

CASE NO. 895-AT-18

SUPPLEMENTAL MEMORANDUM #10

April 12, 2018

Petitioner: Zoning Administrator

Request: Amend the Champaign County Zoning Ordinance to add “Solar Farm” as a new principal use under the category “Industrial Uses: Electric Power Generating Facilities” and indicate that Solar Farm may be authorized by a County Board Special Use Permit in the AG-1 Zoning District and the AG-2 Zoning District; add requirements and fees for “Solar Farm”; add any required definitions; and make certain other revisions are made to the Ordinance as detailed in the full legal description in Attachment A.

Location: Unincorporated Champaign County

Time Schedule for Development: As soon as possible

Prepared by: **Susan Burgstrom**
Senior Planner

John Hall
Zoning Administrator

Brookens Administrative Center
1776 E. Washington Street
Urbana, Illinois 61802

(217) 384-3708

zoningdept@co.champaign.il.us

www.co.champaign.il.us/zoning

STATUS

Public comments received by P&Z Staff via email can be found in Attachments B through R. Staff received two phone calls:

- Lezli Cline, 5 James Court, Sidney, expressed opposition to the solar farm and to the loss of the 1.5 mile extraterritorial jurisdiction outside a municipality.
- A man who is a member of the International Brotherhood of Electrical Workers (IBEW) called requesting information about the solar farm ordinance hearings. He wanted to know if the ZBA’s approval was the final decision or whether it had to go before the County Board. He asked that the recommendation by the ZBA considers the entire County and not only the few people who are either opposed to solar farms or who are somewhat affected by the solar farms. He said that solar is a good resource and in most counties it is a no-brainer for approval.

Based on research and public input to date, P&Z Staff recommends revisions to the proposed ordinance. Please see the specific revisions in the “Proposed Revisions since April 5, 2018 ZBA Hearing” section below. In summary, the latest version includes:

- Increased separation between any PV SOLAR FARM and municipal limits
- Increased separation between a PV SOLAR FARM any non-participating residential lot
- Additional separation may be required as deemed necessary by the BOARD.
- Inverters will need to be placed at least 275 feet from the property line, unless specific permission is provided by the Zoning Department.
- New drainage district tile protections

- New Best Prime Farmland protections
- New noise requirements

Additional evidence has been created for the Finding of Fact regarding impacts on property values, noise, glare, screening, and fencing; see the “Proposed Additions to Finding of Fact” section below. This evidence would be added to the Finding of Fact dated March 29, 2018, which was distributed as Attachment F in Supplemental Memorandum #6 dated March 29, 2018.

PROPOSED REVISIONS SINCE APRIL 5, 2018 ZBA HEARING

Regarding separation from municipalities

Revise paragraph 6.1.5 B.2.a. as follows:

2. The PV SOLAR FARM County Board SPECIAL USE permit shall not be located in the following areas:
 - a. Less than one-and-one-half miles from an incorporated municipality that has a zoning ordinance unless the following is provided:
 - (1) A separation of one-half mile from the proposed PV SOLAR FARM, except for any power lines of 34.5 Kva or less, to the municipal boundary at the time of application for the SPECIAL USE Permit.
 - (2) The PV SOLAR FARM SPECIAL USE permit application shall include documentation that the ~~application~~ applicant has provided a complete copy of the SPECIAL USE permit application to any municipality within one-and-one-half miles of the proposed SOLAR FARM.
 - (3) A municipal resolution regarding the PV SOLAR FARM by any ~~relevant~~ municipality located within one-and-one-half miles of the PV SOLAR FARM must be submitted to the ZONING ADMINISTRATOR prior to the consideration of the PV SOLAR FARM SPECIAL USE permit by the Champaign County Board or, in the absence of such a resolution, the ZONING ADMINISTRATOR shall provide documentation to the County Board that any municipality within one-and-one-half miles of the PV SOLAR FARM was provided notice of the meeting dates for consideration of the proposed PV SOLAR FARM SPECIAL USE Permit for both the Environment and Land Use Committee and the County Board.

Regarding separation from residential lots

Revise 6.1.5 D.3. as follows:

3. For properties not participating in the solar farm:

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- (a) For any adjacent LOT that is ~~three~~ five acres or less in area (not including the STREET RIGHT OF WAY):
- (1) For any adjacent LOT that is bordered (directly abutting and/or across the STREET) on no more than two sides by the PV SOLAR FARM, at least 100 ~~250~~ feet from any existing DWELLING or existing PRINCIPAL BUILDING and not less than 50 the separation shall be no less than 200 feet from the property line and provided that the noise level caused by the PV SOLAR FARM complies with the applicable Illinois Pollution Control Board regulations. This separation distance applies to properties that are adjacent to or across a STREET from a PV SOLAR FARM.
- (2) For any adjacent LOT that is bordered (directly abutting and/or across the STREET) on more than two sides by the PV SOLAR FARM, the separation shall exceed 200 feet as deemed necessary by the BOARD provided that the noise level caused by the PV SOLAR FARM complies with the applicable Illinois Pollution Control Board regulations.
- (b) For any adjacent LOT that is five acres or more in area (not including the STREET RIGHT OF WAY), at least 100 the separation shall be no less than 250 feet from any existing DWELLING or existing PRINCIPAL BUILDING and not less than 50 feet from the property line of any adjacent LOT that is three ~~greater than five acres or less in area~~ and provided that the noise level caused by the PV SOLAR FARM complies with the applicable Illinois Pollution Control Board regulations. This separation distance applies to properties that are adjacent to or across a STREET from a PV SOLAR FARM.
- (c) Additional ~~setback~~ separation may be required as deemed necessary by the BOARD.

Add new paragraph 6.1.5 D.5. as follows:

5. Electrical inverters shall be located as far as possible from property lines and adjacent DWELLINGS consistent with good engineering practice. Inverter locations that are less than 275 feet from the perimeter fence shall require specific approval and may require special sound deadening construction and noise analysis.

Regarding protection of drainage district tiles

Revise proposed paragraph 6.1.5 F.2.(b) as follows:

- (b) The location of drainage district tile lines shall be identified prior to any construction and drainage district tile lines shall be protected from disturbance as follows:
- (1) All identified drainage district tile lines and any known existing drainage district tile easement shall be staked or flagged prior to construction to alert construction crews of the ~~possible need for tile~~

~~line repairs presence of drainage district tile and the related easement unless this requirement is waived in writing by the drainage district.~~

- (2) Any drainage district tile for which there is no existing easement shall be protected from disturbance by a 30-foot wide no-construction buffer on either side of the drainage district tile. The no-construction buffer shall be staked or flagged prior to the start of construction and shall remain valid for the lifetime of the PV SOLAR FARM SPECIAL USE Permit and during any deconstruction activities that may occur pursuant to the PV SOLAR FARM SPECIAL USE Permit.
- (3) Construction shall be prohibited within any existing drainage district easement and also prohibited within any 30-foot wide no-construction buffer on either side of drainage district tile that does not have an existing easement unless specific construction is authorized in writing by all commissioners of the relevant drainage district. A copy of the written authorization shall be provided to the Zoning Administrator prior to the commencement of construction.

Regarding protection of Best Prime Farmland

Insert new paragraph 6.1.5 F.9.:

9. Minimizing disturbance to BEST PRIME FARMLAND
- (a) Any PV SOLAR FARM to be located on BEST PRIME FARMLAND shall minimize the disturbance to BEST PRIME FARMLAND as follows:
- (1) The disturbance to BEST PRIME FARMLAND caused by construction and operation of the PV SOLAR FARM shall be minimized at all times.
- (2) The total amount of proposed disturbance to BEST PRIME FARMLAND due to construction of solar photovoltaic arrays, interior access roads, ~~equipment pads~~, underground cabling, transmission lines, and substations shall not exceed the disturbance that might otherwise occur due to construction of DWELLINGS that are permissible by right absent the construction of the PV SOLAR FARM. The assumed disturbance caused by construction of the DWELLINGS shall assume DWELLINGS of typical size and shall also include the related construction of driveways, septic systems (both active and reserve), and ACCESSORY BUILDINGS of typical size and quantity.
- (3) Disturbance to BEST PRIME FARMLAND shall be offset by establishment of a vegetative ground cover within the PV SOLAR FARM that includes the following:

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- i. The vegetative ground cover shall use native plant species as much as possible and shall be based on a site assessment of the site geography and soil conditions.
 - ii. The species selected shall serve a secondary habitat purpose as much as possible.
 - iii. Maintenance of the vegetative ground cover shall use a combination of management approaches to ensure safe, cost-effective, reliable maintenance while minimizing environmental risks.
 - iv. The plan to establish and maintain a vegetative ground cover that includes native plant species as much as possible shall be detailed in a landscape plan included in the PV SOLAR FARM SPECIAL USE permit application. The landscape plan shall include the weed control plan required by Section 6.1.5 P.3.

