EXHIBIT B - HSR2 Memo to Joint Committee

SOLAR DEVELOPMENT TOOLKIT

CENTER *for* PLANNING EXCELLENCE

ACKNOWLEDGMENTS

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*Indicates a previous role held in 2022-23

This toolkit is the product of a partnership between CPEX and Louisiana Department of Energy and Natural Resources

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SUMMARY OF ACRONYMS USED IN THIS GUIDE

CAP—Louisiana Climate Action Plan

CBA—Community Benefit Agreement

CPEX—Center for Planning Excellence

DENR—Louisiana Department of Energy and Natural Resources

DOE—US Department of Energy

EIA—US Energy Information Administration

GHG—Greenhouse Gas

ICMA—International City/County Management Association

IREC—Interstate Renewable Energy Council

kW—Kilowatt

kWh—Kilowatt Hour

MISO—Midcontinent Independent System Operator

MW—Megawatt

NEC—National Electrical Code

PV—Photovoltaic

SES—Solar Energy System

DEAR READER,

Solar energy offers many exciting opportunities for Louisiana communities. Thoughtful and informed planning is essential for empowering communities to develop solar energy in a way that meets their specific needs and optimizes the benefits they experience. To that end, I am excited to share with you the Model Solar Toolkit, a tool developed by Center for Planning Excellence (CPEX) for local governments to guide land use for solar energy system investments.

At CPEX, we are committed to assisting Louisiana communities in creating a vision for their future and strategies for realizing that vision. And the future is bright—clean energy technologies are becoming more efficient and cost effective. Additionally, ongoing development of technologies and supportive policies continue to make clean energy production and consumption more accessible. As technologies and policies evolve, alternative approaches to energy infrastructure such as microgrids—local electrical grids that can stand alone or tie into the larger grid—can improve our resilience. Clean energy will play an increasingly important role in the US energy landscape, and Louisiana is particularly well suited to support solar energy due to its relatively flat topography, sunny weather, and large tracts of privately-owned land.

This Toolkit provides planning guidance and model policy language to help local governments and decision makers navigate key issues, plan, and implement solar energy systems at each of three scales: residential, community, and industrial. The Toolkit offers ways to address how solar energy systems can fit within the context of community vision, character, and existing and future land uses; how it can contribute to economic and environmental goals; and how to create a predictable and transparent process for development.

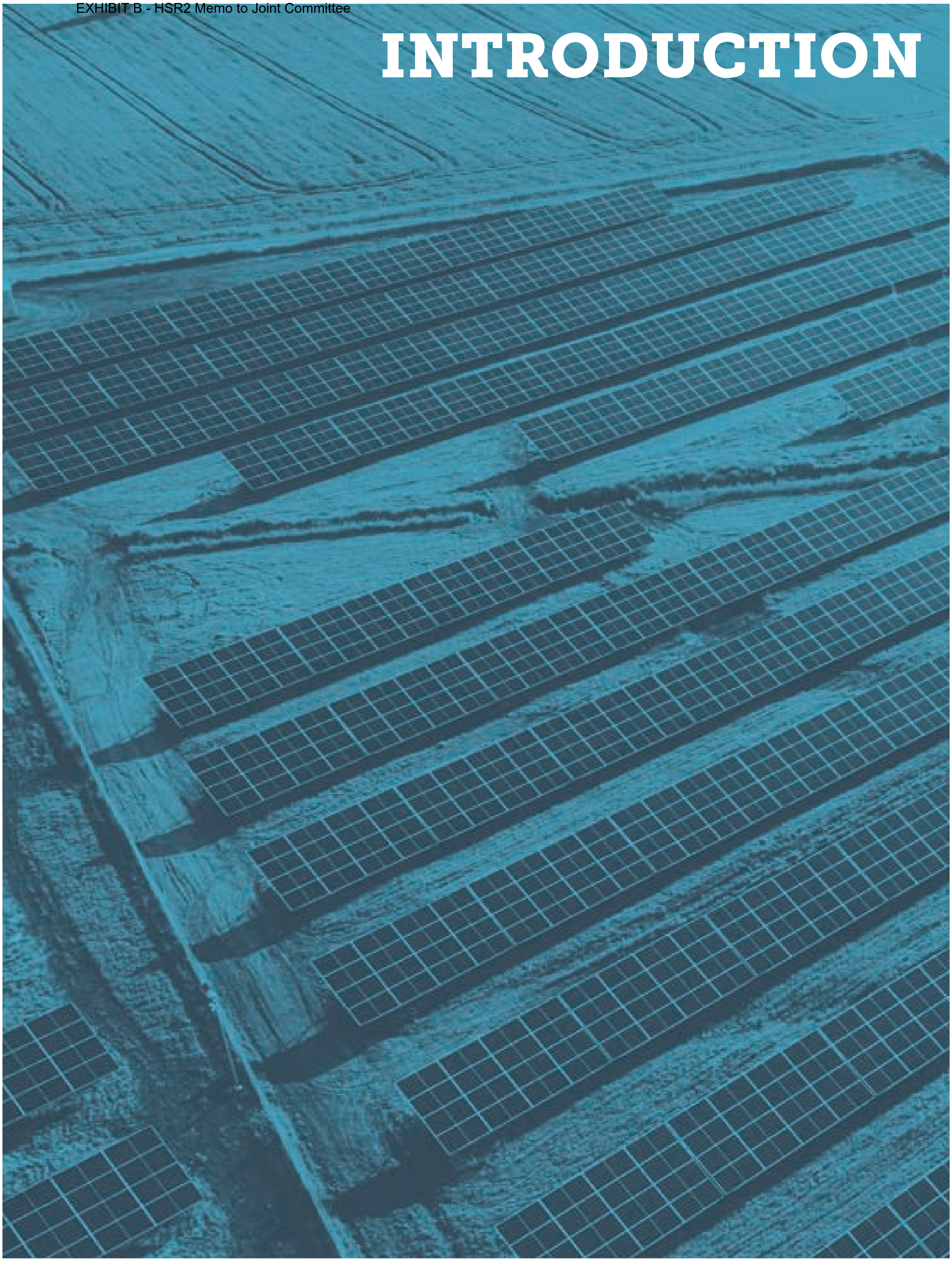
In the creation of this Toolkit, we have gathered best practices and lessons learned from around the country, worked closely with a diverse Advisory Committee, and applied our experience and expertise in community and land use planning, informed by nearly two decades of working directly with Louisiana communities. I hope you will find this Toolkit valuable as your community begins the journey of determining the role that solar energy systems will play in securing your energy future.

Sincerely,

Camille Manning-Broome

Camille Manning-Broome

INTRODUCTION



PURPOSE OF THE TOOLKIT

The opportunity for solar development in the United States has grown in recent years due to increased attention to climate goals, a push to diversify power supply options, improved technology, competitive costs to produce energy from solar sources, and federal funding. The Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) specifically have had a catalytic effect on solar development.

In 2022, Louisiana Governor John Bel Edwards' Climate Initiatives Task Force approved the Louisiana Climate Action Plan (CAP), which sets a goal of net-zero greenhouse gas emissions (GHG) by 2050. Toward that goal, the CAP identifies a need for increased renewable electricity generation that can meet current and future energy demand. This increased need parallels the findings that for Louisiana to meet the United States' Nationally Determined Contribution to the Paris Agreement goals, utility-scale solar will need to increase its terawatt hours produced by nearly 300 TWhs by the year 2050, according to Energy Innovation's Energy Policy Simulator

