New Mexicans for Responsible Renewable Energy

Appeal against the Order of the Planning Commission March 20, 2025

Approving a Conditional Use Permit for the Rancho Viejo Solar Project

Case Nos. 24-5201, 24-5202, 24-5203, 24-5204

Dr. Selma Eikelenboom-Schieveld MD PhD

August 11, 2025

Main causes:
Electrical component failure, like DC isolators, connectors, inverters
Poor installation/maintenance can ignite small fires that quickly spread under dry conditions

25% caused by the photovoltaic panels
Serious fires, difficult to extinguish and spread beyond the area
Solar farms in vegetated, wildfire-prone areas at risk — both *from* and *to* wildfires

Crew battle large fire at a solar farm in Castleton Rensselaer County, New York.
By WYNT 13 News, October 27, 2024
Following red flags warnings that were in effect Saturday, a large fire broke out at a solar farm in Castleton. Crews said that a majority of the more than 17,000 solar panels and 38-acres at the farm were on fire. Wilson also told NewsChannel 13 that the conditions on Saturday made it perfect for fires, from the direction of the wind to the dry grass. "Wind was terrible up there," Wilson said.

CFA responded to a fire on a solar farm in Raywood, outside Bendigo at about 5.50pm on Thursday 20 February 2025, in Raywood, Victoria, Australia.
One of the inverters had caught fire in a moderate sized commercial solar farm and crews used foam to extinguish it once the power was isolated. The invertor transfers power from the solar farm to the high voltage lines and batteries.

Fire burning at Panoche solar farm, San Benito County, California
June 10, 2025
Cal Fire responding to a 100-acre fire with both air and ground units, Grew from ~20–100 acres midday to ultimately ~592 acres by containment

Message from PNM:

What is a Public Safety Power Shutoff?

Extreme weather like strong winds along with dry conditions can increase the risk of wildfires in some areas. When the threat reaches dangerous levels, we may be forced to implement a **Public Safety Power Shutoff (PSPS)** to prevent power lines from becoming an ignition source. These temporary power shutoffs are a last resort to protect you, your family, and our communities.

We will never make this decision lightly. We understand how disruptive a power shutoff can be, but our priority must be keeping you safe-and making sure you have the information you need before, during, and after a Public Safety Power Shutoff (PSPS) event.

Do you live in a High Fire Risk Area?

If you live in one of these areas, you may experience a PSPS. We would only implement as a last resort, but we want you to be prepared just in case.

View maps of areas being evaluated for a possible Public Safety Power Shutoff to protect public safety from the risk of wildfires.

Las Vegas

Response to Hearing Officer's Recommendations

Project is too big and close to communities

- BESS 1.5 miles from nearest residence
- Solar 1/3 mile from nearest residence, only 20 homes within 1 mile, most >1.5 miles

49. The scale of the Project, over 200,000 panels and 570,000 lithium-ion batteries, together with the proximity to residential communities with homes as close at 500 feet from the Site boundary creates an unreasonable risk to the safety and welfare of the communities. This risk is compounded by the distance of these areas from County fire fighting stations, none of which has a hazardous material team.

Recommendation of the Hearing Officer

Board of County Commissioners on February 14, 2023
Fire Department about the Insurance Services Office (ISO) ratings
If FD stays as it is, (lack of new applications and volunteers and low dispatch staff)
Yet, the county grows: decrease the score
Increased premiums or denying coverage, especially after the record-setting wildfires

Huge hybrid installation far from water sources
The 30,000-gallon water tank will be empty very quickly and what happens if there is a fire in the panel field which threatens both the BESS and houses, which would get priority?

Response to Hearing Officer's Recommendations

Concerns with BESS safety and previous incidents

- Prior incidents were earlier generation deployments lacking evolved safety features updated to NFPA 855 (2023) and UL9540 (2023) standards and associated fire safety codes

Response to Hearing Officer's Recommendations

Ability for County to manage a potential BESS incident without a proper hazmat team

- Santa Fe County Fire Dept and Atar Fire independent consultant *"concluded that a sufficient level of information has been provided to validate the issuance of a Conditional Use Permit, as it pertains to fire and life safety code"* - **Conditional Use Permit Plan Review dated 10/11/24**

Atar Fire: However, all of the items in this review must be satisfactorily addressed prior to commissioning of the facility. We are not sure there will not be any more issues since not all the documentation we need to give a complete review are available.

BCC meeting Shaffer mentioned the lack of capacity at the Fire Marshal as well as with Growth Management to inspect properties. The compromise struck was "self-certification.

Response to Hearing Officer's Recommendations

The proposed system is older, less safe type of technology

- Proposed BESS is latest generation technology designed and tested to NFPA 855 and UL9540

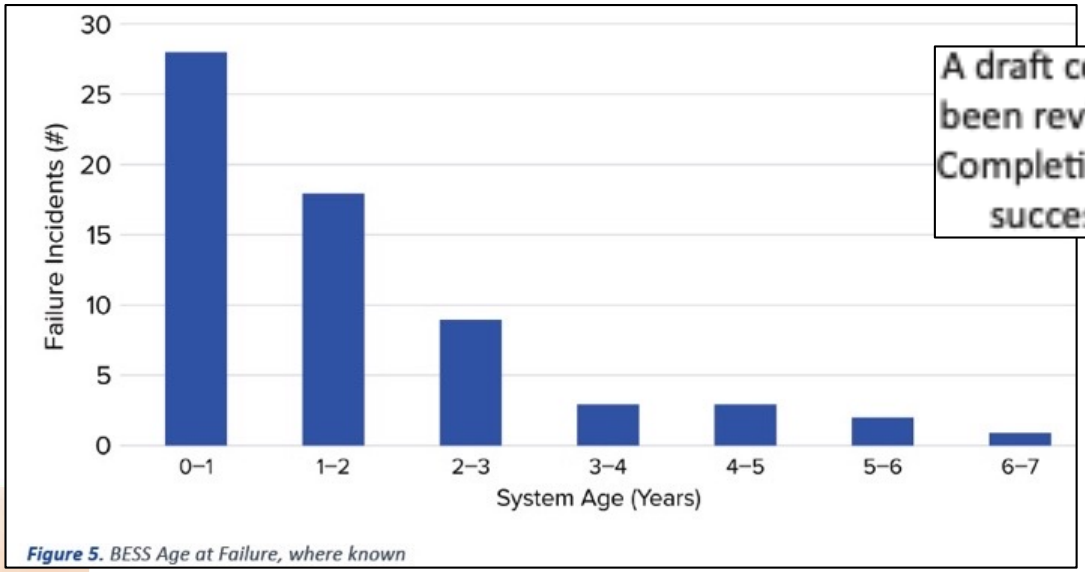


Figure 5. BESS Age at Failure, where known

A draft copy of the UL 9540 listing report has been reviewed. Certification is not complete. Completion of this project is contingent upon successful UL 9540 certification/listing.

Atar fire review

BESS Technology Evolution

	Early BESS Technology	Advanced AES Spec BESS
Enclosure Type	Walk-in Warehouse Style	Non-walk-in, Containerized
BMS Protection	Yes	Yes
Internal Energy Sources	Batteries + Power Electronics	Batteries Only
Thermal Management	Air Cooling	Liquid Cooling
Gas Detection & Explosion Prevention	No	Yes
Smoke & Heat Detection	Yes	Yes
Fire Suppression	Disperse Clean Agent / Sprinkler	Targeted Clean Agent
NFPA 855 Compliant	No	Yes
UL 9540 Certified	No	Yes

No battery fires in over 6 years of AES Spec BESS operations.

aes

Response to Hearing Officer's Recommendations (continued)

Potential for wildfire

- The UL9540a is a *"installation level test did not result in propagation of a thermal runaway event from the failure of a single cell. No flaming or flying debris was observed outside of the enclosure."*

UL 9540A test has 4 levels:

- Cell: can a cell be forced into thermal runaway
- Module: will the heat/fire infect another cell or expand outside the module
- Unit: will the heat/fire infect another unit
- Installation: include the use of fire mitigation equipment

Necessity for an Installation level test

[X] The performance criteria of the unit level test as indicated in Table 9.1 of UL 9540A 4th edition has not been met, therefore an installation level testing in accordance with UL 9540A will need to be conducted on the representative the installation with this unit installed.

- **Installation Level Testing** – The installation level test is intended to collect information regarding the performance of the ESS's fire protection features. The installation level test included the operation of the direct injection clean agent cooling system. The installation level test did not result in propagation of a thermal runaway event from the failure of a single cell. No flaming or flying debris was observed outside of the enclosure. The maximum enclosure wall surface temperature observed was [redacted].

- **Installation Level Testing** – The installation level test is intended to collect information regarding the performance of the ESS's fire protection features. The installation level test included the operation of the direct injection clean agent cooling system. The installation level test did not result in propagation of a thermal runaway event from the failure of a single cell. No flaming or flying debris was observed outside of the enclosure. The maximum enclosure wall surface temperature observed was 670°C.

Maximum enclosure wall surface temperature was 670˚C

In BESS unit with combustible materials wall surfaces need to be ≤ 97˚C + ambient = 120˚C (dangers of inducing TR or burns)

AES: “containers are rated non-combustible”

The container door material was metal, therefore, it is non-combustible.	N/A

Surface temperature does not apply if there are no materials present like wall assemblies, cables, wiring and other combustible materials, which shall be noted in the report.

However, that was not mentioned in the report, so the surface temperature was almost a factor 6 too high, that is why that was redacted.

