From:	PSC Public Comment
To:	
Cc:	
Subject:	RE: Case 2023-00263
Date:	Tuesday, January 23, 2024 8:36:00 AM

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: Linda Day Harrison	
Sent: Wednesday, January 17, 2024 1:07 PM	
To: PSC Meeting < <u>PSC.Meeting@ky.gov</u> >	
Cc: Deborah Smith	; Miranda Miller
Subject: Case 2023-00263	



The article needs a follow-up to say that the public was not allowed to voice concerns and the technology used to host the meeting was fatally flawed. The residents were not allowed to speak or comment. They were only allowed to view a streaming YouTube video channel.

The instructions given to send an email to <u>PSC.meeting@ky.gov</u> were ineffectual as those who did receive an automated reply said that the messaging did not coincide with the understanding that those residents would be allowed to voice their concerns virtually.

I know <u>WPSD-TV</u> did a story, but they need to dig deeper and help get the word out that these residents are being railroaded and stepped over. The residents in this town and county do not want solar panel farms. Also, what is most compelling is the fact that out of all of the hundreds of farmers who were contacted to convert their agricultural land to solar panel factories, only 3 farmers replied to this. Nobody in this area wants to live near or adjacent to solar panel factories. I implore the media to help them get the word out before this pristine community is destroyed.

https://www.wpsdlocal6.com/news/community-in-farmington-reacts-to-proposed-solar-powerfacility/article\_666ee65a-b4cc-11ee-a79c-db98d8b753a0.html

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263 (ky.gov)</u>.

Thank you for your interest in this matter.

From: Miranda Miller Sent: Thursday, January 18, 2024 8:56 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Case # 2023-00263 - Banjo Creek Solar

To Whom it May Concern,

From: Miranda Miller 2320 Beech Grove Rd Farmington Ky Less than 1/2 a mile from solar panels

I'm very disappointed and disrespected by the fact that the "public" meeting Tuesday night went virtual at the last minute with no effort to be rescheduled. There was no time for public comments to be made because a majority of the public works to pay taxes (your salaries). This project will have a great impact on the community of Farmington and our voices deserve to be heard! My community (Farmington, Graves Co, Kentucky) that I was raised in, still live in today and where generations of my family (both on my father and mother's side) have called home for over 100 years is not having their voices heard. A beautiful community where bald eagles have been seen on a regular basis nesting in and around the area. This project, as you know, is a very large project (850 acres) and will have a great **negative** impact on our community and will bring very little income to Graves Co.

Out of 365 days in Farmington KY per Google search only 199 days are sunny and Solar panels are only 33% efficient. This is not green energy this is destroying farmland for little to no return. Who is going to put out the battery fires for panels on 850 acres that our fire departments don't have the

proper foam for? What landfill will the 20% of faulty panels just in the 1st year go to in addition to the panels removed years later. Who will pay the medical bills for people poisoned by the toxins leached into the soil and drinking water? Trees and vegetation will be destroyed, trees and vegetation that give us oxygen to breathe. Does it make sense for trees to be destroyed and ground leveled and be replaced by solar panels that will increase the area temperatures and leach toxins into the soil? Beautiful soil that is currently used to feed you and your family as well as the USA will be destroyed.

All sides should be heard especially when the individuals who do not live in this community are making the decisions. For the love of Farmington let our voices be heard! You would deserve the same respect if it was going to effect your community! This is not farming this is large scale industrial power and should not be close to people's residences.

Sincerely

Miranda Miller

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263 (ky.gov)</u>.

Thank you for your interest in this matter.

From: Nan Rogers Sent: Thursday, January 18, 2024 9:40 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Virtual meeting of case #202300263

I would like to express my thoughts on the virtual meeting on Tuesday night the 16<sup>th</sup> of January. Unless you are retired and able to call your office or checked the Public service page consistently through the day on Tuesday you would have never know about the virtual meeting. Only by word of mouth would you have learned of it if you did not have the time to do this.

Not only that due to your virtual issues and the fact that you started late led me to believe that you might not have the meeting.

Public meetings are just that public, if there is no advance notice other than a posting on your web site it is not a public meeting, nor does everyone knows how to conduct a you tube meeting or is available to watch on such late notice.

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263 (ky.gov)</u>.

Thank you for your interest in this matter.

From: Nan Rogers Sent: Friday, January 19, 2024 2:48 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: case # 2023-00263

Kentucky Public Service Commission

Banjo Creek Solar Case: 2023-00263

Formal Hearing date 1/23/2024

My name is Nanetta Rogers, and I am writing to express my concerns about the proposed solar installation near Farmington KY. I am a taxpayer and lifelong resident of Graves County and the Antioch Corner Community. As an adjacent landowner to the project and owner of several more acres of farmland less than a half mile away, my family and I have a vested interest in the impact of this project on the environment, the economy, the loss of income and the quality of life of the people in this area.

I come from a family of farmers who have owned and cared for this land for over 100 years. I was taught to be a good steward of the land, and to be a good neighbor to those surrounding my farm even when it meant it might not be what I wanted.

I am not opposed to renewable energy sources, but I believe that large-scale solar installations should not be built on productive farmlands that are used for growing crops in Graves County and our country as a whole. When we start destroying productive farmland to install large solar installations, we should consider the many factors that are beginning to show up in other states. Erosion issues caused by the preparation of land for installation of the solar panels, loss of wildlife habit, possible water, land and air contamination, as well as the destruction of solar panels through hail, fire and wind. As well as the loss of crop production for years to come.

I am also concerned with any solar company that comes into a county and does only the bare minimum that is necessary to alert the community as to their plans. Where is the honesty and transparency needed for **ALL** those who live in Graves County, not just the few who will be surrounded by the industrial solar farm? I would also ask that you reconsider the appraisal in your case files. According to the local real estate agents I have talked to, home values will decrease by several thousand dollars.

For the company to extoll the amount of money it will bring into Graves County I wonder why Graves County has benefitted little so far. According to the filings of case number 2023-00263 many of the experts used in the case attachments are from the other end of the state, North Carolina, and in Green Go's case Denmark. Where will all the money made from this project really end up in the long term?

If we are allowed to destroy our farmland and possibly that of others, where will we be when there is no longer farmland available to grow the food needed to feed our country? Maybe it is time to step back and think about more than the money involved, the green movement and government mind set and think about protecting the unknown instead of destroying the future of our children and grandchildren.

I urge you as a public service commission to the citizens of Kentucky consider everyone involved not just those who are looking at the monetary aspect of the situation.

Thank you.

Nanetta Rogers

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: Deborah Smith Sent: Monday, January 22, 2024 3:30 AM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Re: Case number 00263



#### Case Number: 2023-00263

residence. Do you not think that would deter someone from purchasing property at the assessed value?

We have asked Banjo Creek, LLC to make the setback from the property line to 1000 feet. They have stated they have listened, however as stated their "Site Assessment Report" still plans on requesting a 300 feet setback. Their plan is for this setback to be 300 feet from the resident, not the property boundary as stated in KRS 278.704 Merchant electric generating facility -- Construction certificate -- Location of exhaust stack -- Decommissioning and setback requirements -- Public meeting concerning property acquisition -- Exception.

I have attached my concerns regarding this project.

1. I am asking you to consider denying this application as Banjo Creek, LLC does not have factual information in it, and therefore it should be denied.

2. I am asking the SIting Board to follow KRS 278.704 regarding the setback of 1,000 feet from property boundary, not residence as requested by Banjo Creek, LLC.

3. I am asking you to consider all factors in this hearing not only for Banjo Creek, LLC but also for the residents of Graves County and the surrounding counties.

4. I am asking that you make a dutiful decision based on KRS statutes, concerns from the citizens and what is best for future generations to come.

5. I am asking that as members of this board the three permanent members, The secretary of the Energy and Environment Cabinet or the secretary's designee; The secretary of the Cabinet for Economic Development or the secretary's designee; and the 2 ad hoc public members to make a careful, thoughtful and prayerful decision based on facts of the case.

I have concerns about the answers Banjo Creek, LLC gives in regard to the Siting Board's Second Request for Information as filed on December 11, 2023. First I want to know why a 1 mile radius is used to determine certain decisions and where this 1 mile radius center is? Is it from the center of the proposed project or from the outsides of the proposed project? That decision makes a lot of difference in regard to the number of residences, number of churches and types of wildlife which can be affected. I am 75 years old and just the other week saw a bald eagle close to my house. There have been numerous sightings of bald eagles recently by other people. We are an area that migratory birds pass through during that time.

Concerning that report, Section Siting Board 2-2 it states, "There are no cemeteries within the Project boundary. This statement, while true, does have a cemetery that is located right outside the boundary of the site. If you look it up on Find a Grave you will find its "Coordinates: 36.63440, -88.54470 and because of the closeness the same consideration should be give to this cemetery as one within the property boundary.

Concerning that report, Section Siting Board 2-4, it states that Antioch Church of Christ is the only church with the mile radius and they sent a letter to the pastor. First, if they had any desire to learn about the churches, thus the residents of our area, they would find that in the church of Christ there is no "pastor" as deemed outlined by the religious denominations today. The man that stands before the congregation is the minister of the church and he holds no responsibility toward the decision making of the church. Elders are the leaders of the church of Christ and each church is autonomous. Therefore, the letter was sent to the wrong people.

On this same page it is stated, "Banjo Creek does not have information on the times during which other churches conduct their services". Yet, they state Antioch Church of Christ is the only church. Which is it?

The below part of Banjo Creek, LLC'S, within itself, should make the current application null and void for consideration by the Siting Board.

• Page 9, Paragraph 3 "There is only one residential neighborhood (as defined by KRS 278.700[6]) within 2,000 feet of the Project's facilities. Pursuant to KRS 278.704(4), AEUG Fleming Solar will be moving the Siting Board for a deviation from this setback requirement. See Appendix A for a map showing the residential neighborhood in relation to the Project."

What does AEUG Fleming Solar have to do with this proposed project?

I have to ask how much of an application can have false information and still be considered as a legally binding application. It is for this reason; I feel this application should be denied based on false information given in this one section only.

Deborah H. Smith 2012 Beech Grove Road Farmington KY 42040

On Wed, Jan 17, 2024 at 8:47 AM PSC Public Comment <<u>PSC.Comment@ky.gov</u>> wrote:

Case No. 2023-00263

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263 (ky.gov)</u>.

Thank you for your interest in this matter.