Regarding noise requirements

Revise proposed Section 6.1.5 I.3. as follows:

3. The Applicant, through the use of a qualified professional, as part of the siting approval application process, shall appropriately demonstrate compliance with the above noise requirements as follows:
 - (a) The SPECIAL USE permit application for other than a COMMUNITY PV SOLAR FARM shall include a noise analysis that includes the following:
 - (1) The pre-development 24-hour ambient background sound level shall be identified at representative locations near the site of the proposed PV SOLAR FARM.
 - (2) Computer modeling shall be used to generate the anticipated sound level resulting from the operation of the proposed PV SOLAR FARM at all DWELLINGS and other PRINCIPAL STRUCTURES within 1,500 feet of the proposed PV SOLAR FARM.
 - (3) Results of the ambient background sound level monitoring and the modeling of anticipated sound levels shall be clearly stated in the application and the application shall include a map of the modeled noise contours within 1,500 feet of the proposed PV SOLAR FARM.
 - (4) The application shall also clearly state the assumptions of the computer model's construction and algorithms so that a competent and objective third party can as simply as possible verify the anticipated sound data and sound levels.

- (b) For a COMMUNITY PV SOLAR FARM the Board may require submission of a noise analysis that meets the standard of paragraph 6.1.5I.3.(a).

PROPOSED ADDITIONS TO FINDING OF FACT

Revise item 16.B. as follows:

- B. Paragraph 2.0 (b) of the Ordinance states that one purpose of the zoning regulations and standards that have been adopted and established is to conserve the value of land, BUILDINGS, and STRUCTURES throughout the COUNTY.
- (1) Public testimony regarding property value impacts was as follows:
- a. At the March 15, 2018 public hearing for this case, Tannie Justus, 2268 CR 900 N, Homer, testified that if her property were to be surrounded by a solar farm, their property values would likely decrease, which would affect their ability to use their home as collateral on loans for their trucking business.
 - b. At the March 15, 2018 public hearing:
Other relevant public testimony will be summarized in a future draft
- (2) ~~No evidence has been provided that establishes a link between solar farm construction and surrounding property values.~~ The ZBA reviewed two property value impact studies for photovoltaic solar farms and both studies found no impact to home values due to adjacency to a photovoltaic solar farm. **The ZBA has concluded that, in general, a photovoltaic solar farm will not harm the value of adjacent or nearby property.** The studies are summarized as follows:
- a. ADJACENT PROPERTY VALUE IMPACT STUDY: A STUDY OF NINE EXISTING SOLAR FARMS dated March 20, 2018, was prepared by CohnReznick LLP, 200 South Wacker Drive, Suite 2600, Chicago IL 60606-5829, for Cypress Creek Renewables, solar farm developer with applications pending for development of PV SOLAR FARMS in Champaign County. Regarding this property value impact study:
 - (a) The study included nine existing solar farms but sufficient data was available for only seven of the solar farms. The study analyzed the property value trends of adjacent land uses and reviewed similar published studies and interviewed market participants.
 - (b) The seven existing solar panel farms analyzed were as follows:
 - Grand Ridge Solar Farm is a 20 megawatt photovoltaic solar farm located on 11.90 acres outside of Streator, Illinois in LaSalle County, Illinois.
 - IMPA Frankton Solar Farm is a 1 megawatt photovoltaic solar farm located on 13 acres outside of Frankton, Indiana in Madison County, Indiana.
 - Dominion Indy Solar III is a 8.6 megawatt photovoltaic solar farm located on 134 acres outside of Indianapolis, Indiana in Marion County, Indiana.
 - Portage Solar Farm is a 1.5 megawatt photovoltaic solar farm located on 56 acres just outside of Portage, Indiana in Porter County, Indiana.

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- Valparaiso Solar LLC is a 1.3 megawatt photovoltaic solar farm located on 27.9 acres in Porter County, Indiana.
 - Middlebury Solar Farm Valparaiso Solar LLC is a 1.5 megawatt photovoltaic solar farm located on 33.86 acres in Elkhart County, Indiana.
 - Rockford Solar Farm is a 3.06 megawatt (Phase 1) photovoltaic solar farm located on 15 acres at the Chicago-Rockford International Airport in Winnebago County, Illinois. The solar farm is anticipated to be a total of 62 megawatts on 70 acres after three phases are completed.
- (c) The analysis consisted of paired sales analysis for sales adjacent to the solar farms, the Test Areas, compared to sales of similar properties not adjacent to solar farms, the Control Areas. The analysis included 16 adjoining property sales in Test Areas and 72 comparable sales in Control areas.
- (d) The study concludes, “there was no demonstrated impact on adjacent property values that was associated with proximity to solar farms.”
- (e) Note that a few of the Test Area properties were bordered by a solar farm on two sides but in the analysis of the Dominion Indy Solar III solar farm the Test Area properties were all across the street from the solar farm. Also note that none of the solar farms studied were larger than 20 megawatts.
- b. The *Oakwood Solar Impact Study* dated February 12, 2016, was prepared by Kirkland Appraisals, LLC, 9408 Northfield Court, Raleigh, North Carolina 27603 for a proposed 53.74 acre photovoltaic solar farm to be located outside of Mebane, North Carolina. Regarding this property value impact study:
- (a) The study analyzed four existing solar panel farms and the property value trends of adjacent land uses and reviewed similar published studies and interviewed market participants.
 - (b) The three existing solar panel farms analyzed were as follows:
 - AM Best Solar Farm is adjacent to Spring Garden Subdivision near Goldsboro, North Carolina.
 - White Cross Solar Farm was built in 2013 in Chapel Hill, North Carolina.
 - Wagstaff Farm Solar Farm is approximately 30 acres in area and was constructed in 2013 near Roxboro, North Carolina.
 - Mulberry Solar Farm near Selmer, Tennessee.
 - (c) The analysis consisted of matched pair analysis for sales of properties adjoining the solar farms compared to sales of similar properties that were nearby but not adjoining to the solar farm. The analysis included 16 adjoining property sales in Test Areas and 19 comparable sales in Control areas.
 - (d) Note that not much information was provided regarding the solar farms and it is not clear whether any of the solar farms bordered any residential property on more than one side.

Revise item 16.E.(2) and (3) and add new (4) as follows:

- (2) Regarding screening and fencing, the proposed amendment includes required fencing around the entire solar farm development, and vegetative screening for any part of a solar farm that is visible to and located within 1,000 feet of a dwelling or residential district. A landscape plan will be required as part of the County Board Special Use Permit application so that any vegetative screening will be reviewed prior to approval.
- (3) Regarding glare, the proposed amendment includes a standard condition to minimize glare that may affect adjacent properties. Photovoltaic modules utilize non-glare glass so there should not be much glare. The application for a County Board Special Use Permit shall include an explanation of how glare will be minimized.
- (4) Regarding noise:
 - a. The sources of noise in a solar farm are the electrical inverter(s) that convert DC current to AC and related transformers.
 - b. Based on comments from PV SOLAR FARM developers, standard engineering practice is to have one inverter per approximately 15 acres of photovoltaic array. A review of various PV SOLAR FARM plans found that inverters are generally located approximately 263 feet to 282 feet from a property line.
 - c. The ZBA reviewed the report *STUDY OF ACOUSTIC AND EMF LEVELS FROM SOLAR PHOTOVOLTAIC PROJECTS* published by the Massachusetts Clean Energy Center and dated December 17, 2012. Regarding this study:
 - (a) The study analyzed sound levels at three non-residential solar installations that varied in size from 1 megawatt to 3.5 megawatts. All solar installations were bordered by open areas without buildings.
 - (b) The study analyzed sound at set distances from the inverters and at the perimeter of each solar farm and at 50 feet, 100 feet, and 150 feet from the boundary of each solar farm. Background noise levels were also measured. The noise levels were measured the time of peak solar azimuth and only on days for which clear skies were forecast so as to ensure that the inverters would be operating at peak output.
 - (c) The study included the following noise findings:
 - “sound levels along the fenced boundary of the PV arrays were generally at background noise levels although a faint inverter hum could be heard at some locations.”
 - “Any sound from the PV array and equipment was inaudible and sound levels are at background levels at distances of 50 to 150 feet from the boundary.”