The UL9540A BESS Fire Safety Test Video

4.1 UL9540A TESTING

The CEN BESS system has been subject to testing utilizing the methods of UL 9540A at the cell, module, unit and installation levels. The UL 9540A test results are summarized below. Refer to the UL 9540A Cell, Module and Unit level test reports for detailed information. Full UL 9540A test reports are provided for review in Appendix F.

- **Cell Level Testing** – Cell level testing indicates that [redacted] of gas may be released per cell when thermal runaway occurs. Testing indicates that the gas is primarily composed of [redacted] with a LFL of [redacted] at ambient temperature. Refer to the *UL 9540A Cell Level Report* for detailed gas composition data. The average cell surface temperature at thermal runaway was [redacted]. The cell vent gas fundamental burning velocity, S_u, was determined to be [redacted] with a maximum pressure, P_{max}, of [redacted].
- **Module Level Testing** – Module level testing demonstrated that thermal runaway initiation of a single cell is capable of propagation throughout a majority of the cells within the module. The testing resulted in flaming combustion, flying debris, explosive discharge of gas and sparks or electrical arcs. A peak heat release rate (HRR) of [redacted] was achieved during testing.
- **Unit Level Testing** – Unit level testing did not result in propagation of a thermal runaway event from the failure of a single cell. External flaming combustion was observed with a peak HRR of [redacted]. Release of flammable gas with an associated explosion was not observed. The maximum enclosure wall surface temperature observed was [redacted].
- **Installation Level Testing** – The installation level test is intended to collect information regarding the performance of the ESS’s fire protection features. The installation level test included the operation of the direct injection clean agent cooling system. The installation level test did not result in propagation of a thermal runaway event from the failure of a single cell. No flaming or flying debris was observed outside of the enclosure. The maximum enclosure wall surface temperature observed was [redacted].

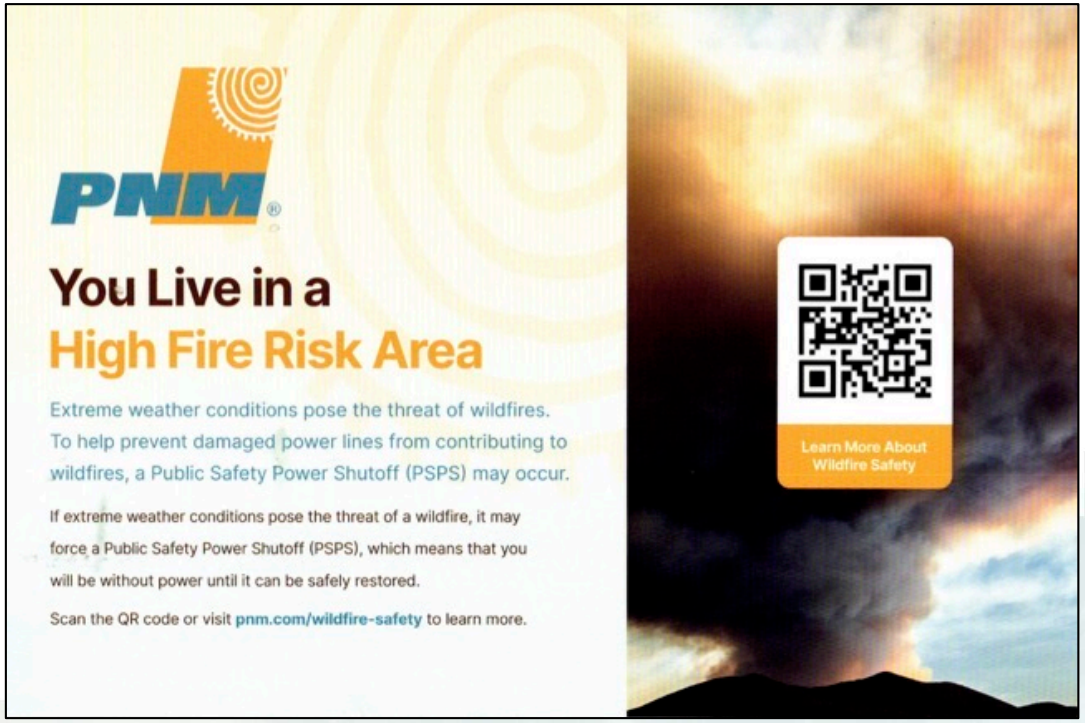
Typical vegetation/view at Rancho Viejo site

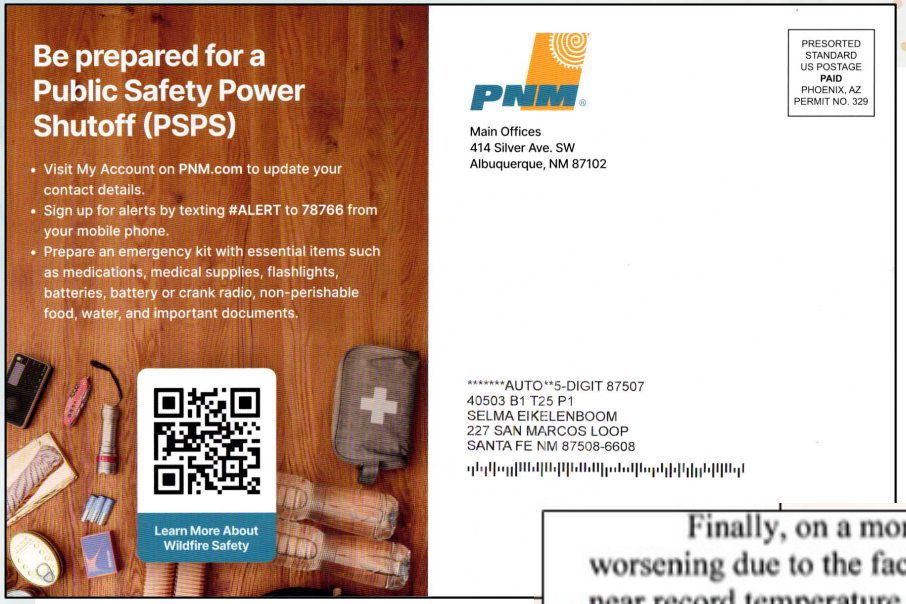
aes

Response to Hearing Officer's Recommendations (continued)

Potential for wildfire

- According to the most recent Santa Fe County Wildland Urban Interface fire risk map, the project is located in the lowest area of wildfire risk in the region. In fact, 30% of the ground within the project location is barren.





Stern warning from the County manager Shaffer, July 25, 2023:

Finally, on a more somber note, I did want to highlight that our fire conditions are worsening due to the fact that the county is in the middle of an extreme heat wave with near record temperature and we are expecting an atypical "monsoon" period to persist with unusually hot temperatures, frequent lightning, strong gusty down-burst winds, and really localized heavy rainfall. So we are continuing to monitor weather conditions but do anticipate that things will get worse before they get better. I'd just like to take this as an opportunity to remind folks that given these conditions that everyone should use caution with any outdoor flame, grilling or recreational fires, ensure proper vehicle maintenance, including tire inflation, trailer axles, maintained and keep tire chains up to avoid sparks, refrain from any open burning to control vegetation, and be mindful when using small engines near vegetation, avoid using fireworks, make sure you extinguish cigarettes properly, and always endeavor to stay fire-wise. And it doesn't take much to start a brushfire and we've had several in recent days and weeks and they can get out of control quite rapidly. So it's incumbent upon all of us to do what we can to ensure that we're not the source of fires.

which indicates the approximate population density in people per square kilometer for each zone of day-night average sound level.

Table C.1 — A-weighted day, night, and day-night average sound levels in decibels and corresponding approximate population densities as indicated

Residential land use category	DNL range (dB)	Typical DNL (dB)	Day level (dB)	Night level (dB)	People per square mile	People per square km
1. Very noisy urban residential	>65	67	66	58	63,840	24,650
2. Noisy urban residential	60 to 65	62	61	54	20,000	7,722
3. Urban and noisy suburban residential	55 to 60	57	55	49	6,384	2,465
4. Quiet urban and normal suburban residential	50 to 55	52	50	44	2,000	772
5. Quiet suburban residential	45 to 50	47	45	39	638	247
6. Very quiet suburban and rural residential	<45	42	40	34	200	77

The ANSI document organizes land use based on six categories. Based on an analysis of the area surrounding the project, the noise at the property lines of most interest would be represented by ANSI's Category 5 – Quiet Suburban Residential Areas with an ambient daytime noise level of approximately 48 dBA and an ambient nighttime noise level of approximately 42 dBA. Existing noise

SWCA EIR Noise technical report, July 2024.

Table 6. Summary of Estimated Noise Levels from Project Operation

Description	Project Contribution (dBA)	Representative Background Noise Levels (dBA)	Total Calculated Noise Levels (dBA)	Estimated Noise Increase (dBA)
Loudest Property Line Modeled Noise Level	36.5	48.0	48.3	0.3
Santa Fe County Noise Limit (daytime)	-	-	55	-
Loudest Property Line Modeled Noise Level	36.5	42.0	43.5	1.5
Santa Fe County Noise Limit (nighttime)	-	-	45.0	-

Permitted noise level Santa Fe: ambient +5

Daytime: 48 + 5 = 53 the "actual " noise is 48.3
Nighttime: 42 + 5 = 47 the "actual " noise is 43.5

After comments from residents the County did an actual measurement

Average daytime noise level recorded by the County was 38.4 dBA "slightly" below ANSI Category 6 daytime assumption (40)

which indicates the approximate population density in people per square kilometer for each zone of day-night average sound level.