From: Deborah Smith Sent: Tuesday, January 16, 2024 6:51 PM To: PSC Meeting <<u>PSC.Meeting@ky.gov</u>> Cc: PSC Public Comment <<u>PSC.Comment@ky.gov</u>> Subject: Re: Case number 00263 Well, I watched the YouTube meeting. It was basically just something to appease us lowly citizens. YOU might have had some comments if the comments button had been turned on! I HAVE plenty to say, but NO one will listen and that was made known by your little virtual meeting that was supposed to be an in-person meeting. NOT only could you have found another location to have had this meeting, but as a former state employee I have travelled many times to meetings during weather like today. That is called "you being a chicken".

To say that no one wanted to speak is not only offensive to concerned citizens, it was an out and out lie. Yes, I'm mad and I have every right to be mad at people that are supposed to not only listen to what we say, but also make good decisions for the citizens of Kentucky. Political agenda does NOT belong in something that is going to affect neighbors not only now, but in yours to come.

After you cancelled a meeting 5 hours before it was to be held in-person, you scheduled a meeting virtually that was supposed to be 5 hours later, with no notice to the public, no information as to how to get on your website, nor no information as to how we were to be heard. I called your office at least 6 times today to see what needed to be done.

I must quit, because the more I type the madder I get at your comment, "No public comment".

Deborah Smith

On Tue, Jan 16, 2024 at 4:51 PM PSC Meeting <<u>PSC.Meeting@ky.gov</u>> wrote:

Thank you for your comments. I am forwarding your comments to the PSC mailbox for written comments (<u>psc.comment@ky.gov</u>) to be reviewed by the commissioners and case team.

Thank you for contacting the Public Service Commission (PSC).



From: Deborah Smith
Sent: Tuesday, January 16, 2024 5:38 PM
To: PSC Meeting < PSC.Meeting@ky.gov
Subject: Case number 00263</pre>

First this was scheduled as an in person meeting and it should be held at a later date as one.

Where do I begin? Do I begin with the fact that Banjo Creek LLC sent letters to farmers before March 2021 to see if they would like to lease their land for a commercial solar farm or shall I begin with the fact that it was not made public knowledge until March 2023 after 3 farmers had signed and filed these said leases with the Graves County Court Clerk? Better yet, maybe I should begin with the fact that Banjo Creek put a little ad in our local paper that stated a public meeting would be held at the Sedalia Restaurant on April 1, 2023 and only sent letters to landowners who touched the farms that had signed up.

"Owner 1 Owner2 Street City, State Zip March 15, 2023

Dear,

We would like to invite you to attend an open house on April 1, 2023 from 2-4pm to answer any questions you may have about the proposed Banjo Creek Solar Project.

As you may know, GreenGo Energy is developing a solar farm on a portion of the Wilferd, Diel and Coltharp farms. Since your property is within 1000 feet of this land, we would like to address questions you may have.

GreenGo Energy representatives will be available meet you, show you our project and speak with you directly at the open house. The open house will be hosted at Sedalia Café, 5593 State Route 97, Mayfield KY.

Please join us for appetizers, pizza and soft drinks. We thank you for your consideration and look forward to meeting you on April 1st. Should you have any questions

or concerns please contact us at visit ."

This would have been fine and dandy, except that Sedalia is not the community they are putting it in and the local paper does not have a wide spread audience. Therefore, the majority of residents did not know about this meeting and in my opinion, it may have met the requirements of publication, but it was done by the least they could get by with.

or

Then they sent another letter to the same landowners and at the same place regarding a meeting on May 16, 2023. This meeting was canceled and they sent another letter.

"April 28, 2023

«First\_» «Last» «Mailing Street» «Mailing City\_», «Mailing State» «Mailing Zip» Dear

«First », Salutation, GreenGo Energy US, Inc would like to cordially invite you to learn more about our solar project investment in Graves County: Banjo Creek Solar LLC. Banjo Creek Solar is proposing to construct a 120 MW AC photovoltaic solar energy generator. The project will be located in the vicinity of the intersection of KY Rt 564 and Ky Rt 339 and Antioch Church Rd, south of Farmington. The coordinates are 36°38'15.9"N 88°31'44.5"W. The facility will consist in approximately 850 acres of solar panels and associated racking, inverters, battery storage, and a project substation. There are currently three local landowners under longterm leases for the development of their property for this project. At GreenGo Energy we have deep experience with developing large solar energy projects in the US and abroad. We know that for a project to be successful, close and respectful collaboration with the landowners,

local community, municipality, and potential neighbors is vital. That is why we make sure to involve all parties in a transparent way before applying for a new solar farm to be established. As part of our effort to get to know our new neighbors, we are hosting a community meeting Tuesday, May 16th, at 5:30 pm- 6:30 pm at Sedalia Cafe located at 5593 KY 97, Sedalia, KY 42079. Refreshments will be provided. It is important to us that you have an opportunity to learn about the project and get to know who we are. If you can't attend, but would still like to speak with us, please reach out to us at the contacts listed below or visit our websites: Company Website: Project We look forward to Website: meeting you on the 16th.

Then another letter was sent to the same people. I have yet to receive any news of this because my property doesn't join.

May 11, 2023 «First\_» «Last» « Mailing Street» «Mailing City\_», «Mailing State» «Mailing Zip» Dear «First »,

We previously sent a certified mail letter to your residence to invite you a public meeting on May 16th. This letter is to inform you that the May 16th public meeting has been rescheduled to June 6th per the details below. GreenGo Energy US, Inc would like to cordially invite you to learn more about our solar project investment in Graves County: Banjo Creek Solar LLC. Banjo Creek Solar is proposing to construct a 120 MW AC photovoltaic solar energy generator. The project will be located in the vicinity of the intersection of KY Rt 564 and Ky Rt 339 and Antioch Church Rd, south of Farmington. The coordinates are 36°38'15.9"N 88°31'44.5"W. The facility will consist in approximately 1270 acres of solar panels and associated racking, inverters, battery storage, and a project substation. There are currently three local landowners under long-term leases for the development of their property for this project. At GreenGo Energy we have deep experience with developing large solar energy projects in the US and abroad. We know that for a project to be successful, close and respectful collaboration with the landowners, local community, municipality, and potential neighbors is vital. That is why we make sure to involve all parties in a transparent way before applying for a new solar farm to be established. As part of our effort to get to know our new neighbors, we are hosting a public meeting Tuesday, June 6th, at 5:30 pm- 6:30 pm at Sedalia Cafe located at 5593 KY 97, Sedalia, KY 42079. Refreshments will be provided. In addition to the community meeting, Jonathan Flemings will be in Farmington on May 15th and 16th and would like to arrange to meet with you about the site plan at your convenience. Please let us know if there is a time that you are available. Company

Website: Project Website: We look forward to seeing you either on May 15th or 16th or at the June 6th public meeting in Sedalia!

Once again only landowners and residents who bordered the leased property received any letters.

In fact, I did not learn of the proposed solar farm until July 2023 and that was after someone asked me about my thoughts. YET, one of the leased farms I can see from my home.

My complaint is that at no time did Banjo Creek let the citizens this solar farm will affect know except by minimal legal contact. Plus, to this day they continue to do so.

A meeting was held on September 12, 2023 after it was requested of the by concerned citizens of the Graves County Judge Executive, Jessie Perry. Banjo Creek did appear at this meeting, but the judge let it be known that it was his meeting and many people were not able to voice their concern.

There are many things that I am concerned about in regard to this solar farm. I do not feel enough studies have been done to determine the effect it will have on our community. Banjo Creek states in many of their papers to the board that they will have this or that study done after approval. The time is now to have those studies done, not after approval. Approval will give them an advantage that will not be there if the studies are done beforehand.

The thing about solar is we need to be informed and gain knowledge about what are the pros and cons of an industrial solar farm. Examples: Banjo Creek states, "The solar farm will bring upwards of \$180 million in investment and tax base into Graves County". What they don't say is how long does it take for Graves County to see that \$180,000,000? They also don't say how much Graves County will spend repairing the road damage (or others will spend repairing the damage done to their properties) that has been created by the solar farm. They also don't say where this money will be coming from or how they arrived at the amount given. Banjo Creek also states, "Banjo Creek Solar will provide enough green, carbon-free energy to power up to 12,000 homes". They don't say where these homes are and from what I understand the power captured by these panels will be sold to TVA and who knows where TVA will use it. But I don't expect to see my electricity go down.

I'm concerned about the battery stations as everything I've read says they can catch fire. Our county has a volunteer fire department. How can I expect a person, who is a volunteer, to fight or even be around a battery fire that has the potential to be hazardous to not only them but to the people that a solar farm surrounds? Banjo Creek should be required to have their own fire company that is trained and available when a fire occurs. Never say never.

They say there will be a fence of trees around the farm. What they don't say is what size of trees they will plant and if the trees die how quickly do they replace.

They also state that 40% of the panels are made in America. Where does the 60% come from and what country is seeing that money?

I don't understand if it is such a great deal, why only 3 farmers out of the entire farmer community in our area were the only ones who signed up for the solar farm, except that they don't live next to the farm. If I was so for something, why should I care if it was in my backyard? I've been told we don't have a snowman's chance in hell of getting this stopped. We probably don't because we have no support from our local government, nor do we have any big money people backing our position.

I also want to know why every report that Banjo Creek has had done has been by people who have no knowledge of our area? We are an educated area that has companies that are capable of doing any report that would be necessary. I have a lot that I would like to say, but given the short notice of how this meeting went from an in-person to a virtual meeting that required an email containing what you would like to say I shall be quit.

I ask my state board to greatly consider the fact that now is not the time for a decision to be made regarding this matter. Plus, another public meeting should be scheduled as there are those who were coming to the meeting, but can't go through the hoops of a virtual meeting.

Deborah H. Smith 2012 Beech Grove Road Farmington KY 42040

First, I have read the different entries filed by Banjo Creek, LLC with the Siting Board ("View Case Filings for 2023-00263(ky.gov)"). I trust each of you have read what they have submitted and I trust every member of the Siting Board has made a conservative effort to understand the legal jargon that is stated. It is my opinion, anything connected to a project which will affect hundreds of people, should be gone over with a fine-tooth comb by both the board and any attorney the board uses, to make sure there are no loopholes that can use to make this proposed project (monstrosity) worse than it will be for my community. As I see it is the job that has been put before you. Everyone is well aware large companies, within minimal law, will give you what information they want you to know, yet make it to their advantage for a positive outcome for them. It is my opinion, Banjo Creek, LLC., minimally informed the public of their plans as outlined in a previous email I sent.