- d. The proposed amendment includes the following requirements to ensure acceptable levels of sound from any PV SOLAR FARM:
 - (a) Paragraph 6.1.5D.3. requires a minimum 200 feet separation distance from the perimeter fence of a PV SOLAR FARM to any adjacent LOT that is five acres or less in area (not including the STREET RIGHT OF WAY) that is bordered by the PV SOLAR FARM on no more than two sides and a 250 feet separation to any existing DWELLING or existing PRINCIPAL BUILDING on any adjacent LOT that is five acres or more in area. These required separations are for properties that are not participating in the lease for the solar farm. The ZBA may also require a greater separation for any adjacent LOT that is bordered (directly abutting and/or across the STREET) on more than two sides by the PV SOLAR FARM.
 - (b) Paragraph 6.1.5D.5. requires electrical inverters to be located as far as possible from property lines and adjacent DWELLINGS consistent with good engineering practice and inverter locations that are less than 275 feet from the perimeter fence shall require specific approval and may require special sound deadening construction and noise analysis.
 - (c) Section 6.1.5I. of the proposed amendment requires a noise analysis for any proposed PV SOLAR FARM that is not a COMMUNITY PV SOLAR FARM and allows that ZBA may require a noise analysis for any COMMUNITY PV SOLAR FARM. The noise analysis must document that the sound level from the proposed PV SOLAR FARM will not exceed the Illinois Pollution Control Board noise standard.
- e. The combination of the minimum required separation from an inverter to the perimeter fence and from the perimeter fence to adjacent properties results in the following minimum total separations:
 - (a) The combination of the minimum required 200 feet from the PV SOLAR FARM perimeter fence to any adjacent LOT that is five acres or less in area (not including the STREET RIGHT OF WAY) and bordered on more than two sides by the PV SOLAR FARM and the minimum separation of 275 feet from an inverter to the perimeter fence results in a total minimum required separation of 475 feet from any inverter to any adjacent LOT that is five acres or less in area (not including the STREET RIGHT OF WAY). A greater separation may be required for any adjacent LOT that is bordered (directly abutting and/or across the STREET) on more than two sides by the PV SOLAR FARM.
 - (b) The combination of the minimum required 250 feet separation to any existing DWELLING or existing PRINCIPAL BUILDING on any adjacent LOT that that is five acres or more in area results in a total minimum required separation of 525 feet from any inverter to any adjacent existing DWELLING or existing PRINCIPAL BUILDING on any adjacent LOT that that is five acres or more in area.

- f. The combination of minimum required separations will prevent any obvious noise impact from a PV SOLAR FARM and the noise study requirement will verify that there are no noise impacts.
- g. Public testimony regarding noise impacts can be summarized as follows:
Other relevant public testimony will be summarized in a future draft

ATTACHMENTS

- A Legal advertisement
- B Email from Joyce Mast received April 12, 2018
- C Email from Mary Tiefenbrunn received April 12, 2018
- D Email from Chris Bromley received April 12, 2018
- E Email from Phillip Geil received April 12, 2018
- F Email from Cloydia Larimore received April 12, 2018
- G Email from Nancy Dietrich received April 12, 2018
- H Email from William Brooks received April 12, 2018
- I Email from Geraldine Theobald received April 12, 2018
- J Email from Michael Bryant received April 12, 2018
- K Email from Anna Keck received April 12, 2018
- L Email from Terry McFall received April 12, 2018
- M Email from Lois Cain received April 12, 2018, with attachment:
 - Fact sheet on benefits of solar in your community by Sierra Club Illinois Chapter
- N Email from Penny Sigler received April 12, 2018
- O Email from Jason Arrasmith received April 12, 2018
- P “Solar farms are cropping up in Will County”, Susan DeMar Lafferty in the Chicago Tribune, September 5, 2017 and received from Patsi Petrie on April 12, 2018
- Q UI Solar Farm pictures with measurements taken by P&Z Staff, dated April 11, 2018
- R Email from Randy Pankau received April 12, 2018

LEGAL PUBLICATION: WEDNESDAY, FEBRUARY 14, 2018

CASE: 895-AT-18

**NOTICE OF PUBLIC HEARING REGARDING A PROPOSED AMENDMENT TO THE
CHAMPAIGN COUNTY ZONING ORDINANCE.**

CASE: 895-AT-18

The Champaign County Zoning Administrator, 1776 East Washington Street, Urbana, has filed a petition to change the text of the Champaign County Zoning Ordinance. The petition is on file in the office of the Champaign County Department of Planning and Zoning, 1776 East Washington Street, Urbana, IL.

A public hearing will be held **Thursday, March 1, 2018, at 6:30 p.m.** prevailing time in the Lyle Shields Meeting Room, Brookens Administrative Center, 1776 East Washington Street, Urbana, IL, at which time and place the Champaign County Zoning Board of Appeals will consider a petition to:

Amend the Champaign County Zoning Ordinance as follows:

Part A. Amend Section 3 by adding definitions including but not limited to “NOXIOUS WEEDS” and “SOLAR FARM”.

Part B. Add paragraph 4.2.1 C.5. to indicate that SOLAR FARM may be authorized by County Board SPECIAL USE permit as a second PRINCIPAL USE on a LOT in the AG-1 DISTRICT or the AG-2 DISTRICT.

Part C. Amend Section 4.3.1 to exempt SOLAR FARM from the height regulations except as height regulations are required as a standard condition in new Section 6.1.5.

Part D. Amend subsection 4.3.4 A. to exempt WIND FARM LOT and SOLAR FARM LOT from the minimum LOT requirements of Section 5.3 and paragraph 4.3.4 B. except as minimum LOT requirements are required as a standard condition in Section 6.1.4 and new Section 6.1.5.

Part E. Amend subsection 4.3.4 H.4. to exempt SOLAR FARM from the Pipeline Impact Radius regulations except as Pipeline Impact Radius regulations are required as a standard condition in new Section 6.1.5.

Part F. Amend Section 5.2 by adding “SOLAR FARM” as a new PRINCIPAL USE under the category “Industrial Uses: Electric Power Generating Facilities” and indicate that SOLAR FARM may be authorized by a County Board SPECIAL USE Permit in the AG-1 Zoning DISTRICT and the AG-2 Zoning DISTRICT and add new footnote 15. to exempt a SOLAR FARM LOT from the minimum LOT requirements of Section 5.3 and paragraph 4.3.4 B. except as minimum LOT requirements are required as a standard condition in new Section 6.1.5.

Part G. Add new paragraph 5.4.3 F. that prohibits the Rural Residential OVERLAY DISTRICT from being established inside a SOLAR FARM County Board SPECIAL USE Permit.

Part H. Amend Subsection 6.1.1 A. as follows:

1. Add SOLAR FARM as a NON-ADAPTABLE STRUCTURE and add references to the new Section 6.1.5 where there are existing references to existing Section 6.1.4.
2. Revise subparagraph 6.1.1 A.11.c. by deleting reference to Section 6.1.1A. and add reference to Section 6.1.1A.2.

Part I. Add new subsection 6.1.5 SOLAR FARM County Board SPECIAL USE Permit with new standard conditions for SOLAR FARM.

Part J. Add new subsection 9.3.1 J. to add application fees for a SOLAR FARM zoning use permit.

Part K. Add new subparagraph 9.3.3 B.8. to add application fees for a SOLAR FARM County Board SPECIAL USE permit.

All persons interested are invited to attend said hearing and be heard. The hearing may be continued and reconvened at a later time.

Catherine Capel, Chair
Champaign County Zoning Board of Appeals

TO BE PUBLISHED: WEDNESDAY, FEBRUARY 14, 2018 ONLY

Send bill and one copy to: Champaign County Planning and Zoning Dept.
Brookens Administrative Center
1776 E. Washington Street
Urbana, IL 61802
Phone: 384-3708

Susan Burgstrom

From: John Hall
Sent: Wednesday, April 11, 2018 4:48 PM
To: Susan Burgstrom
Subject: FW: Comments on the Solar Ordinance for the Record

From: Mast, Joyce C [mailto:jmast@illinois.edu]
Sent: Wednesday, April 11, 2018 4:46 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: Comments on the Solar Ordinance for the Record

As a member of the University of Illinois community and resident of Champaign,

I write about the need to have less than 250 ft. setback requirement in the solar ordinance. Anything greater will kill solar in Champaign County. There is no good justification for long setbacks for solar farms. Solar is not wind!

Solar creates green jobs and tax revenue for local government, improves the health and quality of life for all residents by reducing pollution from coal power, and captures state and federal incentives that will otherwise go to other counties and other states.

Solar is the future... But only if we have a good solar ordinance.