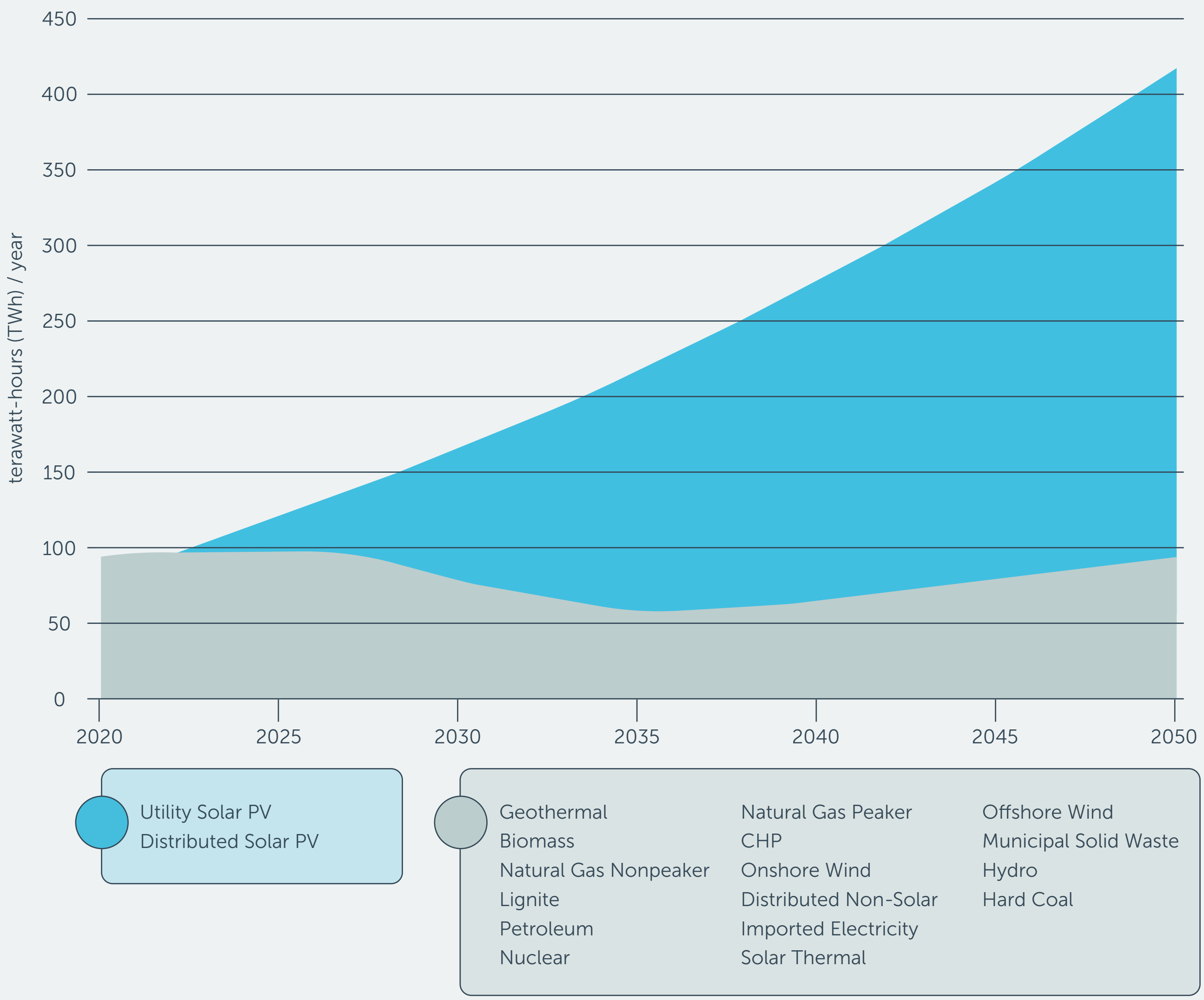
(as illustrated in the following graph). Local investments in solar energy will support the statewide net-zero GHG goal, as well as contribute to the goals to the Paris Agreement. Local investments in power generation have the further potential to increase energy efficiency for consumers and communities.

Realizing these goals at the local level has the potential to take up significant land. Louisiana parishes and municipalities regulate land use to ensure that any development is consistent with the community's values and compatible with the character of the area. Preparing these local regulations takes time, consideration, and conversation. This toolkit aims to set the table for those discussions and provide model policies for guiding local solar energy investments.

The toolkit first provides an overview of how energy from the sun can be harvested and turned into electricity as well as the two primary forms of solar energy systems. The toolkit then looks at various considerations for jurisdictions making decisions about local land use control for solar energy systems, followed by model regulations that communities can tailor to their specific needs and preferences. Throughout, the Toolkit provides definitions, examples, and best practices.

ELECTRICITY GENERATION, CAPACITY, AND DEMAND

The graph below illustrates the increase in electricity demand over time, the majority of which will have to come from utility scale and distributed solar (indicated in blue) in order for Louisiana to meet U.S. Nationally Determined Contriibution goals for reducing greenhouse gas emissions.



Energy Innovation, Energy Policy Simulator. "Electricity Generation, Capacity, and Demand – Generation, NDC Pathway." energypolicy.solutions/simulator/louisiana/en. Accessed March 26, 2024.

UNDERSTANDING SOLAR ENERGY DEVELOPMENT

TYPICAL SCALES OF SOLAR DEVELOPMENT

Solar energy development is generally categorized into three scales: individual (often referred to as small or residential scale), community, and utility (sometimes referred to as industrial scale). These scales of production each come with their own challenges and opportunities and require careful planning to ensure that they are successful, safe, and appropriate to the context that surrounds them. Solar scales can be referred to in terms of the amount of energy produced (in megawatts), and assumptions are made about the geographic footprint that would be required for said output. Because of rapidly changing technologies that have the potential to shrink these footprints, however, this Toolkit describes these facilities by ground cover area as well as the scale of properties served since those factors are more closely associated with typical land use considerations. It is important for jurisdictions to understand the specifics of each scale prior to developing policies and regulations as each scale has different functions and purposes.

INDIVIDUAL SCALE

Individual-scale solar energy systems are typically installed on the rooftops of individual homes or commercial buildings. They can also consist of small ground-mounted arrays installed adjacent to a home, on top of a carport, or on a garage. Individual-scale solar energy systems can provide a significant portion of a home's or business's electricity needs, reducing demand from the electric grid.

COMMUNITY SCALE

Community-scale solar systems, sometimes known as solar gardens, are solar energy systems that are managed and operated by local utility companies, and may be owned directly by community or other groups. These systems are designed to serve the electricity needs of multiple households, businesses, or a combination of both; are generally located on commercial and industrial rooftops, or on open land near communities; are designed to generate electricity for local usage only; and are often offered by utility companies as a service. Community scale is the least common facility type of the three solar scales in the United States, although it's the most promising for enabling community ownership of resources and microgrids. Community-scale solar is most economic at 5-10 MW in size.

UTILITY SCALE

Utility-scale solar energy systems are large-scale systems that supply electricity to the grid. These systems are typically 5 and 10 acres per 1 MW of electricity produced and can range from about 10 to hundreds or even thousands of acres in size. These systems are typically made up of multiple arrays of solar panels, inverters, and other electrical components and are located near substations or transmission lines that have adequate capacity for the amount of electricity that the solar energy system produces.

NET METERING

Many rooftop solar systems produce more energy than the house or business consumes at a given time. Net metering is a means to ensure the kilowatt-hours (kWhs) of energy customers produce and send to the grid goes toward reducing their utility bills. Net metering is a billing mechanism that allows residential and commercial customers who generate their own electricity from solar power to sell the electricity they are not using back into the grid. Differences in state legislation, regulatory decisions, and implementation policies mean that net metering mechanisms vary among states. In most of Louisiana, net metering is based on a "buy-all, sell-all" model where surplus energy not used by the customer and sent back to the grid is credited on a customer's bill at the avoided cost (wholesale) rate, rather than a one-to-one retail rate.

SPOTLIGHT ON COMMUNITY SOLAR

What are current examples in Louisiana?

The only place in Louisiana that currently has a policy framework allowing for community solar is New Orleans through the New Orleans City Council's Community Solar Program. Policy for statewide community solar or any place for community solar outside of New Orleans does not exist as of yet, but communities across the state have signaled interest in community solar development and use.

What are the opportunities and how is this being developed in other places?

Community solar has no upfront costs or at-home maintenance on panels like with rooftop solar. These projects create local jobs, foster economic growth, and support area businesses. This will stimulate investments and boost the overall well-being of the region. Community solar is an inclusive approach and makes clean energy accessible to renters, low-income households, and residents with limited roof space. Community solar provides direct financial benefits to users through savings on energy bills. By subscribing to a community solar project, individuals, groups, and businesses who are part of the project will receive a portion of the generated energy. This energy credit is applied to their electricity bills, reducing monthly expenses and providing stability and protection against fluctuating energy costs. When utility rates rise, participation in community solar acts as a hedge against rate increases. Subscribers can lock in electricity costs and know that they are shielded from future price hikes. According to the Solar Energy Industries Association, 41 states including Washington, D.C. have at least one community solar project online, with 5.6 gigawatts installed cumulatively through 2022. Research produced by Wood Mackenzie indicates that within the next five years, the US community solar market is projected to grow by 6 gigawatts of total capacity.

What needs to happen legislatively for a broader application in Louisiana communities?

Louisiana's current net metering regulations allow only up to 300 kW in system capacity for co-ownership of solar resources. To be cost effective for community solar projects, this cap would either need to be expanded, or broader policy would need to be implemented for Louisiana statewide to bring viable community solar projects online.

Are there any new federal programs that encourage community solar?