- Public Involvement Activities REQUIREMENT: per KRS 278.706 (2)(f); A complete report of the applicant's public involvement program activities undertaken prior to the filing of the application, including:
  - 1. The scheduling and conducting of a public meeting in the county or counties in which the proposed facility will be constructed at least ninety (90) days prior to the filing of an application, for the purpose of informing the public of the project being considered and receiving comment on it;
  - 2. Evidence that notice of the time, subject, and location of the meeting was published in the newspaper of general circulation in the county, and that individual notice was mailed to all owners of property adjoining the proposed project at least two (2) weeks prior to the meeting; and
  - 3. Any use of media coverage, direct mailing, fliers, newsletters, additional public meetings, establishment of a community advisory group, and any other efforts to obtain local involvement in the siting process.

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By their own admission they only sent letters to adjoining landowners and put it in the Mayfield Messenger one day. As shown, they scheduled 2 meetings in Sedalia Kentucky. Sedalia is a small community that is 8 miles from the proposed project. There were facilities available in Farmington, so I have to ask myself, "why was the decision made to go to another community from the proposed project and was it a tactic to keeping the proposed project unknown? Again, they met the minimal requirements and could have done a better job of informing the community and obtaining opinions from non-adjacent landowners, if they had so desired.

Nothing was done, as outlined in Number 3. Banjo Creek, LLC views this as a completion of Number 3. Page 11, Paragraph 5, "Other efforts to obtain local involvement in the siting process included interfacing with Graves County Economic Development, the Graves County Judge Executives and County Commissioners, and

with the West Kentucky Rural Electric Cooperative (WKRECC). Banjo Creek Solar representatives contacted Graves County Economic Development in late 2020 prior to signing any leases in Graves County and have remained in regular communication with the Economic Development office since, with the first in-person meeting held on 10 March 2021 with many more to follow.

Representatives of Banjo Creek Solar met with the County Judge Executive on 2 August 2022 for an informative meeting to present the project details. A meeting between Banjo Creek Solar representatives and WKRECC was held on 30 March 2023 to inform WKRECC of the general characteristics of the Project."

I am sorry, but County Judge Executive, the WKRECC and the Economic Development person are not the local residents of where this proposed project is being requested to be built. They do not live around the project. Judge Jesse Perry lives in the area of Sedalia Kentucky, again 8 miles from where the proposed project is to be built. The Economic Development person lives in Hickory Kentucky, a distance of 23 miles, and the only thing WKRECC has to do with the area is they provide the electricity to the area All three of these entities were contacted based on their employment and not as a resident of the proposed project site.

# Instead of listing my concerns in regard to Banjo Creek. LLC has submitted, I shall refer to Case Filings, for CASE NUMBER: 2023-00263 by page and paragraph of said submission.

- Page 5,Paragraph 2 states: "The Project site is located approximately eight miles southeast of the city of Mayfield and 10 miles west of the city of Murray." This is false information, according to MapQuest the distance between my house at 2012 Beech Grove Road, Farmington to Murray is 15 miles. The proposed site is further west from Murray than I am. I know this to be true as I go to church in Murray, shop in Murray and have family in Murray. The distance from my house to Mayfield is 12 miles according to MapQuest and I am 1 mile East of the proposed project. I have to wonder if Banjo Creek, LLC. can't get the facts straight on the distance from the propose project to the nearest small towns, what else other facts do they not have correct. I realize this is a small matter, but it is small matters that can affect how a situation affects the residents of this community.
- Page 5, Paragraph 4 of their application they state, "The solar facility would consist of a solar array proposed to contain crystalline silicon or thin film PV panels." EXPLAIN THE DIFFERENCE

- Page 15, Paragraph 4: "There are two primary impacts expected from the Project. First, there will be a spike in construction and linked jobs as the site is built out over approximately one to one and a half years. Using estimates of the construction payroll, I estimate that there will be a total (direct and spinoff) of 323 new jobs in the County in year one, with new labor compensation of \$23.1 million". I have a hard time understanding exactly where is this labor coming from? There are specific skills needed to build the proposed project.
  - What skills do you need to be a solar installer? Extensive knowledge of PV equipment and installation. Extensive knowledge of electrical wiring and equipment. Excellent analytical and problem-solving <u>skills</u>. Ability to read building plans. I have no doubt we have people in our area with some of these skills, but are they related to putting in this proposed project? I expect we have very people with these skills and most will have to be brought in by the company. As you can tell from this website there is more than construction and electricity to putting in this proposed project. <u>https://energy5.com/the-skillset-of-a-solar-energy-system-engineer-whatit-takes-to-build-solar-power-plants</u>

It seems that our spike in construction and inked jobs as the site is built will be man power that will be brought in from various locations. As they will not be legal residents of our county, they will not be paying at least local taxes or state taxes, which would help with the economy in Graves County. Oh, I don't doubt some local work will be done by local people, because the land will need excavated, the trees will have to be cut, some local logging company will see jobs and perhaps a few others but no way will there be 323 new jobs in the county with a new labor compensation of \$23.1 million, this is just fact.

Page 15, Paragraph 5 states: "The Graves County Fiscal Court levies an occupational tax of one percent on employees' wages, salaries and other compensation. <u>If all the construction-related compensation were taxed, this would yield a one-time increase of \$231,000 in new tax revenue\*.</u> The company has provided me with tax projections related to their capital expenditures. Over the first forty years, Kentucky state government is projected to receive \$4.7 million over the subsequent four decades. Local jurisdictions would receive \$3.2 million, of which \$2.1 million would go to the County school system. The thirteen land parcels generated about \$7,000 in property tax revenues for local jurisdictions in 2022. The Graves County Solar Project – Banjo Creek 2 Project is projected to generate an average of \$80,000 in property tax revenues locally per year for over forty years. This is approximately eleven and a half times larger than current property tax payments from the farmland."

Why doesn't it just say, "As all construction-related compensation will be taxed"? If you are using construction-related compensation as an income of \$231,000 in new tax revenue to show tax income for our county, then don't the words, "if all".

Projecting income is just that a projection. I can say I'll make \$200,000 in the year 2024. That doesn't make it true. All it does is make it, is looks good on paper. We should require actual facts from Banjo Creek, LLC of where the money will become coming or at least we should be given actual facts of generated money from counties and in the Commonwealth of Kentucky or other states. Facts are what people should make a decision on, not speculation or a projection.

In the Decommission Plan is outlined on Page 18 of the application. It states, "3. Return the land to a substantially similar state as it was prior to the commencement of construction".

The farmland this proposed project is slated for is currently being planted in mainly corn and soybeans. The soil is rich in minerals for good farming. Returning land back to farming is not a simple task. Just ask any farmer who loves his land and tends to the land so that it will continue to provide quality crops. Perhaps you will read this article that was updated in March 2023 outlining what has to be done to return farmland to the state it was in prior to the commencement of construction.

<u>https://craven.ces.ncsu.edu/considerations-for-transferring-agricultural-land-to-solar-panel-energy-production</u> The wording Banjo Creek, LLC uses again is broad and leaves much to interpretation. What is "substantially similar" to one person, is probably not the same to another person.

I've been told all along there will not be any chemicals that should seep into the ground or any other environmental situation we should be concerned about. Yet, in their **Cumulative Environmental Assessment Summary** it states, "During operations, bulk chemicals would be stored in storage tanks and other chemicals would be stored in returnable delivery containers. The transport, storage, handling, and use of chemicals would be conducted in accordance with applicable laws, ordinances, regulations, and standards. While the various transformers would contain oil, there would be no separate transformer oil stored on site related to transformers. Banjo Creek Solar LLC would develop and implement a variety of plans and programs to ensure safe handling, storage, and use of hazardous materials (e.g., Hazardous Material Business Plan)."

So, what is it? Will there or will there not be hazardous materials utilized for this proposed project? Once again you can't tell the community one thing when in practice it is different. Honesty is what we expect.

Page 21, Paragraph 2 States: "<u>No emissions</u> would be produced by the operation of the solar facility or transmission lines. <u>The nearly emissions-free</u> power generated by the solar facility would offset the need for new power that would otherwise be generated, at least in part, by the combustion of fossil fuels".

Which is it?

Page 21, Paragraph 3 states, "Construction activities <u>may increase</u> erosion and sedimentation <u>which could</u> affect streams and wetlands in or immediately adjacent to the Project site."

Is this not one of the things residents have been concerned about, had questions about, and wanted to be heard on? Yet, here it is in black and white that Banjo Creek, LLC fully understands there could be an issue with erosion, sedimentation and effect on the wetlands and streams. I grant they have outlined how they will deal with this issue. My question, "Will these same efforts be carried out after completion of the proposed project and will they work when we have the hard, fast rains that we have in our area.

Page 22, Paragraph 1 (carried over from previous page) states, "Implementation of BMPs and a Decommissioning and Closure Plan would reduce the potential for hazardous materials to reach groundwater resources throughout construction and operations of the facility."

This is once again them knowing that there are hazardous materials in this proposed project, but telling us all along we don't need to be concerned about hazardous materials. Once again, which is it?

This particular section of their application uses words such as, "may increase and not anticipated". If I know my project, if I have done extensive research on the type of ground where my project is to be put, and if I understand the dynamics of what my project will have on the land, why use the words, "may increase or not anticipated". Should I not fully understand how this project will affect the area where I am wanting it to go? You can put a band-aid on anything you are trying to accomplish, but that band-aid eventually will come off. At that time, either another band-aid has to be put on (to keep what you were trying to accomplish going) or you will finely just let things take their natural course.

#### Attachment F

#### **Economic Impact Report**

<u>By:</u>

Paul A. Coomes, Ph.D.
Consulting Economist
3604 Trail Ridge Road
Louisville KY 40241
Emerity of Deefeese of Coordensites, University of Levievi

Emeritus Professor of Economics, University of Louisville

Banjo Creek, LLC talks about how their proposed project will bring income into Graves County. Yet, no income or taxes were generated or received as an out-of-county, out-of-

district and 3 hours 20 minutes away company who did this report. Yet, within 15 miles of this proposed project is Murray State University, which has an excellent Economics Department. There is person in our area that has "54 years of experience in Economics. He earned his BS and MS from the University of Kentucky, and his Ph.D. from The Ohio State University. Formerly, this expert served as an Associate Professor and as a Professor of Economics and Finance at Murray State University, and as Chair of the Department of Economics and Finance at Murray State University. Currently, this expert serves as a Professor Emeritus of Economics and Finance at Murray State University.

I believe, I can truly say this person would know more about the economic demographic of our area than someone who lives 3 hours 20 minutes away. It would seem, if I wanted sale a project as bringing income to the area, then I should use local people who have the same skills as the person I hired.

