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*Testimony of Rep. Charles Skold presenting
LD 1232 - An Act to Increase Adoption of Solar Power in Maine
Before the Joint Standing Committee on Energy, Utilities and Technology*

Senator Lawrence, Representative Zeigler, and esteemed colleagues on the Joint Standing Committee on Energy, Utilities and Technology, I am Charles Skold, representing part of Portland in House District 119. I am honored to be here to present LD 1232, An Act to Increase Adoption of Solar Power in Maine.

I would like to quickly begin by addressing the question, why is it important an important task to increase adoption of solar power in this state?

Maine has led the way on addressing the threats of climate change by adopting an ambitious climate action plan that fulfills our part of keeping average global temperature increase below 1.5 degrees Celsius. This plan, named "Maine Won't Wait" commits our state to a goal of 80% Clean Energy Use by 2030 and 100% Clean Energy Use by 2050, and recently the Governor has announced intention to speed up that goal so that we reach 100% Clean Energy by 2040.

When it comes to making sure our state meets these important goals, solar power is one of the Clean Energy technologies that will be part of reaching 100% Clean Energy Use in Maine. And while large solar array projects that we see popping up around the state are one component of solar power generation, another component not to be overlooked is the potential of rooftop solar projects. Rooftop solar power takes unused space at the top of a building and turns it into a clean energy generator with only the power of heat and light from the sun.

As an aside I will note that growing up I was a member of the Boy Scouts, Troop 45 Freeport Maine. The Scouting motto is "Be Prepared." Well, the point of this bill is to be prepared by planning ahead. It would acknowledge that when we are building new buildings in this state, we should be planning ahead to make sure that the building's rooftop is designed so that it has the potential for solar use, without the need to go through expensive retrofitting in the future.

I think it's important to note that this bill does not include any requirements to install rooftop solar panels. I repeat, this bill does not include any new provisions that would require anyone to

install rooftop solar panels. There may be other places in the law that require installing rooftop solar in some cases, and this bill does not intend to add or detract from those requirements. The only new requirement that this bill adds, is that buildings be constructed in such a way so that an installation of solar panels is possible on a portion of the rooftop, whether they put them on now, or sometime in the future, or whether that building never gets rooftop solar at all.

This requirement for “solar-ready” zones on the rooftops of certain building sizes is the first part of this bill. The second part is also important for encouraging adoption of rooftop solar: fast-tracking the permitting process for small and relatively small scale solar projects.

When a homeowner or condo association or owner of a large residential building or small business owner has a solar-ready roof, and they want to install solar panels, they go through a permitting process. Right now the PUC divides up solar projects into 4 Tiers based on a number of factors including size of the project. Currently, Tier 1 is to some-degree “fast-tracked” for approval, while Tier 2 and above go through a longer process. This bill seeks to expand Tier 1 by a modest amount, so that more rooftop solar can be approved at a faster rate.

Currently Tier 1 goes up to 25 kw, which could be enough for a large house. However, Tier 2 goes from 25 kw all the way up to 2000 kw. This bill would allow Tier 1 projects to go up to 100 kw, which could be what a larger building or small business needs, but certainly still a relatively small solar project. Something at the size of 2000 kw (or 2 MW) is a much larger project and is rightly included in a longer Tier 2 approval process. However, something at 100kw, which is just 5% of 2000 kw, is a much smaller project and should be fast-tracked along with other smaller projects in Tier 1.

As an example, consider a small business owner that wants to install rooftop solar, and they consult with a solar provider and they determine that a project of 30-40 kw is appropriate. Right now that owner is forced to go through a longer approval process rather than the fast track of Tier 1. Or they may decide for the sake of faster approval to make the project smaller and submit a 25kw project, preventing an additional 15kw of clean energy from being constructed. To reach our 100% Clean Energy goal, we need to be encouraging more rooftop solar, not less.

I will add three notes about potential changes this committee may want to include in this bill, based on the testimony and questioning in today’s hearing.

The first question, is what size buildings should fall under the requirement for solar-ready zones? This bill suggests that buildings of 25,000 sqft or larger be subject to this requirement. I encourage the committee to investigate during the hearing whether that size is too small or too large. While the State of New Jersey has adopted a solar-ready statute that applies only to warehouses of 100,000 sqft, California has solar-ready building codes that require all buildings, including single family residential units to include a solar-ready zone. Buildings of all sizes can utilize rooftop solar, so I would encourage the committee to keep this number as low as possible, to encourage maximum adoption of rooftop solar in this state.

The second question, is what should define a solar-ready zone? This bill suggests that a solar-ready zone should be 40% of the available roofspace minus any mandatory setbacks. That

standard comes from New Jersey, while the California codes mandate a smaller portion. Of course, California gets more sun than the Northeast so a smaller zone may work for them.

Thirdly, this bill cites the 2018 International Energy Conservation Code Appendix C, which I have attached to my testimony. It's possible that this is not the most relevant code to cite, understanding that our state has adopted the 2015 IECC code and may be considering adopting a more recent version.

I am happy to work with all stakeholders between this hearing and the work session to make sure that the correct codes are cited, and that we have a consensus on what would be the most useful definition and requirements for a "solar-ready zone."

Thank you and I'm happy to answer any questions you may have.

2018 International Energy Conservation Code Appendix CA

APPENDIXCA SOLAR-READY ZONE—COMMERCIAL

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User note:

About this appendix: Appendix CA is intended to encourage the installation of renewable energy systems by preparing buildings for the future installation of solar energy equipment, piping and wiring.

SECTION CA101 SCOPE

CA101.1 General.

These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION CA102 GENERAL DEFINITION

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

SECTION CA103 SOLAR-READY ZONE

CA103.1 General.

A solar-ready zone shall be located on the roof of buildings that are five stories or less in height above grade plane, and are oriented between 110 degrees and 270 degrees of true north or have low-slope roofs. Solar-ready zones shall comply with Sections CA103.2 through CA103.8.

Exceptions:

1. A building with a permanently installed, on-site renewable energy system.
2. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.
3. A building where the licensed design professional certifies that the incident solar radiation available to the building is not suitable for a solar-ready zone.
4. A building where the licensed design professional certifies that the solar zone area required by Section CA103.3 cannot be met because of extensive rooftop equipment, skylights, vegetative roof areas or other obstructions.

CA103.2 Construction document requirements for a solar-ready zone.

Construction documents shall indicate the solar-ready zone.

CA103.3 Solar-ready zone area.

The total solar-ready zone area shall be not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetative roof areas and mandatory access or set back areas as required by the *International Fire Code*. The solar-ready zone shall be a single area or smaller, separated sub-zone areas. Each sub-zone shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.

CA103.4 Obstructions.

Solar ready zones shall be free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights and roof-mounted equipment.

CA103.5 Roof loads and documentation.

A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41 kg/m²) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load shall be indicated on the construction documents.

CA103.6 Interconnection pathway.

Construction documents shall indicate pathways for routing of conduit or piping from the solar-ready zone to the electrical service panel or service hot water system.

CA103.7 Electrical service reserved space.

The main electrical service panel shall have a reserved space to allow installation of a dual-pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the end of the panel that is opposite from the panel supply conductor connection.

CA103.8 Construction documentation certificate.

A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or registered design professional.