The same federal residential solar energy credit that applies for new rooftop solar also applies if you purchase an interest in an off-site community solar project. You can reference the National Community Solar Partnership website for current funding opportunities.

What are microgrids and how can they build community resilience?

A microgrid is a small scale electricity network that can connect or disconnect from the larger grid. A microgrid has the capability to support itself with its own power generation even when the larger grid experiences interruptions or disconnections, such as in extreme weather events.

TYPICAL DEVELOPMENT PROCESS FOR SOLAR UTILITIES

The process to develop large solar energy systems can last three to five years. In most cases, a solar developer exploring opportunities in a particular community will first engage with citizens and landowners to assess available land and potential for acquisition, as shown in phase one in the chart below. Oftentimes developers will not reach out to local government and permitting offices until they are two to three years in, midway through the process – phase two in the chart below. A community that is prepared for this encounter with policy direction and regulations for solar development provides a best-case scenario in which solar developers can have confidence in the process and continue with federal approvals and financing options, while the community can be assured that their preferences and expectations have been clearly established. The timeline below provides an overview of the solar development process, including the different technical reviews and analyses that take place at different stages throughout.

SOLAR DEVELOPER PROCESS

Early Stage (3-5 years out)
Project Certainty—Low

- Analyze transmission for suitability connecting sites to electrical grid (interconnection)
- Sign landowner agreements
- Preliminary site screening for environmental factors
- Screen local, state and federal regulations

Mid Stage (2-3 years out)
Project Certainty—Medium

- Interconnection studies and cost estimation
- Modeling for financial feasibility of project
- Most land identified and assembled
- Preliminary design complete
- Marketing to purchasers of solar energy (offtakers)
- Early engagement with local community
- Continuing state and federal permitting

Late Stage (1-2 years out)
Project Certainty—High

- Interconnection study final costs confirmed
- Offtake agreements signed (power purchase agreement or equivalent)
- All land identified and assembled
- Field studies completed
- Detailed engineering complete
- Obtain local permits and approvals
- Complete financing
- Hire construction contractors

UTILITY OWNERSHIP TYPES

There are a handful of methods to establish and run utilities such as investor-owned systems, municipal-owned systems, and rural cooperative utilities. Each has advantages and drawbacks. The type of ownership allows for varying degrees of flexibility by the utility in how power is distributed, as summarized in the table below. Most of the electricity in Louisiana is currently provided by investor-owned utilities.

UTILITY TYPE	DESCRIPTION
Investor Owned	For-profit utility owned and operated by investors
Municipal Owned	Nonprofit utility owned and operated by a local jurisdiction
Rural Cooperative Utilities	Nonprofit utility operated by the customers they serve

For the purposes of developing regulations, this Toolkit differentiates between two types of solar energy systems: attached and detached. From a land use regulation perspective, the primary considerations are whether the SES is attached to a building and that amount of land being used for solar energy production.

Example *St. Peter Apartments in Mid-City New Orleans, opened in 2022, is Louisiana's first net-zero building. The building hosts 50 mixed-income and affordable apartment units and provides storm-resilient energy efficiency. With solar panels on its roof, the building produces its own energy, which is stored in an on-site battery system and used when the sun isn't shining or the grid is down.*

Attached Solar Energy Systems

Attached solar energy systems typically consist of solar panels installed on building rooftops or integrated into building elements. The scale or capacity of the system is determined by the area of rooftop that is available and the amount of energy production that is desired. These systems meet the building's direct electricity needs and reduce demand on the electric grid.

According to the U.S. Energy Information Administration, the daily power usage in the United States is around 30kWh for the average American household — about 10,500kWh per year. The average residential solar energy system size is around 5kW, and can produce 65–75% of the 900kWh monthly power consumption of a typical home (eia.gov/energyexplained/use-of-energy/electricity-use-in-homes.php). The amount of energy that solar systems can produce is affected by shade, weather, size of the system, and its maintenance.

Detached Solar Energy Systems

Detached solar energy systems are designed to provide energy for multiple residential, commercial, and industrial uses. These systems may cover multiple acres, use a variety of solar technologies, and generate significant power depending on size. Systems that produce more than 5MW are generally located near substations or transmission lines to supply electricity to the grid. Currently, solar energy is sold to utility companies, and rates are negotiated back. Systems that produce less than 5MW are usually combined with energy storage systems, such as batteries and thermal energy storage, to ensure that energy generated by the solar energy system is available on demand and directly to consumers. Based on current technology and the average amount of electricity used in U.S. households, 32 acres of solar panels are required to meet the energy demand of 1,000 homes.

Example *The 50MW West Baton Rouge Solar Photovoltaic Park covers 560 acres and can power 9,600 households. Energy produced from this park is currently sold to the utility company.*

PLANNING AND POLICIES FOR SOLAR DEVELOPMENT

Historically, energy production facilities were permitted based on their emissions, but solar energy systems do not have emissions and therefore should not be regulated like traditional energy production facilities. Existing regulations around solar development include a 2021 State of Louisiana law enacted to empower the Department of Natural Resources to provide regulations concerning solar leases, LA Rev Stat § 30:1154, and 2022 legislation outlining decommissioning requirements and financial securities for detached solar energy production facilities, Act 555. However, given that detached solar energy development can take up significant portions of land, it should also be subject to land use regulations.

The rapid growth of the solar industry has created challenges for local jurisdictions to integrate this type of development into their plans and develop timely and appropriate regulations and policies. As a result, local jurisdictions may lack certainty on how to respond to solar development proposals. This section outlines community planning considerations for solar development and provides sample zoning and land use regulations to guide local decision making.

DEVELOPING PRIORITIES

When planning for solar energy development in your community, there are several important considerations. In general, solar development does not require a large quantity of local public resources compared to other types of development, such as single family or commercial development, that may necessitate public provision of utilities, public education, or police and fire services. However, large-scale solar development can tie up land that might be used for growth opportunities or other purposes over a 40–50 year time period Due to the need to be close to transmission infrastructure, solar can sometimes compete with other land uses for land development opportunities that would also benefit from the proximity of infrastructure and services. Communities might anticipate seeing other kinds of growth and development in these areas, so it is important for communities to weigh all of these options and benefits when determining the highest and best use of land during their long-range land use planning conversations.

In many rural communities, these conversations can also include concerns around the transition of farmland into large scale solar. In addition to its direct economic impact, agriculture, like many industries, has various associated economic activities, such as sugar mills, farm equipment sales and service, fertilizers sales, and so forth. Shifts in the balance of farming activities may have economic impacts upon these various businesses that are dependent on farming. It is important to understand the economic impacts and benefits of large scale solar development in relation to the existing economic activities of local farms when making long-range planning decisions.

Local jurisdictions should begin their decision-making with a transparent public process that is open to all stakeholders, including local land owners, potential developers, and other interested and impacted groups such as farmers, business owners, and neighborhood representatives. The following questions provide prompts for community discussion of the opportunities and impacts of solar development, to ensure that development decisions reflect community insights and priorities.

General Questions to Consider

- Does solar energy development play a role in advancing the community's goals toward greenhouse gas mitigation and renewable energy investments?
- Could solar energy play a role in community resiliency and storm recovery efforts through battery-coupled distribution?
- How does solar energy development support economic development goals within the community, and what are the trade-offs compared to other potential development types?
- Is the developer willing to enter into Community Benefits Agreements? What kinds of benefits would be most valued by the community?
- Is there an opportunity to provide equitable access to affordable solar energy generation? How could solar development benefit the most vulnerable populations in a community?

Questions Regarding Attached Solar Energy Systems

- Do current zoning and building regulations already adequately address attached solar energy systems?
- If not, does the community want to encourage or promote attached solar energy systems?
- Are there areas of cultural or historical significance that might warrant special standards with regard to placement and appearance of solar energy equipment?

Questions Regarding Detached Solar Energy Systems

- Does the community want to accommodate ground-mounted solar energy systems?
- If so, is there sufficient and appropriate land available?
    - **A.** What, if any, are land use constraints?
        - **i.** Are there special environmental, cultural, historic, or distinctive areas or resources that should be identified and protected from large-scale solar development?
        - **ii.** Are there forested habitat areas or corridors that should be preserved?
        - **iii.** Are there farmlands or agricultural soils that should be preserved and not

converted to a solar development or other development use?

   iv. Are there large areas of land that are close to electrical transmission infrastructure with capacity to accommodate additional power generation?

B. Of the remaining lands, is solar energy the best use? Work with solar developers to determine areas where conditions might be most favorable for solar development.

   i. Are there other preferred uses for developable lands?

   ii. Where would solar be located relative to other land uses?

   iii. Are there sites that are primed to be converted to solar development uses, such as brownfields, or underutilized land that can be easily converted?