## Attachment H

#### **Decommissioning Plan**

This plan was:

Prepared by HDR's Michael Baldwin Reviewed by HDR's Ryan Swanson Supervised by HDR's Matthew Brawley, PE

Page 7, Section 2, Subsection 2.3 Pre-decommissioning Activities States: "Prior to engaging in decommissioning activities, the **Owner** will update this decommissioning plan in accordance with any appropriate requirements at the time of decommissioning. At the end of the Project's useful life, it will first be de-energized and isolated from all external electrical lines prior to initiating dismantling or ground-disturbing decommissioning work."

Why the word "owner"? Should Banjo Creek, LLC decide to sale or goes into bankruptcy who is responsible for the decommission of the property. How do we have any guarantee that enough money will be available for the decommission of the property when that occurs? Will there be an inflation rate figured in the cost of the decommission which is based on today's cost?

#### Table 1. Summary of Estimated Decommissioning Costs

States:

The following assumptions apply to the tabulation of quantities and costs associated with this decommissioning. I am only pointing out the ones that I have a concern on:

- All decommissioning costs are in 2023 dollars.
- No biological, environmental monitoring or testing is included or anticipated per current requirements.

I am concerned that the cost for decommission will be more than Banjo Creek, LLC has bonded and am interested in knowing who is responsible for cost if this is the case. I also want to know why there is not biological, environmental monitoring or testing that will and should be requirement. I am looking out for future generations, because those are the people who have no protection currently.

## Attachment G - Site Assessment Report

Page 5, Section 1 Subsection 1.7 states: County Ordinances..."Graves County does not have ordinances related to the construction and operation of solar facilities. However, to offset impacts to adjacent or nearby residences and in a practice of caution, Banjo Creek Solar LLC would implement the following setbacks for the Project:

- 300-foot solar panel setback from residences
- 100-foot solar facility setback from non-participating parcels with residences and from state roads;
- 30-foot solar facility setback from non-participating parcels that do not have residences and from county roads; and
- 50-foot solar facility setback from the banks of intermittent and perennial streams and the edges of all wetlands.

The "Site Assessment Report" states two things that are a concern to me. The word "residences" and the 300-foot setback.

KRS 278.704 Merchant electric generating facility --Construction certificate -- Location of exhaust stack --Decommissioning and setback requirements -- Public meeting concerning property acquisition – Exception.

• KRS 278.704 (2) States "property boundary"

The terminology utilized by Banjo Creek, LLC in their application is "residences". Residences can be interpreted to mean [the place, especially the house, in which a person lives or resides]. Where, the term "property boundary" means the line in which a person's ownership ends. I have been told by one resident someone has come and put markers where this setback can go and they have done it 300-feet from the resident of the person.

- KRS 278.704 states: For purposes of applications for site compatibility certificates pursuant to KRS 278.216, only the exhaust stack of the proposed facility to be actually used for coal or gas-fired generation or, <u>beginning with applications for site compatibility certificates filed on or after January 1, 2015, the proposed structure or facility to be actually used for solar or wind generation shall be required to be at least one thousand (1,000) feet from the property boundary of any adjoining property owner.
  </u>
- KRS 278.704 (3) If the merchant electric generating facility is proposed to be located in a county or a municipality with planning and zoning, then decommissioning and setback requirements from a property boundary, residential neighborhood, school, hospital, or nursing home facility may be established by the planning and zoning commission. Any decommissioning requirement or setback established by a planning and zoning commission for a facility in an area over which it has jurisdiction shall: (a) Have primacy over the decommissioning requirements in KRS 278.706(2)(m) and the setback requirement in subsections (2) and (5) of this section; and (b) Not be subject to modification or waiver by the board through a request for deviation by the applicant, as provided in subsection (4) of this section or otherwise.
- KRS 278.704 (4) states: "The board may grant a deviation from the requirements of subsection (2) of this section on a finding that the proposed facility is designed to and, as located, would meet the goals

of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716 at a distance closer than those provided in subsection (2) of this section.

I am no lawyer, but to me this means any application filed for solar use shall be required to be at least one thousand (1,000) feet from the property boundary of any adjoining property owner. I've looked up the other KRS's and to my understanding in regard to what they state, none of the above KRS's fit any reason why the Siting Board should give Banjo Creek, LLC a setback of 300 feet, when KRS 278.216 is clear that at least a one thousand (1,000) feet setback is required. Someone mentioned the setback only applies to zoned areas. It appears to me that if there is a zoning law then that setback I established by the planning and zoning commission. As Banjo Creek, LLC has pointed many times, Graves County does not have any zoning laws. <u>So, I ask that the Siting Board follow the KRS</u> <u>278.704 of 1,000 feet.</u>

I have issues with what is stated in this response from regarding the public comments posted on the website in regard to the public meeting which was to be held on January 16, 2024, but was held virtually.

#### BANJO CREEK SOLAR LLC'S RESPONSE TO INTERVENORS' MOTION

Dated January 18, 2024 and Filed for Public Record on Kentucky Public Service Commission in Case File: 0023-00263

Page 2, Paragraph 1 states: "It appears that the Siting Board and its Staff's action in providing notice was successful. At least one member of the public received notice of the virtual meeting.1

This statement was made from an assumption (as stated by Banjo Creek, LLC in their words of "It appears") from an email I sent to The Kentucky Public Service Commission which stated, "After you cancelled a meeting 5 hours before it was to be held in-person, you scheduled a meeting virtually that was supposed to be 5 hours later, with no notice to the public, no information as to how to get on your website, nor no information as to how we were to be heard. I called your office at least 6 times today to see what needed to be done". At no time did it state that I was contacted by the Commission regarding

the cancelation of the in-person meeting. Once again, an example of assuming and a play on words by Bango Creek, LLC.

(1 See Public Comment of Deborah Smith dated January 16, 2024 6:51PM, filed in the case record on January 17, 2024).

Page 4, Paragraph 1 states: "Banjo Creek reiterates that it will not object if the Siting Board determines that another public meeting should be held in Graves County for the purpose of receiving public comment. It simply disagrees with the Intervenors' argument that the Siting Board violated KRS Chapters 278 or 61 when the Siting Board changed the in-person meeting to a virtual meeting due to inclement weather."

Since, Banjo Creek, LLC does not object to the Siting Board having another public meeting in Graves County "for the purpose of receiving public comment", then the Siting Board should hold a public meeting and hear the people out. I guarantee there will be comments vocally the Siting Board would like to hear. Since, the general public should be able to sat face to face with the Siting Board to say what they want to say and not by sending an email, mailing a letter or asking to be put on the agenda to speak at a meeting four- and one-half hours from their homes.

In fact, it is my opinion that any meeting held by the Siting Board, in regard to any application for a proposed project that is going to affect multiple people should be held in the county of residence of the people. Banjo Creek, LLC will have representation at the meeting scheduled for January 23, 2023 as it is part of their job and they will be paid. But, in order for residents to make a personal appearance they have to take off from work, spend their own money, drive 41/2 hours for a meeting. Whereas, with the Siting Board the 5 members that are employed by the state and are on the Siting Board, get paid by the state no matter where they are and the 2 ad hoc are local members of the county where the proposed project is being considered and would not have to travel. The Siting Board traveling to the area they are ruling on would also give them an insight as to where the proposed property will be located.

In my review of the application, Banjo Creek, LLC is too vague in what they will do with this proposed project. They should state what they will do, not what they might do. Because, once they receive the go ahead on their application, hands are tied and they can do what they please.

I have other issues with Banjo Creek, LLC asking for confidentiality to be applied to things that the Open Records Law already addresses. I have a problem with them wanting to apply confidentiality to anything that is legally a public record. I have found that anytime anyone wants to hide something by confidentiality it usually isn't in my best interest.

I have issues that even you as a Siting Board has had to request a second time for information you requested as it was not included in the application.

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for:</u> 2023-00263 (ky.gov).

Thank you for your interest in this matter.

From: PSC Consumer Inquiry <PSC.Consumer.Inquiry@ky.gov> Sent: Monday, January 22, 2024 7:29 AM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: FW: Case Number: 2023-00263

From: Deborah Smith Sent: Monday, January 22, 2024 4:27 AM To: PSC Consumer Inquiry <<u>PSC.Consumer.Inquiry@ky.gov</u>> Subject: Case Number: 2023-00263

This Message Originated from Outside the Organization	Report Suspicious	
You have not previously corresponded with this sender.		

I am writing in regard to Case Number 2023-00263.

Banjo Creek, LLC's "Application for Certificate of Construction for an Approximately 120-Megawatt Merchant Electric Solar Generating Facility in Graves County, Kentucky pursuant to KRS 278.700 and 807 KAR 5:110 Using Electronic Filing Procedures". Herein, the solar farm is being referred to by me as "proposed project".

My name is Deborah Harrison Smith. My address is 2012 Beech Grove Road, Farmington KY 42040. My telephone number is **Sector**. My email address is **L** I am a lifetime resident of the community of Farmington, Kentucky. My home place has been in our family since before 1915 and my grandfather, father, and sister's husband has farmed the land since ownership by my grandfather. We milked an "All Jersey" dairy herd and were the first in the area to have an "registered" herd. So, I am very concerned when an out of state company, who knows nothing about our area, have filed an application for the proposed project. Plus, two farmers who have signed their farms for this proposed project, near me, do not live near where the proposed project is to be built. I own some property that is within less than one-half mile of the proposed project and even though my residence is not directly connected by land to the proposed project, I will be able to see it, hear it, reap whatever damage is done from it, and will be in close proximity to the noise of the construction of the proposed project. So, I am asking for my voice to be heard.

I have many concerns regarding this project. I do not feel the residents located near the property were properly informed (some who live on the same road have just learned of the proposed property). I feel our voices are not being heard or considered by our elected officials or by those who should have the citizens of Kentucky's best interest in their sight.

We are concerned about property values and now have learned if you want to sell you house you have to disclose there has been an application for a solar farm near your residence. Do you not think that would deter someone from purchasing property at the assessed value?

We have asked Banjo Creek, LLC to make the setback from the property line to 1000 feet. They have stated they have listened, however as stated their "Site Assessment Report" still plans on requesting a 300 feet setback. Their plan is for this setback to be 300 feet from the resident, not the property boundary as stated in KRS 278.704 Merchant electric generating facility -- Construction certificate -- Location of exhaust stack -- Decommissioning and setback requirements -- Public meeting concerning property acquisition – Exception They continue to go with the 300 feet from the residence, not property boundary as outlined in KRS278.704 (2) ", beginning with applications for site compatibility certificates filed on or after January 1, 2015, the proposed structure or facility to be actually used for solar or wind generation shall be required to be at least one thousand (1,000) feet from the property boundary of any adjoining property owner"

I am asking you to consider denying this application until Banjo Creek, LLC has their facts straight and are willing to work with all residents of the area. I am asking you to consider all factors in this hearing not only for Banjo Creek, LLC but also for the residents of Graves County and the surrounding counties.