Joyce Mast
607 s. Westlawn Ave.
Champaign, IL 61821
217 398-4879 (h)
217 265-5128 (w)

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APR 12 2018

CHAMPAIGN CO P & Z DEPARTMENT

Susan Burgstrom

From: Connie Berry
Sent: Thursday, April 12, 2018 7:59 AM
To: John Hall; Susan Burgstrom
Subject: FW: Comments on the Solar Ordinance for the Record

From: Mary Tiefenbrunn [<mailto:mary@mtief.com>]
Sent: Thursday, April 12, 2018 7:27 AM
To: 'jhall@co.champaign.il.us'
Subject: Comments on the Solar Ordinance for the Record

Dear Mr. Hall,

I am writing to express my opposition to a change to Champaign County zoning ordinances that would allow for construction of a solar “farm,” or any type of large-scale industrial, energy production, or manufacturing plant, within a mile of the residential area of a Champaign County town or village.

Arguments for or against the proposed solar plant at Sidney should not be focused at all on “green energy” issues. The impact of the construction of this energy plant on the residents of the area (i.e., the right of private property owners to the use and enjoyment of their property) and whether this project will fundamentally change the existing nature of the area (agricultural), should be the focus of the discussion.

As I understand it, residents of Sidney and other small towns in Champaign County are primarily concerned about the impact of the proposed solar plant on the quality of life of those living near the site. In particular, noise and destruction of the visual landscape they currently enjoy. (I realize that farmers also have legitimate land use concerns, but I will leave those arguments to others).

The concerns of these residents would easily be remediated by enacting a “solar ordinance” that respects a significant buffer around the village. If doing so would “kill the deal” with the developers asking for this ordinance, so be it. I am sure that if construction of a giant solar plant in Champaign County would be a profitable enterprise (and the “best use” of Champaign County real estate), another developer will very shortly come along who will find sufficient acreage located an appropriate distance outside any village or town.

Zoning changes can have long-term and often unforeseen impact on a community. The County Zoning Board of Appeals, Zoning Board, and Board of Directors should not craft an ordinance that puts the interests of one developer over those of its residents.

Thank you for considering my views.

Mary Tiefenbrunn
PO Box 323
Sidney, IL 61877

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APR 12 2018

CHAMPAIGN CO. P & Z DEPARTMENT

Susan Burgstrom

From: Connie Berry
Sent: Thursday, April 12, 2018 8:00 AM
To: John Hall; Susan Burgstrom
Subject: FW: Solar Farm Ordinance

From: Myers Place [<mailto:bromleyuofi@gmail.com>]
Sent: Thursday, April 12, 2018 7:48 AM
To: zoningdept <zoningdept@co.champaign.il.us>
Subject: Solar Farm Ordinance

Dear Board Members,

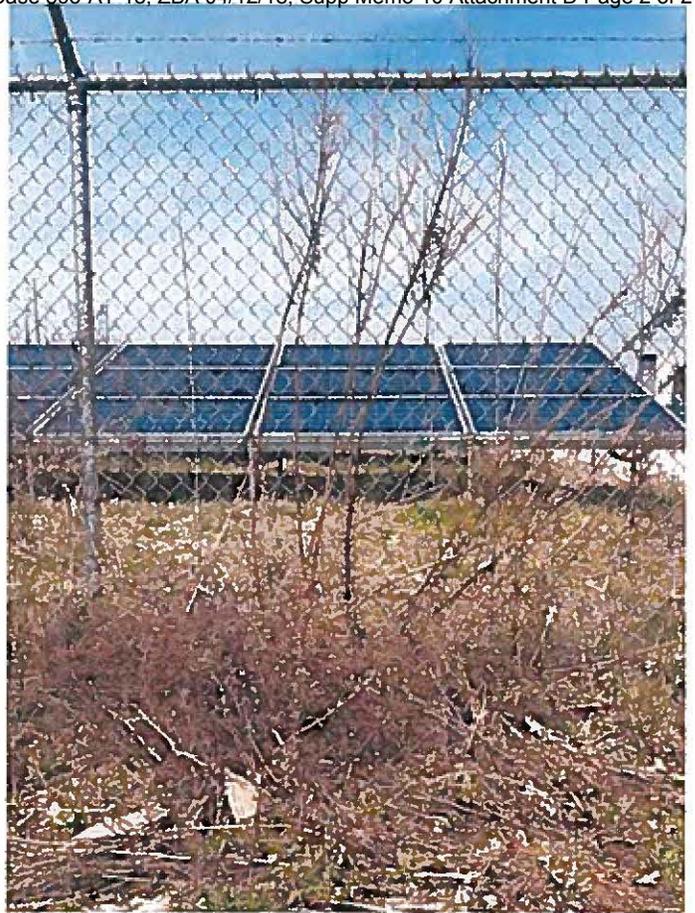
My name is Chris Bromley, I live at 201 Austin Dr. in Sidney IL. I am writing to ask that you consider writing into this ordinance the 1.5 mile provision when it comes to solar farms. Like it or not a solar farm of this scale is an industrial complex. Most of us move to Sidney to be away from the hustle of city's like Champaign and Urbana. We appreciate the quietness of the country and its views. Please take this into consideration. The 1.5 miles will give this community room to grow and will not choke our development to the south off. Please give us this right. I have been to the solar farm at the U of I and for those who claim the inverters do not make very much noise, they are mistaken. There are only 3 inverters on this 20 acre farm. which from the road looks substantial in size. Do the math that puts a potential of 65 inverters on the proposed farm encompassing Sidney. I have taken a video of an inverter from 40' away with a decibel meter reading anywhere from 64-70 decibels, and it is a consistent whine. I am going to include a few pictures of this farm fencing with the weeds growing up(keep in mind this is after winter) and the barbed wire on top. We in Sidney do not want to look like we have a prison on our borders when it should be a view of corn and soybeans. Thank you for your time and consideration. Please keep in mind this is only a 20 acre farm so imagine 1300 acres! This is not a view of corn and soybeans.

Thank you
Chris Bromley

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APR 12 2018

CHAMPAIGN CO. P & Z DEPARTMENT



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APR 12 2018

CHAMPAIGN CO. P & Z DEPARTMENT

Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 8:17 AM
To: Susan Burgstrom
Subject: FW: Comments on the Solar Ordinance for the Record
Attachments: optimum tilt.jpg

From: Phillip Geil [<mailto:phgeil@gmail.com>]
Sent: Wednesday, April 11, 2018 7:43 PM
To: John Hall <jjhall@co.champaign.il.us>
Subject: Comments on the Solar Ordinance for the Record

Dear Mr. Hall

As a person who has self-installed 96 ground mounted solar panels (22.7 kW) plus a 10 kW wind turbine on our pasture starting in 2007 I point out the following:

1. The solar panels generate no noise! The wind turbine does at times.
2. Our panels are mounted in landscape style two rows high and retilted 4 times /year for maximum solar incidence. The rows are thus ca 32' center to center with panels taking up ca 6' of that in the summer when at a 12° tilt The remainder we use for vegetable gardening. Thus all of the land is not taken out of production!
3. We would welcome anyone interested to visit our site to see the situation in person.

Thus, in summary, I believe there is no legitimate reason to prohibit solar farm and Community solar, or even to require a 250' setback, in Champaign County. We hope to attend the meeting tomorrow and point out the above to all members of the Zoning Board of Appeals and any attendee at the meeting. I am attaching a photo of the 6 rows of panels, at the 3 optimum tilt angles; the spacing for vegetable gardening is readily visible and would be particularly valuable for Community Solar farms.

Sincerely yours
Phil Geil

--

Phillip Geil
2060B Cty. Rd. 125 E
Mahomet, IL (61853)
586-3895

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Panels are retilted 4 times/year, at 12, 38, 65° and 38° (summer, fall, winter and spring), resulting in 13% greater production than installer estimated values for a constant 30° tilt ground mount and 33% greater than for a 14° tilt roof mount.

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Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 8:17 AM
To: Susan Burgstrom
Subject: FW: Comments on the Solar Ordinance for the Record

-----Original Message-----

From: CHL [mailto:cloydia@gmail.com]
Sent: Wednesday, April 11, 2018 8:01 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: Comments on the Solar Ordinance for the Record

I would like to express my support for solar development in Champaign County. Installations should NOT be limited to roof tops as this would greatly limit options to expand the use of this very important energy source throughout the county.

Thank you for considering my comments.

