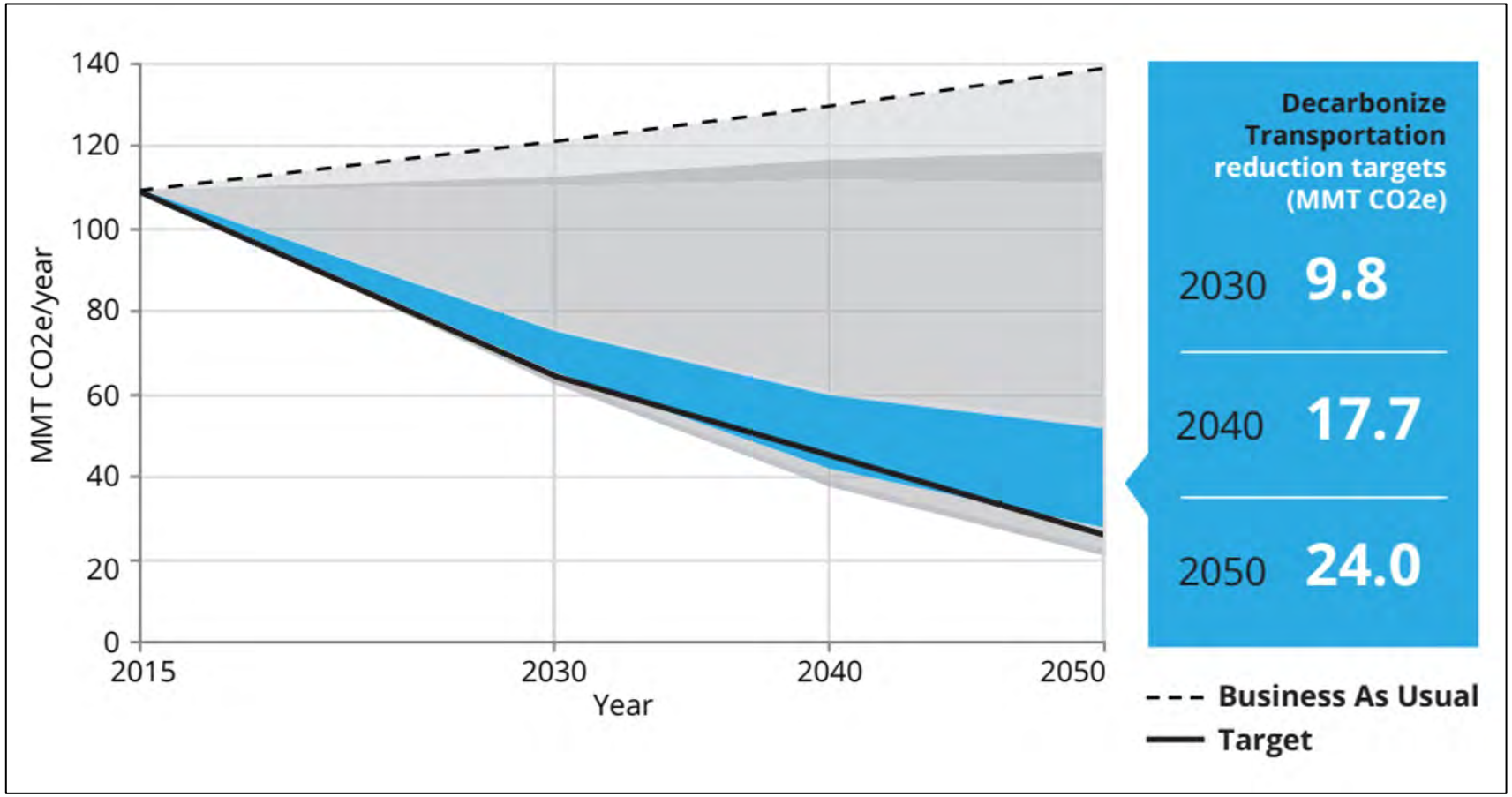
→ Policies: US / Illinois aligned

→ Programs and significant funding

- Need: smartly manage changes

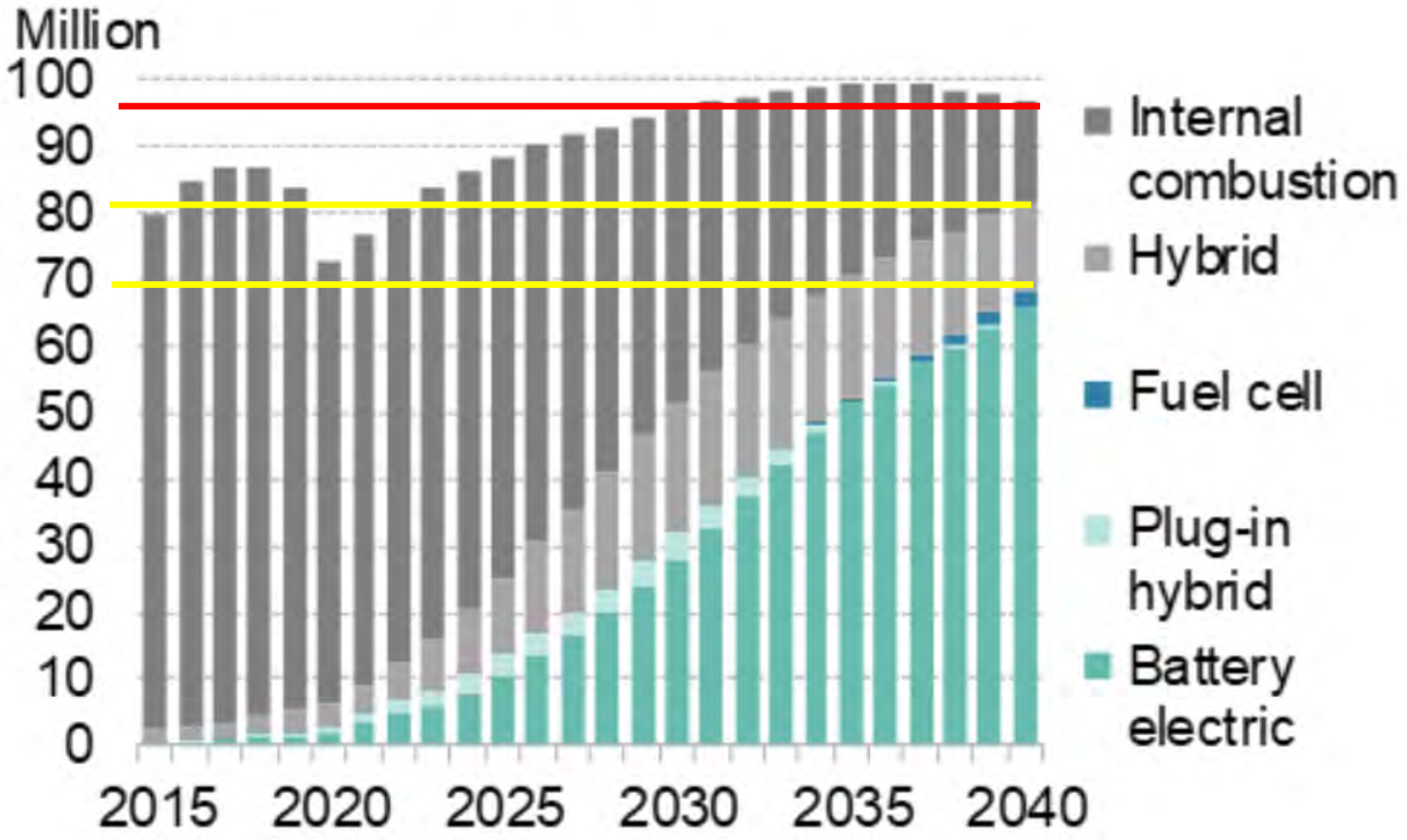
CLIMATE ACTION PLAN FOR THE CHICAGO REGION 2021

Decarbonization of Transportation



EV Demand Trends

Global passenger vehicle sales outlook by drivetrain - Economic Transition Scenario



Source: BNEF.

EV Demand Trends: Fun Facts

- 100% EVs: UK by 2030, France by 2040
- Volvo / GM – all EVs by 2030/2035
- All major OEMs continue to make significant investments - all EV types

	Available Global	In Development
Passenger EV	247*	70
Pickup E-Trucks	8	12
Larger E-Trucks	8	10
E-Buses	70	TBD

*60% are Chinese

- *REV = Reimaging Electric Vehicle Act*
- *OEM = Original Equipment Manufacture*
- *ICEV= Internal Combustion Engine Vehicle*
- *DCFC = DC Fast Charger*