Table C.1 — A-weighted day, night, and day-night average sound levels in decibels and corresponding approximate population densities as indicated

Residential land use category	DNL range (dB)	Typical DNL (dB)	Day level (dB)	Night level (dB)	People per square mile	People per square km
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4. Quiet urban and normal suburban residential	50 to 55	52	50	44	2,000	772
5. Quiet suburban residential	45 to 50	47	45	39	638	247
6. Very quiet suburban and rural residential	<45	42	40	34	200	77

Based on an analysis of the area surrounding the Project, the noise at the property lines of interest aligns most closely with ANSI's *Category 6 – Very Quiet Suburban and Rural Residential Areas*, which assumes an ambient daytime noise level (L_d) of 40 dBA and an ambient nighttime noise level (L_n) of 34 dBA.

SWCA EIR Noise technical report, November 2024.

Table 6. Summary of Estimated Noise Levels from Project Operation

Description	Project Contribution (dBA)	Representative Background Noise Levels (dBA)	Total Calculated Noise Levels (dBA)	Estimated Noise Increase (dBA)
Loudest Property Line Modeled Noise Level	36.5	38.4 *	40.6	2.2
Santa Fe County Noise Limit (daytime)	-	-	43.4	-
Loudest Property Line Modeled Noise Level	36.5	34.0 †	38.4	4.4
Santa Fe County Noise Limit (nighttime)	-	-	39.0	-

* Based on measurements conducted by Santa Fe County near the Project site on November 15, 2024 (J.A. Yutzy, email communication, November 20, 2024)
† The nighttime ambient noise level of 34.0 dBA is derived from ANSI/ASA S12.9-2013/Part 3, which defines typical noise levels for Category 6 – Very Quiet Suburban and Rural Residential Areas (ANSI 2013).

Permitted noise level Santa Fe: ambient +5

Daytime: 38.4 + 5 = 43.4 the “actual “ noise is 40.6

Nighttime: 34 + 5 = 39 the “actual “ noise is 38.4

5.	Quiet suburban residential	45 to 50	47	45	39	638	247
6.	Very quiet suburban and rural residential	<45	42	40	34	200	77

which indicates the approximate population density in people per square kilometer for each zone of day-night average sound level.

Table C.1 — A-weighted day, night, and day-night average sound levels in decibels and corresponding approximate population densities as indicated

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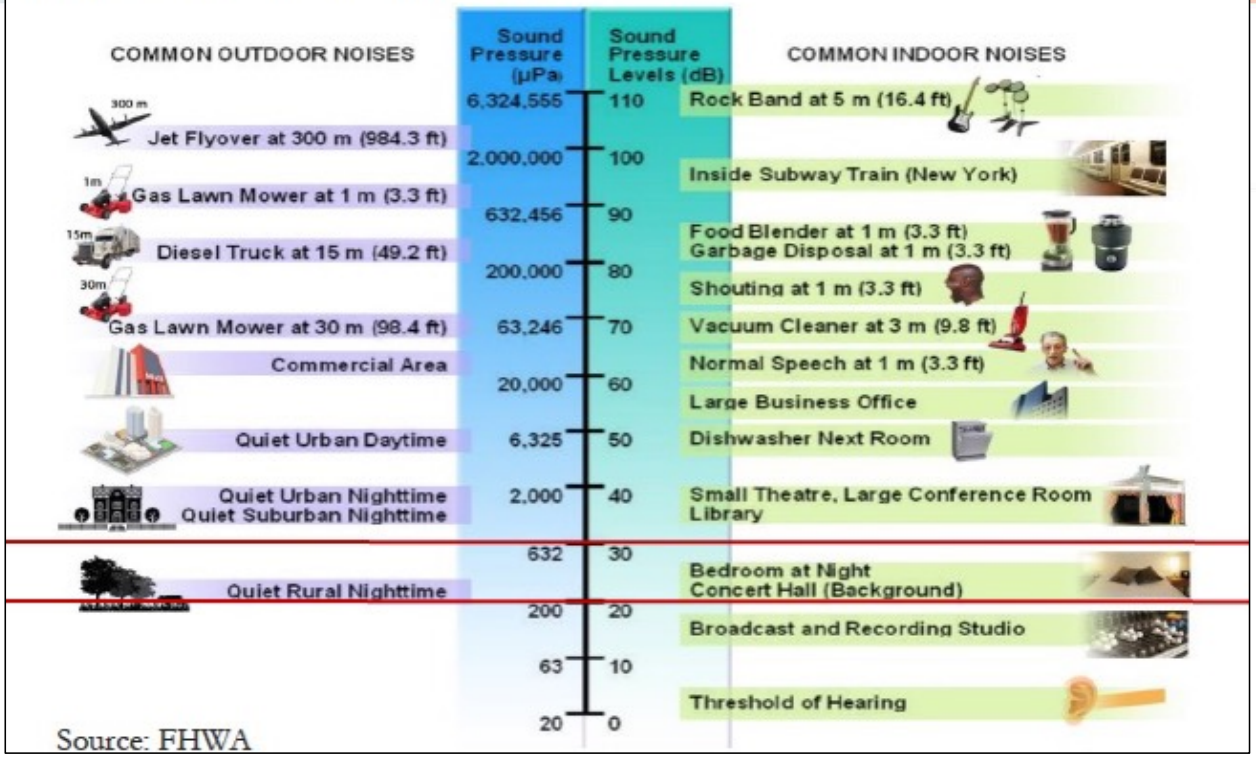
3. Urban and noisy suburban residential	55 to 60	57	55	49	6,384	2,465
4. Quiet urban and normal suburban residential	50 to 55	52	50	44	2,000	772
5. Quiet suburban residential	45 to 50	47	45	39	638	247
6. Very quiet suburban and rural residential	<45	42	40	34	200	77

- Project located in rural setting with predominantly undeveloped rangelands.
- Based on their analysis: ANSI Category 5: quiet suburban areas
- Finally, they settle for ANSI Category 6: very quiet suburban and rural residential areas.
- The description - rural setting with predominantly undeveloped rangelands - is omitted out of the second report.

But we are NOT Category 6. We are **rural undeveloped rangeland**, below Category 6, which has approximately 200 people per square mile.
According to U.S. Census data Rancho San Marcos has an estimated population density of about 115 residents per square mile, more than 40% less. That would certainly bring down the day and nighttime noise levels, indicated for Category 6.

Figure 1-1: Common Sound Levels



Source: FHWA

	Day	Night
AES	38,4	34
ANSI	40	34
FHWA	30-40	20-30
RSM	22-33	20-30

What is the ambient noise				
28	30	33	34	38.4
What is the noise from project operations				
36.5	36.5	36.5	36.5	36.5
What is the total noise				
37.1	37.4	38.1	38.4	40.6
What is the allowed max (ambient + 5)				
28+5 = 33	30+5= 35	33 + 5 = 38	34 + 5 = 39	38.4 + 5 = 43.4
Amb 28 Max 33 Fact 37.1	Amb 30 Max 35 Fact 37.4	Amb 33 Max 38 Fact 38.1	Amb 34 Max 39 Fact 38.4	Amb 38.4 Max 43.4 Fact 40.6
What is the noise increase				
37.1 - 28 = 9.1	37.4 - 30=7.4	38.1 - 33 = 5.1	38.4 - 34 = 4.4	40.6 - 38.4 = 2.2

	Day	Night
RSM + FHWA	33	28 + 30
County + EIR	38.4	34

Table 2. Average Human Ability to Perceive Changes in Sound Levels

Increase in Sound Level (dBA)	Human Perception of Sound
2–3	Barely perceptible
5	Readily noticeable
10	Doubling of the sound
20	Dramatic change

Source: Bolt Beranek and Newman, Inc. (1973).

>
> As I stated at the 1/17/24 meeting, staff can only review and act on the application that AES submits to us. However, as it appears different items and information have been sent to or discussed with the community, **we have requested that AES respond to this and make sure their submittal is correct; errors or discrepancies will need to be addressed. A noise study has been requested.**

Jordan A. Yutzy<jyutzy@santafecountynm.gov
To:Penny Ellis-Green <pengreen@santafecountynm.gov>;Leandro R. Cordova <lcordova@santafecountynm.gov>;Dominic J. Sisneros <djsisneros@santafecountynm.gov>
Sent: Fri 2024-05-17 13:00

Wouldn't the base levels be included in AES assessment of the area? I don't see us needing an expert unless the levels they have in their report seem out of range.

Jordan A. Yutzy<jyutzy@santafecountynm.gov>
To:Matt Gordon <matt.gordon@aes.com>
Sent: Wed 2024-10-23 14:39
Matt,

We are going to take the reading near the houses on the south end of the property. I feel the number used is correct and I think we will see the actual numbers be a little higher.

"Average daytime noise level recorded by the County was 38.4 dBA".
Two readings were taken November 15, 2024, around 10:00 AM near BESS and at the closest point in the SW corner".

From: Jordan A. Yutzy <jyutzy@santafecountynm.gov>
Sent: Thursday, April 3, 2025 1:52 PM
To: Francine Salazar; Dominic J. Sisneros
Cc: Peter J. Valencia
Subject: RE: Records Request

There were no reports created by staff. We did the recording, I wrote the number down and we sent it off to AES to have the number updated in their report.

Thank you,
Jordan

Section 5 – Sound Measurement.

(1) If measurements are made, they shall be made with a sound level meter. The sound level meter shall be an instrument in good operating condition, meeting the requirements of a Type I or Type II meter, as specified in ANSI Standard l.4-1971. For purposes of this chapter, a sound level meter shall contain at least an A weighed scale and both fast and slow meter response capability.

