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Bob Blanchard, Project Management and Planning Services Consultant
City of Des Moines
400 Robert D Ray Drive
Des Moines, IA 50309
Via email: REBlanchard@dmgov.org

Re: Proposed solar regulations in the Public Review Draft of the City's zoning update

Dear Mr. Blanchard,

On behalf of the Iowa Environmental Council, an alliance of over sixty Iowa organizations with interests including public health, land use, agriculture, conservation, and clean energy, I am offering comments on the recently released Public Review Draft of new proposed zoning regulations for the City of Des Moines ("the City"). Many of our individual members live and work in Des Moines, and will be directly affected by the proposed rules. Our comments about the draft provisions related to solar energy, and our suggested revisions to strengthen these provisions, are explained below.

- I. As stated in the comprehensive plan, Des Moines' new zoning ordinance should clearly encourage and not inhibit sustainable development and the use of local renewable energy resources.**

The new comprehensive plan includes the following goals and policies (all emphasis added to original):

*"Evaluate capacity for **implementation of and adaptation to green infrastructure** [including solar access] in the city."* Public Infrastructure and Utilities Goal 2.

*"The City of Des Moines will **strive to reduce greenhouse gas emissions** by encouraging energy efficient buildings, reducing vehicle miles traveled, increasing landscape plantings, and utilizing green infrastructure."* Land Use Policy 6 & Public Infrastructure and Utilities Policy 10.

*"Encourage the use of **local renewable energy resources, technology, and design, and consider code and process amendments that encourage or do not inhibit** sustainable development practices."* Public Infrastructure and Utilities Policy 11.

“Update zoning standards to support the installation and maintenance of solar access.”
Public Infrastructure and Utilities Policy 16.

“Develop a new zoning ordinance and other land development regulations consistent with the goals and policies of Plan DSM.” Land Use Policy 1.

By directly addressing solar for the first time, the draft ordinance has made important progress towards these goals. In particular, the provisions in the draft ordinance allowing rooftop or building-mounted solar in every district, permitted as of right (without a conditional use permit), support the use of solar energy by homes and businesses. Rooftop and building-integrated solar installations have minimal land use impacts and it is therefore appropriate that they are expressly allowed as of right. These provisions should be retained fully in the final ordinance. However, to fully “support the installation and maintenance of solar access,” further revisions are needed, as detailed below.

II. The Ordinance should be revised to clearly allow solar energy systems as a principal land use.

Although the Proposed Zoning Ordinance Public Review Draft (“the Ordinance”) allows solar installation as a sub-category of accessory structure, given the goals and policies listed above, we are disappointed to see that the proposed rules do not address the installation of solar as a principal use at all.

Chapter 134 should be revised to expressly allow solar as a principal land use in appropriate districts.

The Ordinance’s Zoning chapter includes six main principal land use categories, further divided into more specific subcategories. Solar energy systems do not clearly fit into any of these categories as they are currently defined. For example, one of the six major groupings of principal land use categories, “Public, Civic and Institutional,” includes subcategory 3.4.11: “Utilities and Public Service Facilities.” The definition lists several specific examples, but solar energy systems are not included.

The Ordinance should be revised to clearly provide for the installation of solar as a principal land use. Des Moines’ diversity of land uses means there are many areas—airport grounds, buffer areas around treatment plants or industrial areas, brownfields that cannot be redeveloped—within the city limits that are appropriate for principal use solar development. Not allowing this use would mean a lost opportunity for both the City and for its residents. Solar is popular among Iowans and our state policies both reflect and support this interest. Last year in Cedar Falls, the local utility installed the state’s largest community solar project in the corner of a city park. The 1.5 megawatt (MW) community solar project, “Simple Solar,” has been extremely popular with local residents, and currently there is a waiting list to purchase shares in the solar array. We would expect a similar community solar project in Des Moines to be enthusiastically received, particularly by its younger residents. (Millennials have a strong interest in solar, with more than half wanting to sign up for solar panels in the next five years.)ⁱ The current draft of the revised ordinance, by not clearly allowing solar as a principal use, is inconsistent with both the overall vision of an innovative, sustainable city put forth in the new comprehensive plan, and with the specific goals and policies above.

III. The Ordinance’s regulations should be revised so as not to inhibit the installation of freestanding solar.

IEC’s second concern about the Ordinance is that it appears to severely restrict freestanding or ground-mounted solar as an accessory structure. Freestanding solar is only allowed in a few districts, and the requirements for these systems are overly burdensome.

Freestanding solar, like building-mounted systems, should be allowed in all districts.

According to the Accessory Structure Table on p. 135-1-71, freestanding solar is only permitted in agricultural, industrial, and public/civic/institutional districts. It is not a permitted accessory structure in any other district, including any neighborhood districts, even as a conditional use.

We are hoping that the table is merely in error, as this restriction of freestanding solar inconsistent with the comprehensive plan policies identified above and with the provisions for building-mounted solar, which is permitted by right in every type of district. Furthermore, in the text of the regulations pertaining to accessory structures, size restrictions are specified for freestanding solar energy systems located “in any MX, N, or NX district,” which it does not make sense to include if freestanding systems are indeed prohibited in these districts. We hope to see the table corrected in the next draft of the ordinance to resolve this inconsistency and allow freestanding or ground-mounted solar as an accessory structure in these districts. Furthermore, the revised table should allow some kind of permitting path for additional districts as well, including CX and RX districts, to enable businesses and office buildings to install freestanding solar energy systems that meet the Ordinance’s development standards.

The height restrictions for freestanding systems should be increased to workable limits.