EV Demand Trends: Fun Facts

- Cost Parity EV-ICEV by 2025
- EVs cost ~25% of ICEV / mile driven
- 40,000 EVs in Illinois – Mar 2022
- Illinois Public EV Charging Stations
  - L2: 837, 1,857 ports
  - DCFC: 123, 543 ports
  - DCFCs: up 24% in 2021

→ Huge opportunities for regional economic growth

→ Rivian, Lion, EV Box

→ IL REV Act

- *REV = Reimaging Electric Vehicle Act*
- *OEM = Original Equipment Manufacture*
- *ICEV= Internal Combustion Engine Vehicle*
- *DCFC = DC Fast Charger*

Key Policies Driving Demand

Illinois CEJA (*Climate and Equitable Jobs Act 9-2021*)

- Illinois GOAL: 1MM EVs (2030)
- Thousands of public EV charging stations needed
- CEJA Incentives
  - EVs
  - EV Charging Stations
  - Make ready infrastructure
  - Smart integration with grid (Beneficial Electrification)
  - Buses & Trucks

Key Policies Driving Demand

Federal: IIJA (Infrastructure Investment and Jobs Act, 11-2021)

1. National Electric Vehicle Infrastructure Formula Program (NEVI)
   - Corridor funding (5 years): US $5BB, Illinois $149 MM
   - Targets DC Fast charging along interstates
2. Corridors and Communities - $2.5 BB/5 years
3. Other programs targeting bus and fleet charging

- Federal funding likely to support CEJA objectives
- Build Back Better – ***if*** *it comes back*- may have more usable funding

Why is EV Readiness **Program** Needed?

Successful, safe and cost-effective deployment falls largely to municipalities and regions

Municipalities need to be informed and <u>ready</u> to fulfill their roles and responsibilities

EVR program provides the tools, training and vision to support municipalities as we move through the changes together

Key Sustainability Area: Mobility

GRC Municipal Consensus:

- Support efficient transportation that uses resources wisely
- Integrate sustainability into transportation policies, programs and regulations
- Operate a safe, clean, and efficient fleet

How will EV Readiness help Municipalities?

Define PROCUREMENT standards, processes and technology specs

Clearly define PROCESS requirements and RULES

Identify and Standardize SOFT COSTS
Streamline Processes
Reduce cycle times
Reduce real costs

Credit: Rocky Mountain Institute (RMI)

Green Drives
EV Readiness
Event
May 5, 2022

THANK YOU

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Green Ways 2Go

EV Readiness Program Overview

Cheryl Scott,
Sustainability Specialist
Metropolitan Mayors Caucus

Need For EV Readiness Checklist

- National SolSmart program – had a checklist already (below)
- EV Readiness – no checklist existed, so we had to create one

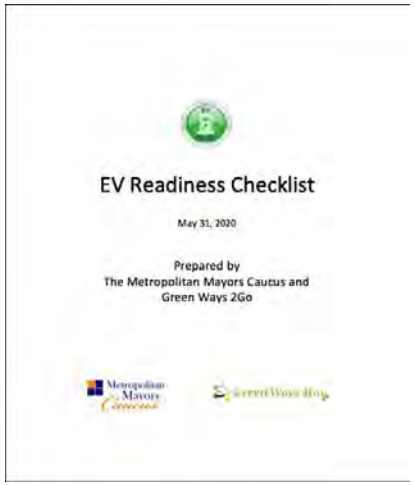
Credit Identifier	Credit Points	Planning and Zoning Credits
PZ-1	Req'd	Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit solar PV development. Compile findings in a memo. (Required for Bronze). Examples include: height restrictions, set-back requirements, screening requirements, visibility restrictions, etc.
PZ-2	5	Present PZ-1 memo findings to planning commission or relevant body.
PZ-3	5	Draft proposed language for changes to zoning code based on PZ-1 memo and PZ-2 dialogue. Involve planners and/or local zoning experts in the creation of the draft language.
PZ-4	0	Post an online document from the Planning/Zoning Department that states accessory use solar PV is allowed by-right in all major zones. (e.g. via a zoning determination letter). (Required for Silver unless Gold Requirement PZ-5 is achieved. If PZ-5 is achieved, PZ-4 is not necessary.)
PZ-5	20	Codify in the zoning ordinance that accessory use solar PV is explicitly allowed by-right in all major zones. Zoning ordinance language should not include intentional or unintentional barriers to accessory use solar, such as limits to visibility from public rights-of-way, excessive restrictions to system size, glare studies, subjective design reviews, and neighbor consent requirements. (Required for Gold, PZ-4 is optional)
PZ-6	5	Ensure the zoning ordinance exempts rooftop solar PV from certain restrictions on accessory uses (e.g. height limits, rooftop equipment screening requirements, or other restrictions).
PZ-7	5	Ensure the zoning ordinance permits small ground-mounted solar PV as an accessory use in at least one zoning district.
PZ-8	5	Ensure the zoning ordinance exempts small ground-mounted solar PV from certain restrictions on accessory uses (e.g. setbacks, coverage or impervious surface calculations, or other restrictions).
PZ-9	5	Ensure the zoning ordinance establishes a clear regulatory pathway for large-scale solar PV (e.g. through a special use permit or through inclusion among allowed conditional uses).
		Ensure the zoning ordinance includes a native perennial vegetation and/or habitat friendly