Cloydia Larimore
5 Florida Court
Urbana, IL 61801
217-337-7006

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CHAMPAIGN CO. P & Z DEPARTMENT

Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 8:18 AM
To: Susan Burgstrom
Subject: FW: Comments on the Solar Ordinance for the Record

From: Nancy Dietrich [<mailto:nancydietrich01@gmail.com>]
Sent: Wednesday, April 11, 2018 8:41 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: Comments on the Solar Ordinance for the Record

Dear Mr. Hall,

I am writing to voice my support for solar power in Champaign County. Not only will this help reduce our county's dependence on fossil fuels, but has the potential to help the economy with clean jobs and provide savings on electric bills. I think it's important for the county to have as many opportunities as possible for solar to become a major force in our communities, whether by rooftop, community solar projects, or larger-scale projects, as this is a growing industry with a lot of upside potential. I would not want to see our county get left behind on these growing opportunities. Community & large-scale projects give community members the opportunity to participate in solar projects if they are unable to put their own solar arrays on their own roof due to the cost, having too much shade, roof condition, etc. Champaign County should be on the cutting-edge of technologies like solar energy.

Thank you for your time.

Sincerely,

Nancy Dietrich
2803 S. Myra Ridge Dr.
Urbana, IL 61802
217-337-0334

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CHAMPAIGN CO. P & Z DEPARTMENT

Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 8:18 AM
To: Susan Burgstrom
Subject: FW: solar installations

From: Brooks, William F [<mailto:w-brooks@illinois.edu>]
Sent: Wednesday, April 11, 2018 9:53 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: solar installations

Dear Mr. Hall,

I wish to communicate my alarm at learning that the Zoning Board of Appeals is considering a motion to limit solar installations to rooftops only. This action, if taken, would hamper our county's laudable effort thus far to convert our homes and businesses to clean energy and would also make us less competitive with other counties in appealing to important aspects of our economic development.

I am traveling and will not be able to attend the meeting today. And, in truth, I may not have the full story; I have not had an opportunity to investigate further. But on the face of it, this proposal would seem to be a large step backward, and I urge the Board to reject this initiative.

Sincerely yours,

William Brooks
311 W. University, Apt. 103
Champaign, IL 618020
217-417-4165

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CHAMPAIGN CO. P & Z DEPARTMENT

Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 8:18 AM
To: Susan Burgstrom
Subject: FW: comments on the solar ordinance for the record

From: Geri theobald [<mailto:gwtheobald94@gmail.com>]
Sent: Wednesday, April 11, 2018 10:36 PM
To: John Hall <jjhall@co.champaign.il.us>
Subject: comments on the solar ordinance for the record

Dear Mr. Hall,

I feel that a solar installation would be very advantageous. It would provide clean, cheap energy well into the future. The price of oil, coal and gas will continue to rise. It would be much better for the residents of Champaign County to have access to cheaper energy in the future. While the solar installation may inconvenience a few, it will benefit the entire county.

Thank you.

Geraldine Theobald
706 S. Lynn St.
Urbana IL 61801
618 795 0465

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CHAMPAIGN CO. P & Z DEPARTMENT

Susan Burgstrom

From: Lori Busboom
Sent: Thursday, April 12, 2018 11:48 AM
To: John Hall; Susan Burgstrom
Subject: FW: Testimony on effect of Noise to Public Health for consideration by Champaign County Zoning Board.

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From: "Bryant, Michael" <MICHAEL.BRYANT@illinois.gov>
Date: April 12, 2018 at 11:42:39 AM CDT
To: "mr.bryant72@yahoo.com" <mr.bryant72@yahoo.com>
Subject: Testimony on effect of Noise to Public Health for consideration by Champaign County Zoning Board.

Dear Board Members,

My name is Michael Bryant, I live with my wife and 5 youngest children at 21 S. Scarborough Ct. Sidney Illinois. I want to make it very clear that I am not against Solar energy. Setting realistic distances from home owners property is what the real debate should be about. That being said I am in favor of a minimum of 1,000 feet. I would rather this be much greater, but believe that 1,000 feet would reduce the impact of Noise on my and others health.

I have a Master's Degree in Rehabilitation Counseling and am the Sr. Rehabilitation Counselor for the State of Illinois in Champaign County. My employment currently has me working with youth with disabilities in all of the school district in Champaign County, addressing disability advocacy and vocational impact on functional limitations. I have seen first-hand the impact sound has on certain disability groups.

I will be providing (at the Zoning Board Meeting) 34 double sided pages of research studies done on the impact of noise and health. I have heard a lot of testimony on what the allowable maximum DBA is that impacts health. This is on a Physiological basis, that impacts structure, example hearing loss. The studies that I present for your consideration address the Psychological impact on a individuals health.

Studies in the United States at this time are focused on treatment. Medication, to assist with sleeping, anxiety and Depression. Also protective equipment, Sound barriers and for personal use headgear. I have found and will briefly summarize each below.

1. Health impacts of environmental noise. Australian Academy of Science.
 This states that exposure to prolonged/ constant OR excessive noise has been shown to cause health problems ranging from stress, poor concentration, loss of sleep and cardiovascular disease. It also states that it is often sound that we do not even know we hear while we sleep that impacts us the most. (Constant sustained sound.)

2. Environmental Noise Annoyance and Mental Health in Adult. U.S. National Library of Medicine-National Institute of Health.
 This Research is on Noise Annoyance. It factors in Individual noise annoyance as the main factor on Mental Health impact. Please at least read the conclusion as it states impact much more elegantly than I would be able to.

3. Noise sensitivity, rather than noise level, predicts auditory effects of noise in community samples. U.S. National Library of Medicine-National Institute of Health.
 This Research shows that each individual persons Noise sensitivity level is the main impact on health impacts from sound. Health impacts include an increase in Depression. Again stressing that it each individuals perceived impact that increases health risk. This was on " Normal Population" showing increased probability of Depression related to noise.

4. The last 14 pages in the packet address Autism and other sensory related disabilities. I have included data from the Center for Disease Control as well.

In summary, I believe it is the Zoning boards responsibility to take into account all factors when setting Zoning ordinances. Impact on residences of this county should always out way the Profitability of a business or land developer. I am in favor of each local municipality maintaining the 1.5 mile jurisdiction on land usage around its city limits. My personal and professional opinion is that at 1,000 feet minimum, the perceived health impact will be minimum. This allows Solar energy into the county if renewable energy is the goal and not profitability.

Thank you for your time and consideration.
Michael Bryant

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Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 1:16 PM
To: Susan Burgstrom
Subject: FW: Solar Zoning - In support of Solar

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From: Anna Keck [<mailto:siggankeck@yahoo.com>]
Sent: Thursday, April 12, 2018 1:14 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: Re: Solar Zoning - In support of Solar

John,
thank you for sending the definition.

Good to know that if a farmer want to sell electricity (as a company, for wohlesale) then he/she will also need to follow the same zoning as large solar farms.

I hope I can make it to the meeting tonight to listen to the discussion.

Best wishes,
Anna

On Apr 12, 2018, at 1:07 PM, John Hall <jhall@co.champaign.il.us> wrote:

Dear Anna Keck:

Champaign County farmers can already install photovoltaic solar on their farms. The proposed definition of a solar farm is as follows:

PV SOLAR FARM: A unified development intended to convert sunlight into electricity by photovoltaic (PV) devices for the primary purpose of wholesale sales of generated electricity. A PV SOLAR FARM is under a common ownership and operating control even though parts of the PV SOLAR FARM may be located on land leased from different owners. A PV SOLAR FARM includes all necessary components including access driveways, solar devices, electrical inverter(s), electrical transformer(s), cabling, a common switching station, maintenance and management facilities, and waterwells. PV SOLAR FARM should be understood to include COMMUNITY PV SOLAR FARM unless specified otherwise in the relevant section or paragraph.

The critical difference between a farm with solar panels and a solar farm is that a solar farm only sells electricity to the national grid and a farm with solar is still principally an agricultural enterprise.

From: Anna Keck [<mailto:siggankeck@yahoo.com>]
Sent: Thursday, April 12, 2018 12:58 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: Solar Zoning - In support of Solar

Dear John Hall and the Champaign County Zoning Board,

I am sending this email to show my support of solar developments in Champaign County and I want this email to be included in the records of the Zoning board discussions at the meeting tonight.

I am very concerned about the potential changes to the champaign zoning in regards to solar development due to noise and viewshed concerns raised by residences. Champaign County might loose out on great economic development and job creations if we move forward with the drafted zoning language as proposed.

I agree that we should have zoning rules for solar developments but they have to be reasonable and similar to other industries.

Regarding noise: the solar panels themselves does not create noise but the inverters do. Therefore the distance from property lines should be regarding the inverters and not the solar panels. In addition, measures to reduce inverter noises can be added such as enclose the inverters in insulated buildings.