(2) If measurements are made, personnel making those measurements shall have completed training in the use of the sound level meter, and measurement procedures consistent with that training shall be followed.

Ordinance 2009-11

From: Dominic J. Sisneros <djsisneros@santafecountynm.gov>
Sent: Tuesday, November 26, 2024 4:14 PM
To: Alexandra Ladd <aladd@santafecountynm.gov>
Cc: Jordan A. Yutzy <jyutzy@santafecountynm.gov>
Subject: RE: Staff Report for AES

Hi Alex,
Attached is the revised report. I was waiting on formatting until all the edits and comments were address. Jordan please look at the highlighted portion of the report (AIR QUALITY AND NOISE (Section 7.21 & 7. not be inconsistent with the purposes of the property's zoning classification or in any other way inconsistent with the spirit and intent of the SLDC or SGMP;). The review agencies have also been updated. County Public Works and Utilities were not sent a review (as the previous submittal) since neither is being utilized for the proposed project. I still need to update report with the correct exhibit references but I am waiting on word on how we will or will not be uploading the exhibits due to the size of documents.
Dom

From: Abby Guidry <Abby.Guidry@gza.com>
Sent: Thursday, November 21, 2024 5:07 PM
To: Jordan A. Yutzy <jyutzy@santafecountynm.gov>
Subject: RE: SLDC Questions

Jordan,

As I have been continuing the review I have realized that I need more clarification on some things. In your answer to my first question, **you state that we should review for accuracy to the best of our ability. However, I just want to make it clear that I am by no means a specialist in many of the topics (I am not a biologist, botanist, air quality specialist, the list goes on). So I'm just trying to figure out where to draw the line when it comes to how in-depth my review for accuracy is, or how to decide which things I should review for accuracy, and which things I should not (because I can't). I am not qualified to verify that the information presented about biology at the site is correct, nor do we have time to do the kind of research required to verify that information.**

I guess I'm still unclear about what the exact scope is, and it seems like the County is unclear on that as well. I just need clear direction from the County so I can continue working on the report and meet the deadline. With a hearing involved, I don't want any of my analysis to be 'wishy-washy', incomplete, etc. I hope this makes sense, hah.

Thanks for the help.

Abby Guidry
Scientist I
Glorieta Geoscience, A Division of GZA | PO Box 5727 | Santa Fe, NM 87502

From: Jordan A. Yutzy <jyutzy@santafecountynm.gov>
Sent: Thursday, November 21, 2024 5:16 PM
To: Abby Guidry <Abby.Guidry@gza.com>
Subject: [EXTERNAL] RE: SLDC Questions

Abby,

I would say review what you feel comfortable reviewing. The County is not looking for an immediate deep dive into the report but more a review of the overall report and sections to **see if any red flags appear which would require a deep dive into the report. If you need more clarification on items or why they are the way they are we can get with AES and reach out to SWCA. Reports like this are full of assumptions we just need to verify the assumptions make sense. If it is determined later the assumptions are wrong it will fall back on the person writing the report since we are reviewing the data they used to make the assumptions.**

We have hired a third party (Glorieta Geoscience) to review all of the environmental impact studies. We will meet them at the site this week. If they determine that the ambient sound assumptions were not correct, we will ensure that updated information is used.

Thanks,

-Alexandra

Code	Topic	EIR Location	Requirement Satisfied?	GGI Explanation (GGI, 2024)	Applicant Response (SWCA, 2025)	GGI Response to Applicant
6.3.10. Mitigation Measures.						
6.3.10.1.	Does the EIR identify mitigation measures for each significant environmental effect identified in the EIR, such • inefficient and unnecessary consumption of water and • degradation of environmentally sensitive lands; sprawl; and noise, vibration, excessive lighting, odors or		Yes	The water resource plan for the first year (construction) fails to address the inefficiencies and impacts of traffic on the surrounding communities and the environment. Water trucking to satisfy water volume needs would require 10,400 15,600 gallons (2 water trucks) each hour assuming 12 workdays, and 261 working days per year. This will contribute significantly to traffic, noise, and project. If the fire hydrant will be utilized at the road point on NM 14, this will reduce the potential impacts associated with hauling.	document. Specifically, see Item 1, Water Use: Section 2.1.2.4 of the EIR.	The explanation is sufficient provided Satisfied

Review of Environmental Impact Report for the Rancho Viejo Solar Project Glorieta Geoscience, January 2025

June 26, 2023, Hank Hughes:

A Resolution On Regulation of Large-Scale Energy Projects in Santa Fe County

WHEREAS large scale renewable energy projects will have effects on the landscape and have the potential to negatively impact neighboring properties, and
WHEREAS Santa Fe County desires to encourage the development of renewable energy in a way that is safe and minimizes any negative impacts, and
WHEREAS a consistent well thought out process for the approval of new large scale energy projects could help businesses get projects approved more quickly while at the same time providing safe guards for the community,
NOW THEREFORE BE IN RESOLVED, that the Board of County Commissioners of Santa Fe County hereby

1. Recommend a consistent process for the review and approval of large-scale renewable energy projects;

2. Include an analysis of the advantages and disadvantages of including large scale renewable energy projects as Developments of Countywide Impact (DCI);

And so I talked to Manager Shaffer. I think he's going to write a letter to the San Marcos Association, which is the place that requested that we make large-scale utility projects, renewable or not, into developments of countywide impact, and I may also want to bring that up in a little bit more official way because I think – it was pointed out to me that regardless of what projects may be coming forth this year, there's going to be more and we should be organized in how we evaluate those projects. And I think we'll probably learn a lot from the current one that's going through, as to what sort of things we want to look at and maybe we want to tweak some of our regulations. I think we will want to look at that.

Hughes 27 June 2023

Anna Hamilton email to Hank Hughes June 26, 2023: RE: Rough draft Resolution on Large Scale Renewable Energy Projects:

"A great start"

COMMISSIONER HAMILTON:

I just wanted to really thank both the Chief and Assistant Chief and everybody who worked with them for doing all the work on this, because it actually is really advancing our cause in terms of having appropriate regulations and trying to improve the way things are done. So there was a lot of thought put into this, which I really, really appreciated. And I wouldn't mind making a motion to approve.

July 25, 2023

Dear Manager Shaffer,

Do we have an advisory committee that can provide a science based evidentiary report on the risks to health and the environment from large scale battery energy storage for renewable energy and other sources?

Commissioner Bustamante

July 30, 2023

To:Ambra Baca <aabaca@santafecountynm.gov>
Cc:Justin S. Greene
<jsgreene@santafecountynm.gov>

In general, I support community solar projects and but also feel that there should be better impact assessment and mitigation for such large-scale projects.

This is an emergent issue and happy if we address it as soon as possible.

Justin Greene

June 1, 2023

From: Anna C. Hansen
Sent: Monday, August 21, 2023 11:36 AM
To: Greg Shaffer <gshaffer@santafecountynm.gov>
Subject: FW: Today's Article in the New Mexican about Public Notice and the Proposed Rancho Viejo Solar + BESS Project

I'm concerned about the fact that this was added to the Community Solar Act. I think this is a problem and WHY did land use do this? Large-scale solar needs to be a special category not included in Community Solar.

August 21, 2023

The Datong, China based project situated on 250 acres of land.

Another draft resolution is proposed on September 7, 2023

file name: > 5MW large scale solar fac resolution draft

the draft that was sent to Jeff and Greg for review
Introduced by: Commissioners Hank Hughes and Anna T. Hamilton

A RESOLUTION
TO ADRESS REGULATION OF LARGE-SCALE RENEWABLE ENERGY PROJECTS IN SANTA FE COUNTY
WHEREAS, large scale (>5MW) renewable energy projects may (changed from will) have effects on the landscape and wildlife and have the potential to positively and negatively impact both neighboring properties and the entire community; and
WHEREAS, Santa Fe County desires to encourage the development of renewable energy in a way that is safe, (responsible removed), and minimizes negative impacts (and risks to our sensitive environment and nearby communities removed) and
(WHEREAS, Santa Fe County desires to be a leader and a national model in fire safety given the nature of our open spaces and the insurance industry's high-risk designations; left out)
WHEREAS, a consistent well thought out process for the approval of new large scale energy projects could help businesses get projects approved more quickly while at the same time provide safeguards for the community; and
(WHEREAS, Santa Fe County understands that county-wide discussions about such projects will lead to more responsible development. Left out)

COMMISSIONER GREENE: Jeff, can you just clarify one thing. Is commercial solar – so there's commercial solar, there's community solar – is commercial solar covered in the same community solar ordinance?

MR. YOUNG: So the ordinance amended a section of the SLDC, or sections of the SLDC, and so the amendment was done generally to the SLDC to change the definition of community solar, change the definition of commercial solar, then it added certain requirements for community solar. And so that's what was going on with the ordinance. It was amending the SLDC.

COMMISSIONER GREENE: And then are those two totally separate things in the SLDC?

MR. YOUNG: The definitions are in the section, but in terms of the community solar pieces, that added new requirements for community solar, or community [inaudible] Production?

BCC on August 29, 2023

COMMISSIONER HUGHES:

First of all, I was at the meeting where we voted on community solar, and I can assure everybody that there was no intent to mislead anybody. We were very excited about community solar. We wanted to get it moving along as quickly as possible, and as our attorney mentioned, we just went along with staff's recommendation that the two definitions be in parallel.

I also want to say that while I agree very much with our attorney in his recommendation and we usually do go with our attorney's recommendation that we did violate the Open Meetings Act, that does not mean that we're not concerned about the potential dangers posed by lithium ion batteries, and we have procedures which we can follow to look at that issue when it starts coming before us as it will very shortly.