- Would encouraging colocation of solar developments with other uses such as agriculture or parking—through regulatory tools such as relaxed coverage requirements or streamlined approval processes— address any land use concerns? If so, what conditions need to be met for accessory use for colocation?
- What are important thresholds (i.e., size, location) for requiring additional public input into local land use decisions regarding solar development proposals? Does the community want to encourage smaller-scale, detached solar energy systems by allowing them to develop without a special use permit or other special approval?

EXAMPLE POLICY GOALS

Southwest Virginia Model Solar Ordinance

Goal: Encourage local economic development and job creation through renewable energy development.

Goal: Encourage the redevelopment of brownfields and mining reclamation through renewable energy development.

Goal: Support resilient and modernized infrastructure.

POLICY SUPPORT FOR SOLAR DEVELOPMENT

Solar energy policies aim to reduce the energy burden for low-income households that have historically lacked access to funding opportunities for residential solar. By increasing access to funding sources for residential-distributed solar energy systems and weatherization assistance programs, we can decrease the amount of energy production required for energy utility companies.

Listed here are some common goals that can be used in local policy regarding solar energy.

- Reduce cost of energy
- Reduce energy burden
- Create good-quality jobs
- Increase access to funding to low-income households for energy efficiency improvements
- Advance environmental justice
- Tackle the climate crisis
- Modernize the electric grid
- Meet state and local climate goals

Illinois Model Solar Ordinance

Goal: Encourage the use of local renewable energy resources, including appropriate applications for wind, solar, and biomass energy.

Goal: Promote sustainable building design practices and management practices to serve current and future generations.

Goal: Assist local businesses to reduce financial and regulatory risks and improve their economic, community, and environmental sustainability.

Goal: Efficiently invest in and manage public infrastructure systems to support development and growth.

PLANNING TOOLS

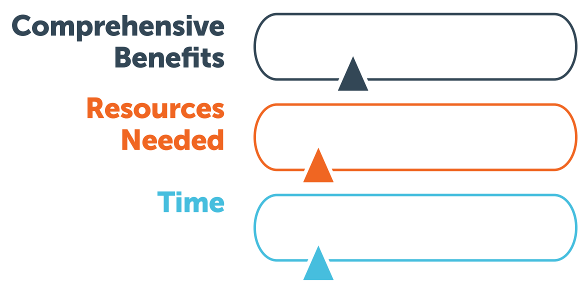
To set policy based upon community priorities, there are several planning and policy tools available with varying degrees of time, resources, and community engagement intensities associated with each. Each tool could serve as a guide for further developing rules regulating solar development.

Subarea Plan

Whether the local jurisdiction has a land use plan or not, a subarea plan can concentrate on a particular geography to address a specific land use circumstance. A subarea plan may be complementary to a Comprehensive Plan or developed as a stand-alone plan to guide solar energy development. This process can focus on assessing the opportunities, benefits, and considerations for solar development at a given location and provide more detailed direction concerning development conditions and possible Community Benefit Agreements.

Resolution

The local government council or police jury can adopt a resolution outlining the benefits of solar development to the community as well as considerations and parameters for its development. Developing and passing a resolution takes less time and resources than developing a plan, but only addresses a specific topic. A resolution foes not typically take a holistic and comprehensive approach to land use development, therefore limiting benefits to the community.



Community Benefit Agreements

A Community Benefit Agreement, or CBA, is a legal agreement between a project developer and the community in which a developer agrees to provide certain monetary, material, or social resources or improvements in tandem with a proposed project. CBAs are a common economic development tool that allow communities to harness benefits as a result of a proposed project. Communities are given an active role throughout each step of the development process to express their concerns and desires for the project. For solar development, CBAs can empower communities to ensure their priorities are reflected in the benefits they receive and can entail benefits such as local hiring commitments, educational partnerships, improvements to parks and open space, and support for senior centers. The Department of Energy encourages the use of CBAs and has developed "The Community Benefit Agreement Toolkit" to help communities learn more and take advantage of these important agreements

Executive Order

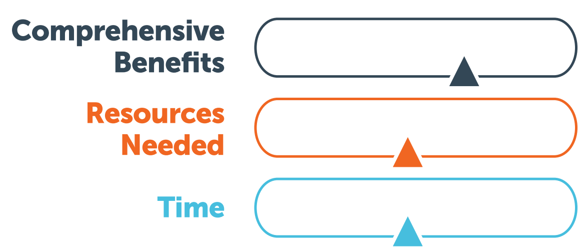
Although less common, a mayor, parish president, or police jury president may issue an executive order to signal a direction for solar energy investments. An administrative order, similar to a resolution, addresses a specific issue and can be done in relatively little time and with few resources. However, an executive order may not involve significant and comprehensive stakeholder input or provide broader community benefits compared to a land use plan.

Comprehensive Land Use Plan

If a parish or municipality has an adopted comprehensive land use plan, a review and potential update of the existing land use designations and regulations can provide insight into where solar energy development may be appropriate. Reviewing and updating a comprehensive plan usually takes time and resources, but provides comprehensive benefits to the community and supports a holistic pursuit of the vision established by and for the community.

Climate Action Plan

A Climate Action Plan primarily focuses on reducing the carbon footprint of a community through alternative transportation and mobility options, compact development, energy efficiencies, and use of renewable energy. Solar energy systems are an important strategy in reducing greenhouse gas emission. There is a positive correlation between the solar energy system's productivity and its size—today, highly productive systems require more space, which has an effect on land use. Developing a Climate Action Plan takes some time and resources and should inform and work in tandem with a land use plan.



REGULATING SOLAR DEVELOPMENT

Once planning policies are in place, their implementation relies on regulations that are consistent with their goals and objectives. A common tool to implement land use policies is a zoning ordinance, which regulates how land can be used and developed. However, some communities in Louisiana do not have zoning regulations, but opt to regulate land use and development through various ordinances that are targeted to address certain community priorities. In either case, addressing solar development may require updates to these regulations to reflect best practices and policy guidance.

It is likely that solar companies will begin consultations with communities once they have confirmed that sufficient land is available and most of the landowner agreements have been solidified, and may seek land use approvals during the late stage of project development as referenced earlier in the Development Process Timeline (page 9).

Developer's Perspective

If a community does not have policies and regulations in place when they begin seeking local government approval, the process of developing the necessary regulations adds time and uncertainty to an already lengthy development process.

Community's Perspective

Regulations and policies provide a clear declaration of the framework under which a community would consider accepting solar development.

For Both

Conversation and dialogue as early in the process as possible can identify critical issues and help to avoid unexpected delays and setbacks in the process.

For communities with a zoning ordinance, the components outlined in this chapter can be folded into the framework of the existing zoning ordinance by amending definitions, ensuring land use categories include specific references to solar development, and tailoring development standards to accommodate solar development in a way that is compatible with community standards.

For communities without a zoning ordinance, this regulation will likely take the form of a stand-alone chapter of the city or parish's code of ordinances. An example of a stand-alone code is provided in Appendix A. In both instances, the text shown in [brackets] indicates language and specifications that must be tailored to best fit the community's needs.

In both scenarios, community engagement and input are needed to effectively translate this Toolkit's guidelines into regulations applicable to a specific community. An analysis of existing regulations must be conducted to determine areas that have already been addressed as well as to assess how solar development can be better accommodated. Flexibility in the process is important. Communities should provide ways to design regulations that meet the needs and conditions for development sites, particularly large-scale ones, and ensure that the development requirements address the community's and developer's needs in a fair, balanced way.

Model Language

Model language that can be used as a starting point for community discussion is noted in orange text throughout this chapter. The model development regulations are drafted in a manner intended to provide for easy translation into a community's existing zoning ordinance. The sample provisions are organized in sections that mirror the sections included in a zoning ordinance: definitions, use regulations, dimensional standards, and additional regulations such as parking, landscaping, and screening requirements.

DEFINITIONS

Clearly defined terms are the backbone of any regulation's enforceability. If the words used are not plainly understood, the rules can be difficult to interpret and enforce. Review your jurisdiction's existing definitions along with these model regulations to determine what definitions might need to be added or updated in your community's zoning ordinance or other land use regulations. Definitions are usually found toward the very beginning or very end of the zoning ordinance and include terms used throughout the zoning ordinance.

SAMPLE DEFINITIONS

Attached Solar Energy System means a SES that is building-integrated, roof-mounted, or otherwise attached to a building.

Battery Storage (also known as Battery Back-Up) means a device or unit that stores and distributes solar energy for future use.

Building-Integrated Solar Energy System means a SES that is an integral part of a principal or accessory building, rather than a separate mechanical device, that replaces or substitutes for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.