Regarding viewshed: 250 feet distance is further than for most of the other industries listed in the Champaign County Zoning Ordinance; for example for a sewage lagoon is 200 feet and slaughterhouse only 50 feet. We need to be fair and equal to all industries.

Lastly I like to suggest that you add a definition of "Solar Farm". Maybe I missed the definition. Would single farmer want to install solar on his /her farm of 50-500 acres qualifies as a solar farm per the ordinance? Where is the cut off?

Best wishes,

Anna Keck, PhD
Mahomet resident
rural Oakwood cabin owner

Susan Burgstrom

From: Lori Busboom
Sent: Thursday, April 12, 2018 1:08 PM
To: John Hall; Susan Burgstrom
Subject: FW: SAY NO TO SOLAR FARM IN CHAMPAIGN COUNTY!

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CHAMPAIGN CO. P & Z DEPARTMENT

-----Original Message-----

From: McFall, Terry L <tlmcfall@illinois.edu>
Sent: Thursday, April 12, 2018 1:06 PM
To: zoningdept <zoningdept@co.champaign.il.us>
Subject: SAY NO TO SOLAR FARM IN CHAMPAIGN COUNTY!

PLEASE do not let a solar farm in Champaign County. This will negatively affect all who live near. PLEASE stop this for any site in Champaign County. It is the American dream to own a home, especially in rural areas for many. How devastating to have the fear of this popping up next to your (American dream) property. Many people could also face a financial disaster with a large loss of home equity. Day to day living would be greatly harmed living next or near to a solar farm. PLEASE SAY NO TO SOLAR FARMS ANYWHERE IN CHAMPAIGN COUNTY Thank you for your time, Terry McFall Philo, IL Sent from my iPad

Susan Burgstrom

From: John Hall
Sent: Thursday, April 12, 2018 1:19 PM
To: Susan Burgstrom
Subject: FW: Comments on the Solar Ordinance for the Record
Attachments: Sierra Club Fact Sheet - Solar Benefits in Communities 4-11-18.pdf

From: Lois Kain [mailto:lois2@comcast.net]
Sent: Thursday, April 12, 2018 1:16 PM
To: John Hall <jhall@co.champaign.il.us>
Subject: Comments on the Solar Ordinance for the Record

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CHAMPAIGN CO. P & Z DEPARTMENT

To John Hall,

I cannot be at the hearing this evening as I am out of town, but I wanted to add my support to those who will be speaking in favor of solar development for Champaign County. I am also attaching a fact sheet from Sierra Club on the benefits of solar, which helped me understand the wide range of good things that come from community solar that I had not thought of before. I hope that you can find the time today to read this fact sheet. Here are some highlights:

- *Tax revenue for communities
- *Electric bill savings
- *Supports local economies through jobs, local businesses, and opportunities to be realized
- *Impacts to property values are negligible
- *Create habitats for wildlife with local landscaping of grasses and flowers
- *No release of toxic materials or radiation
- *No air pollution like that which comes from the burning of fossil fuels, which we all know harms our planet and makes people sick in a multitude of ways

I've lived in Urbana since 2005 and watched with pleasure every clean energy project that has been undertaken. We've talked about installing solar on our own home but haven't made the jump yet, although we did go geothermal in 2007. We would love the chance to buy into community solar.

I sincerely hope that those who are being the most vocal against solar and who may not realize the many ways that solar offers wonderful opportunities to *all* who live in Champaign County, including themselves, do not sway the County Zoning Board of Appeals into making a decision that we will regret.

Thank you for this chance to voice my support,

Lois Kain
1602 S. Carle Ave.
Urbana
217-220-0245



SIERRA CLUB

ILLINOIS CHAPTER

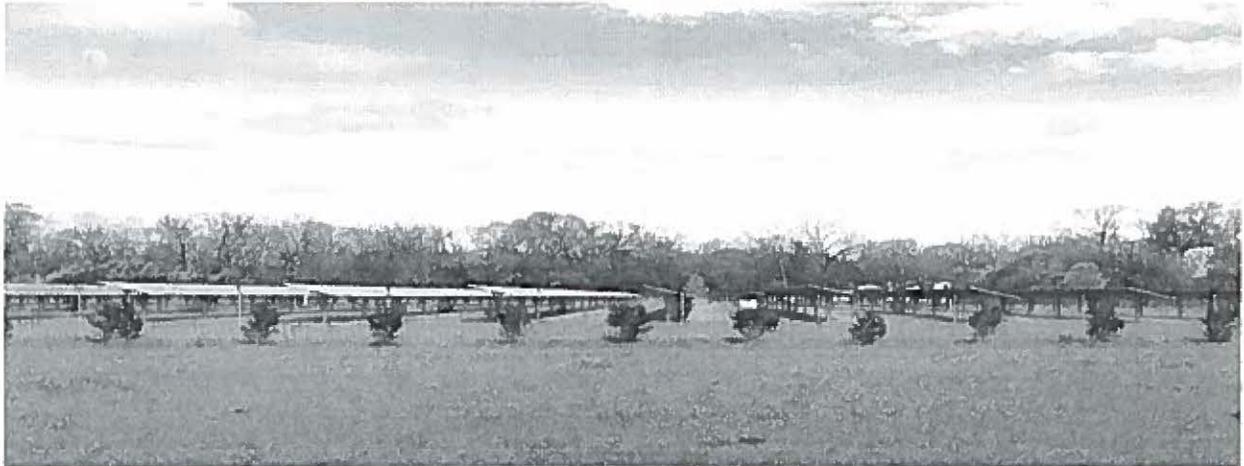
70 E. LAKE, SUITE 1500
CHICAGO, IL 60601
(312) 251-1680

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CHAMPAIGN CO. P & Z DEPARTMENT

Benefits of Solar in Your Community



Illinois' passage of a new clean energy law (the Future Energy Jobs Act) will spur solar development across the State.

The Future Energy Jobs Act (FEJA) – otherwise known as the Clean Jobs Bill – is one of the most significant pieces of clean energy legislation to ever pass the Illinois General Assembly. It resulted from years of negotiations between utilities, consumer advocates, clean energy businesses, and environmental and environmental justice groups. It was signed into law by Governor Rauner in December 2016 and went into effect on June 1, 2017. Some programs have recently started to roll out, and we will see more programs, including the programs incentivizing solar development, opening up later in 2018.

The law requires at least 3,000 megawatts of new solar power – enough electricity to power millions of homes – to be built *in Illinois* by 2030. Right now, Illinois has only around 100 megawatts of solar installed in the State, most of which are rooftop/on-site systems. Due to FEJA, Illinois can expect about a 4000% increase in the development of solar across the State, bringing cleaner air, lower utility bills, economic development, job opportunities, tax base growth, and other benefits to communities all over the State.

FEJA will provide different levels of incentives to ensure that diverse types of solar projects are built, including small rooftop/on-site solar, community solar, and larger utility-scale projects, along with projects that benefit economically disadvantaged and environmental justice communities. *Ensure that your community is poised to participate in solar development and doesn't get left behind from a rapidly growing economic sector and clean energy future.*

What is Rooftop Solar vs. Community Solar vs. Utility-Scale Solar?

Solar energy can offer substantial cost savings and benefits across all types of projects. Rooftop (or on-site) systems are typically under 10 kW in size for a residential homeowner but can be larger in size for commercial and industrial customers.

Community solar projects are up to 2 MW in size and offer customers the ability to participate in and benefit from solar system who can't or don't want to install solar on their roof or property, perhaps due to roof condition, too much shading on property, living in a multi-family building, or the capital expense required for installation and/or roof repairs. Community solar participants, called "subscribers," lease or buy *a portion* of a solar project, which can be located anywhere in the same utility service territory of the subscribers and typically require around 10 to 15 acres of land. Subscribers can be homes, businesses, hospitals, schools, nursing homes, municipal buildings, or anyone with an electric bill. The electricity produced by a subscriber's share of the system is used as a credit to lower their electric bill, saving them money and allowing them to participate in the benefits of clean, renewable energy.

Larger, utility-scale projects are over 2 MW in size and produce larger outputs of solar energy, which can help maximize the achievement of environmental, energy production, local air quality, and climate protection goals, along with offering more opportunities for economic development, tax base growth, and construction and maintenance jobs.

As communities consider land use planning, permitting, and zoning requirements for solar projects, it is important to acknowledge the different types of solar projects and the different land use forms that rooftop, community, and utility-scale solar development can take, while also recognizing the multiple benefits of solar development. A one size fits all approach may not always work and may have unintended consequences of chilling community solar and other larger projects besides rooftop solar. Identifying how solar development can benefit the community will help decisionmakers determine how solar resources and projects are integrated into the community in a way that balances and protects competing development or land use forms, while not unduly or unreasonably creating barriers to solar entry.