Thu 2023-09-07 08:41

file name: > 5MW large scale solar fac resolution draft

the draft that was sent to Jeff and Greg for review

Introduced by: Commissioners Hank Hughes and Anna T. Hamilton

A RESOLUTION

TO ADRESS REGULATION OF LARGE-SCALE RENEWABLE ENERGY PROJECTS IN SANTA FE COUNTY

From: Greg Shaffer <gshaffer@santafecountynm.gov>
Sent: Sunday, September 24, 2023 9:02 PM
To: Anna T. Hamilton; Hank Hughes
Cc: Jeff S. Young; Gabriel C. Bustos; Tina Salazar
Subject: Commercial Renewable Energy Production Facility Resolution
Attachments: Resolution Memo - Commercial Renewable Energy Projects - Response to Feedback.docx; Commercial Renewable Energy Projects Resolution.docx

Commissioners,

Attached please find:

- The revised draft resolution; and
- A draft memorandum explaining the changes made and why certain comments were not adopted.

[redacted]

Greg

Thu 2023-09-07 08:41
file name: > 5MW large scale solar fac resolution draft
the draft that was sent to Jeff and Greg for review

Introduced by: Commissioners Hank Hughes and Anna T. Hamilton

A RESOLUTION
TO ADRESS REGULATION OF LARGE SCALE RENEWABLE ENERGY PROJECTS IN SANTA FE COUNTY

We went from September 7, 2023

September 26, 2023

THE BOARD OF COUNTY COMMISSIONERS
OF SANTA FE COUNTY

RESOLUTION NO. 2023 - 093

Introduced by: Commissioners Hank Hughes and Anna T. Hamilton

A RESOLUTION
DIRECTING STAFF TO ENGAGE WITH EXPERT CONSULTANTS REGARDING COMMERCIAL RENEWABLE ENERGY PROJECTS IN SANTA FE COUNTY AND POST INFORMATION CONCERNING CONDITIONAL USE PERMIT APPLICATIONS FOR SUCH PROJECTS ON THE COUNTY'S WEBSITE

WHEREAS, Santa Fe County supports the transition from fossil fuels to renewable sources of energy to combat the climate change crisis; and

WHEREAS, Santa Fe County is an area of abundant sunshine with large areas of potential for solar energy production and has some potential for the production of other renewable sources of energy; and

WHEREAS, commercial (where energy is produced for sale or profit) renewable energy projects, such as large scale wind facilities and commercial solar energy production facilities, are generally conditional uses in zoning districts where they are potentially allowed under the Sustainable Land Development Code (SLDC); and

Date: September 26, 2023

To: Board of County Commissioners

Via: Gregory S. Shaffer, County Manager

From: Hank Hughes, Santa Fe County Commissioner, District 5
Anna Hamilton, Santa Fe County Commissioner, District 4

Subject: A Resolution Directing Staff to Engage With Expert Consultants Regarding Commercial Renewable Energy Projects in Santa Fe County and Post Information Concerning Conditional Use Permit Applications for Such Projects on the County's Website.

Issue:

Via a September 15, 2023, press release, Santa Fe County (County) solicited comments on the subject resolution, which was introduced for discussion at the September 12, 2023, Board of County Commissioners (BCC) meeting. This memo explains changes between the original draft of the resolution and the revised draft proposed for adoption. It also explains why the resolution sponsors do not recommend that other public comments be incorporated into the subject resolution.

Changes Between September 12 Draft and Current Draft:

• Definition of Commercial Renewal Energy Projects – (3rd Whereas Clause): This was in partial response to a commentator who suggested that production capacity (for example, 5MW or above) be used to identify the types of projects to which the resolution applies.
The Sustainable Land Development Code (SLDC), however, does not use size. Rather, as it relates to solar and wind energy production facilities, the distinguishing characteristic for determining whether the use is permitted, prohibited, or a conditional use is whether the energy is produced for sale or profit.

The scale for the integration of solar technology varies from residential to commercial. Many County residents in remote areas are already using solar energy for electricity, space and water heating. The potential for large-scale solar electric generating facilities exists within Santa Fe County. Impacts on the view sheds, historic and archaeological resources and the creation of a grid network to distribute the power would have to be considered in future development proposals in order to preserve the integrity of the landscape.

SGMP 7.2.2.2.

Ensuring that potential land use compatibility and environmental conflicts are taken into consideration in the location of utility uses, such as landfills, solid waste transfer stations, wastewater treatment plants, power lines and substations, and solar- or wind-power generation sites.

SGMP 2.2.3.4

2. The SGMP should be established as the framework for all land use codes and regulations within the County.

SGMP 14.1.2.2

Changes Between September 12 Draft and Current Draft:

E.g., SLDC, Section 10.16.5 (a "large wind energy facility is any wind-based electric generating facility that generates power for sale or profit" and meets size criterion) and Appendix A, Part 2, Definitions (defining commercial solar energy production facility as "a renewable energy production facility that uses sunlight to generate, and may store, energy for sale or profit"). Therefore, with respect to commercial solar energy production facility projects, both small-scale and large-scale projects for profit must meet the SLDC criteria.

10.16.5. Large Wind Energy Facilities. A large wind energy facility is any wind-based electric generating facility that generates power for sale or profit, in excess of 90 feet in height as measured from the lowest level or portion of the wind energy facility (slab or base) in contact with the ground surface to the highest point of any part of the facility, with moving parts measured at the highest points of their extension.

- Large Scale Wind Facilities have specific regulations. [SLDC, Section 10.16.] In addition, where potentially allowed, Large Scale Wind Facilities must receive a conditional use permit.

- Impose a Moratorium on Commercial Solar Energy Production Facilities. This suggestion was not adopted in the proposed resolution because the conditional use approval criteria – especially when supported by independent experts – ensures that all relevant factors are considered on a site-specific basis. In addition, if the conditional use is approved, the SLDC authorizes appropriate standards, conditions, or mitigation requirements to be imposed in response to site-specific analysis and conditions.

• Designate Commercial Solar Energy Production Facilities as Developments of Countywide Impact (DCI). Due to the robust nature of the conditional use permit approval criteria and ability to impose site specific standards, conditions, or mitigation requirements as stated above, the sponsors do not believe at this time that DCI designation and regulation is necessary to protect the health, safety and general welfare of the community or ensure widespread public participation in the process.

Our opinion on this recommendation is also guided by the Sustainable Growth Management Plan's commitment to renewable energy and energy efficiency, as well as the reality that the impacts of the status quo dependency on fossil fuels are Countywide and worldwide. Creating additional hurdles to the necessary transition to renewable energy would be inconsistent with that commitment and reality.

July 24, 2023

BY EMAIL AND REGULAR MAIL

Dennis Kurtz, President
The San Marcos Association
PO Box 722
Cerrillos NM 87010

RE: Utility-Scale Renewable Energy Projects

Dear Mr. Kurtz:

Inconsistency with the purposes of the property's zoning classification or in any other way inconsistent with the spirit and intent of the SLDC or SGMP.

- **Why are commercial solar facilities not addressed to the same level of detail as community solar uses in the SLDC? The community's request to develop a category of Development of Countywide Impact for this project was not considered. Why not?**

In a letter dated July 24, 2023 from Manager Shaffer, it was stated that the Board of County Commissioners wished to have large scale solar with BESS as a conditional use permit. This was evident by the adoption of the SLDC in 2016 and the corresponding use matrix giving large scale solar use by a CUP.

SANTA FE COUNTY

On October 26, 2024, I checked Shaffer's statement with CC Hughes:

From: Selma Eikelenboom <s.eikelenboom@ifscolorado.com>
Sent: Saturday, October 26, 2024 3:21 PM
To: Hank Hughes <hhughes@santafecountynm.gov>
Cc: Gabriel C. Bustos <gcbustos@santafecountynm.gov>
Subject: Large scale solar

Did you or any other County Commissioner in the company of County manager Shaffer ever decided that you wanted large scale solar to be eligible for a CUP?

From: Hank Hughes <hhughes@santafecountynm.gov>
Sent: Monday, October 28, 2024 1:43 PM
To: Selma Eikelenboom <s.eikelenboom@ifscolorado.com>
Cc: Gabriel C. Bustos <gcbustos@santafecountynm.gov>
Subject: RE: Large scale solar

No conversation on that particular issue came up.

Renewable energy projects of any size are eligible to apply for a CUP. We did not discuss changing that.

Letter Eikelenboom to Shaffer, June 21, 2024

Can you please explain to me the discrepancy between what is stated in the slide at the meeting and the content of your letter to Mr. D. Kurtz?

Can you please explain when, where, how and which County Commissioners communicated to you that they wished to have large scale solar with BESS? If there are any minutes of that meeting I would like to receive a copy.

Can you please explain the discrepancy between what is stated in the slide at the meeting and the content of Resolution no. 2023-093?

Can you please direct me to where it is evident in the 2016 SLCD that large scale solar is a conditional use permit and where in the use matrix large scale solar is given use by a CUP?

Can you please explain how a slide with this amount of conflicting information could end up in a public meeting meant to inform the public on a subject that stirs the emotions up high?

Why is the proposed project considered a CUP?

The SLDC approved by the BCC (ordinance no. 2016-009) provides the framework for evaluating proposed land uses. Commercial solar is permissible under the SLDC as a Conditional Use Permit (CUP) which is why the CUP process has been followed. There are no alternative rules in effect to use.

In Rural Residential zoning this use is allowed as a CUP Under Appendix B – Use Matrix, page B-16 which identifies Commercial Solar and Energy production facilities in this zoning district. Rural Residential zoning allows for commercial use.