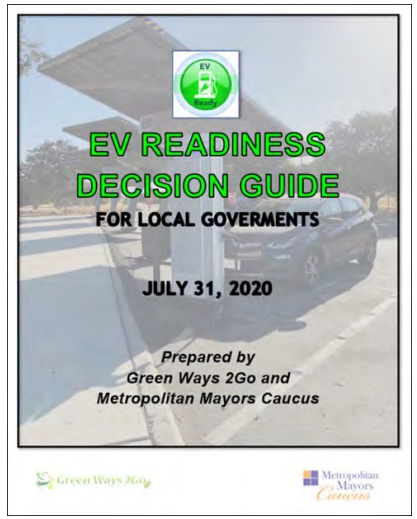
EV Readiness Program, Phase 1

Listening Sessions

Checklist

Decision Guide





Thank you to The Joyce Foundation!

Checklist and guide available at:
mayorscaucus.org/initiatives/environment/becoming-ev-ready/

Listening Sessions

- Listen and learn about perceptions, opportunities, barriers, policies, future ideas and concerns related to transportation electrification.
- 17 listening sessions, starting in Nov. 2019, informed the checklist and guide
- Municipalities
  - Elected Officials
  - Planners
  - Building code officials
  - Fire safety
- EV Industry
  - Car dealerships
  - Electrical contractors
  - Charging station vendors
- ComEd
- Downtown business association
- Environmental advocates

Listening session at South Suburban Mayors & Managers Association Transportation Committee, March 3, 2020

Listening Session Questions

- What are the key planning considerations?
  - Where to locate public EV charging stations?
  - Planning regionally for EV charging stations?
- What policies need to be considered?
  - Parking?
  - Zoning?
  - EV Ready new construction?
  - What building codes, permitting and inspection policies need to be considered?
- What pricing and finance issues should be considered?
  - Public EV charging station ownership?
  - Procurement decisions?
  - Maintenance costs?
- What information and training is needed for staff?
- What would you like to see in a guide for municipalities?

EV Readiness 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

Full checklist at: mayorscaucus.org/initiatives/environment/becoming-ev-ready/

EV Readiness Checklist: Zoning & Planning Example

ZONING AND PLANNING	
	Clarify or establish new zoning rules to facilitate EVCS installation.
	Define transportation electrification technologies (EVs, EVCSs) to be considered.
	Review zoning requirements and remove restrictions that intentionally or unintentionally hinder EVCS installations.
	Establish EVCS parking, signage, and wayfinding appearance rules.
	Establish EVCS zoning siting criteria.
	Establish zoning rules based on facility type, safety and risk.
	Establish regulations for the commercial operation of EVCSs.
	Explain rules for advertising on EVSE.
	Clearly and concisely communicate EVCS zoning rules.

EV Readiness Checklist: Permitting Example

PERMITTING	**Develop clear permitting processes for EVCSs.**
	Streamline permitting processes while meeting applicable codes (e.g. building, electrical, product safety) and important health and safety requirements.
	Advise applicants that Illinois statutes require installers to notify the utility about all EVCS projects.
	Adopt a STANDARD EVCS permit process primarily for Level 2 non-residential, workplace and multiple-unit dwelling installations.
	Distinguish and define permitting requirements for *multiple-unit dwelling* and *non-residential* EVCSs.
	Adopt a SPECIAL EVCS permit process for Level 3/DC Fast Chargers, and large, complex Level 2 installations.