I have concerns about the answers Banjo Creek, LLC gives in regard to the Siting Board's Second Request for Information as filed on December 11, 2023. First, I want to know why a 1-mile radius is used to determine certain decisions and where this 1 mile radius center is? Is it from the center of the proposed project or from the outsides of the proposed project? That decision makes a lot of difference in regard to the number of residences, number of churches and types of wildlife which can be affected. I am 75 years old and just the other week saw a bald eagle close to my house. There have been numerous sightings of bald eagles recently by other people. We are an area that migratory birds pass through during that time. Concerning that report, Section Siting Board 2-2 it states, "There are no cemeteries within the Project boundary. This statement, while true, does have a cemetery that is located right outside the boundary of the site. If you look it up on Find a Grave you will find its "Coordinates: 36.63440, -88.54470 and because of the closeness the same consideration should be give to this cemetery as one within the property boundary.

Concerning that report, Section Siting Board 2-4, it states that Antioch Church of Christ is the only church with the mile radius and they sent a letter to the pastor. First, if they had any desire to learn about the churches, thus the residents of our area, they would find that in the church of Christ there is no "pastor" as deemed outlined by the religious denominations today. The man that stands before the congregation is the minister of the church and he holds no responsibility toward the decision making of the church. Elders are the leaders of the church of Christ and each church is autonomous. Therefore, the letter was sent to the wrong people.

On this same page it is stated, "Banjo Creek does not have information on the times during which other churches conduct their services". Yet, they state Antioch Church of Christ is the only church. Which is it?

I have concern in regard to BANJO CREEK SOLAR LLC'S RESPONSE TO INTERVENORS' MOTION

Dated January 18, 2024 and Filed for Public Record on Kentucky Public Service Commission in Case File: 0023-00263

Page 2, Paragraph 1 states: "It appears that the Siting Board and its Staff's action in providing notice was successful. At least one member of the public received notice of the virtual meeting.1

This statement was made from an assumption (as stated by Banjo Creek, LLC in their words of "It appears") from an email I sent to The Kentucky Public Service Commission which stated, "After you cancelled a meeting 5 hours before it was to be held in-person, you scheduled a meeting virtually that was supposed to be 5 hours later, with no notice to the public, no information as to how to get on your website, nor no information as to how we were to be heard. I called your office at least 6 times today to see what needed to be done. At no time was it stated that I was contacted by the Commission regarding the cancelation of the in-person meeting. Once again, an example of assuming and a play on words by Bango Creek, LLC.

(1 See Public Comment of Deborah Smith dated January 16, 2024 6:51PM, filed in the case record on January 17, 2024).

Page 4, Paragraph 1 states: "Banjo Creek reiterates that it will not object if the Siting Board determines that another public meeting should be held in Graves County for the purpose of receiving public comment. It simply disagrees with the Intervenors' argument that the Siting Board violated KRS Chapters 278 or 61 when the Siting Board changed the in-person meeting to a virtual meeting due to inclement weather." Since, Banjo Creek, LLC does not object to the Siting Board having another public meeting in Graves County "for the purpose of receiving public comment", then the Siting Board should hold a public meeting and hear the people out. I guarantee there will be comments vocally the Siting Board would like to hear. Since, the general public should be able to say face to face with the Siting Board what they would like to say and not by sending an email, mailing a letter or asking to be put on the agenda to speak at a meeting four and one half hours from their homes.

I am asking you to consider denying this application until Banjo Creek, LLC has their facts straight and are willing to work with all residents of the area.

I am asking you to consider all factors in this hearing not only for Banjo Creek, LLC but also for the residents of Graves County and the surrounding counties.

I am asking you to consider denying this application as Banjo Creek, LLC does not have factual information in it, and therefore it should be denied.

I am asking the Siting Board to follow KRS 278.704 regarding the setback of 1,000 feet from property boundary, not residence as requested by Banjo Creek, LLC.

I am asking you to consider all factors in this hearing not only for Banjo Creek, LLC but also for the residents of Graves County and the surrounding counties.

I am asking that you make a dutiful decision based on KRS statutes, concerns from the citizens and what is best for future generations to come.

I am asking that as members of this board the three permanent members, The secretary of the Energy and Environment Cabinet or the secretary's designee; The secretary of the Cabinet for Economic Development or the secretary's designee; and the 2 ad hoc public members to make a careful, thoughtful and prayerful decision based on facts of the case.

The below part of Banjo Creek, LLC'S, within itself, should make the current application null and void for consideration by the Siting Board.

• Page 9, Paragraph 3 "There is only one residential neighborhood (as defined by KRS 278.700[6]) within 2,000 feet of the Project's facilities. Pursuant to KRS 278.704(4), AEUG Fleming Solar will be moving the Siting Board for a deviation from this setback requirement. See Appendix A for a map showing the residential neighborhood in relation to the Project."

What does AEUG Fleming Solar have to do with this proposed project?

I have to ask how much of an application can have false information and still be considered as a legally binding application. It is for this reason; I feel this application should be denied based on false information given in this one section only. Yes, I have many concerns, a lot of which I wrote and then they were accidently deleted when I tried to do something in the email. So, you are the lucky ones! You need to understand I have spent many hours going over what Banjo Creek, LLC has stated and filed. I don't think they are being honest; I don't think they care for anyone but themselves, and I think if the Siting Board approves this application they will come into our area, put the project in marginable and as up to code as little as possible and then leave us and our community high and dry. Why do I feel this way? It is because of wording they have used, things that have been left out, lack of making sure all their i's are dotted and t's were crossed. But I think foremost it is that "gut" feeling that an old social worker of 33 1/2 years develops in reading between the lines, recognizes when a person is not being honest and basically has no care for anyone except themselves, no matter how hard you them chances to be straight forward with you

Deborah Harrison Smith

2012 Beech Grove Road

Farmington KY 42040

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: S&S McEndree Sent: Monday, January 22, 2024 1:56 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: public comment Case #2023-00263

> Public comment in reference to Case #2023-00263 Banjo Creek, Graves County, Kentucky

# **Property Boundaries:**

Please remember these two words.

One of my biggest concerns about the solar project is that homeowners'/property owners' rights are not being considered. Since the first meeting on April 1st with the solar company representatives, we have basically been **told** that the solar company was going to do what they wanted.

Graves County citizens happen to be in a county that does not have a planning and zoning committee. This is

exactly the reason this solar company came to Graves County. We do not have a county ordinance that would limit large solar companies with what will be allowed and what cannot be allowed. The affected homeowners were relying on our elected officials to represent our best interests. This has NOT happened. We are on our own to plead the case to help protect our property rights and property rights of other homeowners who in the future will be in the same situation that we find ourselves in. In 2002 the Kentucky General Assembly, in the Senate, passed SB257, an ACT relating to electric generating facilities. This is also when the Kentucky State Board on Electric Generation and Transmission Siting was created. This bill is now known as the Kentucky Revised Statute 278,704. This statute has been amended from the original wording. The most current amendment to the statute occurred in 2023 and became effective on June 29th of that year. The section that I would like to call your attention to is the latter half of paragraph 2 where setbacks are discussed. I quote "The proposed structure or facility to be actually used for solar or wind generation shall be required to be at least 1,000 feet from the **property boundary** of any adjoining property owner".

My husband and I along with other homeowners have been **TOLD** the setback for the project would begin at the front door of our residences. Notice I said, "**TOLD**". According to all project maps I have seen, my property is **NOT** within that project boundary. The project boundary line is across the road beginning at the participating farmer's property line/fence row. Since KRS 278.704

states that "the facility to be used for solar or wind generation shall be required to be at least 1,000 feet from the **property boundary** of any adjoining property owner", therefore the property owned by my husband and I should **NOT** be figured into the setback requirement for the project. I am not here to argue about the 1,000 foot setback stated in the statute because through research into other Public Service Commission cases involving solar companies I know, that part of the statute will not be upheld for this project. My main argument is that this solar company wants to use the distance from my front porch to my property line, approx. 110 ft, as part of the setback for their project. This solar company does not own nor have our permission to use that distance in their calculations. My husband and I own the dirt, trees, and everything else that is between our residence and our property line. The Kentucky Revised Statute 278.704 paragraph 2 is clear on where project boundaries begin and it is NOT on my property or the property of any other affected homeowner in the area.

Submitted by: Sandy McEndree 10642 State Route 564 South Farmington, Kentucky 42040
Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: S&S McEndree Sent: Monday, January 22, 2024 1:58 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Public comment case #2023-00263

Public comment in reference to Case #2023-00263 Banjo Creek, Graves County, Kentucky

Wells Engineering Report: Final Report 2.7.3

- 1. "However, some toxic materials and chemicals are used to make the photovoltaic (PV) cells of the solar modules."
- 2. A "solar system" is made of nine solar modules illustrated by a picture in the Wells final report.

Also in the report it is stated, "That the panels will measure 6.6 feet by 4 feet making up one "system". Several times I have researched to find out exactly which toxic materials and chemicals are used in the production of solar panels. I used Google search engine on the web and visited the Environmental Protection Agency to see which hazardous waste will be present in the semiconductor and solder. Some of these metals, like lead and cadmium, are harmful to human health, as stated on the site. So I then turned to the web to find out resources pertaining to how much lead solder is in one acre of solar panels. According to <u>freeingenergy.com</u>, each standard solar panel contains 14 grams of lead. The other hazardous chemical is cadmium telluride. It is a known carcinogen (cancer causing). If your child's lead level is 45 mcg/dl or higher, this means lead poisoning has occurred and medical treatment would need to be sought. Micrograms or mcg, 1 mcg is = to 0.001 milligrams and 1 gram = 1000 milligrams. You have the potential of 26.254 tons of lead in the area from solar panels alone.

Average number of solar panels per acre is 2000, according to many sources.

\*2000 panels x 850 acres = 1.7 million panels

\*1,700,000 panels x 14 grams of lead per panel = 23,800,000 grams of lead for 850 acres

\*1 gram = .0353 oz. \*1 lb. = 16 oz

\*23,800,000 grams x .0353 oz of lead = 840,140 oz of lead

\*840,140 oz of lead ÷ 16 oz = 52,508.75 lbs of lead

\*1 ton = 2,000 lbs

\*52,508.75 ÷ 2,000 lbs = 26.254 tons of lead in 850 acres of farmland

And we are being told that the farmland can be restored after the 25 year lease to again produce crops. I call that lying to the people of Graves County.