How does solar benefit my community?

Solar development can bring a variety of benefits to the local community. These include:

- **Tax revenue for the local community:** While it depends on project size and the local tax rate, over the 30-year expected life of, for example, a community solar project, total tax revenue could be hundreds of thousands of dollars for a local community.
- **Electric bill savings:** Anyone in the same electric service territory of a community solar project will be eligible to become a subscriber. This provides the opportunity for meaningful long-term bill savings and an ability to participate in clean energy benefits. Rooftop solar customers also benefit from "net metering," a billing mechanism that credits system owners for the electricity they add to the grid, along with the energy savings that results from their system's own electricity production.
- **Local economic activity:** Solar projects involve a variety of trades and service providers, many of which may be sourced from the local community. This can include on-going landscape management, fence installation, electrical engineering, construction labor, consulting relevant to permitting, and operations and maintenance.

Solar systems do not impact property values or quality of life.

A community solar garden is a managed landscape with grass and/or wild flowers. According to the U.S. Department of Energy's National Renewable Energy Lab:

While the impacts of a solar farm on neighboring property values have not been studied in-depth, numerous studies found the impact of wind energy generation on neighboring property values to be negligible. As solar farms do not have the same impacts as wind farms (i.e., PV facilities do not cast a shadow on neighboring properties, cause light flicker, or have the same visual impact as wind farms), the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms. Some communities have opted for mitigation measures to reduce visual impacts of solar farms through the use of vegetative screening or decorative fencing, since PV modules are usually mounted close to the ground (less than seven feet high).¹

Additionally, photovoltaic (PV) solar panels are coated with non-reflective materials designed to maximize light absorption and, as a result, minimize glare. According to a 2014 study, solar panels produce less glare and reflection than does standard window glass.² Regarding noise, a study conducted by Tech Environmental, Inc., for the Massachusetts Clean Energy Center, that investigated two utility-scale solar projects concludes: *Any sound from the PV array and equipment was inaudible at set back distances of 50 to 150 feet from the (project) boundary.*³ In fact, solar is a quiet and, typically, visually appealing neighbor that can block the path of undesirable development for decades to come.

The same study also concludes that the electrical and magnetic fields generated by solar panels and their inverters are lower than background electrical and magnetic fields created by other devices that surround our daily lives, such as computers and cell phones, and emit fields that are several hundred times less than recommended exposure limits.



¹ National Renewable Energy Laboratory, TOP FIVE LARGE-SCALE SOLAR MYTHS (Feb. 3, 2016), at <https://www.nrel.gov/technical-assistance/blog/posts/top-five-large-scale-solar-myths.html>.

² Roger Colton, ASSESSING ROOFTOP SOLAR PV GLARE IN DENSE URBAN RESIDENTIAL NEIGHBORHOODS (Nov. 16, 2014), at http://www.fsconline.com/downloads/Papers/2014%2011%20Solar_Glare.pdf.

³ Tech Environmental, Inc., STUDY OF ACOUSTIC AND EMF LEVELS FROM SOLAR PHOTOVOLTAIC PROJECTS (Dec. 2012), at <http://files.masscec.com/research/StudyAcousticEMFLevelsSolarPhotovoltaicProjects.pdf>.

Do solar gardens pose risks to wildlife or the surrounding community?

Photovoltaic solar gardens produce no air emissions, do not release toxic materials, and emit no radiation. Further, projects that use photovoltaic technology do not produce excessive heat. In fact, solar gardens are frequently home to nesting birds, and with the right plant and grass mix, can attract butterflies and other species.

What are the health and environmental benefits of solar energy?

Solar energy and other forms of renewable energy can replace the use of fossil fuels, such as coal and natural gas, to generate electricity. This provides significant health and environmental benefits. Burning fossil fuels release a variety of pollutants, including sulfur dioxide, nitrogen oxide, particulate matter, and mercury, which harms the environment, contributes to ozone formation and smog, and causes a variety of chronic respiratory diseases, including asthma and bronchitis, elevated occurrences of premature death, and neurological effects in children. Fossil fuels are also the single largest source of greenhouse gases, which drive man-made climate change and extreme weather events.⁴

How can communities leverage solar development to benefit your community?

As communities and counties work with solar developers to bring the benefits of solar to their residents, community advocates and municipal leaders can explore additional measures to maximize local benefits and mitigate any concerns. For instance, communities can require developers to install vegetative screening or fencing to alleviate aesthetic concerns, along with planting of certain grasses or plants underneath ground-mount solar panels to support wildlife habitat. In addition, communities may want to require local hiring, a diverse workforce, prevailing wages, along with other requirements to ensure that fossil fuel workers, communities, and individuals disproportionately harmed by the fossil fuel economy (including but not limited to communities of color, economically disadvantaged, and environmental justice communities) have equitable access to clean energy-related economic opportunities and affordable clean energy.

⁴ Union of Concerned Scientists, THE HIDDEN COST OF FOSSIL FUELS (Aug. 2016), at <https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/hidden-cost-of-fossils#.Ws03pljwblU>.

Susan Burgstrom

From: Lori Busboom
Sent: Thursday, April 12, 2018 1:32 PM
To: John Hall; Susan Burgstrom
Subject: FW: Solar Panels in Sidney area

From: Sigler, Penny A <psigler@illinois.edu>
Sent: Thursday, April 12, 2018 1:31 PM
To: zoningdept <zoningdept@co.champaign.il.us>
Subject: Solar Panels in Sidney area

Dear Zoning Board,

I have been a resident of Sidney since 1982 and born and raised in farming communities. I am in total disagreement of having solar panels put on rich farm land (instead of getting rich on farm land) that can be used in much better ways like feeding our country. Also, there needs to be at least 2 miles or more before it invades the quietness and beautiful countryside that we own and raise our children in. I have lived near railroad tracks for the majority of my life - which I chose to do. I would not want to have bought land and raised my family and then someone move right in and build something that would turn our lives upside down without a choice.

Surely there are rules and regulations that can be put forth to keep our countryside preserved as it was meant to be.

Thanks for taking my thoughts into consideration.

Penny Sigler

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CHAMPAIGN COUNTY PL & Z DEPARTMENT

Susan Burgstrom

From: Lori Busboom
Sent: Thursday, April 12, 2018 1:34 PM
To: John Hall; Susan Burgstrom
Subject: FW: Solar ZBA meeting

From: Jason Arrasmith <harleyowner07@yahoo.com>
Sent: Thursday, April 12, 2018 1:31 PM
To: zoningdept <zoningdept@co.champaign.il.us>; ale7496@yahoo.com; Patti2@gmail.com; Brooks Marsh <1brooks@mchsi.com>; jegross64@gmail.com; Kyle Patterson <kyle.patterson1216@gmail.com>; Stephanie Fortado <fortadoccb@gmail.com>; Robert A. King <rking1045@gmail.com>; tim@montaguebrands.com
Subject: Solar ZBA meeting

Dear Champaign County Board Members,

I am again writing to express that the Village of Sidney Board does not want the Solar project directly adjacent to Sidney. I also personally do not think this is good for the Village of Sidney. Sidney and all Cities, towns and villages in Champaign County deserve the right to have the 1.5 mile area to determine future development. The proposed changes for the solar farm does not allow for this and will close off Sidney from any development for at least the next 25 years. I also ask that you include set backs from adjacent properties and houses to at least 500-1000 ft. We must protect the citizens property values and maintain a healthy place to live. When the Champaign County Board developed the ordinances for Wind Farms these things were taken into consideration and the 1.5 mile was protected. This should not be any different for the development of solar farms in Champaign County.

Sincerely,

Jason Arrasmith

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CHAMPAIGN COUNTY CLERK DEPARTMENT

Solar farms are cropping up in Will County



This 32-acre farm on the southwest corner of Pfeiffer Road and Sauk Trail in Frankfort is being considered for a community solar farm, given its close proximity to a ComEd substation. (Susan DeMar Lafferty / Daily Southtown)

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CHAMPAIGN CO. P & Z DEPARTMENT

By **Susan DeMar Lafferty**
Daily Southtown

SEPTEMBER 5, 2017, 9:09 AM

As harvest season approaches, some Will County farmers may already be considering alternatives to the future of their corn and soybean fields. They are learning that the sun they now rely on to produce vegetables, could be harnessed into a new cash crop.

Empowered by Illinois' new Future Energy Jobs Act, solar companies have approached area farmers in recent weeks about converting a portion of their property into solar farms.

