

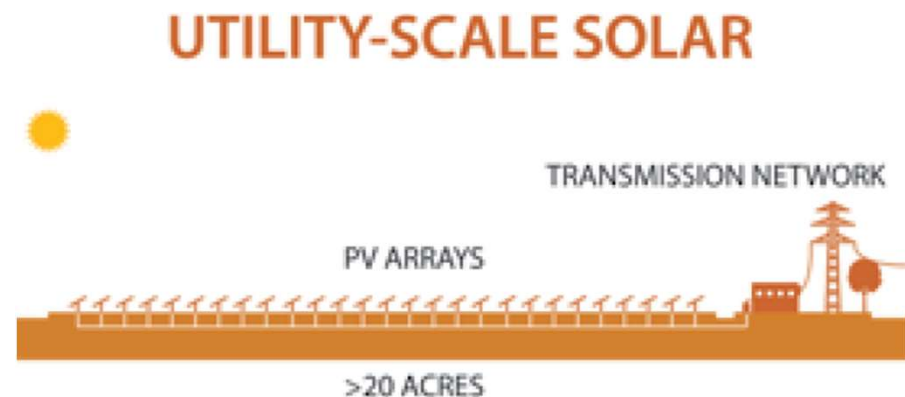
# Solar Energy

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Large Scale & Community  
Solar

# Solar Energy: Large Scale

- Once producing 50 MW or more, the facility fits the definition of a major utility facility in the ORC (Chapter 4906)
- Typically ground mounted. May also be located on large footprint commercial and industrial buildings
- Other terms: solar farm, utility scale



# Solar Energy: Community Solar

- Typically 250 kW to 5 MW, depending on state regulations.
- Ties into the electrical distribution network
- People purchase “shares” or a percentage of the power output
- Makes renewable energy available to more people including
  - Distressed communities/populations
  - Renters
  - People without a viable location for renewable due to a combination of factors
- Can be located on roofs or on the ground
- Other terms: shared solar, solar garden



# Understanding Scale



5 kW- Residential



5 MW- Community Solar  
(higher end)



50 MW- Utility Scale Solar

# How does Ohio regulate solar?

## Senate Bill 52- passed last year

- Allows county commissioners to ban large scale solar by referendum or as requested by townships
- Also requires decommissioning plan

## House Bill 450 – in committee

- Designed to encourage and regulate community solar
- Sets a cap on how much may be built in the entire state
- Adds definitions to what community solar is
- Specifies the amount of shares or percentage of energy that can be purchased
- Gives an incentive to locate community solar on a distressed site

## Other regulations:

- SB 61- limits restrictions HOAs can place on solar
- PUCO limits residential solar to 120% of a customer's energy use
- ORC 519.213: Township small wind farm zoning regulations (includes solar)

# Why Now? What's Driving This?

Rising energy costs & decreasing solar costs

Reduces utility bills costs

Way to supplement incomes

- Especially attractive for some farmers close to retirement with no heirs willing to take over the farm

Increases community resilience

Other Factors

- Federal tax credit of 30% extended through 2032 (residential energy)
- A more global focus on green and net zero initiatives

# Addressing the myths...

Will my residents be stuck removing solar panels from their lands?

- No, not in the case of large scale solar. A decommissioning plan must be filed by the applicant with the Ohio Power Siting Board. It includes a performance bond.

Do solar modules contaminate the environment?

- No emissions are produced.
- Some solar *cells* contain cadmium but the cells, not just the panel, would need to be broken to release chemicals into the ground or water.

Do solar panels break during thunderstorms?

- Not typically. Panels have gone through extensive testing and durability improvements.



# Addressing the myths...

## Are agricultural lands taken out of production for solar

- Yes, they often are but there are other options for installation, especially for systems under 50 MW:
  - The roofs of buildings – commercial, industrial, or residential homes, apartments, and condominiums
  - Margins of farm fields
  - Fallow fields
  - Distressed or vacant sites such as brownfields, landfills, and mine scarred lands
  - Agrivoltaics- colocation of agriculture and PV



# Variations on Solar Installations

(examples are less than 50 MW systems)



Pollinator habitat & Solar/@Great Plains Institute



Pollinator habitat & Solar/@Dension University, Granville, Ohio



Grazing Sheep & Solar/@ Getty Images



Vegetables & Solar/@ APA



Walmart Solar Panels / @Walmart via Flickr

The negatives and options to  
mitigate or minimize...



# Long-term or permanent loss of farmland

- Prohibit large scale development on locally significant agricultural soils
  - Can be done by request through the County Commissioners (SB 52)
- Encourage large scale on underutilized or less productive land
  - Proposed by HB 450 (community solar)
- Colocation of PV systems and agricultural activities (agrivoltaics)
  - Can be regulated for systems less than 50 MW
- Use solar as a redevelopment strategy for previously developed sites
  - Proposed by HB 450 (community solar), encouraged by USEPA brownfield grants
- Require a decommissioning plan and financial security
  - SB 52, now part of ORC Chapter 4906





# Effects on the Environment

- Encourage or require maintenance of vegetated buffers along streams or wetlands within & adjacent to the site
  - Can be regulated for systems less than 50 MW
- Encourage or require native ground cover or pollinator friendly landscaping
  - Can be regulated for systems less than 50 MW
- Discourage or prohibit removing existing trees
  - Can be regulated for systems less than 50 MW
- Encourage or require fencing wildlife can maneuver through
  - Can be regulated for systems less than 50 MW
- Discourage or prohibit projects on sites with documented high levels of biodiversity & ecological connectivity
  - Can be done by request through the County Commissioners (SB 52)



# Impacts on Views

- Encourage large scale solar development in areas that have not be designated as visually significant
  - Can be done through the County Commissioners by prohibition near scenic areas (SB 52)
- Encourage large scale solar development on previously developed sites
  - Proposed HB 450 (community solar)
- Require landscaped buffers or screens that shield the view of systems from nearby residences or scenic areas
  - ORC 519.02 allows townships to establish reasonable landscaping standards
  - Townships are able to require this on large scale solar as it is in relation to the site and separate from the buildings and structures and doesn't deal directly with public utility exclusions (Prosecutor's Office)

# Zoning for less than 50 MW

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Things to consider

# Definitions

## Consider

- Relationship of the system to other structures
- Relationship of the system to land uses on the same parcel
- **Size of the system**
  - Determine whether to base on surface area or rated capacity or both

Who is the intended recipient of the energy

Consider other solar related terms



# Other items to consider

## Compatibility with zoning districts and lot layout

- Permitted Use vs. Conditional Use
- Overlay Districts

## Specific Development Standards for Solar

## Procedural Standards & Development Review

# Other Resources

- US Department of Energy, Office of Energy Efficiency and Renewable Energy
  - <https://www.energy.gov/eere/solar/solar-energy-resources>
- US Department of Energy, National Renewable Energy Labs
  - <https://www.nrel.gov/solar/index.html>
- US Energy Information Administration
  - <https://www.eia.gov/>
- American Planning Association: Solar@Scale Local Government Guidebook for Planners
  - <https://www.planning.org/publications/document/9222548/>
- Ohio Power Siting Board
  - <https://opsb.ohio.gov/>
- Ohio Consumers Council
  - <https://www.occ.ohio.gov/factsheet/solar-power>