Detached or Ground-Mounted Solar Energy System means a SES that is structurally mounted to the ground and does not qualify as an Attached SES. Any solar canopy that does not qualify as an Attached SES shall be considered a Ground-Mounted SES, regardless of where it is mounted.

Footprint Solar Energy Systems means for a Detached SES, the area calculated by drawing a perimeter around the outermost SES panels and any equipment necessary for the functioning of the SES, such as transformers, inverters, and batteries. The footprint does not include any visual buffer or perimeter fencing. Transmission lines (or portions thereof) required to connect the SES to a utility or consumer outside the SES perimeter shall not be included in calculating the footprint.

Roof-Mounted Solar Energy System means a SES that is structurally mounted to the roof of a house, building, or other structure and does not qualify as a Building-Integrated SES.

Solar Carport means a solar energy system of any size that is installed on a carport structure that is accessory to a parking area and which may include electric vehicle supply equipment or energy storage facilities.

Solar Energy System (SES) means a device or structural design feature that provides for the collection and/or storage of solar energy for electricity generation, consumption, or transmission, or for thermal applications. For purposes of the [Jurisdiction] zoning code, SES refers only to

1. Photovoltaic SESs that convert solar energy directly into electricity through a semiconductor device; or
2. Solar thermal systems that use collectors to convert the sun's rays into useful forms of energy for water heating, space heating, or space cooling.

SES as used in the [Jurisdiction] zoning code excludes concentrated solar power, which uses mirrors to focus the energy from the sun to produce electricity.

Use regulations address where and under what conditions solar energy land uses are permitted. They are the most effective tool that municipalities and parishes can use to balance the opportunities afforded by solar energy development and appropriate protections for the community.

USE CONSIDERATIONS

SCALE	ZONING	STAND-ALONE ORDINANCE
Attached	Permit as an accessory use in every zoning district. Consider architectural or screening requirements in historic districts or districts with special architectural or cultural features, or limit visibility from the street in those districts. In some communities, homeowners associations may have standards for solar panels separate from formal development regulations enforced by the city or parish.	Permit as an accessory use to any permitted development. Consider architectural or screening requirements in historic districts or districts with special architectural or cultural features, or limit visibility from the street in those districts. In some communities, homeowners associations may have standards for solar panels separate from formal development regulations enforced by the city or parish.
Detached [Footprint less than 20 acres]	Permit by right in most districts. Permit with Special Use Permit or Conditional Use permit in low-density residential, main street/mixed-use districts as well as in historic districts and other special districts, if allowed.	Permit by right in most locations. Establish a site plan review process to ensure compatibility with the context of the surrounding land use.
Detached [Footprint of 20 acres or more]	Permit consistent with other major utilities. Typically major utilities are allowed by right in industrial and perhaps some commercial districts or by Special Use Permit or Conditional Use Permit in all other districts. There may be instances when colocation of other uses in coordination with SESs is encouraged, such as grazing and other agricultural uses or covered parking that is complementary to solar development.	If other major utilities are regulated, permit these larger detached facilities consistent with those regulations. Regulations may also delineate a site plan approval process where the governing body can review requests for solar development and consider public comment as part of the process. Similar to the Special Use Permit process outlined on page 24, the site plan approval process can allow the governing body to consider additional technical studies, such as visual assessments, when making decisions and allow for flexibility to tailor regulations to site-specific conditions.

ALLOWED USES

Parish and municipal governments have local land use control over what is developed within their jurisdictions. They can approve or deny development requests based upon regulations and policies that guide and direct development activity in their community. Most zoning ordinances provide a range of zoning district classifications. They range in intensity with respect to both types of uses allowed and the amount of development that is permitted to occur on a site.

Use regulations spell out how and in what districts solar development should be allowed. Typically, uses can be allowed in a number of ways: by right, meaning that only administrative approval is necessary; as a limited use, meaning that specific conditions may apply under certain circumstances such as size limitations in certain zoning districts; by Special Use Permit or Conditional Use Permit, meaning that a public hearing and review before the Planning Commission and Council is required; or they are prohibited, meaning they are not allowed under any circumstance.

The size, location, and in some instances what is adjacent to the proposed solar energy system often determines the level of public and technical review needed to make an informed decision regarding a development request. For smaller projects or attached facilities, the process may consist primarily of a technical review by planning staff or a third party to determine that all requirements of the code are being met. For larger, more complex projects, or projects in proposed locations that might be more sensitive to development, additional review and public dialogue should be required.

SAMPLE ALLOWED USE CHART

DISTRICT TYPE:	OPEN		RESIDENTIAL			COMMERCIAL		INDUSTRIAL	
LAND USE	Conservation	Agriculture	Low-Density Residential	Medium-Density Residential	High-Density Residential	Mixed-Use/Main Street	Commercial/ Business	Light Industrial	Heavy Industrial
PRIMARY USES									
DETACHED SOLAR ENERGY SYSTEM with a footprint less than 20 acres	Not Allowed	P	SUP	P	P	SUP	P	P	P
DETACHED SOLAR ENERGY SYSTEM with a footprint of 20 acres or greater	Not Allowed	SUP	SUP	SUP	SUP	Not Allowed	SUP	SUP	P
ACCESSORY USES									
ATTACHED SOLAR ENERGY SYSTEM	P	P	P	P	P	P	P	P	P

P: Permitted, SUP: Special or Conditional Use Permit.

Special or Conditional Use Permits

In situations requiring a Special Use Permit (whether defined as part of a major utility use or as a stand-alone Solar Energy System use), the public review and approval process allows an opportunity to evaluate the specific circumstances of the request and outline conditions to better ensure its compatibility with the surrounding uses and context. The SUP process to review applications must include clear review criteria. Following are typical findings that would allow a project's approval:

- The proposed development is consistent with the pertinent elements of the [Jurisdiction's] comprehensive plan and any other adopted plans.
- The proposed development meets the requirements of the zoning code.
- The proposed development is not be detrimental to the public health, safety, or general welfare.
- The SUP will not substantially or permanently injure the appropriate use of adjacent conforming properties.

The SUP process allows for each application to be evaluated as to its probable impact on adjacent communities to determine whether it should be approved, and if so, what conditions are necessary to address anticipated impacts. When considering appropriate development conditions for the proposed solar development, additional studies might be beneficial to aid in decision-making. Some example studies that might be helpful during the review process include:

- **A Visual Impact Assessment**: This analysis includes visual simulations of the project, taking into account the existing landscape and topography, and identifies potential project impacts. These assessments can be used to help determine what mitigation measures, if any, are most appropriate to reduce undesirable visual impacts, such as location, placement, and type of buffering necessary. The study may find that existing vegetation and topography will provide for adequate screening and no additional screening is required, or that are only limited areas where screening is relevant. The SUP process should allow for these variations.
- **Drainage Study**: This analysis will look at proposed final developed conditions of the site and compare them against existing conditions to determine what impacts to drainage might result from the proposed development. These studies can be used to identify possible development requirements to mitigate impacts, such as the requirement of detention areas, limitations on soil compaction or impervious coverage, or adjustments to proposed changes in topography.
- **Economic Impact Analysis:** This study projects the economic impact of the proposed solar development on the local or regional economy. It can be used to compare these impacts against existing conditions and other possible development types. These studies are often used when discussing community benefits.

Communities may also want to prioritize setting conditions for decommissioning solar sites. Many communities have voiced concerns about what may happen to a solar development once it is no longer in use. Some communities that currently have solar development regulations in place require "decommissioning plans." These plans regulate how to remediate the site and require the removal of equipment once it is no longer in use, requiring the developer to put up a bond to cover these expenses.

In 2023, the State of Louisiana enacted regulations administered by the Department of Energy and Natural Resources (DENR) outlining requirements for decommissioning plans. While decommissioning plans could be included in use regulations, this Toolkit defers to the state's requirements relating to site closure and remediation. Currently, DENR is defining rules outlining how the regulations will be implemented. Communities should monitor these activities to better understand decommissioning requirements. However, some conditions, such as requiring solar panels to be recycled at the end of their useful life may be prioritized by some communities. If that is the case, it may be appropriate to add conditions to the SUP permit to address those concerns.

One final consideration regarding the SUP process is the approval timeline. Most SUPs anticipate development within one year from approval. Based on the standard solar development timeline (see page 9), it may take more than a year for construction to begin after the SUP is approved. Communities should take the expiration period of the standard SUP into consideration and ensure the developer is informed. Adjustments or extensions of the SUP approval may be warranted for larger projects that may have a protracted timeline.