EV Readiness Checklist: Inspection & Safety Example

INSPECTION AND SAFETY	
	Simplify and standardize inspection processes for **non-residential** EVCSs.
	Provide inspection checklist, aligned with permitting checklist, that includes applicable regulations, codes, and certification of EVCSs. Post online.
	Work with installers to minimize the number of inspection events needed.
	Promptly complete inspection requests in no more than 5 days.
	Train staff to improve inspection of EVCS installations, on topics such as:
	EV and EVCS technologies
	Regulations, codes and inspection actions
	Support public safety staff and first responders to safely manage incidents involving EVs and EVCSs.
	Establish standard incident procedures, such as sizing the scene, power isolation, de-energization, vehicle stabilization, passenger extraction, use of smart meters to isolate, etc.
	Equip first responders with on-vehicle Emergency Guides for EVs and EVSEs.
	Provide training opportunities and resources for first responders and public safety personnel.
	Ensure first responders receive hands-on training for EVs and EVCSs by collaborating with regional training partners.
	Advise tow truck operators of safety requirements for loading and hauling EVs, post incident.
	Integrate transportation electrification into public safety plans.
	Provide EV and EVCS safety information to protect consumers.

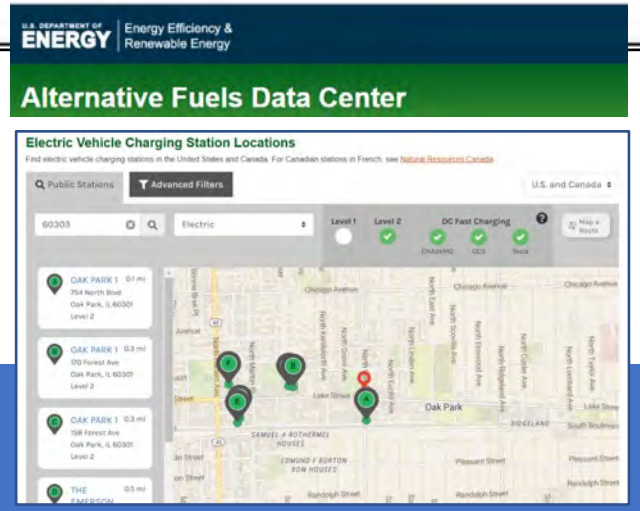
EV Readiness Checklist: Community Engagement Example

	COMMUNITY ENGAGEMENT
Y ENGAGEMENT	**Educate the public.**
	Support public education and outreach on EVs and EVCSs. Leverage local volunteer groups and working groups.
	Introduce the municipal EV fleet at community events or support other events that engage and educate residents on EVs.
	Host or support EV readiness workshops open to businesses, institutions, and local government staff explaining EVs, EVCSs, opportunities and policies.
	Create an EV readiness landing page on local government's website with information on community's EV readiness goals and local resources for EV ready development.
	Communicate EV readiness commitment and actions to constituents.
	Promote access to EVCSs to resident and visitors though apps, online resources, publications and other community marketing materials.

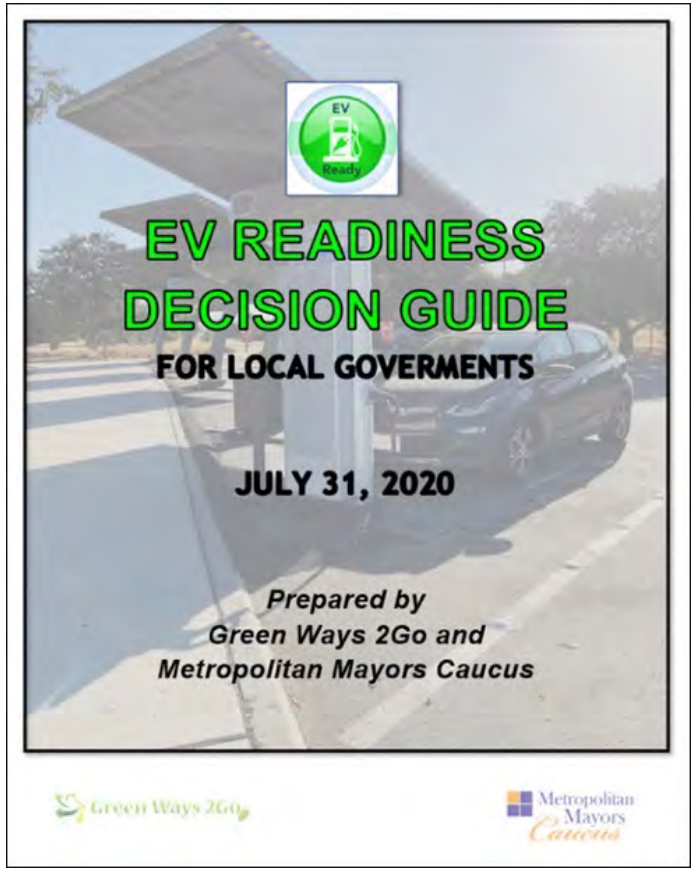
Going Green Matters
EV Exhibit March 2020