Submitted by: David McEndree

10642 State Route 564 South

Farmington, Kentucky 42040

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: S&S McEndree Sent: Monday, January 22, 2024 2:00 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: public comment Case #2023-00263

> Public comment in reference to Case #2023-00263 Banjo Creek, Graves County, Kentucky

My concern and questions come from the given report findings from Wells Engineering Report Section 3.3.5

My question is "how about leakage into the soil and groundwater from the substation and battery storage facility"?

The substation for the project will need oil containment for the transformer to prevent any leakage of oil into nearby creeks and streams. The creeks and streams in the project footprint drain into the Mayfield Creek which in turn drains into the Clarks River Basin. Groundwater can be contaminated by any leakage from the substation or the battery storage facility if not handled properly. If handled improperly, the contaminated water could easily make its way to wells that homeowners drill for drinking water.

On page 39 of the Wells Report, it basically gives their mission statement, "Wells Engineering delivers innovative solutions aligned with rigid standards and best engineering practices."

How do homeowners know that the standards of Wells Engineering will be the same standards of GreenGo Energy? What are the NESC standards and NERC requirements for operations and maintenance for this project?

What guarantees in writing do homeowners have that the groundwater, creeks, and streams will NOT be contaminated?

Also what type of action and what course of action will be done to establish a non contaminated groundwater well, creek and or stream?

How often will testing be done? Where will the samples be tested? Where will the findings be kept?

Submitted by: David McEndree 10642 State Route 564 South Farmington, Kentucky 42040

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: S&S McEndree Sent: Monday, January 22, 2024 2:04 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: public comment Case #2023-00263

> Public comment in reference to Case #2023-00263 Banjo Creek, Graves County, Kentucky

Report findings #3 W. Thomas Channey, President of Cloverlake Consultants

Cloverlake had two major concerns in their findings. [A] Section 6.1 [B] section 8.0

Section 6.1

• No National Register of Historical places eligible

"The applicant states that there are no cemeteries in the project area, it is **NOT** clear what research was done to

arrive at this conclusion."

I would like to point out to the siting board my own interpretation.

[1] No mention of who or whom did the research.

[2] No mention of what type of research method was used.

[3] No mention of the research done personally or done professionally.

[4] No mention of how far back in time to determine that no cemeteries or Native American peoples used the area for burial grounds exist. Prior to the **1800's.** 

Continuing through the report given by Cloverlake it is stated:

\* "In rural Kentucky, there are many family cemeteries that may not be apparent until they are disturbed during the construction process."

# Section 8.0

"..., nor does it address the treatment and protection of archaeological and historic resources including cemeteries."

It is stated that no Historic and Archaeological sites are present, [but there is a concern about the level of detail analysis done], by the applicant and the research done to support the conclusion.

• One of the biggest concerns and I agree with

Clovelake concerns in this regard is the possibility of the existence of family cemeteries in the project area that could be uncovered and disturbed during the construction of the Solar Farm.

- My concern is if and I boldly type if any burial grounds of any type be found and disturb what will the procedures be put into place to rectify this occurrence because it is HOLY GROUND.
- I strongly believe that a more in depth procedure or procedures should be implemented and all findings should be available for public record, public viewing, and interpretation of those findings.
- When more detailed research is done, it should be done by independent staff members of a major university other than Murray State University or University of Kentucky.
- My reason for other Universities with this request is because of the following reason that I personally know the Waldrop family for 60 years since grade school. From Scouting, to grade school to high school including high school football teams and worked alongside working with Greg, Tommy, Alex and youngest brother Jim. All members of the Waldrop family. Mr. Tommy Waldrop sits on the Board of Regents at Murray State University and was instrumental in getting his daughter appointed as an interventor on this very siting board.
- In doing my own research the following Native American tribes traveled to western Kentucky and hunted in the areas of the Clarks River, The Ohio and the Mississippi Rivers. The Cherokees, the Chickasaws, the Shawnee, the Mingo, Yamacraw, Wyandot, Miami, Delaware, Ottawa and Yuchi.

• One of the most effective mapping researching tools available is the use of **LIDAR** scanning and mapping to determine very old cemeteries and possible abandoned dwellings or settlements.

Submitted by: David McEndree 10642 State Route 564 South Farmington, Kentucky 42040

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: S&S McEndree Sent: Monday, January 22, 2024 2:06 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: public comment Case #2023-00263



Public comment in reference to Case #2023-00263 Banjo Creek, Graves County, Kentucky

During a public informational and questions meeting hosted by Greengo representatives on **June 6**, **2023**, I would like to point out their response to one of my questions that GREENGO asked for us to give to them was first evasive in answering and that their answer to my question was unclear.

After doing my own research from the world wide web network available, I wanted to know especially pertaining to the stock pile of used and decommissioned solar panels in the State of North Carolina where Greengo Energy has its United States headquarters. Here are my findings. Taken from the website **www.carolinajournal.com**.

\*Carolina Journal first reported, North Carolina **does not have any plan in place** to safely dispose of **85,000 acres** of solar panels weighing an estimated **475,000 TONS**.

This 475,000 TONS = 95,000,000 POUNDS of waste. We have already established that HAZARDOUS WASTE is present in this waste by product from used solar panels. The very state that GREENGO is from.

I would also state for the public record that one of the Graves County Commissioners was present during the public meeting held at the Sedalia Restaurant hosted by GREENGO. Mr. Bubba Winfrey representing our district was then asked, "If Graves County had in place any plans for collection and disposal of said POTENTIAL waste ?" His response was, "NO"

In plain use of the ENGLISH language, we are putting the cart before the horse and be "DANG" the safety and well being of our Commonwealth, our local communities, its families, its children, and future generations for nothing less than the almighty dollar bill which is not worth the paper cloth it is even printed on.

Submitted by: David McEndree 10642 State Route 564 South Farmington, Kentucky 42040

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: S&S McEndree Sent: Monday, January 22, 2024 2:07 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: public comment Case #2023-00263

Public comment in reference to Case #2023-00263 Banjo Creek, Graves County, Kentucky

I would personally like to bring to everyone's attention the definitions/meanings of the following words taken from the Webster's Dictionary of English Words.

- 1. Property lines- start at defined points that mark the end of one owner's property and the beginning of a neighbors.
- 2. Space- the distance or area between things or inside something such as boundaries
- 3. Boundaries (noun)- a line or thing that marks the outside edge or limit.
- 4. Property (noun)- something owned especially land or real estate
- 5. Encroachment- A. intrusion on a person's territorial rights

B. Example as defined as one property owner violating their neighbor's rights by building or extending some feature and crossing their neighbor's property lines

6. Encroach (verb)- A. to go beyond the usual limits B. to push into the property or rights of another Trespass, especially in a gradual or sneaking way.

\*\*This is a prime example of what GreenGo representatives are doing to homeowners. The solar company wants to use the front doors as a starting point measurement for their project boundary. When the boundary of the proposed solar project should be starting at the property line of the farmers who are leasing their land for the project. The Greengo Energy company has NOT been given permission to measure or use the personal property of other homeowners, who are NOT a part of the project, in their calculations for setbacks.

Submitted by: David McEndree

10642 State Route 564 South

Farmington, KY 42040

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for:</u> 2023-00263 (ky.gov).

Thank you for your interest in this matter.

From: PSC Consumer Inquiry <PSC.Consumer.Inquiry@ky.gov> Sent: Monday, January 22, 2024 2:07 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: FW: Case Number 2023-00263

From: Miriam Hill Sent: Monday, January 22, 2024 2:00 PM To: PSC Consumer Inquiry <<u>PSC.Consumer.Inquiry@ky.gov</u>> Subject: Case Number 2023-00263

My name is Miriam Hill. I live at 965 Hawthorn Rd, Murray, KY and own additional land within a two-mile radius from the proposed solar farm in Farmington, KY. As a taxpayer of both Graves County and the state of KY, I feel that ALL voices should be heard regarding this proposed solar farm. My first question to you as members of the Public Service Commission is: Would you want a solar farm next to your residence or land that you own?

The evidence and research I have done has not proven solar farms to increase property values in relation to their location. In fact, it is believed to be quite the opposite. I agree farmers should not be told what to do with their land but, when it affects the surrounding lands, it becomes an issue for everyone, not just the farmers. I feel there are other lands available where solar farms could be built without negatively affecting landscapes or communities. Why are we not placing these on rooftops in larger cities where there are no negative effects on the landscapes? I am not against solar power; they are just trying to put this particular farm in the wrong place. Another question that comes to mind is if the media is correct, as I'm sure they are, we are in a food shortage. Why would we take this rich productive farmland that produces food and turn it into a solar farm? Does that really make sense? Aren't we just trying to solve one problem but in turn fueling another.

These are just a couple of reasons, among many, why I oppose this solar farm and its location. I hope that you will listen to and reason with the members of the Farmington community that have the same concerns as I. I appreciate your time and efforts.

From:	PSC Public Comment
То:	
Cc:	
Subject:	RE: Case 2023-00263
Date:	Tuesday, January 23, 2024 8:46:00 AM
Attachments:	image003.png

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263 (ky.gov)</u>.

Thank you for your interest in this matter.

From: Zach Baldwin	
Sent: Monday, January 22, 2024 8:09 PM	
To: PSC Meeting < <u>PSC.Meeting@ky.gov</u> >	
Cc: Meagan Baldwin	; Nan Rogers
Subject: Case 2023-00263	
<b>,</b>	

Zach & Meagan Baldwin 913 Otter Creek Road Nashville TN 37220

22 January 2024

Subject: Opposition to Solar Panel Farm Development in Farmington, KY and surrounding areas

Kentucky Public Service Commission 211 Sower Boulevard Frankfort, KY 40601

Dear Members of the Kentucky Public Service Commission,

I am writing to express my strong opposition to the proposed solar panel farm development in Farmington, KY and surrounding area. As owners and taxpayers of the property located at 861 Antioch Church Road, Farmington, my family and I are deeply concerned about the potential negative impacts this project may have on the environment, the health of the community, and the overall quality of the land.

Our primary concerns include the following:

1. \*\*Environmental Impact:\*\* The installation of a solar panel farm may disrupt the local ecosystem and wildlife habitat. We are committed to preserving the natural beauty of the area and safeguarding its biodiversity.

2. \*\*Health Concerns:\*\* There are potential health implications associated with solar panel farms, such as electromagnetic fields and exposure to hazardous materials during construction. We urge the commission to thoroughly assess and address these health risks.