The example use chart on page 23 identifies a prototypical range of zoning districts that are likely to be in a community's zoning ordinance and provides recommendations on how best to integrate SESs into the set of allowed uses. Lower-density/lower-intensity zoning districts are on the left side of the table and generally increase in intensity the further to the right. For attached SES, consider architectural or screening requirements in historic districts or districts with special architectural or cultural features, or limit visibility from the street in those districts.

Colocation

Colocation allows for two or more complementary land uses to conserve space and resources. One example is to have agriculture and SESs in the same place, called "agrivoltaics." Another colocation option is a parking area covered with solar carports, which provide shade to large areas of impervious surfaces and reduce the urban heat island effect.

MAXIMUM LOT COVERAGE/IMPERVIOUS COVERAGE CONSIDERATIONS

Lot coverage requirements regulate the amount of impervious surface that can be developed for SESs.

SCALE	ZONING	STAND-ALONE ORDINANCE
All Scales	Exempt solar panels from coverage limits provided ground beneath is maintained with vegetation and not compacted.	If the community has any coverage limits in other development regulations that would apply, exempt solar panels from this calculation provided ground beneath coverage limits is maintained with vegetation and not compacted.

Model Language

Ground-mounted systems shall be exempt from lot coverage or impervious surface standards if the soil under the collector is maintained in vegetation and not compacted. Solar carports are exempt from lot coverage limitations.

If hardscape or soil disturbance is proposed, a stormwater impact plan is required to ensure runoff does not create adverse impacts.

MAXIMUM HEIGHT CONSIDERATIONS

Height maximums can establish conditions where solar as an accessory building element can be permitted to exceed height limitations, and set height limitations for ground-mounted panels.

SCALE	ZONING	STAND-ALONE ORDINANCE
All Scales	Allow rooftop solar to extend above allowed height limits consistent with other building elements such as chimneys or antennas, typically an additional [12] feet.	If height limits are established for structures, allow rooftop solar to extend above allowed height limits consistent with other building elements such as chimneys or antennas, typically an additional [12] feet.
Detached	Maximum height [20] feet.	Maximum height [20] feet.

Model Language

Attached Solar Energy Systems may exceed the height requirements of the underlying zoning district up to a distance of [12] feet.

Detached Solar Energy Systems may not exceed [20] feet in height.

SETBACK CONSIDERATIONS

Front, side and rear yard setbacks establish how close to a property line development can occur.

SCALE	ZONING	STAND-ALONE ORDINANCE
All Scales	Per underlying zoning. See buffer and screening requirements for additional regulations.	Remain consistent with setbacks established in other development ordinances, if any. Consider buffering and screening requirements if none are in place in the community.

Model Language

Front Yard Setback Per underlying zoning district, except where a Detached Solar Energy System is within or abuts an existing residential district, residential use, public park, historic district, or school, a buffer as established in [cross reference to landscaping and screening section] shall be installed along the front of the property.

Side Yard Setback Per underlying zoning district, except where a Detached Solar Energy System is within or abuts an existing residential district, residential use, public park, historic district, or school, a buffer as established in [cross reference to landscaping and screening section] shall be installed along the side of the property.

Rear Yard Setback Per underlying zoning district, except where a Detached Solar Energy System is within or abuts an existing residential district, residential use, public park, historic district, or school, a buffer as established in [cross reference to landscaping and screening section] shall be installed along the rear of the property.

Note: Many large-scale solar development sites consist of multiple individual properties that are contiguous to each other. In many instances, it may not be necessary for setbacks to be required from internal property lines that are part of the same solar development site. The SUP process could provide a mechanism to adjust these setbacks if appropriate.

REQUIRED PARKING CONSIDERATIONS

Solar facilities and equipment are not large traffic generators that merit special parking requirements.

SCALE	ZONING	STAND-ALONE ORDINANCE
All Scales	No minimum parking is required.	No minimum parking is required.

Model Language

None. If the Solar Energy System is an accessory use to a primary use on the lot, no additional parking is required for the Solar Energy System.

LANDSCAPING, SCREENING, AND BUFFERING CONSIDERATIONS

Preserving visual character is a priority expressed by many communities. Appropriate landscaping and screening regulations, consistent with requirements for other nonresidential uses adjacent to residential or important public uses, can be a tool to preserve character.

SCALE	ZONING	STAND-ALONE ORDINANCE
Attached	Consider architectural or screening requirements in historic districts or districts with special architectural or cultural features, or limit visibility from the street in those districts.	Consider architectural or screening requirements in historic districts or districts with special architectural or cultural features, or limit visibility from the street in those districts.
Detached	If there are existing buffering or landscape standards for commercial districts or industrial districts adjacent to lower-intensity uses or along major corridors, use existing buffering requirements. Typical buffering requirements might include a berm, landscaped strip, and/or solid screening fence adjacent to residential or important public uses. Encourage use of native plants and plants that attract pollinators. The SUP process provides an avenue to tailor buffering needs to best meet the context and proposed development.	If there are existing buffering or landscape standards for commercial or industrial development, defer to those requirements. If not, and the community has expressed a desire to require buffering because of visual character concerns, a typical requirement might include a berm, landscaped strip, and/or a solid screening fence adjacent to residential or important public uses. Encourage use of native plants and plants that attract pollinators. The site plan review process provides an avenue to tailor buffering needs to best meet the context and proposed development.

Model Language

Required buffers and screening are specified in the setback standards. Where buffering or screening is required the following provisions apply.

1. Required buffers from streets. A minimum [10-foot] landscaped strip is required along the entire street frontage, except for driveways providing access to the property and be comprised of one of the following:
   - **A.** One canopy tree with a minimum [2½-inch caliper] shall be planted for every [40 linear feet], or part thereof, and may be grouped or spaced at regular intervals; or
   - **B.** A combination of earthen berm and low plantings reaching a combined minimum height of [6 feet].

2. Required screening from adjacent uses. A minimum [25-foot] landscaped strip is required along the entire property boundary requiring the buffer comprised of one of the following:
   - **A.** A required vegetated screen shall be minimum of [6 feet and maximum of 8 feet] tall to and composed of plant materials capable of reaching the required height within 3 years from completion of the solar energy system. Existing vegetation on site may be used to count toward this requirement;
   - **B.** A solid screening fence that is a minimum [6 feet] in height; or
   - **C.** A combination of earthen berm and low plantings reaching a combined minimum height of [6 feet].

3. Native Plants and Plants That Attract Pollinators. Plants—especially ones native to the ecoregion—that are beneficial to pollinators and local foraging wildlife, including birds, should be used to the maximum extent possible in all landscape buffers and dual-use planting on solar energy facility sites.

4. [Governing Body] may approve alternate screening requirements based upon the results of a Visual Impact Assessment provided by the applicant.

5. Landscape shall be maintained pursuant to the approved landscape or site plan.

SCREENING, SHADE, AND SOLAR

The purpose of most screening standards are to visually buffer one use from another. Many standard buffering practices require the placement of canopy or ornamental trees. In some instances, trees may not provide the desired visual buffer from solar and could potentially impact the efficiency, as noted, in the table below. Providing screening options could allow for screening standards to be established that best meet site conditions.

Shade Loss Values (Height of tree & distance from solar array) *

	HEIGHT (FT.)			
DISTANCE (FT.)	**40**	**50**	**60**	**70**
10	10.1%	12.2%	13.6%	14.7%
20	6.1%	8.1%	9.4%	10.4%
30	2.9%	5.3%	6.5%	7.0%
40	0.9%	2.9%	4.4%	5.3%
50	0.4%	1.5%	3.1%	4.1%

** Paul Grana, "The shape of shade: Understanding the relationship between an obstruction's height vs. Distance." Solar Power World, December 5, 2018. https://www.solarpowerworldonline.com/2018/12/relationship-between-obstruction-height-versus-distance/*

Note: There may be instances where lesser or greater screening is desired. These landscaping and screening standards should also provide flexibility so that they can be altered through the SUP or site plan review process to provide requirements that are most appropriate for a site's surrounding character. Analyses such as Visual Impact Assessments can provide greater understanding of what the project will look like when it is developed and what mitigation measures might be more appropriate than a uniform buffering requirement. Additionally, solar development may be placed upon multiple contiguous lots. In these cases the intent is not to require internal buffering between lots containing the solar uses. Where fencing is used, impacts that limit or prevent wildlife migration should be mitigated through use of fencing that wildlife can maneuver through.

IMPLEMENTING AND ADMINISTERING THE ORDINANCE

Review and approval of Solar Energy Systems should be integrated into standard processes already in place in your community for issuing building permits, certificates of occupancy, or reviewing and considering Specific or Conditional Use Permits. Technical considerations related to Solar Energy System uses may merit requiring additional materials to be submitted. Evaluate current submittal requirements for relevant permits and approvals in your community to determine if any additional information should be required.