(As per correspondence from County Manager Greg Shaffer in a letter dated July 24, 2023.)

SANTA FE COUNTY

"I would rather face this project than a coal plant".

Use	Function	Structure	Activity	Agricultural/ Ranching	Rural	Rural Fringe	Rural Residential
Commercial solar energy production facility				C	C	C	X

The County would not permit a coal plant in this location, and neither should they permit large-scale solar.

Resolution 2023-093:
with
platitudes (engage with experts, set up a website)
fake safeguards (renewables are potentially allowed, cannot be detrimental or inconsistent with the SLDC)

without
issues several CC specifically requested, (recognition of this being large-scale in need of a special category, with the potential to negatively impact landscape, wildlife and communities, and providing meaningful safeguards for the community)

*Removed due to confidential and privileged communication

Plan A:
Blame the Board of County Commissioners

*Removed due to confidential and privileged communication

Santa Fe County

Sustainable Land Development Code

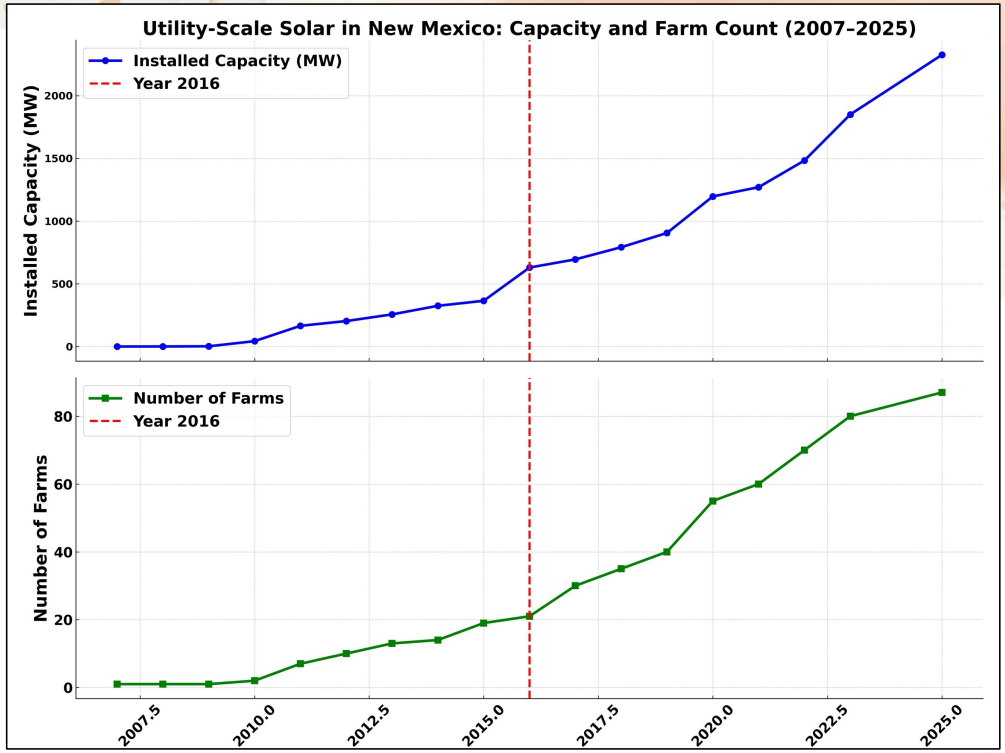
Adopted by Ordinance 2016-9
December 13, 2016

THE BOARD OF COUNTY COMMISSIONERS OF SANTA FE COUNTY

By: Miguel M. Chavez
MIGUEL M. CHAVEZ, Chair

ATTEST:
Geraldine Salazar 12-13-2016
GERALDINE SALAZAR, County Clerk

APPROVED AS TO FORM:
GREGORY S. SHAFFER, County Attorney



*Removed due to confidential and privileged communication

Table 2: Criteria for Assessing Magnitude of Impact on Visual Resources Moderate and High

Visual impact report provided for AES by SWCA Environmental Consultants

- Landscape would appear to be substantially/severely altered
- Project would introduce form, line, color, texture, or scale not common in the landscape and would be visually prominent (moderate/strong contrast)
- Project would attract/demand attention
- Project would begin/dominate the visual setting

*Removed due to confidential and privileged communication

2011 – mid 2025	96 Battery Energy Storage Failure
2019 – mid 2025	35 Other Energy Storage Failure Incidents

EPRI's BESS Failure Incident Database and Energy-related Severe Accident Database (ENSAD)

*Removed due to confidential and privileged communication

Ensuring that land use compatibility and environmental conflicts are taken into consideration in the location of utility uses, such as powerlines and substations and solar power generation sites.

Section 2.2.3.4. from the SGMP

The potential for large-scale solar electric generation facilities exists within Santa Fe County. Impacts would have to be considered in future developments to preserve the integrity of the landscape.

Section 7.2.2.2. from the SGMP

Promoting solar as a matter of public policy does not justify treated solar with leniency

Plan B:
Smother the discussion

*Removed due to confidential and privileged communication

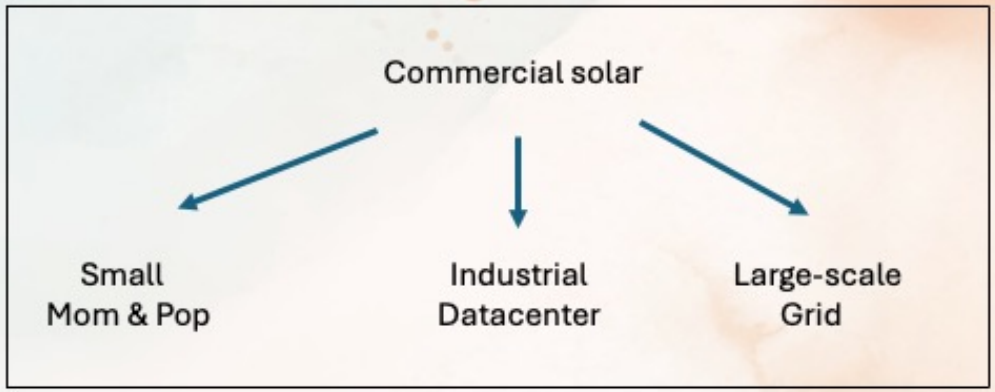
CUP criterion:
Cannot be permitted if a project “be inconsistent with the spirit and intent of the SLDC or the SGMP”.

Plan C:
Let’s get the NM appellate court on board

*Removed due to confidential and privileged communication

“electric power generation facility” more general, “commercial solar” more specific

According to the attorney a commercial solar production facility is a subset from an electric power generation facility.



	electric power generation facility	more broad
	commercial solar energy production facility	more specific
more broad	commercial solar energy production facility	
more specific	utility-scale solar energy production facility	

Commercial solar is a subset from an electric power and a utility scale solar is a subset from a commercial solar

Plan D:
Simplify the matter

*Removed due to confidential and privileged communication

*Removed due to confidential and privileged communication

Context, inconsistency with the spirit and intent of the SLDC or the SGMP, are not important in this approach.

Plan E:
Manipulate the Planning Commission

STAFF RECOMMENDATION:

Staff recommends the reappointment of Carl Trujillo for District 1, the reappointment of Erik Aaboe for District 4 and the reappointment of Ruben Mendoza for District 5.

January 17, 2025

Prucino tried to remove Reuben Mendoza from the Planning Commission because his wife signed a simple petition two years ago on his behalf against his project. He was not involved in any action or expression of opinion in those two years. He was highly qualified to be a member with a 40 years career in city management, investment banking and as a financial advisor in public finance to cities and counties in the Southwest including Santa Fe County. His colleagues of the Planning Commission agreed he could stay on; staff recommended his reappointment.

January 25, 2025

When Prucino could not get him to recuse himself, CC Hughes chose not to re-appoint Mr. Mendoza.

Plan E:
Manipulate the Planning Commission

STAFF RECOMMENDATION:

Staff recommends the reappointment of Carl Trujillo for District 1, the reappointment of Erik Aaboe for District 4 and the reappointment of Ruben Mendoza for District 5.

Erik Aaboe is chair of the Planning Committee, serves as Deputy Director for the New Mexico Renewable Energy Transmission Authority. They help private developers in planning, financing and developing transmission and energy storage projects.

Proponents: 6 hours 27 minutes
Opponents: 2 hours 47 minutes

He called for Mr. Thompson to extensively testify and closed Thompson's statement with telling him: "Thank you so much, I appreciate your long-term perspective. Thanks"

February 3 and 4, 2025

Although not made public at the time, emails obtained through an IPRA request indicate that Mr. Prucino then appears to have participated in the executive session and that a non-attorney from County Staff discussed with Director Ladd whether his participation was also needed:

From: Nathaniel Crail<ncrail@santafecountynm.gov>
Sent: Tuesday, February 4, 2025 2:33 PM
To: Alexandra Ladd <aladd@santafecountynm.gov>; Jordan A. Yutzy <jyutzy@santafecountynm.gov>
Subject: Planning Commission Executive Session

I'm watching via WebEx, but do you want me in attendance for in-person for the executive session? I know it's after public comment, but when do you think the Executive Session will begin?

From: Alexandra Ladd <aladd@santafecountynm.gov>
Sent: Tuesday, February 4, 2025 2:39 PM
To: Nathaniel Crail<ncrail@santafecountynm.gov>; Jordan A. Yutzy <jyutzy@santafecountynm.gov>
Subject: RE: Planning Commission Executive Session

Hi Nate,

Apparently, only Roger will be in the room with them. If they have a specific question for staff, he will get us. I will let him know that you are in the go position. Not sure when it will start. At least two hours of public testimony first

After 45 minutes it was over vote of 7-1 the CUP was granted.

