

MAKING COMMUNITIES “SOLAR READY”

SOLAR POWERING IOWA WEBINAR
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Better Energy.
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Conclusions

- 1. Solar energy development is local development.** Local government policies and regulations determine how, and whether, local solar resources are used



Photo credit: U.S. DOE SunShot



Photo credit: CR Planning

Conclusions

1. Local governments are key to creating and sustaining a clean energy future.



Photo credit: Meet Minneapolis

What are Energy “Reserves”?

- ✓ **Proved oil and gas reserves** - those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations.

(SEC definition of proved reserves)



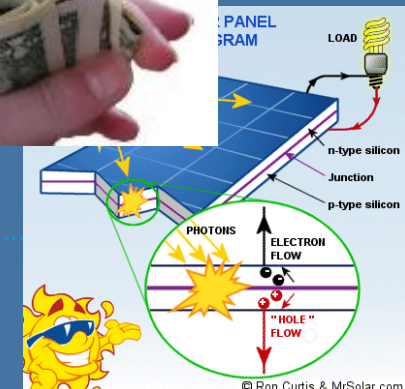
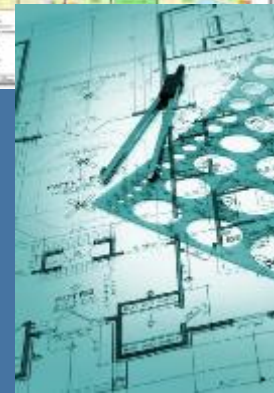
What are Energy “Reserves”?

- ✓ **Proved solar reserves** - those quantities of solar energy, which, by analysis of atmospheric and land cover data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known access to direct sunlight, and under existing economic conditions, operating methods, and government regulations.



Five Principles for Solar Ready Communities...

- 1. Comprehensive Plans** that describe solar resources and encourage development
- 2. Development Regulations** that explicitly address solar development in its varied forms
- 3. Permitting Processes** that are predictable, transparent, and documented
- 4. Public Sector Investment** in the community's solar resources
- 5. Local Programs** to limit market barriers and enable private sector solar development



Solar Ready Communities

A. Comprehensive Plans that:

- ✓ Identify and define solar resources,
- ✓ acknowledge solar development benefits, co-benefits, and development opportunities and conflicts in the community (consistent with Smart Growth Principles . . .)

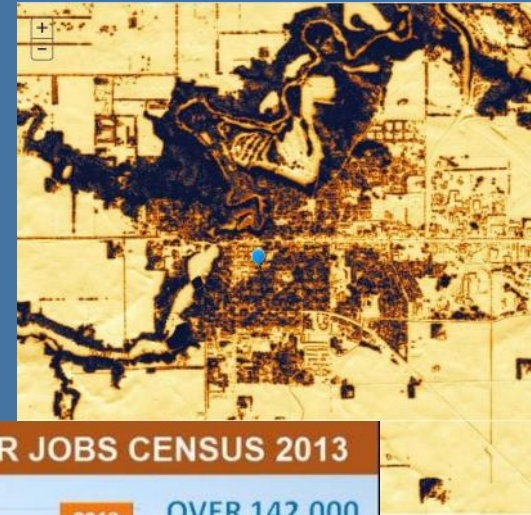


Photo credit: Fresh Energy/Giving Tree

Solar Ready Communities

B. Development Regulations that:

- ✓ explicitly address solar development in its varied forms,
- ✓ creates as-of-right installation opportunities, and
- ✓ set clear and predictable standards for balancing solar resources with other resources and capturing co-benefits.

Iowa Local Government Solar Toolkit

IV. Permitted Accessory Use - Active solar energy systems shall be allowed as an accessory use in all zoning classifications where structures of any sort are allowed, subject to certain requirements as set forth below. Active solar energy systems that do not meet the visibility standards in C. below will require a conditional use permit, except as provided in Section V. (Conditional Accessory Uses).

A. Height - Active solar energy systems must meet the following height requirements:

1. Building- or roof- mounted solar energy systems shall not exceed the maximum allowed height in any zoning district. For purposes for height measurement, solar energy systems other than building-integrated systems shall be given an equivalent exception to height standards as building-mounted mechanical devices or equipment.
2. Ground- or pole-mounted solar energy systems shall not exceed 20 feet in height when oriented at maximum tilt.

B. Set-back - Active solar energy systems must meet the accessory structure setback for the zoning district and primary land use associated with the lot on which the system is located.

1. **Roof- or Building-mounted Solar Energy Systems** - In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure. Solar collectors mounted on the sides of buildings and serving as awnings are considered to be building-integrated systems and are regulated as awnings.
2. **Ground-mounted Solar Energy Systems** - Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at minimum design tilt, except as otherwise allowed for building mechanical systems.

C. Visibility - Active solar energy systems shall be designed to blend into the architecture of the building or be screened from routine view from public right-of-ways other than alleys. The color of the solar collector is not required to be consistent with other roofing materials.

Height - Rooftop System

This ordinance notes exceptions to the height standard when other exceptions are granted in the ordinance. Communities should directly reference the exception language, rather than use the placeholder language here.

Height - Ground or Pole Mounted

This ordinance sets a 20-foot height limit, assuming a standard that is higher than typical height limits for accessory structures, but lower than the principal structure. An alternative is to balance height with setback, allowing taller systems if set back farther, for instance, an extra foot of height for every additional two feet of setback. In rural (or large lot) areas solar resources are unlikely to be constrained by trees or buildings on adjacent lots, and the lot is likely to have adequate solar resource for a lower (10-15 foot) ground-mount application.

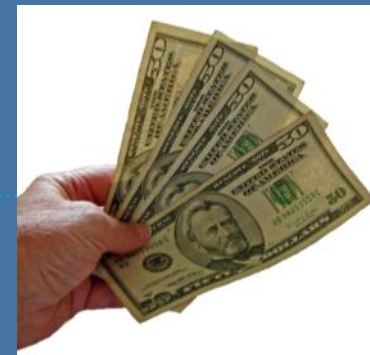
Building Integrated PV

Building integrated solar energy systems can include solar energy systems built into roofing (existing technology includes both solar shingles and solar roofing tiles), into awnings, skylights, and walls. This ordinance only addresses building integrated PV, but examples of building integrated solar thermal applications may also be available.

Solar Ready Communities

C. Permitting practices that:

- ✓ Reduce time spent on acquiring permits and conducting inspections
- ✓ Make the permit process transparent and predictable to both staff and applicants
- ✓ Ensure the permit process reflects industry best practices
- ✓ Establish a permit fee that appropriately covers local government review and inspection costs



Solar Ready Communities

D. Public Sector Investment in the community's solar resources to demonstrate viability, community commitment, technological elements.



Photo credit: Bruce Schnaak Photography, City of Saint Paul, City of Minneapolis

Solar Ready Communities

E. Local Programs to remove or limit market barriers (lack of information, financing, workforce) that prevent capture of the economic, environmental, and social value of the community's solar resources.



THANK YOU!

Local Government Solar Toolkit

PLANNING, ZONING, AND PERMITTING



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Iowa



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