The following application materials are recommended for those seeking approval to develop a detached SES.

- Address of the property on which the SES will be located.
- Applicant's name, address, telephone number, and email address.
- Property owner's name, address, telephone number, and email address.
- SES operator's name, address, telephone number, and email address, if known.
- Installation company's name, address, telephone number, and email address.
- Evidence of the applicant's control of the property, such as a deed, lease, or option agreement with the landowner and written authorization by the landowner for the applicant to pursue the request.
- Site plan of the property that depicts the locations of all existing and proposed structures (including solar arrays, inverters, transformers, electrical substations, and buildings), property lines, right-of-ways, roads, footprint calculations, and required setbacks.
- Landscape plan that identifies the type and extent of proposed buffer and screening.
- If the SES is located in an agricultural district, a map that identifies prime farmland and farmland of statewide importance on the property.
- Additional technical studies, such as Visual Impact Assessments, as determined necessary by the [Jurisdiction] given specific site conditions or volunteered by the applicant.

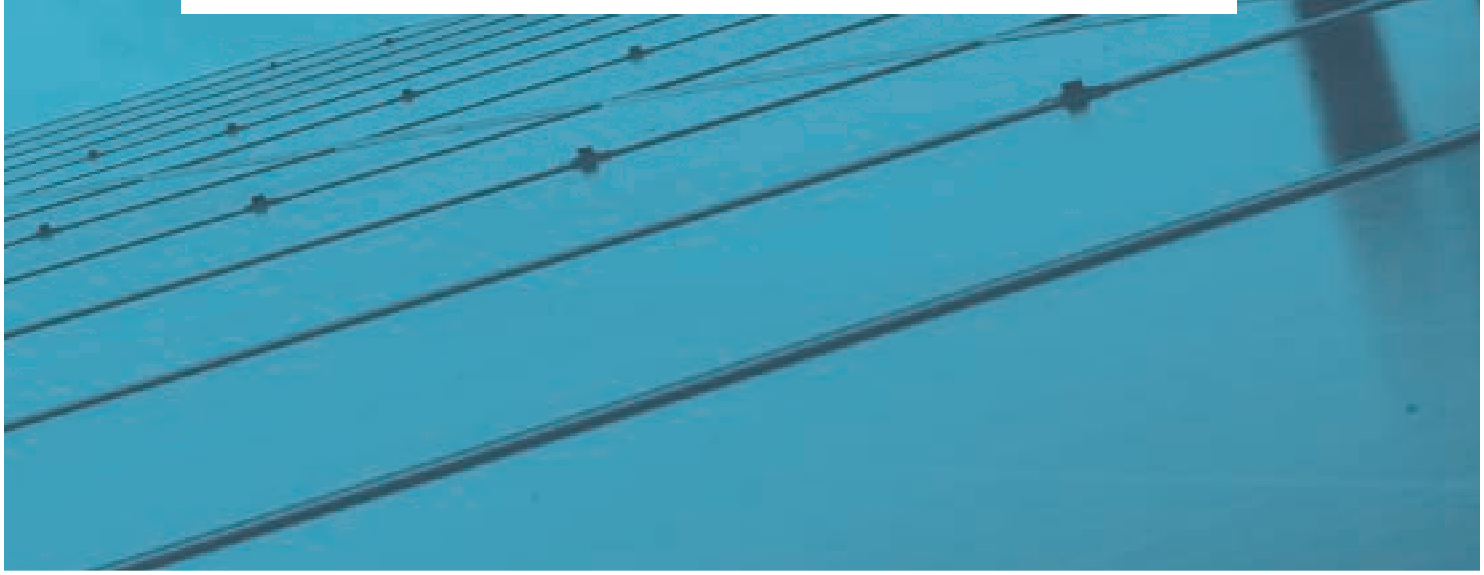
When establishing review requirements, take into consideration what expertise is needed at the local level to evaluate submissions, which may require hiring third parties. In the application process, the primary objective is to obtain enough information to assess the project's compliance with land use regulations as well as mitigate any potential impacts that are identified through the permit review and public hearing process. Fees should be set consistent with other development approvals and factor in the costs to retain experts or professionals who can assess the applications.

READY FOR THE FUTURE

There is no doubt that solar energy is going to be a growing part of Louisiana's energy ecosystem. Solar technology has changed over the last several years to make wider availability possible, and it will continue to evolve. Changes such as improved efficiency of solar panels and other technological advancements will likely alter land use impacts. Consequently, periodically evaluating local ordinances against current development practices and updated rules from state and federal authorities will be as important with solar energy development as it is with other development practices in order to keep regulations relevant.

Continuing to thoughtfully weave renewable energy sources into and throughout our communities will help to diversify the power grid and build a more resilient and sustainable Louisiana. Advancements in distributed solar technology are allowing consumers more variety in the way they receive energy than ever before. Continued conversations at the State level regarding policy challenges that currently inhibit the growth of distributed solar in the state could expand opportunities for community solar and microgrids.

There are also opportunities to make money across the value chain of solar development. Besides economic revenue and benefits generated by large scale solar farms and distributed solar facilities, there are also economic opportunities in the manufacture of solar panels, as well as construction and engineering activity. Fully harnessing the benefits of a diversified energy landscape in Louisiana will require careful planning and thoughtful regulations. Mitigating potential negative impacts while maximizing benefits to the local community, our environment, and our state will keep Louisiana on track toward the bright future our people deserve.



APPENDIX A
MODEL ORDINANCE FOR COMMUNITIES WITHOUT ZONING

Whereas, solar power is the fastest-growing energy source in the state and the nation; and

Whereas, there is tremendous opportunity for Louisiana in renewable energy. Investments in solar will put Louisiana on the path to building a strong clean energy economy. It will save families and businesses money, create middle-class jobs, and reduce pollution.

Whereas, solar is also a critical strategy for reaching Louisiana's climate mitigation and adaptation goals; and

Whereas, there is a need for regulations that protect the interests of [Jurisdiction's] communities and mitigates the potential issues that solar energy systems may pose when developed within a community.

Now, therefore, be it ordained by the [decision-making body] of [Jurisdiction] on [effective date] that:

Section 1. Definitions

Attached Solar Energy System means a SES that is either building-integrated, roof-mounted, or otherwise attached to a building.

Battery Storage (also known as Battery Back-Up) means a device or unit that stores and distributes solar energy for future use.

Building-Integrated Solar Energy System means a SES that is an integral part of a principal or accessory building, rather than a separate mechanical device that replaces or substitutes for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.

Detached or Ground-Mounted Solar Energy System means a SES that is structurally mounted to the ground and does not qualify as an Attached SES. Any solar canopy that does not qualify as an Attached SES shall be considered a Ground-Mounted SES, regardless of where it is mounted.

Footprint Solar Energy System means for a Detached SES the area calculated by drawing a perimeter around the outermost SES panels and any equipment necessary for the functioning of the SES, such as transformers, inverters and batteries. The footprint does not include any visual buffer or perimeter fencing. Transmission lines (or portions thereof) required to connect the SES to a utility or consumer outside the SES perimeter shall not be included in calculating the footprint.

Roof-Mounted Solar Energy System means an SES that is structurally mounted to the roof of a house, building, or other structure and does not qualify as a Building-Integrated SES.

Solar Carport means a solar energy system of any size that is installed on a carport structure that is accessory to a parking area and which may include electric vehicle supply equipment or energy storage facilities.

Solar Energy System (SES) means a device or structural design feature that provides for the collection and/or storage of solar energy for electricity generation, consumption, or transmission, or for thermal applications. For purposes of the [Jurisdiction] zoning code, SES refers only to

1. Photovoltaic SESs that convert solar energy directly into electricity through a semiconductor device; or
2. Solar thermal systems that use collectors to convert the sun's rays into useful forms of energy for water heating, space heating, or space cooling.

SES excludes concentrated solar power, which uses mirrors to focus the energy from the sun to produce electricity.

Section 2. Applicability

This ordinance applies to all new Solar Energy Systems installed and constructed by after [effective date], or if more than [90%] of the solar panels on the Solar Energy System are replaced at one time.