Plan E:
Manipulate the Planning Commission

Prucino was present
Aaboe was directing
Goal was to get CUP granted

No balanced weighing of the evidence
No consideration was given to the arguments of the HO
The decision of the PC is a 14-point description of the process
The 4 conclusions are presented without any explanation or substantiation
No discussion of the arguments brought up by hundreds of residents

In a telephone interview, Bustamante said she supports state regulations that identify or disallow locations for "utility-scale" energy storage.

"This is not about one specific project. This is about the ability to address this at the statewide level, not just one specific project," said Bustamante.

January 16, 2025

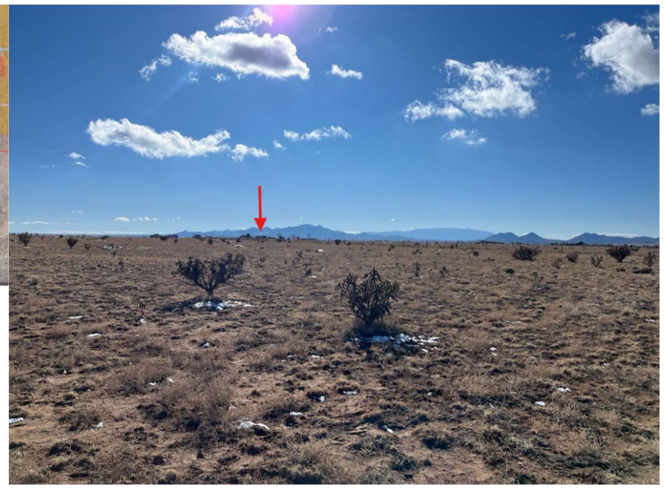
Senator McQueen's key bill, HB 435 – Renewable Energy Facility Siting Rules, was officially introduced on February 17, 2025, when it was referred to the House Energy & Natural Resources Committee has been tabled but will be put forward in the future.

Senator McQueen publicly announced that Sant Fe County is "Shoehorning" this project in that location and his bill that would direct the PRC to prepare rules dealing with appropriate siting of solar, battery, and transmission lines.

February 17, 2025

Project Location - Perspective

View from SW corner of nearest planned solar array 1/3 mile to the nearest residence in San Marcos



11

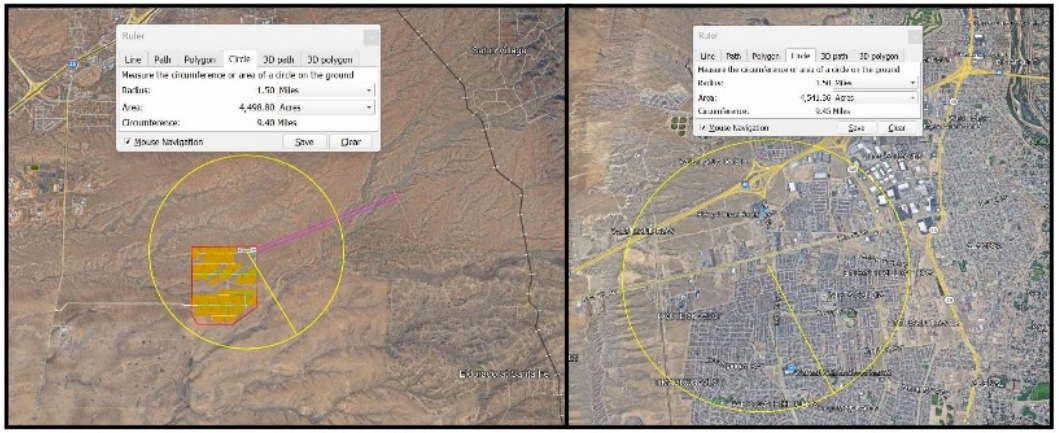
aes

Table 2: Criteria for Assessing Magnitude of Impact on Visual Resources Moderate and High	• Landscape would appear to be substantially/severely altered • Project would introduce form, line, color, texture, or scale not common in the landscape and would be visually prominent (moderate/strong contrast) • Project would attract/demand attention • Project would begin/dominate the visual setting

Visual impact report provided for AES by SWCA Environmental Consultants

This is a BESS stand alone on 9 acres.

Project Location – 1.5 mile BESS Setback

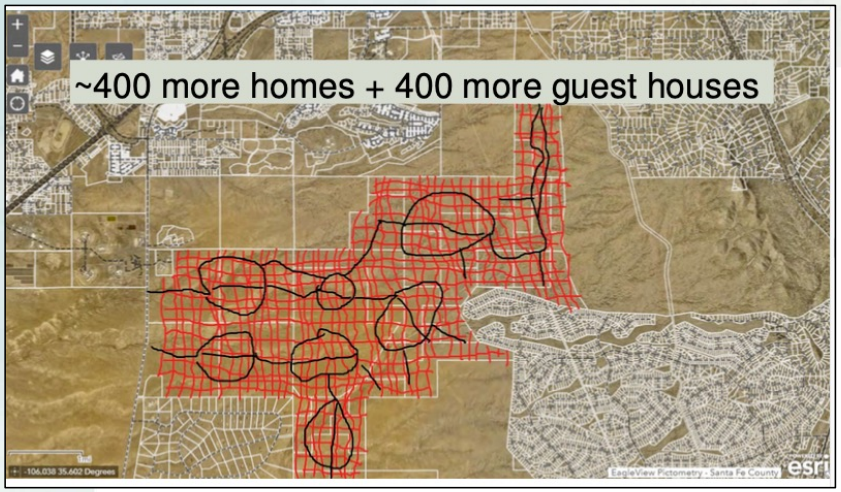


1.5 mile radius of Rancho Viejo 48 MW / 192 MWh BESS facility

1.5 mile radius from approved Sun Lasso 150 MW / 600MWh BESS project in ABQ

12

aes



RUR-F Rural Fringe Clear

District Description Collapse

The purpose of the Rural Fringe (RUR-F) district is to designate areas suitable for a combination of estate-type residential development, agricultural uses and other compatible uses. The RUR-F designation provides an intermediate step in development density between typical open space and agricultural/ranching lands and primarily residential (low density) parcels. This zone also serves to protect agricultural and environmental areas that are inappropriate for more intense development due to their sensitivity. The RUR-F zone accommodates primarily large lot residential, eco-tourism, equestrian uses and renewable resource-based activities, seeking a balance between conservation, environmental protection and reasonable opportunity for development. Density transfers and clustered development shall be allowed in order to support continued farming and/or ranching activities, conserve open space or protect scenic features and environmentally sensitive areas.

Dimensional Standards for District Collapse

Density

Density requirements: 20 acres per dwelling unit.

Lots

Lot width, maximum (ft.): n/a.

Lot width, minimum (ft.): 100 feet.

Buildings and Structures

Height, maximum (ft.): 36 feet.

Height, (hay or animal barn, silo), maximum (ft.): 50 feet.

350 Santa Fe

350 Santa Fe

Density

Density requirements: 20 acres per dwelling unit.

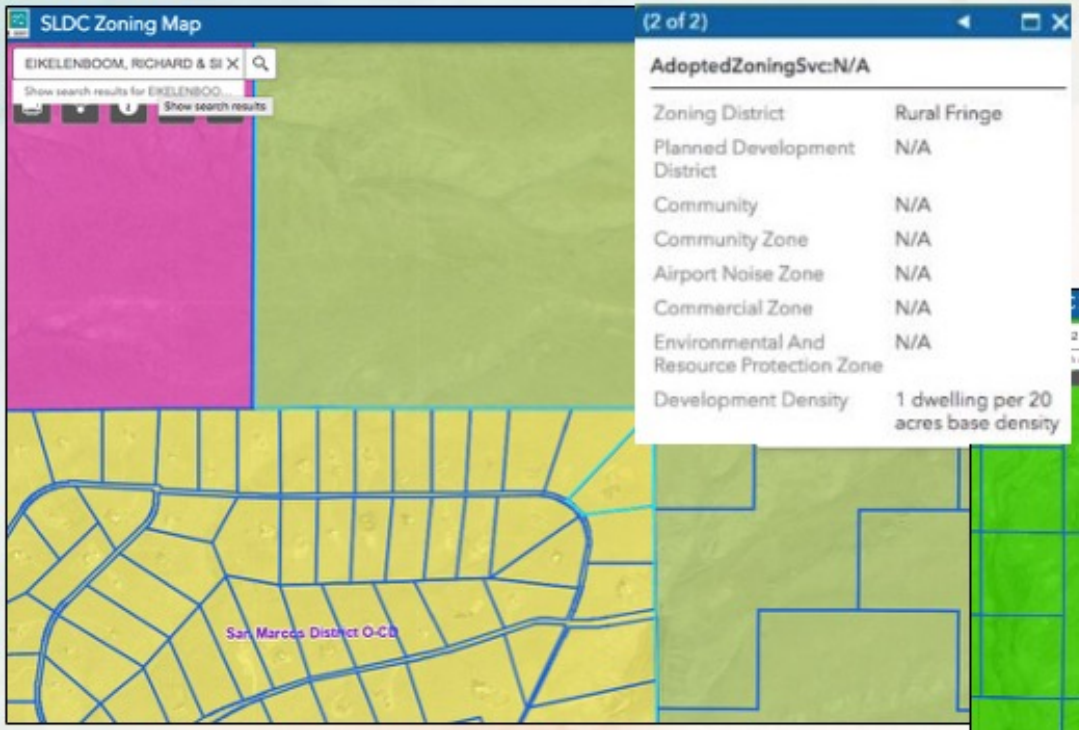
Open Pit Lithium Hard Rock Mining.
The destruction of the environment is permanent.

