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AUGUSTA, MAINE 04333-0002  
(207) 287-1400  
TTY: MAINE RELAY 711

**Cheryl A. Golek**

9 Vicarage Lane  
Harpwell, ME 04079  
Phone: (207) 535-9857  
[Cheryl.golek@legislature.maine.gov](mailto:Cheryl.golek@legislature.maine.gov)

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*Testimony of Rep. Cheryl Golek introducing*

## **LD 1242, An Act to Incentivize the Construction of Solar Carport Canopies and Solar Chargers at the Highway Picnic Areas**

*Before the Joint Standing Committee on Transportation*

Senator Nangle, Representative Crafts and members of the Joint Standing Committee on Transportation, my name is Cheryl Golek, and I represent House District 99, which includes Harpswell and part of Brunswick. Today, I am honored to present **LD 1242, An Act to Incentivize the Construction of Solar Carport Canopies and Solar Chargers at the Highway Picnic Areas**.

For those who may not be familiar with what a solar carport is, it is an overhead parking space canopy with solar panels affixed to the top of it. Since they are elevated structures, solar carports enable business owners to install solar panels over occupied parking lots. Plus, they don't require any new land for development. Whereas rooftop solar requires a building roof that is stable, strong and fulfills a host of other requirements, solar carports can be constructed in most open parking lots. Solar panel carports are more customizable in color, size, angle and shape than roof-mounted solar panels. You can install them at an angle that guarantees maximum exposure to sunlight.

Why do we need them in Maine?

According to the Maine Climate Action Plan 2024<sup>1</sup> update, Maine has made significant strides, already reducing emissions by 30% towards the state's 2030 goal. However, the urgency to further reduce greenhouse gas emissions is paramount to ensure we reach these goals and play our part in limiting global warming.

Transportation is responsible for 49% of Maine's carbon emissions from fossil fuels, making the sector one of Maine's most significant opportunities to combat climate change. The proposed legislation has the potential to significantly reduce these emissions, offering a hopeful path towards a cleaner and greener future.

The climate action plan states that access to reliable, convenient and affordable charging is critical to the adoption of electric vehicles (EV's) adoption. The state has a goal to expand public EV charging infrastructure to more than 700 publicly funded EV charging ports installed by 2028, including in underserved and rural communities. Recharge Maine is the state's initiative to create a convenient, reliable and accessible EV charging network across the state, especially along

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<sup>1</sup> [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.maine.gov/climateplan/sites/maine.gov/climateplan/files/2024-11/MWW\\_2024\\_Book\\_112124.pdf](https://www.maine.gov/climateplan/sites/maine.gov/climateplan/files/2024-11/MWW_2024_Book_112124.pdf)

Maine's most traveled roads and highways. Recharge Maine's goals aim to establish fast charging every 50 miles or less along Maine's major corridors, urban areas, and rural service centers. Solar carports paired with EV chargers will help reach those goals and more.

The most obvious benefit of installing a solar carport is being able to access clean, renewable electricity through solar power generation, but there are many other benefits. Solar carports are built on Parking lots in already environmentally degraded spaces. Unlike huge solar farms built in rural areas and sometimes in environmentally sensitive areas, solar carports are built on already paved or cleared parking lots.

Putting solar carports up over those spaces will improve those spaces and, at the same time, not add to increased environmental destruction. Indeed, solar parking lots reduce environmental destruction. First, by virtue of the fact that it does not take more land space but utilizes what is already available.

Another way that solar carports reduce environmental impact are when large areas of pavement are left uncovered, they can contribute to what's known as the urban heat island effect.<sup>2</sup> This is a significant issue, as it causes urban areas to become 1-7°F hotter than their surrounding areas. Commercial parking lots are a substantial source of uncovered pavements. Solar carports, with their canopies of solar panels, provide shade to parking lots, reducing the amount of sunlight that directly heats the pavement. By doing so, they play a crucial role in reducing the urban heat island effect and mitigating climate change.

According to The U.S Department of Energy<sup>3</sup>, the main cause of reduced fuel economy is running a car's air conditioning system in hot weather. Under very hot conditions, using the AC can reduce a conventional vehicle's fuel economy by more than 25%. A shade structure reduces the need to crank the AC.

Solar carports and EVs are a perfect match. Pairing solar power with EV charging reduces the demand on the electrical grid and saves money. One study by the University of Maryland School of Public Policy<sup>4</sup> found that those who purchased an EV increased their hourly power usage by 0.4 kilowatt-hours (kWh). However, those who also added solar panels reduced their hourly usage by 1.4 kWh. This means that solar carports not only save money but also limit the impact on the electrical grid, especially during peak times.

Parking lot solar produces local electricity that is used locally. When you add EV charging to solar canopies, you send the sun's energy directly into the vehicles parked under those canopies. Electricity production cannot get any more local or direct than that!

Solar carports paired with EV chargers benefit our environment, businesses, electric rates and reduced grid usage. They will provide the energy needed for EVs and hybrid cars. They will reduce the degradation of green spaces and play a significant role in reducing greenhouse gas emissions. There are just so many benefits for our state to create initiatives to incorporate solar carports paired with EV chargers. This bill before you will benefit our entire state, from small and large business owners to everyday people who live and work here or are traveling and visiting our great state.

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<sup>2</sup> <https://www.sunvalleysolar.com/blog/are-solar-canopies-and-carports-worth-it#:~:text=Reduce%20urban%20heat%20islands&text=Installing%20solar%20carports%20over%20commercial,reflect%20back%20into%20the%20environment.>

<sup>3</sup> <https://www.fueleconomy.gov/feg/hotweather.shtml>

<sup>4</sup> <https://cgs.umd.edu/research-impact/publications/impacts-co-adoption-electric-vehicles-and-solar-panel-systems>

This bill will provide clean energy and resources needed across our state and bring it significantly closer to reaching its climate goals.

Thank you for your time and consideration. I am happy to answer any questions you may have.