Section 3. Use and Development Standards

1. **Attached Solar Energy System**
   - **A.** Attached Solar Energy Systems function as accessory uses attached to individual residential or commercial developments. No additional setbacks are required.
   - **B.** Maximum Height. Roof-mounted or building-integrated systems shall not extend more than [12 feet] above the roof.
   - **C.** Required Parking. No additional parking is required for Attached Energy Systems.
2. **Detached Solar Energy Systems**
   - **A.** Front Yard Setback. Minimum front yard setback is [25] feet, except where the site is within or abuts an existing residential district or use, public park, historic district, or school, in which case a buffer, as established in Section 5 (2) of this ordinance, shall be installed along the front of the property.
   - **B.** Side Yard Setback. Minimum side yard setback is [5 feet], except where the site is within or abuts an existing residential district or use, public park, historic district, or school, in which case a buffer, as established in Section 5 (2) of this ordinance, shall be installed along the side of the abutting property. Where the side yard abuts a street, minimum side yard setback is [25] feet.
   - **C.** Rear Yard Setback. Minimum rear yard setback is [5] feet, except where the site is within or abuts an existing residential district or use, public park, historic district, or school, in which case a buffer, as established in Section 5 (2) of this ordinance, shall be installed along the rear of the abutting property.
   - **D.** Maximum Height. Maximum height is [20] feet.
   - **E.** Required Parking. None.

Section 4. Landscaping and Screening Standards for Detached Solar Energy Systems

1. Landscape and Screening. Required buffers and screening are specified in the setback standards, or as may be established through a public hearing process as specified in Section 5 of this ordinance. Where buffering or screening is required the following provisions apply.
2. Required buffers from streets. A minimum [10-foot] landscaped strip is required along the entire street frontage, except for driveways providing access to the property and be comprised of one of the following:
   - **A.** One canopy tree with a minimums [2½-inch caliper] shall be planted for every [40 linear feet], or part thereof, and may be grouped or spaced at regular intervals; or
   - **B.** A combination of earthen berm and low plantings reaching a combined minimum height of [6 feet).
3. Required screening from adjacent uses. A minimum [25-foot] landscaped strip is required along the entire property boundary requiring the buffer comprised of one of the following:
   - **A.** A required vegetated screen shall be minimum of [6 feet and maximum of 8 feet] tall and composed of plant materials capable of reaching the required height within 3 years from completion of the solar energy system. Existing vegetation on site may be used to count toward this requirement;
   - **B.** A solid screening fence that is a minimum [6 feet] in height; or
   - **C.** A combination of earthen berm and low plantings reaching a combined minimum height of [6 feet].
   - **D.** Alternative landscaping and screening requirements can be approved by the [Governing Body] through the site plan review process.
4. Native Plants and Plants That Attract Pollinators. Plants—especially ones native to the ecoregion—that are beneficial to pollinators and local foraging wildlife, including birds, should be used to the maximum extent possible in all landscape buffers and dual-use planting on solar energy facility sites.

Section 5. Review and Approval

1. In General.

Note: If your Jurisdiction already has a public hearing and review process for development requests, these standards may not be necessary.

- **A.** Application and Fees.
  - **i.** A pre-application conference with the [Planning Director] is required.
  - **ii.** All applications and all required information shall be filed in writing with the [Planning Director] on a form provided by [Jurisdiction]. The [Planning Director] may request additional information to provide for adequate review.
  - **iii.** Fees as required by [Jurisdiction] shall be paid in full at the time of the application's submittal.

2. Public Hearing Required for Detached Solar Energy Systems [20 acres or greater in size or any size if site abuts an existing residential district or use, public park, historic district or site or school].

- **A.** Notification of Hearings. The [Jurisdiction] shall provide for notice of the hearing and notice to property owners in accordance with the provisions of state law.
- **B.** Review by [Planning Director].
  - **i.** The [Planning Director] may refer the application to other affected or interested agencies or departments for review and comment.
  - **ii.** The [Planning Director] shall recommend approval, approval with conditions, or denial of the request to the Planning Commission.
- **C.** Review by Planning Commission.

Note: If the Jurisdiction does not have a Planning Commission or similar body, requests may be forwarded directly to the Governing Body from the Planning Director or other administrative staff.

  - **i.** Following notice and a public hearing as required in Section 2(A) above, the Planning Commission shall recommend approval, approval with conditions, or denial of the Detached Solar Energy System.
  - **ii.** In recommending, the Planning Commission shall consider the recommendation of the [Planning Director], relevant comments of all interested parties and the review criteria below.
    - **a.** The proposed development is consistent with the pertinent elements of the [Jurisdiction's] comprehensive plan and any other adopted plans.
    - **b.** The proposed development meets the requirements of other [Jurisdiction] ordinances.
    - **c.** The proposed development is not detrimental to the public health, safety, or general welfare.
    - **d.** Approval of the proposed development will not substantially or permanently injure the appropriate use of adjacent legally existing properties.
- **D.** Public Hearing and Decision by [Governing Body].
  - **i.** Following notice and a public hearing as required in Section 2(A) above, the [Governing Body] shall approve, approve with conditions, or deny the Detached Solar Energy System.
  - **ii.** In deciding, the [Governing Body] shall consider the recommendations of the [Planning Director], Planning Commission, and relevant comments of all interested parties.
  - **iii.** The [Governing Body] may attach appropriate conditions to the site plan as needed to mitigate impacts associated with the permit request.
  - **iv.** The [Governing Body] may approve alternate requirements than those contained in this ordinance based upon the results of technical studies—such as a Visual Impact Assessment or other studies conducted based upon the specific site conditions and other relevant data—provided by the applicant.

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APPENDIX B RESOURCES

Digital mapping tools are increasingly being used to project the impacts of renewable energy sources on the environment. These tools allow for the visual representation of renewable energy sources, such as wind and solar farms, in a geographic context. They also enable users to evaluate the effects of renewable energy sources on the environment, such as potential conflicts with wildlife, water resources, and other land uses.

LEAD Tool The U.S. Office of Energy Efficiency and Renewable Energy's Low-Income Energy Affordability Data (LEAD) Tool contains data on energy affordability and consumption at the census-tract level by fuel type and household-level data, which can help parishes and municipalities identify areas where energy costs are highest and households are likely spending a disproportionate amount of their income on energy bills. This information can be used to help with prioritizing public and private investments in energy efficiency and renewable energy projects in order to improve energy affordability and reduce energy burden.

EISPC Energy Zones Map The Eastern Interconnection States Planning Council (EISPC) Energy Zones Map is a comprehensive web-based decision support platform that integrates mapping tools to identify areas within the US portion of the Eastern Interconnect that are suitable for clean power investments. The Energy Zones Study used to develop the Energy Zones Map uses multiple data sources to analyze the renewable energy potential of a given region, including factors such as solar, wind, and geothermal resources, land-use restrictions, and demographic characteristics. The system also incorporates a variety of metrics, such as levelized cost of energy and capacity factors, to identify the most cost-effective locations for producing clean energy. The mapping platform also provides insights into potential transmission corridors to help ensure the efficient and reliable use of clean energy sources.

EIA Shapefiles The US Energy Atlas provides interactive maps that provide information on existing energy infrastructure and resources, such as the location of current solar energy installations, the availability of renewable energy resources, and the potential for new solar energy investments based on proximity to the existing electric grid and expected amount of sunlight. This data can be used to assess the solar energy resource availability in each region, the potential economic benefits of investing in solar energy infrastructure, and the environmental impacts of such investments. This data can help local governments identify areas where solar energy investment would be most beneficial, and make decisions about whether the costs associated with such investments can be justified. With this information, local governments can make informed decisions about the feasibility of solar energy investments that best serve their communities.

The Department of Energy National Renewable Energy Laboratory (NREL) State and Local Planning for Energy (SLOPE) Platform The NREL SLOPE scenario planning platform is a web-based mapping tool with built-in scenario planning capabilities designed to support state and local energy planning. The platform uses metrics developed in NREL studies and datasets to project the effects of energy sector investments on three scenario outcomes—energy consumption demand, CO2 emissions, and system costs—and compares them to the existing, business-as-usual scenario ("Reference Case") out to 2050. The SLOPE tool can help identify potential areas for investment as well as areas of need. This type of tool can also be used to analyze current trends and anticipate future changes in energy supply and demand based on specific scenarios.

SOLSMART The SolSmart program accelerates and expands the growth of clean, affordable solar energy by providing no-cost technical assistance to local governments, thereby helping them to meet national best practices to achieve Platinum, Gold, Silver, or Bronze designation. SolSmart is led by the Interstate Renewable Energy Council and the International City/County Management Association, and is funded by the US Department of Energy Solar Energy Technologies Office. A cornerstone of SolSmart's efforts is to further the goals of the federal Justice40 initiative to provide equitable opportunities for underserved communities that face barriers including fossil fuel dependence, energy burden, environmental and climate hazards, and socioeconomic vulnerabilities.

For links to these and other resources referenced within this document, visit linktr.ee/cpexbr


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