EV Readiness Checklist: Parking & Access Example

PARKING AND ACCESS	
	Establish parking policies to balance constituent needs and support growth in EV readiness.
	Require safe cord management, such as retractable cords to accommodate all EVs and avoid trip hazards.
	Establish parking enforcement policies and procedures.
	Identify and promote EVCSs.
	Provide wayfinding signage to direct EV drivers to EVCSs.
	Recommend registration of public EVCSs on websites such as the Alternative Fuels Data Center to help EV drivers find EVCSs.



Another EV Readiness product



https://greenways2go.com/product/ev-readiness-decision-guide-for-local-governments/

EV Readiness Program, Phase 2: Deployment

- Support for checklist action items
- Collaboration and Facilitation
- Recognition
- Regional planning

Thank you to ComEd!

EV Readiness, Phase 2

- Received funding, started Phase 2 in January
- Building out Phase 1 Checklist items

PI-1	Req'd	Post an online checklist detailing the required permit(s), submittals, and steps of your community's permitting process for small rooftop solar PV. (Required for Bronze)	☐

Providing a set of requirements for the local solar permitting process (for both residential and commercial solar) on an easy-to-find local government webpage represents a major step toward overcoming informational barriers. An online solar permit checklist can be a simple way for a community to accelerate permit approval timelines and save staff time by reducing the number of inquiries received from solar installers and requests for additional information associated with incomplete permit applications. Such checklists typically detail all the plans and forms required for approval and system design requirements.

Recommended Verification:

- Provide a link to the online solar PV permitting checklist.

Community Examples:

- Chapel Hill, NC | SolSmart Gold
- Philadelphia, PA | SolSmart Gold

Templates:

- PI-1 SolSmart Solar Permitting Checklist Template | SolSmart
- California Solar Permitting Guidebook (4th Edition) (pg. 22-24)

Resources:

- Sharing Success: Emerging Approaches to Efficient Rooftop Solar Permitting | Interstate Renewable Energy Council (IREC)
- Simplifying the Solar Permitting Process: Residential Solar Permitting Best Practices Explained | Interstate Renewable Energy Council (IREC)

EV Readiness, Phase 2, First Steps

- Prioritize Checklist items
  - What are the most strategic actions in advancing transportation electrification?
  - What should be required? (e.g., Bronze)
- Assign points

Credit Identifier	Credit Points	Permitting and Inspection Credits
PI-1	Req'd	Post an online checklist detailing the required permit(s), submittals, and steps of your community's permitting process for small rooftop solar PV. (Required for Bronze)
PI-2	10	Train permitting staff on best practices for permitting solar PV and/or solar and storage systems. Training must have occurred in the past five years. (Required for Silver).
PI-3	10	Train inspection staff on best practices for inspecting solar PV and/or solar and storage systems. Training must have occurred within the past five years. (Required for Silver).
PI-4	20	Post an online statement confirming a three-business day turnaround time for small rooftop solar PV. (Required for Gold)
PI-5	5	Distinguish between solar PV systems qualifying for streamlined and standard permit review.
PI-6	5	Require no more than one permit application form for a small rooftop solar PV system.
PI-7	10	Adopt a standard solar PV permit application form aligned with best practices (e.g. Solar ABCs).
PI-8	20	Provide an online process for solar PV permit submission and approval.
PI-9	20	Exempt or waive fees for residential solar PV permit applications.
PI-10	5	Demonstrate that residential permit fees for solar PV are $500 or less.