In addition to revising the Ordinance to allow homes and businesses to install freestanding solar, the City should ensure that its requirements for such systems are actually workable. Because solar panels can be 6 feet long, and the Ordinance requires a 3-foot minimum clearance, the 6-foot height restriction on lots smaller than 5 acres would make installation of such a system difficult if not impossible. An Iowa-based installer made this point in regards to West Des Moines’ proposed height restriction of 7 feet for ground-mounted accessory solar, which was subsequently changed to 10 feet in the final ordinance.ⁱⁱ We also note that the Local Government Solar Toolkit’s Model Solar Ordinance developed for Iowa by the Great Plains Institute includes a height limit of 20 feet for ground- or pole-mounted systems “when oriented at maximum tilt.”ⁱⁱⁱ

Most solar installations at homes and businesses are likely to be building-mounted. However, in some instances freestanding systems may be the best option for solar access (for instance, due to the position of the building on the lot or the orientation of the roof), or may be more cost-effective in terms of producing enough energy to offset costs. Prohibiting their installation may mean that an anticipated project is no longer viable, causing property owners to forgo the investment altogether. We strongly encourage the consultants and city staff to reconsider this height restriction, so that property owners have the flexibility to choose a freestanding solar energy system. The revised height restriction should be at least 10 feet (per

West Des Moines), but a taller height restriction would encourage more solar installations (e.g., up to 20 feet per Solar Toolkit).

IV. The Ordinance should not include unworkable standards that make the installation of accessory solar energy systems impracticable.

The draft Ordinance includes several standards and restrictions that are not in line with recommended best practices and/or are actually unworkable. These include the 6-foot height restriction and 3-foot ground clearance requirement for freestanding solar discussed above, the 4-inch distance-from-roof guideline for flush-mounted rooftop solar installations, and potentially the color requirements for freestanding solar.

The 4-inch distance-from-roof guideline for flush-mounted systems should be removed

The proposed Ordinance requires flush-mounted solar systems to be “less than 4 inches from the roof surface whenever possible.” According to several central Iowa solar installers that we asked to review this provision, this is not a workable standard. Most available mounting systems are closer to 6 inches high, making the 4 inch distance difficult to accommodate. In addition, the Solar ABC’s standard is 10 inches.^{iv} The language in the draft ordinance indicates potential flexibility by stating that flush-mounted systems should be less than 4 inches from the roof surface “whenever possible,” but this guideline is inconsistent with the industry standard for such systems and is unlikely to be possible in the vast majority of installations. As such, we question its utility in the ordinance and recommend that it be removed. As an alternative, the Solar ABC’s standard of 10 inches could be adopted.

Silver and metallic should be allowed as acceptable colors for freestanding systems

Finally, the freestanding solar provisions require systems to be “gray, natural green, or beige in color, with the exception of the solar photo-voltaic panels” or the system must be screened from view. In our experience, the rack systems used for freestanding solar are frequently galvanized steel or aluminum materials and may be more commonly described as ‘silver’ or ‘metallic’ in color. We recommend expanding the list of acceptable colors in this provision to include both silver and metallic. Alternatively, it may be better to prohibit only a few specific colors that are uncommon for racking and that the City would want screened – e.g., bright red, yellow or orange.

V. The Ordinance should be revised to “encourage” the installation of solar and other renewable energy resources.

At a minimum, the Zoning chapter should be revised to include solar uses.

Adding provisions that address the installation of solar energy systems is a welcome and much-needed update to Des Moines’ land use regulations. However, the comprehensive plan written to provide the foundation for this update includes as one of its policies: “*Encourage* the use of local renewable energy resources, technology, and design, and consider code and process amendments that encourage or do not inhibit sustainable development practices [emphasis added].” Public Infrastructure Utilities Policy 11. In the chapters of the proposed ordinance

provided for public review, there is no language encouraging the use of wind or solar (for instance, in Section 134-1.5, describing the Purposes of the zoning ordinance).

Furthermore, the provisions related to solar access are difficult to locate. The word “solar” does not actually appear anywhere in Chapter 134: Zoning, even as a cross-reference. Most users of the regulations will probably not intuitively look in the Building Types section of Chapter 135 to discover whether solar is a permitted use in their district. We understand that this is a form-based rather than a traditional zoning code oriented around uses. However, we hope the city staff and consultants will consider revisions to the language of the zoning chapter and/or to the organization of the ordinance as a whole in order to make it clear that solar is a permitted use in all districts, and is in fact *encouraged*.

The proposed ordinance is a big step forward towards a more sustainable future for the city. We strongly encourage the consultants and city staff to consider further revisions that fully implement the goals, policies, and vision of the comprehensive plan by supporting *and encouraging* solar energy as both an accessory and a principal use. Thank you for the opportunity to comment on the Public Review Draft of the proposed zoning, planning and design regulations for the City of Des Moines. We look forward to participating further in the public review process following the release of the Public Hearing Draft.

Sincerely,

/s/ Clare Kernek

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ⁱ Ollagnier, Jean-Marc. “Energy Providers Must Engage Millennials Today or Risk Losing Them as Customers.” *Forbes*, 26 August, 2016, <https://www.forbes.com/sites/energysource/2016/08/25/energy-providers-must-engage-millennials-today-or-risk-losing-them-as-customers/#455bae1d6411>.

ⁱⁱ Norvell, Kim. “Experts worry W.D.M. solar proposal too limiting.” *Des Moines Register*, 24 February 2016, <http://www.desmoinesregister.com/story/news/local/west-des-moines/2016/02/24/experts-worry-wdm-solar-proposal-too-limiting/80306718/>.

ⁱⁱⁱ *Local Government Solar Toolkit: Planning, Zoning, and Permitting, Iowa*. Great Plains Institute for Sustainable Development. March 2016. Available online at <http://www.betterenergy.org/publications/iowa-solar-toolkit>.

^{iv} All publications of the Solar American Board for Codes and Standards are available online at <http://www.solarabcs.org/>.