Cypress Creek Renewables, which currently operates solar farms in eight states, has an agreement with a landowner in Crete Township to convert 45 acres on Goodenow Road into a five MegaWatt solar farm, enough to power 800 homes, said Scott Novack, Cypress' senior developer. They are looking for more sites.

Frankfort officials have just begun to discuss a concept for a 32-acre community solar farm that could generate enough energy to power 1,200 homes, according to developer Josh Barrett, of Solarshift LLC, Homer Glen.

"This is totally new to us," said Mark Schneidewind, manager of the Will County Farm Bureau. About 100 farmers recently received letters from a few different companies and about a dozen have retained a lawyer to negotiate the finer details, he said.

With offers of \$800 per acre, compared to \$160 to \$180 for a really good crop yield, some older farmers are considering this as a steady cash flow as they head into retirement, Schneidewind said.

Others are concerned about leasing their farms for 20 to 30 years, and want to know if it would restrict their ability to use their land, or interfere with drain tiles, he said.

He said he does not see this as the future of farming, because the ground in Will County is "prime farmland," but he acknowledged that this gives people an alternative.

Novack said Cypress needs at least 20 acres in close proximity to power lines or substations, and are "actively working on" five to 10 projects in Will County. Realistically, he said he expects they will move forward with one or two.

It will be at least 2019 before a facility is operating. According to CCR's website, the entire process, from signing the lease to completing construction, takes 18 to 24 months.

Cypress invited area landowners to a recent community meeting, but drew only one, along with two county board members — Judy Ogalla and Laurie Summers, he said.

The farm bureau has held two seminars, in each of the last two Aprils, attracting about 100 people each, to provide information and answer questions.

Schneidewind also has been at the table with Will County's Land Use Department to discuss how best to regulate this burgeoning business.

The county currently is "not very restrictive," but does require a special use permit for solar projects — which adds an extra layer of scrutiny, said Samantha Bluemer, of the Land Use Department. As officials update the zoning codes, they want to ensure these are "safe developments" and protect the landowner, she said.

Will County recently won an award for being "solar smart" for simplifying its zoning ordinances and making "alternative energy" an option on its building permit application. It also has enhanced training for permitting and inspection staff and increased public resources regarding solar energy systems and consumer protections, in order to promote positive, sustainable growth.

As they review zoning codes, they are looking at decommissioning the land, mitigating the agricultural land, requiring bonds, letters of credit, and fire training, Bluemer said.

While officials in Frankfort are "excited" about having a solar energy field and contributing to renewable energy, development director Jeff Cook said they want to make sure the site will be properly maintained over

the years. A special use permit will be required.

"Renewable energy is a hot topic, a timely subject, but we don't know all the ins and outs," Cook said, adding that they are looking at Barrett's proposal from a land use perspective, and while the location "makes sense," the plan needs "more details."

Barrett has proposed a community solar farm on 32 acres on the southwest corner of Pfeiffer Road and Sauk Trail, where it could easily connect to a nearby ComEd substation.

Unlike the larger scale utility farms, Barrett said he would sell solar panels to residents, who would then receive credit on their electric bill for producing their own power.

Given that the majority of rooftops on homes are not conducive to solar panels, community solar farms allow residents to buy into renewable energy at half the cost, with optimal production, he said.

He is now working out zoning issues with the village, which currently requires a special use permit, he said. He hopes to conduct pre-sales at the beginning of 2018, open to Frankfort residents first, then others. If there is not enough interest, the project would not go forward, Barrett said.

Knowing that Frankfort is concerned about aesthetics, he plans not only landscaped berms to seclude the site, but will incorporate native plants and pollinators to promote water filtration and create wildlife habitats.

The panels are designed to last 25 years, and if approved, this site would be developed in three phases, each to produce two megawatts (MW) of power — enough to power 1,200 homes, Barrett said.

"It doesn't produce any negative effects, just clean energy," he said.

Brad Klein, senior attorney at the Environmental Law and Policy Center, agreed.

The state law sets benchmarks for creating 4,300 megawatts of new solar and wind power — enough electricity to power millions of homes — to be built in Illinois by 2030.

That goal, along with incentives and tax credits, has led to a lot of interest statewide, Klein said.

The Illinois Power Agency is now working to implement that law, and drafting regulations, but development is happening before the details have been finalized, he said.

Still, Klein said he sees only benefits, and the ELPC has been a key proponent of renewable energy.

"We are really interested in finding the best ways to make sure solar processes are integrated well into the landscape," he said.

Among the "best ways" are creating pollinator habitats under the panels, which may make the land more productive, and making sure the land is restored to its original condition if no longer used for solar farming,

he said.

These farms also are expected to generate more revenue for local schools and communities since solar companies would pay property taxes on land they lease — likely at a higher rate than agricultural land, Klein said.

The solar panels alone are "worth millions" and companies would be taxed on that value, Novack said.

But Illinois is still working on that, and may establish a uniform tax code for solar farms, he said.

Once panels are removed, there is no long-term impact to the land, he said. While there are "trade-offs" in the use of the land, the solar industry is eager to employ "best practices" and it make this work, Klein said.

Right now, the downside is the lack of communication and education about the development, solar energy Klein said, which he hopes will change.

For more information on solar energy, Bluemer has posted consumer protection information on the county's website: <http://www.willcountyillinois.com/County-Offices/Economic-Development/Land-Use/Solar-Source/Consumer-Protection> and recommended the following sources:

- Interstate Renewable Energy Council (IREC)
- Illinois Solar Energy Association (ISEA)
- Solar Energy Industries Association (SEIA)
- Environmental Protection Agency (EPA)

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UIUC Solar Farm
distance: ~200 feet to closest panel
facing side of panels
04/05/18



UIUC Solar Farm
distance: ~350 feet to closest panel
facing side of panels
04/10/18



UIUC Solar Farm
distance: ~425 feet to closest panel
facing side of panels
04/10/18



**UIUC Solar Farm
distance: ~500 feet to closest panel
facing side of panels
04/10/18**



UIUC Solar Farm
distance: ~100 feet to closest panel
facing front of panels
04/10/18



UIUC Solar Farm
distance: ~200 feet to closest panel
facing front of panels
04/10/18



UIUC Solar Farm
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facing front of panels
04/10/18

Randy Pankau

3108 Ridge Park Dr.
Urbana, IL 61802

12th April 2018

Champaign County Board, Champaign County Planning and Zoning Board

1776 East Washington Street
Urbana, IL 61802

Dear Board Members,

I wanted to voice a professional opinion regarding the possible installation of a large Solar PhotoVoltaic Farm near Sidney IL. My undergrad degree is Electrical Engineering, with an MBA, currently I am employed as a process control engineer. Photovoltaic technology for electric energy production is an exciting new technology that has promise as a possible replacement for finite reserves of fossil fuel. However I would also say with emphasis that the state of this technology hasn't the maturity for this type of commercial investment. As evidence of this I refer you to this study [Energy Return on Energy Invested \(ERoEI\) for photovoltaic solar systems in regions of moderate insolation](#) . The bottom line is that current solar technology **cannot** be considered an energy source for the simple fact that more energy needs to be inserted into the system in the form of raw material mining, silicon manufacturing, etc...than what is returned over the life of the solar panels. Granted this technology is getting better by the day, however at the time of this study only 82% of the energy inputs would ever be returned in electricity output, in other words it's an energy sink for our finite fossil fuel resources which are used in the manufacturing process. The reason nuclear fusion is not currently mainstream is that the energy input is much higher than energy output in real time, solar is the same, it's just front loaded so it appears to be an energy source when the panels are generating power. Subsidies skew reality as well, there is no free lunch when it comes to power, we can't simply print more natural gas as if it were cash, when its gone we will wish we hadn't burned it on feel good projects.

In my opinion the responsible thing to do with finite resources at hand such as human labor, fossil fuels, raw materials etc... would be to fund research to improve this technology so that it can become energy positive sometime soon. Spending the finite resources of fuel and labor for the return of Federal Dollars in the form of a subsidy (welfare for investors) is not what I would call good stewardship. It's also somewhat surprising that the same group of people who like to throw stones at the free market claim that by artificially making a technology mainstream, the market will automatically grant that technology the efficiencies that other consumer products have enjoyed such as the personal computer. Don't hold your breath, let the Universities and research departments do their thing. If we are going to take a risk by destroying the value of neighboring property, and by removing some of the best agricultural soil in the world from production, then lets be sure that the reward is real.

Sincerely,

Randy D. Pankau P.E. , MBA

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CHAMPAIGN CO. P & Z DEPARTMENT