Acid Mine Drainage Causes Severe Environmental Problems

11 years after a celebrated opening, massive solar plant faces a bleak future in the Mojave Desert

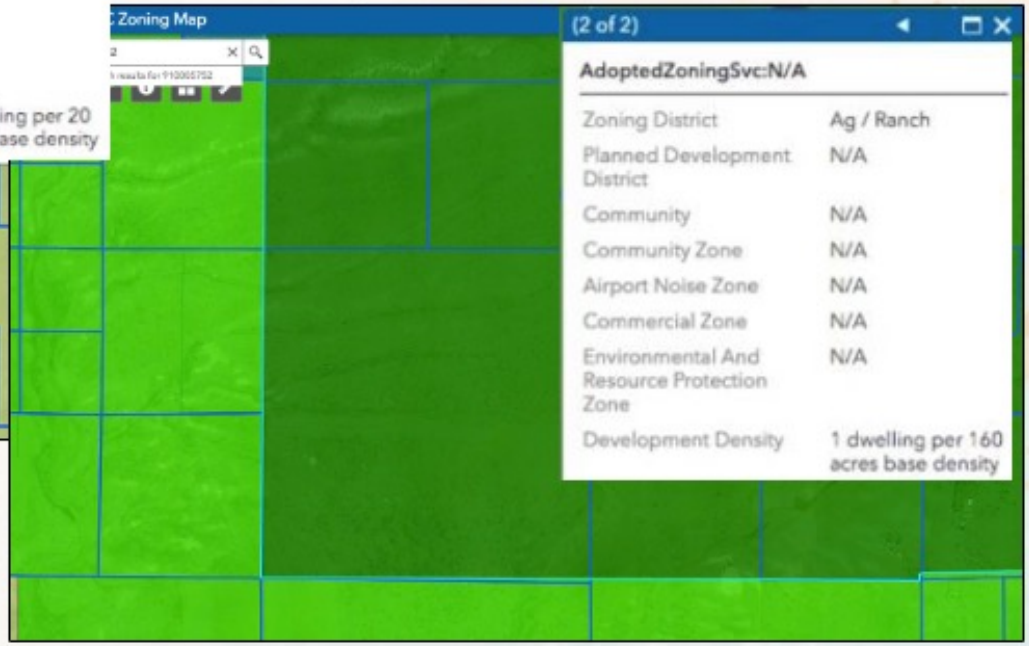
By MICHAEL R. BLOOD, Associated Press Jan 30, 2025

“While the Sierra Club strongly supports innovative clean energy solutions and recognizes the urgent need to transition away from fossil fuels, Ivanpah demonstrated that not all renewable technologies are created equal.”



Location, Zoning and Development Density of the planned location for the RVSP

Location, Zoning and Development Density of the planned location for Linea



3,6 times as much acreage, PV and BESS, this project will support the climate goals from the County and NM better than AES.

- **Appraisal Solar Impact Study** – no anticipated impacts to values; Matched Pair Analysis done to Uniform Standards of Appraisal

Slide from the PPT presentation by AES on February 3, 2023, for the PC

The Applicant provided market studies to support its position that the siting of the Project would not negatively affect home values. The comparable properties were located in the vicinity of much smaller solar generation and battery storage facilities, 10 to 20 megawatts. Of the three properties near such facilities of approximately 100 megawatts, one was sited in an industrial area and the other was neighboring an asphalt facility. (Tr 15)

Hearing Officer did her own analysis

Impact to property values and ability to obtain insurance

- Performed property appraisals conclude no likely impact to property value.

University of Texas, 2018

Kirkland:

"This analysis supports the conclusion of this report that the data supports no impact on adjoining property values'.

Clay: The study results show that while a majority of survey respondents estimated a value impact of zero, some estimated a negative impact associated with close distances between the home and the facility, and larger size.

University of Rhode Island, 2020

Kirkland:

I therefore conclude that the Rhode Island Study supports the indication of no impact on adjoining properties for the proposed solar farm project.

Clay

This suggests that property prices for homes lying within 0.1 mile from a solar installation fall by 7.0% ($23,682) post-construction, compared to houses further away. These results suggest extremely large disamenities for properties in very close proximity.

Lang, the lead investigator, made the following comments:

"In those non-rural areas there aren't many large blocks of farmland or forestland," "It's a scarce resource. When that's developed into solar, it's felt by the community. You're losing green space and also adding an industrial view scape.

"A utility- scale solar development is clearly not a compatible use within an established residential area."

"It doesn't change my mind that we need to be transitioning to renewables," "It does give me pause about the current siting practices." We need to be smarter in siting our solar installations,"

"We should be building in areas that don't have a lot of properties close to the array. And not building on farm and forest land in nonrural areas.

These are some studies Kirkland did not include in is analysis.

PhD dissertation North Carolina, 2019

Clay:
The primary analysis indicates that the construction of a solar farm decreases property values of houses located within one mile of the solar farm by 8.7 percent. This effect is larger in. magnitude (12.5 percent) when houses within a half mile of the solar farm are analyzed.

Dr. Tomas Malone Paper, meeting American Real Estate Society, 2022

Clay:
This study finds "that, on average, a newly built solar plant will drop prices within a kilometer by anywhere form 2.2 – 8.6%. Those homes in the 1-2 km ring would drop in price by 4.8%.

It is plausible that the effect of a solar farm could be different from each plant, or possible even each home. For instance, the individual home effect could be substantial depending on things like the view of the solar farm.
Real estate agents have also been known to report sales falling through due to a new development receiving a permit.

Lawrence Berkley National Lab Study, 2022

They found sale prices reductions for homes 0.5. mi away from large-scale solar plants of up to 5.8%. They observed decreases on previously agricultural land, in rural areas or near large-scale solar plants.
The researchers found the area where a solar installation is built has an enormous impact on whether it affects nearby home prices.

Homes in rural and agricultural areas saw declines in home prices, especially where solar farms were replacing agricultural land uses.

The projects also tended to be medium-sized, most fewer than 35 acres. That was because large solar installations tend not to be built near areas where there are nearby homes that sold.

University of Birmingham, UK, 2023

The study found that properties located less the 750m (0.47 miles) south of a solar farm in excess of 5 MW suffered a 5.4 percent reduction in value. The disamenity impact increases further for solar farms with capacities greater than 10 MW.

Louisiana State University Center for Energy Studies, 2024

The empirical literature suggests that utility-scale solar development has the potential to reduce housing values for homes within approximately one-half mile of these installations. Empirical estimates suggest a reduction of 1.5% - 6.9% in housing values. Studies that analyze housing values in rural areas specifically find that utility scale solar is associated with a 2.5% - 5.8% percent reduction in housing values.

Virginia Tech & Univ. Rhode Island, 2025

"Land properties classified as agricultural or vacant saw an average 19.4% increase in value when located within 2 miles of a solar installation. In contrast, residential properties within 3 miles experienced a 4.8% average decrease."

The 19.4 increase was explained by:

- Speculative interest (e.g., potential for leasing to solar developers),
- Economic incentives (e.g., long-term lease income or sale prospects),
- Zoning flexibility (land that becomes more viable for other commercial uses).

Opening Pandora's box! All areas with Rural Fringe zoning will be exposed, faire game, vulnerable to any developer who sees an opportunity to make a profit.

University of Birmingham, UK, 2023

The study found that properties located less the 750m (0.47 miles) south of a solar farm in excess of 5 MW suffered a 5.4 percent reduction in value. The disamenity impact increases further for solar farms with capacities greater than 10 MW.

Louisiana State University Center for Energy Studies, 2024

The empirical literature suggests that utility-scale solar development has the potential to reduce housing values for homes within approximately one-half mile of these installations. Empirical estimates suggest a reduction of 1.5% - 6.9% in housing values. Studies that analyze housing values in rural areas specifically find that utility scale solar is associated with a 2.5% - 5.8% percent reduction in housing values.

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- Economic incentives (e.g., long-term lease income or sale prospects),
- Zoning flexibility (land that becomes more viable for other commercial uses).

Opening Pandora's box! All areas with Rural Fringe zoning will be exposed, fair game, vulnerable to any developer who sees an opportunity to make a profit.

Why the research is not representative for this situation:

1. Focus mainly on solar-only installations: Most academic and industry research have analyzed solar farms without storage components.
2. Most were fewer than 35 acres and between 5-20 MW
3. Emerging hybrid market: Many solar + BESS facilities are relatively new, and systematic property-value studies typically take years to conduct.

By current public data, only approximately 12 solar farms in the whole of the U.S. ≥ 50 MW and BESS ≥ 25 MW.

It appears that none of those large U.S. utility-scale solar farms are located within or directly adjacent to residential neighborhoods. These projects are almost always sited in rural or industrial areas.

None of the 12 large-scale hybrid projects in the U.S. have been the subject of publicly documented, site-specific investigations into property value impacts on nearby residential properties.

The conclusion of AES that there will be no likely impact of property value is based on biased analysis of much smaller solar arrays, most of them without BESS. The property value loss in those cases ranges between approximately 2 and 12.5%.

It will not take a rocket scientist to predict that large-scale solar combined with BESS will show an even further increase in property values loss.

There is consensus among scientists and researchers that large-scale solar especially with BESS have no place in proximity of residential areas and should be sites at rural or industrial areas.