EV Readiness, Phase 2, Next Steps

- EV Readiness cohorts
- Start the first cohort in fall of 2022
- Award ceremony in early 2023 – Bronze, Silver, Gold
- Second cohort in 2023

EV Readiness Program Outcomes

- Municipalities to take prioritized actions to support transportation electrification
- Tools, resources, and template policies
- Approximately 30 recognized “EV Ready Communities”
- General awareness and recognition for “EV Ready Communities” and the benefits of EVs

Thank You

EV Readiness Program Overview

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Developing Pathways to EV Readiness

The challenge:

Prioritize *comprehensive Checklist* to create *streamlined Pathways* for communities to earn "EV Ready"

- EV Readiness Checklist has 240 possible actions
- Must choose best actions to support transportation electrification
- Must focus municipal time & resources

From EV Readiness *Checklist* to EV Ready Designation *Pathways*

EVR commitment
+ *fundamental* actions
+ tailored "extra points"

Bronze EVR designation

EVR commitment
+ Bronze requirements
+ *important* actions
+ tailored "extra points"

Silver EVR designation

EVR commitment
+ Bronze requirements
+ Silver requirements
+ *valuable* actions
+ tailored "extra points"

Gold EVR designation

Extra points = *important* & *helpful* actions that suit community needs and strengths

Proposed Bronze Level Categories

COMMIT TO EV READINESS

ZONING AND PLANNING

PERMITTING

INSPECTION AND SAFETY

UTILITY ENGAGEMENT

	Objective	Bronze	Silver	Gold	Extra points
ZONING AND PLANNING	ZONING AND PLANNING				
	Clarify or establish new zoning rules to facilitate EVCS installation.	5	5		
	Establish EVCS zoning siting criteria.	10	10		
	Establish regulations for the commercial operation of EVCSs.				5
	Clearly and concisely communicate EVCS zoning rules.	10	10		

	Objective	Bronze	Silver	Gold	Extra points
PERMITTING	PERMITTING				
	Develop clear permitting processes for EVCSs.	10	10		
	Advise applicants that Illinois statutes require installers to notify the utility about all EVCS projects.	5	5		
	Adopt a STANDARD EVCS permit process primarily for Level 2 non-residential, workplace and multiple-unit dwelling installations.	3			
	Adopt a SPECIAL EVCS permit process for Level 3/DC Fast Chargers, and large, complex Level 2 installations.	?	?		
	Adopt RESIDENTIAL EVCS guidelines.*		2	2	
	Provide information to help permit applicants understand requirements.				
	Provide checklist of permit requirements and post online.	2			

Go to menti.com
enter code 41 14 77 9

Proposed Silver and Gold Categories
(and extra points toward Bronze)

NEW CONSTRUCTION
MUNICIPAL FLEETS

	Objective	Bronze	Silver	Gold	Extra points
MUNICIPAL FLEETS	MUNICIPAL FLEETS				
	(Plan) to Integrate EVs into municipal fleets.		5	5	
	Identify EVs to suit fleet needs - compile cost, experience, warranty and other data for relevant EVs. Investigate upcoming models.		?	?	
	Install EVCSs at public facilities.			5	5
	Integrate EVs into municipal fleets			10	10
	MUNICIPAL FLEETS TOTAL POINTS		30		

	Objective	Bronze	Silver	Gold	Extra points
NEW CONSTRUCTION	NEW CONSTRUCTION				
	Establish requirements or incentives for making new single-family RESIDENTIAL units EV READY or EV CAPABLE.				5
	Establish requirements or incentives for making new multiple-unit dwellings and commercial, workplace, and municipal facilities EV READY or EV CAPABLE.			5	5
	NEW: Advocate for Stretch Code for EV Ready at state level				5
	NEW CONSTRUCTION		20		

Proposed Extra Points Categories

towards Bronze, Silver and Gold.

Tailor to community needs.

PARKING AND ACCESS
EV OWNER RIGHTS
COMMUNITY ENGAGEMENT
MARKET DEVELOPMENT AND FINANCE

	Objective	Bronze	Silver	Gold	Extra points
PARKING AND ACCESS	**PARKING AND ACCESS**				
	Establish parking policies to balance constituent needs and support growth in EV readiness.		?	?	#
	Design EVCS spaces appropriately for type of parking		?	?	#
	Consider access and egress safety with respect to pedestrians, cyclists and special needs individuals.		?	?	#
	Require safe cord management, such as retractable cords to accommodate all EVs and avoid trip hazards.		?	?	#
	Establish parking enforcement policies and procedures.		5	5	#
	Fines for EVs that remain parked at EVCS once charging event is completed.		?	?	#
	Identify and promote EVCSs.			5	5
	Clearly mark EV-only spaces and shared accessible EV spaces.			?	#

THANK YOU!

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