3. \*\*Quality of the Land:\*\* The proposed development may compromise the fertility and quality of the farmland, affecting its long-term agricultural viability. Preservation of high-quality farmland is essential for sustaining local agriculture.

4. \*\*General Preservation of Quality Farmland:\*\* Given the agricultural significance of the area, we believe it is crucial to prioritize the preservation of quality farmland for the benefit of current and future generations.

We respectfully request that the Kentucky Public Service Commission carefully considers these concerns and conducts a comprehensive environmental impact assessment before making any decisions regarding the approval of the solar panel farm development.

Thank you for your attention to this matter, and we trust that you will prioritize the well-being of our community and the preservation of our valuable farmland.

Sincerely,

Zach & Meagan Baldwin





Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: Jody Hartsfield Sent: Monday, January 22, 2024 9:27 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: 2023-00263



Wilferd Rd, Farmington, KY 42040. We have many worries and concerns about these solar panels that GreenGo has promised answers to only to leave us and fellow neighbors high and dry. We would like to know exactly what kind of plan is set in place if/when a solar panel burst, catches fire, etc.

Also we're very much concerned about cooling our home in the summer months as the panels will be 360° around our property.

If we have something like a tornado and panels/panel parts are blow into my home, who's responsible for that? Landowner or GreenGo?

We are also concerned about our property value of our land and home if these was to be placed. Finally us along with many other neighbors are concerned about the fact we've met with GreenGo and they promised compromise on the 300'-1000' setback. Farm owners opened up more ground alowing for Greengo to give homeowners the proper setback that we're asking for and also established by Ky only for them to just capitalize on getting more ground...

Thanks you for taking the time to read this and we hope and pray that you'll make great decisions on behalf of the neighbors surrounding this solar farm.

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263 (ky.gov)</u>.

Thank you for your interest in this matter.

From: Linda Cavitt Sent: Monday, January 22, 2024 9:45 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Case 2023-00263

My name is Linda Cavitt and I reside at 223 State Route 97 in Mayfield, KY.

They say "Family is Everything" and I'm a believer in that statement. The Banjo Creek Solar project is going to have a huge impact on my family. Outside of Farmington, KY down Hwy 564 then turning on Wilferd Rd is where several members of my family reside and their children, parents, and grandparents reside close to them. Community and Family with hundreds of acres of a solar farm within 300 feet of their homes to harvest energy that will not supply any benefit to them but will possibly hurt the health of those they love, devalue the property that has been in their families for generations, possibly contaminate the soil and groundwater trickling into their wells, and in the end be abandoned when it proves to not be beneficial leaving acres of glass and batteries for someone else to clean up at their expense which virtually guarantees it will just be there.

Now think about whether you would want something like that out your front door, hundreds of acres of it. These big companies need to know that Family means more than dollars and their projects have to be limited so that the families who have lived there for generations don't have to suffer for the short sighted decisions made by those who are not affected by what they do, members of Graves County Fiscal Court. The farmers who want to lease this land to them don't have Family to continue their farming so taking that large sum is not going to have a detrimental effect on future generations of their families like it will on mine. Please consider putting limits on this project, increasing the boundary to at least 1000 feet from the property lines so that if they have to be there the coexistence won't be so painful for residents. Thank you in advance for your consideration. Sent from my iPhone

Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: Blake Jackson Sent: Monday, January 22, 2024 11:11 PM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Case 2023-00263 Comments

 	7	
	]	

Good evening. My name is Blake Jackson, and my wife Carissa and I live at 11113 State Route 564 in Farmington, Kentucky. We live at the corner of highways 564 and 339, and our properties will be surrounded on all sides by the upcoming Banjo Creek solar project.

I will keep my concerns/asks for the siting board brief. From the first notification of this project, I and my neighbors have made clear that we do not seek to see this project cancelled. We support the rights of our farmer neighbors to profit from their land how they see fit. I do not seek to interfere in that. However, I have concerns about how this project will affect my family's health and the value of my property.

I understand that these concerns have been somewhat addressed in the engineering report you have in your possession. However, a quick internet search will provide a host of academic studies that come to differing conclusions than those that are in the engineering report. While I do not possess the expertise to determine which of these studies are accurate and which are not, I am more concerned with the WAY in which these concerns have been addressed.

I have two main concerns that I believe the siting board needs to be aware of. First, a point of contention from day one has been the distance of the panels from our homes. KRS statutes state that they should be 1000 feet from property lines. However, because there is not zoning in our county, GreenGo can and has planned from day one to place the panels as close as 300 feet from our dwellings. We have consistently asked that compromise be made regarding this setback. As recently as September 12th of 2023, GreenGo stated in a meeting with neighbors, the leasing farmers, and the Graves County fiscal court that any setback greater than 300 feet would kill the project. In response, the leasing farmers offered to provide additional land to offset the losses that 1,000 foot setbacks would create. Furthermore, we neighbors, myself included, offered to be flexible in that we don't necessarily need 1,000 feet surrounding our homes in all directions. At this point, GreenGo stated that they could have their engineering team rework the plan to include the newly offered land with greater setbacks for residences. Essentially, a compromise. The Graves county fiscal court was adamant that a compromise needed to be reached that we could all be happy with.

In the time since that meeting, GreenGo has not met its commitment to make any compromises on setbacks, and they still stand at 300 feet in the engineering report that you now have. We are simply asking that GreenGo honor its commitment to our community to utilize the resources available to them to make compromises on the setbacks from our property lines as defined in KRS statutes. Their unwillingness to meet this commitment, we feel, is evidence that they are not operating in good faith, nor are they being good neighbors as Jesse Perry defined it in our fiscal court meeting today.

In addition to compromising on the 300 foot residence setbacks, we are asking the siting board, as well as the county, to draft contingency plans that all parties will be accountable to if/when something does go wrong with these panels. There are no such mitigation plans in the engineering report. We have routinely stated concerns for the following; if a panel/panels or the battery storage facility catches fire, how will that be put out? It is common knowledge that these fires require specific resources to put out; resources that Graves County does not currently have. If there is a fire, and these panels are 300 feet from my house, it is very likely that my children will breathe in very toxic fumes that could cause severe harm.

Another concern is the "heat island" created by these panels if they are less than 300m (978 feet) away from our homes. I have attached the aforementioned study by Columbia University that makes clear in its conclusion that 978 feet is the distance at which temperature returns to the normal ambient temperature. If these panels are placed less than 978 feet (300 m) away from my home, what mitigation plans are in place to offset the temperature increase that could put my HVAC system, and potentially my family (risk of heat stroke) at risk?

My final concern is the impact on property values that this will have. While the engineering report states that there will be no impact, the data employed did not take into account the general consensus view of solar energy in Graves County. While studies may show that there will be little to

no change in property value, I can say with extreme confidence that solar energy is deeply unpopular in Graves County. Whether that sentiment is warranted, I cannot say. Even if it isn't, the truth remains that very few residents of Graves County will be willing to live in the middle of a solar farm. Solar energy is viewed as part of an agenda associated with a worldview that very few Graves residents hold. While I am personally ambivalent about this personally, I and my neighbors are convinced that the majority of potential homebuyers, were I to attempt to sell my home, would be unwilling to consider my home for purchase as they are today. While this data may not show up in a study, the truth remains that my home will be essentially unsellable going forward in this deeply red, anti-solar county.

In conclusion, I ask you to understand that GreenGo Energy absolutely has the resources necessary, and has made good faith promises to use these resources to create setbacks that we can all agree on. Up to this point, these promises have been empty. I ask you to advocate for us citizens as if these panels were set to be erected 300 feet from your front door. Our asks are reasonable, fair, and do not prevent anyone from profiting from their land.

Sincerely,

Blake Jackson

# Analysis of the Potential for a Heat Island Effect in Large Solar Farms

Vasilis Fthenakis<sup>1,2</sup> and Yuanhao Yu<sup>1</sup>

<sup>1</sup>Center for Life Cycle Analysis, Department of Earth and Environmental Engineering, Columbia University, New York, NY

# <sup>2</sup> PV Environmental Research Center, Brookhaven National Laboratory, Upton, NY

Abstract — Large-scale solar power plants are being built at a rapid rate, and are setting up to use hundreds of thousands of acres of land surface. The thermal energy flows to the environment related to the operation of such facilities have not, so far, been addressed comprehensively. We are developing rigorous computational fluid dynamics (CFD) simulation capabilities for modeling the air velocity, turbulence, and energy flow fields induced by large solar PV farms to answer questions pertaining to potential impacts of solar farms on local microclimate. Using the CFD codes Ansys CFX and Fluent, we conducted detailed 3-D simulations of a 1 MW section of a solar farm in North America and compared the results with recorded wind and temperature field data from the whole solar farm. Both the field data and the simulations show that the annual average of air temperatures in the center of PV field can reach up to 1.9°C above the ambient temperature, and that this thermal energy completely dissipates to the environment at heights of 5 to 18 m. The data also show a prompt dissipation of thermal energy with distance from the solar farm, with the air temperatures approaching (within 0.3°C) the ambient at about 300 m away of the perimeter of the solar farm. Analysis of 18 months of detailed data showed that in most days, the solar array was completely cooled at night, and, thus, it is unlikely that a heat island effect could occur. Work is in progress to approximate the flow fields in the solar farm with 2-D simulations and detail the temperature and wind profiles of the whole utility scale PV plant and the surrounding region. The results from these simulations can be extrapolated to assess potential local impacts from a number of solar farms reflecting various scenarios of large PV penetration into regional and global grids.

Index Terms – PV, climate change, heat island, fluid dynamics

#### I. INTRODUCTION

Solar farms in the capacity range of 50MW to 500 MW are being proliferating in North America and other parts of the world and those occupy land in the range from 275 to 4000 acres. The environmental impacts from the installation and operation phases of large solar farms deserve comprehensive research and understanding. Turney and Fthenakis [1] investigated 32 categories of impacts from the life-stages of solar farms and were able to categorize such impacts as either beneficial or neutral, with the exception of the "local climate" effects for which they concluded that research and observation are needed. PV panels convert most of the incident solar radiation into heat and can alter the air-flow and temperature profiles near the panels. Such changes, may subsequently affect the thermal environment of near-by populations of humans and other species. Nemet [2] investigated the effect on global climate due to albedo change from widespread installation of solar panels and found this to be small compared to benefits from the reduction in greenhouse gas emissions. However, Nemet did not consider local microclimates and his analytical results have not been verified with any field data. Donovan [3] assumed that the albedo of ground-mounted PV panels is similar to that of underlying grassland and, using simple calculations, postulated that the heat island effect from installing PV on grassy land would be negligible. Yutaka [4] investigated the potential for large scale of roof-top PV installations in Tokyo to alter the heat island effect of the city and found this to be negligible if PV systems are installed on black roofs.

