SOLAR ENERGY RESOURCE GUIDE

For Tax-Exempt Entities in the Greater Kansas City Area

This guide is intended to support you when considering a solar project for your commercial building. Understanding industry-specific terms, funding methods and how your solar installation will interact with the utility grid will help your solar project meet or even exceed the goals of your organization.

Getting Solar Right: Key Considerations

System Right-Sizing

- Maximium allowable system size = energy demand from the previous year, confirm with your utility.
- Consider ⅔ of previous year's energy demand to maximize your cost benefit ratio with net metering or ⅓ production for systems using parallel generation
- Avoid oversizing: Utilities do not compensate excess export at retail rate

Layout & Design

- Utilize unshaded roof or ground space facing south, southwest, or southeast
- Consider utility interconnection standards when designing layout
- Consider roof age and structural capacity
- Integrate battery storage if demand or time-of-use rates apply or for back-up power
- Ensure contractor performs shading analysis and uses accurate production modeling (e.g., NREL SAM, Heliocope, PVsyst, or Xendee for micro-grid design)

Procurement Tips

- Use performance-based specifications in Requests for Proposals (RFPs)
- Get help from experienced design professionals and owner's representatives
- Vet contractors through MOSEIA (Missouri Solar Energy Industries Association)
- Consider regional experience and public-sector references

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Quick Tips for Public Projects

- Conduct an energy audit or model energy use for new construction
- Reduce energy demand where possible
- Engage a design consultant/engineer and/or owner's representative early
- Consider procurement strategies and compare cost/benefit for multiple options
- Coordinate with legal/tax experts for Direct Pay compliance
- Consider solar-readiness on all new public facilities

Terms to Understand

Behind-the-Meter – Describes energy systems located on the customer's side of the utility meter. These are on-site generation or storage systems (for example, solar panels or batteries) that supply power directly to a building without first going through the utility's meter. Behind-the-meter systems are typically connected to the grid, but the power they produce is used on-site before any excess is measured for the grid.

Bi-directional Meter – A bi-directional meter will replace your current meter and is an electricity meter that can measure power flow in two directions: From the grid to the consumer (energy consumption or import), and from the consumer to the grid (energy generation or export).

Avoided Fuel Cost – The fuel expense a utility saves when it doesn't have to generate some electricity itself. It represents the utility's average cost of fuel for power generation that is avoided because your solar energy (or other customer-supplied power) provided that electricity instead.

Tariffs – In the energy context, tariffs are the official rate plans or pricing schedules set by the utility. A tariff outlines how you are charged or credited for electricity, including the rates per unit of energy and any other billing rules or fees. Essentially, it's the structured pricing plan that determines the cost of your electric service.

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Utility Interconnection Programs

Check local utility tariffs and engage your utility and/or trusted design professional early in design to clarify the interconnection process and the available programs in your area.

Net Metering: A billing policy that allows solar energy system owners to earn a 1:1 credit for the electricity they export back to the grid. If your solar panels produce more power than you use, the surplus goes to the utility grid and reduces your electric bill via credits.

Parallel Generation: A billing policy typically used for larger systems that produce electricity at your facility while also using power produced by the grid. It refers to your solar panels or other forms of generation running "in parallel" with the utility's supply. The compensation agreement is generally an automatic buy-sell arrangement with the utility. The utility charges for all the delivered kWh and provides a credit for all the received kWh at different rates.

	Net Metering	Parallel Generation
Available In	Available in Missouri & in Kansas for investor-owned utilities, other utilities in Kansas vary	Missouri & Kansas
Retail Credit for Export	Yes (up to monthly consumption)	No - Typically avoided cost rate
Capacity Limits	MO: 100 kW DC KS: 150 kW AC(~200 kW DC)	Typically no size cap but compensated at lower utility avoided fuel cost (vs. higher retail rate)
Billing Type	Monthly netting	Instantaneous metering (automatic buy-sell)
Best Use Case	Offset building usage at best rate, ~60-90% of net zero	Behind the meter offset with little to no export, ~30-40% net zero

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Financing Options

Public entities have multiple pathways to fund solar projects. The right choice depends on ownership goals, budget flexibility, and risk appetite.

OPTION	OWNERSHIP	UPFRONT COST	TYPICAL USE	NOTES
Cash Purchase	**Public Entity**	**High**	**Capital budget or bond-funded projects**	**Best long-term savings; eligible for Direct Pay**
Traditional Loan	**Public Entity**	**Moderate**	**Low-Interest green loan programs or banks**	**Retains ownership & tax benefits (via Direct Pay)**
Solar Services Agreement (SSA)	**Third Party**	**Low**	**Off-Balance-Sheet Financing**	**3rd Party owns/operates system; fixed monthly or annual fee**
Municipal Lease/Lease-Purchase	**Public Entity**	**Low to Moderate**	**Budget-concious public entities**	**Tax-exempt lease; ownership transfers at end**
PACE Financing	**Public Entity**	**Low**	**Off-Balance-Sheet Financing via assessment**	**Paid via "property" assessment; not always allowed**

Direct Pay (Elective Pay) Option

Public entities can receive the full 30% federal investment tax credit as cash refund. Bonus credits possible in 10% increments depending on the project and location. Coordinate closely with tax/legal advisors early (this document is not tax advice).

- Projects that begin construction after July 4, 2026 must be placed in service by December 31, 2027 to be eligible for a credit. If construction begins before July 4, 2026, it must be placed in service within four years to meet continuity requirements.
- Projects that begin construction after December 31, 2025 will also be subject to Foreign Entity of Concern Material Assistance threshold provisions.

CLIMATE ACTIONKC

We are here to help!
Contact: info@climateactionkc.com
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