In our study we aim in comprehensively addressing the issue by modeling the air and energy flows around a solar farm and comparing those with measured wind and temperature data.

## II. FIELD DATA DESCRIPTION AND ANALYSIS

Detailed measurements of temperature, wind speed, wind direction, solar irradiance, relative humidity, and rain fall were recorded at a large solar farm in North America. Fig. 1 shows an aerial photograph of the solar farm and the locations where the field measurements are taken.



Fig. 1. A picture of the solar farm indicating the locations of the monitoring stations

The field data are obtained from 17 monitoring stations within and around the solar farm, including 8 weather stations (WS) and 9 Hawk stations (HK), all at 2.5 m heights off the ground. There also 80 module temperature (MT) sensors at the back-side of the modules close to each of the corresponding power stations. The WS and MT provide data at 1-min intervals, while the Hawk provides data every 30 minutes. The WS and MT data cover a period of one year from October 2010 to September 2011, while the Hawk data cover a period of 18 months from March 2010 through August 2011.

Hawk stations 3, 6, 7, 8 and 9 are outside the solar farm and were used as reference points indicating ambient conditions. The measurements from Hawk 3, 6, 8 and 9 agree very well confirming that their distances from the perimeter of the solar farm are sufficient for them to be unaffected by the thermal mass of the PV system; Hawk 7 shows higher temperatures likely due to a calibration inaccuracy. In our comparative data analysis we use Hawk 6 as a reference point and, since the prevailing winds are from the south, we selected the section around WS7 as the field for our CFD simulations. Figures 2 to 7 show the difference between the temperatures in Hawk 6 and those in the weather stations WS2 and WS7 within the field, and Hawks 1, 2, 4 and 5 around the solar field.



These figures and Table 1 show that with the exception of Hawk 4, the closer the proximity to solar farm the higher the temperature difference from the ambient (indicated by Hawk 6). The relative high temperatures recorded at Hawk 4, and also the relative low temperatures at Hawks 1 and 5 are explained by the prevailing wind direction, which for the time period used in our analysis (8/14/2010-3/14/2011) was Southerly (158°-202°). Hawk 4 is downwind of the solar farm, whereas Hawks 1 and 5 are upwind; the downwind station "feels" more the effect of the heat generated at the solar farm than the ones upwind.

Fig. 8 shows the decline in air temperature as a function of distance to solar farm perimeter. Distances for WS2 and WS7 are negative since they are located inside the solar farm site. WS2 is further into the solar farm and this is reflected in its higher temperature difference than WS7.

 TABLE I

 DIFFERENCE OF AIR TEMPERATURE (@2.5 M HEIGHTS) BETWEEN THE

 LISTED WEATHER AND HAWK STATIONS AND THE AMBIENT

Met Station	WS2	WS7	HK1	HK2	HK3	HK4	HK5	HK9
Temp Difference from H6 (°C)	1.878	1.468	0.488	1.292	0.292	0.609	0.664	0.289
Distance to solar farm perimeter (m)	-440	-100	100	10	450	210	20	300



Fig. 8. Air temperature difference as a function of distance from the perimeter of the solar farm. Negative distances indicate locations within the solar farm.

We also examined in detail the temperature differences between the modules and the surrounding air. These vary throughout the year but the module temperatures are consistently higher than those of the surrounding air during the day, whereas at night the modules cool to temperatures below ambient; an example is shown in Fig. 9. Thus, this PV solar farm did not induce a day-after-day increase in ambient temperature, and therefore, adverse micro-climate changes from a potential PV plant are not a concern.



Fig. 9. Comparison of module temperature and air temperature 2.5 m off the ground on a sunny day (July 1, 2011)

### III. CFD MODEL DEVELOPMENT

In preliminary simulations we tested the Ansys CFX and FLUENT computational fluid dynamics codes (CFD) and decided to use FLUENT in detailed simulations. FLUENT offers several turbulence schemes including multiple variations of the k- $\varepsilon$  models, as well as k- $\omega$  models, and Reynolds stress turbulence models. We used the standard, renormalized-group (RNG), and realizable k-E turbulence closure scheme as it is the most commonly used model in street canyon flow and thermal stratification studies [5]. FLUENT incorporates the P-1 radiation model which affords detailed radiation transfer between the solar arrays, the ground and the ambient air; it also incorporates standard free convection and wind-forced convection models. Our choice of solver was the pressure-based algorithm SIMPLE which uses a relationship between velocity and pressure corrections to enforce mass conservation and obtain the pressure field. We conducted both three-dimensional (3-D) and 2-D simulations.

A 3-D model was built of four fields each covering an area of 93-meters by 73-meters (Fig. 10). Each field contains 23 linear arrays of 73-meter length and 1.8-meter width. Each array has 180 modules of 10.5% rated efficiency, placed facing south at a 25-degree angle from horizontal, with their bottom raised 0.5 m from the ground and their top reaching a height of 1.3 m. Each array was modeled as a single 73 m  $\times 1.8 \text{ m} \times 1 \text{ cm}$  rectangular. The arrays are spaced 4 meters apart and the roads between the fields are 8 m. Fig. 10 shows the simulated temperatures on the arrays at 14:00 pm on 7/1/2011, when the irradiance was 966 W/m<sup>2</sup>. As shown, the highest average temperatures occur on the last array (array 46). Temperature on the front edge (array 1) is lower than in the center (array 23). Also, temperature on array 24 is lower than array 23, which is apparently caused by the cooling induced by the road space between two fields, and the magnitude of the temperature difference between arrays 24 and 46 is lower than that between arrays 1 and 23, as higher temperature differences from the ambient, result in more efficient cooling.

TABLE II Modules Temperature

MODULES TEMPERATURE						
Arrays	1	23	24	46		
Temperature ℃	46.1	56.4	53.1	57.8		



Fig. 10. Module temperatures from 3-D simulations of air flows and thermal exchange during a sunny day

Our simulations also showed that the air temperatures above the arrays at a height of 2.5 m ranged from 28.6 °C to 31.1 °C; the ambient temperature was 28.6 °C (Fig. 11).



(a)



Fig. 11 Air temperatures from 3-D simulations during a sunny day. a) Air temperatures at a height of 1.5 m; b) air temperatures at a height of 2.5 m.

TABLE III Air Temperature

Temperature	Ambient (°C)	Low (°C)	High (°C)	Average (°C)		
2.5m height	28.6	28.6	31.1	30.1		
1.5m height	28.6	28.6	33.2	30.8		

These simulations show a profound cooling effect with increasing height from the ground. It is shown that the temperatures on the back surface of solar panels is up to 30° C warmer than the ambient temperature, but the air above the arrays is only up to 2.5°C higher than the ambient (i.e., 31.1°C). Also the road between the fields allows for cooling, which is more evident at the temperatures 1.5 m off the ground (Fig. 11a). The simulations show that heat build-up at the power station in the middle of the fields has a negligible effect on the temperature flow fields; it was estimated that a power station adds only about 0.4% to the heat generated by the corresponding modules.

The 3-D model showed that the temperature and air velocity fields within each field of the solar farm were symmetrical along the cross-wind axis; therefore a 2-D model of the downwind and the vertical dimensions was deemed to be sufficiently accurate. A 2-D model reduced the computational requirements and allowed for running simulations for several subsequent days using actual 30-min solar irradiance and wind input data. We tested the numerical results for three layers of different mesh sizes and determined that the following mesh sizes retain sufficient detail for an accurate representation of the field data: a) Top layer: 2m by 1m, b) Middle layer: 1.5m by 0.6m, c) Bottom layer: 1m by 0.4m. According to these mesh specifications, a simulation of 92 arrays (length of 388m, height 9m), required a total of 13600 cells. Figures 12-15 show comparisons of the modeled and measured module and air temperatures.



Fig. 12. Comparisons of field and modeled module temperatures; a sunny summer day (7/1/2011); 2-D simulations.



Fig. 13. Comparisons of field and modeled air temperatures at a height of 2.5 m; a sunny summer day (7/1/2011); 2-D simulations.



Fig. 14. Comparisons of field and modeled module temperatures; a cloudy summer day (7/11/2011); 2-D simulations.



Fig. 15. Comparisons of field and modeled air temperatures at a height of 2.5 m; a cloudy summer day (7/11/2011); 2-D simulations.

Figures 16a and 16b show the air temperature as a function of height at different downwind distances in the morning and afternoon during a sunny summer day. At 9 am (irradiance 500 W/m2, wind speed 1.6 m/s, inlet ambient temperature 23.7°C), the heat from the solar array is dissipated at heights of 5-15m, whereas at 2 pm (irradiance 966 W/m<sup>2</sup>, wind speed 2.8m/s, inlet ambient temperature 28.6°C, the temperature of the panels has reached the daily peak, and the thermal energy takes up to 18 m to dissipate.



Fig. 16 Air temperatures within the solar farm, as a function of height at different downwind distances. From 2-D simulations during a sunny summer day (7/1/2011) at 9 am and 2 pm.

### IV. CONCLUSION

The field data and our simulations show that the annual average of air temperatures at 2.5 m of the ground in the center of simulated solar farm section is 1.9°C higher than the

ambient and that it declines to the ambient temperature at 5 to 18 m heights. The field data also show a clear decline of air temperatures as a function of distance from the perimeter of the solar farm, with the temperatures approaching the ambient temperature (within 0.3°C), at about 300 m away. Analysis of 18 months of detailed data showed that in most days, the solar array was completely cooled at night, and, thus, it is unlikely that a heat island effect could occur.

Our simulations also show that the access roads between solar fields allow for substantial cooling, and therefore, increase of the size of the solar farm may not affect the temperature of the surroundings. Simulations of large (e.g., 1 million  $m^2$ ) solar fields are needed to test this hypothesis.

#### ACKNOWLEDGEMENT

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Thank you for your comments on the application of Banjo Creek Solar LLC. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2023-00263, in any further correspondence. The documents in this case are available at <u>View Case Filings for: 2023-00263</u> (ky.gov).

Thank you for your interest in this matter.

From: Pat Harrington Sent: Tuesday, January 23, 2024 12:52 AM To: PSC Public Comment <PSC.Comment@ky.gov> Subject: Case 2023-00263

Please answer the following questions during the site meeting on February 23, 2024:

How many applications have been approved by site boards?

Has any application been denied by a site board that was not subsequently approved?

If an application was denied, what are the reasons for the denial?

Pat Harrington 31 Beech Grove Road Farmington, KY 42020